

February 28, 2024

Mr. John Sager
Wisconsin Department of Natural Resources
1701 North 4th Street
Superior, WI 54880

**Re: Facility-Wide Groundwater Monitoring Report for 2023
Superior Refining Company LLC, Superior, WI
WDNR BRRTS# 16-16-559511
Facility ID 816009590**

Dear John:

On behalf of Superior Refining Company LLC (SRC), Barr Engineering Co. (Barr) is submitting this facility-wide Environmental Response Program (ERP) remediation progress report for the SRC refinery in Superior, Wisconsin. Periodic site progress reporting to the Wisconsin Department of Natural Resources (WDNR) is required pursuant to ss. NR 700.11(1) and 724.13(3), Wisconsin Administrative Code. This report summarizes monitoring activities conducted at the site in 2023.

1 Facility and Site Background Information

Figure 1 shows the location and approximate boundary of the facility-wide ERP site and the area surrounding the refinery. Figure 2 presents the site layout of the refinery which occupies portions of Sections 25, 26, 30, and 36; Township 49 North; Range 14 West; in Superior Township of Douglas County, Wisconsin. Figure 2 also shows the locations of the 22 monitoring wells and eight piezometers that are currently part of the semiannual monitoring network. Table 1 provides additional information regarding monitoring well and piezometer locations, designations, and monitoring parameters.

Topography at the refinery slopes gently to the east. Surface elevations range from approximately 650 to 660 feet above mean sea level (MSL). The closest natural surface water body is Newton Creek, located approximately 850 feet east of the refinery's closest aboveground storage tank (AST) (Figure 1). The creek flows for approximately 1.5 miles to Hog Island Inlet, which connects to Lake Superior Bay. Storm water retention and fire water ponds, along with two artificial wetlands formerly used for wastewater treatment plant discharge polishing are located just northwest of the Newton Creek headwaters, near the intersection of Stinson/24th Avenue and Bardon Avenue.

Other than the process areas, which are generally paved, most of the refinery property is unpaved. The depth to groundwater in the network monitoring wells ranges from less than 1 foot to greater than 6 feet below ground surface (bgs) depending on time of year and topography. The regional groundwater flow direction is to the east (Figure 2).

As presented in the April 2014 Gannett Fleming, Inc. (GF) *Final Memorandum of Agreement, Site Investigation and Remedial Action Plan (SI/RAP)* (GF, 2014), red-brown native lean clay till is present beneath the site, is relatively homogenous, and extends to approximately 100 feet bgs. The hydraulic conductivity of the native clay underlying the refinery is on the order of 1×10^{-7} centimeters per second (cm/sec) (GF, 2014). Assuming a horizontal hydraulic gradient of 0.003 feet per foot (ft/ft) eastward and an effective porosity of 0.06, the estimated horizontal groundwater flow velocity at the refinery is approximately 0.01 foot per year (ft/yr) (GF, 2014).

In October 2011, Calumet Superior LLC (Calumet) acquired the refinery from Murphy Oil. In May 2014, the WDNR approved Calumet's April 2014 SI/RAP for the refinery (GF, 2014). In November 2017, Husky Superior Refining Holding Corp. (Husky Superior) purchased Calumet and changed its legal name to Superior Refining Company LLC (SRC). On April 4, 2018, the April 2014 SI/RAP became a component of the March 2018 Negotiated Agreement between SRC and the WDNR (WDNR/SRC, 2018). In January 2021, Husky and Cenovus Energy Inc. (Cenovus) merged to become Cenovus; however, the refinery is still referred to as SRC, and the Negotiated Agreement remains in effect.

In conjunction with the SI/RAP, an original network of 23 wells and eight piezometers was established for monitoring overall groundwater quality. Starting in 2015, all wells and piezometers in the network were gauged twice per year (to check for free product, track seasonal changes in water levels, and prepare groundwater contour map); 18 of the monitoring wells and the eight piezometers are purged and sampled; and the remaining five wells are gauged only. In 2022 the network of 23 wells was reduced to 22 wells as the PVC on monitoring well MW-3/T50, which was used for gauging purposes only, was damaged and needed to be sealed; well sealing details are discussed in the 2022 Barr *Facility-Wide Groundwater Monitoring Report for 2022* (Barr, 2023). As summarized in Table 1, the sampled wells (18) and piezometers (8) are referred to as "perimeter" wells and the 4 monitoring wells that are gauged but not sampled are referred to as "other" wells. Also listed on Table 1 is a separate subset of 5 perimeter wells that are sampled once per year as part of the WDNR Groundwater and Environmental Monitoring System (GEMS) program, also referred to as "pond" wells.

Currently, long-term groundwater monitoring of the facility-wide monitoring network is being conducted twice a year in accordance with the Negotiated Agreement. This report presents monitoring data for 2023.

2 Monitoring Activities in 2023

Year-round access to the network of monitoring wells and piezometers at the refinery is not practical because of relatively shallow groundwater, cold weather, and snow. When conditions allow access, the monitoring wells and piezometers are gauged and the perimeter wells/piezometers are purged and sampled in the spring and fall (typically April/May and September/October). Since gauging began in 2015 no measurable free product has been observed in the wells and piezometers in the network. Monitoring and gauging activities conducted in 2023 are summarized in Table 2.

2.1 Groundwater Levels

Groundwater samples were collected by Barr and Insight Environmental (Insight) field staff at the site during May and October 2023. Insight purged the perimeter wells/piezometers twice and allowed them to recover for at least 14 days between purge events and prior to sample collection by Barr which was conducted on May 30-31 and October 16-17, 2023. Table 2 includes fluid level monitoring data for May through October 2023. No measurable free product was observed in the monitoring wells or piezometers.

The depth to groundwater in the monitoring wells ranged from 2.50 to 14.76 feet bgs and the depth to groundwater in the piezometers ranged from 9.21 to 21.27 feet bgs.

Eight monitoring wells in the network have a co-located piezometer (Table 1). Monitoring wells within these pairs are up to 20 feet deep and have a 15-foot screen (except for MW-8R which has a 10-foot screen). The piezometers pairs are 40 feet deep with 5-foot screens set between 35 feet and 40 feet bgs. Since there is a 15-foot separation between the top of the piezometer and bottom of the monitoring well screens, we are able to calculate a vertical gradient at each paired location (Table 2). The calculated vertical gradient at monitoring well MW-13/PZ-13 was positive/upward (0.11). While the remaining vertical gradients were negative/downward and ranged from 0.07 to 0.59. Measured water level elevations and calculated vertical gradients are presented in Table 2; negative vertical gradients are shown in parenthesis in red.

The groundwater elevation data indicates the direction of shallow groundwater flow is to the east (Figure 2), which is consistent with historical groundwater flow directions. Likewise, the average calculated horizontal hydraulic gradient of 0.006 ft/ft is consistent with those calculated in previous years: 0.004 ft/ft in 2022 and 0.005 ft/ft in 2021.

2.2 Groundwater Sampling and Results

Groundwater samples were collected by Barr and Insight field staff at the site during May and October 2023. The perimeter wells/piezometers were purged using the modified purge method approved by the WDNR in 2015. Perimeter wells/piezometers are purged twice and allowed to recover for at least 14 days between purge events and prior to the collection of the samples. Field staff used a new one-time-use polyethylene disposable bailer with new nylon rope to collect each groundwater sample. The May 2023 and Fall 2023 groundwater samples were sent to Pace Analytical (Pace) in Minneapolis, Minnesota (Wisconsin laboratory certification #999407970); samples were analyzed for petroleum volatile organic compounds (PVOCs) and naphthalene using EPA Method 8260B. In addition, groundwater samples collected in October 2023 from the five GEMS (pond) wells (MW-1, MW-2, MW-3D, MW-8R, and MW-9B) were analyzed for VOCs (and select inorganics for the GEMS program, as described above).

Table 3 presents analytical results of the groundwater samples compared to the NR 140 Preventative Action Limits (PALs) and Enforcement Standards (ESs). Included in Table 3 are the results for PVOCs and naphthalene only; complete VOC and inorganic compound results for the five GEMS (pond) wells are submitted to the WDNR GEMS program staff in a separate report and included here in the attached

laboratory report. As shown in Table 3, PVOC and naphthalene concentrations were all below their respective PALs in the groundwater samples collected in May and October 2023. In October 2023, the ethylbenzene concentration in monitoring well PZ-13 (0.12 ug/l J) was flagged as an estimated detected value as the concentration is between the laboratory's detection and quantitation limits. The detection was below the NR 140 PAL of 140 ug/l).

Attachment A provides copies of the laboratory reports and chain of custody records for the groundwater samples collected in 2023.

2.3 Monitoring Well Maintenance Activities

As previously reported (Barr, 2023), monitoring wells MW-7 and MW-19 were replaced with MW-7R and MW-19R, respectively, in fall 2022. These wells were targeted to be developed prior to gauging in the spring of 2023. However, due to the slow recharge and record snowfall in the spring of 2023, the wells were not readily accessible prior to the scheduled gauging event and were not developed as planned. Because the gauging event is completed as two separate events 14 days apart, the gauging event on these slow recovery wells largely serves as a well development activity. The depth to bottom measurements recorded during each event did not identify a significant amount of sediment in the bottom of the wells and the water was only slightly turbid during both sampling events. An attempt will be made to completed formal well development on both wells in 2024.

3 Future Work

SRC's work plan for 2024 is as follows:

- Attempt to formally develop monitoring well MW-7R and MW-19R prior to gauging and sampling in Spring 2024. Development forms will be completed submitted with the 2024 annual report.
- Continue to gauge fluid levels in the network monitoring wells and piezometers, and purge and sample all the perimeter wells/piezometers twice per year (April/May and September/October).
- Continue to submit groundwater samples for the following laboratory analysis:
 - PVOCs/naphthalene using EPA Method 8260 on a routine basis.
 - VOCs using EPA Method 8260B and select inorganics using EPA Method 6010 and Standard Method 2320B when monitoring the five GEMS (pond) wells once per year.
- Report the results of the groundwater gauging and sample analyses in a groundwater monitoring report to the WDNR by the end of the first quarter of 2025.

If you have any questions or need additional information, please reach out to Joseph Pearson at SRC (joseph.pearson@cenovus.com) or me (lcarney@barr.com).

Sincerely,



Lynette M Carney
Project Manager

cc: Joseph Pearson (SRC)

Tables

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Figure 2	Groundwater Contour Map, April 2023

Attachments

Attachment A	Pace Analytical Laboratory Reports
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References

Barr Engineering Co., 2022. Facility-Wide Groundwater Monitoring Report for 2021, Superior Refining Company LLC, Superior, WI, WDNR BRRTS# 16-16-559511, Facility ID 816009590. March 27, 2023.

Gannett Fleming, Inc. (GF), 2014. Final Memorandum of Agreement, Site Investigation and Remedial Action Plan, Calumet Superior LLC Refinery, Superior, WI, WDNR BRRTS# 02-16-559511. April 30, 2014.

Wisconsin Department of Natural Resources (WDNR) and Superior Refining Company LLC (SRC), 2018. Negotiated Agreement between SRC and WDNR with respect to a process for responding to petroleum hazardous substance discharges at SRC's Wisconsin facilities including both SRC's "South Tank Farm" property and the Superior refinery property [paraphrased for brevity]. March 15, 2018.

CERTIFICATION

I, Lynette M. Carney, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03(1), Wis. Adm. Code, am registered in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code or licensed in accordance with the requirements of ch. GHSS 3, Wis. Adm. Code; and that, to the best of my knowledge, all of the information contained in this document is correct, and the document was prepared in compliance with all applicable requirements in Chapters NR 700 to 726, Wis. Adm. Code.



Lynette M. Carney, PG
Reg #: 1138

February 28, 2024

Date

Tables

Table 1
ERP Well Location, Designation, and Monitoring Parameter Summary
Superior Refining Company LLC
Superior, Wisconsin

Well Network		Well / Piezometer Location	Well / Piezometer Designation(s)			Monitoring Parameters		
Monitoring Well No.	Co-located Piezometer No.		Perimeter	Pond/GEMS	Other	Water Level (Spring and Autumn)	PVOC/Naphthalene (Spring and Autumn) (ERP)	VOCs (Autumn) (GEMS)
MW-1		NE corner of refinery	X	X		X	X	X
MW-1/T67		Tank 67 basin			X	X		
MW-2		NE corner of refinery	X	X		X	X	X
MW-2/T66 ²	PZ-2/T66 ¹	SE of Tank 65 basin	X ¹		X ²	X		
MW-3D	PZ-3D	NE corner of refinery	X	X		X	X	X
MW-3/T50 ³		Tank 50 basin						
MW-5/T40		Tank 40 basin			X	X		
MW-5/T70		Tank 70 basin			X	X		
MW-7R		Central area of refinery	X			X	X	
MW-8R	PZ-8R	Tanks 106/112/114; SW corner of refinery	X	X		X	X	X
MW-9B		NW of Wastewater Treatment Plant	X	X		X	X	X
MW-11	PZ-11	Near intersection of Stinson & Bardon Av	X			X	X	
MW-12		South-central property boundary	X			X	X	
MW-13	PZ-13	South-central property boundary	X			X	X	
MW-14		South-central property boundary	X			X	X	
MW-15		North of refinery	X			X	X	
MW-16	PZ-16	NE corner of refinery	X			X	X	
MW-17	PZ-17	SE of Wastewater Treatment Plant	X			X	X	
MW-18		Near intersection of Stinson & Bardon Av	X			X	X	
MW-19R		South tank farm	X			X	X	
MW-20		South tank farm	X			X	X	
MW-21	PZ-21	South tank farm	X			X	X	
MW-22		South tank farm	X			X	X	

NOTES:

ERP = WDNR Environmental Repair Program

GEMS = WDNR Groundwater and Environmental Monitoring System

Other = wells that are routinely gauged but are not routinely purged and sampled.

WDNR = Wisconsin Department of Natural Resources

¹ Of this well/piezometer pair, only the piezometer, PZ-2/T66, is a perimeter well that is routinely purged and sampled

² Of this well/piezometer pair, only the well, MW-2/T66, is an "other" well and is not routinely purged or sampled

³ On September 1, 2022 monitoring well MW-3/T50 was sealed after it was damaged.

Table 2
Fluid Level Monitoring Data
ERP Wells and Piezometers (2015-2023)
Superior Refining Company LLC
Superior, Wisconsin

Description	Monitoring Well ID and Reference Information													
	MW-1	MW-1/T67	MW-2	MW-2/T66	PZ-2/T66	MW-3D	PZ-3D	MW-3/T50	MW-5/T40	MW-5/T70	MW-7R	MW-8R	PZ-8R	MW-9B
Top of riser (ft MSL)	659.46	657.75	658.03	659.51	659.07	655.53	656.29	663.73	660.62	660.37	662.17	663.75	664.19	655.82
Ground surface (ft MSL)	655.43	656.41	654.99	657.01	656.30	653.79	653.49	659.96	658.03	657.86	659.64	661.45	661.38	654.38
Top of screen (ft MSL)	649.00	653.40	648.50	654.40	621.57	650.30	618.79	659.23	655.20	655.36	655.44	659.75	626.69	651.10
Bottom of well (ft MSL)	633.80	638.40	633.50	639.40	616.57	635.30	613.79	649.23	645.20	645.36	645.44	649.75	621.69	636.10
Measurement Date	Depth to Water from Top of Riser (feet)													
05/28/15	7.65	2.00	4.62	4.10	13.72	2.72	15.30	4.72	3.23	2.52	--	3.30	10.75	3.53
09/03/15	7.66	2.15	7.12	3.88	19.66	3.01	20.68	4.81	3.44	4.85	--	3.39	13.94	3.16
05/04/16	6.61	2.54	5.21	4.41	12.88	3.32	14.31	6.04	3.75	3.81	--	4.91	9.69	3.19
09/07/16	8.24	2.15	7.71	6.06	16.20	3.65	17.15	4.75	3.51	3.69	--	4.91	11.17	6.58
04/26/17	6.91	2.08	4.59	3.17	12.66	1.81	13.77	4.30	3.20	3.43	--	2.58	6.56	2.62
09/27/17	6.31	1.84	4.28	3.23	14.31	1.99	15.50	4.37	3.15	3.74	--	2.72	10.35	3.75
05/21/18	6.96	2.74	7.10	4.82	12.20	3.13	13.19	6.53	4.75	4.29	--	3.35	9.20	3.02
09/10/18	8.21	2.29	5.28	4.35	17.30	3.18	18.18	6.48	3.45	2.83	--	3.78	12.44	7.87
04/23/19	6.98	4.09	6.92	4.38	13.50	2.12	13.67	3.62	3.27	3.42	--	3.59	10.38	2.83
09/09/19	8.46	6.42	7.81	5.27	15.75	2.48	16.62	5.02	3.62	4.22	--	5.06	10.46	7.68
04/28/20	6.91	2.74	5.34	4.01	13.07	2.48	13.50	5.44	3.61	3.61	--	3.71	9.29	2.91
05/12/20	6.78	2.68	5.67	4.83	25.20	3.74	30.10	4.19	4.20	4.43	--	4.12	32.30	3.35
05/27/20	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	--	nm	nm	nm
07/16/20	nm	nm	nm	nm	nm	nm	nm	nm	4.63	4.25	--	nm	nm	nm
09/10/20	8.93	2.51	7.19	5.59	16.04	4.56	16.66	8.01	4.08	4.62	--	5.03	11.19	7.20
09/24/20	13.52	2.71	10.43	5.94	34.87	5.69	35.67	7.71	6.92	4.56	--	9.42	31.67	7.00
10/06/20	14.82	nm	12.81	6.12	35.96	8.85	36.01	nm	7.49	4.68	--	10.81	32.70	13.22
04/27/21	6.80	2.44	4.57	3.29	13.11	2.17	13.60	nm	3.46	3.75	--	2.54	9.53	2.89
05/10/21	7.19	2.75	5.78	4.83	27.56	3.75	25.45	nm	4.49	4.39	--	4.41	24.60	3.33
05/24/21	11.37	nm	7.31	4.42	35.91	2.43	34.93	nm	3.47	3.44	--	4.32	31.12	2.82
09/07/21	10.23	2.84	9.31	6.90	15.91	6.81	16.29	nm	4.54	4.58	--	5.61	10.75	9.07
09/21/21	4.01	2.53	13.07	4.00	36.01	10.41	34.97	nm	4.03	3.57	--	3.31	31.30	12.09
10/05/21	17.81	2.67	16.06	5.43	36.43	12.32	35.67	nm	3.66	4.21	--	3.61	32.73	14.17
04/25/22	6.02	2.23	5.40	4.01	15.30	2.31	14.12	nm	3.45	4.13	--	2.56	9.43	2.76
05/09/22	6.75	2.33	5.40	3.99	36.65	2.29	32.71	nm	3.50	4.02	--	2.65	27.65	2.81
05/24/22	6.77	2.40	4.87	4.46	37.60	2.93	26.45	nm	4.78	3.95	--	5.20	31.25	3.36
09/12/22	10.45	2.60	8.73	6.70	16.19	5.90	16.43	sealed	3.55	4.30	--	3.20	10.92	8.90
09/26/22	3.45	2.85	9.59	7.40	32.95	3.66	34.90	sealed	3.64	4.51	--	4.15	28.55	11.84
10/12/22	17.15	3.96	10.18	7.68	38.45	6.71	39.36	sealed	3.90	4.25	--	4.62	34.92	15.30
05/03/23	5.85	2.50	4.50	3.90	13.30	2.75	14.12	sealed	3.50	3.85	6.85	2.80	9.21	2.90
05/15/23	6.25	3.13	4.82	4.52	31.42	2.32	34.51	sealed	4.00	4.13	10.42	3.63	26.3	3.01
05/30/23	10.65	2.95	6.01	5.47	37.65	4.05	37.85	sealed	4.92	4.16	12.95	4.75	34.15	4.91
09/18/23	6.40	3.00	6.68	4.11	16.90	2.74	17.30	sealed	3.48	4.16	6.75	3.24	11.61	10.02
10/03/23	6.05	2.42	4.88	3.64	35.90	2.98	37.50	sealed	3.40	3.80	10.83	3.00	25.75	3.37
10/16/23	12.12	2.60	5.50	3.95	38.00	2.80	37.00	sealed	3.41	4.50	12.50	4.10	32.90	4.33

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ERP Wells and Piezometers (2015-2023)
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Superior, Wisconsin

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Top of riser (ft MSL)	659.46	657.75	658.03	659.51	659.07	655.53	656.29	663.73	660.62	660.37	662.17	663.75	664.19	655.82
Ground surface (ft MSL)	655.43	656.41	654.99	657.01	656.30	653.79	653.49	659.96	658.03	657.86	659.64	661.45	661.38	654.38
Top of screen (ft MSL)	649.00	653.40	648.50	654.40	621.57	650.30	618.79	659.23	655.20	655.36	655.44	659.75	626.69	651.10
Bottom of well (ft MSL)	633.80	638.40	633.50	639.40	616.57	635.30	613.79	649.23	645.20	645.36	645.44	649.75	621.69	636.10
	Water Elevation (ft MSL)													
05/28/15	651.81	655.75	653.41	655.41	645.35	652.81	640.99	659.01	657.39	657.85	--	660.45	653.44	652.29
09/03/15	651.80	655.60	650.91	655.63	639.41	652.52	635.61	658.92	657.18	655.52	--	660.36	650.25	652.66
05/04/16	652.85	655.21	652.82	655.10	646.19	652.21	641.98	657.69	656.87	656.56	--	658.84	654.50	652.63
09/07/16	651.22	655.60	650.32	653.45	642.87	651.88	639.14	658.98	657.11	656.68	--	658.84	653.02	649.24
04/26/17	652.55	655.67	653.44	656.34	646.41	653.72	642.52	659.43	657.42	656.94	--	661.17	657.63	653.20
09/27/17	653.15	655.91	653.75	656.28	644.76	653.54	640.79	659.36	657.47	656.63	--	661.03	653.84	652.07
05/21/18	652.50	655.01	650.93	654.69	646.87	652.40	643.10	657.20	655.87	656.08	--	660.40	654.99	652.80
09/10/18	651.25	655.46	652.75	655.16	641.77	652.35	638.11	657.25	657.17	657.54	--	659.97	651.75	647.95
04/23/19	652.48	653.66	651.11	655.13	645.57	653.41	642.62	660.11	657.35	656.95	--	660.16	653.81	652.99
09/09/19	651.00	651.33	650.22	654.24	643.32	653.05	639.67	658.71	657.00	656.15	--	658.69	653.73	648.14
04/28/20	652.55	655.01	652.69	655.50	646.00	653.05	642.79	658.29	657.01	656.76	--	660.04	654.90	652.91
05/12/20	652.68	655.07	652.36	654.68	633.87	651.79	626.19	659.54	656.42	655.94	--	659.63	631.89	652.47
05/27/20	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	--	nm	nm	nm
07/16/20	nm	nm	nm	nm	nm	nm	nm	nm	655.99	656.12	--	nm	nm	nm
09/10/20	650.53	655.24	650.84	653.92	643.03	650.97	639.63	655.72	656.54	655.75	--	658.72	653.00	648.62
09/24/20	645.94	655.04	647.60	653.57	624.20	649.84	620.62	656.02	653.70	655.81	--	654.33	632.52	648.82
10/06/20	644.64	nm	645.22	653.39	623.11	646.68	620.28	nm	653.13	655.69	--	652.94	631.49	642.60
04/27/21	652.66	655.31	653.46	656.22	645.96	653.36	642.69	nm	657.16	656.62	--	661.21	654.66	652.93
05/10/21	652.27	655.00	652.25	654.68	631.51	651.78	630.84	nm	656.13	655.98	--	659.34	639.59	652.49
05/24/21	648.09	nm	650.72	655.09	623.16	653.10	621.36	nm	657.15	656.93	--	659.43	633.07	653.00
09/07/21	649.23	654.91	648.72	652.61	643.16	648.72	640.00	nm	656.08	655.79	--	658.14	653.44	646.75
09/21/21	655.45	655.22	644.96	655.51	623.06	645.12	621.32	nm	656.59	656.80	--	660.44	632.89	643.73
10/05/21	641.65	655.08	641.97	654.08	622.64	643.21	620.63	nm	656.96	656.16	--	660.14	631.46	641.65
04/25/22	653.44	655.52	652.63	655.50	643.77	653.22	642.17	nm	657.17	656.24	--	661.19	654.76	653.06
05/09/22	652.71	655.42	652.63	655.52	622.42	653.24	623.58	nm	657.12	656.35	--	661.10	636.54	653.01
05/24/22	652.69	655.35	653.16	655.05	621.47	652.60	629.84	nm	655.84	656.42	--	658.55	632.94	652.46
09/12/22	649.01	655.15	649.30	652.81	642.88	649.63	639.86	sealed	657.07	656.07	--	660.55	653.27	646.92
09/26/22	656.01	654.90	648.44	652.11	626.12	651.87	621.39	sealed	656.98	655.86	--	659.60	635.64	643.98
10/12/22	642.31	653.79	647.85	651.83	620.62	648.82	616.93	sealed	656.72	656.12	--	659.13	629.27	640.52
05/03/23	653.61	655.25	653.53	655.61	645.77	652.78	642.17	sealed	657.12	656.52	655.32	660.95	654.98	652.92
05/15/23	653.21	654.62	653.21	654.99	627.65	653.21	621.78	sealed	656.62	656.24	651.75	660.12	637.89	652.81
05/30/23	648.81	654.80	652.02	654.04	621.42	651.48	618.44	sealed	655.70	656.21	649.22	659.00	630.04	650.91
09/18/23	653.06	654.75	651.35	655.40	642.17	652.79	638.99	sealed	657.14	656.21	655.42	660.51	652.58	645.80
10/03/23	653.41	655.33	653.15	655.87	623.17	652.55	618.79	sealed	657.22	656.57	651.34	660.75	638.44	652.45
10/16/23	647.34	655.15	652.53	655.56	621.07	652.73	619.29	sealed	657.21	655.87	649.67	659.65	631.29	651.49

Table 2
Fluid Level Monitoring Data
ERP Wells and Piezometers (2015-2023)
Superior Refining Company LLC
Superior, Wisconsin

Description	Monitoring Well ID and Reference Information													
	MW-1	MW-1/T67	MW-2	MW-2/T66	PZ-2/T66	MW-3D	PZ-3D	MW-3/T50	MW-5/T40	MW-5/T70	MW-7R	MW-8R	PZ-8R	MW-9B
Top of riser (ft MSL)	659.46	657.75	658.03	659.51	659.07	655.53	656.29	663.73	660.62	660.37	662.17	663.75	664.19	655.82
Ground surface (ft MSL)	655.43	656.41	654.99	657.01	656.30	653.79	653.49	659.96	658.03	657.86	659.64	661.45	661.38	654.38
Top of screen (ft MSL)	649.00	653.40	648.50	654.40	621.57	650.30	618.79	659.23	655.20	655.36	655.44	659.75	626.69	651.10
Bottom of well (ft MSL)	633.80	638.40	633.50	639.40	616.57	635.30	613.79	649.23	645.20	645.36	645.44	649.75	621.69	636.10
	Calculated Vertical Gradient													
05/28/15	--	--	--	--	(0.36)	--	(0.45)	--	--	--	--	--	(0.23)	--
09/03/15	--	--	--	--	(0.58)	--	(0.64)	--	--	--	--	--	(0.33)	--
05/04/16	--	--	--	--	(0.32)	--	(0.39)	--	--	--	--	--	(0.14)	--
09/07/16	--	--	--	--	(0.39)	--	(0.48)	--	--	--	--	--	(0.19)	--
04/26/17	--	--	--	--	(0.36)	--	(0.42)	--	--	--	--	--	(0.12)	--
09/27/17	--	--	--	--	(0.41)	--	(0.48)	--	--	--	--	--	(0.24)	--
05/21/18	--	--	--	--	(0.28)	--	(0.35)	--	--	--	--	--	(0.18)	--
09/10/18	--	--	--	--	(0.48)	--	(0.54)	--	--	--	--	--	(0.27)	--
04/23/19	--	--	--	--	(0.34)	--	(0.41)	--	--	--	--	--	(0.21)	--
09/09/19	--	--	--	--	(0.39)	--	(0.50)	--	--	--	--	--	(0.17)	--
04/28/20	--	--	--	--	(0.34)	--	(0.39)	--	--	--	--	--	(0.17)	--
09/10/20	--	--	--	--	(0.39)	--	(0.43)	--	--	--	--	--	(0.19)	--
04/27/21	--	--	--	--	(0.37)	--	(0.40)	--	--	--	--	--	(0.21)	--
09/07/21	--	--	--	--	(0.35)	--	(0.34)	--	--	--	--	--	(0.16)	--
04/25/22	--	--	--	--	(0.42)	--	(0.42)	--	--	--	--	--	(0.21)	--
09/12/22	--	--	--	--	(0.37)	--	(0.37)	--	--	--	--	--	(0.24)	--
05/03/23	--	--	--	--	(0.35)	--	(0.40)	--	--	--	--	--	(0.20)	--
09/18/23	--	--	--	--	(0.48)	--	(0.52)	--	--	--	--	--	(0.26)	--

Table 2
Fluid Level Monitoring Data
ERP Wells and Piezometers (2015-2023)
Superior Refining Company LLC
Superior, Wisconsin

Description	Monitoring Well ID and Reference Information																
	MW-11	PZ-11	MW-12	MW-13	PZ-13	MW-14	MW-15	MW-16	PZ-16	MW-17	PZ-17	MW-18	MW-19R	MW-20	MW-21	PZ-21	MW-22
Top of riser (ft MSL)	654.98	655.25	656.70	659.10	658.97	661.16	659.89	658.85	658.65	654.30	654.58	651.89	661.26	659.06	659.29	659.52	659.19
Ground surface (ft MSL)	652.44	652.61	653.92	656.08	656.13	658.14	657.55	655.86	655.79	651.47	651.79	649.36	658.71	655.99	656.73	656.72	657.07
Top of screen (ft MSL)	647.7	617.8	649.0	651.3	621.5	653.1	654.4	653.4	621.2	648.8	617.1	646.4	654.5	653.6	653.8	622.0	653.7
Bottom of well (ft MSL)	632.7	612.8	634.0	636.3	616.5	638.1	639.4	638.4	616.2	633.8	612.1	631.4	644.5	638.6	638.8	617.0	638.7
Measurement Date	Depth to Water from Top of Riser (feet)																
05/28/15	5.51	10.75	6.9	5.1	12.4	4.72	3.22	4.55	36.32	6.23	14.73	4.15	--	3.98	3.8	12.45	3.52
09/03/15	9.09	14.95	6.23	4.57	14.66	3.69	3.37	3.79	25.86	5.31	19.39	3.61	--	3.91	4.89	16.18	6.4
05/04/16	4.42	12.01	4.30	4.46	11.70	4.39	3.65	3.40	16.96	5.09	13.91	4.72	--	4.49	3.76	11.62	4.26
09/07/16	7.51	12.55	9.05	9.02	12.48	4.57	3.44	5.56	20.57	5.40	16.86	5.98	--	4.60	4.80	12.96	5.91
04/26/17	3.16	11.49	4.78	3.71	11.42	2.48	2.88	3.31	16.43	4.91	13.75	2.85	--	3.78	4.49	11.25	2.62
09/27/17	3.70	11.71	4.22	3.53	11.55	3.52	3.00	3.31	18.98	4.93	15.69	3.10	--	3.41	3.11	12.02	2.69
05/21/18	3.90	11.22	5.27	5.09	11.08	8.47	2.08	3.31	16.22	6.40	13.30	4.71	--	4.67	3.82	11.15	3.80
09/10/18	9.46	12.45	5.43	3.95	12.91	3.81	3.46	5.05	22.96	4.60	18.85	4.91	--	4.76	7.05	13.29	4.95
04/23/19	5.16	11.20	5.12	6.29	11.14	8.67	3.04	7.60	16.40	4.89	13.56	3.42	--	3.56	4.21	11.62	3.24
09/09/19	9.72	11.62	6.40	11.12	12.10	4.00	6.19	6.44	18.92	6.02	16.04	4.72	--	4.96	4.68	13.06	4.72
04/28/20	3.42	11.45	5.63	4.42	12.06	6.15	3.37	3.36	16.51	4.33	3.31*	4.37	--	4.02	3.15	11.12	3.60
05/12/20	3.75	24.56	5.09	4.75	16.65	3.97	3.42	3.71	30.64	5.42	28.31	4.98	--	4.81	4.12	25.43	3.38
09/10/20	8.78	11.82	5.21	8.79	12.08	4.03	4.32	5.12	19.52	5.52	15.82	5.51	--	4.96	4.06	12.62	3.87
09/24/20	11.64	31.47	9.59	11.33	22.94	4.63	5.19	5.61	38.17	10.61	35.53	8.81	--	7.34	6.06	32.67	6.23
10/06/20	13.18	26.35	11.34	15.43	31.13	4.87	5.65	7.60	38.73	12.46	35.76	9.83	--	8.87	9.88	32.90	2.81
04/27/21	3.62	11.67	4.00	4.09	12.12	nm	3.21	3.41	16.34	3.56	14.71	3.36	--	3.95	3.10	11.49	3.40
05/10/21	4.24	16.86	5.35	5.01	28.07	6.52	3.46	3.71	29.58	7.62	30.10	4.79	--	5.05	4.03	31.21	4.23
05/24/21	5.15	30.42	5.15	4.26	32.13	3.77	3.16	3.51	34.16	3.53	31.02	3.80	--	5.10	3.26	33.27	5.52
09/07/21	10.42	11.65	9.52	12.43	12.14	4.15	7.06	7.48	19.74	6.88	15.84	6.14	--	6.99	6.88	13.07	6.12
09/21/21	13.21	29.83	9.45	15.50	28.57	3.80	4.77	9.65	36.50	4.10	35.15	3.71	--	4.45	9.02	32.27	6.14
10/04/21	15.00	30.75	9.79	18.27	31.95	4.01	5.85	10.47	38.65	7.13	36.67	4.55	--	3.80	10.11	33.71	9.62
04/25/22	5.53	12.17	3.95	4.15	12.97	nm ⁽¹⁾	3.50	3.41	16.52	4.22	13.82	3.53	--	3.93	3.74	11.61	2.92
05/09/22	3.43	26.92	3.69	3.99	29.22	6.04	3.45	3.51	38.02	9.38	34.95	3.45	--	4.02	3.74	33.63	3.04
05/24/22	3.73	32.85	4.15	4.15	33.08	4.31	3.40	3.60	38.95	11.15	37.60	3.46	--	4.17	4.77	35.22	4.83
09/12/22	10.21	12.23	6.55	12.05	12.90	4.05	9.10	6.60	19.83	4.95	16.16	5.85	--	6.56	6.63	13.30	6.70
09/26/22	13.60	26.31	10.10	14.94	23.75	5.05	5.89	7.81	38.19	9.45	32.90	5.65	--	7.66	9.61	26.66	9.02
10/12/22	15.52	33.93	13.16	13.90	31.85	5.35	7.10	8.85	40.67	12.57	39.02	6.72	--	9.31	12.05	31.20	13.05
05/03/23	3.80	13.15	4.80	4.00	13.65	5.50	3.42	3.80	17.35	5.13	15.15	4.10	3.70	4.10	4.65	13.20	5.90
05/15/23	3.68	29.27	4.56	4.36	26.34	4.21	3.40	3.76	34.33	8.58	32.33	4.85	7.45	4.12	4.39	28.12	3.17
05/30/23	4.43	33.47	5.64	5.42	31.40	4.60	3.75	4.15	39.41	11.95	36.25	5.40	9.81	5.65	5.62	33.91	4.42
09/18/23	11.20	13.00	5.90	14.76	12.19	4.45	4.60	5.43	21.27	4.89	18.52	4.10	8.82	4.85	8.03	13.08	6.52
10/03/23	7.67	22.15	7.68	11.50	19.61	3.41	3.54	3.86	38.34	9.55	36.10	3.99	11.25	4.00	4.09	25.69	5.62
10/16/23	11.72	18.96	4.23	15.33	31.77	4.60	3.60	4.00	39.44	12.72	37.50	4.67	9.75	4.12	6.33	21.83	4.53

Table 2
Fluid Level Monitoring Data
ERP Wells and Piezometers (2015-2023)
Superior Refining Company LLC
Superior, Wisconsin

Description	Monitoring Well ID and Reference Information																
	MW-11	PZ-11	MW-12	MW-13	PZ-13	MW-14	MW-15	MW-16	PZ-16	MW-17	PZ-17	MW-18	MW-19R	MW-20	MW-21	PZ-21	MW-22
Top of riser (ft MSL)	654.98	655.25	656.70	659.10	658.97	661.16	659.89	658.85	658.65	654.30	654.58	651.89	661.26	659.06	659.29	659.52	659.19
Ground surface (ft MSL)	652.44	652.61	653.92	656.08	656.13	658.14	657.55	655.86	655.79	651.47	651.79	649.36	658.71	655.99	656.73	656.72	657.07
Top of screen (ft MSL)	647.7	617.8	649.0	651.3	621.5	653.1	654.4	653.4	621.2	648.8	617.1	646.4	654.5	653.6	653.8	622.0	653.7
Bottom of well (ft MSL)	632.7	612.8	634.0	636.3	616.5	638.1	639.4	638.4	616.2	633.8	612.1	631.4	644.5	638.6	638.8	617.0	638.7
	Water Elevation (ft MSL)																
05/28/15	649.47	644.50	649.80	654.00	646.57	656.44	656.67	654.30	622.33	648.07	639.85	647.74	--	655.08	655.49	647.07	655.67
09/03/15	645.89	640.30	650.47	654.53	644.31	657.47	656.52	655.06	632.79	648.99	635.19	648.28	--	655.15	654.40	643.34	652.79
05/04/16	650.56	643.24	652.40	654.64	647.27	656.77	656.24	655.45	641.69	649.21	640.67	647.17	--	654.57	655.53	647.90	654.93
09/07/16	647.47	642.70	647.65	650.08	646.49	656.59	656.45	653.29	638.08	648.90	637.72	645.91	--	654.46	654.49	646.56	653.28
04/26/17	651.82	643.76	651.92	655.39	647.55	658.68	657.01	655.54	642.22	649.39	640.83	649.04	--	655.28	654.80	648.27	656.57
09/27/17	651.28	643.54	652.48	655.57	647.42	657.64	656.89	655.54	639.67	649.37	638.89	648.79	--	655.65	656.18	647.50	656.50
05/21/18	651.08	644.03	651.43	654.01	647.89	652.69	657.81	655.54	642.43	647.90	641.28	647.18	--	654.39	655.47	648.37	655.39
09/10/18	645.52	642.80	651.27	655.15	646.06	657.35	656.43	653.80	635.69	649.70	635.73	646.98	--	654.30	652.24	646.23	654.24
04/23/19	649.82	644.05	651.58	652.81	647.83	652.49	656.85	651.25	642.25	649.41	641.02	648.47	--	655.50	655.08	647.90	655.95
09/09/19	645.26	643.63	650.30	647.98	646.87	657.16	653.70	652.41	639.73	648.28	638.54	647.17	--	654.10	654.61	646.46	654.47
04/28/20	651.56	643.80	651.07	654.68	646.91	655.01	656.52	655.49	642.14	649.97	3.31*	647.52	--	655.04	656.14	648.40	655.59
05/12/20	651.23	630.69	651.61	654.35	642.32	657.19	656.47	655.14	628.01	648.88	626.27	646.91	--	654.25	655.17	634.09	655.81
09/10/20	646.20	643.43	651.49	650.31	646.89	657.13	655.57	653.73	639.13	648.78	638.76	646.38	--	654.10	655.23	646.90	655.32
09/24/20	643.34	623.78	647.11	647.77	636.03	656.53	654.70	653.24	620.48	643.69	619.05	643.08	--	651.72	653.23	626.85	652.96
10/06/20	641.80	628.90	645.36	643.67	627.84	656.29	654.24	651.25	619.92	641.84	618.82	642.06	--	650.19	649.41	626.62	656.38
04/27/21	651.36	643.58	652.70	655.01	646.85	nm	656.68	655.44	642.31	650.74	639.87	648.53	--	655.11	656.19	648.03	655.79
05/10/21	650.74	638.39	651.35	654.09	630.90	654.64	656.43	655.14	629.07	646.68	624.48	647.10	--	654.01	655.26	628.31	654.96
05/24/21	649.83	624.83	651.55	654.84	626.84	657.39	656.73	655.34	624.49	650.77	623.56	648.09	--	653.96	656.03	626.25	653.67
09/07/21	644.56	643.60	647.18	646.67	646.83	657.01	652.83	651.37	638.91	647.42	638.74	645.75	--	652.07	652.41	646.45	653.07
09/21/21	641.77	625.42	647.25	643.60	630.40	657.36	655.12	649.20	622.15	650.20	619.43	648.18	--	654.61	650.27	627.25	653.05
10/04/21	639.98	624.50	646.91	640.83	627.02	657.15	654.04	648.38	620.00	647.17	617.91	647.34	--	655.26	649.18	625.81	649.57
04/25/22	649.45	643.08	652.75	654.95	646.00	nm ⁽¹⁾	656.39	655.44	642.13	650.08	640.76	648.36	--	655.13	655.55	647.91	656.27
05/09/22	651.55	628.33	653.01	655.11	629.75	655.12	656.44	655.34	620.63	644.92	619.63	648.44	--	655.04	655.55	625.89	656.15
05/24/22	651.25	622.40	652.55	654.95	625.89	656.85	656.49	655.25	619.70	643.15	616.98	648.43	--	654.89	654.52	624.30	654.36
09/12/22	644.77	643.02	650.15	647.05	646.07	657.11	650.79	652.25	638.82	649.35	638.42	646.04	--	652.50	652.66	646.22	652.49
09/26/22	641.38	628.94	646.60	644.16	635.22	656.11	654.00	651.04	620.46	644.85	621.68	646.24	--	651.40	649.68	632.86	650.17
10/12/22	639.46	621.32	643.54	645.20	627.12	655.81	652.79	650.00	617.98	641.73	615.56	645.17	--	649.75	647.24	628.32	646.14
05/03/23	651.18	642.10	651.90	655.10	645.32	655.66	656.47	655.05	641.30	649.17	639.43	647.79	657.56	654.96	654.64	646.32	653.29
05/15/23	651.30	625.98	652.14	654.74	632.63	656.95	656.49	655.09	624.32	645.72	622.25	647.04	653.81	654.94	654.90	631.40	656.02
05/30/23	650.55	621.78	651.06	653.68	627.57	656.56	656.14	654.70	619.24	642.35	618.33	646.49	651.45	653.41	653.67	625.61	654.77
09/18/23	643.78	642.25	650.80	644.34	646.78	656.71	655.29	653.42	637.38	649.41	636.06	647.79	652.44	654.21	651.26	646.44	652.67
10/03/23	647.31	633.10	649.02	647.60	639.36	657.75	656.35	654.99	620.31	644.75	618.48	647.90	650.01	655.06	655.20	633.83	653.57
10/16/23	643.26	636.29	652.47	643.77	627.20	656.56	656.29	654.85	619.21	641.58	617.08	647.22	651.51	654.94	652.96	637.69	654.66

Table 2
Fluid Level Monitoring Data
ERP Wells and Piezometers (2015-2023)
Superior Refining Company LLC
Superior, Wisconsin

Description	Monitoring Well ID and Reference Information																
	MW-11	PZ-11	MW-12	MW-13	PZ-13	MW-14	MW-15	MW-16	PZ-16	MW-17	PZ-17	MW-18	MW-19R	MW-20	MW-21	PZ-21	MW-22
Top of riser (ft MSL)	654.98	655.25	656.70	659.10	658.97	661.16	659.89	658.85	658.65	654.30	654.58	651.89	661.26	659.06	659.29	659.52	659.19
Ground surface (ft MSL)	652.44	652.61	653.92	656.08	656.13	658.14	657.55	655.86	655.79	651.47	651.79	649.36	658.71	655.99	656.73	656.72	657.07
Top of screen (ft MSL)	647.7	617.8	649.0	651.3	621.5	653.1	654.4	653.4	621.2	648.8	617.1	646.4	654.5	653.6	653.8	622.0	653.7
Bottom of well (ft MSL)	632.7	612.8	634.0	636.3	616.5	638.1	639.4	638.4	616.2	633.8	612.1	631.4	644.5	638.6	638.8	617.0	638.7
	Calculated Vertical Gradient																
05/28/15	--	(0.20)	--	--	(0.30)	--	--	--	(1.18)	--	(0.31)	--	--	--	--	(0.31)	--
09/03/15	--	(0.23)	--	--	(0.41)	--	--	--	(0.82)	--	(0.52)	--	--	--	--	(0.41)	--
05/04/16	--	(0.29)	--	--	(0.30)	--	--	--	(0.51)	--	(0.32)	--	--	--	--	(0.29)	--
09/07/16	--	(0.19)	--	--	(0.15)	--	--	--	(0.56)	--	(0.42)	--	--	--	--	(0.30)	--
04/26/17	--	(0.32)	--	--	(0.32)	--	--	--	(0.49)	--	(0.32)	--	--	--	--	(0.24)	--
09/27/17	--	(0.31)	--	--	(0.33)	--	--	--	(0.58)	--	(0.39)	--	--	--	--	(0.32)	--
05/21/18	--	(0.28)	--	--	(0.25)	--	--	--	(0.48)	--	(0.25)	--	--	--	--	(0.27)	--
09/10/18	--	(0.11)	--	--	(0.37)	--	--	--	(0.67)	--	(0.52)	--	--	--	--	(0.23)	--
04/23/19	--	(0.23)	--	--	(0.20)	--	--	--	(0.34)	--	(0.31)	--	--	--	--	(0.27)	--
09/09/19	--	(0.07)	--	--	(0.05)	--	--	--	(0.47)	--	(0.37)	--	--	--	--	(0.30)	--
04/28/20	--	(0.31)	--	--	(0.31)	--	--	--	(0.49)	--	NC	--	--	--	--	(0.29)	--
09/10/20	--	(0.11)	--	--	(0.14)	--	--	--	(0.54)	--	(0.38)	--	--	--	--	(0.31)	--
04/27/21	--	(0.31)	--	--	(0.33)	--	--	--	(0.48)	--	(0.41)	--	--	--	--	(0.30)	--
05/10/21	--	(0.49)	--	--	(0.93)	--	--	--	(0.96)	--	(0.87)	--	--	--	--	(1.01)	--
04/25/22	--	(0.26)	--	--	(0.36)	--	--	--	(0.49)	--	(0.35)	--	--	--	--	(0.29)	--
09/12/22	--	(0.07)	--	--	(0.04)	--	--	--	(0.50)	--	(0.41)	--	--	--	--	(0.25)	--
05/03/23	--	(0.36)	--	--	(0.39)	--	--	--	(0.51)	--	(0.36)	--	--	--	--	(0.31)	--
09/18/23	--	(0.07)	--	--	0.11	--	--	--	(0.59)	--	(0.50)	--	--	--	--	(0.19)	--

NOTES:

Site datum = NAVD 88 feet above mean sea level (ft MSL). No measurable thickness of free product observed in any of the monitoring wells.

Negative/downward calculated vertical gradients are enclosed in parenthesis and (red).

NC - not calculated due to anomalous depth to water reading.

Free product has not been observed in the monitoring wells or piezometers since gauging began in 2016

-- = Not applicable.

FOOTNOTES:

* - anomalous data point; possible data recording error.

(1) = Well was frozen.

Table 3
Groundwater Analytical Data Summary
ERP Piezometers and Perimeter Wells
Superior Refining Company LLC
Superior, Wisconsin

Well ID Date	Substance Concentration (µg/l) and Results Qualifier (if any)						
	Benzene	Ethylbenzene	MTBE	Naphthalene	Toluene	TMBs	Xylenes
NR 140 PAL	0.5	140	12	10	160	96	400
NR 140 ES	5.0	700	60	100	800	480	2,000
MW-1 (ERP and GEMS)							
6/23/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
10/7/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/23/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/5/2016	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/15/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/25/2017	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
6/11/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/10/2018	< 0.25	< 0.22	< 1.2	< 1.2	< 0.17	< 1.71	< 0.73
5/20/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/8/2019	< 0.25	< 0.22	< 1.2	< 1.2	< 0.17	< 1.71	< 0.73
5/27/2020	< 0.25	< 0.32	< 1.2	< 1.2	< 0.27	< 1.71	< 1.5
10/5/2020	< 0.12	< 0.075	< 0.12	< 0.68	< 0.12	< 0.29	< 0.29
5/24/2021	< 0.30	< 0.33	< 1.1	< 1.1	< 0.29	< 0.81	< 1.0
10/4/2021	< 0.12	< 0.069	< 0.18	< 0.20	< 0.11	< 0.22	< 0.30
5/24/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/12/2022	0.14 J	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
5/30/2023	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/16/2023	< 0.21	< 0.11	< 0.13	< 0.18	< 0.21	< 0.24	< 0.60
MW-2 (ERP and GEMS)							
6/23/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
10/7/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/23/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/5/2016	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/15/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/25/2017	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
6/11/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/10/2018	< 0.25	< 0.22	< 1.2	< 1.2	< 0.17	< 1.71	< 0.73
5/20/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/8/2019	< 0.25	< 0.22	< 1.2	< 1.2	< 0.17	< 1.71	< 0.73
5/27/2020	< 0.25	< 0.32	< 1.2	< 1.2	< 0.27	< 1.71	< 1.5
10/5/2020	< 0.12	< 0.075	< 0.12	< 0.68	< 0.12	< 0.29	< 0.29
5/24/2021	< 0.30	< 0.33	< 1.1	< 1.1	< 0.29	< 0.81	< 1.0
10/5/2021	< 0.12	< 0.069	< 0.18	< 0.20	< 0.11	< 0.22	< 0.30
5/24/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/12/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
5/30/2023	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/16/2023	< 0.21	< 0.11	< 0.13	< 0.18	< 0.21	< 0.24	< 0.60

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	Benzene	Ethylbenzene	MTBE	Naphthalene	Toluene	TMBs	Xylenes
NR 140 PAL	0.5	140	12	10	160	96	400
NR 140 ES	5.0	700	60	100	800	480	2,000
PZ-2/T66							
6/23/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
10/6/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/23/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/4/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
5/15/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/24/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
6/11/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/9/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
5/20/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/8/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.16	< 0.67	< 0.47
5/27/2020	< 0.25	< 0.32	< 1.2	< 1.2	< 0.27	< 1.71	< 1.5
10/5/2020	< 0.12	< 0.075	< 0.12	< 0.68	< 0.12	< 0.29	< 0.29
5/24/2021	< 0.30	< 0.33	< 1.1	< 1.1	< 0.29	< 0.81	< 1.0
10/5/2021	< 0.12	< 0.069	< 0.18	< 0.20	< 0.11	< 0.22	< 0.18
5/25/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/13/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
5/30/2023	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/16/2023	< 0.21	< 0.11	< 0.13	< 0.18	< 0.21	< 0.24	< 0.42
MW-3D (ERP and GEMS) ⁽¹⁾							
6/23/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
10/7/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/23/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/5/2016	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/15/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/25/2017	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
6/11/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/10/2018	< 0.25	< 0.22	< 1.2	< 1.2	< 0.17	< 1.71	< 0.73
5/20/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/8/2019	< 0.25	< 0.22	< 1.2	< 1.2	< 0.17	< 1.71	< 0.73
5/27/2020	< 0.25	< 0.32	< 1.2	< 1.2	< 0.27	< 1.71	< 1.5
10/5/2020	< 0.12	< 0.075	< 0.12	< 0.68	< 0.12	< 0.29	< 0.29
5/24/2021	< 0.30	< 0.33	< 1.1	< 1.1	< 0.29	< 0.81	< 1.0
10/5/2021	< 0.12	< 0.069	< 0.18	< 0.20	< 0.11	< 0.22	< 0.30
5/24/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/12/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
5/30/2023	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/16/2023	< 0.21	< 0.11	< 0.13	< 0.18	< 0.21	< 0.24	< 0.60

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Well ID	Substance Concentration (µg/l) and Results Qualifier (if any)						
	Benzene	Ethylbenzene	MTBE	Naphthalene	Toluene	TMBs	Xylenes
NR 140 PAL	0.5	140	12	10	160	96	400
NR 140 ES	5.0	700	60	100	800	480	2,000
PZ-3D							
6/23/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
10/7/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/23/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/4/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
5/15/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/24/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
6/11/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/9/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
5/20/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/8/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.16	< 0.67	< 0.47
5/27/2020	< 0.25	< 0.32	< 1.2	< 1.2	< 0.27	< 1.71	< 1.5
10/5/2020	< 0.12	< 0.075	< 0.12	< 0.68	< 0.12	< 0.29	< 0.29
5/24/2021	< 0.30	< 0.33	< 1.1	< 1.1	< 0.29	< 0.81	< 1.0
10/5/2021	< 0.12	< 0.069	< 0.18	< 0.20	< 0.11	< 0.22	< 0.18
5/24/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/12/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
5/30/2023	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/16/2023	< 0.21	< 0.11	< 0.13	< 0.18	< 0.21	< 0.24	< 0.42
MW-7							
6/23/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
10/7/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/23/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/4/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
5/15/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/24/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
6/11/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/9/2018	< 0.31	< 0.33	< 0.32	< 0.51	1.9	< 0.67	< 0.98
2019							
2020	Well not sampled due to bent casing and suspect surface water infiltration						
2021							
5/25/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
Monitoring well MW-7 was abandoned on September 1, 2022.							
MW-7R							
5/30/2023	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/16/2023	< 0.21	< 0.11	< 0.13	< 0.18	< 0.21	< 0.24	< 0.42

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	Benzene	Ethylbenzene	MTBE	Naphthalene	Toluene	TMBs	Xylenes
NR 140 PAL	0.5	140	12	10	160	96	400
NR 140 ES	5.0	700	60	100	800	480	2,000
MW-8R (ERP and GEMS)							
6/23/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
10/7/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/23/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/5/2016	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/15/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/25/2017	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
6/11/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/10/2018	< 0.25	< 0.22	< 1.2	< 1.2	< 0.17	< 1.71	< 0.73
5/20/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/8/2019	< 0.25	< 0.22	< 1.2	< 1.2	< 0.17	< 1.71	< 0.73
5/27/2020	< 0.25	< 0.32	< 1.2	< 1.2	< 0.27	< 1.71	< 1.5
10/5/2020	< 0.12	< 0.075	< 0.12	< 0.68	< 0.12	< 0.29	< 0.29
5/24/2021	< 0.30	< 0.33	< 1.1	< 1.1	< 0.29	< 0.81	< 1.0
10/4/2021	< 0.12	< 0.069	< 0.18	< 0.20	< 0.11	< 0.22	0.31 a
5/25/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/12/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
5/30/2023	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/16/2023	< 0.21	< 0.11	< 0.13	< 0.18	< 0.21	< 0.24	< 0.60
PZ-8R							
6/23/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
10/7/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/23/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/4/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
5/15/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/24/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
6/11/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/9/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
5/20/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/8/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.16	< 0.67	< 0.47
5/27/2020	< 0.25	< 0.32	< 1.2	< 1.2	< 0.27	< 1.71	< 1.5
10/5/2020	< 0.12	< 0.075	< 0.12	< 0.68	< 0.12	< 0.29	< 0.29
5/24/2021	< 0.30	< 0.33	< 1.1	< 1.1	< 0.29	< 0.81	< 1.0
10/4/2021	< 0.12	< 0.069	< 0.18	< 0.20	< 0.11	< 0.22	< 0.18
5/25/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/12/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
5/30/2023	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/16/2023	< 0.21	< 0.11	< 0.13	< 0.18	< 0.21	< 0.24	< 0.42

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Superior, Wisconsin

Well ID	Substance Concentration (µg/l) and Results Qualifier (if any)						
	Benzene	Ethylbenzene	MTBE	Naphthalene	Toluene	TMBs	Xylenes
NR 140 PAL	0.5	140	12	10	160	96	400
NR 140 ES	5.0	700	60	100	800	480	2,000
MW-9B (ERP and GEMS) ⁽²⁾							
6/23/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
10/7/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/23/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/5/2016	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/15/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/25/2017	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
6/11/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/10/2018	< 0.25	< 0.22	< 1.2	< 1.2	< 0.17	< 1.71	< 0.73
5/20/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/8/2019	< 0.25	< 0.22	< 1.2	< 1.2	< 0.17	< 1.71	< 0.73
5/27/2020	< 0.25	< 0.32	< 1.2	< 1.2	< 0.27	< 1.71	< 1.5
10/5/2020	< 0.12	< 0.075	< 0.12	< 0.68	< 0.12	< 0.29	< 0.29
5/24/2021	< 0.30	< 0.33	< 1.1	< 1.1	< 0.29	< 0.81	< 1.0
10/5/2021	< 0.12	< 0.069	< 0.18	< 0.20	< 0.11	< 0.22	< 0.30
5/25/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/12/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
5/30/2023	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/16/2023	< 0.21	< 0.11	< 0.13	< 0.18	< 0.21	< 0.24	< 0.60
MW-11							
6/23/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
10/6/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/23/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/4/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
5/15/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/24/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
6/12/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/9/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
5/20/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/8/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.16	< 0.67	< 0.47
5/27/2020	< 0.25	< 0.32	< 1.2	< 1.2	< 0.27	< 1.71	< 1.5
10/5/2020	< 0.12	< 0.075	< 0.12	< 0.68	< 0.12	< 0.29	< 0.29
5/24/2021	< 0.30	< 0.33	< 1.1	< 1.1	< 0.29	< 0.81	< 1.0
10/4/2021	< 0.12	< 0.069	< 0.18	0.22 J	< 0.11	< 0.22	< 0.18
5/24/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/12/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
5/31/2023	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/17/2023	< 0.21	< 0.11	< 0.13	< 0.18	< 0.21	< 0.24	< 0.42

Table 3
Groundwater Analytical Data Summary
ERP Piezometers and Perimeter Wells
Superior Refining Company LLC
Superior, Wisconsin

Well ID	Substance Concentration (µg/l) and Results Qualifier (if any)						
	Benzene	Ethylbenzene	MTBE	Naphthalene	Toluene	TMBs	Xylenes
NR 140 PAL	0.5	140	12	10	160	96	400
NR 140 ES	5.0	700	60	100	800	480	2,000
PZ-11							
6/23/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
10/6/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/23/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/4/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
5/15/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/24/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
6/12/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/9/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
5/20/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/8/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.16	< 0.67	< 0.47
5/27/2020	< 0.25	< 0.32	< 1.2	< 1.2	< 0.27	< 1.71	< 1.5
10/5/2020	< 0.12	< 0.075	< 0.12	< 0.68	< 0.12	< 0.29	< 0.29
5/24/2021	< 0.30	< 0.33	< 1.1	< 1.1	< 0.29	< 0.81	< 1.0
10/4/2021	< 0.12	< 0.069	< 0.18	< 0.20	< 0.11	< 0.22	< 0.18
5/24/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/12/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
5/31/2023	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/17/2023	< 0.21	< 0.11	< 0.13	< 0.18	< 0.21	< 0.24	< 0.42
MW-12							
6/23/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
10/6/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/23/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/4/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
5/16/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/24/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
6/12/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/9/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
5/20/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
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10/5/2020	< 0.12	< 0.075	< 0.12	< 0.68	< 0.12	< 0.29	< 0.29
5/24/2021	< 0.30	< 0.33	< 1.1	< 1.1	< 0.29	< 0.81	< 1.0
10/4/2021	< 0.12	< 0.069	< 0.18	< 0.20	< 0.11	< 0.22	< 0.18
5/24/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/12/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
5/31/2023	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/17/2023	< 0.21	< 0.11	< 0.13	< 0.18	< 0.21	< 0.24	< 0.42

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NR 140 PAL	0.5	140	12	10	160	96	400
NR 140 ES	5.0	700	60	100	800	480	2,000
MW-13							
6/23/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
10/6/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/23/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/4/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
5/16/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/24/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
6/12/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/9/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
5/20/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/8/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.16	< 0.67	< 0.47
5/27/2020	< 0.25	< 0.32	< 1.2	< 1.2	< 0.27	< 1.71	< 1.5
10/5/2020	< 0.12	< 0.075	< 0.12	< 0.68	< 0.12	< 0.29	< 0.29
5/24/2021	< 0.30	< 0.33	< 1.1	< 1.1	< 0.29	< 0.81	< 1.0
10/4/2021	< 0.12	< 0.069	< 0.18	< 0.20	< 0.11	< 0.22	< 0.18
5/24/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/12/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
5/31/2023	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/17/2023	< 0.21	< 0.11	< 0.13	< 0.18	< 0.21	< 0.24	< 0.42
PZ-13							
6/23/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
10/6/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/23/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/4/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
5/16/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/24/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
6/12/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/9/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
5/20/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/8/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.16	< 0.67	< 0.47
5/27/2020	< 0.25	< 0.32	< 1.2	< 1.2	< 0.27	< 1.71	< 1.5
10/5/2020	< 0.12	< 0.075	< 0.12	< 0.68	< 0.12	< 0.29	< 0.29
5/24/2021	< 0.30	< 0.33	< 1.1	< 1.1	< 0.29	< 0.81	< 1.0
10/4/2021	< 0.12	< 0.069	< 0.18	< 0.20	< 0.11	< 0.22	< 0.18
5/24/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/12/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
5/31/2023	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/17/2023	< 0.21	0.12 J	< 0.13	< 0.18	< 0.21	< 0.24	< 0.42

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ERP Piezometers and Perimeter Wells
Superior Refining Company LLC
Superior, Wisconsin

Well ID	Substance Concentration (µg/l) and Results Qualifier (if any)						
	Benzene	Ethylbenzene	MTBE	Naphthalene	Toluene	TMBs	Xylenes
NR 140 PAL	0.5	140	12	10	160	96	400
NR 140 ES	5.0	700	60	100	800	480	2,000
MW-14							
6/23/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
10/6/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/23/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/4/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
5/15/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/24/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
6/12/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/9/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
5/20/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/8/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.16	< 0.67	< 0.47
5/27/2020	< 0.25	< 0.32	< 1.2	< 1.2	< 0.27	< 1.71	< 1.5
10/5/2020	< 0.12	< 0.075	< 0.12	< 0.68	< 0.12	< 0.29	< 0.29
5/24/2021	< 0.30	< 0.33	< 1.1	< 1.1	< 0.29	< 0.81	< 1.0
10/4/2021	< 0.12	< 0.069	< 0.18	< 0.20	< 0.11	0.37 ^a	0.31 ^J
5/24/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/12/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
5/31/2023	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/17/2023	< 0.21	< 0.11	< 0.13	< 0.18	< 0.21	< 0.24	< 0.42
MW-15							
6/23/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
10/6/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/23/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/4/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
5/15/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/24/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
6/11/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/9/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
5/20/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/8/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.16	< 0.67	< 0.47
5/27/2020	< 0.25	< 0.32	< 1.2	< 1.2	< 0.27	< 1.71	< 1.5
10/5/2020	< 0.12	< 0.075	< 0.12	< 0.68	< 0.12	< 0.29	< 0.29
5/24/2021	< 0.30	< 0.33	< 1.1	< 1.1	< 0.29	< 0.81	< 1.0
10/4/2021	< 0.12	< 0.069	< 0.18	< 0.20	< 0.11	< 0.22	< 0.18
5/24/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/12/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
5/30/2023	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/16/2023	< 0.21	< 0.11	< 0.13	< 0.18	< 0.21	< 0.24	< 0.42

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	Benzene	Ethylbenzene	MTBE	Naphthalene	Toluene	TMBs	Xylenes
NR 140 PAL	0.5	140	12	10	160	96	400
NR 140 ES	5.0	700	60	100	800	480	2,000
MW-16							
6/23/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
10/6/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/23/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/4/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
5/15/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/24/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
6/11/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/9/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
5/20/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/8/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.16	< 0.67	< 0.47
5/27/2020	< 0.25	< 0.32	< 1.2	< 1.2	< 0.27	< 1.71	< 1.5
10/5/2020	< 0.12	< 0.075	< 0.12	< 0.68	< 0.12	< 0.29	< 0.29
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10/5/2021	< 0.12	< 0.069	< 0.18	< 0.20	< 0.11	< 0.22	< 0.18
5/24/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/12/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
5/30/2023	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/16/2023	< 0.21	< 0.11	< 0.13	< 0.18	< 0.21	< 0.24	< 0.42
PZ-16							
6/23/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
10/6/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/23/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/4/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
5/15/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/24/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
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10/9/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
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5/24/2021	< 0.30	< 0.33	< 1.1	< 1.1	< 0.29	< 0.81	< 1.0
10/5/2021	< 0.12	< 0.069	< 0.18	< 0.20	< 0.11	< 0.22	< 0.18
5/24/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/12/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
5/30/2023	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/16/2023	< 0.21	< 0.11	< 0.13	< 0.18	< 0.21	< 0.24	< 0.42

Table 3
Groundwater Analytical Data Summary
ERP Piezometers and Perimeter Wells
Superior Refining Company LLC
Superior, Wisconsin

Well ID	Substance Concentration (µg/l) and Results Qualifier (if any)						
	Benzene	Ethylbenzene	MTBE	Naphthalene	Toluene	TMBs	Xylenes
NR 140 PAL	0.5	140	12	10	160	96	400
NR 140 ES	5.0	700	60	100	800	480	2,000
MW-17							
6/23/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
10/6/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/23/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/4/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
5/15/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/24/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
6/11/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/9/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
5/20/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
10/8/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.16	< 0.67	< 0.47
5/27/2020	< 0.25	< 0.32	< 1.2	< 1.2	< 0.27	< 1.71	< 1.5
10/5/2020	< 0.12	< 0.075	< 0.12	< 0.68	< 0.12	< 0.29	< 0.29
5/24/2021	< 0.30	< 0.33	< 1.1	< 1.1	< 0.29	< 0.81	< 1.0
10/5/2021	< 0.12	< 0.069	< 0.18	< 0.20	< 0.11	< 0.22	< 0.18
5/25/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/13/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
5/30/2023	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/17/2023	< 0.21	< 0.11	< 0.13	< 0.18	< 0.21	< 0.24	< 0.42
PZ-17							
6/23/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
10/6/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/23/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
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10/13/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
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Superior Refining Company LLC
Superior, Wisconsin

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NR 140 ES	5.0	700	60	100	800	480	2,000
MW-18							
6/23/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
10/6/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/23/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
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5/30/2023	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/17/2023	< 0.21	< 0.11	< 0.13	< 0.18	< 0.21	< 0.24	< 0.42
MW-19							
6/23/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
10/6/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/23/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/4/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
5/16/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/24/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
6/11/2018	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
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5/20/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
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5/24/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
Monitoring well MW-19 was abandoned on September 1, 2022.							
MW-19R							
5/31/2023	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/17/2023	< 0.21	< 0.11	< 0.13	< 0.18	< 0.21	< 0.24	< 0.42

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Superior, Wisconsin

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NR 140 ES	5.0	700	60	100	800	480	2,000
MW-20							
6/23/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
10/6/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/23/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
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5/24/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/12/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
5/31/2023	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/17/2023	< 0.21	< 0.11	< 0.13	< 0.18	< 0.21	< 0.24	< 0.42
MW-21							
6/23/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
10/6/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/23/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/4/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
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5/25/2021	< 0.30	< 0.33	< 1.1	< 1.1	< 0.29	< 0.81	< 1.0
10/4/2021	< 0.12	< 0.069	< 0.18	< 0.20	< 0.11	< 0.22	< 0.18
5/24/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/12/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
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Superior, Wisconsin

Well ID Date	Substance Concentration (µg/l) and Results Qualifier (if any)						
	Benzene	Ethylbenzene	MTBE	Naphthalene	Toluene	TMBs	Xylenes
NR 140 PAL	0.5	140	12	10	160	96	400
NR 140 ES	5.0	700	60	100	800	480	2,000
PZ-21							
6/23/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
10/6/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
5/23/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
10/4/2016	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
5/16/2017	< 0.40	< 0.39	< 0.48	< 0.42	< 0.39	< 0.84	< 1.25
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10/12/2022	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
5/31/2023	< 0.10	< 0.11	< 0.13	< 0.18	< 0.10	< 0.24	< 0.20
10/17/2023	< 0.21	< 0.11	< 0.13	< 0.18	< 0.21	< 0.24	< 0.42
MW-22							
6/23/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
10/6/2015	< 0.50	< 0.50	< 0.17	< 2.5	< 0.50	< 1.00	< 1.5
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5/20/2019	< 0.31	< 0.33	< 0.32	< 0.51	< 0.49	< 0.67	< 0.98
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10/17/2023	< 0.21	< 0.11	< 0.13	< 0.18	< 0.21	< 0.24	< 0.42

NOTES:

Concentrations are in micrograms per liter (µg/l). No results are at or above an NR 140 ES or PAL.

NR 140 ES = Wisconsin Administrative Code NR 140 Enforcement Standard; 7/1/2015.

NR 140 PAL = Wisconsin Administrative Code NR 140 Preventative Action Limit; 7/1/2015.

TMBs = Sum of 1,2,4-Trimethylbenzene and 1,3,5-Trimethylbenzene.

MTBE = Methyl tert butyl ether.

PVOC = Petroleum Volatile Organic Compound

(1) MW-3D is a replacement for MW-3B.

(2) MW-9B is a replacement for MW-9.

a = Estimated value, calculated using some or all values that are estimates.

J = Estimated detected value. Either certain QC criteria were not met or the concentration is between the laboratory's detection and quantitation limits.

Table 4
ERP Well Elevations Summary
Superior Refining Company LLC
Superior, Wisconsin

Well ID	Well Location	Well Diameter (inch)	Elevations		Screened Interval (ft MSL)	Total Depth (ft bgs)
			TOC (ft MSL)	Ground Surface (ft MSL)		
MW-1	NE corner of refinery	2	659.46	655.43	649.0-633.8	22.0
MW-1/T67	Tank 67 basin	2	657.75	656.41	653.4-638.4	18.0
MW-2	NE corner of refinery	2	658.03	654.99	648.5-633.5	22.0
MW-2/T66	SE of Tank 65 basin	2	659.51	657.01	654.4- 630.4	18.0
PZ-2/T66	SE of Tank 65 basin	2	659.07	656.30	621.57-616.57	40.0
MW-3D	NE corner of refinery	2	655.53	653.79	650.3-635.3	18.9
PZ-3D	NE corner of refinery	2	656.29	653.49	618.79-613.79	40.0
MW-5/T40	Tank 40 basin	2	660.62	658.03	655.20-645.20	13.0
MW-5/T70	Tank 70 basin	2	660.37	657.86	655.39-645.36	13.0
MW-7R	Central area of refinery	2	662.17	659.64	655.4-645.4	14.2
MW-8R	Tanks 106/112/114; SW corner of refinery	2	663.75	661.45	659.75-649.75	13.0
PZ-8R	Tanks 106/112/114; SW corner of refinery	2	664.19	661.38	626.69-621.69	40.0
MW-9B	NW of Wastewater Treatment Plant	2	655.82	654.38	651.1-636.1	18.5
MW-11	Near intersection of Stinson & Bardon Av	2	654.98	652.44	647.7-632.7	20.0
PZ-11	Near intersection of Stinson & Bardon Av	2	655.25	652.61	617.8-612.8	40.0
MW-12	South-central property boundary	2	656.70	653.92	649.0-634.0	20.0
MW-13	South-central property boundary	2	659.10	656.08	651.3-636.3	20.0
PZ-13	South-central property boundary	2	658.97	656.13	621.5-616.5	40.0
MW-14	South-central property boundary	2	661.16	658.14	653.1-638.1	20.0
MW-15	North of refinery	2	659.89	657.55	654.4-639.4	18.0
MW-16	NE corner of refinery	2	658.85	655.86	653.4-638.4	18.0
PZ-16	NE corner of refinery	2	658.65	655.79	621.2-616.2	40.0
MW-17	SE of Wastewater Treatment Plant	2	654.30	651.47	648.8-633.8	18.0
PZ-17	SE of Wastewater Treatment Plant	2	654.58	651.79	617.1-612.1	40.0
MW-18	Near intersection of Stinson & Bardon Av	2	651.89	649.36	646.4-631.4	18.0
MW-19R	South tank farm	2	661.26	658.71	654.5-644.5	14.2
MW-20	South tank farm	2	659.06	655.99	653.6-638.6	18.0
MW-21	South tank farm	2	659.29	656.73	653.8-638.6	18.0
PZ-21	South tank farm	2	659.52	656.72	622.0-617.0	40.0
MW-22	South tank farm	2	659.19	657.07	653.7-638.7	18.0

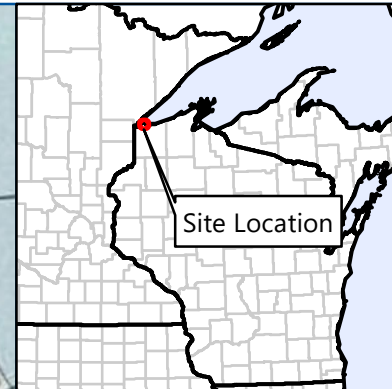
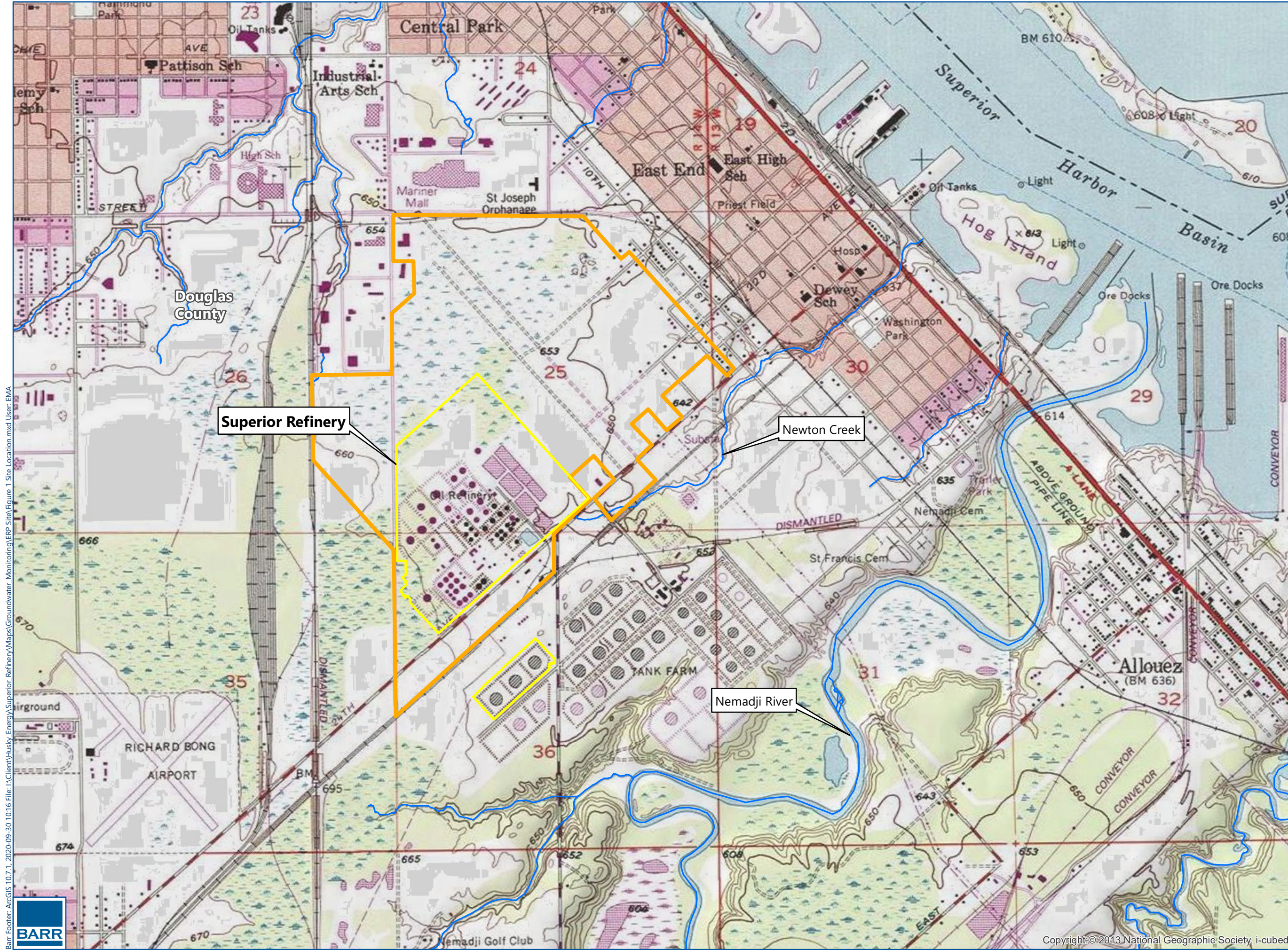
Notes:

TOC = Top of casing

ft MSL = feet above mean seal level

ft bgs = feet below ground surface

Figures

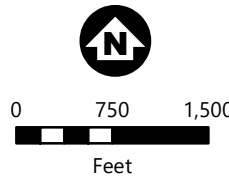


- Approximate SRC Property Boundaries for Contiguous Operations
- Approximate Fenceline Boundaries for Refining-Related Activities

Superior Refinery

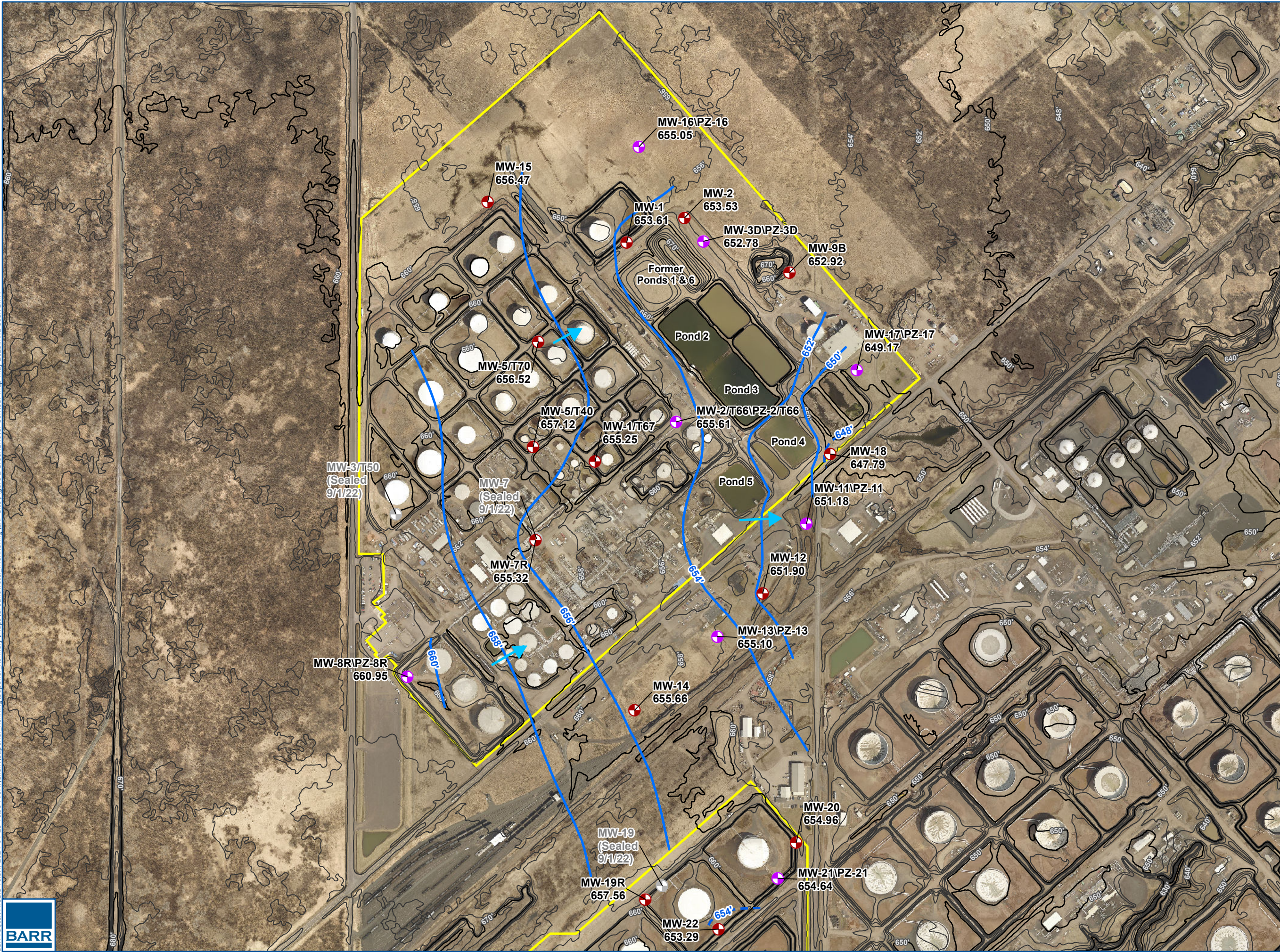
Newton Creek

Nemadji River




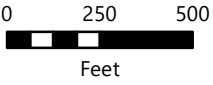
SITE LOCATION
 Superior Refining
 Company LLC (SRC)
 Superior, WI
FIGURE 1





- Approximate Fenceline Boundaries for Refining-Related Activities
- ~ Groundwater Contour (dashed where inferred)
- ⊕ Existing Monitoring Well
- ⊕ Existing Monitoring Well & Piezometer Pair (groundwater elevation shown is for monitoring well)
- ⊕ Abandoned Monitoring Well
- Groundwater Flow Direction
- Topographic Contours
 - 10-Foot Contours
 - 2-Foot Contours
- (655.49) Groundwater Elevation (ft MSL)
- Groundwater elevations measured May 1-4, 2023
- Well/Piezometer locations based on information from Gannett Fleming, 2019.
- Topographic Contours Source: Douglas County, 2016





DEPTH TO GROUNDWATER CONTOUR MAP, MAY 2023
 Superior Refining Company LLC (SRC)
 Superior, WI

FIGURE 2



Attachments

Attachment A

Pace Analytical Laboratory Reports

Spring and Fall Reports

June 08, 2023

Jim Taraldsen
Barr Engineering Company
325 S Lake Ave
Duluth, MN 55802

RE: Project: 49161494.03 100 102 SRC GW ERP
Pace Project No.: 10655692

Dear Jim Taraldsen:

Enclosed are the analytical results for sample(s) received by the laboratory on June 01, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Martha Hansen
martha.hansen@pacelabs.com
(612)607-6451
Project Manager

Enclosures

cc: Barr DM, Barr Engineering
Accounts Payable, Barr Engineering



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alabama Certification #: 40770

Alaska Contaminated Sites Certification #: 17-009

Alaska DW Certification #: MN00064

Arizona Certification #: AZ0014

Arkansas DW Certification #: MN00064

Arkansas WW Certification #: 88-0680

California Certification #: 2929

Colorado Certification #: MN00064

Connecticut Certification #: PH-0256

EPA Region 8 Tribal Water Systems+Wyoming DW

Certification #: via MN 027-053-137

Florida Certification #: E87605

Georgia Certification #: 959

GMP+ Certification #: GMP050884

Hawaii Certification #: MN00064

Idaho Certification #: MN00064

Illinois Certification #: 200011

Indiana Certification #: C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky DW Certification #: 90062

Kentucky WW Certification #: 90062

Louisiana DEQ Certification #: AI-03086

Louisiana DW Certification #: MN00064

Maine Certification #: MN00064

Maryland Certification #: 322

Michigan Certification #: 9909

Minnesota Certification #: 027-053-137

Minnesota Dept of Ag Approval: via MN 027-053-137

Minnesota Petrofund Registration #: 1240

Mississippi Certification #: MN00064

Missouri Certification #: 10100

Montana Certification #: CERT0092

Nebraska Certification #: NE-OS-18-06

Nevada Certification #: MN00064

New Hampshire Certification #: 2081

New Jersey Certification #: MN002

New York Certification #: 11647

North Carolina DW Certification #: 27700

North Carolina WW Certification #: 530

North Dakota Certification (A2LA) #: R-036

North Dakota Certification (MN) #: R-036

Ohio DW Certification #: 41244

Ohio VAP Certification (1700) #: CL101

Oklahoma Certification #: 9507

Oregon Primary Certification #: MN300001

Oregon Secondary Certification #: MN200001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification #: MN00064

South Carolina Certification #: 74003001

Tennessee Certification #: TN02818

Texas Certification #: T104704192

Utah Certification #: MN00064

Vermont Certification #: VT-027053137

Virginia Certification #: 460163

Washington Certification #: C486

West Virginia DEP Certification #: 382

West Virginia DW Certification #: 9952 C

Wisconsin Certification #: 999407970

Wyoming UST Certification #: via A2LA 2926.01

USDA Permit #: P330-19-00208

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10655692001	MW-1	Water	05/30/23 13:05	06/01/23 10:55
10655692002	MW-2	Water	05/30/23 13:42	06/01/23 10:55
10655692003	PZ-2/T66	Water	05/30/23 11:13	06/01/23 10:55
10655692004	MW-3D	Water	05/30/23 14:00	06/01/23 10:55
10655692005	PZ-3D	Water	05/30/23 13:52	06/01/23 10:55
10655692006	MW-7R	Water	05/30/23 11:30	06/01/23 10:55
10655692007	MW-8R	Water	05/30/23 11:48	06/01/23 10:55
10655692008	PZ-8R	Water	05/30/23 12:00	06/01/23 10:55
10655692009	MW-9B	Water	05/30/23 14:12	06/01/23 10:55
10655692010	MW-11	Water	05/31/23 11:00	06/01/23 10:55
10655692011	PZ-11	Water	05/31/23 10:54	06/01/23 10:55
10655692012	MW-12	Water	05/31/23 11:33	06/01/23 10:55
10655692013	MW-13	Water	05/31/23 11:24	06/01/23 10:55
10655692014	PZ-13	Water	05/31/23 11:16	06/01/23 10:55
10655692015	MW-14	Water	05/31/23 11:47	06/01/23 10:55
10655692016	MW-15	Water	05/30/23 12:48	06/01/23 10:55
10655692017	MW-16	Water	05/30/23 13:28	06/01/23 10:55
10655692018	PZ-16	Water	05/30/23 13:22	06/01/23 10:55
10655692019	MW-17	Water	05/30/23 14:30	06/01/23 10:55
10655692020	PZ-17	Water	05/30/23 14:22	06/01/23 10:55
10655692021	MW-18	Water	05/30/23 14:42	06/01/23 10:55
10655692022	MW-19R	Water	05/31/23 08:20	06/01/23 10:55
10655692023	MW-20	Water	05/31/23 07:45	06/01/23 10:55
10655692024	MW-21	Water	05/31/23 08:05	06/01/23 10:55
10655692025	PZ-21	Water	05/31/23 07:57	06/01/23 10:55
10655692026	MW-22	Water	05/31/23 08:30	06/01/23 10:55
10655692027	Trip Blank	Water	05/31/23 00:00	06/01/23 10:55

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SAMPLE ANALYTE COUNT

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10655692001	MW-1	EPA 8260D	JEM	11	PASI-M
10655692002	MW-2	EPA 8260D	JEM	11	PASI-M
10655692003	PZ-2/T66	EPA 8260D	JEM	11	PASI-M
10655692004	MW-3D	EPA 8260D	JEM	11	PASI-M
10655692005	PZ-3D	EPA 8260D	JEM	11	PASI-M
10655692006	MW-7R	EPA 8260D	JEM	11	PASI-M
10655692007	MW-8R	EPA 8260D	JEM	11	PASI-M
10655692008	PZ-8R	EPA 8260D	JEM	11	PASI-M
10655692009	MW-9B	EPA 8260D	JEM	11	PASI-M
10655692010	MW-11	EPA 8260D	PAB	11	PASI-M
10655692011	PZ-11	EPA 8260D	PAB	11	PASI-M
10655692012	MW-12	EPA 8260D	PAB	11	PASI-M
10655692013	MW-13	EPA 8260D	PAB	11	PASI-M
10655692014	PZ-13	EPA 8260D	PAB	11	PASI-M
10655692015	MW-14	EPA 8260D	PAB	11	PASI-M
10655692016	MW-15	EPA 8260D	JEM	11	PASI-M
10655692017	MW-16	EPA 8260D	JEM	11	PASI-M
10655692018	PZ-16	EPA 8260D	JEM	11	PASI-M
10655692019	MW-17	EPA 8260D	JEM	11	PASI-M
10655692020	PZ-17	EPA 8260D	JEM	11	PASI-M
10655692021	MW-18	EPA 8260D	JEM	11	PASI-M
10655692022	MW-19R	EPA 8260D	PAB	11	PASI-M
10655692023	MW-20	EPA 8260D	PAB	11	PASI-M
10655692024	MW-21	EPA 8260D	PAB	11	PASI-M
10655692025	PZ-21	EPA 8260D	PAB	11	PASI-M
10655692026	MW-22	EPA 8260D	PAB	11	PASI-M
10655692027	Trip Blank	EPA 8260D	PAB	11	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Sample: MW-1 **Lab ID: 10655692001** Collected: 05/30/23 13:05 Received: 06/01/23 10:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.10	ug/L	1.0	0.10	1		06/03/23 03:19	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 03:19	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		06/03/23 03:19	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		06/03/23 03:19	91-20-3	
Toluene	<0.10	ug/L	1.0	0.10	1		06/03/23 03:19	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		06/03/23 03:19	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 03:19	108-67-8	
Xylene (Total)	<0.20	ug/L	3.0	0.20	1		06/03/23 03:19	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	99	%	75-125		1		06/03/23 03:19	2199-69-1	
4-Bromofluorobenzene (S)	102	%	75-125		1		06/03/23 03:19	460-00-4	
Toluene-d8 (S)	109	%	75-125		1		06/03/23 03:19	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Sample: MW-2 **Lab ID: 10655692002** Collected: 05/30/23 13:42 Received: 06/01/23 10:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.10	ug/L	1.0	0.10	1		06/03/23 03:35	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 03:35	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		06/03/23 03:35	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		06/03/23 03:35	91-20-3	
Toluene	<0.10	ug/L	1.0	0.10	1		06/03/23 03:35	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		06/03/23 03:35	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 03:35	108-67-8	
Xylene (Total)	<0.20	ug/L	3.0	0.20	1		06/03/23 03:35	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%	75-125		1		06/03/23 03:35	2199-69-1	
4-Bromofluorobenzene (S)	103	%	75-125		1		06/03/23 03:35	460-00-4	
Toluene-d8 (S)	109	%	75-125		1		06/03/23 03:35	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Sample: PZ-2/T66 **Lab ID: 10655692003** Collected: 05/30/23 11:13 Received: 06/01/23 10:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.10	ug/L	1.0	0.10	1		06/03/23 03:51	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 03:51	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		06/03/23 03:51	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		06/03/23 03:51	91-20-3	
Toluene	<0.10	ug/L	1.0	0.10	1		06/03/23 03:51	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		06/03/23 03:51	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 03:51	108-67-8	
Xylene (Total)	<0.20	ug/L	3.0	0.20	1		06/03/23 03:51	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%	75-125		1		06/03/23 03:51	2199-69-1	
4-Bromofluorobenzene (S)	102	%	75-125		1		06/03/23 03:51	460-00-4	
Toluene-d8 (S)	108	%	75-125		1		06/03/23 03:51	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Sample: MW-3D **Lab ID: 10655692004** Collected: 05/30/23 14:00 Received: 06/01/23 10:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.10	ug/L	1.0	0.10	1		06/03/23 04:07	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 04:07	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		06/03/23 04:07	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		06/03/23 04:07	91-20-3	
Toluene	<0.10	ug/L	1.0	0.10	1		06/03/23 04:07	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		06/03/23 04:07	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 04:07	108-67-8	
Xylene (Total)	<0.20	ug/L	3.0	0.20	1		06/03/23 04:07	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%	75-125		1		06/03/23 04:07	2199-69-1	
4-Bromofluorobenzene (S)	101	%	75-125		1		06/03/23 04:07	460-00-4	
Toluene-d8 (S)	109	%	75-125		1		06/03/23 04:07	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Sample: PZ-3D **Lab ID: 10655692005** Collected: 05/30/23 13:52 Received: 06/01/23 10:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.10	ug/L	1.0	0.10	1		06/03/23 04:23	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 04:23	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		06/03/23 04:23	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		06/03/23 04:23	91-20-3	
Toluene	<0.10	ug/L	1.0	0.10	1		06/03/23 04:23	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		06/03/23 04:23	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 04:23	108-67-8	
Xylene (Total)	<0.20	ug/L	3.0	0.20	1		06/03/23 04:23	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%	75-125		1		06/03/23 04:23	2199-69-1	
4-Bromofluorobenzene (S)	103	%	75-125		1		06/03/23 04:23	460-00-4	
Toluene-d8 (S)	108	%	75-125		1		06/03/23 04:23	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Sample: MW-7R **Lab ID: 10655692006** Collected: 05/30/23 11:30 Received: 06/01/23 10:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.10	ug/L	1.0	0.10	1		06/03/23 04:38	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 04:38	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		06/03/23 04:38	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		06/03/23 04:38	91-20-3	
Toluene	<0.10	ug/L	1.0	0.10	1		06/03/23 04:38	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		06/03/23 04:38	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 04:38	108-67-8	
Xylene (Total)	<0.20	ug/L	3.0	0.20	1		06/03/23 04:38	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%	75-125		1		06/03/23 04:38	2199-69-1	
4-Bromofluorobenzene (S)	102	%	75-125		1		06/03/23 04:38	460-00-4	
Toluene-d8 (S)	108	%	75-125		1		06/03/23 04:38	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Sample: MW-8R **Lab ID: 10655692007** Collected: 05/30/23 11:48 Received: 06/01/23 10:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.10	ug/L	1.0	0.10	1		06/03/23 04:54	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 04:54	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		06/03/23 04:54	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		06/03/23 04:54	91-20-3	
Toluene	<0.10	ug/L	1.0	0.10	1		06/03/23 04:54	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		06/03/23 04:54	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 04:54	108-67-8	
Xylene (Total)	<0.20	ug/L	3.0	0.20	1		06/03/23 04:54	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	98	%	75-125		1		06/03/23 04:54	2199-69-1	
4-Bromofluorobenzene (S)	102	%	75-125		1		06/03/23 04:54	460-00-4	
Toluene-d8 (S)	109	%	75-125		1		06/03/23 04:54	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Sample: PZ-8R **Lab ID: 10655692008** Collected: 05/30/23 12:00 Received: 06/01/23 10:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.10	ug/L	1.0	0.10	1		06/03/23 05:10	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 05:10	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		06/03/23 05:10	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		06/03/23 05:10	91-20-3	
Toluene	<0.10	ug/L	1.0	0.10	1		06/03/23 05:10	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		06/03/23 05:10	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 05:10	108-67-8	
Xylene (Total)	<0.20	ug/L	3.0	0.20	1		06/03/23 05:10	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	99	%	75-125		1		06/03/23 05:10	2199-69-1	
4-Bromofluorobenzene (S)	102	%	75-125		1		06/03/23 05:10	460-00-4	
Toluene-d8 (S)	109	%	75-125		1		06/03/23 05:10	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Sample: MW-9B **Lab ID: 10655692009** Collected: 05/30/23 14:12 Received: 06/01/23 10:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.10	ug/L	1.0	0.10	1		06/03/23 05:26	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 05:26	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		06/03/23 05:26	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		06/03/23 05:26	91-20-3	
Toluene	<0.10	ug/L	1.0	0.10	1		06/03/23 05:26	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		06/03/23 05:26	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 05:26	108-67-8	
Xylene (Total)	<0.20	ug/L	3.0	0.20	1		06/03/23 05:26	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%	75-125		1		06/03/23 05:26	2199-69-1	
4-Bromofluorobenzene (S)	102	%	75-125		1		06/03/23 05:26	460-00-4	
Toluene-d8 (S)	109	%	75-125		1		06/03/23 05:26	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Sample: MW-11 **Lab ID: 10655692010** Collected: 05/31/23 11:00 Received: 06/01/23 10:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.10	ug/L	1.0	0.10	1		06/05/23 21:26	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		06/05/23 21:26	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		06/05/23 21:26	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		06/05/23 21:26	91-20-3	
Toluene	<0.10	ug/L	1.0	0.10	1		06/05/23 21:26	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		06/05/23 21:26	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		06/05/23 21:26	108-67-8	
Xylene (Total)	<0.20	ug/L	3.0	0.20	1		06/05/23 21:26	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	98	%	75-125		1		06/05/23 21:26	2199-69-1	
4-Bromofluorobenzene (S)	101	%	75-125		1		06/05/23 21:26	460-00-4	
Toluene-d8 (S)	101	%	75-125		1		06/05/23 21:26	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Sample: PZ-11 **Lab ID: 10655692011** Collected: 05/31/23 10:54 Received: 06/01/23 10:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.10	ug/L	1.0	0.10	1		06/05/23 21:41	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		06/05/23 21:41	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		06/05/23 21:41	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		06/05/23 21:41	91-20-3	
Toluene	<0.10	ug/L	1.0	0.10	1		06/05/23 21:41	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		06/05/23 21:41	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		06/05/23 21:41	108-67-8	
Xylene (Total)	<0.20	ug/L	3.0	0.20	1		06/05/23 21:41	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%	75-125		1		06/05/23 21:41	2199-69-1	
4-Bromofluorobenzene (S)	101	%	75-125		1		06/05/23 21:41	460-00-4	
Toluene-d8 (S)	101	%	75-125		1		06/05/23 21:41	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Sample: MW-12 **Lab ID: 10655692012** Collected: 05/31/23 11:33 Received: 06/01/23 10:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.10	ug/L	1.0	0.10	1		06/05/23 21:55	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		06/05/23 21:55	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		06/05/23 21:55	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		06/05/23 21:55	91-20-3	
Toluene	<0.10	ug/L	1.0	0.10	1		06/05/23 21:55	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		06/05/23 21:55	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		06/05/23 21:55	108-67-8	
Xylene (Total)	<0.20	ug/L	3.0	0.20	1		06/05/23 21:55	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%	75-125		1		06/05/23 21:55	2199-69-1	
4-Bromofluorobenzene (S)	102	%	75-125		1		06/05/23 21:55	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		06/05/23 21:55	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Sample: MW-13 **Lab ID: 10655692013** Collected: 05/31/23 11:24 Received: 06/01/23 10:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.10	ug/L	1.0	0.10	1		06/05/23 22:11	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		06/05/23 22:11	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		06/05/23 22:11	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		06/05/23 22:11	91-20-3	
Toluene	<0.10	ug/L	1.0	0.10	1		06/05/23 22:11	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		06/05/23 22:11	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		06/05/23 22:11	108-67-8	
Xylene (Total)	<0.20	ug/L	3.0	0.20	1		06/05/23 22:11	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	99	%	75-125		1		06/05/23 22:11	2199-69-1	
4-Bromofluorobenzene (S)	102	%	75-125		1		06/05/23 22:11	460-00-4	
Toluene-d8 (S)	100	%	75-125		1		06/05/23 22:11	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Sample: PZ-13 **Lab ID: 10655692014** Collected: 05/31/23 11:16 Received: 06/01/23 10:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.10	ug/L	1.0	0.10	1		06/05/23 22:25	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		06/05/23 22:25	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		06/05/23 22:25	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		06/05/23 22:25	91-20-3	
Toluene	<0.10	ug/L	1.0	0.10	1		06/05/23 22:25	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		06/05/23 22:25	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		06/05/23 22:25	108-67-8	
Xylene (Total)	<0.20	ug/L	3.0	0.20	1		06/05/23 22:25	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	99	%	75-125		1		06/05/23 22:25	2199-69-1	
4-Bromofluorobenzene (S)	101	%	75-125		1		06/05/23 22:25	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		06/05/23 22:25	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Sample: MW-14 **Lab ID: 10655692015** Collected: 05/31/23 11:47 Received: 06/01/23 10:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.10	ug/L	1.0	0.10	1		06/05/23 22:40	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		06/05/23 22:40	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		06/05/23 22:40	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		06/05/23 22:40	91-20-3	
Toluene	<0.10	ug/L	1.0	0.10	1		06/05/23 22:40	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		06/05/23 22:40	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		06/05/23 22:40	108-67-8	
Xylene (Total)	<0.20	ug/L	3.0	0.20	1		06/05/23 22:40	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	99	%	75-125		1		06/05/23 22:40	2199-69-1	
4-Bromofluorobenzene (S)	102	%	75-125		1		06/05/23 22:40	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		06/05/23 22:40	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Sample: MW-15 **Lab ID: 10655692016** Collected: 05/30/23 12:48 Received: 06/01/23 10:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.10	ug/L	1.0	0.10	1		06/03/23 05:41	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 05:41	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		06/03/23 05:41	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		06/03/23 05:41	91-20-3	
Toluene	<0.10	ug/L	1.0	0.10	1		06/03/23 05:41	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		06/03/23 05:41	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 05:41	108-67-8	
Xylene (Total)	<0.20	ug/L	3.0	0.20	1		06/03/23 05:41	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%	75-125		1		06/03/23 05:41	2199-69-1	
4-Bromofluorobenzene (S)	103	%	75-125		1		06/03/23 05:41	460-00-4	
Toluene-d8 (S)	108	%	75-125		1		06/03/23 05:41	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Sample: MW-16 **Lab ID: 10655692017** Collected: 05/30/23 13:28 Received: 06/01/23 10:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.10	ug/L	1.0	0.10	1		06/03/23 05:57	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 05:57	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		06/03/23 05:57	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		06/03/23 05:57	91-20-3	
Toluene	<0.10	ug/L	1.0	0.10	1		06/03/23 05:57	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		06/03/23 05:57	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 05:57	108-67-8	
Xylene (Total)	<0.20	ug/L	3.0	0.20	1		06/03/23 05:57	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	99	%	75-125		1		06/03/23 05:57	2199-69-1	
4-Bromofluorobenzene (S)	101	%	75-125		1		06/03/23 05:57	460-00-4	
Toluene-d8 (S)	109	%	75-125		1		06/03/23 05:57	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Sample: PZ-16 **Lab ID: 10655692018** Collected: 05/30/23 13:22 Received: 06/01/23 10:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.10	ug/L	1.0	0.10	1		06/03/23 06:13	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 06:13	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		06/03/23 06:13	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		06/03/23 06:13	91-20-3	
Toluene	<0.10	ug/L	1.0	0.10	1		06/03/23 06:13	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		06/03/23 06:13	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 06:13	108-67-8	
Xylene (Total)	<0.20	ug/L	3.0	0.20	1		06/03/23 06:13	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%	75-125		1		06/03/23 06:13	2199-69-1	
4-Bromofluorobenzene (S)	102	%	75-125		1		06/03/23 06:13	460-00-4	
Toluene-d8 (S)	108	%	75-125		1		06/03/23 06:13	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Sample: MW-17 **Lab ID: 10655692019** Collected: 05/30/23 14:30 Received: 06/01/23 10:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.10	ug/L	1.0	0.10	1		06/03/23 06:29	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 06:29	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		06/03/23 06:29	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		06/03/23 06:29	91-20-3	
Toluene	<0.10	ug/L	1.0	0.10	1		06/03/23 06:29	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		06/03/23 06:29	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 06:29	108-67-8	
Xylene (Total)	<0.20	ug/L	3.0	0.20	1		06/03/23 06:29	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%	75-125		1		06/03/23 06:29	2199-69-1	
4-Bromofluorobenzene (S)	101	%	75-125		1		06/03/23 06:29	460-00-4	
Toluene-d8 (S)	108	%	75-125		1		06/03/23 06:29	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Sample: PZ-17 **Lab ID: 10655692020** Collected: 05/30/23 14:22 Received: 06/01/23 10:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.10	ug/L	1.0	0.10	1		06/03/23 06:44	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 06:44	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		06/03/23 06:44	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		06/03/23 06:44	91-20-3	
Toluene	<0.10	ug/L	1.0	0.10	1		06/03/23 06:44	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		06/03/23 06:44	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 06:44	108-67-8	
Xylene (Total)	<0.20	ug/L	3.0	0.20	1		06/03/23 06:44	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%	75-125		1		06/03/23 06:44	2199-69-1	
4-Bromofluorobenzene (S)	102	%	75-125		1		06/03/23 06:44	460-00-4	
Toluene-d8 (S)	109	%	75-125		1		06/03/23 06:44	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Sample: MW-18 **Lab ID: 10655692021** Collected: 05/30/23 14:42 Received: 06/01/23 10:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.10	ug/L	1.0	0.10	1		06/03/23 07:00	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 07:00	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		06/03/23 07:00	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		06/03/23 07:00	91-20-3	
Toluene	<0.10	ug/L	1.0	0.10	1		06/03/23 07:00	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		06/03/23 07:00	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		06/03/23 07:00	108-67-8	
Xylene (Total)	<0.20	ug/L	3.0	0.20	1		06/03/23 07:00	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	98	%	75-125		1		06/03/23 07:00	2199-69-1	
4-Bromofluorobenzene (S)	102	%	75-125		1		06/03/23 07:00	460-00-4	
Toluene-d8 (S)	109	%	75-125		1		06/03/23 07:00	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Sample: MW-19R **Lab ID: 10655692022** Collected: 05/31/23 08:20 Received: 06/01/23 10:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.10	ug/L	1.0	0.10	1		06/05/23 22:55	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		06/05/23 22:55	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		06/05/23 22:55	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		06/05/23 22:55	91-20-3	
Toluene	<0.10	ug/L	1.0	0.10	1		06/05/23 22:55	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		06/05/23 22:55	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		06/05/23 22:55	108-67-8	
Xylene (Total)	<0.20	ug/L	3.0	0.20	1		06/05/23 22:55	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%	75-125		1		06/05/23 22:55	2199-69-1	
4-Bromofluorobenzene (S)	102	%	75-125		1		06/05/23 22:55	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		06/05/23 22:55	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Sample: MW-20 **Lab ID: 10655692023** Collected: 05/31/23 07:45 Received: 06/01/23 10:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.10	ug/L	1.0	0.10	1		06/05/23 23:10	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		06/05/23 23:10	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		06/05/23 23:10	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		06/05/23 23:10	91-20-3	
Toluene	<0.10	ug/L	1.0	0.10	1		06/05/23 23:10	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		06/05/23 23:10	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		06/05/23 23:10	108-67-8	
Xylene (Total)	<0.20	ug/L	3.0	0.20	1		06/05/23 23:10	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	98	%	75-125		1		06/05/23 23:10	2199-69-1	
4-Bromofluorobenzene (S)	100	%	75-125		1		06/05/23 23:10	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		06/05/23 23:10	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Sample: MW-21 **Lab ID: 10655692024** Collected: 05/31/23 08:05 Received: 06/01/23 10:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.10	ug/L	1.0	0.10	1		06/05/23 23:25	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		06/05/23 23:25	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		06/05/23 23:25	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		06/05/23 23:25	91-20-3	
Toluene	<0.10	ug/L	1.0	0.10	1		06/05/23 23:25	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		06/05/23 23:25	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		06/05/23 23:25	108-67-8	
Xylene (Total)	<0.20	ug/L	3.0	0.20	1		06/05/23 23:25	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	99	%	75-125		1		06/05/23 23:25	2199-69-1	
4-Bromofluorobenzene (S)	101	%	75-125		1		06/05/23 23:25	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		06/05/23 23:25	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Sample: PZ-21 **Lab ID: 10655692025** Collected: 05/31/23 07:57 Received: 06/01/23 10:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.10	ug/L	1.0	0.10	1		06/07/23 17:44	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		06/07/23 17:44	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		06/07/23 17:44	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		06/07/23 17:44	91-20-3	
Toluene	<0.10	ug/L	1.0	0.10	1		06/07/23 17:44	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		06/07/23 17:44	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		06/07/23 17:44	108-67-8	
Xylene (Total)	<0.20	ug/L	3.0	0.20	1		06/07/23 17:44	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%	75-125		1		06/07/23 17:44	2199-69-1	
4-Bromofluorobenzene (S)	101	%	75-125		1		06/07/23 17:44	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		06/07/23 17:44	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Sample: MW-22 **Lab ID: 10655692026** Collected: 05/31/23 08:30 Received: 06/01/23 10:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.10	ug/L	1.0	0.10	1		06/07/23 17:59	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		06/07/23 17:59	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		06/07/23 17:59	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		06/07/23 17:59	91-20-3	
Toluene	<0.10	ug/L	1.0	0.10	1		06/07/23 17:59	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		06/07/23 17:59	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		06/07/23 17:59	108-67-8	
Xylene (Total)	<0.20	ug/L	3.0	0.20	1		06/07/23 17:59	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%	75-125		1		06/07/23 17:59	2199-69-1	
4-Bromofluorobenzene (S)	102	%	75-125		1		06/07/23 17:59	460-00-4	
Toluene-d8 (S)	103	%	75-125		1		06/07/23 17:59	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Sample: Trip Blank **Lab ID: 10655692027** Collected: 05/31/23 00:00 Received: 06/01/23 10:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.10	ug/L	1.0	0.10	1		06/07/23 14:16	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		06/07/23 14:16	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		06/07/23 14:16	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		06/07/23 14:16	91-20-3	
Toluene	<0.10	ug/L	1.0	0.10	1		06/07/23 14:16	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		06/07/23 14:16	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		06/07/23 14:16	108-67-8	
Xylene (Total)	<0.20	ug/L	3.0	0.20	1		06/07/23 14:16	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	99	%	75-125		1		06/07/23 14:16	2199-69-1	
4-Bromofluorobenzene (S)	101	%	75-125		1		06/07/23 14:16	460-00-4	
Toluene-d8 (S)	102	%	75-125		1		06/07/23 14:16	2037-26-5	

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QUALITY CONTROL DATA

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

QC Batch: 884899 Analysis Method: EPA 8260D
 QC Batch Method: EPA 8260D Analysis Description: 8260D MSV UST-WATER
 Laboratory: Pace Analytical Services - Minneapolis
 Associated Lab Samples: 10655692001, 10655692002, 10655692003, 10655692004, 10655692005, 10655692006, 10655692007, 10655692008, 10655692009, 10655692016, 10655692017, 10655692018, 10655692019, 10655692020, 10655692021

METHOD BLANK: 4662765 Matrix: Water
 Associated Lab Samples: 10655692001, 10655692002, 10655692003, 10655692004, 10655692005, 10655692006, 10655692007, 10655692008, 10655692009, 10655692016, 10655692017, 10655692018, 10655692019, 10655692020, 10655692021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.13	1.0	0.13	06/03/23 02:48	
1,3,5-Trimethylbenzene	ug/L	<0.11	1.0	0.11	06/03/23 02:48	
Benzene	ug/L	<0.10	1.0	0.10	06/03/23 02:48	
Ethylbenzene	ug/L	<0.11	1.0	0.11	06/03/23 02:48	
Methyl-tert-butyl ether	ug/L	<0.13	1.0	0.13	06/03/23 02:48	
Naphthalene	ug/L	<0.18	1.0	0.18	06/03/23 02:48	
Toluene	ug/L	<0.10	1.0	0.10	06/03/23 02:48	
Xylene (Total)	ug/L	<0.20	3.0	0.20	06/03/23 02:48	
1,2-Dichlorobenzene-d4 (S)	%	100	75-125		06/03/23 02:48	
4-Bromofluorobenzene (S)	%	102	75-125		06/03/23 02:48	
Toluene-d8 (S)	%	108	75-125		06/03/23 02:48	

LABORATORY CONTROL SAMPLE: 4662766

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trimethylbenzene	ug/L	20	20.4	102	75-125	
1,3,5-Trimethylbenzene	ug/L	20	20.5	102	75-125	
Benzene	ug/L	20	21.1	105	75-125	
Ethylbenzene	ug/L	20	20.5	102	75-125	
Methyl-tert-butyl ether	ug/L	20	20.7	104	75-125	
Naphthalene	ug/L	20	18.9	95	67-140	
Toluene	ug/L	20	20.0	100	74-125	
Xylene (Total)	ug/L	60	62.2	104	75-125	
1,2-Dichlorobenzene-d4 (S)	%			102	75-125	
4-Bromofluorobenzene (S)	%			101	75-125	
Toluene-d8 (S)	%			100	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4662768 4662769

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10655615003 Result	Spike Conc.	Spike Conc.	Conc.								
1,2,4-Trimethylbenzene	ug/L	1730	2000	2000		3890	3760	108	102	61-143	4	30	
1,3,5-Trimethylbenzene	ug/L	429	2000	2000		2550	2460	106	101	70-134	4	30	
Benzene	ug/L	11600	2000	2000		14000	13700	122	107	66-127	2	30	

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QUALITY CONTROL DATA

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4662768 4662769												
Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		10655615003 Result	Spike Conc.	Spike Conc.	MS Result							
Ethylbenzene	ug/L	2240	2000	2000	4430	4300	110	103	74-128	3	30	
Methyl-tert-butyl ether	ug/L	<12.6	2000	2000	2290	2270	115	114	65-132	1	30	
Naphthalene	ug/L	206	2000	2000	2150	2140	97	97	61-150	1	30	
Toluene	ug/L	310	2000	2000	2370	2320	103	101	66-125	2	30	
Xylene (Total)	ug/L	7470	6000	6000	14200	13700	112	104	75-126	4	30	
1,2-Dichlorobenzene-d4 (S)	%						101	101	75-125			
4-Bromofluorobenzene (S)	%						101	101	75-125			
Toluene-d8 (S)	%						98	99	75-125			

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QUALITY CONTROL DATA

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

QC Batch:	885181	Analysis Method:	EPA 8260D
QC Batch Method:	EPA 8260D	Analysis Description:	8260D MSV UST-WATER
		Laboratory:	Pace Analytical Services - Minneapolis

Associated Lab Samples: 10655692010, 10655692011, 10655692012, 10655692013, 10655692014, 10655692015, 10655692022, 10655692023, 10655692024

METHOD BLANK: 4664681 Matrix: Water
Associated Lab Samples: 10655692010, 10655692011, 10655692012, 10655692013, 10655692014, 10655692015, 10655692022, 10655692023, 10655692024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.13	1.0	0.13	06/05/23 19:41	
1,3,5-Trimethylbenzene	ug/L	<0.11	1.0	0.11	06/05/23 19:41	
Benzene	ug/L	<0.10	1.0	0.10	06/05/23 19:41	
Ethylbenzene	ug/L	<0.11	1.0	0.11	06/05/23 19:41	
Methyl-tert-butyl ether	ug/L	<0.13	1.0	0.13	06/05/23 19:41	
Naphthalene	ug/L	<0.18	1.0	0.18	06/05/23 19:41	
Toluene	ug/L	<0.10	1.0	0.10	06/05/23 19:41	
Xylene (Total)	ug/L	<0.20	3.0	0.20	06/05/23 19:41	
1,2-Dichlorobenzene-d4 (S)	%	100	75-125		06/05/23 19:41	
4-Bromofluorobenzene (S)	%	102	75-125		06/05/23 19:41	
Toluene-d8 (S)	%	102	75-125		06/05/23 19:41	

LABORATORY CONTROL SAMPLE: 4664682

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trimethylbenzene	ug/L	20	17.1	85	75-125	
1,3,5-Trimethylbenzene	ug/L	20	17.0	85	75-125	
Benzene	ug/L	20	16.8	84	75-125	
Ethylbenzene	ug/L	20	17.0	85	75-125	
Methyl-tert-butyl ether	ug/L	20	18.0	90	75-125	
Naphthalene	ug/L	20	17.7	88	67-140	
Toluene	ug/L	20	16.7	83	74-125	
Xylene (Total)	ug/L	60	52.7	88	75-125	
1,2-Dichlorobenzene-d4 (S)	%			99	75-125	
4-Bromofluorobenzene (S)	%			101	75-125	
Toluene-d8 (S)	%			99	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4664738 4664739

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		106556500001 Result	Spike Conc.	Spike Conc.	MS Result								
1,2,4-Trimethylbenzene	ug/L	114	100	100	202	201	88	86	61-143	1	30		
1,3,5-Trimethylbenzene	ug/L	75.7	100	100	162	162	87	86	70-134	0	30		
Benzene	ug/L	341	100	100	412	411	71	70	66-127	0	30		
Ethylbenzene	ug/L	19.3	100	100	105	106	86	87	74-128	1	30		
Methyl-tert-butyl ether	ug/L	<0.63	100	100	89.5	89.9	89	90	65-132	0	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4664738 4664739												
Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		10656500001 Result	Spike Conc.	Spike Conc.	MS Result							
Naphthalene	ug/L	32.5	100	100	123	123	90	91	61-150	1	30	
Toluene	ug/L	17.5	100	100	103	102	86	85	66-125	1	30	
Xylene (Total)	ug/L	226	300	300	485	483	86	86	75-126	0	30	
1,2-Dichlorobenzene-d4 (S)	%						101	98	75-125			
4-Bromofluorobenzene (S)	%						101	101	75-125			
Toluene-d8 (S)	%						100	99	75-125			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

QC Batch: 885710	Analysis Method: EPA 8260D
QC Batch Method: EPA 8260D	Analysis Description: 8260D MSV UST-WATER
	Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10655692025, 10655692026, 10655692027

METHOD BLANK: 4667483 Matrix: Water

Associated Lab Samples: 10655692025, 10655692026, 10655692027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.13	1.0	0.13	06/07/23 13:46	
1,3,5-Trimethylbenzene	ug/L	<0.11	1.0	0.11	06/07/23 13:46	
Benzene	ug/L	<0.10	1.0	0.10	06/07/23 13:46	
Ethylbenzene	ug/L	<0.11	1.0	0.11	06/07/23 13:46	
Methyl-tert-butyl ether	ug/L	<0.13	1.0	0.13	06/07/23 13:46	
Naphthalene	ug/L	<0.18	1.0	0.18	06/07/23 13:46	
Toluene	ug/L	<0.10	1.0	0.10	06/07/23 13:46	
Xylene (Total)	ug/L	<0.20	3.0	0.20	06/07/23 13:46	
1,2-Dichlorobenzene-d4 (S)	%	98	75-125		06/07/23 13:46	
4-Bromofluorobenzene (S)	%	101	75-125		06/07/23 13:46	
Toluene-d8 (S)	%	102	75-125		06/07/23 13:46	

LABORATORY CONTROL SAMPLE & LCSD: 4667484 4667485

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2,4-Trimethylbenzene	ug/L	20	16.6	15.0	83	75	75-125	10	20	
1,3,5-Trimethylbenzene	ug/L	20	16.7	15.2	83	76	75-125	9	20	
Benzene	ug/L	20	16.4	15.3	82	77	75-125	7	20	
Ethylbenzene	ug/L	20	16.9	15.8	84	79	75-125	6	20	
Methyl-tert-butyl ether	ug/L	20	17.7	16.1	88	81	75-125	9	20	
Naphthalene	ug/L	20	16.4	15.2	82	76	67-140	8	20	
Toluene	ug/L	20	16.4	15.3	82	77	74-125	7	20	
Xylene (Total)	ug/L	60	51.5	48.6	86	81	75-125	6	20	
1,2-Dichlorobenzene-d4 (S)	%				99	99	75-125			
4-Bromofluorobenzene (S)	%				101	103	75-125			
Toluene-d8 (S)	%				98	100	75-125			

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 885710

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 49161494.03 100 102 SRC GW ERP

Pace Project No.: 10655692

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10655692001	MW-1	EPA 8260D	884899		
10655692002	MW-2	EPA 8260D	884899		
10655692003	PZ-2/T66	EPA 8260D	884899		
10655692004	MW-3D	EPA 8260D	884899		
10655692005	PZ-3D	EPA 8260D	884899		
10655692006	MW-7R	EPA 8260D	884899		
10655692007	MW-8R	EPA 8260D	884899		
10655692008	PZ-8R	EPA 8260D	884899		
10655692009	MW-9B	EPA 8260D	884899		
10655692010	MW-11	EPA 8260D	885181		
10655692011	PZ-11	EPA 8260D	885181		
10655692012	MW-12	EPA 8260D	885181		
10655692013	MW-13	EPA 8260D	885181		
10655692014	PZ-13	EPA 8260D	885181		
10655692015	MW-14	EPA 8260D	885181		
10655692016	MW-15	EPA 8260D	884899		
10655692017	MW-16	EPA 8260D	884899		
10655692018	PZ-16	EPA 8260D	884899		
10655692019	MW-17	EPA 8260D	884899		
10655692020	PZ-17	EPA 8260D	884899		
10655692021	MW-18	EPA 8260D	884899		
10655692022	MW-19R	EPA 8260D	885181		
10655692023	MW-20	EPA 8260D	885181		
10655692024	MW-21	EPA 8260D	885181		
10655692025	PZ-21	EPA 8260D	885710		
10655692026	MW-22	EPA 8260D	885710		
10655692027	Trip Blank	EPA 8260D	885710		

REPORT OF LABORATORY ANALYSIS

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Barr Engineering Co. Chain of Custody

Sample Origination State

CO MI MN MO ND NV TX UT WI WY Other: _____

REPORT TO	INVOICE TO
Company: <i>Barr Engineering Co.</i>	Company: <i>Barr</i>
Address: <i>325 South Lake Ave</i>	Address:
Address: <i>Duluth, MN 55802</i>	Address:
Name: <i>Lynette Carney</i>	Name:
email: <i>lcarney@barr.com</i>	email:
Copy to: <i>BarrDM@barr.com</i>	P.O.:
Project Name: <i>SRC GW ERD</i>	Barr Project No: <i>49161494.03 106 102</i>

Perform MS/MSD Y / N	Total Number Of Containers	Analysis Requested	
		Water	Soil
<i>N</i>	<i>3</i>	<i>X</i>	
<i>N</i>	<i>3</i>	<i>X</i>	
<i>N</i>	<i>3</i>	<i>X</i>	
<i>N</i>	<i>3</i>	<i>X</i>	
<i>N</i>	<i>3</i>	<i>X</i>	
<i>N</i>	<i>3</i>	<i>X</i>	
<i>N</i>	<i>3</i>	<i>X</i>	
<i>N</i>	<i>3</i>	<i>X</i>	
<i>N</i>	<i>3</i>	<i>X</i>	
<i>N</i>	<i>3</i>	<i>X</i>	
<i>N</i>	<i>3</i>	<i>X</i>	

COC Number: **№ 591708**

COC 2 of 3

Matrix Code:	Preservative Code:
GW = Groundwater	A = None
SW = Surface Water	B = HCl
DW = Drinking Water	C = HNO ₃
PW = Pore Water	D = H ₂ SO ₄
WW = Waste Water	E = NaOH
WQ = TB, FB, EB, etc.	F = MeOH
W = Unspecified	G = NaHSO ₄
S = Soil/Solid	H = Na ₂ S ₂ O ₃
SD = Sediment	I = Ascorbic Acid
SQ = MeOH blank	J = Zn Acetate
OTH = Other (Oil, etc.)	K = Other

Location	Sample Depth			Collection Date (mm/dd/yyyy)	Collection Time (hh:mm)	Matrix Code	Perform MS/MSD Y / N	Total Number Of Containers	Analysis Requested Water	Analysis Requested Soil	% Solids
	Start	Stop	Unit (m./ft. or in.)								
1. PZ-11				05/31/2023	10:54	GW	N	3	X		
2. MW-12				↓	11:33	GW	N	3	X		
3. MW-13					11:24	GW	N	3	X		
4. PZ-13					11:16	GW	N	3	X		
5. MW-14					11:47	GW	N	3	X		
6. MW-15					05/30/2023	12:48	GW	N	3	X	
7. MW-16				13:28	GW	N	3	X			
8. PZ-16				13:22	GW	N	3	X			
9. MW-17				14:30	GW	N	3	X			
10. PZ-17				14:22	GW	N	3	X			

BARR USE ONLY

Sampled by: *KLS3*

Barr Proj. Manager: *LMC*

Barr DQ Manager: *JET*

Lab Name: *Pace*

Lab Location: *Minneapolis, MN*

Relinquished by: *Lynette Schneider* On Ice? Y N Date: *5/31/2023* Time: *14:00*

Relinquished by: *Garrett Higgins/Pace* On Ice? Y N Date: *5/31/23* Time: *15:22*

Samples Shipped VIA: Ground Courier Air Carrier

Sampler Other: _____

Lab WO: _____ Temperature on Receipt (°C): *2.5* Custody Seal Intact? Y N None

Received by: *Garrett Higgins* Date: *5/31* Time: *14:00*

Received by: *me* Date: *6/1/23* Time: *1055*

Air Bill Number: _____

Requested Due Date: Standard Turn Around Time Rush _____ (mm/dd/yyyy) *(17)*

H:\RLG\STDFORMS\Chain of Custody Form 2015 RLG Rev. 01/30/2020

Effective Date: 4/14/2023

Sample Condition Upon Receipt
 Client Name: Barr Engineering

Project #: **WO# : 10655692**
 PM: MKH Due Date: 06/15/23
 CLIENT: BARR

Courier: FedEx UPS USPS Client
 Pace Speedee Commercial
 See Exceptions ENV-FRM-MIN4-0142

Tracking Number: _____
 Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No
 Packing Material: Bubble Wrap Bubble Bags None Other
 Thermometer: T1 (0461) T2 (0436) T3 (0459) T4 (0402) T5 (0178)
 T6 (0235) T7 (0042) T8 (0775) T9(0727) 01339252/1710
 Biological Tissue Frozen? Yes No N/A
 Temp Blank? Yes No
 Type of Ice: Wet Blue Dry None
 Melted

Did Samples Originate in West Virginia? Yes No Were All Container Temps Taken? Yes No N/A
 Temp should be above freezing to 6°C Cooler temp Read w/Temp Blank: 1.0 °C Average Corrected Temp (no temp blank only): _____ °C
 Correction Factor: +0.1 Cooler Temp Corrected w/temp blank: 1.1 °C
 See Exceptions ENV-FRM-MIN4-0142 1 Container

USDA Regulated Soil: N/A, (water sample/other: _____) Date/Initials of Person Examining Contents: ED 6.2.23
 Did samples originate in a quarantine zone within the United States: AL, AR, AZ CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

Location (Check one): <input type="checkbox"/> Duluth <input checked="" type="checkbox"/> Minneapolis <input type="checkbox"/> Virginia	COMMENTS
Chain of Custody Present and Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4. If fecal: <input type="checkbox"/> <8 hrs <input type="checkbox"/> >8 hr, <24 <input type="checkbox"/> No
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. <input type="checkbox"/> Fecal Coliform <input type="checkbox"/> HPC <input type="checkbox"/> Total Coliform/E.coli <input type="checkbox"/> BOD/cBOD <input type="checkbox"/> Hex Chrom <input type="checkbox"/> Turbidity <input type="checkbox"/> Nitrate <input type="checkbox"/> Nitrite <input type="checkbox"/> Orthophos <input type="checkbox"/> Other _____
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Sufficient Sample Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
Field Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	10. Is sediment visible in the dissolved container? <input type="checkbox"/> Yes <input type="checkbox"/> No
Is sufficient information available to reconcile the samples to the COC? Matrix: <input checked="" type="checkbox"/> Water <input type="checkbox"/> Soil <input type="checkbox"/> Oil <input type="checkbox"/> Other	11. If no, write ID/Date/Time of container below: <input type="checkbox"/> See Exceptions ENV-FRM-MIN4-0142
All containers needing acid/base preservation have been checked? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12. Sample # <input type="checkbox"/> NaOH <input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> Zinc Acetate
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO3, H2SO4, <2pH, NaOH >9 Sulfide, NaOH >10 Cyanide) <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Positive for Residual Chlorine? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> See Exceptions ENV-FRM-MIN4-0142
Exceptions (VOA) Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxins/PFAS (*If adding preservative to a container, it must be added to associated field and equipment blanks--verify with PM first.) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	pH Paper Lot # Residual Chlorine 0-6 Roll 0-6 Strip 0-14 Strip
Headspace in Methyl Mercury Container? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Extra labels present on soil VOA or WIDRO containers? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14. <input type="checkbox"/> See Exceptions ENV-FRM-MIN4-0142
Headspace in VOA Vials (greater than 6mm)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
3 Trip Blanks Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Pace Trip Blank Lot # (if purchased): <u>419783 (2)</u>

CLIENT NOTIFICATION/RESOLUTION
 Person Contacted: _____ Date/Time: _____
 Comments/Resolution: _____
 Project Manager Review: _____ Date: 6/2/23

NOTE: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled By: ED Line: 3



October 30, 2023

Jim Taraldsen
Barr Engineering Company
325 S Lake Ave
Duluth, MN 55802

RE: Project: 49161494.02 100 102 SRC GW ERP
Pace Project No.: 10673041

Dear Jim Taraldsen:

Enclosed are the analytical results for sample(s) received by the laboratory on October 18, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Martha Hansen
martha.hansen@pacelabs.com
(612)607-6451
Project Manager

Enclosures

cc: Barr DM, Barr Engineering
Accounts Payable, Barr Engineering



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alabama Certification #: 40770

Alaska Contaminated Sites Certification #: 17-009

Alaska DW Certification #: MN00064

Arizona Certification #: AZ0014

Arkansas DW Certification #: MN00064

Arkansas WW Certification #: 88-0680

California Certification #: 2929

Colorado Certification #: MN00064

Connecticut Certification #: PH-0256

EPA Region 8 Tribal Water Systems+Wyoming DW

Certification #: via MN 027-053-137

Florida Certification #: E87605

Georgia Certification #: 959

GMP+ Certification #: GMP050884

Hawaii Certification #: MN00064

Idaho Certification #: MN00064

Illinois Certification #: 200011

Indiana Certification #: C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky DW Certification #: 90062

Kentucky WW Certification #: 90062

Louisiana DEQ Certification #: AI-03086

Louisiana DW Certification #: MN00064

Maine Certification #: MN00064

Maryland Certification #: 322

Michigan Certification #: 9909

Minnesota Certification #: 027-053-137

Minnesota Dept of Ag Approval: via MN 027-053-137

Minnesota Petrofund Registration #: 1240

Mississippi Certification #: MN00064

Missouri Certification #: 10100

Montana Certification #: CERT0092

Nebraska Certification #: NE-OS-18-06

Nevada Certification #: MN00064

New Hampshire Certification #: 2081

New Jersey Certification #: MN002

New York Certification #: 11647

North Carolina DW Certification #: 27700

North Carolina WW Certification #: 530

North Dakota Certification (A2LA) #: R-036

North Dakota Certification (MN) #: R-036

Ohio DW Certification #: 41244

Ohio VAP Certification (1700) #: CL101

Oklahoma Certification #: 9507

Oregon Primary Certification #: MN300001

Oregon Secondary Certification #: MN200001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification #: MN00064

South Carolina Certification #: 74003001

Tennessee Certification #: TN02818

Texas Certification #: T104704192

Utah Certification #: MN00064

Vermont Certification #: VT-027053137

Virginia Certification #: 460163

Washington Certification #: C486

West Virginia DEP Certification #: 382

West Virginia DW Certification #: 9952 C

Wisconsin Certification #: 999407970

Wyoming UST Certification #: via A2LA 2926.01

USDA Permit #: P330-19-00208

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10673041001	PZ-2/T66	Water	10/16/23 11:51	10/18/23 11:45
10673041002	PZ-3D	Water	10/16/23 14:35	10/18/23 11:45
10673041003	PZ-8R	Water	10/16/23 13:10	10/18/23 11:45
10673041004	MW-11	Water	10/17/23 11:24	10/18/23 11:45
10673041005	PZ-11	Water	10/17/23 11:32	10/18/23 11:45
10673041006	MW-12	Water	10/17/23 12:00	10/18/23 11:45
10673041007	MW-13	Water	10/17/23 11:53	10/18/23 11:45
10673041008	PZ-13	Water	10/17/23 11:46	10/18/23 11:45
10673041009	MW-14	Water	10/17/23 12:13	10/18/23 11:45
10673041010	MW-15	Water	10/16/23 13:42	10/18/23 11:45
10673041011	MW-16	Water	10/16/23 14:56	10/18/23 11:45
10673041012	PZ-16	Water	10/16/23 14:47	10/18/23 11:45
10673041013	MW-17	Water	10/17/23 15:10	10/18/23 11:45
10673041014	PZ-17	Water	10/17/23 15:03	10/18/23 11:45
10673041015	MW-18	Water	10/17/23 15:21	10/18/23 11:45
10673041016	MW-19R	Water	10/17/23 10:59	10/18/23 11:45
10673041017	MW-20	Water	10/17/23 10:20	10/18/23 11:45
10673041018	MW-21	Water	10/17/23 10:37	10/18/23 11:45
10673041019	PZ-21	Water	10/17/23 10:30	10/18/23 11:45
10673041020	MW-22	Water	10/17/23 10:50	10/18/23 11:45
10673041021	MW-7R	Water	10/16/23 12:09	10/18/23 11:45
10673041022	Trip Blank	Water	10/17/23 00:00	10/18/23 11:45

REPORT OF LABORATORY ANALYSIS

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**SAMPLE ANALYTE COUNT**

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10673041001	PZ-2/T66	EPA 8260D	NMB	11	PASI-M
10673041002	PZ-3D	EPA 8260D	NMB	11	PASI-M
10673041003	PZ-8R	EPA 8260D	NMB	11	PASI-M
10673041004	MW-11	EPA 8260D	PAB	11	PASI-M
10673041005	PZ-11	EPA 8260D	PAB	11	PASI-M
10673041006	MW-12	EPA 8260D	PAB	11	PASI-M
10673041007	MW-13	EPA 8260D	PAB	11	PASI-M
10673041008	PZ-13	EPA 8260D	PAB	11	PASI-M
10673041009	MW-14	EPA 8260D	PAB	11	PASI-M
10673041010	MW-15	EPA 8260D	NMB	11	PASI-M
10673041011	MW-16	EPA 8260D	NMB	11	PASI-M
10673041012	PZ-16	EPA 8260D	NMB	11	PASI-M
10673041013	MW-17	EPA 8260D	PAB	11	PASI-M
10673041014	PZ-17	EPA 8260D	PAB	11	PASI-M
10673041015	MW-18	EPA 8260D	PAB	11	PASI-M
10673041016	MW-19R	EPA 8260D	PAB	11	PASI-M
10673041017	MW-20	EPA 8260D	PAB	11	PASI-M
10673041018	MW-21	EPA 8260D	PAB	11	PASI-M
10673041019	PZ-21	EPA 8260D	PAB	11	PASI-M
10673041020	MW-22	EPA 8260D	PAB	11	PASI-M
10673041021	MW-7R	EPA 8260D	NMB	11	PASI-M
10673041022	Trip Blank	EPA 8260D	PAB	11	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

Sample: PZ-2/T66 Lab ID: 10673041001 Collected: 10/16/23 11:51 Received: 10/18/23 11:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.21	ug/L	1.0	0.21	1		10/20/23 14:49	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		10/20/23 14:49	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		10/20/23 14:49	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		10/20/23 14:49	91-20-3	
Toluene	<0.21	ug/L	1.0	0.21	1		10/20/23 14:49	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		10/20/23 14:49	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		10/20/23 14:49	108-67-8	
Xylene (Total)	<0.42	ug/L	3.0	0.42	1		10/20/23 14:49	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%	75-125		1		10/20/23 14:49	2199-69-1	
4-Bromofluorobenzene (S)	103	%	75-125		1		10/20/23 14:49	460-00-4	
Toluene-d8 (S)	99	%	75-125		1		10/20/23 14:49	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

Sample: PZ-3D Lab ID: 10673041002 Collected: 10/16/23 14:35 Received: 10/18/23 11:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.21	ug/L	1.0	0.21	1		10/20/23 15:05	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		10/20/23 15:05	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		10/20/23 15:05	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		10/20/23 15:05	91-20-3	
Toluene	<0.21	ug/L	1.0	0.21	1		10/20/23 15:05	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		10/20/23 15:05	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		10/20/23 15:05	108-67-8	
Xylene (Total)	<0.42	ug/L	3.0	0.42	1		10/20/23 15:05	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%	75-125		1		10/20/23 15:05	2199-69-1	
4-Bromofluorobenzene (S)	103	%	75-125		1		10/20/23 15:05	460-00-4	
Toluene-d8 (S)	99	%	75-125		1		10/20/23 15:05	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

Sample: PZ-8R Lab ID: 10673041003 Collected: 10/16/23 13:10 Received: 10/18/23 11:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.21	ug/L	1.0	0.21	1		10/20/23 15:21	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		10/20/23 15:21	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		10/20/23 15:21	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		10/20/23 15:21	91-20-3	
Toluene	<0.21	ug/L	1.0	0.21	1		10/20/23 15:21	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		10/20/23 15:21	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		10/20/23 15:21	108-67-8	
Xylene (Total)	<0.42	ug/L	3.0	0.42	1		10/20/23 15:21	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	98	%	75-125		1		10/20/23 15:21	2199-69-1	
4-Bromofluorobenzene (S)	105	%	75-125		1		10/20/23 15:21	460-00-4	
Toluene-d8 (S)	99	%	75-125		1		10/20/23 15:21	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

Sample: MW-11 **Lab ID: 10673041004** Collected: 10/17/23 11:24 Received: 10/18/23 11:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.21	ug/L	1.0	0.21	1		10/24/23 13:41	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		10/24/23 13:41	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		10/24/23 13:41	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		10/24/23 13:41	91-20-3	
Toluene	<0.21	ug/L	1.0	0.21	1		10/24/23 13:41	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		10/24/23 13:41	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		10/24/23 13:41	108-67-8	
Xylene (Total)	<0.42	ug/L	3.0	0.42	1		10/24/23 13:41	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	99	%	75-125		1		10/24/23 13:41	2199-69-1	
4-Bromofluorobenzene (S)	103	%	75-125		1		10/24/23 13:41	460-00-4	
Toluene-d8 (S)	99	%	75-125		1		10/24/23 13:41	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

Sample: PZ-11 Lab ID: 10673041005 Collected: 10/17/23 11:32 Received: 10/18/23 11:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.21	ug/L	1.0	0.21	1		10/24/23 13:57	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		10/24/23 13:57	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		10/24/23 13:57	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		10/24/23 13:57	91-20-3	
Toluene	<0.21	ug/L	1.0	0.21	1		10/24/23 13:57	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		10/24/23 13:57	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		10/24/23 13:57	108-67-8	
Xylene (Total)	<0.42	ug/L	3.0	0.42	1		10/24/23 13:57	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	98	%	75-125		1		10/24/23 13:57	2199-69-1	
4-Bromofluorobenzene (S)	105	%	75-125		1		10/24/23 13:57	460-00-4	
Toluene-d8 (S)	99	%	75-125		1		10/24/23 13:57	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

Sample: MW-12 Lab ID: 10673041006 Collected: 10/17/23 12:00 Received: 10/18/23 11:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.21	ug/L	1.0	0.21	1		10/24/23 14:13	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		10/24/23 14:13	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		10/24/23 14:13	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		10/24/23 14:13	91-20-3	
Toluene	<0.21	ug/L	1.0	0.21	1		10/24/23 14:13	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		10/24/23 14:13	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		10/24/23 14:13	108-67-8	
Xylene (Total)	<0.42	ug/L	3.0	0.42	1		10/24/23 14:13	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	98	%	75-125		1		10/24/23 14:13	2199-69-1	
4-Bromofluorobenzene (S)	103	%	75-125		1		10/24/23 14:13	460-00-4	
Toluene-d8 (S)	100	%	75-125		1		10/24/23 14:13	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

Sample: MW-13 Lab ID: 10673041007 Collected: 10/17/23 11:53 Received: 10/18/23 11:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.21	ug/L	1.0	0.21	1		10/24/23 14:29	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		10/24/23 14:29	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		10/24/23 14:29	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		10/24/23 14:29	91-20-3	
Toluene	<0.21	ug/L	1.0	0.21	1		10/24/23 14:29	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		10/24/23 14:29	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		10/24/23 14:29	108-67-8	
Xylene (Total)	<0.42	ug/L	3.0	0.42	1		10/24/23 14:29	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	99	%	75-125		1		10/24/23 14:29	2199-69-1	
4-Bromofluorobenzene (S)	104	%	75-125		1		10/24/23 14:29	460-00-4	
Toluene-d8 (S)	99	%	75-125		1		10/24/23 14:29	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

Sample: PZ-13 **Lab ID: 10673041008** Collected: 10/17/23 11:46 Received: 10/18/23 11:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.21	ug/L	1.0	0.21	1		10/23/23 16:42	71-43-2	
Ethylbenzene	0.12J	ug/L	1.0	0.11	1		10/23/23 16:42	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		10/23/23 16:42	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		10/23/23 16:42	91-20-3	
Toluene	<0.21	ug/L	1.0	0.21	1		10/23/23 16:42	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		10/23/23 16:42	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		10/23/23 16:42	108-67-8	
Xylene (Total)	<0.42	ug/L	3.0	0.42	1		10/23/23 16:42	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	98	%	75-125		1		10/23/23 16:42	2199-69-1	
4-Bromofluorobenzene (S)	104	%	75-125		1		10/23/23 16:42	460-00-4	
Toluene-d8 (S)	100	%	75-125		1		10/23/23 16:42	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

Sample: MW-14 Lab ID: 10673041009 Collected: 10/17/23 12:13 Received: 10/18/23 11:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.21	ug/L	1.0	0.21	1		10/23/23 16:57	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		10/23/23 16:57	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		10/23/23 16:57	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		10/23/23 16:57	91-20-3	
Toluene	<0.21	ug/L	1.0	0.21	1		10/23/23 16:57	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		10/23/23 16:57	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		10/23/23 16:57	108-67-8	
Xylene (Total)	<0.42	ug/L	3.0	0.42	1		10/23/23 16:57	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	99	%	75-125		1		10/23/23 16:57	2199-69-1	
4-Bromofluorobenzene (S)	103	%	75-125		1		10/23/23 16:57	460-00-4	
Toluene-d8 (S)	99	%	75-125		1		10/23/23 16:57	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

Sample: MW-15 Lab ID: 10673041010 Collected: 10/16/23 13:42 Received: 10/18/23 11:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.21	ug/L	1.0	0.21	1		10/20/23 15:37	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		10/20/23 15:37	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		10/20/23 15:37	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		10/20/23 15:37	91-20-3	
Toluene	<0.21	ug/L	1.0	0.21	1		10/20/23 15:37	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		10/20/23 15:37	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		10/20/23 15:37	108-67-8	
Xylene (Total)	<0.42	ug/L	3.0	0.42	1		10/20/23 15:37	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	98	%	75-125		1		10/20/23 15:37	2199-69-1	
4-Bromofluorobenzene (S)	104	%	75-125		1		10/20/23 15:37	460-00-4	
Toluene-d8 (S)	98	%	75-125		1		10/20/23 15:37	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

Sample: MW-16 Lab ID: 10673041011 Collected: 10/16/23 14:56 Received: 10/18/23 11:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.21	ug/L	1.0	0.21	1		10/20/23 15:53	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		10/20/23 15:53	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		10/20/23 15:53	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		10/20/23 15:53	91-20-3	
Toluene	<0.21	ug/L	1.0	0.21	1		10/20/23 15:53	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		10/20/23 15:53	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		10/20/23 15:53	108-67-8	
Xylene (Total)	<0.42	ug/L	3.0	0.42	1		10/20/23 15:53	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	99	%	75-125		1		10/20/23 15:53	2199-69-1	
4-Bromofluorobenzene (S)	103	%	75-125		1		10/20/23 15:53	460-00-4	
Toluene-d8 (S)	99	%	75-125		1		10/20/23 15:53	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

Sample: PZ-16 Lab ID: 10673041012 Collected: 10/16/23 14:47 Received: 10/18/23 11:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.21	ug/L	1.0	0.21	1		10/20/23 16:09	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		10/20/23 16:09	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		10/20/23 16:09	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		10/20/23 16:09	91-20-3	
Toluene	<0.21	ug/L	1.0	0.21	1		10/20/23 16:09	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		10/20/23 16:09	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		10/20/23 16:09	108-67-8	
Xylene (Total)	<0.42	ug/L	3.0	0.42	1		10/20/23 16:09	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	98	%	75-125		1		10/20/23 16:09	2199-69-1	
4-Bromofluorobenzene (S)	104	%	75-125		1		10/20/23 16:09	460-00-4	
Toluene-d8 (S)	98	%	75-125		1		10/20/23 16:09	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

Sample: MW-17 Lab ID: 10673041013 Collected: 10/17/23 15:10 Received: 10/18/23 11:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.21	ug/L	1.0	0.21	1		10/23/23 17:13	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		10/23/23 17:13	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		10/23/23 17:13	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		10/23/23 17:13	91-20-3	
Toluene	<0.21	ug/L	1.0	0.21	1		10/23/23 17:13	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		10/23/23 17:13	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		10/23/23 17:13	108-67-8	
Xylene (Total)	<0.42	ug/L	3.0	0.42	1		10/23/23 17:13	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	99	%	75-125		1		10/23/23 17:13	2199-69-1	
4-Bromofluorobenzene (S)	104	%	75-125		1		10/23/23 17:13	460-00-4	
Toluene-d8 (S)	99	%	75-125		1		10/23/23 17:13	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

Sample: PZ-17 Lab ID: 10673041014 Collected: 10/17/23 15:03 Received: 10/18/23 11:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.21	ug/L	1.0	0.21	1		10/23/23 17:29	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		10/23/23 17:29	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		10/23/23 17:29	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		10/23/23 17:29	91-20-3	
Toluene	<0.21	ug/L	1.0	0.21	1		10/23/23 17:29	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		10/23/23 17:29	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		10/23/23 17:29	108-67-8	
Xylene (Total)	<0.42	ug/L	3.0	0.42	1		10/23/23 17:29	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	99	%	75-125		1		10/23/23 17:29	2199-69-1	
4-Bromofluorobenzene (S)	103	%	75-125		1		10/23/23 17:29	460-00-4	
Toluene-d8 (S)	99	%	75-125		1		10/23/23 17:29	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

Sample: MW-18 Lab ID: 10673041015 Collected: 10/17/23 15:21 Received: 10/18/23 11:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.21	ug/L	1.0	0.21	1		10/23/23 17:45	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		10/23/23 17:45	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		10/23/23 17:45	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		10/23/23 17:45	91-20-3	
Toluene	<0.21	ug/L	1.0	0.21	1		10/23/23 17:45	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		10/23/23 17:45	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		10/23/23 17:45	108-67-8	
Xylene (Total)	<0.42	ug/L	3.0	0.42	1		10/23/23 17:45	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	98	%	75-125		1		10/23/23 17:45	2199-69-1	
4-Bromofluorobenzene (S)	103	%	75-125		1		10/23/23 17:45	460-00-4	
Toluene-d8 (S)	101	%	75-125		1		10/23/23 17:45	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

Sample: MW-19R Lab ID: 10673041016 Collected: 10/17/23 10:59 Received: 10/18/23 11:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.21	ug/L	1.0	0.21	1		10/23/23 18:01	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		10/23/23 18:01	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		10/23/23 18:01	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		10/23/23 18:01	91-20-3	
Toluene	<0.21	ug/L	1.0	0.21	1		10/23/23 18:01	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		10/23/23 18:01	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		10/23/23 18:01	108-67-8	
Xylene (Total)	<0.42	ug/L	3.0	0.42	1		10/23/23 18:01	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	99	%	75-125		1		10/23/23 18:01	2199-69-1	
4-Bromofluorobenzene (S)	103	%	75-125		1		10/23/23 18:01	460-00-4	
Toluene-d8 (S)	99	%	75-125		1		10/23/23 18:01	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

Sample: MW-20 Lab ID: 10673041017 Collected: 10/17/23 10:20 Received: 10/18/23 11:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST		Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis							
Benzene	<0.21	ug/L	1.0	0.21	1		10/23/23 18:17	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		10/23/23 18:17	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		10/23/23 18:17	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		10/23/23 18:17	91-20-3	
Toluene	<0.21	ug/L	1.0	0.21	1		10/23/23 18:17	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		10/23/23 18:17	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		10/23/23 18:17	108-67-8	
Xylene (Total)	<0.42	ug/L	3.0	0.42	1		10/23/23 18:17	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	98	%	75-125		1		10/23/23 18:17	2199-69-1	
4-Bromofluorobenzene (S)	104	%	75-125		1		10/23/23 18:17	460-00-4	
Toluene-d8 (S)	100	%	75-125		1		10/23/23 18:17	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

Sample: MW-21 Lab ID: 10673041018 Collected: 10/17/23 10:37 Received: 10/18/23 11:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.21	ug/L	1.0	0.21	1		10/23/23 18:33	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		10/23/23 18:33	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		10/23/23 18:33	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		10/23/23 18:33	91-20-3	
Toluene	<0.21	ug/L	1.0	0.21	1		10/23/23 18:33	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		10/23/23 18:33	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		10/23/23 18:33	108-67-8	
Xylene (Total)	<0.42	ug/L	3.0	0.42	1		10/23/23 18:33	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	98	%	75-125		1		10/23/23 18:33	2199-69-1	
4-Bromofluorobenzene (S)	104	%	75-125		1		10/23/23 18:33	460-00-4	
Toluene-d8 (S)	99	%	75-125		1		10/23/23 18:33	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

Sample: PZ-21 Lab ID: 10673041019 Collected: 10/17/23 10:30 Received: 10/18/23 11:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST		Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis							
Benzene	<0.21	ug/L	1.0	0.21	1		10/23/23 18:49	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		10/23/23 18:49	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		10/23/23 18:49	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		10/23/23 18:49	91-20-3	
Toluene	<0.21	ug/L	1.0	0.21	1		10/23/23 18:49	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		10/23/23 18:49	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		10/23/23 18:49	108-67-8	
Xylene (Total)	<0.42	ug/L	3.0	0.42	1		10/23/23 18:49	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	98	%	75-125		1		10/23/23 18:49	2199-69-1	
4-Bromofluorobenzene (S)	104	%	75-125		1		10/23/23 18:49	460-00-4	
Toluene-d8 (S)	100	%	75-125		1		10/23/23 18:49	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

Sample: MW-22 **Lab ID: 10673041020** Collected: 10/17/23 10:50 Received: 10/18/23 11:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.21	ug/L	1.0	0.21	1		10/23/23 19:05	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		10/23/23 19:05	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		10/23/23 19:05	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		10/23/23 19:05	91-20-3	
Toluene	<0.21	ug/L	1.0	0.21	1		10/23/23 19:05	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		10/23/23 19:05	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		10/23/23 19:05	108-67-8	
Xylene (Total)	<0.42	ug/L	3.0	0.42	1		10/23/23 19:05	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	98	%	75-125		1		10/23/23 19:05	2199-69-1	
4-Bromofluorobenzene (S)	103	%	75-125		1		10/23/23 19:05	460-00-4	
Toluene-d8 (S)	100	%	75-125		1		10/23/23 19:05	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

Sample: MW-7R **Lab ID: 10673041021** Collected: 10/16/23 12:09 Received: 10/18/23 11:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.21	ug/L	1.0	0.21	1		10/20/23 16:25	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		10/20/23 16:25	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		10/20/23 16:25	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		10/20/23 16:25	91-20-3	
Toluene	<0.21	ug/L	1.0	0.21	1		10/20/23 16:25	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		10/20/23 16:25	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		10/20/23 16:25	108-67-8	
Xylene (Total)	<0.42	ug/L	3.0	0.42	1		10/20/23 16:25	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	99	%	75-125		1		10/20/23 16:25	2199-69-1	
4-Bromofluorobenzene (S)	103	%	75-125		1		10/20/23 16:25	460-00-4	
Toluene-d8 (S)	98	%	75-125		1		10/20/23 16:25	2037-26-5	

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

Sample: Trip Blank Lab ID: 10673041022 Collected: 10/17/23 00:00 Received: 10/18/23 11:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV UST									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.21	ug/L	1.0	0.21	1		10/23/23 15:54	71-43-2	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		10/23/23 15:54	100-41-4	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		10/23/23 15:54	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		10/23/23 15:54	91-20-3	
Toluene	<0.21	ug/L	1.0	0.21	1		10/23/23 15:54	108-88-3	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		10/23/23 15:54	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		10/23/23 15:54	108-67-8	
Xylene (Total)	<0.42	ug/L	3.0	0.42	1		10/23/23 15:54	1330-20-7	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	99	%	75-125		1		10/23/23 15:54	2199-69-1	
4-Bromofluorobenzene (S)	104	%	75-125		1		10/23/23 15:54	460-00-4	
Toluene-d8 (S)	100	%	75-125		1		10/23/23 15:54	2037-26-5	

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QUALITY CONTROL DATA

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

QC Batch:	913138	Analysis Method:	EPA 8260D
QC Batch Method:	EPA 8260D	Analysis Description:	8260D MSV UST-WATER
		Laboratory:	Pace Analytical Services - Minneapolis

Associated Lab Samples: 10673041001, 10673041002, 10673041003, 10673041010, 10673041011, 10673041012, 10673041021

METHOD BLANK: 4805218 Matrix: Water

Associated Lab Samples: 10673041001, 10673041002, 10673041003, 10673041010, 10673041011, 10673041012, 10673041021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.13	1.0	10/20/23 12:42	
1,3,5-Trimethylbenzene	ug/L	<0.11	1.0	10/20/23 12:42	
Benzene	ug/L	<0.21	1.0	10/20/23 12:42	
Ethylbenzene	ug/L	<0.11	1.0	10/20/23 12:42	
Methyl-tert-butyl ether	ug/L	<0.13	1.0	10/20/23 12:42	
Naphthalene	ug/L	<0.18	1.0	10/20/23 12:42	
Toluene	ug/L	<0.21	1.0	10/20/23 12:42	
Xylene (Total)	ug/L	<0.42	3.0	10/20/23 12:42	
1,2-Dichlorobenzene-d4 (S)	%	98	75-125	10/20/23 12:42	
4-Bromofluorobenzene (S)	%	104	75-125	10/20/23 12:42	
Toluene-d8 (S)	%	99	75-125	10/20/23 12:42	

LABORATORY CONTROL SAMPLE: 4805219

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trimethylbenzene	ug/L	20	20.8	104	75-125	
1,3,5-Trimethylbenzene	ug/L	20	20.8	104	75-125	
Benzene	ug/L	20	20.6	103	75-125	
Ethylbenzene	ug/L	20	20.9	105	75-125	
Methyl-tert-butyl ether	ug/L	20	22.8	114	75-125	
Naphthalene	ug/L	20	21.9	110	67-140	
Toluene	ug/L	20	19.8	99	74-125	
Xylene (Total)	ug/L	60	61.9	103	75-125	
1,2-Dichlorobenzene-d4 (S)	%			99	75-125	
4-Bromofluorobenzene (S)	%			103	75-125	
Toluene-d8 (S)	%			98	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4805228 4805229

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10672730006 Result	Spike Conc.	Spike Conc.	MS Result						
1,2,4-Trimethylbenzene	ug/L	1290	2000	2000	3290	3380	100	104	61-143	3	30
1,3,5-Trimethylbenzene	ug/L	359	2000	2000	2360	2440	100	104	70-134	3	30
Benzene	ug/L	9650	2000	2000	11400	11600	86	97	66-127	2	30
Ethylbenzene	ug/L	1540	2000	2000	3590	3660	102	106	74-128	2	30
Methyl-tert-butyl ether	ug/L	<12.6	2000	2000	2220	2230	111	111	65-132	0	30
Naphthalene	ug/L	29.4J	2000	2000	2100	2160	103	106	61-150	3	30

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4805228 4805229												
Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		10672730006 Result	Spike Conc.	Spike Conc.	MS Result							
Toluene	ug/L	<20.7	2000	2000	1980	1980	99	99	66-125	0	30	
Xylene (Total)	ug/L	8290	6000	6000	14100	14500	97	103	75-126	2	30	
1,2-Dichlorobenzene-d4 (S)	%						98	99	75-125			D4
4-Bromofluorobenzene (S)	%						101	102	75-125			
Toluene-d8 (S)	%						98	98	75-125			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

QC Batch:	913604	Analysis Method:	EPA 8260D
QC Batch Method:	EPA 8260D	Analysis Description:	8260D MSV UST-WATER
		Laboratory:	Pace Analytical Services - Minneapolis

Associated Lab Samples: 10673041008, 10673041009, 10673041013, 10673041014, 10673041015, 10673041016, 10673041017, 10673041018, 10673041019, 10673041020, 10673041022

METHOD BLANK: 4807426 Matrix: Water
 Associated Lab Samples: 10673041008, 10673041009, 10673041013, 10673041014, 10673041015, 10673041016, 10673041017, 10673041018, 10673041019, 10673041020, 10673041022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.13	1.0	10/23/23 15:38	
1,3,5-Trimethylbenzene	ug/L	<0.11	1.0	10/23/23 15:38	
Benzene	ug/L	<0.21	1.0	10/23/23 15:38	
Ethylbenzene	ug/L	<0.11	1.0	10/23/23 15:38	
Methyl-tert-butyl ether	ug/L	<0.13	1.0	10/23/23 15:38	
Naphthalene	ug/L	<0.18	1.0	10/23/23 15:38	
Toluene	ug/L	<0.21	1.0	10/23/23 15:38	
Xylene (Total)	ug/L	<0.42	3.0	10/23/23 15:38	
1,2-Dichlorobenzene-d4 (S)	%	99	75-125	10/23/23 15:38	
4-Bromofluorobenzene (S)	%	103	75-125	10/23/23 15:38	
Toluene-d8 (S)	%	99	75-125	10/23/23 15:38	

LABORATORY CONTROL SAMPLE: 4807427

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trimethylbenzene	ug/L	20	20.5	102	75-125	
1,3,5-Trimethylbenzene	ug/L	20	20.5	103	75-125	
Benzene	ug/L	20	20.5	102	75-125	
Ethylbenzene	ug/L	20	20.6	103	75-125	
Methyl-tert-butyl ether	ug/L	20	22.5	113	75-125	
Naphthalene	ug/L	20	21.1	105	67-140	
Toluene	ug/L	20	19.8	99	74-125	
Xylene (Total)	ug/L	60	59.7	100	75-125	
1,2-Dichlorobenzene-d4 (S)	%			98	75-125	
4-Bromofluorobenzene (S)	%			102	75-125	
Toluene-d8 (S)	%			98	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4807529 4807530

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10673087020 Result	Spike Conc.	Spike Conc.	Result						
1,2,4-Trimethylbenzene	ug/L	1090	1000	1000	1910	82	76	61-143	3	30	
1,3,5-Trimethylbenzene	ug/L	285	1000	1000	1180	90	85	70-134	4	30	
Benzene	ug/L	6710	1000	1000	7310	60	34	66-127	4	30	P6
Ethylbenzene	ug/L	2180	1000	1000	2990	82	71	74-128	4	30	P6
Methyl-tert-butyl ether	ug/L	ND	1000	1000	1010	101	100	65-132	1	30	

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QUALITY CONTROL DATA

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

Parameter	Units	4807529		4807530		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10673087020 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Naphthalene	ug/L	280	1000	1000	1230	1250	95	97	61-150	1	30		
Toluene	ug/L	3660	1000	1000	4360	4230	71	58	66-125	3	30	P6	
Xylene (Total)	ug/L	7780	3000	3000	10100	9780	77	67	75-126	3	30		
1,2-Dichlorobenzene-d4 (S)	%						100	98	75-125				
4-Bromofluorobenzene (S)	%						101	101	75-125				
Toluene-d8 (S)	%						99	98	75-125				

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QUALITY CONTROL DATA

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

QC Batch: 913838 Analysis Method: EPA 8260D
 QC Batch Method: EPA 8260D Analysis Description: 8260D MSV UST-WATER
 Laboratory: Pace Analytical Services - Minneapolis
 Associated Lab Samples: 10673041004, 10673041005, 10673041006, 10673041007

METHOD BLANK: 4808390 Matrix: Water
 Associated Lab Samples: 10673041004, 10673041005, 10673041006, 10673041007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.13	1.0	10/24/23 11:34	
1,3,5-Trimethylbenzene	ug/L	<0.11	1.0	10/24/23 11:34	
Benzene	ug/L	<0.21	1.0	10/24/23 11:34	
Ethylbenzene	ug/L	<0.11	1.0	10/24/23 11:34	
Methyl-tert-butyl ether	ug/L	<0.13	1.0	10/24/23 11:34	
Naphthalene	ug/L	<0.18	1.0	10/24/23 11:34	
Toluene	ug/L	<0.21	1.0	10/24/23 11:34	
Xylene (Total)	ug/L	<0.42	3.0	10/24/23 11:34	
1,2-Dichlorobenzene-d4 (S)	%	98	75-125	10/24/23 11:34	
4-Bromofluorobenzene (S)	%	103	75-125	10/24/23 11:34	
Toluene-d8 (S)	%	100	75-125	10/24/23 11:34	

LABORATORY CONTROL SAMPLE & LCSD: 4808391 4808392

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2,4-Trimethylbenzene	ug/L	20	19.1	19.8	95	99	75-125	4	20	
1,3,5-Trimethylbenzene	ug/L	20	19.1	19.9	96	99	75-125	4	20	
Benzene	ug/L	20	18.7	19.7	94	98	75-125	5	20	
Ethylbenzene	ug/L	20	19.1	20.1	96	101	75-125	5	20	
Methyl-tert-butyl ether	ug/L	20	20.2	21.0	101	105	75-125	4	20	
Naphthalene	ug/L	20	19.0	20.5	95	102	67-140	8	20	
Toluene	ug/L	20	18.1	19.0	91	95	74-125	5	20	
Xylene (Total)	ug/L	60	55.7	59.0	93	98	75-125	6	20	
1,2-Dichlorobenzene-d4 (S)	%				98	98	75-125			
4-Bromofluorobenzene (S)	%				102	103	75-125			
Toluene-d8 (S)	%				99	98	75-125			

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

DL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 913838

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

D4 Sample was diluted due to the presence of high levels of target analytes.

P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 49161494.02 100 102 SRC GW ERP

Pace Project No.: 10673041

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10673041001	PZ-2/T66	EPA 8260D	913138		
10673041002	PZ-3D	EPA 8260D	913138		
10673041003	PZ-8R	EPA 8260D	913138		
10673041004	MW-11	EPA 8260D	913838		
10673041005	PZ-11	EPA 8260D	913838		
10673041006	MW-12	EPA 8260D	913838		
10673041007	MW-13	EPA 8260D	913838		
10673041008	PZ-13	EPA 8260D	913604		
10673041009	MW-14	EPA 8260D	913604		
10673041010	MW-15	EPA 8260D	913138		
10673041011	MW-16	EPA 8260D	913138		
10673041012	PZ-16	EPA 8260D	913138		
10673041013	MW-17	EPA 8260D	913604		
10673041014	PZ-17	EPA 8260D	913604		
10673041015	MW-18	EPA 8260D	913604		
10673041016	MW-19R	EPA 8260D	913604		
10673041017	MW-20	EPA 8260D	913604		
10673041018	MW-21	EPA 8260D	913604		
10673041019	PZ-21	EPA 8260D	913604		
10673041020	MW-22	EPA 8260D	913604		
10673041021	MW-7R	EPA 8260D	913138		
10673041022	Trip Blank	EPA 8260D	913604		

REPORT OF LABORATORY ANALYSIS

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Barr Engineering Co. Chain of Custody

Sample Origination State

CO MI MN MO ND NV TX UT WI WY Other: _____

REPORT TO	INVOICE TO
Company: <i>Barr Engineering Co.</i>	Company: <i>Barr</i>
Address: <i>325 S. Lake Ave</i>	Address:
Address: <i>Duluth, MN</i>	Address:
Name: <i>Lynette Carney</i>	Name:
email: <i>Lcarney@barr.com</i>	email:
Copy to: <i>BarrDM@barr.com</i>	P.O.:
Project Name: <i>SRC GW Sampling ERP</i>	Barr Project No: <i>49161494.02 100 102</i>

Perform MS/MSD Y / N	Total Number Of Containers	Analysis Requested	
		Water	Soil
	268 PFOs + Naphthalene (EPA 8210)		

COC Number: **№ 595776**
 COC 1 of 3

Matrix Code:
 GW = Groundwater
 SW = Surface Water
 DW = Drinking Water
 PW = Pore Water
 WW = Waste Water
 WQ = TB, FB, EB, etc.
 W = Unspecified
 S = Soil/Solid
 SD = Sediment
 SQ = MeOH blank
 OTH = Other (Oil, etc.)

Preservative Code:
 A = None
 B = HCl
 C = HNO₃
 D = H₂SO₄
 E = NaOH
 F = MeOH
 G = NaHSO₄
 H = Na₂S₂O₃
 I = Ascorbic Acid
 J = Zn Acetate
 K = Other

Preservative Code: _____
 Field Filtered Y/N: _____

Location	Sample Depth			Collection Date (mm/dd/yyyy)	Collection Time (hh:mm)	Matrix Code	Perform MS/MSD Y / N	Total Number Of Containers	% Solids
	Start	Stop	Unit (m./ft. or in.)						
1. PZ-2 / T66				10/16/2023	11:51	GW	N	3	X
2. PZ-3D				10/16/2023	14:35	GW	N	3	X
3. PZ-8R				10/16/2023	13:10	GW	N	3	X
4. MW-11				10/17/2023	11:24	GW	N	3	X
5. PZ-11					11:32	GW	N	3	X
6. MW-12					12:00 11:46	GW	N	3	X
7. MW-13					11:53	GW	N	3	X
8. PZ-13					11:46	GW	N	3	X
9. MW-14					12:13	GW	N	3	X
10. MW-15				10/16/2023	13:42	GW	N	3	X

WO#: 10673041

10673041

BARR USE ONLY

Sampled by: *KLS3*

Barr Proj. Manager: *Lme*

Barr DQ Manager: *JET*

Lab Name: *Pace Analytical*

Lab Location: *Minneapolis, MN*

Relinquished by: *Lynette Carney* On Ice? N Date: *10/17/23* Time: *4:37pm*

Relinquished by: *Shelacich/Pace* On Ice? N Date: *10/17/23* Time: *16:37*

Samples Shipped VIA: Ground Courier Air Carrier Sampler Other: _____

Temperature on Receipt (°C): *4.3* Custody Seal Intact? Y N None

Received by: *Shelacich/Pace* Date: *10/17/23* Time: *16:37*

Requested Due Date: Standard Turn Around Time Rush (mm/dd/yyyy)

H:\RLG\STDFORMS\Chain of Custody Form 2022 RLG Rev. 10/14/2021



Barr Engineering Co. Chain of Custody

Sample Origination State

CO MI MN MO ND NV TX UT WI WY Other: _____

REPORT TO	INVOICE TO
Company: <i>Barr Eng Co</i>	Company: <i>Barr</i>
Address: <i>325 S. Lake Ave</i>	Address:
Address: <i>Duluth, MN 55802</i>	Address:
Name: <i>Lynette Carney</i>	Name:
email: <i>Lcarney</i>	email:
Copy to: <i>BarrDM@barr.com</i>	P.O.:
Project Name: <i>SRC GW Sampling ERP</i>	Barr Project No: <i>49161494.02 100 102</i>

Perform MS/MSD Y / N	Total Number Of Containers	Analysis Requested	
		Water	Soil
<i>ZB</i>	<i>PVOCs + Naphthalene (EPA 4260)</i>		

COC Number: **№ 595777**

COC 2 of 3

Matrix Code:	Preservative Code:
GW = Groundwater	A = None
SW = Surface Water	B = HCl
DW = Drinking Water	C = HNO ₃
PW = Pore Water	D = H ₂ SO ₄
WW = Waste Water	E = NaOH
WQ = TB, FB, EB, etc.	F = MeOH
W = Unspecified	G = NaHSO ₄
S = Soil/Solid	H = Na ₂ S ₂ O ₃
SD = Sediment	I = Ascorbic Acid
SQ = MeOH blank	J = Zn Acetate
OTH = Other (Oil, etc.)	K = Other

Location	Sample Depth			Collection Date (mm/dd/yyyy)	Collection Time (hh:mm)	Matrix Code	Perform MS/MSD Y / N	Total Number Of Containers	% Solids
	Start	Stop	Unit (m./ft. or in.)						
1. <i>MW-16</i>				<i>10/16/2023</i>	<i>14:56</i>	<i>GW</i>	<i>N</i>	<i>3</i>	<i>X</i>
2. <i>PZ-16</i>				↓	<i>14:47</i>	<i>GW</i>	<i>N</i>	<i>3</i>	<i>X</i>
3. <i>MW-17</i>				<i>10/17/2023</i>	<i>15:10</i>	<i>GW</i>	<i>N</i>	<i>3</i>	<i>X</i>
4. <i>PZ-17</i>				↓	<i>15:03</i>	<i>GW</i>	<i>N</i>	<i>3</i>	<i>X</i>
5. <i>MW-18</i>					<i>15:21</i>	<i>GW</i>	<i>N</i>	<i>3</i>	<i>X</i>
6. <i>MW-19R</i>					<i>10:59</i>	<i>GW</i>	<i>N</i>	<i>3</i>	<i>X</i>
7. <i>MW-20</i>					<i>10:20</i>	<i>GW</i>	<i>N</i>	<i>3</i>	<i>X</i>
8. <i>MW-21</i>					<i>10:37</i>	<i>GW</i>	<i>N</i>	<i>3</i>	<i>X</i>
9. <i>PZ-21</i>					<i>10:30</i>	<i>GW</i>	<i>N</i>	<i>3</i>	<i>X</i>
10. <i>MW-22</i>					<i>10:50</i>	<i>GW</i>	<i>N</i>	<i>3</i>	<i>X</i>

Preservative Code	Field Filtered Y/N
<i>011</i>	
<i>012</i>	
<i>013</i>	
<i>014</i>	
<i>015</i>	
<i>016</i>	
<i>017</i>	
<i>018</i>	
<i>019</i>	
<i>020</i>	<i>T4 3.7</i>

BARR USE ONLY

Sampled by: *KLS3*

Barr Proj. Manager: *lmc*

Barr DQ Manager: *JET*

Lab Name: *Pace Analytical*

Lab Location: *Minneapolis MN*

Relinquished by: *Kirrey Schneider*

Relinquished by: *Delia Reich Pace*

Samples Shipped VIA: Ground Courier Air Carrier

Sampler Other: _____

Lab WO: _____

On Ice? N Y

Date: *10/17/23* Time: *4:37pm*

On Ice? N Y

Date: *10/17/23* Time: *16:37*

Temperature on Receipt (°C): *4.3*

Custody Seal Intact? Y N None

Received by: *David X...*

Received by: _____

Air Bill Number: _____

Date: *10/17/23* Time: *16:37*

Date: _____ Time: _____

Requested Due Date:

Standard Turn Around Time

Rush _____ (mm/dd/yyyy)

Effective Date: 4/14/2023

Sample Condition Upon Receipt **Client Name:** Barr Eng Co **Project #:** **WO#: 10673041**

Courier: FedEx UPS USPS Client
 Pace SpeeDee Commercial

PM: MKH **Due Date:** 11/01/23
CLIENT: BARR

Tracking Number: _____ See Exceptions ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? Yes No **Seals Intact?** Yes No **Biological Tissue Frozen?** Yes No N/A

Packing Material: Bubble Wrap Bubble Bags None Other **Temp Blank?** Yes No

Thermometer: T1 (0461) T2 (0436) T3 (0459) T4 (0402) T5 (0178)
 T6 (0235) T7 (0042) T8 (0775) T9(0727) 01339252/1710 **Type of Ice:** Wet Blue Dry None
 Melted

Did Samples Originate in West Virginia? Yes No **Were All Container Temps Taken?** Yes No N/A

Temp should be above freezing to 6 °C **Cooler temp Read w/Temp Blank:** 3.6 °C **Average Corrected Temp (no temp blank only):** _____ °C

Correction Factor: 10.1 **Cooler Temp Corrected w/temp blank:** 3.7 °C See Exceptions ENV-FRM-MIN4-0142 1 Container

USDA Regulated Soil: (N/A, water sample/other: _____) **Date/Initials of Person Examining Contents:** CRL 10/19/23

Did samples originate in a quarantine zone within the United States: AL, AR, AZ CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check maps)? Yes No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

Location (Check one):	<input type="checkbox"/> Duluth	<input checked="" type="checkbox"/> Minneapolis	<input type="checkbox"/> Virginia	COMMENTS
Chain of Custody Present and Filled Out?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		1.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		2.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	3.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		4. If fecal: <input type="checkbox"/> <8 hrs <input type="checkbox"/> >8 hr, <24 <input type="checkbox"/> No
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		5. <input type="checkbox"/> Fecal Coliform <input type="checkbox"/> HPC <input type="checkbox"/> Total Coliform/E.coli <input type="checkbox"/> BOD/cBOD <input type="checkbox"/> Hex Chrom <input type="checkbox"/> Turbidity <input type="checkbox"/> Nitrate <input type="checkbox"/> Nitrite <input type="checkbox"/> Orthophos <input type="checkbox"/> Other _____
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		6.
Sufficient Sample Volume?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		7.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	8.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		9.
Containers Intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		10. Is sediment visible in the dissolved container? <input type="checkbox"/> Yes <input type="checkbox"/> No
Field Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	11. If no, write ID/Date/Time of container below: <input type="checkbox"/> See Exceptions ENV-FRM-MIN4-0142
Is sufficient information available to reconcile the samples to the COC? Matrix: <input checked="" type="checkbox"/> Water <input type="checkbox"/> Soil <input type="checkbox"/> Oil <input type="checkbox"/> Other	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		12. Sample # <input type="checkbox"/> NaOH <input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> Zinc Acetate Positive for Residual Chlorine? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> See Exceptions ENV-FRM-MIN4-0142
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	pH Paper Lot # Residual Chlorine 0-6 Roll 0-6 Strip 0-14 Strip
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO3, H2SO4, <2pH, NaOH >9 Sulfide, NaOH >10 Cyanide)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	
Exception (VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxins/PFAS (*If adding preservative to a container, it must be added to associated field and equipment blanks--verify with PM first.)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	13.
Headspace in Methyl Mercury Container?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	14. <input type="checkbox"/> See Exceptions ENV-FRM-MIN4-0142
Extra labels present on soil VOA or WIDRO containers?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	15. <u>2</u> Pace Trip Blank Lot # (if purchased): _____
Headspace in VOA Vials (greater than 6mm)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	
3 Trip Blanks Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: [Signature] **Date:** 10/20/23

NOTE: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled By: [Signature] Line: [Signature]



October 30, 2023

Jim Taraldsen
Barr Engineering Company
325 S Lake Ave
Duluth, MN 55802

RE: Project: 49161494.02 100 102 SRC GW GEM
Pace Project No.: 10672716

Dear Jim Taraldsen:

Enclosed are the analytical results for sample(s) received by the laboratory on October 17, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Martha Hansen
martha.hansen@pacelabs.com
(612)607-6451
Project Manager

Enclosures

cc: Barr DM, Barr Engineering
Accounts Payable, Barr Engineering



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 49161494.02 100 102 SRC GW GEM

Pace Project No.: 10672716

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alabama Certification #: 40770

Alaska Contaminated Sites Certification #: 17-009

Alaska DW Certification #: MN00064

Arizona Certification #: AZ0014

Arkansas DW Certification #: MN00064

Arkansas WW Certification #: 88-0680

California Certification #: 2929

Colorado Certification #: MN00064

Connecticut Certification #: PH-0256

EPA Region 8 Tribal Water Systems+Wyoming DW

Certification #: via MN 027-053-137

Florida Certification #: E87605

Georgia Certification #: 959

GMP+ Certification #: GMP050884

Hawaii Certification #: MN00064

Idaho Certification #: MN00064

Illinois Certification #: 200011

Indiana Certification #: C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky DW Certification #: 90062

Kentucky WW Certification #: 90062

Louisiana DEQ Certification #: AI-03086

Louisiana DW Certification #: MN00064

Maine Certification #: MN00064

Maryland Certification #: 322

Michigan Certification #: 9909

Minnesota Certification #: 027-053-137

Minnesota Dept of Ag Approval: via MN 027-053-137

Minnesota Petrofund Registration #: 1240

Mississippi Certification #: MN00064

Missouri Certification #: 10100

Montana Certification #: CERT0092

Nebraska Certification #: NE-OS-18-06

Nevada Certification #: MN00064

New Hampshire Certification #: 2081

New Jersey Certification #: MN002

New York Certification #: 11647

North Carolina DW Certification #: 27700

North Carolina WW Certification #: 530

North Dakota Certification (A2LA) #: R-036

North Dakota Certification (MN) #: R-036

Ohio DW Certification #: 41244

Ohio VAP Certification (1700) #: CL101

Oklahoma Certification #: 9507

Oregon Primary Certification #: MN300001

Oregon Secondary Certification #: MN200001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification #: MN00064

South Carolina Certification #:74003001

Tennessee Certification #: TN02818

Texas Certification #: T104704192

Utah Certification #: MN00064

Vermont Certification #: VT-027053137

Virginia Certification #: 460163

Washington Certification #: C486

West Virginia DEP Certification #: 382

West Virginia DW Certification #: 9952 C

Wisconsin Certification #: 999407970

Wyoming UST Certification #: via A2LA 2926.01

USDA Permit #: P330-19-00208

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SAMPLE SUMMARY

Project: 49161494.02 100 102 SRC GW GEM
Pace Project No.: 10672716

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10672716001	MW-1	Water	10/16/23 13:55	10/17/23 11:05
10672716002	MW-2	Water	10/16/23 14:14	10/17/23 11:05
10672716003	MW-3D	Water	10/16/23 14:27	10/17/23 11:05
10672716004	MW-8R	Water	10/16/23 13:20	10/17/23 11:05
10672716005	MW-9B	Water	10/16/23 15:12	10/17/23 11:05
10672716006	Trip Blank	Water	10/16/23 00:00	10/17/23 11:05

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 49161494.02 100 102 SRC GW GEM

Pace Project No.: 10672716

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10672716001	MW-1	EPA 200.7	IP	4	PASI-M
		EPA 8260D	NMB	64	PASI-M
		SM 2320B	RM3	1	PASI-M
10672716002	MW-2	EPA 200.7	IP	4	PASI-M
		EPA 8260D	NMB	64	PASI-M
		SM 2320B	RM3	1	PASI-M
10672716003	MW-3D	EPA 200.7	IP	4	PASI-M
		EPA 8260D	NMB	64	PASI-M
		SM 2320B	RM3	1	PASI-M
10672716004	MW-8R	EPA 200.7	IP	4	PASI-M
		EPA 8260D	NMB	64	PASI-M
		SM 2320B	RM3	1	PASI-M
10672716005	MW-9B	EPA 200.7	IP	4	PASI-M
		EPA 8260D	NMB	64	PASI-M
		SM 2320B	RM3	1	PASI-M
10672716006	Trip Blank	EPA 8260D	NMB	64	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 49161494.02 100 102 SRC GW GEM

Pace Project No.: 10672716

Date: October 30, 2023

Case Narrative

Volatile Organics Analysis

8260D VOA

Batch 912960

Recovery for dichlorodifluoromethane in the secondary source was outside of laboratory control limits at 136% recovery (limits 70-130%). Reported values may be biased high.

Recovery for dichlorodifluoromethane in the continuing calibration verification was outside of laboratory control limits at 123% recovery (limits 80-120%). Reported values may be biased high.

Case Narrative

Volatile Organics Analysis

8260D VOA

Batch 912960

Recovery for dichlorodifluoromethane in the secondary source was outside of laboratory control limits at 136% recovery (limits 70-130%). Reported values may be biased high.

Recovery for dichlorodifluoromethane in the continuing calibration verification was outside of laboratory control limits at 123% recovery (limits 80-120%). Reported values may be biased high.

Recovery for chloromethane in the continuing calibration verification was outside of laboratory control limits at 121% recovery (limits 80-120%). Reported values may be biased high.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW GEM

Pace Project No.: 10672716

Sample: MW-1 Lab ID: 10672716001 Collected: 10/16/23 13:55 Received: 10/17/23 11:05 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, Dissolved									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Minneapolis									
Calcium, Dissolved	43600	ug/L	500	97.2	1	10/22/23 05:18	10/25/23 13:48	7440-70-2	
Lead, Dissolved	<2.6	ug/L	10.0	2.6	1	10/22/23 05:18	10/25/23 13:48	7439-92-1	
Magnesium, Dissolved	44600	ug/L	500	28.7	1	10/22/23 05:18	10/25/23 13:48	7439-95-4	
Total Hardness by 2340B, Dissolved	293000	ug/L	3310	361	1	10/22/23 05:18	10/25/23 13:48		
8260D VOC									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.21	ug/L	1.0	0.21	1		10/19/23 17:12	71-43-2	
Bromobenzene	<0.12	ug/L	1.0	0.12	1		10/19/23 17:12	108-86-1	
Bromochloromethane	<0.15	ug/L	1.0	0.15	1		10/19/23 17:12	74-97-5	
Bromodichloromethane	<0.12	ug/L	1.0	0.12	1		10/19/23 17:12	75-27-4	
Bromoform	<0.22	ug/L	1.0	0.22	1		10/19/23 17:12	75-25-2	
Bromomethane	<1.0	ug/L	2.5	1.0	1		10/19/23 17:12	74-83-9	
n-Butylbenzene	<0.32	ug/L	1.0	0.32	1		10/19/23 17:12	104-51-8	
sec-Butylbenzene	<0.20	ug/L	1.0	0.20	1		10/19/23 17:12	135-98-8	
tert-Butylbenzene	<0.20	ug/L	1.0	0.20	1		10/19/23 17:12	98-06-6	
Carbon tetrachloride	<0.13	ug/L	1.0	0.13	1		10/19/23 17:12	56-23-5	
Chlorobenzene	<0.13	ug/L	1.0	0.13	1		10/19/23 17:12	108-90-7	
Chloroethane	<0.41	ug/L	1.0	0.41	1		10/19/23 17:12	75-00-3	
Chloroform	<0.23	ug/L	1.0	0.23	1		10/19/23 17:12	67-66-3	
Chloromethane	<0.40	ug/L	1.0	0.40	1		10/19/23 17:12	74-87-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		10/19/23 17:12	95-49-8	
4-Chlorotoluene	<0.12	ug/L	1.0	0.12	1		10/19/23 17:12	106-43-4	
1,2-Dibromo-3-chloropropane	<0.36	ug/L	2.5	0.36	1		10/19/23 17:12	96-12-8	
Dibromochloromethane	<0.20	ug/L	1.0	0.20	1		10/19/23 17:12	124-48-1	
1,2-Dibromoethane (EDB)	<0.20	ug/L	1.0	0.20	1		10/19/23 17:12	106-93-4	
Dibromomethane	<0.17	ug/L	1.0	0.17	1		10/19/23 17:12	74-95-3	
1,2-Dichlorobenzene	<0.13	ug/L	1.0	0.13	1		10/19/23 17:12	95-50-1	
1,3-Dichlorobenzene	<0.12	ug/L	1.0	0.12	1		10/19/23 17:12	541-73-1	
1,4-Dichlorobenzene	<0.15	ug/L	1.0	0.15	1		10/19/23 17:12	106-46-7	
Dichlorodifluoromethane	<0.32	ug/L	1.0	0.32	1		10/19/23 17:12	75-71-8	
1,1-Dichloroethane	<0.23	ug/L	1.0	0.23	1		10/19/23 17:12	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		10/19/23 17:12	107-06-2	
1,1-Dichloroethene	<0.13	ug/L	1.0	0.13	1		10/19/23 17:12	75-35-4	
cis-1,2-Dichloroethene	<0.15	ug/L	1.0	0.15	1		10/19/23 17:12	156-59-2	
trans-1,2-Dichloroethene	<0.14	ug/L	1.0	0.14	1		10/19/23 17:12	156-60-5	
1,2-Dichloropropane	<0.15	ug/L	1.0	0.15	1		10/19/23 17:12	78-87-5	
1,3-Dichloropropane	<0.16	ug/L	1.0	0.16	1		10/19/23 17:12	142-28-9	
2,2-Dichloropropane	<0.12	ug/L	1.0	0.12	1		10/19/23 17:12	594-20-7	
1,1-Dichloropropene	<0.12	ug/L	1.0	0.12	1		10/19/23 17:12	563-58-6	
cis-1,3-Dichloropropene	<0.14	ug/L	1.0	0.14	1		10/19/23 17:12	10061-01-5	
trans-1,3-Dichloropropene	<0.13	ug/L	1.0	0.13	1		10/19/23 17:12	10061-02-6	
Diethyl ether (Ethyl ether)	<0.19	ug/L	2.5	0.19	1		10/19/23 17:12	60-29-7	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		10/19/23 17:12	100-41-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW GEM

Pace Project No.: 10672716

Sample: MW-1 Lab ID: 10672716001 Collected: 10/16/23 13:55 Received: 10/17/23 11:05 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260D VOC									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Hexachloro-1,3-butadiene	<0.48	ug/L	1.0	0.48	1		10/19/23 17:12	87-68-3	
Isopropylbenzene (Cumene)	<0.12	ug/L	1.0	0.12	1		10/19/23 17:12	98-82-8	
p-Isopropyltoluene	<0.11	ug/L	1.0	0.11	1		10/19/23 17:12	99-87-6	
Methylene Chloride	<0.44	ug/L	1.0	0.44	1		10/19/23 17:12	75-09-2	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		10/19/23 17:12	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		10/19/23 17:12	91-20-3	
n-Propylbenzene	<0.11	ug/L	1.0	0.11	1		10/19/23 17:12	103-65-1	
Styrene	<0.22	ug/L	1.0	0.22	1		10/19/23 17:12	100-42-5	
1,1,1,2-Tetrachloroethane	<0.19	ug/L	1.0	0.19	1		10/19/23 17:12	630-20-6	
1,1,2,2-Tetrachloroethane	<0.15	ug/L	1.0	0.15	1		10/19/23 17:12	79-34-5	
Tetrachloroethene	<0.22	ug/L	1.0	0.22	1		10/19/23 17:12	127-18-4	
Toluene	<0.21	ug/L	1.0	0.21	1		10/19/23 17:12	108-88-3	
1,2,3-Trichlorobenzene	<0.25	ug/L	1.0	0.25	1		10/19/23 17:12	87-61-6	
1,2,4-Trichlorobenzene	<0.26	ug/L	1.0	0.26	1		10/19/23 17:12	120-82-1	
1,1,1-Trichloroethane	<0.12	ug/L	1.0	0.12	1		10/19/23 17:12	71-55-6	
1,1,2-Trichloroethane	<0.22	ug/L	1.0	0.22	1		10/19/23 17:12	79-00-5	
Trichloroethene	<0.12	ug/L	1.0	0.12	1		10/19/23 17:12	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	1.0	0.12	1		10/19/23 17:12	75-69-4	
1,2,3-Trichloropropane	<0.38	ug/L	2.5	0.38	1		10/19/23 17:12	96-18-4	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		10/19/23 17:12	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		10/19/23 17:12	108-67-8	
Vinyl chloride	<0.12	ug/L	1.0	0.12	1		10/19/23 17:12	75-01-4	
m&p-Xylene	<0.42	ug/L	2.0	0.42	1		10/19/23 17:12	179601-23-1	
o-Xylene	<0.18	ug/L	1.0	0.18	1		10/19/23 17:12	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%	75-125		1		10/19/23 17:12	2199-69-1	
4-Bromofluorobenzene (S)	104	%	75-125		1		10/19/23 17:12	460-00-4	
Toluene-d8 (S)	105	%	75-125		1		10/19/23 17:12	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	352	mg/L	5.0	1.4	1		10/27/23 14:16		

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW GEM

Pace Project No.: 10672716

Sample: MW-2 Lab ID: 10672716002 Collected: 10/16/23 14:14 Received: 10/17/23 11:05 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, Dissolved									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Minneapolis									
Calcium, Dissolved	58300	ug/L	500	97.2	1	10/22/23 05:18	10/25/23 13:53	7440-70-2	
Lead, Dissolved	<2.6	ug/L	10.0	2.6	1	10/22/23 05:18	10/25/23 13:53	7439-92-1	
Magnesium, Dissolved	61500	ug/L	500	28.7	1	10/22/23 05:18	10/25/23 13:53	7439-95-4	
Total Hardness by 2340B, Dissolved	399000	ug/L	3310	361	1	10/22/23 05:18	10/25/23 13:53		
8260D VOC									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.21	ug/L	1.0	0.21	1		10/19/23 17:27	71-43-2	
Bromobenzene	<0.12	ug/L	1.0	0.12	1		10/19/23 17:27	108-86-1	
Bromochloromethane	<0.15	ug/L	1.0	0.15	1		10/19/23 17:27	74-97-5	
Bromodichloromethane	<0.12	ug/L	1.0	0.12	1		10/19/23 17:27	75-27-4	
Bromoform	<0.22	ug/L	1.0	0.22	1		10/19/23 17:27	75-25-2	
Bromomethane	<1.0	ug/L	2.5	1.0	1		10/19/23 17:27	74-83-9	
n-Butylbenzene	<0.32	ug/L	1.0	0.32	1		10/19/23 17:27	104-51-8	
sec-Butylbenzene	<0.20	ug/L	1.0	0.20	1		10/19/23 17:27	135-98-8	
tert-Butylbenzene	<0.20	ug/L	1.0	0.20	1		10/19/23 17:27	98-06-6	
Carbon tetrachloride	<0.13	ug/L	1.0	0.13	1		10/19/23 17:27	56-23-5	
Chlorobenzene	<0.13	ug/L	1.0	0.13	1		10/19/23 17:27	108-90-7	
Chloroethane	<0.41	ug/L	1.0	0.41	1		10/19/23 17:27	75-00-3	
Chloroform	<0.23	ug/L	1.0	0.23	1		10/19/23 17:27	67-66-3	
Chloromethane	<0.40	ug/L	1.0	0.40	1		10/19/23 17:27	74-87-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		10/19/23 17:27	95-49-8	
4-Chlorotoluene	<0.12	ug/L	1.0	0.12	1		10/19/23 17:27	106-43-4	
1,2-Dibromo-3-chloropropane	<0.36	ug/L	2.5	0.36	1		10/19/23 17:27	96-12-8	
Dibromochloromethane	<0.20	ug/L	1.0	0.20	1		10/19/23 17:27	124-48-1	
1,2-Dibromoethane (EDB)	<0.20	ug/L	1.0	0.20	1		10/19/23 17:27	106-93-4	
Dibromomethane	<0.17	ug/L	1.0	0.17	1		10/19/23 17:27	74-95-3	
1,2-Dichlorobenzene	<0.13	ug/L	1.0	0.13	1		10/19/23 17:27	95-50-1	
1,3-Dichlorobenzene	<0.12	ug/L	1.0	0.12	1		10/19/23 17:27	541-73-1	
1,4-Dichlorobenzene	<0.15	ug/L	1.0	0.15	1		10/19/23 17:27	106-46-7	
Dichlorodifluoromethane	<0.32	ug/L	1.0	0.32	1		10/19/23 17:27	75-71-8	
1,1-Dichloroethane	<0.23	ug/L	1.0	0.23	1		10/19/23 17:27	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		10/19/23 17:27	107-06-2	
1,1-Dichloroethene	<0.13	ug/L	1.0	0.13	1		10/19/23 17:27	75-35-4	
cis-1,2-Dichloroethene	<0.15	ug/L	1.0	0.15	1		10/19/23 17:27	156-59-2	
trans-1,2-Dichloroethene	<0.14	ug/L	1.0	0.14	1		10/19/23 17:27	156-60-5	
1,2-Dichloropropane	<0.15	ug/L	1.0	0.15	1		10/19/23 17:27	78-87-5	
1,3-Dichloropropane	<0.16	ug/L	1.0	0.16	1		10/19/23 17:27	142-28-9	
2,2-Dichloropropane	<0.12	ug/L	1.0	0.12	1		10/19/23 17:27	594-20-7	
1,1-Dichloropropene	<0.12	ug/L	1.0	0.12	1		10/19/23 17:27	563-58-6	
cis-1,3-Dichloropropene	<0.14	ug/L	1.0	0.14	1		10/19/23 17:27	10061-01-5	
trans-1,3-Dichloropropene	<0.13	ug/L	1.0	0.13	1		10/19/23 17:27	10061-02-6	
Diethyl ether (Ethyl ether)	<0.19	ug/L	2.5	0.19	1		10/19/23 17:27	60-29-7	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		10/19/23 17:27	100-41-4	

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW GEM

Pace Project No.: 10672716

Sample: MW-2 Lab ID: 10672716002 Collected: 10/16/23 14:14 Received: 10/17/23 11:05 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260D VOC									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Hexachloro-1,3-butadiene	<0.48	ug/L	1.0	0.48	1		10/19/23 17:27	87-68-3	
Isopropylbenzene (Cumene)	<0.12	ug/L	1.0	0.12	1		10/19/23 17:27	98-82-8	
p-Isopropyltoluene	<0.11	ug/L	1.0	0.11	1		10/19/23 17:27	99-87-6	
Methylene Chloride	<0.44	ug/L	1.0	0.44	1		10/19/23 17:27	75-09-2	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		10/19/23 17:27	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		10/19/23 17:27	91-20-3	
n-Propylbenzene	<0.11	ug/L	1.0	0.11	1		10/19/23 17:27	103-65-1	
Styrene	<0.22	ug/L	1.0	0.22	1		10/19/23 17:27	100-42-5	
1,1,1,2-Tetrachloroethane	<0.19	ug/L	1.0	0.19	1		10/19/23 17:27	630-20-6	
1,1,2,2-Tetrachloroethane	<0.15	ug/L	1.0	0.15	1		10/19/23 17:27	79-34-5	
Tetrachloroethene	<0.22	ug/L	1.0	0.22	1		10/19/23 17:27	127-18-4	
Toluene	<0.21	ug/L	1.0	0.21	1		10/19/23 17:27	108-88-3	
1,2,3-Trichlorobenzene	<0.25	ug/L	1.0	0.25	1		10/19/23 17:27	87-61-6	
1,2,4-Trichlorobenzene	<0.26	ug/L	1.0	0.26	1		10/19/23 17:27	120-82-1	
1,1,1-Trichloroethane	<0.12	ug/L	1.0	0.12	1		10/19/23 17:27	71-55-6	
1,1,2-Trichloroethane	<0.22	ug/L	1.0	0.22	1		10/19/23 17:27	79-00-5	
Trichloroethene	<0.12	ug/L	1.0	0.12	1		10/19/23 17:27	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	1.0	0.12	1		10/19/23 17:27	75-69-4	
1,2,3-Trichloropropane	<0.38	ug/L	2.5	0.38	1		10/19/23 17:27	96-18-4	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		10/19/23 17:27	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		10/19/23 17:27	108-67-8	
Vinyl chloride	<0.12	ug/L	1.0	0.12	1		10/19/23 17:27	75-01-4	
m&p-Xylene	<0.42	ug/L	2.0	0.42	1		10/19/23 17:27	179601-23-1	
o-Xylene	<0.18	ug/L	1.0	0.18	1		10/19/23 17:27	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%	75-125		1		10/19/23 17:27	2199-69-1	
4-Bromofluorobenzene (S)	103	%	75-125		1		10/19/23 17:27	460-00-4	
Toluene-d8 (S)	105	%	75-125		1		10/19/23 17:27	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	428	mg/L	5.0	1.4	1		10/27/23 14:23		

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW GEM

Pace Project No.: 10672716

Sample: MW-3D Lab ID: 10672716003 Collected: 10/16/23 14:27 Received: 10/17/23 11:05 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, Dissolved									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Minneapolis									
Calcium, Dissolved	62300	ug/L	500	97.2	1	10/22/23 05:18	10/25/23 13:55	7440-70-2	
Lead, Dissolved	<2.6	ug/L	10.0	2.6	1	10/22/23 05:18	10/25/23 13:55	7439-92-1	
Magnesium, Dissolved	60700	ug/L	500	28.7	1	10/22/23 05:18	10/25/23 13:55	7439-95-4	
Total Hardness by 2340B, Dissolved	405000	ug/L	3310	361	1	10/22/23 05:18	10/25/23 13:55		
8260D VOC									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.21	ug/L	1.0	0.21	1		10/19/23 17:43	71-43-2	
Bromobenzene	<0.12	ug/L	1.0	0.12	1		10/19/23 17:43	108-86-1	
Bromochloromethane	<0.15	ug/L	1.0	0.15	1		10/19/23 17:43	74-97-5	
Bromodichloromethane	<0.12	ug/L	1.0	0.12	1		10/19/23 17:43	75-27-4	
Bromoform	<0.22	ug/L	1.0	0.22	1		10/19/23 17:43	75-25-2	
Bromomethane	<1.0	ug/L	2.5	1.0	1		10/19/23 17:43	74-83-9	
n-Butylbenzene	<0.32	ug/L	1.0	0.32	1		10/19/23 17:43	104-51-8	
sec-Butylbenzene	<0.20	ug/L	1.0	0.20	1		10/19/23 17:43	135-98-8	
tert-Butylbenzene	<0.20	ug/L	1.0	0.20	1		10/19/23 17:43	98-06-6	
Carbon tetrachloride	<0.13	ug/L	1.0	0.13	1		10/19/23 17:43	56-23-5	
Chlorobenzene	<0.13	ug/L	1.0	0.13	1		10/19/23 17:43	108-90-7	
Chloroethane	<0.41	ug/L	1.0	0.41	1		10/19/23 17:43	75-00-3	
Chloroform	<0.23	ug/L	1.0	0.23	1		10/19/23 17:43	67-66-3	
Chloromethane	<0.40	ug/L	1.0	0.40	1		10/19/23 17:43	74-87-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		10/19/23 17:43	95-49-8	
4-Chlorotoluene	<0.12	ug/L	1.0	0.12	1		10/19/23 17:43	106-43-4	
1,2-Dibromo-3-chloropropane	<0.36	ug/L	2.5	0.36	1		10/19/23 17:43	96-12-8	
Dibromochloromethane	<0.20	ug/L	1.0	0.20	1		10/19/23 17:43	124-48-1	
1,2-Dibromoethane (EDB)	<0.20	ug/L	1.0	0.20	1		10/19/23 17:43	106-93-4	
Dibromomethane	<0.17	ug/L	1.0	0.17	1		10/19/23 17:43	74-95-3	
1,2-Dichlorobenzene	<0.13	ug/L	1.0	0.13	1		10/19/23 17:43	95-50-1	
1,3-Dichlorobenzene	<0.12	ug/L	1.0	0.12	1		10/19/23 17:43	541-73-1	
1,4-Dichlorobenzene	<0.15	ug/L	1.0	0.15	1		10/19/23 17:43	106-46-7	
Dichlorodifluoromethane	<0.32	ug/L	1.0	0.32	1		10/19/23 17:43	75-71-8	
1,1-Dichloroethane	<0.23	ug/L	1.0	0.23	1		10/19/23 17:43	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		10/19/23 17:43	107-06-2	
1,1-Dichloroethene	<0.13	ug/L	1.0	0.13	1		10/19/23 17:43	75-35-4	
cis-1,2-Dichloroethene	<0.15	ug/L	1.0	0.15	1		10/19/23 17:43	156-59-2	
trans-1,2-Dichloroethene	<0.14	ug/L	1.0	0.14	1		10/19/23 17:43	156-60-5	
1,2-Dichloropropane	<0.15	ug/L	1.0	0.15	1		10/19/23 17:43	78-87-5	
1,3-Dichloropropane	<0.16	ug/L	1.0	0.16	1		10/19/23 17:43	142-28-9	
2,2-Dichloropropane	<0.12	ug/L	1.0	0.12	1		10/19/23 17:43	594-20-7	
1,1-Dichloropropene	<0.12	ug/L	1.0	0.12	1		10/19/23 17:43	563-58-6	
cis-1,3-Dichloropropene	<0.14	ug/L	1.0	0.14	1		10/19/23 17:43	10061-01-5	
trans-1,3-Dichloropropene	<0.13	ug/L	1.0	0.13	1		10/19/23 17:43	10061-02-6	
Diethyl ether (Ethyl ether)	<0.19	ug/L	2.5	0.19	1		10/19/23 17:43	60-29-7	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		10/19/23 17:43	100-41-4	

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW GEM

Pace Project No.: 10672716

Sample: MW-3D Lab ID: 10672716003 Collected: 10/16/23 14:27 Received: 10/17/23 11:05 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260D VOC									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Hexachloro-1,3-butadiene	<0.48	ug/L	1.0	0.48	1		10/19/23 17:43	87-68-3	
Isopropylbenzene (Cumene)	<0.12	ug/L	1.0	0.12	1		10/19/23 17:43	98-82-8	
p-Isopropyltoluene	<0.11	ug/L	1.0	0.11	1		10/19/23 17:43	99-87-6	
Methylene Chloride	<0.44	ug/L	1.0	0.44	1		10/19/23 17:43	75-09-2	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		10/19/23 17:43	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		10/19/23 17:43	91-20-3	
n-Propylbenzene	<0.11	ug/L	1.0	0.11	1		10/19/23 17:43	103-65-1	
Styrene	<0.22	ug/L	1.0	0.22	1		10/19/23 17:43	100-42-5	
1,1,1,2-Tetrachloroethane	<0.19	ug/L	1.0	0.19	1		10/19/23 17:43	630-20-6	
1,1,2,2-Tetrachloroethane	<0.15	ug/L	1.0	0.15	1		10/19/23 17:43	79-34-5	
Tetrachloroethene	<0.22	ug/L	1.0	0.22	1		10/19/23 17:43	127-18-4	
Toluene	<0.21	ug/L	1.0	0.21	1		10/19/23 17:43	108-88-3	
1,2,3-Trichlorobenzene	<0.25	ug/L	1.0	0.25	1		10/19/23 17:43	87-61-6	
1,2,4-Trichlorobenzene	<0.26	ug/L	1.0	0.26	1		10/19/23 17:43	120-82-1	
1,1,1-Trichloroethane	<0.12	ug/L	1.0	0.12	1		10/19/23 17:43	71-55-6	
1,1,2-Trichloroethane	<0.22	ug/L	1.0	0.22	1		10/19/23 17:43	79-00-5	
Trichloroethene	<0.12	ug/L	1.0	0.12	1		10/19/23 17:43	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	1.0	0.12	1		10/19/23 17:43	75-69-4	
1,2,3-Trichloropropane	<0.38	ug/L	2.5	0.38	1		10/19/23 17:43	96-18-4	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		10/19/23 17:43	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		10/19/23 17:43	108-67-8	
Vinyl chloride	<0.12	ug/L	1.0	0.12	1		10/19/23 17:43	75-01-4	
m&p-Xylene	<0.42	ug/L	2.0	0.42	1		10/19/23 17:43	179601-23-1	
o-Xylene	<0.18	ug/L	1.0	0.18	1		10/19/23 17:43	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	99	%	75-125		1		10/19/23 17:43	2199-69-1	
4-Bromofluorobenzene (S)	102	%	75-125		1		10/19/23 17:43	460-00-4	
Toluene-d8 (S)	105	%	75-125		1		10/19/23 17:43	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	355	mg/L	5.0	1.4	1		10/27/23 14:32		

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW GEM

Pace Project No.: 10672716

Sample: MW-8R Lab ID: 10672716004 Collected: 10/16/23 13:20 Received: 10/17/23 11:05 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, Dissolved									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Minneapolis									
Calcium, Dissolved	123000	ug/L	500	97.2	1	10/22/23 05:18	10/25/23 14:10	7440-70-2	
Lead, Dissolved	2.8J	ug/L	10.0	2.6	1	10/22/23 05:18	10/25/23 14:10	7439-92-1	
Magnesium, Dissolved	83800	ug/L	500	28.7	1	10/22/23 05:18	10/25/23 14:10	7439-95-4	
Total Hardness by 2340B, Dissolved	652000	ug/L	3310	361	1	10/22/23 05:18	10/25/23 14:10		
8260D VOC									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.21	ug/L	1.0	0.21	1		10/19/23 17:57	71-43-2	
Bromobenzene	<0.12	ug/L	1.0	0.12	1		10/19/23 17:57	108-86-1	
Bromochloromethane	<0.15	ug/L	1.0	0.15	1		10/19/23 17:57	74-97-5	
Bromodichloromethane	<0.12	ug/L	1.0	0.12	1		10/19/23 17:57	75-27-4	
Bromoform	<0.22	ug/L	1.0	0.22	1		10/19/23 17:57	75-25-2	
Bromomethane	<1.0	ug/L	2.5	1.0	1		10/19/23 17:57	74-83-9	
n-Butylbenzene	<0.32	ug/L	1.0	0.32	1		10/19/23 17:57	104-51-8	
sec-Butylbenzene	<0.20	ug/L	1.0	0.20	1		10/19/23 17:57	135-98-8	
tert-Butylbenzene	<0.20	ug/L	1.0	0.20	1		10/19/23 17:57	98-06-6	
Carbon tetrachloride	<0.13	ug/L	1.0	0.13	1		10/19/23 17:57	56-23-5	
Chlorobenzene	<0.13	ug/L	1.0	0.13	1		10/19/23 17:57	108-90-7	
Chloroethane	<0.41	ug/L	1.0	0.41	1		10/19/23 17:57	75-00-3	
Chloroform	<0.23	ug/L	1.0	0.23	1		10/19/23 17:57	67-66-3	
Chloromethane	<0.40	ug/L	1.0	0.40	1		10/19/23 17:57	74-87-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		10/19/23 17:57	95-49-8	
4-Chlorotoluene	<0.12	ug/L	1.0	0.12	1		10/19/23 17:57	106-43-4	
1,2-Dibromo-3-chloropropane	<0.36	ug/L	2.5	0.36	1		10/19/23 17:57	96-12-8	
Dibromochloromethane	<0.20	ug/L	1.0	0.20	1		10/19/23 17:57	124-48-1	
1,2-Dibromoethane (EDB)	<0.20	ug/L	1.0	0.20	1		10/19/23 17:57	106-93-4	
Dibromomethane	<0.17	ug/L	1.0	0.17	1		10/19/23 17:57	74-95-3	
1,2-Dichlorobenzene	<0.13	ug/L	1.0	0.13	1		10/19/23 17:57	95-50-1	
1,3-Dichlorobenzene	<0.12	ug/L	1.0	0.12	1		10/19/23 17:57	541-73-1	
1,4-Dichlorobenzene	<0.15	ug/L	1.0	0.15	1		10/19/23 17:57	106-46-7	
Dichlorodifluoromethane	<0.32	ug/L	1.0	0.32	1		10/19/23 17:57	75-71-8	
1,1-Dichloroethane	<0.23	ug/L	1.0	0.23	1		10/19/23 17:57	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		10/19/23 17:57	107-06-2	
1,1-Dichloroethene	<0.13	ug/L	1.0	0.13	1		10/19/23 17:57	75-35-4	
cis-1,2-Dichloroethene	<0.15	ug/L	1.0	0.15	1		10/19/23 17:57	156-59-2	
trans-1,2-Dichloroethene	<0.14	ug/L	1.0	0.14	1		10/19/23 17:57	156-60-5	
1,2-Dichloropropane	<0.15	ug/L	1.0	0.15	1		10/19/23 17:57	78-87-5	
1,3-Dichloropropane	<0.16	ug/L	1.0	0.16	1		10/19/23 17:57	142-28-9	
2,2-Dichloropropane	<0.12	ug/L	1.0	0.12	1		10/19/23 17:57	594-20-7	
1,1-Dichloropropene	<0.12	ug/L	1.0	0.12	1		10/19/23 17:57	563-58-6	
cis-1,3-Dichloropropene	<0.14	ug/L	1.0	0.14	1		10/19/23 17:57	10061-01-5	
trans-1,3-Dichloropropene	<0.13	ug/L	1.0	0.13	1		10/19/23 17:57	10061-02-6	
Diethyl ether (Ethyl ether)	<0.19	ug/L	2.5	0.19	1		10/19/23 17:57	60-29-7	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		10/19/23 17:57	100-41-4	

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW GEM

Pace Project No.: 10672716

Sample: MW-8R Lab ID: 10672716004 Collected: 10/16/23 13:20 Received: 10/17/23 11:05 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260D VOC									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Hexachloro-1,3-butadiene	<0.48	ug/L	1.0	0.48	1		10/19/23 17:57	87-68-3	
Isopropylbenzene (Cumene)	<0.12	ug/L	1.0	0.12	1		10/19/23 17:57	98-82-8	
p-Isopropyltoluene	<0.11	ug/L	1.0	0.11	1		10/19/23 17:57	99-87-6	
Methylene Chloride	<0.44	ug/L	1.0	0.44	1		10/19/23 17:57	75-09-2	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		10/19/23 17:57	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		10/19/23 17:57	91-20-3	
n-Propylbenzene	<0.11	ug/L	1.0	0.11	1		10/19/23 17:57	103-65-1	
Styrene	<0.22	ug/L	1.0	0.22	1		10/19/23 17:57	100-42-5	
1,1,1,2-Tetrachloroethane	<0.19	ug/L	1.0	0.19	1		10/19/23 17:57	630-20-6	
1,1,2,2-Tetrachloroethane	<0.15	ug/L	1.0	0.15	1		10/19/23 17:57	79-34-5	
Tetrachloroethene	<0.22	ug/L	1.0	0.22	1		10/19/23 17:57	127-18-4	
Toluene	<0.21	ug/L	1.0	0.21	1		10/19/23 17:57	108-88-3	
1,2,3-Trichlorobenzene	<0.25	ug/L	1.0	0.25	1		10/19/23 17:57	87-61-6	
1,2,4-Trichlorobenzene	<0.26	ug/L	1.0	0.26	1		10/19/23 17:57	120-82-1	
1,1,1-Trichloroethane	<0.12	ug/L	1.0	0.12	1		10/19/23 17:57	71-55-6	
1,1,2-Trichloroethane	<0.22	ug/L	1.0	0.22	1		10/19/23 17:57	79-00-5	
Trichloroethene	<0.12	ug/L	1.0	0.12	1		10/19/23 17:57	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	1.0	0.12	1		10/19/23 17:57	75-69-4	
1,2,3-Trichloropropane	<0.38	ug/L	2.5	0.38	1		10/19/23 17:57	96-18-4	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		10/19/23 17:57	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		10/19/23 17:57	108-67-8	
Vinyl chloride	<0.12	ug/L	1.0	0.12	1		10/19/23 17:57	75-01-4	
m&p-Xylene	<0.42	ug/L	2.0	0.42	1		10/19/23 17:57	179601-23-1	
o-Xylene	<0.18	ug/L	1.0	0.18	1		10/19/23 17:57	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	101	%	75-125		1		10/19/23 17:57	2199-69-1	
4-Bromofluorobenzene (S)	104	%	75-125		1		10/19/23 17:57	460-00-4	
Toluene-d8 (S)	105	%	75-125		1		10/19/23 17:57	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	679	mg/L	5.0	1.4	1		10/27/23 14:40		

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW GEM

Pace Project No.: 10672716

Sample: MW-9B Lab ID: 10672716005 Collected: 10/16/23 15:12 Received: 10/17/23 11:05 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, Dissolved									
Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Pace Analytical Services - Minneapolis									
Calcium, Dissolved	49900	ug/L	500	97.2	1	10/22/23 05:18	10/25/23 14:12	7440-70-2	
Lead, Dissolved	<2.6	ug/L	10.0	2.6	1	10/22/23 05:18	10/25/23 14:12	7439-92-1	
Magnesium, Dissolved	60700	ug/L	500	28.7	1	10/22/23 05:18	10/25/23 14:12	7439-95-4	
Total Hardness by 2340B, Dissolved	375000	ug/L	3310	361	1	10/22/23 05:18	10/25/23 14:12		
8260D VOC									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.21	ug/L	1.0	0.21	1		10/19/23 18:12	71-43-2	
Bromobenzene	<0.12	ug/L	1.0	0.12	1		10/19/23 18:12	108-86-1	
Bromochloromethane	<0.15	ug/L	1.0	0.15	1		10/19/23 18:12	74-97-5	
Bromodichloromethane	<0.12	ug/L	1.0	0.12	1		10/19/23 18:12	75-27-4	
Bromoform	<0.22	ug/L	1.0	0.22	1		10/19/23 18:12	75-25-2	
Bromomethane	<1.0	ug/L	2.5	1.0	1		10/19/23 18:12	74-83-9	
n-Butylbenzene	<0.32	ug/L	1.0	0.32	1		10/19/23 18:12	104-51-8	
sec-Butylbenzene	<0.20	ug/L	1.0	0.20	1		10/19/23 18:12	135-98-8	
tert-Butylbenzene	<0.20	ug/L	1.0	0.20	1		10/19/23 18:12	98-06-6	
Carbon tetrachloride	<0.13	ug/L	1.0	0.13	1		10/19/23 18:12	56-23-5	
Chlorobenzene	<0.13	ug/L	1.0	0.13	1		10/19/23 18:12	108-90-7	
Chloroethane	<0.41	ug/L	1.0	0.41	1		10/19/23 18:12	75-00-3	
Chloroform	<0.23	ug/L	1.0	0.23	1		10/19/23 18:12	67-66-3	
Chloromethane	<0.40	ug/L	1.0	0.40	1		10/19/23 18:12	74-87-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		10/19/23 18:12	95-49-8	
4-Chlorotoluene	<0.12	ug/L	1.0	0.12	1		10/19/23 18:12	106-43-4	
1,2-Dibromo-3-chloropropane	<0.36	ug/L	2.5	0.36	1		10/19/23 18:12	96-12-8	
Dibromochloromethane	<0.20	ug/L	1.0	0.20	1		10/19/23 18:12	124-48-1	
1,2-Dibromoethane (EDB)	<0.20	ug/L	1.0	0.20	1		10/19/23 18:12	106-93-4	
Dibromomethane	<0.17	ug/L	1.0	0.17	1		10/19/23 18:12	74-95-3	
1,2-Dichlorobenzene	<0.13	ug/L	1.0	0.13	1		10/19/23 18:12	95-50-1	
1,3-Dichlorobenzene	<0.12	ug/L	1.0	0.12	1		10/19/23 18:12	541-73-1	
1,4-Dichlorobenzene	<0.15	ug/L	1.0	0.15	1		10/19/23 18:12	106-46-7	
Dichlorodifluoromethane	<0.32	ug/L	1.0	0.32	1		10/19/23 18:12	75-71-8	
1,1-Dichloroethane	<0.23	ug/L	1.0	0.23	1		10/19/23 18:12	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		10/19/23 18:12	107-06-2	
1,1-Dichloroethene	<0.13	ug/L	1.0	0.13	1		10/19/23 18:12	75-35-4	
cis-1,2-Dichloroethene	<0.15	ug/L	1.0	0.15	1		10/19/23 18:12	156-59-2	
trans-1,2-Dichloroethene	<0.14	ug/L	1.0	0.14	1		10/19/23 18:12	156-60-5	
1,2-Dichloropropane	<0.15	ug/L	1.0	0.15	1		10/19/23 18:12	78-87-5	
1,3-Dichloropropane	<0.16	ug/L	1.0	0.16	1		10/19/23 18:12	142-28-9	
2,2-Dichloropropane	<0.12	ug/L	1.0	0.12	1		10/19/23 18:12	594-20-7	
1,1-Dichloropropene	<0.12	ug/L	1.0	0.12	1		10/19/23 18:12	563-58-6	
cis-1,3-Dichloropropene	<0.14	ug/L	1.0	0.14	1		10/19/23 18:12	10061-01-5	
trans-1,3-Dichloropropene	<0.13	ug/L	1.0	0.13	1		10/19/23 18:12	10061-02-6	
Diethyl ether (Ethyl ether)	<0.19	ug/L	2.5	0.19	1		10/19/23 18:12	60-29-7	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		10/19/23 18:12	100-41-4	

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW GEM

Pace Project No.: 10672716

Sample: MW-9B Lab ID: 10672716005 Collected: 10/16/23 15:12 Received: 10/17/23 11:05 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260D VOC									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Hexachloro-1,3-butadiene	<0.48	ug/L	1.0	0.48	1		10/19/23 18:12	87-68-3	
Isopropylbenzene (Cumene)	<0.12	ug/L	1.0	0.12	1		10/19/23 18:12	98-82-8	
p-Isopropyltoluene	<0.11	ug/L	1.0	0.11	1		10/19/23 18:12	99-87-6	
Methylene Chloride	<0.44	ug/L	1.0	0.44	1		10/19/23 18:12	75-09-2	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		10/19/23 18:12	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		10/19/23 18:12	91-20-3	
n-Propylbenzene	<0.11	ug/L	1.0	0.11	1		10/19/23 18:12	103-65-1	
Styrene	<0.22	ug/L	1.0	0.22	1		10/19/23 18:12	100-42-5	
1,1,1,2-Tetrachloroethane	<0.19	ug/L	1.0	0.19	1		10/19/23 18:12	630-20-6	
1,1,2,2-Tetrachloroethane	<0.15	ug/L	1.0	0.15	1		10/19/23 18:12	79-34-5	
Tetrachloroethene	<0.22	ug/L	1.0	0.22	1		10/19/23 18:12	127-18-4	
Toluene	<0.21	ug/L	1.0	0.21	1		10/19/23 18:12	108-88-3	
1,2,3-Trichlorobenzene	<0.25	ug/L	1.0	0.25	1		10/19/23 18:12	87-61-6	
1,2,4-Trichlorobenzene	<0.26	ug/L	1.0	0.26	1		10/19/23 18:12	120-82-1	
1,1,1-Trichloroethane	<0.12	ug/L	1.0	0.12	1		10/19/23 18:12	71-55-6	
1,1,2-Trichloroethane	<0.22	ug/L	1.0	0.22	1		10/19/23 18:12	79-00-5	
Trichloroethene	<0.12	ug/L	1.0	0.12	1		10/19/23 18:12	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	1.0	0.12	1		10/19/23 18:12	75-69-4	
1,2,3-Trichloropropane	<0.38	ug/L	2.5	0.38	1		10/19/23 18:12	96-18-4	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		10/19/23 18:12	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		10/19/23 18:12	108-67-8	
Vinyl chloride	<0.12	ug/L	1.0	0.12	1		10/19/23 18:12	75-01-4	
m&p-Xylene	<0.42	ug/L	2.0	0.42	1		10/19/23 18:12	179601-23-1	
o-Xylene	<0.18	ug/L	1.0	0.18	1		10/19/23 18:12	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	100	%	75-125		1		10/19/23 18:12	2199-69-1	
4-Bromofluorobenzene (S)	102	%	75-125		1		10/19/23 18:12	460-00-4	
Toluene-d8 (S)	105	%	75-125		1		10/19/23 18:12	2037-26-5	
2320B Alkalinity									
Analytical Method: SM 2320B									
Pace Analytical Services - Minneapolis									
Alkalinity, Total as CaCO3	427	mg/L	5.0	1.4	1		10/27/23 14:59		

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW GEM

Pace Project No.: 10672716

Sample: Trip Blank Lab ID: 10672716006 Collected: 10/16/23 00:00 Received: 10/17/23 11:05 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260D VOC									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
Benzene	<0.21	ug/L	1.0	0.21	1		10/19/23 15:28	71-43-2	
Bromobenzene	<0.12	ug/L	1.0	0.12	1		10/19/23 15:28	108-86-1	
Bromochloromethane	<0.15	ug/L	1.0	0.15	1		10/19/23 15:28	74-97-5	
Bromodichloromethane	<0.12	ug/L	1.0	0.12	1		10/19/23 15:28	75-27-4	
Bromoform	<0.22	ug/L	1.0	0.22	1		10/19/23 15:28	75-25-2	
Bromomethane	<1.0	ug/L	2.5	1.0	1		10/19/23 15:28	74-83-9	
n-Butylbenzene	<0.32	ug/L	1.0	0.32	1		10/19/23 15:28	104-51-8	
sec-Butylbenzene	<0.20	ug/L	1.0	0.20	1		10/19/23 15:28	135-98-8	
tert-Butylbenzene	<0.20	ug/L	1.0	0.20	1		10/19/23 15:28	98-06-6	
Carbon tetrachloride	<0.13	ug/L	1.0	0.13	1		10/19/23 15:28	56-23-5	
Chlorobenzene	<0.13	ug/L	1.0	0.13	1		10/19/23 15:28	108-90-7	
Chloroethane	<0.41	ug/L	1.0	0.41	1		10/19/23 15:28	75-00-3	
Chloroform	<0.23	ug/L	1.0	0.23	1		10/19/23 15:28	67-66-3	
Chloromethane	<0.40	ug/L	1.0	0.40	1		10/19/23 15:28	74-87-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		10/19/23 15:28	95-49-8	
4-Chlorotoluene	<0.12	ug/L	1.0	0.12	1		10/19/23 15:28	106-43-4	
1,2-Dibromo-3-chloropropane	<0.36	ug/L	2.5	0.36	1		10/19/23 15:28	96-12-8	
Dibromochloromethane	<0.20	ug/L	1.0	0.20	1		10/19/23 15:28	124-48-1	
1,2-Dibromoethane (EDB)	<0.20	ug/L	1.0	0.20	1		10/19/23 15:28	106-93-4	
Dibromomethane	<0.17	ug/L	1.0	0.17	1		10/19/23 15:28	74-95-3	
1,2-Dichlorobenzene	<0.13	ug/L	1.0	0.13	1		10/19/23 15:28	95-50-1	
1,3-Dichlorobenzene	<0.12	ug/L	1.0	0.12	1		10/19/23 15:28	541-73-1	
1,4-Dichlorobenzene	<0.15	ug/L	1.0	0.15	1		10/19/23 15:28	106-46-7	
Dichlorodifluoromethane	<0.32	ug/L	1.0	0.32	1		10/19/23 15:28	75-71-8	
1,1-Dichloroethane	<0.23	ug/L	1.0	0.23	1		10/19/23 15:28	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		10/19/23 15:28	107-06-2	
1,1-Dichloroethene	<0.13	ug/L	1.0	0.13	1		10/19/23 15:28	75-35-4	
cis-1,2-Dichloroethene	<0.15	ug/L	1.0	0.15	1		10/19/23 15:28	156-59-2	
trans-1,2-Dichloroethene	<0.14	ug/L	1.0	0.14	1		10/19/23 15:28	156-60-5	
1,2-Dichloropropane	<0.15	ug/L	1.0	0.15	1		10/19/23 15:28	78-87-5	
1,3-Dichloropropane	<0.16	ug/L	1.0	0.16	1		10/19/23 15:28	142-28-9	
2,2-Dichloropropane	<0.12	ug/L	1.0	0.12	1		10/19/23 15:28	594-20-7	
1,1-Dichloropropene	<0.12	ug/L	1.0	0.12	1		10/19/23 15:28	563-58-6	
cis-1,3-Dichloropropene	<0.14	ug/L	1.0	0.14	1		10/19/23 15:28	10061-01-5	
trans-1,3-Dichloropropene	<0.13	ug/L	1.0	0.13	1		10/19/23 15:28	10061-02-6	
Diethyl ether (Ethyl ether)	<0.19	ug/L	2.5	0.19	1		10/19/23 15:28	60-29-7	
Ethylbenzene	<0.11	ug/L	1.0	0.11	1		10/19/23 15:28	100-41-4	
Hexachloro-1,3-butadiene	<0.48	ug/L	1.0	0.48	1		10/19/23 15:28	87-68-3	
Isopropylbenzene (Cumene)	<0.12	ug/L	1.0	0.12	1		10/19/23 15:28	98-82-8	
p-Isopropyltoluene	<0.11	ug/L	1.0	0.11	1		10/19/23 15:28	99-87-6	
Methylene Chloride	<0.44	ug/L	1.0	0.44	1		10/19/23 15:28	75-09-2	
Methyl-tert-butyl ether	<0.13	ug/L	1.0	0.13	1		10/19/23 15:28	1634-04-4	
Naphthalene	<0.18	ug/L	1.0	0.18	1		10/19/23 15:28	91-20-3	
n-Propylbenzene	<0.11	ug/L	1.0	0.11	1		10/19/23 15:28	103-65-1	
Styrene	<0.22	ug/L	1.0	0.22	1		10/19/23 15:28	100-42-5	

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ANALYTICAL RESULTS

Project: 49161494.02 100 102 SRC GW GEM

Pace Project No.: 10672716

Sample: Trip Blank Lab ID: 10672716006 Collected: 10/16/23 00:00 Received: 10/17/23 11:05 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260D VOC									
Analytical Method: EPA 8260D									
Pace Analytical Services - Minneapolis									
1,1,1,2-Tetrachloroethane	<0.19	ug/L	1.0	0.19	1		10/19/23 15:28	630-20-6	
1,1,2,2-Tetrachloroethane	<0.15	ug/L	1.0	0.15	1		10/19/23 15:28	79-34-5	
Tetrachloroethene	<0.22	ug/L	1.0	0.22	1		10/19/23 15:28	127-18-4	
Toluene	<0.21	ug/L	1.0	0.21	1		10/19/23 15:28	108-88-3	
1,2,3-Trichlorobenzene	<0.25	ug/L	1.0	0.25	1		10/19/23 15:28	87-61-6	
1,2,4-Trichlorobenzene	<0.26	ug/L	1.0	0.26	1		10/19/23 15:28	120-82-1	
1,1,1-Trichloroethane	<0.12	ug/L	1.0	0.12	1		10/19/23 15:28	71-55-6	
1,1,2-Trichloroethane	<0.22	ug/L	1.0	0.22	1		10/19/23 15:28	79-00-5	
Trichloroethene	<0.12	ug/L	1.0	0.12	1		10/19/23 15:28	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	1.0	0.12	1		10/19/23 15:28	75-69-4	
1,2,3-Trichloropropane	<0.38	ug/L	2.5	0.38	1		10/19/23 15:28	96-18-4	
1,2,4-Trimethylbenzene	<0.13	ug/L	1.0	0.13	1		10/19/23 15:28	95-63-6	
1,3,5-Trimethylbenzene	<0.11	ug/L	1.0	0.11	1		10/19/23 15:28	108-67-8	
Vinyl chloride	<0.12	ug/L	1.0	0.12	1		10/19/23 15:28	75-01-4	
m&p-Xylene	<0.42	ug/L	2.0	0.42	1		10/19/23 15:28	179601-23-1	
o-Xylene	<0.18	ug/L	1.0	0.18	1		10/19/23 15:28	95-47-6	
Surrogates									
1,2-Dichlorobenzene-d4 (S)	99	%	75-125		1		10/19/23 15:28	2199-69-1	
4-Bromofluorobenzene (S)	104	%	75-125		1		10/19/23 15:28	460-00-4	
Toluene-d8 (S)	106	%	75-125		1		10/19/23 15:28	2037-26-5	

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QUALITY CONTROL DATA

Project: 49161494.02 100 102 SRC GW GEM

Pace Project No.: 10672716

QC Batch:	912780	Analysis Method:	EPA 200.7
QC Batch Method:	EPA 200.7	Analysis Description:	200.7 MET Dissolved
		Laboratory:	Pace Analytical Services - Minneapolis

Associated Lab Samples: 10672716001, 10672716002, 10672716003, 10672716004, 10672716005

METHOD BLANK: 4803350 Matrix: Water
 Associated Lab Samples: 10672716001, 10672716002, 10672716003, 10672716004, 10672716005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Calcium, Dissolved	ug/L	<97.2	500	10/25/23 13:45	
Lead, Dissolved	ug/L	<2.6	10.0	10/25/23 13:45	
Magnesium, Dissolved	ug/L	<28.7	500	10/25/23 13:45	

LABORATORY CONTROL SAMPLE: 4803351

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium, Dissolved	ug/L	20000	18900	94	85-115	
Lead, Dissolved	ug/L	1000	961	96	85-115	
Magnesium, Dissolved	ug/L	20000	19300	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4803352 4803353

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10672716001 Result	Spike Conc.	Spike Conc.	Result								
Calcium, Dissolved	ug/L	43600	20000	20000	64400	62800	104	96	70-130	3	20		
Lead, Dissolved	ug/L	<2.6	1000	1000	968	961	97	96	70-130	1	20		
Magnesium, Dissolved	ug/L	44600	20000	20000	66500	64700	110	100	70-130	3	20		

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QUALITY CONTROL DATA

Project: 49161494.02 100 102 SRC GW GEM

Pace Project No.: 10672716

QC Batch: 912960

Analysis Method: EPA 8260D

QC Batch Method: EPA 8260D

Analysis Description: 8260D MSV 465 W

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10672716001, 10672716002, 10672716003, 10672716004, 10672716005, 10672716006

METHOD BLANK: 4804152

Matrix: Water

Associated Lab Samples: 10672716001, 10672716002, 10672716003, 10672716004, 10672716005, 10672716006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.19	1.0	10/19/23 15:03	
1,1,1-Trichloroethane	ug/L	<0.12	1.0	10/19/23 15:03	
1,1,2,2-Tetrachloroethane	ug/L	<0.15	1.0	10/19/23 15:03	
1,1,2-Trichloroethane	ug/L	<0.22	1.0	10/19/23 15:03	
1,1-Dichloroethane	ug/L	<0.23	1.0	10/19/23 15:03	
1,1-Dichloroethene	ug/L	<0.13	1.0	10/19/23 15:03	
1,1-Dichloropropene	ug/L	<0.12	1.0	10/19/23 15:03	
1,2,3-Trichlorobenzene	ug/L	<0.25	1.0	10/19/23 15:03	
1,2,3-Trichloropropane	ug/L	<0.38	2.5	10/19/23 15:03	
1,2,4-Trichlorobenzene	ug/L	<0.26	1.0	10/19/23 15:03	
1,2,4-Trimethylbenzene	ug/L	<0.13	1.0	10/19/23 15:03	
1,2-Dibromo-3-chloropropane	ug/L	<0.36	2.5	10/19/23 15:03	
1,2-Dibromoethane (EDB)	ug/L	<0.20	1.0	10/19/23 15:03	
1,2-Dichlorobenzene	ug/L	<0.13	1.0	10/19/23 15:03	
1,2-Dichloroethane	ug/L	<0.17	1.0	10/19/23 15:03	
1,2-Dichloropropane	ug/L	<0.15	1.0	10/19/23 15:03	
1,3,5-Trimethylbenzene	ug/L	<0.11	1.0	10/19/23 15:03	
1,3-Dichlorobenzene	ug/L	<0.12	1.0	10/19/23 15:03	
1,3-Dichloropropane	ug/L	<0.16	1.0	10/19/23 15:03	
1,4-Dichlorobenzene	ug/L	<0.15	1.0	10/19/23 15:03	
2,2-Dichloropropane	ug/L	<0.12	1.0	10/19/23 15:03	
2-Chlorotoluene	ug/L	<0.20	1.0	10/19/23 15:03	
4-Chlorotoluene	ug/L	<0.12	1.0	10/19/23 15:03	
Benzene	ug/L	<0.21	1.0	10/19/23 15:03	
Bromobenzene	ug/L	<0.12	1.0	10/19/23 15:03	
Bromochloromethane	ug/L	<0.15	1.0	10/19/23 15:03	
Bromodichloromethane	ug/L	<0.12	1.0	10/19/23 15:03	
Bromoform	ug/L	<0.22	1.0	10/19/23 15:03	
Bromomethane	ug/L	<1.0	2.5	10/19/23 15:03	
Carbon tetrachloride	ug/L	<0.13	1.0	10/19/23 15:03	
Chlorobenzene	ug/L	<0.13	1.0	10/19/23 15:03	
Chloroethane	ug/L	<0.41	1.0	10/19/23 15:03	
Chloroform	ug/L	<0.23	1.0	10/19/23 15:03	
Chloromethane	ug/L	<0.40	1.0	10/19/23 15:03	
cis-1,2-Dichloroethene	ug/L	<0.15	1.0	10/19/23 15:03	
cis-1,3-Dichloropropene	ug/L	<0.14	1.0	10/19/23 15:03	
Dibromochloromethane	ug/L	<0.20	1.0	10/19/23 15:03	
Dibromomethane	ug/L	<0.17	1.0	10/19/23 15:03	
Dichlorodifluoromethane	ug/L	<0.32	1.0	10/19/23 15:03	
Diethyl ether (Ethyl ether)	ug/L	<0.19	2.5	10/19/23 15:03	

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QUALITY CONTROL DATA

Project: 49161494.02 100 102 SRC GW GEM

Pace Project No.: 10672716

METHOD BLANK: 4804152

Matrix: Water

Associated Lab Samples: 10672716001, 10672716002, 10672716003, 10672716004, 10672716005, 10672716006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethylbenzene	ug/L	<0.11	1.0	10/19/23 15:03	
Hexachloro-1,3-butadiene	ug/L	<0.48	1.0	10/19/23 15:03	
Isopropylbenzene (Cumene)	ug/L	<0.12	1.0	10/19/23 15:03	
m&p-Xylene	ug/L	<0.42	2.0	10/19/23 15:03	
Methyl-tert-butyl ether	ug/L	<0.13	1.0	10/19/23 15:03	
Methylene Chloride	ug/L	<0.44	1.0	10/19/23 15:03	
n-Butylbenzene	ug/L	<0.32	1.0	10/19/23 15:03	
n-Propylbenzene	ug/L	<0.11	1.0	10/19/23 15:03	
Naphthalene	ug/L	<0.18	1.0	10/19/23 15:03	
o-Xylene	ug/L	<0.18	1.0	10/19/23 15:03	
p-Isopropyltoluene	ug/L	<0.11	1.0	10/19/23 15:03	
sec-Butylbenzene	ug/L	<0.20	1.0	10/19/23 15:03	
Styrene	ug/L	<0.22	1.0	10/19/23 15:03	
tert-Butylbenzene	ug/L	<0.20	1.0	10/19/23 15:03	
Tetrachloroethene	ug/L	<0.22	1.0	10/19/23 15:03	
Toluene	ug/L	<0.21	1.0	10/19/23 15:03	
trans-1,2-Dichloroethene	ug/L	<0.14	1.0	10/19/23 15:03	
trans-1,3-Dichloropropene	ug/L	<0.13	1.0	10/19/23 15:03	
Trichloroethene	ug/L	<0.12	1.0	10/19/23 15:03	
Trichlorofluoromethane	ug/L	<0.12	1.0	10/19/23 15:03	
Vinyl chloride	ug/L	<0.12	1.0	10/19/23 15:03	
1,2-Dichlorobenzene-d4 (S)	%	102	75-125	10/19/23 15:03	
4-Bromofluorobenzene (S)	%	104	75-125	10/19/23 15:03	
Toluene-d8 (S)	%	105	75-125	10/19/23 15:03	

LABORATORY CONTROL SAMPLE: 4804153

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.2	96	75-125	
1,1,1-Trichloroethane	ug/L	20	20.8	104	75-125	
1,1,2,2-Tetrachloroethane	ug/L	20	19.2	96	71-125	
1,1,2-Trichloroethane	ug/L	20	19.8	99	75-125	
1,1-Dichloroethane	ug/L	20	20.0	100	75-125	
1,1-Dichloroethene	ug/L	20	20.0	100	69-125	
1,1-Dichloropropene	ug/L	20	21.2	106	74-125	
1,2,3-Trichlorobenzene	ug/L	20	16.7	84	70-131	
1,2,3-Trichloropropane	ug/L	20	17.7	88	73-125	
1,2,4-Trichlorobenzene	ug/L	20	17.0	85	75-125	
1,2,4-Trimethylbenzene	ug/L	20	18.3	92	75-125	
1,2-Dibromo-3-chloropropane	ug/L	20	16.8	84	68-129	
1,2-Dibromoethane (EDB)	ug/L	20	19.5	98	75-125	
1,2-Dichlorobenzene	ug/L	20	17.4	87	75-125	
1,2-Dichloroethane	ug/L	20	21.2	106	75-125	
1,2-Dichloropropane	ug/L	20	20.4	102	75-125	

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QUALITY CONTROL DATA

Project: 49161494.02 100 102 SRC GW GEM

Pace Project No.: 10672716

LABORATORY CONTROL SAMPLE: 4804153

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,3,5-Trimethylbenzene	ug/L	20	18.3	92	75-125	
1,3-Dichlorobenzene	ug/L	20	18.6	93	75-125	
1,3-Dichloropropane	ug/L	20	19.5	98	75-125	
1,4-Dichlorobenzene	ug/L	20	17.9	89	75-125	
2,2-Dichloropropane	ug/L	20	20.6	103	65-125	
2-Chlorotoluene	ug/L	20	18.1	91	75-125	
4-Chlorotoluene	ug/L	20	18.4	92	75-125	
Benzene	ug/L	20	19.7	99	75-125	
Bromobenzene	ug/L	20	18.3	92	75-125	
Bromochloromethane	ug/L	20	20.4	102	75-125	
Bromodichloromethane	ug/L	20	20.8	104	75-125	
Bromoform	ug/L	20	18.0	90	75-134	
Bromomethane	ug/L	20	19.8	99	32-150	
Carbon tetrachloride	ug/L	20	20.8	104	73-126	
Chlorobenzene	ug/L	20	18.2	91	75-125	
Chloroethane	ug/L	20	24.2	121	70-125	
Chloroform	ug/L	20	20.4	102	75-125	
Chloromethane	ug/L	20	24.4	122	65-125	
cis-1,2-Dichloroethene	ug/L	20	20.3	102	75-125	
cis-1,3-Dichloropropene	ug/L	20	20.6	103	75-125	
Dibromochloromethane	ug/L	20	18.1	91	75-125	
Dibromomethane	ug/L	20	19.0	95	75-125	
Dichlorodifluoromethane	ug/L	20	24.2	121	65-135	
Diethyl ether (Ethyl ether)	ug/L	20	20.6	103	75-125	
Ethylbenzene	ug/L	20	19.0	95	75-125	
Hexachloro-1,3-butadiene	ug/L	20	17.3	87	63-128	
Isopropylbenzene (Cumene)	ug/L	20	19.9	100	75-125	
m&p-Xylene	ug/L	40	38.3	96	75-125	
Methyl-tert-butyl ether	ug/L	20	20.7	104	75-125	
Methylene Chloride	ug/L	20	19.0	95	72-125	
n-Butylbenzene	ug/L	20	18.9	94	68-125	
n-Propylbenzene	ug/L	20	18.6	93	74-125	
Naphthalene	ug/L	20	16.7	84	67-140	
o-Xylene	ug/L	20	19.2	96	75-125	
p-Isopropyltoluene	ug/L	20	18.5	92	75-126	
sec-Butylbenzene	ug/L	20	18.7	93	75-126	
Styrene	ug/L	20	19.1	96	75-139	
tert-Butylbenzene	ug/L	20	18.2	91	75-125	
Tetrachloroethene	ug/L	20	18.3	92	70-125	
Toluene	ug/L	20	19.3	96	74-125	
trans-1,2-Dichloroethene	ug/L	20	19.6	98	75-125	
trans-1,3-Dichloropropene	ug/L	20	19.3	96	75-127	
Trichloroethene	ug/L	20	19.6	98	74-125	
Trichlorofluoromethane	ug/L	20	22.6	113	72-125	
Vinyl chloride	ug/L	20	23.6	118	66-125	
1,2-Dichlorobenzene-d4 (S)	%			100	75-125	
4-Bromofluorobenzene (S)	%			104	75-125	

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QUALITY CONTROL DATA

Project: 49161494.02 100 102 SRC GW GEM

Pace Project No.: 10672716

LABORATORY CONTROL SAMPLE: 4804153

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%.			103	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4804154 4804155

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		10672801001 Result	Spike Conc.	Spike Conc.	Result							Result
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20	18.5	18.9	93	94	75-125	2	30	
1,1,1-Trichloroethane	ug/L	ND	20	20	19.5	20.0	98	100	70-133	2	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	19.4	19.0	97	95	71-125	2	30	
1,1,2-Trichloroethane	ug/L	ND	20	20	19.3	19.9	97	99	75-125	3	30	
1,1-Dichloroethane	ug/L	0.33J	20	20	19.4	19.8	96	97	71-125	2	30	
1,1-Dichloroethene	ug/L	ND	20	20	18.7	18.8	93	94	60-136	1	30	
1,1-Dichloropropene	ug/L	ND	20	20	20.0	20.4	100	102	70-134	2	30	
1,2,3-Trichlorobenzene	ug/L	ND	20	20	15.7	16.2	78	81	66-131	3	30	
1,2,3-Trichloropropane	ug/L	ND	20	20	17.1	17.8	85	89	73-125	4	30	
1,2,4-Trichlorobenzene	ug/L	ND	20	20	15.7	16.5	78	82	66-125	5	30	
1,2,4-Trimethylbenzene	ug/L	ND	20	20	17.9	18.1	90	91	61-143	1	30	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	20	15.5	17.1	77	86	61-137	10	30	
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	19.0	19.0	95	95	75-125	0	30	
1,2-Dichlorobenzene	ug/L	ND	20	20	17.4	17.5	87	87	75-125	1	30	
1,2-Dichloroethane	ug/L	ND	20	20	20.7	20.8	104	104	71-133	0	30	
1,2-Dichloropropane	ug/L	0.23J	20	20	20.3	20.5	100	102	75-125	1	30	
1,3,5-Trimethylbenzene	ug/L	ND	20	20	17.9	18.2	89	91	70-134	2	30	
1,3-Dichlorobenzene	ug/L	ND	20	20	18.1	18.1	91	90	74-125	0	30	
1,3-Dichloropropane	ug/L	ND	20	20	19.2	19.9	96	100	75-125	4	30	
1,4-Dichlorobenzene	ug/L	1.2	20	20	18.5	18.8	87	88	75-125	1	30	
2,2-Dichloropropane	ug/L	ND	20	20	18.5	18.3	92	91	52-140	1	30	
2-Chlorotoluene	ug/L	ND	20	20	17.6	17.9	88	89	72-125	1	30	
4-Chlorotoluene	ug/L	ND	20	20	17.8	18.2	89	91	69-128	2	30	
Benzene	ug/L	ND	20	20	19.4	19.6	96	97	66-127	1	30	
Bromobenzene	ug/L	ND	20	20	17.5	18.2	88	91	74-125	4	30	
Bromochloromethane	ug/L	ND	20	20	20.0	20.4	100	102	69-126	2	30	
Bromodichloromethane	ug/L	ND	20	20	19.7	20.2	98	101	75-125	3	30	
Bromoform	ug/L	ND	20	20	16.6	17.3	83	86	66-134	4	30	
Bromomethane	ug/L	ND	20	20	18.8	18.7	94	94	30-150	1	30	
Carbon tetrachloride	ug/L	ND	20	20	19.0	19.4	95	97	73-135	2	30	
Chlorobenzene	ug/L	ND	20	20	18.1	18.6	90	93	75-125	3	30	
Chloroethane	ug/L	ND	20	20	22.0	22.1	110	111	54-143	0	30	
Chloroform	ug/L	ND	20	20	20.1	20.3	100	101	75-125	1	30	
Chloromethane	ug/L	ND	20	20	23.6	23.4	118	117	52-131	1	30	
cis-1,2-Dichloroethene	ug/L	2.2	20	20	21.8	21.7	98	98	72-125	0	30	
cis-1,3-Dichloropropene	ug/L	ND	20	20	19.3	19.4	96	97	73-125	1	30	
Dibromochloromethane	ug/L	ND	20	20	17.3	17.9	87	89	73-125	3	30	
Dibromomethane	ug/L	ND	20	20	19.6	20.0	98	100	67-129	2	30	

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QUALITY CONTROL DATA

Project: 49161494.02 100 102 SRC GW GEM

Pace Project No.: 10672716

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4804154 4804155												
Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		10672801001 Result	Spike Conc.	Spike Conc.	4804155 Result							
Dichlorodifluoromethane	ug/L	ND	20	20	21.4	21.6	107	108	54-150	1	30	
Diethyl ether (Ethyl ether)	ug/L	13.7	20	20	33.9	33.9	101	101	70-125	0	30	
Ethylbenzene	ug/L	ND	20	20	18.2	18.9	91	95	74-128	4	30	
Hexachloro-1,3-butadiene	ug/L	ND	20	20	13.6	14.2	68	71	54-133	4	30	
Isopropylbenzene (Cumene)	ug/L	ND	20	20	19.2	19.4	96	97	75-129	1	30	
m&p-Xylene	ug/L	ND	40	40	37.6	39.0	94	97	70-131	4	30	
Methyl-tert-butyl ether	ug/L	0.20J	20	20	20.5	20.9	101	103	65-132	2	30	
Methylene Chloride	ug/L	ND	20	20	18.4	18.8	92	94	67-125	3	30	
n-Butylbenzene	ug/L	ND	20	20	17.8	18.2	89	91	64-130	2	30	
n-Propylbenzene	ug/L	ND	20	20	18.1	18.5	91	93	72-127	2	30	
Naphthalene	ug/L	ND	20	20	15.4	16.6	77	83	61-150	7	30	
o-Xylene	ug/L	ND	20	20	18.6	19.3	93	96	75-127	3	30	
p-Isopropyltoluene	ug/L	ND	20	20	17.8	18.3	89	91	71-130	2	30	
sec-Butylbenzene	ug/L	ND	20	20	18.0	18.4	90	92	73-130	2	30	
Styrene	ug/L	ND	20	20	18.8	19.3	94	97	73-139	3	30	
tert-Butylbenzene	ug/L	ND	20	20	17.5	17.8	87	89	73-125	2	30	
Tetrachloroethene	ug/L	ND	20	20	17.4	18.3	87	92	69-129	5	30	
Toluene	ug/L	ND	20	20	19.1	19.3	95	96	66-125	1	30	
trans-1,2-Dichloroethene	ug/L	ND	20	20	18.9	19.1	95	96	69-126	1	30	
trans-1,3-Dichloropropene	ug/L	ND	20	20	17.9	18.4	90	92	75-127	3	30	
Trichloroethene	ug/L	0.14J	20	20	19.0	19.3	94	96	69-127	2	30	
Trichlorofluoromethane	ug/L	ND	20	20	20.2	19.1	101	96	58-150	6	30	
Vinyl chloride	ug/L	0.18J	20	20	21.6	22.5	107	111	54-146	4	30	
1,2-Dichlorobenzene-d4 (S)	%						101	99	75-125			
4-Bromofluorobenzene (S)	%						104	106	75-125			
Toluene-d8 (S)	%						104	104	75-125			

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QUALITY CONTROL DATA

Project: 49161494.02 100 102 SRC GW GEM

Pace Project No.: 10672716

QC Batch:	914570	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
		Laboratory:	Pace Analytical Services - Minneapolis
Associated Lab Samples:	10672716001, 10672716002, 10672716003, 10672716004, 10672716005		

METHOD BLANK: 4812955 Matrix: Water
 Associated Lab Samples: 10672716001, 10672716002, 10672716003, 10672716004, 10672716005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<1.4	5.0	10/27/23 13:12	

LABORATORY CONTROL SAMPLE & LCSD: 4812956 4812957

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	40	43.0	43.0	108	108	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4812958 4812959

Parameter	Units	10672713002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	14.7	40	40	58.7	58.6	110	110	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4812960 4812961

Parameter	Units	10673382001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	154	40	40	195	196	102	104	80-120	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 49161494.02 100 102 SRC GW GEM

Pace Project No.: 10672716

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

DL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 912960

- [1] Dichlorodifluoromethane did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.
- [2] The continuing calibration verification was above the method acceptance limit for dichlorodifluoromethane and chloromethane. Any detection for the analyte in the associated samples may have a high bias.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 49161494.02 100 102 SRC GW GEM

Pace Project No.: 10672716

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10672716001	MW-1	EPA 200.7	912780	EPA 200.7	913523
10672716002	MW-2	EPA 200.7	912780	EPA 200.7	913523
10672716003	MW-3D	EPA 200.7	912780	EPA 200.7	913523
10672716004	MW-8R	EPA 200.7	912780	EPA 200.7	913523
10672716005	MW-9B	EPA 200.7	912780	EPA 200.7	913523
10672716001	MW-1	EPA 8260D	912960		
10672716002	MW-2	EPA 8260D	912960		
10672716003	MW-3D	EPA 8260D	912960		
10672716004	MW-8R	EPA 8260D	912960		
10672716005	MW-9B	EPA 8260D	912960		
10672716006	Trip Blank	EPA 8260D	912960		
10672716001	MW-1	SM 2320B	914570		
10672716002	MW-2	SM 2320B	914570		
10672716003	MW-3D	SM 2320B	914570		
10672716004	MW-8R	SM 2320B	914570		
10672716005	MW-9B	SM 2320B	914570		

REPORT OF LABORATORY ANALYSIS

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Effective Date: 4/14/2023

Sample Condition Upon Receipt
 Client Name: Barr

Project #: **WO#: 10672716**
 PM: MKH Due Date: 10/31/23
 CLIENT: BARR

Courier: FedEx UPS USPS Client
 Pace SpeedDee Commercial

Tracking Number: _____
 See Exceptions ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No Biological Tissue Frozen? Yes No N/A

Packing Material: Bubble Wrap Bubble Bags None Other Temp Blank? Yes No

Thermometer: T1 (0461) T2 (0436) T3 (0459) T4 (0402) T5 (0178)
 T6 (0235) T7 (0042) T8 (0775) T9(0727) 01339252/1710
 Type of Ice: Wet Blue Dry None
 Melted

Did Samples Originate in West Virginia? Yes No Were All Container Temps Taken? Yes No N/A

Temp should be above freezing to 6 °C Cooler temp Read w/Temp Blank: 3.5 °C Average Corrected Temp (no temp blank only): _____ °C
 Correction Factor: 10.2 Cooler Temp Corrected w/temp blank: 3.2 °C See Exceptions ENV-FRM-MIN4-0142 1 Container

USDA Regulated Soil: N/A, water sample/other: _____ Date/Initials of Person Examining Contents: PK 10/18/23

Did samples originate in a quarantine zone within the United States: AL, AR, AZ CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

Location (Check one): <input type="checkbox"/> Duluth <input checked="" type="checkbox"/> Minneapolis <input type="checkbox"/> Virginia	COMMENTS
Chain of Custody Present and Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4. If fecal: <input type="checkbox"/> <8 hrs <input type="checkbox"/> >8 hr, <24 <input type="checkbox"/> No
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. <input type="checkbox"/> Fecal Coliform <input type="checkbox"/> HPC <input type="checkbox"/> Total Coliform/E.coli <input type="checkbox"/> BOD/cBOD <input type="checkbox"/> Hex Chrom <input type="checkbox"/> Turbidity <input type="checkbox"/> Nitrate <input type="checkbox"/> Nitrite <input type="checkbox"/> Orthophos <input type="checkbox"/> Other _____
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Sufficient Sample Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10. Is sediment visible in the dissolved container? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Field Filtered Volume Received for Dissolved Tests? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. If no, write ID/Date/Time of container below: MKH 10/19/23
Is sufficient information available to reconcile the samples to the COC? Matrix: <input checked="" type="checkbox"/> Water <input type="checkbox"/> Soil <input type="checkbox"/> Oil <input type="checkbox"/> Other	11. If no, write ID/Date/Time of container below: MKH 10/19/23 <input type="checkbox"/> See Exceptions ENV-FRM-MIN4-0142
All containers needing acid/base preservation have been checked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12. Sample # <u>1-5</u> <input type="checkbox"/> NaOH <input checked="" type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> Zinc Acetate
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO3, H2SO4, <2pH, NaOH >9 Sulfide, NaOH >10 Cyanide)	Positive for Residual Chlorine? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> See Exceptions ENV-FRM-MIN4-0142
Exceptions: <u>VOA</u> Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxins/PFAS (*If adding preservative to a container, it must be added to associated field and equipment blanks--verify with PM first.)	
Headpace in Methyl Mercury Container? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	pH Paper Lot # Residual Chlorine 0-6 Roll 0-6 Strip 0-14 Strip
Extra labels present on soil VOA or WIDRO containers? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headpace in VOA Vials (greater than 6mm)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14. <input type="checkbox"/> See Exceptions ENV-FRM-MIN4-0142
3 Trip Blanks Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15. Pace Trip Blank Lot # (if purchased): <u>958149(2)</u>
Trip Blank Custody Seals Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	

CLIENT NOTIFICATION/RESOLUTION
 Person Contacted: _____ Date/Time: _____
 Comments/Resolution: _____
 Project Manager Review: _____ Date: 10/19/23

NOTE: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).