

December 29, 2022
File No. 25221172.00

Ms. Cindy Koepke, PG, Hydrogeologist
Remediation & Redevelopment Program
Wisconsin Department of Natural Resources - South Central Region
3911 Fish Hatchery Road
Fitchburg, WI 53711

Subject: Groundwater Monitoring Update Report – November 2022 Groundwater Results
Former Bob's Citgo, 602 W. Madison Avenue, Milton, Wisconsin
BRTS #03-54-000193

Dear Cindy:

SCS Engineers (SCS) is submitting this report on behalf of Mr. Robert Richardson for the former Bob's Citgo and Badgerland Coop leaking underground storage tank (LUST) case at the above-referenced property. SCS monitored groundwater at selected wells on November 22, 2022. Following are the monitoring results.

BACKGROUND

This case was opened by the Wisconsin Department of Natural Resources (WDNR) in 1983. Groundwater was first sampled in November 2010. Groundwater data indicates free product has been present, and that groundwater impacts extend off-site to the west and south. Soil impacts are present at depth, but most of the shallow impacted soil was excavated when the underground storage tank (UST) system was removed from the site in October 2019.

Groundwater analytical results are summarized on **Table A.1**. The most recent previous round of groundwater sampling in May 2022 indicated increased concentrations of petroleum volatile organic compounds (PVOCs) and naphthalene at some wells and an apparent increase in the areal extent of groundwater exceeding NR 140 groundwater standards as indicated by the groundwater results from MW5 and MW6. The attached **Figure B3b** shows the location of the wells and the extent of the groundwater plume in May 2022.

The area excavated for removal of the tank system was left unpaved following the tank system removal in October 2019. Increases in petroleum concentrations observed in the groundwater at wells MW5 and MW6 in May 2022 may be associated with greater infiltration through the unpaved area over the former location of the tank system.

In order to reduce infiltration through the former source area, the area excavated for removal of the tank system was capped with asphalt in early September 2022. Select wells were sampled on November 22, 2022, to evaluate potential changes in groundwater quality following capping of the former tank system area.

NOVEMBER 2022 SAMPLING EVENT

- Groundwater levels and elevations are summarized in the attached **Table A.6**.



- SCS sampled monitoring wells MW5 and MW6. Groundwater samples were analyzed for PVOCs and naphthalene by Pace Analytical Services, LLC, Green Bay, Wisconsin. The analytical report is attached.
- Purge water was drummed. One drum is being temporarily stored on-site pending disposal contractor pick-up and discharge approval.
- SCS checked for free product using an interface probe at MW2 and MW3. MW2 had 0.61 feet of product present. No indication of product was observed at MW3.

FINDINGS

Groundwater quality has improved significantly at MW6 since May 2022. Benzene at a concentration just over the enforcement standard (ES) is the only NR 140 exceedance at MW6.

Groundwater quality at MW5 is about the same as it was in May 2022 with several compounds exceeding the NR 140 ESs.

During this sampling event, MW2 had 0.61 feet of product present. Previously MW2 had free product present ranging from greater than 3 feet in 2011, to 0.10 feet measured in 2017. A sheen was observed in groundwater sampled at MW3 in 2013 through 2017. On November 22, 2022, no indication of product was observed at MW3.

Groundwater levels are low compared to the levels recorded at site monitoring wells in the past (**Table A.6**). In November 2022, the water level at MW5 was 5.3 feet lower than water level measured at this well in July 2021, and the water level at MW6 was 4.9 feet lower than water level measured at this well in July 2021.

CONCLUSIONS

Capping the area of the former tank system with asphalt has reduced infiltration through the area. Groundwater quality improvement has been observed at MW5. Groundwater quality should continue to improve with cap in place over that former area of the tank system.

RECOMMENDATION

We recommend sampling MW5 and MW6 in spring 2023 for PVOCs and naphthalene. If the results indicate improved water quality with concentration generally below NR 140 standards we will sample the additional well (MW1 – MW7) you listed in your June 7, 2022 email.

Ms. Cindy Koepke
December 29, 2022
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Please contact Betty at 608-212-6664 if you have any questions or comments.

Sincerely,



Betty J. Socha, PhD, PG
Senior Project Manager
SCS Engineers



Tony Kollasch
Project Manager
SCS Engineers

BJS/REO/TK

CC: Mr. Robert Richardson

Encl. Table A.1 – Groundwater Analytical Table – VOCs
Table A.6 – Water Level Elevations
Figure B3b – Groundwater Isoconcentration (May 10, 2022)
Pace Analytical Report dated December 2, 2022

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Table A.1. Groundwater Analytical Table - VOCs
Bob's Citgo, Milton, Wisconsin / SCS Engineers Project #25221172.00
 (Results are in µg/L)

Sample	Date	Lab Notes	Benzene	Ethylbenzene	MTBE	Toluene	TMBs	Xylenes	Naphthalene	Other VOCs
MW-1	11/4/2010	--	<u>6,950</u>	<u>2,380</u>	<u>912</u>	<u>17,000</u>	<u>1,564</u>	<u>11,140</u>	<u>426</u>	ND
	3/3/2011	--	<u>8,700</u>	<u>2,810</u>	<u>914</u>	<u>18,300</u>	<u>2,136</u>	<u>13,650</u>	<u>478</u>	Methylene Chloride 113 * n-Propylbenzene 208
	9/15/2011	--	<u>7,550</u>	<u>2,540</u>	<u>867</u>	<u>15,300</u>	<u>2,153</u>	<u>12,160</u>	<u>640</u>	NA
	8/15/2013	--	<u>6,600</u>	<u>2,630</u>	<u>302</u>	<u>15,600</u>	<u>2,226</u>	<u>11,890</u>	<u>663</u>	NA
	9/11/2013	--	<u>5,170</u>	<u>2,230</u>	<u>184</u>	<u>13,200</u>	<u>1,889</u>	<u>10,300</u>	<u>525</u>	Isopropylbenzene 73.6 n-Propylbenzene 185
	5/28/2015	--	<u>5,620</u>	<u>2,060</u>	<u>160</u>	<u>12,800</u>	<u>1,854</u>	<u>9,360</u>	<u>567</u>	NA
	6/24/2017	--	<u>6,970</u>	<u>2,980</u>	<u>390</u>	<u>17,100</u>	<u>2,224</u>	<u>12,880</u>	<u>734</u>	NA
	10/23/2017	--	<u>5,170</u>	<u>2,940</u>	<u>222</u>	<u>14,000</u>	<u>2,324</u>	<u>13,170</u>	<u>711</u>	NA
	7/8/2021	--	<u>2,420</u>	<u>2,890</u>	<11.3	<u>1,800</u>	<u>2,576</u>	<u>10,800</u>	<u>579</u>	NA
	5/10/2022	--	<u>3,650</u>	<u>2,830</u>	<28.2	<u>3,830</u>	<u>2,171</u>	<u>11,700</u>	<u>649</u>	NA
MW-2	3/11/2011	--	<u>5,260</u>	<u>3,270</u>	<u>284</u>	<u>11,100</u>	<u>2,887</u>	<u>15,270</u>	<u>529</u>	Isopropylbenzene 101 Methylene Chloride 66.5 * n-Propylbenzene 294
	9/15/2011	--	<u>4,760</u>	<u>3,720</u>	<u>280</u>	<u>10,900</u>	<u>3,238</u>	<u>16,550</u>	<u>891</u>	NA
	8/15/2013	--	NA	NA	NA	NA	NA	NA	NA	NA
	9/11/2013	--	<u>1,810</u>	<u>2,930</u>	<u>37.3</u>	<u>2,660</u>	<u>3,155</u>	<u>11,020</u>	<u>828</u>	Isopropylbenzene 150 n-Propylbenzene 406 p-Isopropyltoluene 11.3 sec-Butylbenzene 19.6 J*
	5/28/2015	--	<u>2,020</u>	<u>3,400</u>	<u>49.6</u>	<u>2,560</u>	<u>3,843</u>	<u>14,150</u>	<u>826</u>	NA
	6/24/2017	--	<u>2,310</u>	<u>3,300</u>	<u>60.6 J</u>	<u>480</u>	<u>5,160</u>	<u>12,950</u>	<u>1,560</u>	NA
	10/23/2017	--	<u>1,080</u>	<u>2,310</u>	<24.2	<u>204</u>	<u>4,055</u>	<u>8,640</u>	<u>928</u>	NA
	7/8/2021	--	<u>335</u>	<u>2,000</u>	<45.2	57.1	<u>3,861</u>	<u>7,360</u>	<u>964</u>	NA
	5/10/2022	--	<u>1,990</u>	<u>4,290</u>	<56.5	157	<u>4,597</u>	<u>16,800</u>	<u>985</u>	NA

Table A.1. Groundwater Analytical Table - VOCs
Bob's Citgo, Milton, Wisconsin / SCS Engineers Project #25221172.00
 (Results are in µg/L)

Sample	Date	Lab Notes	Benzene	Ethylbenzene	MTBE	Toluene	TMBs	Xylenes	Naphthalene	Other VOCs
MW-3	3/3/2011	--	<u>3,150</u>	<u>3,230</u>	<76.2	<u>10,500</u>	<u>2,888</u>	<u>14,130</u>	<u>589</u>	Isopropylbenzene 105 n-Propylbenzene 284 Methylene Chloride 65.6 *
	9/15/2011	--	<u>2,670</u>	<u>2,610</u>	<u>74.30</u>	<u>6,420</u>	<u>2,932</u>	<u>10,660</u>	<u>680</u>	NA
	8/15/2013	--	<u>2,290</u>	<u>3,760</u>	<u>562</u>	<u>1,750</u>	<u>3,411</u>	<u>15,650</u>	<u>926</u>	NA
	9/11/2013	--	<u>2,290</u>	<u>2,580</u>	<u>532</u>	<u>1,120</u>	<u>2,393</u>	<u>11,030</u>	<u>684</u>	Isopropylbenzene 93.3 n-Propylbenzene 230
	5/28/2015	--	<u>1,360</u>	<u>3,040</u>	<24.2	<u>719</u>	<u>3,342</u>	<u>12,610</u>	<u>831</u>	NA
	6/24/2017	--	<u>1,100</u>	<u>2,900</u>	28.6 J	68.3	<u>3,063</u>	<u>9,208</u>	<u>743</u>	NA
	10/23/2017	--	<u>1,760</u>	<u>2,730</u>	58.3 J	<u>163</u>	<u>3,515</u>	<u>9,630</u>	<u>884</u>	NA
	7/8/2021	--	<u>1,220</u>	<u>2,330</u>	<28.2	35.3	<u>4,227</u>	<u>4,170</u>	<u>813</u>	NA
	5/10/2022	--	<u>2,030</u>	<u>3,120</u>	59.3 J1	73.7	<u>4,099</u>	<u>9,880</u>	<u>936</u>	NA
MW-4	9/15/2011	--	<0.41	<0.54	<u>154</u>	<0.67	<1.80	<2.63	<0.89	1,2-Dichloroethane 2.3 Chloromethane 0.33
	8/15/2013	--	<0.34	<0.34	<u>210</u>	<0.34	<0.69	<1.03	<0.37	NA
	9/11/2013	--	<0.50	<0.50	<u>154</u>	<0.44	<1.00	<1.32	<2.5	1,2-Dichloroethane 1 Isopropylbenzene 1.4
	5/28/2015	--	<0.40	<0.39	<u>95.0</u>	<0.39	<0.84	<1.25	<0.42	NA
	6/24/2017	--	<0.40	<0.39	0.68 J	<0.39	<0.84	<1.25	<0.42	NA
	10/23/2017	--	<0.40	<0.39	<u>21.7</u>	<0.39	<0.84	<1.25	<0.42	NA
	5/10/2022	--	<0.30	<0.33	<u>7.7</u>	<0.29	<0.81	<1.0	<1.1	NA
MW-5	9/15/2011	--	<u>623</u>	58.5	<u>776</u>	6.3	<9.0	271	<4.4	ND
	8/15/2013	--	<u>3,930</u>	<u>1,330</u>	<u>270</u>	<u>969</u>	<u>486</u>	<u>2,890</u>	<u>307</u>	NA
	9/11/2013	--	<u>3,220</u>	<u>1,080</u>	<u>216</u>	<u>737</u>	<u>338.8</u>	<u>2,152</u>	<u>209</u>	Isopropylbenzene 36.6 n-Propylbenzene 78.3
	5/28/2015	--	<u>2,170</u>	<u>917</u>	<u>105</u>	<u>1,690</u>	<u>900</u>	<u>3,920</u>	<u>275</u>	NA
	6/24/2017	--	<0.40	<0.39	<0.48	<0.39	<0.84	<1.25	<0.42	NA
	10/23/2017	--	<0.40	<0.39	<0.48	<0.39	<0.84	<1.25	2.6	NA
	7/8/2021	--	<u>16.6</u>	26.5	4.7 J1	2.1	23.1	63.8	6.9	NA
	5/10/2022	--	<u>2,120</u>	<u>1,670</u>	34.5 J1	<u>736</u>	<u>1,023</u>	<u>5,930</u>	<u>482</u>	NA
	11/22/2022	--	<u>2,230</u>	<u>1,780</u>	<u>31.4</u> J1	<u>1,120</u>	<u>1,656</u>	<u>7,020</u>	<u>488</u>	NA

Table A.1. Groundwater Analytical Table - VOCs
Bob's Citgo, Milton, Wisconsin / SCS Engineers Project #25221172.00
(Results are in µg/L)

Sample	Date	Lab Notes	Benzene	Ethylbenzene	MTBE	Toluene	TMBs	Xylenes	Naphthalene	Other VOCs
MW-6	9/15/2011	--	<u>289</u>	75.6	<u>53.8</u>	1.7	27.2	6.9	<u>19.2</u>	Isopropylbenzene 7.3 n-Propylbenzene 7.3
	8/15/2013	--	<u>4.1</u>	1.2	5.3	<0.34	<0.69	<1.03	<0.37	NA
	9/11/2013	--	<u>208</u>	121	3.2	11.3	35.0	162.1	<u>20.0</u>	Isopropylbenzene 6.5 n-Propylbenzene 13.1
	5/28/2015	--	<0.40	<0.39	<0.48	<0.39	<0.84	<1.25	<0.42	NA
	6/24/2017	--	<u>1,060</u>	<u>1,360</u>	<u>109</u>	<u>166</u>	<u>870</u>	<u>3,164</u>	<u>354</u>	NA
	10/23/2017	--	<u>103</u>	98.7	4.1	7.9	65.3	160	<u>22.2</u>	NA
	7/8/2021	--	<u>5.1</u>	4.1	<1.1	<0.29	0.60 J1	1.9 J1	<1.1	NA
	5/10/2022	--	<u>615</u>	<u>895</u>	11.3 J1	25.6	<u>192.8</u>	<u>787</u>	<u>304</u>	NA
	11/22/2022	--	<u>11.1</u>	32.1	<1.1	0.78 J1	6.9	22.6	5.0	NA
MW-7	9/11/2013	--	<u>56.6</u>	<0.50	<u>125</u>	<0.44	<1.00	<1.32	<2.5	1,2-Dichloroethane 1.1
	5/28/2015	--	<u>18.8</u>	1.3	<u>126</u>	<0.39	<0.84	5.2	1.7	NA
	6/24/2017	(2)	<u>244</u>	8.2	<u>96.9</u>	3.2	<1.67	3.0	2.7	NA
	10/23/2017	--	<0.40	<0.39	<0.48	<0.39	<0.84	<1.25	<0.42	NA
	5/10/2022	--	<0.30	<0.33	<1.1	<0.29	<0.81	<1.0	<1.1	NA
MW-8	9/11/2013	--	<u>12.8</u>	<0.50	4.30	<0.44	<1.00	<1.32	<2.5	ND
	5/28/2015	--	0.75 J	<0.39	10.30	<0.39	1.6	<1.25	0.67 J	NA
	6/24/2017	--	<u>2.1</u>	12.2	2.30	0.441	<0.84	3.0	<u>14.4</u>	NA
	10/23/2017	--	<0.40	<0.39	2.90	<0.39	<0.84	<1.25	<0.42	NA
MW-9	9/11/2013	--	<0.50	<0.50	1.1	<0.44	<1.00	<1.32	<2.5	ND
	5/28/2015	--	<0.40	<0.39	<0.48	<0.39	<0.84	<1.25	<0.42	NA
	6/24/2017	--	<0.40	<0.39	<0.48	<0.39	<0.84	<1.25	<0.42	NA
	10/23/2017	--	<0.40	<0.39	<0.48	<0.39	<0.84	<1.25	<0.42	NA
MW-10	9/11/2013	--	<0.50	<0.50	<0.49	<0.44	<1.00	<1.32	<2.5	ND
	5/28/2015	--	<0.40	<0.39	<0.48	<0.39	<0.84	<1.25	<0.42	NA
	6/24/2017	--	<0.40	<0.39	<0.48	<0.39	<0.84	<1.25	<0.42	NA
	10/23/2017	(1)(2)	<0.40	<0.39	<0.48	<0.39	<0.84	<1.25	<0.42	NA

Table A.1. Groundwater Analytical Table - VOCs
Bob's Citgo, Milton, Wisconsin / SCS Engineers Project #25221172.00
 (Results are in µg/L)

Sample	Date	Lab Notes	Benzene	Ethylbenzene	MTBE	Toluene	TMBs	Xylenes	Naphthalene	Other VOCs
Trip Blank	7/8/2021	--	<0.30	<0.33	<1.1	<0.29	<0.81	<1.0	<1.1	NA
	5/10/2022	--	<0.30	<0.33	<1.1	<0.29	<0.81	<1.0	<1.1	NA
	11/22/2022	--	<0.30	<0.33	<1.1	<0.29	<0.81	<1.0	<1.1	NA
NR 140 Enforcement Standards (ESs)			5	700	60	800	480	2,000	100	1,2-Dichloroethane 5 sec-Butylbenzene NE Isopropylbenzene NE n-Propylbenzene NE p-Isopropyltoluene NE Methylene Chloride 0.5 Chloromethane 30
NR 140 Preventive Action Limits (PALs)			0.5	140	12	160	96	400	10	1,2-Dichloroethane 0.5 sec-Butylbenzene NE Isopropylbenzene NE n-Propylbenzene NE p-Isopropyltoluene NE Methylene Chloride 5 Chloromethane 3

Abbreviations:

µg/L = micrograms per liter or parts per billion (ppb)

TMBs = 1,2,4- and 1,3,5-trimethylbenzenes

-- = Not Applicable

MTBE = Methyl tert-butyl ether

VOCs = Volatile Organic Compounds

NA = Not Analyzed

NE = No Standard Established

Notes:

NR 140 ESs - Wisconsin Administrative Code (WAC), Chapter NR 140.10 Table 1 - Public Health Groundwater Quality Standards from June 2021.

NR 140 PALs - WAC, Chapter NR 140.10 Table 1 - Public Health Groundwater Quality Standards from June 2021.

Bold+underlined values meet or exceed NR 140 ESs.

Italic+underlined values meet or exceed NR 140 PALs.

If both the result and the PAL or ES are above the limit of detection but below the limit of quantitation, the result is not considered a PAL or ES exceedance under NR 140.14(3)(c).

* = methylene chloride is a common laboratory contaminant. The methylene chloride detections are attributed to laboratory contamination and not representative of groundwater quality.

Laboratory Notes:

J = Estimated concentration below quantitation limit

J1 = Estimated concentration at or above the Limit of Detection (LOD) and below the Limit of Quantitation (LOQ).

(1) = Lab flagged sample for insufficient preservation pH

(2) = Lab flagged sample for headspace in sample

Created by:	AJR	Date:	7/22/2021
Last revision by:	LMH	Date:	12/6/2022
Checked by:	BJS	Date:	12/12/2022
Proj Mgr QA/QC:	BJS	Date:	12/12/2022

I:\25221172.00\Deliverables\2022-12 GWM Reprtf\Table A.1. Groundwater Analytical Table-VOCs.xlsx\GW VOCs

Table A.6. Water Level Elevations
Badgerland Coop - Bob's Citgo, Milton, Wisconsin / SCS Engineers Project #25221172.00

Measurement Date	Depth to Water in feet below top of well casing									
	MW1	MW2	MW3	MW4	MW5	MW6	MW7	MW8	MW9	MW10
11/4/2010	53.15									
3/3/2011	53.92	51.18	54.02							
9/15/2011	54.85	59.17	54.67	55.9	57.85	57.06				
8/15/2013	55.92	51.3	52.68	57.45	60.77	59.14				
9/11/2013	55.16	48.01	52.06	57.1	60.23	58.77	60.86	64.39	59.61	61.29
5/28/2015	57.51	50.25	55.51	58.95	62.76	60.84	63.54	67.17	61.91	64.56
6/24/2017	53.78	48.35	53.81	52.91	56.86	59.16	61.03	64.72	60.29	62.24
10/23/2017	54.65	46.36	51.78	56.2	58.59	57.49	59.08	62.75	58.05	59.57
7/8/2021	52.46	47.61	51.73	53.75	54.83	54.43	55.50	59.09	54.16	56.48
10/19/2021	53.56	50.21	52.54							57.89
5/10/2022	55.51		53.67	56.65	58.63	58.05	59.45	62.97	57.97	60.36
11/22/2022		54.1	55.01		60.18	59.35				

Ground Water Elevation in feet above mean sea level (amsl)										
Well Number	MW1	MW2	MW3	MW4	MW5	MW6	MW7	MW8	MW9	MW10
Top of Casing Elevation* (feet amsl)	874.49	873.75	874.81	874.59	875.04	874.85	875.26	878.45	874.57	876.37
Screen Length (ft)	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15
Total Depth (ft from top of casing)	62.40	61.90	62.80	63.30	63.70	64.30	69.50	73.60	65.60	69.1
Top of Well Screen Elevation (ft)	827.09	826.85	827.01	826.29	826.34	825.55	820.76	819.85	823.97	822.27
Measurement Date										
11/4/2010	821.34									
3/3/2011	820.57	822.78	821.03							
9/15/2011	819.64	814.79	820.38	818.7	817.35	817.74				
8/15/2013	818.57	822.66	822.37	817.15	814.43	815.66				
9/11/2013	819.33	826.12	822.99	817.5	814.97	816.03	814.4	814.06	814.96	815.39
5/28/2015	816.98	823.85	819.54	815.65	812.44	813.96	811.72	811.28	812.66	812.12
6/24/2017	820.71	825.76	821.24	821.69	818.34	815.64	814.23	813.73	814.28	814.44
10/23/2017	819.84	827.62	823.27	818.4	816.61	817.31	816.18	815.7	816.52	817.11
7/8/2021	822.03	826.14	823.08	820.84	820.21	820.42	819.76	819.36	820.41	819.89
10/19/2021	820.93	823.54	822.27							818.48
5/10/2022	818.98		821.14	817.94	816.41	816.80	815.81	815.48	816.60	816.01
11/22/2022		819.65	819.80		814.86	815.50				
Bottom of Well Elevation (ft)	812.09	811.85	812.01	811.29	811.34	810.55	805.76	804.85	808.97	807.27

Notes:

*Wells MW1-MW6, & MW19 were resurveyed 7/8/2021. Wells MW2, MW3, MW5 & MW10 casings were cut down 0.2' on 7/8/2021.

Depth to water measurements and groundwater elevations prior to 7/8/2021 are from Seymour Environmental reports.

Red indicates free product present; elevation not corrected for product.

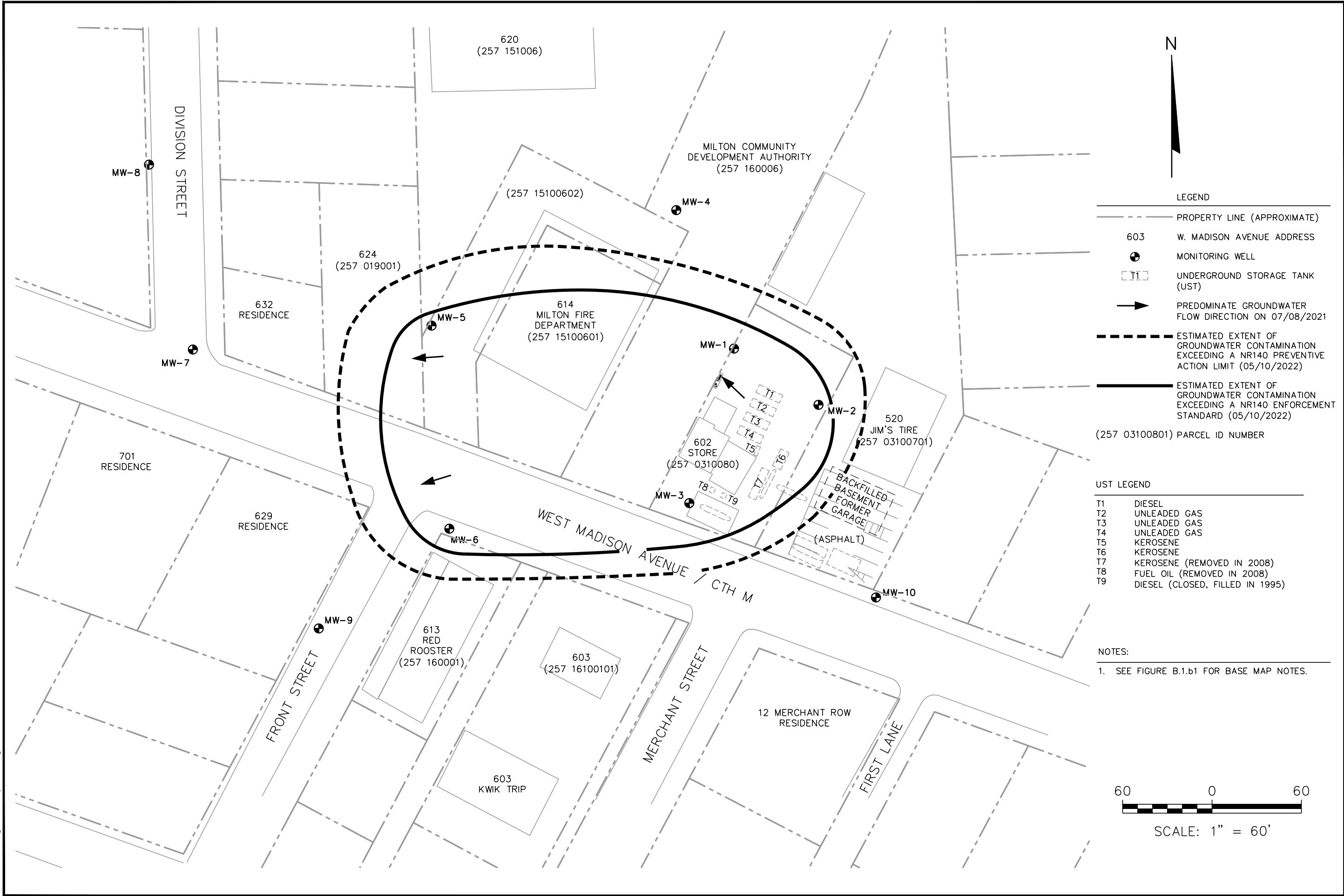
Blank indicated well not installed, or water level not measured.

1.45 feet of product measured in MW2 on 5/10/2022.

0.61 feet of product measured in MW2 on 11/22/2022.

Created by:	BJS	Date:	7/25/2021
Last revision by:	BJS	Date:	12/12/2022
Checked by:	BJS	Date:	12/12/2022
Proj Mgr QA/QC:	BJS	Date:	12/12/2022

I:\25221172.00\Drawings\Closure Request\Wtbl.dwg, 7/13/2022 5:28:33 PM



CLIENT	MR. ROBERT RICHARDSON 507 CAMPUS STREET MILTON, WI 53563		SITE	BOB'S CITGO 602 W. MADISON AVENUE MILTON, WISCONSIN		GROUNDWATER ISOCONCENTRATION	
	PROJECT NO. 25221172.00		DRAWN BY:		ENGINEER		
	DRAWN: 12/28/2021		CHECKED BY:		BUS		
	REVISED: 07/13/2022		APPROVED BY:		BUS 12/28/2022		
SCS ENGINEERS 2830 DAIRY DRIVE MADISON, WI 53718-6751 PHONE: (608) 224-2830							
FIGURE							
B.3.b							

December 02, 2022

Betty Socha
SCS ENGINEERS
2830 Dairy Drive
Madison, WI 53718

RE: Project: 25221172 BOBS CITGO
Pace Project No.: 40255212

Dear Betty Socha:

Enclosed are the analytical results for sample(s) received by the laboratory on November 23, 2022. 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 - Green Bay

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

Sincerely,



Dan Milewsky
dan.milewsky@pacelabs.com
(920)469-2436
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 25221172 BOBS CITGO

Pace Project No.: 40255212

Pace Analytical Services Green Bay

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky UST Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 12064

North Dakota Certification #: R-150

South Carolina Certification #: 83006001

Texas Certification #: T104704529-21-8

Virginia VELAP Certification ID: 11873

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

USDA Soil Permit #: P330-21-00008

Federal Fish & Wildlife Permit #: 51774A

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 25221172 BOBS CITGO

Pace Project No.: 40255212

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40255212001	MW-5	Water	11/22/22 09:30	11/23/22 07:25
40255212002	MW-6	Water	11/22/22 10:20	11/23/22 07:25
40255212003	TRIP	Water	11/22/22 00:00	11/23/22 07:25

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 25221172 BOBS CITGO

Pace Project No.: 40255212

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40255212001	MW-5	EPA 8260	EIB	11	PASI-G
40255212002	MW-6	EPA 8260	EIB	11	PASI-G
40255212003	TRIP	EPA 8260	EIB	11	PASI-G

PASI-G = Pace Analytical Services - Green Bay

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 25221172 BOBS CITGO

Pace Project No.: 40255212

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40255212001	MW-5					
EPA 8260	Benzene	2230	ug/L	20.0	12/01/22 18:16	
EPA 8260	Ethylbenzene	1780	ug/L	20.0	12/01/22 18:16	
EPA 8260	Methyl-tert-butyl ether	31.4J	ug/L	100	12/01/22 18:16	
EPA 8260	Naphthalene	488	ug/L	100	12/01/22 18:16	
EPA 8260	Toluene	1120	ug/L	20.0	12/01/22 18:16	
EPA 8260	1,2,4-Trimethylbenzene	1330	ug/L	20.0	12/01/22 18:16	
EPA 8260	1,3,5-Trimethylbenzene	326	ug/L	20.0	12/01/22 18:16	
EPA 8260	Xylene (Total)	7020	ug/L	60.0	12/01/22 18:16	
40255212002	MW-6					
EPA 8260	Benzene	11.1	ug/L	1.0	12/02/22 10:56	
EPA 8260	Ethylbenzene	32.1	ug/L	1.0	12/02/22 10:56	
EPA 8260	Naphthalene	5.0	ug/L	5.0	12/02/22 10:56	
EPA 8260	Toluene	0.78J	ug/L	1.0	12/02/22 10:56	
EPA 8260	1,2,4-Trimethylbenzene	5.5	ug/L	1.0	12/02/22 10:56	
EPA 8260	1,3,5-Trimethylbenzene	1.4	ug/L	1.0	12/02/22 10:56	
EPA 8260	Xylene (Total)	22.6	ug/L	3.0	12/02/22 10:56	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 25221172 BOBS CITGO

Pace Project No.: 40255212

Sample: MW-5 Lab ID: 40255212001 Collected: 11/22/22 09:30 Received: 11/23/22 07:25 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Analytical Method: EPA 8260 Pace Analytical Services - Green Bay									
Benzene	2230	ug/L	20.0	5.9	20		12/01/22 18:16	71-43-2	
Ethylbenzene	1780	ug/L	20.0	6.5	20		12/01/22 18:16	100-41-4	
Methyl-tert-butyl ether	31.4J	ug/L	100	22.6	20		12/01/22 18:16	1634-04-4	
Naphthalene	488	ug/L	100	22.6	20		12/01/22 18:16	91-20-3	
Toluene	1120	ug/L	20.0	5.8	20		12/01/22 18:16	108-88-3	
1,2,4-Trimethylbenzene	1330	ug/L	20.0	9.0	20		12/01/22 18:16	95-63-6	
1,3,5-Trimethylbenzene	326	ug/L	20.0	7.1	20		12/01/22 18:16	108-67-8	
Xylene (Total)	7020	ug/L	60.0	21.0	20		12/01/22 18:16	1330-20-7	
Surrogates									
Toluene-d8 (S)	103	%	70-130		20		12/01/22 18:16	2037-26-5	
4-Bromofluorobenzene (S)	103	%	70-130		20		12/01/22 18:16	460-00-4	
1,2-Dichlorobenzene-d4 (S)	102	%	70-130		20		12/01/22 18:16	2199-69-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 25221172 BOBS CITGO

Pace Project No.: 40255212

Sample: MW-6		Lab ID: 40255212002		Collected: 11/22/22 10:20		Received: 11/23/22 07:25		Matrix: Water	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST		Analytical Method: EPA 8260 Pace Analytical Services - Green Bay							
Benzene	11.1	ug/L	1.0	0.30	1		12/02/22 10:56	71-43-2	
Ethylbenzene	32.1	ug/L	1.0	0.33	1		12/02/22 10:56	100-41-4	
Methyl-tert-butyl ether	<1.1	ug/L	5.0	1.1	1		12/02/22 10:56	1634-04-4	
Naphthalene	5.0	ug/L	5.0	1.1	1		12/02/22 10:56	91-20-3	
Toluene	0.78J	ug/L	1.0	0.29	1		12/02/22 10:56	108-88-3	
1,2,4-Trimethylbenzene	5.5	ug/L	1.0	0.45	1		12/02/22 10:56	95-63-6	
1,3,5-Trimethylbenzene	1.4	ug/L	1.0	0.36	1		12/02/22 10:56	108-67-8	
Xylene (Total)	22.6	ug/L	3.0	1.0	1		12/02/22 10:56	1330-20-7	
Surrogates									
Toluene-d8 (S)	103	%	70-130		1		12/02/22 10:56	2037-26-5	
4-Bromofluorobenzene (S)	104	%	70-130		1		12/02/22 10:56	460-00-4	
1,2-Dichlorobenzene-d4 (S)	104	%	70-130		1		12/02/22 10:56	2199-69-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 25221172 BOBS CITGO

Pace Project No.: 40255212

Sample: TRIP Lab ID: 40255212003 Collected: 11/22/22 00:00 Received: 11/23/22 07:25 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST									
Analytical Method: EPA 8260									
Pace Analytical Services - Green Bay									
Benzene	<0.30	ug/L	1.0	0.30	1		12/01/22 10:20	71-43-2	
Ethylbenzene	<0.33	ug/L	1.0	0.33	1		12/01/22 10:20	100-41-4	
Methyl-tert-butyl ether	<1.1	ug/L	5.0	1.1	1		12/01/22 10:20	1634-04-4	
Naphthalene	<1.1	ug/L	5.0	1.1	1		12/01/22 10:20	91-20-3	
Toluene	<0.29	ug/L	1.0	0.29	1		12/01/22 10:20	108-88-3	
1,2,4-Trimethylbenzene	<0.45	ug/L	1.0	0.45	1		12/01/22 10:20	95-63-6	
1,3,5-Trimethylbenzene	<0.36	ug/L	1.0	0.36	1		12/01/22 10:20	108-67-8	
Xylene (Total)	<1.0	ug/L	3.0	1.0	1		12/01/22 10:20	1330-20-7	
Surrogates									
Toluene-d8 (S)	103	%	70-130		1		12/01/22 10:20	2037-26-5	
4-Bromofluorobenzene (S)	102	%	70-130		1		12/01/22 10:20	460-00-4	
1,2-Dichlorobenzene-d4 (S)	102	%	70-130		1		12/01/22 10:20	2199-69-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 25221172 BOBS CITGO
Pace Project No.: 40255212

QC Batch: 432378 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40255212001, 40255212002, 40255212003

METHOD BLANK: 2489740 Matrix: Water
Associated Lab Samples: 40255212001, 40255212002, 40255212003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.45	1.0	12/01/22 08:16	
1,3,5-Trimethylbenzene	ug/L	<0.36	1.0	12/01/22 08:16	
Benzene	ug/L	<0.30	1.0	12/01/22 08:16	
Ethylbenzene	ug/L	<0.33	1.0	12/01/22 08:16	
Methyl-tert-butyl ether	ug/L	<1.1	5.0	12/01/22 08:16	
Naphthalene	ug/L	<1.1	5.0	12/01/22 08:16	
Toluene	ug/L	<0.29	1.0	12/01/22 08:16	
Xylene (Total)	ug/L	<1.0	3.0	12/01/22 08:16	
1,2-Dichlorobenzene-d4 (S)	%	104	70-130	12/01/22 08:16	
4-Bromofluorobenzene (S)	%	102	70-130	12/01/22 08:16	
Toluene-d8 (S)	%	103	70-130	12/01/22 08:16	

LABORATORY CONTROL SAMPLE: 2489741

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	54.4	109	70-130	
Ethylbenzene	ug/L	50	56.8	114	80-120	
Methyl-tert-butyl ether	ug/L	50	50.8	102	70-130	
Toluene	ug/L	50	54.6	109	80-120	
Xylene (Total)	ug/L	150	157	105	70-130	
1,2-Dichlorobenzene-d4 (S)	%			104	70-130	
4-Bromofluorobenzene (S)	%			105	70-130	
Toluene-d8 (S)	%			103	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2490378 2490379

Parameter	Units	40255133003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	<0.30	50	50	57.4	47.8	115	96	70-130	18	20	
Ethylbenzene	ug/L	<0.33	50	50	59.0	48.9	118	98	80-121	19	20	
Methyl-tert-butyl ether	ug/L	<1.1	50	50	54.8	44.3	110	89	70-130	21	20	R1
Toluene	ug/L	<0.29	50	50	55.8	46.8	112	94	80-120	17	20	
Xylene (Total)	ug/L	<1.0	150	150	160	134	107	89	70-130	18	20	
1,2-Dichlorobenzene-d4 (S)	%						102	104	70-130			
4-Bromofluorobenzene (S)	%						104	105	70-130			
Toluene-d8 (S)	%						104	102	70-130			

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: 25221172 BOBS CITGO

Pace Project No.: 40255212

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.

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.

ANALYTE QUALIFIERS

R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 25221172 BOBS CITGO

Pace Project No.: 40255212

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40255212001	MW-5	EPA 8260	432378		
40255212002	MW-6	EPA 8260	432378		
40255212003	TRIP	EPA 8260	432378		

REPORT OF LABORATORY ANALYSIS

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Effective Date: 8/16/2022

Client Name:

SCS Engineers

Sample Preservation Receipt Form

Project #

140255212

All containers needing preservation have been checked and noted below.

☐ Yes☐ No☒ N/A

Lab Lot# of pH paper.

Lab Std #ID of preservation (if pH adjusted)

Initial when completed: MDS Date/Time.

Pace Lab #	Glass						Plastic						Vials					Jars				General				VOA Vials (≥6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)	
	AG1U	BG1U	AG1H	AG4S	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	BP2Z	VG9C	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC								GN 1
001																																	2.5 / 5
002																																	2.5 / 5
003																																	2.5 / 5
004																																	2.5 / 5
005																																	2.5 / 5
006																																	2.5 / 5
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017																																	2.5 / 5
018																																	2.5 / 5
019																																	2.5 / 5
020																																	2.5 / 5

Exceptions to preservation check VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other:

Headspace in VOA Vials (>6mm): ☒ Yes ☐ No ☐ N/A

*If yes look in headspace column

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	VG9C	40 mL clear ascorbic w/ HCl	JGFU	4 oz amber jar unpres
BG1U	1 liter clear glass	BP3U	250 mL plastic unpres	DG9T	40 mL amber Na Thio	JG9U	9 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP3B	250 mL plastic NaOH	VG9U	40 mL clear vial unpres	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9H	40 mL clear vial HCL	WPFU	4 oz plastic jar unpres
AG5U	100 mL amber glass unpres	BP3S	250 mL plastic H2SO4	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH + Zn	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres					GN 1	
						GN 2	

Page 1 of 2

Effective Date: 8/17/2022

Sample Condition Upon Receipt Form (SCUR)

Project #:

Client Name: SCS EngineersCourier: ☒ CS Logistics ☐ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco☐ Client ☐ Pace Other: _____WO#: **40255212**

40255212

Tracking #: _____

Custody Seal on Cooler/Box Present: ☒ yes ☐ no Seals intact: ☒ yes ☐ noCustody Seal on Samples Present: ☐ yes ☐ no Seals intact: ☐ yes ☐ noPacking Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other _____Thermometer Used SR - 12.6 Type of Ice: ☒ Wet ☐ Blue ☐ Dry ☐ None ☐ Meltwater OnlyCooler Temperature Uncorr 0.0 / Corr 0.0Temp Blank Present: ☒ yes ☐ noBiological Tissue is Frozen: ☐ yes ☐ no

Temp should be above freezing to 6°C.

Biota Samples may be received at ≤ 0°C if shipped on Dry Ice

Person examining contents:

Date: 11/23/2022 Initials: MVALabeled By Initials: FB

Chain of Custody Present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler Name & Signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time:	☒ Yes ☐ No	5.
- DI VOA Samples frozen upon receipt	☐ Yes ☐ No	Date/Time
Short Hold Time Analysis (<72hr):	☐ Yes ☒ No	6.
Rush Turn Around Time Requested:	☐ Yes ☒ No	7.
Sufficient Volume:		8.
For Analysis: ☒ Yes ☐ No MS/MSD: ☐ Yes ☒ No ☐ N/A		
Correct Containers Used:	☒ Yes ☐ No	9.
Correct Type: <u>Pace Green Bay</u> ☐ Pace IR, Non-Pace		
Containers Intact:	☒ Yes ☐ No	10.
Filtered volume received for Dissolved tests	☐ Yes ☐ No ☒ N/A	11.
Sample Labels match COC:	☒ Yes ☐ No ☐ N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>W</u>		
Trip Blank Present:	☒ Yes ☐ No ☐ N/A	13.
Trip Blank Custody Seals Present	☒ Yes ☐ No ☐ N/A	
Pace Trip Blank Lot # (if purchased): <u>492</u>		

Client Notification/ Resolution:

If checked, see attached form for additional comments ☐

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample logir

Page 2 of 2