

Stantec Consulting Services Inc.

725 East Fireweed Lane Suite 200, Anchorage AK 99503-224

December 7, 2021

Stantec Project Number: 185705377

Anastasia Duarte, REHS/RS Environmental Representative Speedway LLC 18336 Aurora Avenue North, Suite 105, #65028 Shoreline, Washington 981330-9996

RE: 2022 Corrective Action Work Plan

Speedway Store 5314 (formerly Tesoro 2 Go Mart 76) 3600 East Palmer Wasilla Highway, Wasilla, Alaska ADEC Facility ID #2986; ADEC Hazard #26295; ADEC File #2265.26.037

Dear Ms. Duarte:

This letter presents the proposed work plan tasks for the 2022 (calendar year) Corrective Action Plan (CAP) pertaining to the investigation and/or remediation of contamination at the above referenced site. This 2022 CAP will be presented at the annual work session with the Alaska Department of Environmental Conservation (ADEC), Speedway LLC and Stantec Consulting Services Inc. (Stantec). The work session is scheduled for December 7, 2021, and will be presented by Stantec to Pete Campbell, ADEC representative, in person or via Microsoft Teams app.

Attached to this letter are the project site plans and analytical test results for samples collected during the completion of the 2021 CAP tasks. The site plans, sampling test results and additional site documents for the subject site will be included in the presentation of the December 7 work session.

The following sections provide a summary of the work plan tasks that were completed under the current 2021 CAP and the proposed work plan tasks for the 2022 CAP.

2021 Work Plan Tasks

- <u>Task 1 Groundwater Monitoring</u>
 This task was completed in accordance with the approved 2021 CAP.
- <u>Task 2 O&M Recirculation Groundwater Treatment System</u>

This task was completed in accordance with the approved 2021 CAP.

• <u>Task 3 – O&M Chemical Oxidation (Chemox) Treatment System</u> This task was completed in accordance with the approved 2021 CAP.

1 Corrective Action Work Plan for 2022 Speedway Store 5314 (former Tesoro 2Go Mart 76)



Proposed Work Plan Tasks for 2022 CAP

• Task 1 –Groundwater Monitoring

Quarterly monitoring of the groundwater wells and annual monitoring of several existing drinking water wells will be conducted. Sampling locations and analyses for the monitoring and drinking water wells are listed on the 2022 Work Plan Schedule below.

	Work Plan Task		2 nd	3 rd	4 th
work Flan Task		Quarter	Quarter	Quarter	Quarter
Task 1	Monitoring Wells: MW-1, MW-2, MW-3, and MW-4 and Remediation/Recirculation Well RW 19-1	V, G, D, P, S & I	V, G, D, P, S & I	V, G, D, P, S &I	V, G, D, P, S & I
	On-site Domestic Drinking Water Well				D & E
Task 2	O&M Recirculation Groundwater Treatment System	✓	✓	✓	√
Task 3	Chemical Oxidation Treatment	✓	✓	√	✓

Key:

AK - Alaska Test Method

- D Diesel range organics by AK102.
- E Drinking water parameters by EPA Method 524.1.
- G Gasoline range organics by AK101.
- I Intrinsic indicators include: dissolved oxygen, specific conductance, oxygen-reduction potential, pH, and temperature.

O&M – Operation and Maintenance

- P Polynuclear aromatic hydrocarbons (PAHs), i.e., semi-volatile organic compounds associated with petroleum fuel, by EPA Test Method 8270D Selective Ion Monitoring (SIM).
- S Sodium analyzed by Metals (ICP) Method 6010C.
- V Volatile organic compounds by EPA Test Method 8260C.

• Task 2 – O&M Recirculation Groundwater Treatment System

Stantec will perform quarterly maintenance to check the operation of the recirculation groundwater remediation system. The 4-inch diameter remediation/recirculation well (RW 19-1) will be operated at 5 gallons per minute on a continuous basis, operating 24 hours per day. In addition, water from the well will be used during injection the chemox solution (proposed in Task 3).

An iMonnit® wireless based remote monitoring system has been installed at the site. iMonnit® sensors have been installed on the following components: operation of the submersible well pump in remediation/recirculation well RW 19-1; water pressure on the water line from RW 19-1 to the injection wells; and the air temperature on the exterior



wall of the water line from the well pump. The operation of the well recirculation system is monitored via a wireless broadband network (cellular internet). In the event of a pump malfunction, iMonnit[®] automatically notifies Stantec representatives via email message of the operational issue. Upon receiving an iMonnit notification indicating malfunction, Stantec will conduct a site visit to check on the pump operation and make repairs as needed.

• Task 3 – Chemical Oxidation (Chemox) Treatment

The residual petroleum contaminated soil associated with the past release from the former UST and impacted groundwater will be treated in-situ with the injection of a chemox solution. The chemox solution will be injected on a quarterly basis into the three former bio-sparge wells located beneath the store building in the footprint of the former UST. A minimum of 100 gallons of a prepared solution of the chemical oxidant Klozur One® (a chemical mixture consisting primarily of activated sodium persulfate) will be injected into each injection well. The chemox mixture for each well will consist of 110 pounds Klozur One® mixed with approximately 100 gallons of potable water. Following the injection of the chemox solution, a minimum of 100 gallons of potable water will be injected into each injection well to provide a means of "hydraulically pushing" the chemox solution into the subsurface formation.

The on-site groundwater monitoring wells and the recirculation/remediation well will be sampled quarterly as outlined in Task 1 to assess the treatment impact on the groundwater table. In addition, the on-site monitoring wells and remediation/recirculation well RW 19-1 will be sampled for sodium to check on the distribution/migration of the oxidant.

The Corrective Action Work Plan for the year 2022 will be implemented by Stantec on behalf of Speedway. Groundwater monitoring will be conducted to track migration and trends of contaminants that are present at the site. All sampling activities will be completed in accordance with ADEC's *Underground Storage Tanks Procedures Manual—Standard Sampling Procedures* (March 22, 2017). The methods that will be used for conducting a monitoring event, unless otherwise noted in the monitoring report, will include:

- The static water levels in the monitoring wells will be measured with respect to the top of each well casing. The elevation of the static water level will be based on an arbitrary datum established on-site during a vertical control survey that will be completed by Stantec on an annual basis. The survey will be performed during the summer after the seasonal frost layer thaws.
- The monitoring wells will be purged of a minimum of three well bore volumes prior to collecting the water samples. A new, disposable, Teflon® bailer will be used to sample each well. The first bail of water removed from each well will be examined for petroleum odor, sheen, and any other unique physical features.
- Water samples will be collected in laboratory-supplied sample containers. The samples will be delivered to an ADEC-approved laboratory in accordance with standard chain-of-custody procedures.
- Additional water samples will be collected from the monitoring wells after the well has been purged, as described above, and tested in the field for chemical and physical intrinsic parameters listed in the 2022 Work Plan Schedule shown above.



If you have any questions or need additional information concerning this 2022 Corrective Action Work Plan, please contact us at (907) 248-8883.

Regards,

STANTEC CONSULTING SERVICES INC.

Michael A. Zidek, PMP

MZ, del

Project Manager

Robert (Bob) Gilfilian, P.E.

Project Technical Lead

Robert Gilfilian

Attachments: Fig 1 – Location and Vicinity Map

Fig 2 - Site Plan with Groundwater Analytical Results

Analytical Test Results (historical tables)

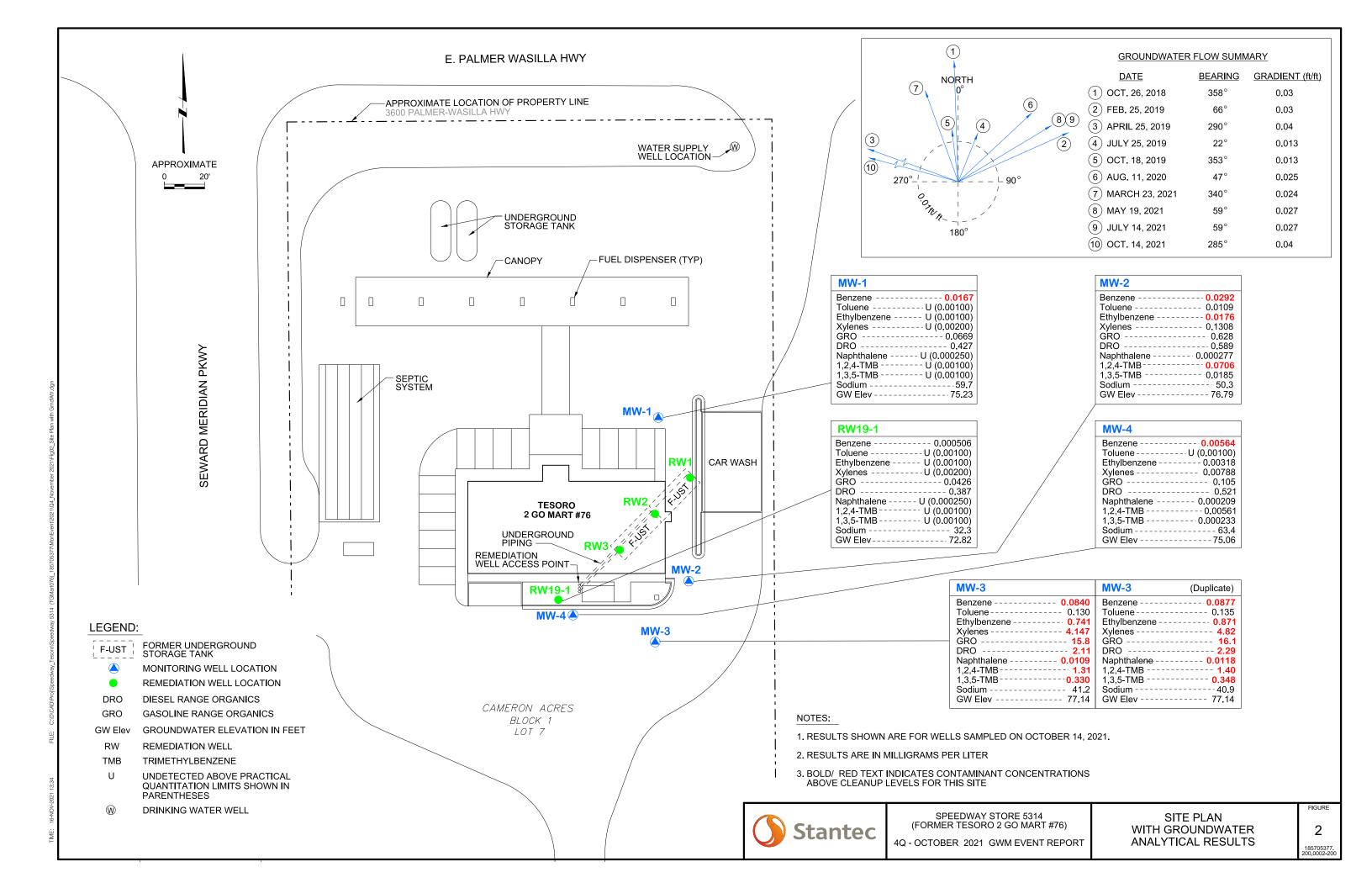


SPEEDWAY STORE 5314 (FORMER TESORO 2 GO MART #76)

4Q - OCTOBER 2021 GWM EVENT REPORT

LOCATION AND VICINITY MAP

185705377. 200.0002-200



Monitoring Well MW-1

	Benzene	Toluene	Ethylbenzene	Xylenes	GRO	DRO	GW Elev
Date	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(feet)
06-Nov-14	0.027	U (0.0005)	U (0.0005)	U (0.0015)	0.067	0.36	76.15
25-Feb-15	0.0013	U (0.0005)	U (0.0005)	U (0.0015)	U (0.05)	U (0.41)	76.16
10-Jun-15	U (0.002)	U (0.002)	U (0.003)	U (0.002)	U (0.060)	0.50	76.59
02-Sep-15	0.0011	U (0.001)	U (0.001)	U (0.003)	U (0.1)	U (0.40)	76.36
12-Nov-15	0.029	U (0.002)	U (0.003)	U (0.002)	0.14	U (0.21)	78.14
20-Jan-16	0.071	U (0.002)	U (0.003)	U (0.002)	0.18	0.22	77.57
09-May-16	0.026	U (0.001)	U (0.001)	U (0.003)	0.1	U (0.45)	77.70
13-Oct-16	0.053	U (0.001)	U (0.001)	U (0.003)	0.84	0.36	77.53
09-Dec-16	0.027	U (0.002)	U (0.002)	U (0.003)	0.067	0.67	76.74
08-Feb-17	0.010	U (0.002)	U (0.003)	U (0.002)	0.057	0.27	76.14
24-Apr-17	0.0096	U (0.002)	U (0.003)	U (0.003)	U (0.001)	U (0.0003)	77.39
01-Sep-17	0.0068	U (0.002)	U (0.003)	U (0.002)	U (1.0)	0.250	78.61
15-Feb-18	0.012	U (0.002)	U (0.003)	U (0.003)	U (1.0)	U (0.13)	77.07
29-Jun-18	0.026	U (0.002)	U (0.003)	U (0.003)	U (0.25) H	0.30	76.34
11-Sep-18	0.01	U (0.001)	U (0.001)	U (0.002)	U (0.15)	U (0.27)	76.80
26-Oct-18	0.015	U (0.002)	U (0.003)	U (0.003)	U (0.25)	0.31	76.94
25-Feb-19	0.0037	U (0.002)	U (0.003)	U (0.003)	U (0.25)	0.19	76.59
25-Apr-19	U (0.003)	U (0.002)	U (0.003)	U (0.003)	U (0.25)	U (0.27)	77.94
25-Jul-19	0.0071	U (0.002)	U (0.003)	U (0.003)	U (0.25)	0.27	76.78
18-Oct-19	U (0.003)	U (0.002)	U (0.003)	U (0.003)	U (0.25)	0.16	75.68
11-Aug-20	0.00262	U (0.001)	U (0.001)	U (0.003)	U (0.1)	U (0.808)	73.28
12-Oct-20	0.00548	U (0.001)	U (0.001)	U (0.002)	0.0110 J	0.369 J	72.86
23-Mar-21	.000526 J	U (0.001)	U (0.001)	U (0.001)	0.013 B,J	U (0.840)	73.39
19-May-21	0.00481	U (0.001)	U (0.001)	U (0.002)	0.0302 B,J	U (0.840)	73.18
14-Jul-21	0.00177	U (0.001)	U (0.001)	U (0.003)	U (0.1)	0.317 B,J	72.92
14-Oct-21	0.0167	U (0.001)	U (0.001)	U (0.002)	0.0669 B,J	0.427 J	75.23
GCLs	0.0046	1.1	0.015	0.19	2.2	1.5	NA

Monitoring Well MW-2

	Benzene	Toluene	Ethylbenzene	Xylenes	GRO	DRO	GW Elev
Date	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(feet)
06-Nov-14	0.067	0.026	0.016	0.130	0.68	0.19	77.95
25-Feb-15	0.022	0.0045	0.0034	0.020	0.130	U (0.41)	77.03
10-Jun-15	U (0.002)	U (0.002)	U (0.003)	1.8	6.1	1.1	76.67
02-Sep-15	0.089	0.056	0.065	1.4	U (10)	1.8	76.48
12-Nov-15	0.091	0.11	0.13	0.179	22	1.8	78.61
20-Jan-16	0.520	1.5	0.83	5.1	NL	1.6	78.28
09-May-16	0.41	0.37	0.35	2.8	U (10)	0.95	78.25
13-Oct-16	0.42	0.63	0.48	2.62	9.2	0.98	78.74
09-Dec-16	0.57	0.17	0.50	1.01	11	1.7	77.07
08-Feb-17	0.053	U (0.002)	0.02	0.096	0.58	0.20	77.32
24-Apr-17	0.036	0.012	0.035	0.66	2.6	0.94	78.01
01-Sep-17	0.083	0.026	0.450	2.330	9.7	1.3	79.31
15-Feb-18	0.067	0.02	0.14	0.97	U (10)	0.98	79.08
29-Jun-18	0.17	0.25	0.59	3.3	6.0 H	1.2	78.34
11-Sep-18	0.094	0.13	0.18	1.08	4.8	0.74	78.88
26-Oct-18	0.17	0.28	0.48	3.01	11	1.0	79.40
25-Feb-19	0.092	0.22	0.18	1.41	5.4	1.2	75.96
25-Apr-19	0.051	0.13	U (0.003)	1.28	3.6	0.93	79.50
25-Jul-19	0.079	0.13	0.2	1.47	5.4	0.89	77.72
18-Oct-19	0.025	0.0065	0.022	0.101	0.74	0.24	77.05
11-Aug-20	0.0599	0.0107	0.0759	0.465	0.921	0.553	74.50
12-Oct-20	0.16	U (0.001)	0.0455	0.168	0.755	0.409	74.55
23-Mar-21	0.00542	U (0.001)	U (0.001)	U (0.003)	0.0227 B,J	U (0.840)	73.54
19-May-21	0.00338	U (0.001)	0.000461 J	0.00501	0.0374 B,J	U (0.840)	73.58
14-Jul-21	0.00399	U (0.001)	0.00193	0.00465	0.0504 B,J	0.272 B,J	73.98
14-Oct-21	0.0292	0.0109	0.0176	0.1308	0.628	.589 J	76.79
GCLs	0.0046	1.1	0.015	0.19	2.2	1.5	NA

Monitoring Well MW-3

	Benzene	Toluene	Ethylbenzene	Xylenes	GRO	DRO	GW Elev
Date	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(feet)
06-Nov-14	5.0	7.4	37	39	240	3.5	78.38
25-Feb-15	2.9	34	6.7	37	180	8.6	77.98
10-Jun-15	5.2	38	8.2	48	210	9.5	78.40
02-Sep-15	3.7	24	4.4	28	U (200)	5.1	77.88
12-Nov-15	1.3	2.1	0.21	1.69	87	3.6	78.92
20-Jan-16	3.8	13	4.2	25.3	120	4.1	78.50
09-May-16	2.1	21	2.2	33	69	1.5	78.43
13-Oct-16	1.2	4.2	2.9	14.6	46	2	78.75
09-Dec-16	0.17 (E)	NL	NL	0.54 (E)	100	3.3	77.80
08-Feb-17	39	99	53	103	98	3.9	77.61
24-Apr-17	2.5	14	5.2	28.9	U (200)	6.7	78.61
01-Sep-17	0.610	9.300	3.700	21.400	75	1.9	79.33
15-Feb-18	0.3	3.8	2.9	15.6	U (100)	1.3	79.03
29-Jun-18	0.28	1.1	1.7	8.2 H	23 H	1.1	78.78
11-Sep-18	0.29	0.53	1	5.6	14	0.91	79.13
26-Oct-18	0.32	0.36	0.89	4.3	15	0.93	79.40
25-Feb-19	0.95	0.69	2.3	11.4	U (1.3)	4.6	78.15
25-Apr-19	0.14	0.13	U (1.5)	U (1.5)	11	0.64	79.58
25-Jul-19	0.68	1.2	2.4	11.6	41	1.9	78.38
18-Oct-19	0.21	0.66	1.7	9.7	21	1.2	77.04
11-Aug-20	0.737	1.05	2.99	17	32.8	4.89	75.60
12-Oct-20	0.32	0.868	2.46	14.89	29.4	5.22	76.18
23-Mar-21	0.45	1.21	3.73	21.6	54.3	U (0.840)	75.12
19-May-21	0.473	0.186 J	2.04	11.1	31.1	5.08	76.08
14-Jul-21	0.581	0.156 J	2.65	12.87 C5	30.3	3.87 B	75.94
14-Oct-21	0.0840 J	.130 J	0.741	4.147	15.8	2.11	77.14
GCLs	0.0046	1.1	0.015	0.19	2.2	1.5	NA

Monitoring Well MW-4

	Benzene	Toluene	Ethylbenzene	Xylenes	GRO	DRO	GW Elev
Date	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(feet)
06-Nov-14	0.940	1.9	0.3	1.5	13	0.45	77.81
25-Feb-15	3.7	6.6	0.56	2.7	29	1.0	76.85
10-Jun-15	1.1	2.3	0.54	2.7	14	1.0	76.60
02-Sep-15	0.026	U (0.001)	0.007	0.03	0.3	U (0.40)	77.31
12-Nov-15	NL	NL	NL	NL	U (0.050)	U (0.21)	78.99
20-Jan-16	0.0043	U (0.002)	U (0.003)	U (0.002)	NL	0.15	78.56
09-May-16	0.0092	U (0.001)	U (0.001)	U (0.003)	U (0.1)	U (0.42)	78.51
13-Oct-16	U (0.00020)	U (0.001)	U (0.001)	U (0.003)	U (0.1)	0.18	78.84
09-Dec-16	NL	NL	NL	NL	U (0.05)	0.18	77.93
08-Feb-17	0.017	U (0.002)	U (0.003)	U (0.002)	U (0.05)	0.18	78.81
24-Apr-17	0.012	U (0.002)	0.0049	U (0.003)	U (0.001)	U (0.0003)	78.8
01-Sep-17	0.550	U (0.050)	0.380	0.740	5.1	0.48	79.38
15-Feb-18	0.19	U (0.10)	0.26	0.438	3.3	0.29	79.14
29-Jun-18	0.09	U (0.002)	0.022	0.027	0.52	0.19	79.00
11-Sep-18	0.0086	U (0.001)	0.0052	0.0062	U (0.15)	U (0.28)	79.23
26-Oct-18	0.013	U (0.002)	0.0045	0.0089	U (0.25)	0.15	79.46
25-Feb-19	0.026	U (0.002)	0.0034	0.0089	U (0.25)	0.20	78.30
25-Apr-19	U (0.003)	U (0.002)	U (0.003)	U (0.003)	U (0.25)	U (0.27)	77.23
25-Jul-19	0.051	U (0.002)	U (0.003)	0.0078	U (0.25)	0.16	78.33
18-Oct-19	0.020	0.015	0.0059	0.0277	U (0.25)	U (0.12)	77.03
11-Aug-20	0.054	U (0.001)	0.000455	0.00933	0.084	U (0.800)	75.75
12-Oct-20	0.129	U (0.001)	0.00699	0.0264	0.313	U (0.800)	76.04
23-Mar-21	0.079	U (0.001)	0.0178	0.0345	0.274 B	0.266 J	73.84
19-May-21	0.0307	U (0.001)	0.00328	0.0123	0.153 B	U (0.840)	75.90
14-Jul-21	0.0176	U (0.001)	0.000375 J	0.00383 C5	0.0682 B,J	0.371 B,J	75.82
14-Oct-21	0.00564	U (0.001)	0.00318	0.00788	.105 B	.521 J	75.06
GCLs	0.0046	1.1	0.015	0.19	2.2	1.5	NA

Monitoring Well RW19-1

	Benzene	Toluene	Ethylbenzene	Xylenes	GRO	DRO	GW Elev
Date	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(feet)
11-Aug-20	0.001	U (0.001)	U (0.001)	0.000489	U (0.100)	U (0.848)	TBD
12-Oct-20	0.000609 J	U (0.001)	U (0.001)	U (0.002)	U (0.100)	U (0.800)	70.85
23-Mar-21	U (0.001)	U (0.001)	U (0.001)	U (0.003)	0.0119 B,J	U (0.840)	TBD
19-May-21	U (0.001)	U (0.001)	U (0.001)	U (0.002)	0.0158 B,J	U (0.800)	NC
14-Jul-21	U (0.001)	U (0.001)	U (0.001)	U (0.003)	U (0.100)	0.297 B,J	70.47
14-Oct-21	.000506 J	U (0.001)	U (0.001)	U (0.002)	0.0426 B,J	0.387 J	72.82
GCLs	0.0046	1.1	0.015	0.19	2.2	1.5	NA

CAMERON LOT 7

o, ,									
	Benzene	Toluene	Ethylbenzene	Xylenes	GRO	DRO	GW Elev		
Date	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(feet)		
14-Oct-21	U (0.0005)	U (0.001)	U (0.0005)	U (0.0005)	NM	NM	NM		
GCLs	0.0046	1.1	0.015	0.19	2.2	1.5	NA		

TBD - to be determined

NA - Not applicable

NM - Not measured

B - The same analyte is found in the associated blank.

J - The identification of the analyte is acceptable; the reported value is an estimate.