

GROUNDWATER MONITORING REPORT

CIRCLE K STORE #2706042
10171 U.S. HIGHWAY 12
NACHES, WASHINGTON 98937

SAMPLING DATE: MAY 16, 2020

PREPARED FOR:



CIRCLE K STORES INC.
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SUBMITTED TO:

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BLAES PROJECT #202-06042-10

MAY 26, 2020

This *Groundwater Monitoring Report* has been prepared by Blaes Environmental Management, Inc. for the exclusive use of Circle K Stores Inc. as it pertains to Circle K Store #2706042 located at 10171 U.S. Highway 12 in Naches, Washington. Our professional services have been performed using that degree of care and skill ordinarily exercised under similar circumstances by other geologists, engineers, and environmental consultants practicing in this field. No other warranty, express or implied, is made as to the professional advice in this report. *Any use of or reliance on this report by a third party shall be at such a party's sole risk.*

Blaes Environmental Management, Inc. can offer no assurances and assumes no responsibility for site conditions or activities outside the scope of the inquiry requested by Circle K Stores Inc. as outlined in this document. It should be understood by all parties that Blaes Environmental Management, Inc. has relied on the accuracy of documents, oral information, and other materials, services, and information provided by Circle K Stores Inc., subcontractors, and other associated parties. Any subsequent modification, revision or verification of this report must be provided in writing by Blaes Environmental Management, Inc.

All work associated with this project will be performed under the supervision of a State of Washington Licensed Geologist/Hydrogeologist.

Prepared By:
Blaes Environmental Management, Inc.



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Daniel Michael Blaes

Blaes Project #202-06042-10

May 26, 2020

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1.0 INTRODUCTION

This groundwater monitoring report was prepared by Blaes Environmental Management, Inc. (Blaes Environmental), on behalf of Circle K Stores Inc. (Circle K) for Circle K Store #2706042 located at 10171 U.S. Highway 12 in Naches, Washington (Figure 1). This periodic groundwater monitoring program was conducted following a detection of petroleum hydrocarbon constituents in 2013 near the intersection of Naches Avenue and Highway 12 (associated with a past release at the site) and following ongoing soil and groundwater remediation efforts at the property.

In May 2020, Blaes Environmental conducted another groundwater monitoring event at the site using only one groundwater monitoring well (MW-3) at the site for this event. The sampling event involved: (1) measuring the depth to groundwater in five wells; (2) purging and collecting a groundwater sample from well MW-3 and (3) analyzing the one groundwater sample at an analytical laboratory for petroleum constituents.

The data from this sampling event was compared to the data from the past groundwater sampling events as a continued evaluation of the effectiveness of the air sparge injection events conducted during the summers of 2017 and 2018 and the summer of 2019. During this sampling event, there was a decrease in benzene in the groundwater within well MW-3 and decreases in gasoline Range and diesel Range Organics in well MW-3 from this event compared to the sampling event conducted in January 2020. The benzene concentration is still below the MTCA Method A level and now both the gasoline and diesel range organics are also below MTCA Method A levels. The following sections of this report include the description of the procedures and findings of the May 2020 groundwater monitoring event.

2.0 BACKGROUND INFORMATION

This section presents information regarding the site and provides a summary of the site background. The information was obtained from public records, the project files of Blaes Environmental, and the records of Circle K.

2.1 SITE LOCATION AND LAND USE

The property is located on the northwest corner of the intersection of Naches Avenue and Highway 12 in Naches, Washington. The property is within Section 4, Township 14 North, Range 17 East of the Naches Washington U.S. Geological Survey 7 ½ -minute Topographic Quadrangle. The property consists of a concrete and asphalt-paved lot with one existing single-story building (the Circle K Store) and three product dispensers. The site features are shown on the Site Plan in Figure 2. Global Positioning System (GPS) readings locate the site at approximately latitude 46 degrees, 43 minutes, 43.32 seconds North and longitude 210 degrees, 42 minutes, 01.73 seconds West as measured on Google Earth 2013.

The area surrounding the site consists of a mixture of commercial businesses and residential development. Commercial businesses are located southeast, west, and east-southeast of the site. Residential development is located south (across Highway 12), immediately north, and east (across the Naches Avenue), of the site.

2.2 SITE PHYSIOGRAPHY

The property lies at an elevation of approximately 1468 feet above Mean Sea Level (Google Earth 2013). Natural surface drainage in the area is towards the south-southwest towards the Naches River (U.S. Geological Survey 7 ½ -minute Topographic Quadrangle). On-site drainage is predominantly away from the building, towards the storm drains, to the north and east and east to Naches Avenue.

2.3 SITE LITHOLOGY AND DEPTH TO GROUNDWATER

The soil types in the immediate vicinity consists of Naches River Deposits. These deposits are composed of brown sandy loam with approximately 80 percent gravel, cobbles, and boulders up to approximately two feet (2) in diameter. The highly coarse soils extend to a depth of at least 25 feet below the ground surface. The soils in the lower part of the zone contain some clay.

Groundwater was encountered within the tank pit at approximately 11 feet below the ground surface in 1992 and logs of wells in the area also show the water level to be between 9 and 13 feet below the ground surface depending on the season of year. Groundwater was encountered at a depth of approximately 9 to 11 feet below the ground surface within the wells sampled during this investigation. Groundwater flow is predominantly toward the south at the site.

2.4 SENSITIVE RECEPTORS

The Naches River is approximately 1,500 feet south of the site and the open irrigation ditch (trending approximately north-south) is approximately 75 feet east of the site. There are no additional surface water bodies or wetlands within one-mile of the site. Residences are located directly north of the site, across Naches Avenue to the east, and across U.S. Highway 12 to the south of the site.

The Naches Valley Middle School is located approximately 1,287 feet east-northeast of the site. The Naches Valley Intermediate School is located approximately 1,689 feet east-northeast of the site. The Naches Valley High School is located approximately 2,914 feet north-northwest of the site.

2.5 PREVIOUS INVESTIGATIONS

2.5.1 Limited Site Check: 1992

Previous investigations conducted at the site included a limited site check and sampling program in 1992 at the former Naches Chevron Facility. The investigation indicated gasoline range organics (GRO) in soil and GRO and lead in groundwater, adjacent to the former supreme unleaded gasoline UST, in excess of WDOE "Method A Clean-Up Levels". An Interim Status Report was prepared and submitted to the WDOE by Sage Earth Sciences, Inc. in October 1992. After the leak had been repaired the excavation was reportedly left open for approximately 15 months and then backfilled around the existing USTs.

2.5.2 UST Removal: 1998

In 1994 the three existing USTs were removed and replaced with fiberglass USTs. Subsequent soil and groundwater sampling during the tank removal revealed GRO in the groundwater beneath the site. Concentrations of soluble lead were not found in the soil sample collected at the site. The groundwater sample was not analyzed for soluble lead during this program. A UST Closure Site Assessment & Interim Remediation Report was prepared and submitted to the WDOE by White Shield, Inc. in March 1994.

2.5.3 WDOE Correspondence 1998-2001

In October 1998 the property owner, Mr. Mike Abhold, contacted WDOE indicating that he “believes that natural attenuation mechanisms have cleaned the residual groundwater at this site” and he wanted input from WDOE. WDOE responded to Mr. Abhold indicating that “groundwater samples to confirm natural attenuation and a site cleanup report” would be required. In 2001 the UST file was reviewed by Mr. Brian T. Deeken with WDOE and it was determined that there had been no change of status at the site since 1998. Based on this file review, Mr. John Mefford, L.G. the current WDOE manager for this site contacted Circle K (following the purchase of the site from Sun Pacific Energy) asking for the current site status.

2.5.4 Site Characterization Activities

Circle K contracted Blaes Environmental to conduct a program to determine if groundwater beneath the site had been impacted by petroleum hydrocarbons. The program included drilling and installation of four groundwater monitoring wells and collection and analyses of groundwater samples and the preparation of the October 2013 Site Characterization Report documenting the activities. Cascade Drilling of Woodinville, Washington was contracted to drill the soil borings for the four wells using a hollow-stem auger drilling rig. The boreholes were drilled on July 22 and 23, 2013 to depths ranging from approximately 14 feet below the ground surface (MW-3) to approximately 15’ below the ground surface (MW-1) before large cobbles triggered auger refusal.

A total of five soil samples (one from wells MW-2, MW-3, and MW-1 and two from MW-1) were collected during the site characterization program and delivered by Blaes Environmental, under proper chain-of-custody record, to Test America in Seattle, Washington. Soil samples from the soil borings were analyzed for NWTPH-GX (GRO), NWTPH-DX (DRO), and for VOCs including Benzene, Toluene, Ethylbenzene, & Total Xylenes (BTEX), fuel oxygenates including methyl-tert butyl ether (MTBE), and ethylene dibromide (EDB) according to EPA Method 8260. Laboratory analytical results indicated concentrations of m-Xylenes & p-Xylenes (3.4 ug/Kg) and 1,2,4-Trimethylbenzene above laboratory reporting limits in the soil sample collected from the boring at MW-3 near the intersection. No other detectable concentrations of GRO, DRO, BTEX, VOC, or EDB were found in any other soil sample.

2.5.5 Groundwater Monitoring and Sampling

On August 18, 2013 Blaes Environmental conducted a groundwater monitoring and sampling event within the newly installed wells. The groundwater monitoring and sampling event consisted of three

tasks: 1) measuring the depth to groundwater in the wells; 2) purging water from each well using a low-flow device and collecting a groundwater sample; and 3) analyzing the groundwater samples at a State of Washington certified analytical laboratory. A copy of the report entitled *Site Characterization Report*, prepared by Blaes Environmental, dated October 31, 2013, is on file with WDOE.

On August 8, 2014, Blaes Environmental conducted a groundwater monitoring and sampling event within the four groundwater monitoring wells at the site (MW-1, MW-2, MW-3, and MW-4). The groundwater monitoring and sampling event consisted of three tasks: 1) measuring the depth to groundwater in the wells; 2) purging water from each well using low-flow pump and collecting a groundwater sample from each well; and 3) analyzing the groundwater samples at a State of Washington certified analytical laboratory. A copy of the report entitled *Groundwater Monitoring Report*, prepared by Blaes Environmental, dated August 25, 2014, is on file with WDOE.

On December 10, 2014, Blaes Environmental conducted a groundwater monitoring and sampling event within the four groundwater monitoring wells at the site (MW-1, MW-2, MW-3, and MW-4). The groundwater monitoring and sampling event consisted of three tasks: 1) measuring the depth to groundwater in the wells; 2) purging water from each well using low-flow pump and collecting a groundwater sample from each well; and 3) analyzing the groundwater samples at a State of Washington certified analytical laboratory. A copy of the report entitled *Groundwater Monitoring Report*, prepared by Blaes Environmental, dated December 31, 2014, is on file with WDOE.

On May 28, 2015, Blaes Environmental conducted another groundwater monitoring and sampling event within the four groundwater monitoring wells at the site (MW-1, MW-2, MW-3, and MW-4). The groundwater monitoring and sampling event consisted of three tasks: 1) measuring the depth to groundwater in the wells; 2) grabbing a groundwater sample from each well without purging; and 3) analyzing the groundwater samples at a State of Washington certified analytical laboratory. A copy of the report entitled *Groundwater Monitoring Report*, prepared by Blaes Environmental, dated June 8, 2015, is on file with WDOE.

On November 12, 2015, Blaes Environmental conducted a groundwater monitoring and sampling event within the four groundwater monitoring wells at the site (MW-1, MW-2, MW-3, and MW-4). The groundwater monitoring and sampling event consisted of three tasks: (1) measuring the depth to groundwater in the wells, and (2) analyzing the groundwater samples at a State of Washington certified

analytical laboratory. A copy of the report entitled *Groundwater Monitoring Report*, prepared by Blaes Environmental, dated December 21, 2015, is on file with WDOE.

2.5.6 Additional Groundwater Monitoring and Remediation Well Installation

In June 2016, Blaes Environmental, in conjunction with Cascade Drilling of Federal Way, Washington installed four additional groundwater monitoring wells and 11 air sparge remediation wells at the site. The objective of the additional monitoring wells was to further understand the lateral distribution of petroleum hydrocarbon concentrations under the property. The objective of the air sparge wells was to provide a remediation mechanism to start reducing the volatile hydrocarbon constituents at the site.

The four new groundwater monitoring wells (MW-5, MW-6, MW-7, and MW-8) were each drilled to a depth of approximately 25 feet below the ground surface using a sonic drilling rig. Each 2-inch diameter PVC monitoring well was screened from approximately 5 feet to 25 feet below the ground surface. The 11 new air sparge remediation wells were each drilled to a depth of approximately 25 feet below the ground surface using a sonic drilling rig. Each 2-inch diameter PVC monitoring well was screened from approximately 20 feet to 25 feet below the ground surface. The location of each new well is shown on the Site Plan in Figure 2. Additional data from this well installation program will be submitted in a separate report.

2.5.7 Subsequent Groundwater Monitoring and Sampling

In March 2017, an additional groundwater sampling event was conducted to evaluate the site conditions prior to the 2017 remediation events. The results of the sampling event were submitted to WDOE in a report dated May 1, 2017. The results of the March 2017 sampling event showed an additional rebound in the petroleum hydrocarbons but a reduction in benzene and other hydrocarbon constituents. The only monitoring well with hydrocarbon detections was MW-3 near the southeast corner of the property.

In June 2017, an additional groundwater sampling event was conducted to evaluate the site conditions prior to the summer 2017 remediation events. The results of the sampling event were submitted to WDOE in a report dated July 9, 2017. The results of the June 2017 sampling event showed a decrease in the petroleum hydrocarbons. Again, the only monitoring well with hydrocarbon detections was MW-3 near the southeast corner of the property.

In September 2017, an additional groundwater sampling event was conducted to evaluate the site conditions prior to the summer 2017 remediation events. The results of the sampling event were submitted to WDOE in a report dated October 13, 2017. The results of the September 2017 sampling event showed a decrease in the petroleum hydrocarbons. Again, the only monitoring well with hydrocarbon detections was MW-3 near the southeast corner of the property.

In December 2017, an additional groundwater sampling event was conducted to evaluate the site conditions prior to the summer 2018 remediation events. The results of the sampling event were submitted to WDOE in a report dated December 15, 2017. The results of the December 2017 sampling event showed a slight decrease in the petroleum hydrocarbons. Again, the only monitoring well with hydrocarbon detections was MW-3 near the southeast corner of the property.

In March 2018, an additional groundwater sampling event was conducted to evaluate the site conditions prior to the summer 2018 remediation events. The results of the sampling event were submitted to WDOE in a report dated March 16, 2018. The results of the March 2018 sampling event showed a slight decrease in the petroleum hydrocarbons compared with the December 2017 event. Again, the only monitoring well with hydrocarbon detections was MW-3 near the southeast corner of the property.

In July 2018, an additional groundwater sampling event was conducted to evaluate the site conditions prior to the autumn 2018 remediation events. The results of the sampling event were submitted to WDOE in a report dated July 31, 2018. The results of the July 2018 sampling event showed a slight decrease in the petroleum hydrocarbons compared with the March 2018 event. Again, the only monitoring well with hydrocarbon detections was MW-3 near the southeast corner of the property.

In September 2018, an additional groundwater sampling event was conducted at the site. The results of the sampling event were submitted to WDOE in a report dated September 24, 2018. The results of the September 2018 sampling event showed a decrease in the petroleum hydrocarbons compared with the July 2018 event. Again, the only monitoring well with hydrocarbon detections was MW-3 near the southeast corner of the property.

In late November 2018, an additional groundwater sampling event was conducted at the site. The results of the sampling event were submitted to WDOE in a report dated December 19, 2018. The results of the December 2018 sampling event showed about the same level of petroleum hydrocarbon

constituents compared with the July 2018 and September 2018 events. Again, the only monitoring well with hydrocarbon detections was MW-3 near the southeast corner of the property.

In April 2019, an additional groundwater sampling event was conducted at the site. The results of the sampling event were submitted to WDOE in a report dated May 3, 2019. The results of the April 2019 sampling event showed about the same level of petroleum hydrocarbon constituents compared with the November 2018 event. Again, the only monitoring well with hydrocarbon detections was MW-3 near the southeast corner of the property.

In July 2019, an additional groundwater sampling event was conducted at the site. The results of the sampling event were submitted to WDOE in a report dated July 26, 2019. The results of the July 2019 sampling event showed a decrease in the benzene level in well MW-3 compared to the previous sampling event. Again, the only monitoring well with hydrocarbon detections was MW-3 near the southeast corner of the property.

In September 2019, an additional groundwater sampling event was conducted at the site. The results of the sampling event were submitted to WDOE in a report dated October 17, 2019. The results of the September 2019 sampling event showed a continued impact of TPH in well MW-3 only. The only monitoring well with hydrocarbon detections was MW-3 near the southeast corner of the property. The benzene concentration in that well remained below the WDOE MTCA action level.

In January 2020, an additional groundwater sampling event was conducted at the site. The results of the sampling event were submitted to WDOE in a report dated February 13, 2020. The results of the January 2020 sampling event showed a continued impact of TPH in well MW-3 on the southeastern portion of the site. The benzene concentration in that well remained below the WDOE MTCA action level.

2.5.8 Soil Vapor Extraction and Groundwater Air Sparge Events

In August 2016, during a scheduled addition of diesel fuel and fuel system repipe project the site by Circle K, Blaes Environmental conducted a soil vapor extraction and groundwater air sparging remediation pilot test event at the site. The objective of the pilot test program was to evaluate whether petroleum hydrocarbon concentrations in the vadose zone soil and in the groundwater saturated zone could be significantly reduced in the southeast part of the site without installing a full fixed-based

remediation system. The program utilized a mobile trailer-mounted all-electric catalytic oxidizer (powered by its own diesel generator) to extract and treat soil vapor and a mobile air sparge compressor (powered by a separate diesel generator) to inject air. All of the equipment was located near the corner of the intersection. Select monitoring wells were used as the vapor extraction points and many of the new air sparge wells were used to inject air into the groundwater during the test.

The air sparge test was conducted from August 15, 2016 to August 26, 2016. The vapor extraction test was completed near the end of the air sparge test from August 24, 2016 to August 26, 2016 in part to recover vapors from the previous days of sparge testing. During both feasibility tests, Blaes Environmental recorded system parameters and monitored the uptime of each system. Additional details from this pilot test program will be presented in a separate pilot test report.

On June 23, 2017, Blaes Environmental conducted a one-day additional air sparge injection event at the site. A small air compressor was used to inject air into sparge well AS-5 near monitoring well MW-3. The event last approximately three hours with a flowrate of approximately 5 cubic feet per minute at a pressure of approximately 3 pounds per square inch into AS-5.

During the summer of 2017, Blaes Environmental conducted four additional one-day additional air sparge injection events at the site. During each event (July 7, 2017, July 17, 2017, July 27, 2017, and August 2, 2017), a small air compressor was used to inject air into sparge well AS-5 near monitoring well MW-3. Each event last between four and eight hours of runtime with a flowrate of approximately 5 cubic feet per minute at a pressure of approximately 3 pounds per square inch into AS-5.

During the summer of 2018 (August 29, 2018 to September 7, 2018), Blaes Environmental conducted additional air sparge injection events at the site. During each event, a small air compressor was used to inject air into a combination of sparge wells AS-5 and AS-6 near monitoring well MW-3. During each event, the flowrate into the air sparge well was approximately 5 cubic feet per minute at a pressure of approximately 3 pounds per square inch.

During the summer of 2019 (July 1, 2019 to August 22, 2019), Blaes Environmental conducted six separate additional air sparge injection events at the site. During each event, a small air compressor was used to inject air into sparge well AS-5 near monitoring well MW-3. During each event, the flowrate

into the air sparge well was approximately 5 cubic feet per minute at a pressure of approximately 3 pounds per square inch.

3.0 GROUNDWATER MONITORING PROGRAM

A groundwater monitoring and sampling event was conducted at the site in May 2020 by personnel from Blaes Environmental. The objective of the program was to evaluate the groundwater conditions at the site following the air sparge remediation activities during the summer of 2017 and 2018 as well as the summer of 2019. The data from this event was compared to the data from the July 2016 sampling event (before the pilot test) and to the data from the August and December 2016 sampling events (after the pilot test) as well as the March 2017, June 2017, September 2017, December 2017, March 2018, July 2018, September 2018, November 2018, April 2019, July 2019, September 2019, and January 2020 sampling events as a method to determine the effectiveness of the remediation technologies and the approach. Details of the May 2020 groundwater sampling event are provided in the following sections.

3.1 GROUNDWATER MONITORING AND SAMPLING

On May 16, 2020, Blaes Environmental conducted the groundwater monitoring and sampling event within one of the eight existing groundwater monitoring wells at the site (MW-3). The event consisted of three tasks: (1) measuring the depth to groundwater in five of the wells on site to obtain a groundwater gradient and update the site historical hydrograph, (2) purging well MW-3 using low-flow procedures and collecting a groundwater sample from the well, and (3) analyzing the groundwater sample from well MW-3 at a State of Washington certified analytical laboratory. A description of each task is presented in the following sections.

3.1.1 Groundwater Depth Measurements and Gradient

The depth to groundwater in five monitoring wells (MW-1, MW-3, MW-4, MW-6, and MW-8) was measured to the nearest 0.01 foot using a groundwater level indicator. Depths to water ranged from 9.33 feet (MW-8) to 10.75 feet (MW-4) and averaged 10.02 feet across the site. The water level measurement probe was washed with a Liquinox™ solution and rinsed with tap water before and after each groundwater depth measurement to prevent cross contamination. A summary of the depth to water/elevation data from the May 16, 2020 sampling event is included in Table 1. The field data sheets showing the depth to groundwater measurements are included in Appendix A.

The depth to groundwater was measured from a permanent mark on the top of the uncapped PVC well casing. Using the elevation of the well casing at that same mark, Blaes Environmental calculated the elevation of groundwater in the well during the monitoring event by subtracting the measured depth to

groundwater within the well from the surveyed wellhead elevation. On May 16, 2020, the average groundwater elevation at the site was 1,456.02 feet.

The groundwater flow direction was to the south-southwest at a gradient of approximately 0.034 feet/foot. A diagram of the groundwater flow direction and gradient is presented in Figure 3. A hydrograph of groundwater elevations is presented in Figure 4.

3.1.2 Groundwater Sample Collection

Groundwater monitoring well MW-3 was purged using low-flow procedures during this sampling event. A groundwater sample was collected directly from the low-flow purge water stream from the groundwater monitoring well to evaluate the current dissolved petroleum hydrocarbon concentrations in the groundwater at that location. The groundwater sample was placed into laboratory supplied sample containers. The sample containers were sealed with Teflon lined caps, labeled, and placed on ice in a cooler. A written record of the sample was entered onto a chain-of-custody document for transport to the analytical laboratory.

3.1.3 Groundwater Laboratory Analyses

The groundwater sample was delivered to Test America in Fife, Washington for laboratory analyses. The groundwater sample from MW-3 was analyzed for Total Petroleum Hydrocarbons gasoline, diesel, and oil range organics using method NWTPH-GX, NWTPH-Dx, NWTPH-O as well as for Arsenic, Lead, and for full list VOCs according to EPA Method 8260B including EDB and EDC and method 6020. A copy of the groundwater laboratory analytical report is included in Appendix B.

3.1.4 Groundwater Analytical Results

Laboratory analysis of the groundwater sample collected on May 16, 2020 indicated concentrations in well MW-3 were NWTPH-gas (380 ug/L), NWTPH-Dx (280 ug/L), Ethylbenzene (3.2 ug/L), Isopropylbenzene (3.5 ug/L), 1,2,4-Trimethylbenzene (7.7 ug/L), and other various volatile organic compounds. None of the other groundwater monitoring wells were sampled during this event in accordance with a directive from WDOE and at the request of Circle K. The laboratory analytical results of the groundwater sample are summarized in Table 2.

4.0 RESULTS AND CONCLUSIONS

Based on the analytical results from the groundwater samples collected on May 16, 2020, Blaes Environmental confirms a continued relatively small impact to groundwater with petroleum hydrocarbon constituents on the southeastern most portion of the site. The concentration of benzene in well MW-3 was now <0.20 ug/L which remains below the MTCA Method A cleanup level. The estimated continued lateral extent of Benzene in groundwater is shown in Figure 5.

During this sampling event, there was a decrease in benzene in the groundwater within well MW-3 and decreases in gasoline Range and diesel Range Organics in well MW-3 from this event compared to the sampling event conducted in January 2020. The benzene concentration is still below the MTCA Method A level and now both the gasoline and diesel range organics are also below MTCA Method A levels

These latest groundwater laboratory results continue to indicate that limited groundwater air sparging events continue to have an effect and will be effective remediation technology for lowering hydrocarbon concentrations in groundwater at this site. Further, the use of short-term targeted treatment events at the site (using select wells during each event) will likely meet the long-term remediation goals while avoiding the costly and time consuming need to install a fixed-based remediation system. The next groundwater monitoring event is scheduled for early July/August 2020.

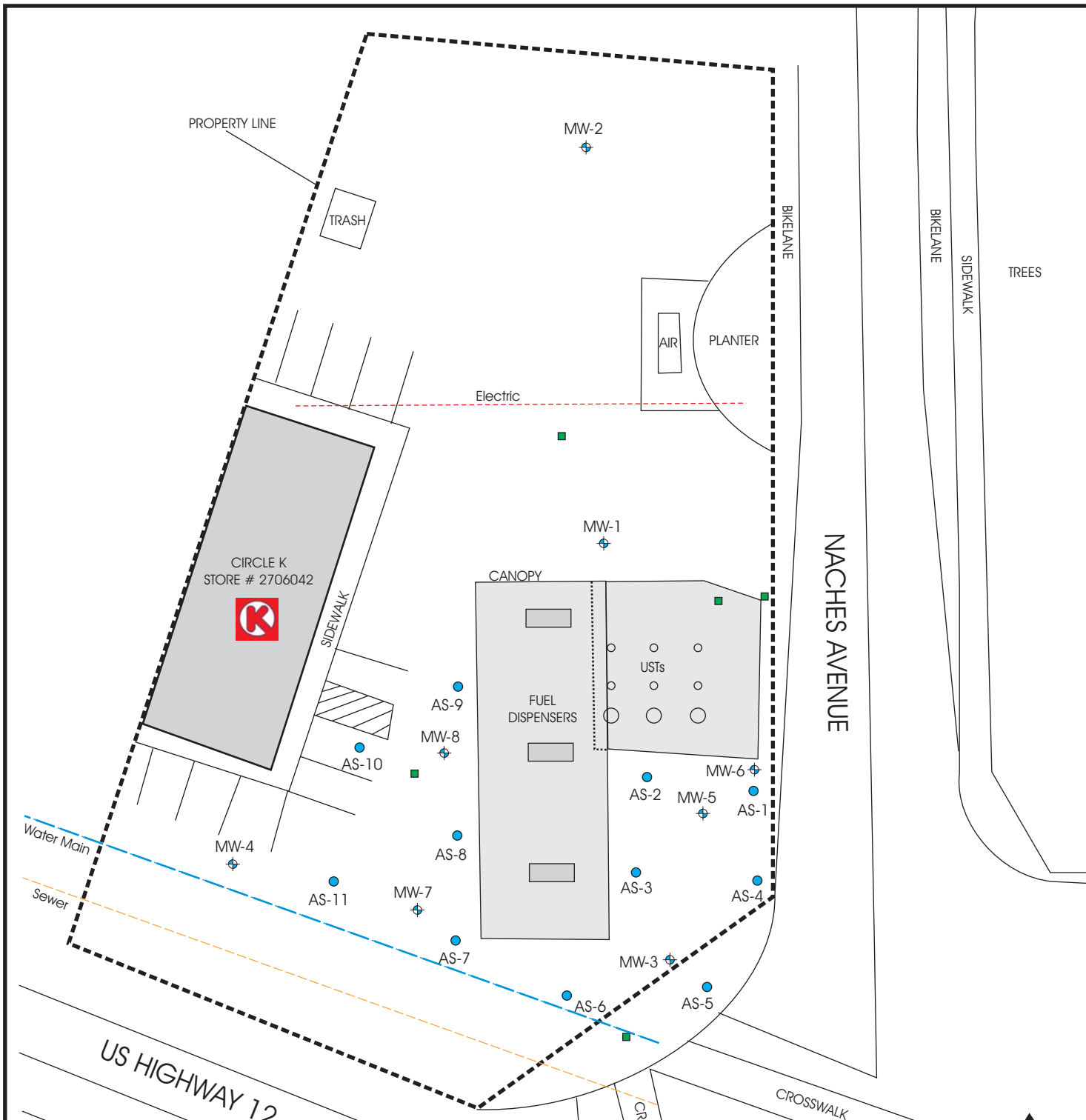
5.0 REFERENCES

White Shield Inc., 1994, UST Closure Site Assessment & Interim Remediation, 47 pg.

Sage Earth Sciences, Inc., 1992, Interim Status Report for a Limited Site Check and Petroleum Contaminated Soil Removal Activities, 36 pg.

Lasmanis, Raymond, 1991, The geology of Washington: Rocks and Minerals, v. 66, no. 4, p. 262-277. ©
Copyright Heldref Publications (Helen Dwight Reid Educational Foundation).

FIGURES



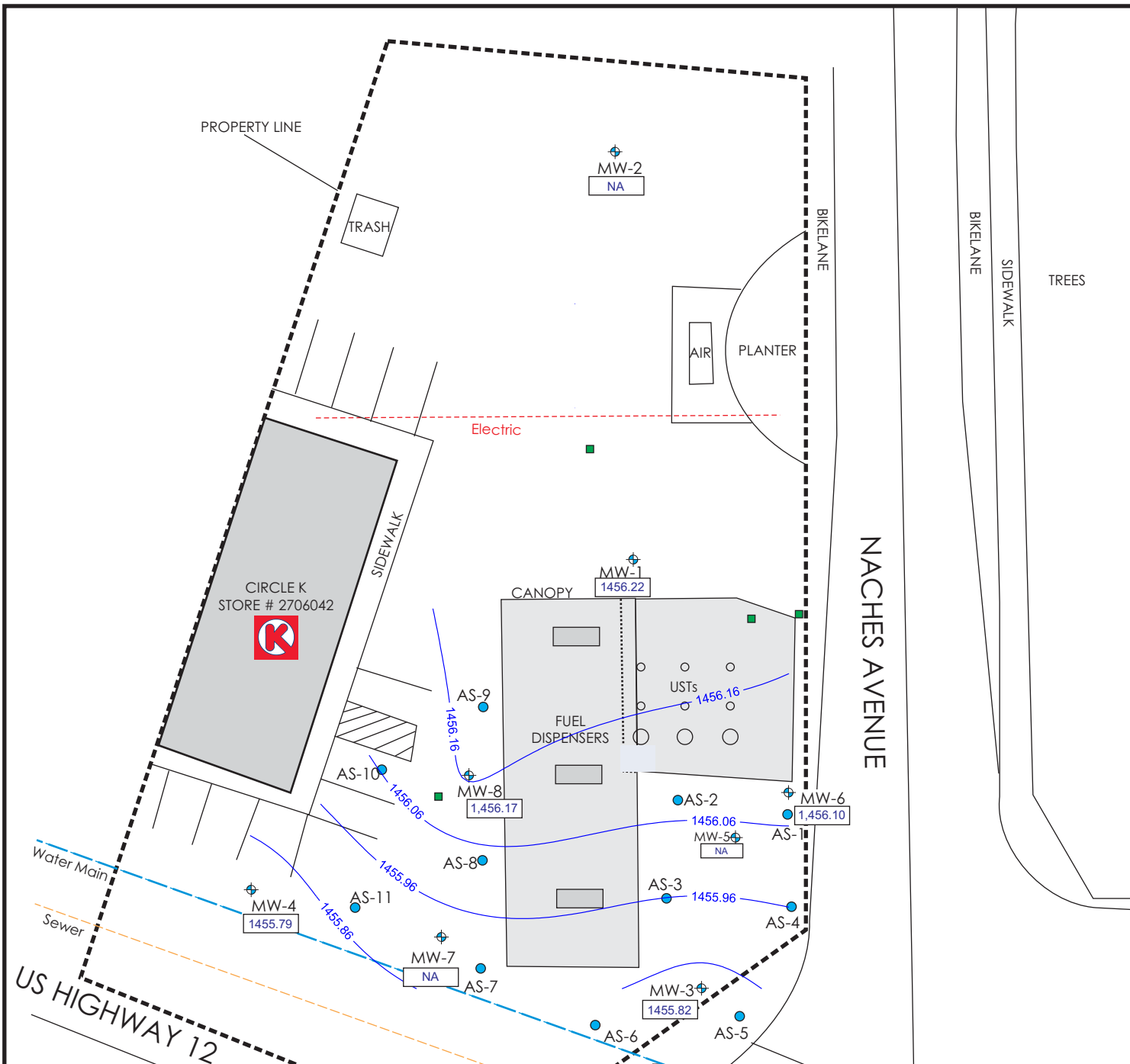
LEGEND

	MW-1	Approximate Location of Groundwater Monitoring Well(s) & ID
		Approximate Location of Stormdrain
	AS-3	Approximate Location of Air Sparge Well





Approximate Scale
1 inch = 30 feet



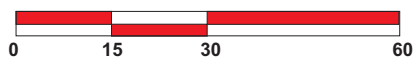
Circle K Store # 2706042 10171 Highway 12 Naches, Washington		Site Plan
Aug 2016	Project #202-06042-04	Figure 2
<small>P:\Technical\202CKWashington\202-6042-04Naches\6042 Figures\6042SiteMap.cdr</small>		



LEGEND

-  MW-1 Approximate Location of Groundwater Monitoring Well(s) & ID
-  Approximate location of Storm Drain(s)
-  AS-3 Approximate Location of Air Sparge Well
- 1,454.71 Groundwater Elevation (feet above mean sea level)
-  Groundwater Directional Gradient Arrow
Groundwater Contour Interval = 0.10 feet
Approximate Gradient = 0.004 (MW-1 to MW-4)

Approximate Scale
1 inch = 30 feet



Circle K Store # 2706042
10171 Highway 12
Naches, Washington

Groundwater Elevation Contour Map
May 16, 2020

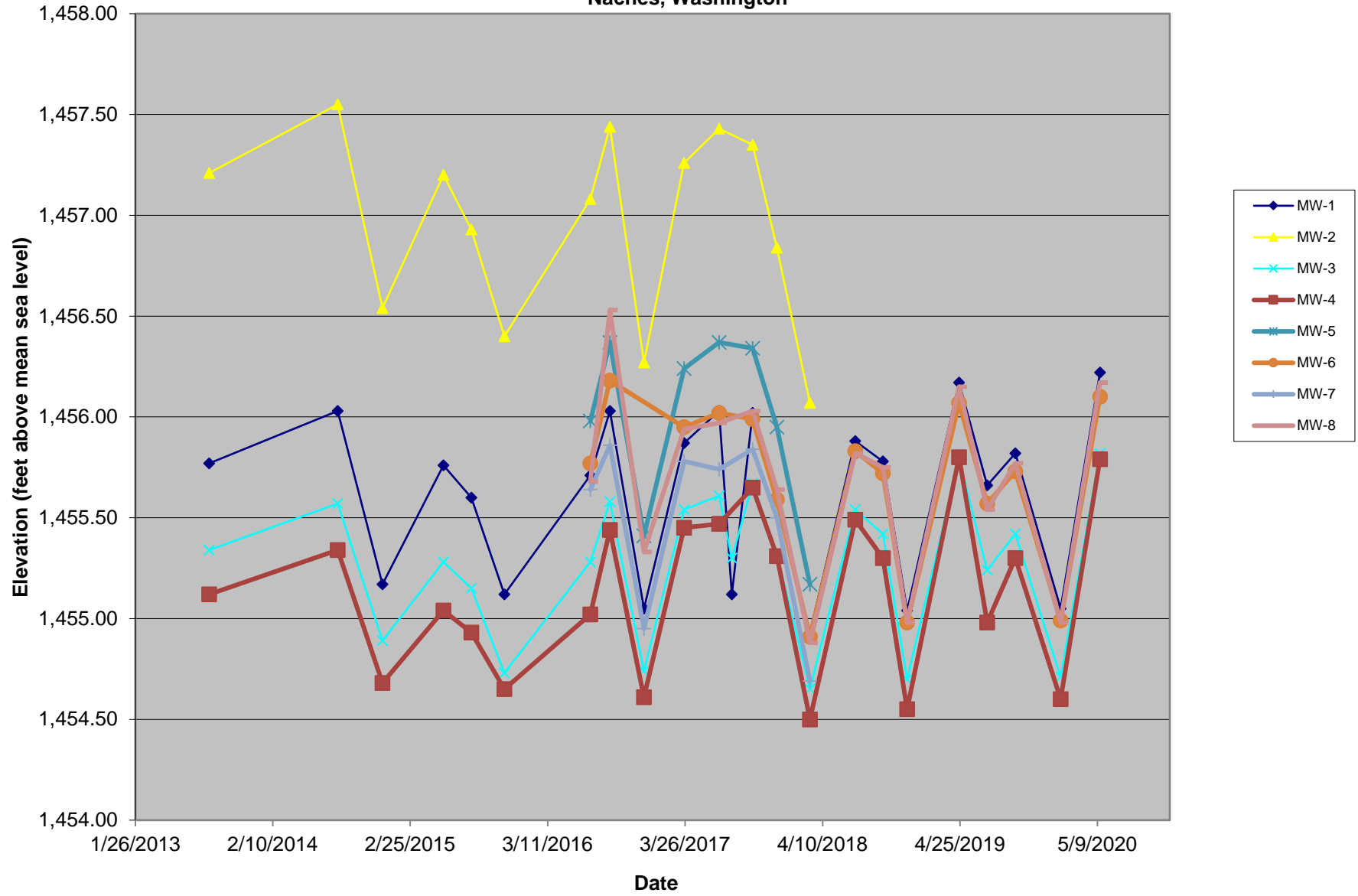
May 2020

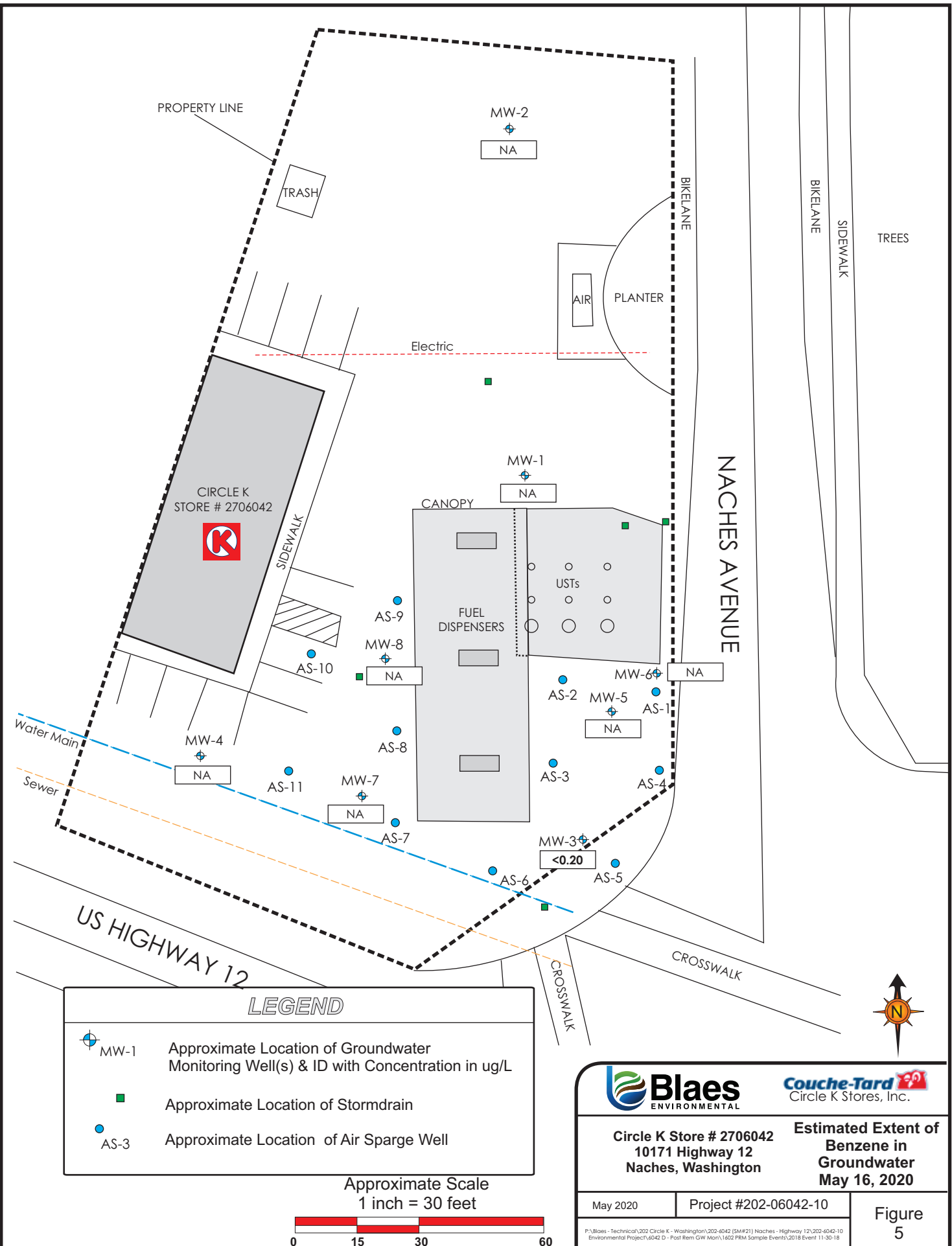
Project #202-06042-10

Figure 3

P:\Blaes - Technical\202 Circle K - Washington\202-6042 (SM#21) Naches - Highway 12\202-6042-10 Environmental Project\6042 D - Post Rem GW Mon\1602 PRM Sample Events\2020 Event 5-16-20\Figures

FIGURE 4: HYDROGRAPH
Circle K #2706042
10171 Highway 12
Naches, Washington





TABLES

TABLE 1

SUMMARY OF GROUNDWATER ELEVATION DATA

Circle K Store #2706042
10171 Highway 12

Well ID	Date	TOC Elevation (ft amsl)	Depth to Free Product (ft btoc)	Depth to Groundwater (ft btoc)	Groundwater Elevation (ft amsl)
MW-1	8/18/2013	1466.08	---	10.31	1,455.77
	8/8/2014		---	10.05	1,456.03
	12/10/2014		---	10.91	1,455.17
	5/28/2015		---	10.32	1,455.76
	8/13/2015		---	10.48	1,455.60
	11/12/2015		---	10.96	1,455.12
	7/7/2016		---	10.37	1,455.71
	8/30/2016		---	10.05	1,456.03
	12/2/2016		---	11.03	1,455.05
	3/23/2017		---	10.21	1,455.87
	6/28/2017		---	10.05	1,456.03
	8/2/2017		---	10.96	1,455.12
	9/29/2017		---	10.06	1,456.02
	12/5/2017		---	10.48	1,455.60
	3/6/2018		---	11.15	1,454.93
	7/9/2018		---	10.20	1,455.88
	9/24/2018		---	10.30	1,455.78
	11/30/2018		---	11.04	1,455.04
	4/22/2019		---	9.91	1,456.17
	7/9/2019		---	10.42	1,455.66
9/25/2019	---	10.26	1,455.82		
1/28/2020	---	11.03	1,455.05		
5/16/2020	---	9.86	1,456.22		
MW-2	8/18/2013	1466.84	---	9.63	1,457.21
	8/8/2014		---	9.29	1,457.55
	12/10/2014		---	10.30	1,456.54
	5/28/2015		---	9.64	1,457.20
	8/13/2015		---	9.91	1,456.93
	11/12/2015		---	10.44	1,456.40
	7/7/2016		---	9.76	1,457.08
	8/30/2016		---	9.40	1,457.44
	12/2/2016		---	10.57	1,456.27
	3/23/2017		---	9.58	1,457.26
	6/28/2017		---	9.41	1,457.43

TABLE 1

SUMMARY OF GROUNDWATER ELEVATION DATA

Circle K Store #2706042
10171 Highway 12

Well ID	Date	TOC Elevation (ft amsl)	Depth to Free Product (ft btoc)	Depth to Groundwater (ft btoc)	Groundwater Elevation (ft amsl)
	9/29/2017		---	9.49	1,457.35
	12/5/2017		---	10.00	1,456.84
	3/6/2018		---	10.77	1,456.07
MW-3	8/18/2013	1466.26	---	10.92	1,455.34
	8/8/2014		---	10.69	1,455.57
	12/10/2014		---	11.37	1,454.89
	5/28/2015		---	10.98	1,455.28
	8/13/2015		---	11.11	1,455.15
	11/12/2015		---	11.53	1,454.73
	7/7/2016		---	10.98	1,455.28
	8/30/2016		---	10.68	1,455.58
	12/2/2016		---	11.52	1,454.74
	3/23/2017		---	10.72	1,455.54
	6/28/2017		---	10.65	1,455.61
	8/2/2017		---	10.96	1,455.30
	9/29/2017		---	10.59	1,455.67
	12/5/2017		---	10.94	1,455.32
	3/6/2018		---	11.61	1,454.65
	7/9/2018		---	10.72	1,455.54
	9/24/2018		---	10.84	1,455.42
	11/30/2018		---	11.56	1,454.70
	4/22/2019		---	10.47	1,455.79
	7/9/2019		---	11.02	1,455.24
	9/25/2019		---	10.84	1,455.42
	1/28/2020		---	11.55	1,454.71
5/16/2020	---	10.44	1,455.82		
MW-4	8/18/2013		---	11.42	1,455.12
	8/8/2014		---	11.20	1,455.34
	12/10/2014		---	11.86	1,454.68
	5/28/2015		---	11.50	1,455.04
	8/13/2015		---	11.61	1,454.93
	11/12/2015		---	11.89	1,454.65
	7/7/2016		---	11.52	1,455.02
	8/30/2016		---	11.10	1,455.44
	12/2/2016		---	11.93	1,454.61
	3/23/2017		---	11.09	1,455.45

TABLE 1

SUMMARY OF GROUNDWATER ELEVATION DATA

Circle K Store #2706042
10171 Highway 12

Well ID	Date	TOC Elevation (ft amsl)	Depth to Free Product (ft btoc)	Depth to Groundwater (ft btoc)	Groundwater Elevation (ft amsl)
	6/28/2017	1466.54	---	11.07	1,455.47
	9/29/2017		---	10.89	1,455.65
	12/5/2017		---	11.23	1,455.31
	3/6/2018		---	12.04	1,454.50
	7/9/2018		---	11.05	1,455.49
	9/24/2018		---	11.24	1,455.30
	11/30/2018		---	11.99	1,454.55
	4/22/2019		---	10.74	1,455.80
	7/9/2019		---	11.56	1,454.98
	9/25/2019		---	11.24	1,455.30
	1/28/2020		---	11.94	1,454.60
	5/16/2020		---	10.75	1,455.79
MW-5	7/7/2016	1466.25	---	10.27	1,455.98
	8/30/2016		---	9.88	1,456.37
	12/2/2016		---	10.84	1,455.41
	3/23/2017		---	10.01	1,456.24
	6/28/2017		---	9.88	1,456.37
	9/29/2017		---	9.91	1,456.34
	12/5/2017		---	10.30	1,455.95
	3/6/2018		---	11.08	1,455.17
MW-6	7/7/2016	1465.82	---	10.05	1,455.77
	8/30/2016		---	9.64	1,456.18
	12/2/2016		---	NA	NA
	3/23/2017		---	9.87	1,455.95
	6/28/2017		---	9.80	1,456.02
	9/28/2017		---	9.83	1,455.99
	12/5/2017		---	10.23	1,455.59
	3/6/2018		---	10.91	1,454.91
	7/9/2018		---	9.99	1,455.83
	9/24/2018		---	10.10	1,455.72
	11/30/2018		---	10.84	1,454.98
	4/22/2019		---	9.75	1,456.07
	7/9/2019		---	10.25	1,455.57
	9/25/2019		---	10.09	1,455.73
	1/28/2020		---	10.83	1,454.99
	5/16/2020		---	9.72	1,456.10
MW-7	7/7/2016		---	10.35	1,455.64

TABLE 1

SUMMARY OF GROUNDWATER ELEVATION DATA

Circle K Store #2706042
10171 Highway 12

Well ID	Date	TOC Elevation (ft amsl)	Depth to Free Product (ft btoc)	Depth to Groundwater (ft btoc)	Groundwater Elevation (ft amsl)
	8/30/2016	1465.99	---	10.13	1,455.86
	12/2/2016		---	11.04	1,454.95
	3/23/2017		---	10.21	1,455.78
	6/28/2017		---	10.25	1,455.74
	9/29/2017		---	10.15	1,455.84
	12/5/2017		---	10.49	1,455.50
	3/6/2018		---	11.30	1,454.69
MW-8	7/7/2016	1465.50	---	9.82	1,455.68
	8/30/2016		---	8.97	1,456.53
	12/2/2016		---	10.17	1,455.33
	3/23/2017		---	9.56	1,455.94
	6/28/2017		---	9.53	1,455.97
	9/29/2017		---	9.47	1,456.03
	12/5/2017		---	9.86	1,455.64
	3/6/2018		---	10.62	1,454.88
	7/9/2018		---	9.68	1,455.82
	9/24/2018		---	9.75	1,455.75
	11/30/2018		---	10.52	1,454.98
	4/22/2019		---	9.35	1,456.15
	7/9/2019		---	9.96	1,455.54
	9/25/2019		---	9.73	1,455.77
	1/28/2020		---	10.52	1,454.98
	5/16/2020		---	9.33	1,456.17

NOTES:

- ft btoc = Feet Below Top Of Casing
- ft amsl = Feet Above Mean Sea Level
- TOC = Top of Casing
- = Not Present/Not Applicable

TABLE 2

SUMMARY OF GROUNDWATER SAMPLE LABORATORY ANALYTICAL RESULTS

Circle K Store #2706042
 10171 Highway 12
 Naches, Washington 98937

Sample ID	Date Collected	NWTPH-Gx (ug/L)	NWTPH-Dx (ug/L)	NWTPH-O (ug/L)	EPA Method 8260														Total Lead (ug/L)	Other VOCs (ug/L)
					Benzene (ug/L)	Toluene (ug/L)	EB (ug/L)	m&p-Xylenes (ug/L)	o-Xylene (ug/L)	MTBE (ug/L)	EDB (ug/L)	EDC (ug/L)	Naph (ug/L)	Isoprop (ug/L)	1,2,4-TMB (ug/L)	1,3,5-TMB (ug/L)	Arsenic (ug/L)			
MW-1	8/12/2013	<50	---	---	1.1	<1.0	<1.0	<2.0	<1.0	<1.0	<0.01	NA	<1.0	<1.0	<1.0	<1.0	NA	---	ND	
	8/8/2014	340	---	---	<0.10	0.27	<0.10	0.26	0.11	<0.10	<0.01	<0.10	<0.40	<0.10	<0.10	<0.10	NA	---	1,2-Dichloropropane 0.16	
	12/10/2014	170	---	---	<0.10	1.9	0.13	29	5.1	<0.10	<0.01	<0.10	<0.40	1.5	<0.10	<0.10	NA	---	ND	
	5/28/2015	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	<0.5	<0.5	<0.2	<0.2	NA	---	ND	
	8/13/2015	<50	---	---	3.1	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	2.6	<0.5	<0.2	<0.5	NA	---	ND	
	11/12/2015	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	<0.5	<0.5	<0.2	<0.5	NA	---	ND	
	7/7/2016	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	<0.5	<0.5	<0.2	<0.5	NA	---	ND	
	8/30/2016	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	<0.5	<0.5	<0.2	<0.5	NA	---	ND	
	12/2/2016	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	<0.5	<0.5	<0.2	<0.5	NA	---	ND	
	3/23/2017	<50	---	---	<0.2	<0.2	<0.2	<0.4	<0.2	<0.5	<0.01	<0.2	<0.5	<0.5	<0.2	<0.2	NA	---	ND	
	6/28/2017	<500	---	---	<0.2	<0.2	<0.2	<0.5	<0.2	<0.5	<0.01	<0.2	<0.5	<0.5	<0.2	<0.5	NA	---	ND	
	9/29/2017	<250	<110	<240	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	---	<0.2	<0.5	<0.5	<0.2	<0.5	NA	<30	ND	
	12/5/2017	<250	<100	<240	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	<0.5	<0.5	<0.2	<0.5	NA	<30	ND	
	3/6/2018	<250	<110	<360	<0.2	<0.2	<0.2	<0.5	<0.5	<0.3	<0.0099	<0.2	<1.0	<1.0	<0.3	<0.5	28	53	ND	
	7/9/2018	<150	<110	<350	<0.2	<0.2	<0.2	<0.5	<0.5	<0.3	<0.01	<0.2	<1.0	<1.0	<0.3	<0.5	<5.0	<4.0	ND	
	9/24/2018	<250	<110	<350	<0.2	<0.2	<0.2	<0.50	<0.5	<0.3	<0.01	<0.2	<1.0	<1.0	<0.3	<0.5	<5.0	7.7	ND	
11/30/2018	<250	<110	<360	<0.2	<0.2	<0.2	<0.5	<0.5	<0.3	<0.01	<0.2	<1.0	<1.0	<0.30	<0.50	31	57	ND		
4/22/2019	<250	<240	<400	<0.2	<0.2	<0.2	<0.5	<0.5	<0.3	<0.0099	<0.2	<1.0	<1.0	<0.30	<0.50	7.7	11	ND		
7/9/2019	<250	<110	<350	<0.2	<0.2	<0.2	<0.5	<0.5	<0.3	<0.0099	<0.2	<1.0	<1.0	<0.30	<0.50	3.1	5.4	ND		
9/25/2019	<250	130	<350	<0.2	<0.2	<0.2	<0.5	<0.5	<0.3	<0.0099	<0.2	<1.0	<1.0	<0.30	<0.50	<5.0	4.7	ND		
MW-2	8/12/2013	<50	---	---	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<0.01	NA	<1.0	<1.0	<1.0	<1.0	NA	---	ND	
	8/8/2014	130	---	---	<0.10	<0.10	<0.10	<0.20	<0.10	<0.10	<0.01	<0.10	<0.40	<0.10	<0.10	<0.10	NA	---	ND	
	12/10/2014	<50	---	---	0.32	<0.10	<0.10	<0.20	<0.10	<0.10	<0.01	<0.10	<0.40	<0.10	<0.10	<0.10	NA	---	ND	
	5/28/2015	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	<0.5	<0.5	<0.2	<0.2	NA	---	ND	
	8/13/2015	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	<0.5	<0.5	<0.2	<0.2	NA	---	ND	
	11/12/2015	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	<0.5	<0.5	<0.2	<0.5	NA	---	ND	
	7/7/2016	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	<0.5	<0.5	<0.2	<0.5	NA	---	ND	
	8/30/2016	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	<0.5	<0.5	<0.2	<0.5	NA	---	ND	
	12/2/2016	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.0099	<0.2	<0.5	<0.5	<0.2	<0.5	NA	---	ND	
	3/23/2017	<50	---	---	<0.2	<0.2	<0.2	<0.4	<0.2	<0.2	<0.01	<0.2	<0.5	<0.5	<0.2	<0.2	NA	---	ND	
	6/28/2017	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	<0.5	<0.5	<0.2	<0.5	NA	---	ND	
	9/29/2017	<250	<100	<240	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	<0.5	<0.5	<0.2	<0.5	NA	<30	ND	
	12/5/2017	<250	<100	<240	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	<0.5	<0.5	<0.2	<0.5	NA	1.7	ND	
3/6/2018	<250	<110	<350	<0.2	<0.2	<0.2	<0.5	<0.5	<0.3	<0.0098	<0.2	<1.0	<1.0	<0.3	<0.5	NA	19	ND		

TABLE 2

SUMMARY OF GROUNDWATER SAMPLE LABORATORY ANALYTICAL RESULTS

Circle K Store #2706042
 10171 Highway 12
 Naches, Washington 98937

Sample ID	Date Collected	NWTPH-Gx (ug/L)	NWTPH-Dx (ug/L)	NWTPH-O (ug/L)	Benzene (ug/L)	Toluene (ug/L)	EB (ug/L)	m&p-Xylenes (ug/L)	o-Xylene (ug/L)	MTBE (ug/L)	EDB (ug/L)	EDC (ug/L)	Naph (ug/L)	Isoprop (ug/L)	1,2,4-TMB (ug/L)	1,3,5-TMB (ug/L)	Arsenic (ug/L)	Total Lead (ug/L)	Other VOCs (ug/L)
MW-3	8/12/2013	50000	---	---	<1.0	27	830	1,500	930	<1.0	<0.01	NA	380	160	1,200	780	NA	---	4-Isopropyltoluene 22; n-Butylbenzene 550; N-propylbenzene 490; sec-Butylbenzene 34; Styrene 32;
	8/8/2014	59000	---	---	2.6	15	1100	5,300	920	<0.10	<0.01	<0.10	320	110	3,600	1,300	NA	---	4-isopropylbenzene 57; n-Butylbenzene 510; N-Propylbenzene 430; sec-butylbenzene 31; Styrene 27;
	12/10/2014	49000	---	---	200	25	860	4,100	1000	<0.10	<0.01	<0.10	560	160	770	1,200	NA	---	4-isopropylbenzene 19; n-Butylbenzene 670; N-Propylbenzene 460; sec-butylbenzene 38; Styrene 1.2;
	5/28/2015	56000	---	---	2800	3100	1300	5,100	1200	<0.2	<0.01	<0.2	520	180	4,800	1,300	NA	---	4-isopropylbenzene 16; n-Butylbenzene 680; sec-butylbenzene 43; Styrene 1.4;
	8/13/2015	74000	110	---	2400	2300	1200	2,600	1200	<2	<0.01	<0.2	600	180	1,900	1,300	NA	---	#2 Diesel 0.11; sec-Butylbenzene 43; n-Butylbenzene 710; N-Propylbenzene 590; 4-Isopropyltoluene 19
	11/12/2015	54000	12000	---	1900	1800	970	3,000	780	<0.2	<0.01	<0.2	33	140	3,100	830	NA	---	4-Isopropyltoluene 16; Styrene 0.82; n-Butylbenzene 530; N-Propylbenzene 520; #2 Diesel 12000 Motor Oil 860
	7/7/2016	36000	---	---	540	260	1000	3,000	790	<0.2	<0.40	<0.2	9	130	3,700	790	NA	---	Styrene 0.74; 4-isopropyltoluene 19; N-propylbenzene 520; n-Butylbenzene 590;
	8/30/2016	1900	---	---	14	33	36	100	32	<0.2	<0.001	<0.2	26	3.5	110	42	NA	---	1,3 Dichloropropene 0.5; N-Propylbenzene 13 ; sec-Butylbenzene 1.1; 4-Isopropyltoluene 0.84; n-Butylbenzene 44 ;
	12/2/2016	10000	---	---	150	25	510	1,200	280	<10	<0.0099	<10	350	84	2,400	540	NA	---	N-Propylbenzene 290; 4-Isopropyltoluene 15; n-Butylbenzene 430

TABLE 2

SUMMARY OF GROUNDWATER SAMPLE LABORATORY ANALYTICAL RESULTS

Circle K Store #2706042
 10171 Highway 12
 Naches, Washington 98937

Sample ID	Date Collected	NWTPH-Gx (ug/L)	NWTPH-Dx (ug/L)	NWTPH-O (ug/L)	Benzene (ug/L)	Toluene (ug/L)	EB (ug/L)	m&p-Xylenes (ug/L)	o-Xylene (ug/L)	MTBE (ug/L)	EDB (ug/L)	EDC (ug/L)	Naph (ug/L)	Isoprop (ug/L)	1,2,4-TMB (ug/L)	1,3,5-TMB (ug/L)	Arsenic (ug/L)	Total Lead (ug/L)	Other VOCs (ug/L)
	3/23/2017	18000	---	---	52.9	5.52	264	358	121	<0.5	<0.01	<0.2	<0.5	47.5	247	132	NA	---	2-Chlorotoluene 27.6; N-Propylbenzene 98.9; sec-Butylbenzene 15.1; 4-Isopropyltoluene 9.73; n-Butylbenzene 19.0;
	6/28/2017	8700	---	---	18	7.3	190	280	59	<2.0	<0.01	<2.0	91	38	940	81	NA	---	N-Propylbenzene 120; sec-Butylbenzene 14; 4-Isopropyltoluene 6.7; n-Butylbenzene 120;
	8/2/2017	4400	---	---	5.67	1.15	63.2	76	4.43	<0.15	<0.15	<0.15	25.1	13.9	402	7.5	NA	---	4-Chlorotoluene 10.0; N-Propylbenzene 58.3; sec-Butylbenzene 5.61; p-Isopropyltoluene 2.32; n-Butylbenzene 10.2;
	9/29/2017	10000	1400	300	32	<10	370	470	29	<10	<0.0099	<10	130	<250	1,500	76	NA	43	N-Propylbenzene 270; n-Butylbenzene 160;
	12/5/2017	7800	1900	400	22	3.5	210	110	19	<10	<0.01	<0.2	110	43	1,200	6.9	NA	12	N-Propylbenzene 160; n-Butylbenzene 50; 4-Isopropyltoluene 4.6; sec-butylbenzene 15
	3/6/2018	8400	2300	490	11	<10	210	88	<25	<15	<0.0099	<10	56	<50	1,300	<25	NA	57	N-Propylbenzene 160; n-Butylbenzene 79;
	7/9/2018	6300	2700	<360	8.4	6.0	260	270	38	<0.30	<0.0099	<0.20	96	56	1,400	59	9.3	13	N-Propylbenzene 210; n-Butylbenzene 130; 4-Isopropyltoluene 9.5; sec-butylbenzene 20
	9/24/2018	3,700	1,200	<360	2.8	0.98	85	19	4.5	<0.30	<0.01	<0.20	30	24	500	1.6	12	11	1,1,2-Trichloroethane 0.24; N-Butylbenzene 29; sec-Butylbenzene 8.1; 4-Isopropyltoluene 2.4; Propylbenzene 81
	11/30/2018	6,200	1,500	<350	4.8	<2.0	150	30	6.2	<3.0	<0.01	<0.20	41	54	960	<5.0	25	40	sec-Butylbenzene 16; n-Butylbenzene 60;
	4/22/2019	3,500	1,000	<400	2.6	<0.20	61	3	2.6	<0.30	<0.01	<0.20	1.4	32	57	5.7	6.0	4.4	N-Butylbenzene 50; sec-Butylbenzene 12; Isopropyltoluene 4.0; N-Propylbenzene 39
	7/9/2019	1,900	260	<350	0.97	0.39	18	14	0.9	<0.30	<0.01	<0.20	14	25	26	<0.50	5.0	8.0	sec-Butylbenzene 10; Isopropyltoluene 4.0; N-Propylbenzene 32

TABLE 2

SUMMARY OF GROUNDWATER SAMPLE LABORATORY ANALYTICAL RESULTS

Circle K Store #2706042
 10171 Highway 12
 Naches, Washington 98937

Sample ID	Date Collected	NWTPH-Gx (ug/L)	NWTPH-Dx (ug/L)	NWTPH-O (ug/L)	Benzene (ug/L)	Toluene (ug/L)	EB (ug/L)	m&p-Xylenes (ug/L)	o-Xylene (ug/L)	MTBE (ug/L)	EDB (ug/L)	EDC (ug/L)	Naph (ug/L)	Isoprop (ug/L)	1,2,4-TMB (ug/L)	1,3,5-TMB (ug/L)	Arsenic (ug/L)	Total Lead (ug/L)	Other VOCs (ug/L)
	9/25/19'	1,800	630	<350	1.90	0.58	64	25	2.3	<0.30	<0.01	<0.20	25	43	33	27	6.6	21	sec-Butylbenzene 16; Isopropyltoluene 2.9; N-Propylbenzene 42; 1,1,2-Trichloroethane 6.9;
	1/28/2020	2,400	1,200	<350	0.93	0.49	30	15	1.3	<0.30	<0.019	<0.20	15	32	37	37	7.4	11	sec-Butylbenzene 16; Isopropyltoluene 2.9; N-Propylbenzene 69; tert-butylbenzene 43;
	5/16/2020	380	280	<320	<0.20	<0.20	3.2	<0.50	<0.50	<0.30	<0.01	<0.20	<1.0	3.5	7.7	<0.50	<10	<8.0	sec-Butylbenzene 4.8; 1,1,2-Trichloroethane 4.9; N-Propylbenzene 9.2; N-Butylbenzene 9.0;
MW-4	8/12/2013	590	---	---	<1.0	<1.0	1.3	7.0	1.7	<1.0	<0.01	NA	72	<1.0	12	4.1	NA	---	N-propylbenzene 1.9
	8/8/2014	<50	---	---	<1.0	0.22	<1.0	<0.20	<0.10	<1.0	<0.01	<0.10	<0.40	<1.0	<0.10	<0.10	NA	---	1,2-Dichloropropane 0.17; sec-Butylbenzene 0.20
	12/10/2014	<50	---	---	12	0.12	0.71	3.6	0.64	<0.10	<0.01	<0.10	4.1	0.17	1.3	1.6	NA	---	sec-Butylbenzene 1.3
	5/28/2015	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	<0.5	<0.5	<0.2	<0.2	NA	---	N-propylbenzene 1.2
	8/13/2015	51.0	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	<0.5	<0.5	<0.2	<0.2	NA	---	trans-1,2 Dichloroethene 0.29;
	11/12/2015	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	<0.5	<0.5	<0.2	<0.5	NA	---	ND
	7/7/2016	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	2	<0.5	<0.2	<0.5	NA	---	ND
	8/30/2016	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	<0.5	<0.5	<0.2	<0.5	NA	---	ND
	12/2/2016	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.0099	<0.2	<0.50	<0.5	<0.2	<0.5	NA	---	ND
	3/23/2017	<50	---	---	<0.2	<0.2	0.32	0.7	<0.2	<0.5	<0.01	<0.2	11.4	<0.2	3.44	0.49	NA	---	N-propylbenzene 0.34
	6/28/2017	<50	---	---	<2.0	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	<0.5	<0.5	<0.2	<0.5	NA	---	ND
	9/29/2017	<250	<100	<240	<2.0	<0.2	<0.2	<0.5	<0.5	<0.2	<0.0099	<0.2	<0.5	<0.5	<0.2	<0.5	NA	<30	ND
	12/5/2017	<250	<100	<240	<2.0	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	<0.5	<0.5	<0.2	<0.5	NA	3.1	ND
	3/6/2018	<250	<110	<360	<2.0	<0.2	<0.2	<0.5	<0.5	<0.3	<0.0097	<0.2	<1.0	<1.0	<0.3	<0.5	NA	23	ND
	7/9/2018	<150	<110	<350	<2.0	<0.2	<0.2	<0.5	<0.5	<0.3	<0.01	<0.2	<1.0	<1.0	<0.3	<0.5	<5.0	<4.0	ND
	9/24/2018	<250	<110	<350	<2.0	<0.2	<0.2	<0.5	<0.5	<0.3	<0.0099	<0.20	<1.0	<1.0	<0.3	<0.5	6.9	9.2	ND
11/30/2018	<250	<110	<360	<0.2	<0.2	<0.2	<0.5	<0.5	<0.3	<0.01	<0.2	<1.0	<1.0	<0.3	<0.5	12	15	Chloroform 0.41	
4/22/2019	<250	<110	<420	<0.2	<0.2	<0.2	<0.5	<0.5	<0.3	<0.01	<0.2	<1.0	<1.0	<0.3	<0.5	<5.0	<4.0	ND	
7/9/2019	<250	<110	<350	<0.2	<0.2	<0.2	<0.5	<0.5	<0.3	<0.01	<0.2	<1.0	<1.0	<0.3	<0.5	<2.0	1.5	ND	
9/25/2019	<250	<110	<350	<0.2	<0.2	<0.2	<0.5	<0.5	<0.3	<0.0099	<0.2	<1.0	<1.0	<0.3	<0.5	<5.0	<4.0	ND	

TABLE 2

SUMMARY OF GROUNDWATER SAMPLE LABORATORY ANALYTICAL RESULTS

Circle K Store #2706042
10171 Highway 12
Naches, Washington 98937

Sample ID	Date Collected	NWTPH-Gx (ug/L)	NWTPH-Dx (ug/L)	NWTPH-O (ug/L)	Benzene (ug/L)	Toluene (ug/L)	EB (ug/L)	m&p-Xylenes (ug/L)	o-Xylene (ug/L)	MTBE (ug/L)	EDB (ug/L)	EDC (ug/L)	Naph (ug/L)	Isoprop (ug/L)	1,2,4-TMB (ug/L)	1,3,5-TMB (ug/L)	Arsenic (ug/L)	Total Lead (ug/L)	Other VOCs (ug/L)
MW-5	7/7/2016	850	---	---	1.9	33.0	14.0	96 E	67	0.70	<0.01	<0.2	4.3	0.7	40	<0.5	NA	---	N-Propylbenzene 2.2; 4- Isopropyltoluene 0.34 n-Butylbenzene 17;
	8/30/2016	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	<0.5	<0.5	<0.2	<0.5	NA	---	ND
	12/2/2016	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.0099	<0.2	<0.5	<0.5	0.32	0.51	NA	---	n-Butylbenzene 0.95
	3/23/2017	<50	---	---	<0.2	<0.2	<0.2	<0.4	<0.2	<0.5	<0.2	<0.2	1.64	<0.2	0.87	<0.2	NA	---	ND
	6/28/2017	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.5	NA	---	ND
	9/29/2017	<250	<100	<240	<0.2	<0.2	<0.2	<0.5	<0.5	<0.5	<0.0099	<0.2	<0.5	<0.5	<0.2	<0.5	NA	<30	ND
	12/5/2017	<250	<110	<240	<0.2	<0.2	<0.2	<0.5	<0.5	<0.5	<0.01	<0.2	<0.5	<0.5	<0.2	<0.5	NA	3.2	ND
	3/6/2018	<250	<110	<350	<0.2	<0.2	<0.2	<0.5	<0.5	<0.3	<0.0099	<0.2	<1.0	<1.0	<0.3	<0.5	NA	5.4	ND
MW-6	7/7/2016	79	---	---	0.31	0.26	0.68	2.10	1.30	<0.20	<0.01	<0.20	0.51	<0.50	2.30	0.91	NA	---	n-butylbenzene 0.94
	8/30/2016	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	0.50	<0.5	<0.2	<0.5	NA	---	ND
	12/2/2016	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.0099	<0.2	<0.5	<0.5	<0.2	<0.5	NA	---	ND
	3/23/2017	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	0.62	<0.2	0.43	<0.2	NA	---	ND
	6/28/2017	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	<0.5	<0.5	<0.2	<0.5	NA	---	ND
	9/29/2017	<250	<100	<240	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.0099	<0.2	<0.5	<0.5	<0.2	<0.5	NA	<30	ND
	12/5/2017	<250	<110	<240	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.0099	<0.2	<0.5	<0.5	<0.2	<0.5	NA	5.4	ND
	3/6/2018	<250	<110	<350	<0.2	<0.2	<0.2	<0.5	<0.5	<0.3	<0.0099	<0.2	<1.0	<1.0	<0.3	<0.5	NA	7.3	ND
	7/9/2018	<150	120	<360	<0.2	<0.2	<0.2	<0.5	<0.5	<0.3	<0.0099	<0.2	<1.0	<1.0	<0.3	<0.5	<5.0	<4.0	ND
	9/24/2018	<250	<110	<350	<0.2	<0.2	<0.2	<0.5	<0.5	<0.3	<0.01	<0.2	<1.0	<1.0	<0.3	<0.5	<5.0	10	ND
	11/30/2018	<250	<110	<360	<0.2	<0.2	<0.2	<0.5	<0.5	<0.3	<0.01	<0.2	<1.0	<1.0	<0.3	<0.5	13	29	ND
	4/22/2019	<250	<240	<400	<0.2	<0.2	<0.2	<0.5	<0.5	<0.3	<0.01	<0.2	<1.0	<1.0	<0.3	<0.5	<5.0	8	ND
	7/9/2019	<250	<110	<350	<0.2	<0.2	<0.2	<0.5	<0.5	<0.3	<0.0099	<0.2	<1.0	<1.0	<0.3	<0.5	<5.0	5.1	ND
	9/25/2019	<250	<110	<350	<0.2	<0.2	<0.2	<0.5	<0.5	<0.3	<0.0099	<0.2	<1.0	<1.0	<0.3	<0.5	<5.0	<4.0	ND
MW-7	7/7/2016	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	2	<0.5	<0.2	<0.5	NA	---	ND
	8/30/2016	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	<0.5	<0.5	<0.2	<0.5	NA	---	ND
	12/2/2016	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.0099	<0.2	<0.5	<0.5	<0.2	<0.5	NA	---	ND
	3/27/2017	<50	---	---	<0.2	<0.2	<0.2	<0.4	<0.2	<0.5	<0.01	<0.2	<0.5	<0.2	0.28	<0.2	NA	---	ND
	6/28/2017	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	<0.5	<0.5	<0.2	<0.5	NA	---	ND
	9/29/2017	<250	<100	<240	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.0099	<0.2	<0.5	<0.5	<0.2	<0.5	NA	<30	ND
	12/5/2017	<250	<110	<240	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.0099	<0.2	<0.5	<0.5	<0.2	<0.5	NA	<0.8	ND
	3/6/2018	<250	<110	<350	<0.2	<0.2	<0.2	<0.5	<0.5	<0.3	<0.0099	<0.2	<1.0	<1.0	<0.3	<0.5	NA	<4.0	ND
MW-8	7/7/2016	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	2	<0.5	<0.2	<0.5	NA	---	ND
	8/30/2016	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	<0.5	<0.5	<0.2	<0.5	NA	---	ND
	12/2/2016	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	<0.5	<0.5	<0.2	<0.5	NA	---	ND
	3/27/2017	<50	---	---	<0.2	<0.2	<0.2	<0.4	<0.2	<0.5	<0.01	<0.2	<0.5	<0.2	0.21	<0.2	NA	---	ND
	6/28/2017	<50	---	---	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.01	<0.2	<0.5	<0.5	<0.2	<0.5	NA	---	ND
	9/29/2017	<250	<110	<240	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.0099	<0.2	<0.5	<0.5	<0.2	<0.5	NA	<30	ND
	12/5/2017	<250	<100	<240	<0.2	<0.2	<0.2	<0.5	<0.5	<0.2	<0.0099	<0.2	<0.5	<0.5	<0.2	<0.5	NA	7.7	ND
	3/6/2018	<250	<110	<350	<0.2	<0.2	<0.2	<0.5	<0.5	<0.3	<0.01	<0.2	<1.0	<1.0	<0.3	<0.5	NA	21	ND
	7/9/2018	<150	<110	<350	<0.2	<0.2	<0.2	<0.5	<0.5	<0.3	<0.01	<0.2	<1.0	<1.0	<0.3	<0.5	20	33	ND
9/24/2018	<250	<110	<350	<0.2	<0.2	<0.2	<0.5	<0.5	<0.3	<0.01	<0.2	<1.0	<1.0	<0.3	<0.5	30	46	ND	

TABLE 2

SUMMARY OF GROUNDWATER SAMPLE LABORATORY ANALYTICAL RESULTS

Circle K Store #2706042
 10171 Highway 12
 Naches, Washington 98937

Sample ID	Date Collected	NWTPH-Gx (ug/L)	NWTPH-Dx (ug/L)	NWTPH-O (ug/L)	Benzene (ug/L)	Toluene (ug/L)	EB (ug/L)	m&p-Xylenes (ug/L)	o-Xylene (ug/L)	MTBE (ug/L)	EDB (ug/L)	EDC (ug/L)	Naph (ug/L)	Isoprop (ug/L)	1,2,4-TMB (ug/L)	1,3,5-TMB (ug/L)	Arsenic (ug/L)	Total Lead (ug/L)	Other VOCs (ug/L)
	11/30/2018	<250	<110	<360	<0.2	<0.2	<0.2	<0.5	<0.5	<0.3	<0.10	<0.2	<1.0	<1.0	<0.3	<0.5	19	30	ND
	4/22/2019	<250	<240	<410	<0.2	<0.2	<0.2	<0.5	<0.5	<0.3	<0.10	<0.2	<1.0	<1.0	<0.3	<0.5	14	21	ND
	7/9/2019	<250	<110	<350	<0.2	<0.2	<0.2	<0.5	<0.5	<0.3	<0.10	<0.2	<1.0	<1.0	<0.3	<0.5	3.5	7.4	ND
	9/25/2019	<250	<110	<350	<0.2	<0.2	<0.2	<0.5	<0.5	<0.3	0.043p	<0.2	<1.0	<1.0	<0.3	<0.5	<5.0	<4.0	ND
MTCA Cleanup Standards		800	500	500	5	1,000	700	1,000		20	0.01	NA	160	NA	NA	NA	5	15	NA

Notes:

- EB Ethylbenzene
- EPA U.S. Environmental Protection Agency
- mg/L milligrams per liter (parts per million)
- ug/L micrograms per liter (parts per billion)
- NWTPH-Gx Northwest Total Petroleum Hydrocarbons - Gasoline Range
- MTBE Methyl-tert-butyl Ether
- EDB Ethylene Dibromide
- Naph Naphthalene
- Isoprop Isopropylbenzene
- TMB Trimethylbenzene
- BOLD** Concentration exceeds laboratory reporting limit or method detection limit
- RED** Concentration exceeds applicable MTCA Cleanup Standard
- NA MTCA cleanup standard not available
- ND Not Detected above reporting limit
- MTCA Model Toxics Control Act

APPENDICES

APPENDIX A

GROUNDWATER SAMPLE DATA SHEETS

FLWA

X

As

CONVICTED BY
JANUARY 19

12/1/52

CONVICTED BY



BLAES ENVIRONMENTAL MANAGEMENT
45 East Monterey Way, Phoenix, Arizona 85012
602 728 0707

GROUNDWATER SAMPLING FORM

Well No.: MW-3
Well Type: Monitor Remedial - VE AS
 Other: _____
Well Material: PVC St. Steel
 Other: _____

Site ID: CIRCUIT 6042
Project No.: 202-6042-10
Recorded By: BLAES

WELL PURGING

Purge Volume: _____ Purge Date: 5/16/26 Purge Method: _____
Casing Diameter (D) in inches: 2-inch 4-inch 6-inch Other: _____
Bailer - Type: _____
Submersible Submersible Whale
Other: low flow LOW FLOW
Total Depth of Casing (TD in feet BTOC): _____
Water Level Depth (WL in feet BTOC): 10.44'
Number of Well Volumes (# Vols) to be Purged:
 3 4 5 Other: Low-flow
Pump Intake Setting: _____
 Near Bottom Near Top Other: _____
Depth in feet (BTOC): _____
Screen Interval in Feet (BTOC): from _____ to _____

Pump Time: _____ Purge Rate: _____ Actual Purge Volume: _____
Start: _____ Stop: _____ Time Elapsed: _____ Initial: _____ ml/min _____ gallons
Final: _____ ml/min

Field Parameter Measurements

Stabilization Settings

Time	Temp. (°C)	Cond. 1 (umhos/cm)	Cond. 2 (umhos/cm)	DO% +/- 10%	DO (mg/L) 0.2 mg/L +/- 10%	pH +/- 10%	ORP (mV) +/- 10%	Turbidity +/- 10% or +/- 1.0 NTU	Depth to Water	Notes
INSITU	13.16	403	312	6.4	0.67	6.94	-152	0.262	0.19	
2:20	14.36	277	220	18.0	1.82	6.58	-79	0.179	0.13	1
2:25	14.34	272	219	16.3	1.69	6.58	-78	0.176	0.13	2
2:30	14.34	264	210	13.3	1.36	6.56	-76	0.171	0.13	3
2:35	14.43	255	203	13.2	1.35	6.53	-77	0.166	0.12	4
2:40	14.43	255	203	13.1	1.34	6.53	-77	0.165	0.12	5

INSITU
BUCKET

Purge Water Storage/Disposal: Drum(s), Number: _____ Sanitary Sewer Storm Sewer
Observations During Purging (well Condition, Turbidity, Color, Odor, etc.): _____

WELL SAMPLING

Sampled By: BLAES Sampling date: 5/16/26 Sampling Time: 2:40pm

Water Level Before Sampling (in feet BTOC): _____

Sample No.	# Containers, Vol.	Preservative	Analysis	Lab	Comments
MW-3					

Other Notes: _____

APPENDIX B

GROUNDWATER LABORATORY ANALYTICAL REPORTS

ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-94738-1
Client Project/Site: Circle K #6042
Sampling Event: Circle K #6042 Naches

For:
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Attn: Dan Blaes

M. Elaine Walker

Authorized for release by:
5/26/2020 4:53:31 PM

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Results relate only to the items tested and the sample(s) as received by the laboratory.



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Case Narrative

Client: Blaes Environmental Inc.
Project/Site: Circle K #6042

Job ID: 580-94738-1

Job ID: 580-94738-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

CASE NARRATIVE
Client: Blaes Environmental Inc.
Project: Circle K #6042
Report Number: 580-94738-1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) resulting from a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes within the calibration range of the instrument or that reduces the interferences thereby enabling the quantification of target analytes.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

One sample was received on 5/18/2020 8:20 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.1° C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Sample MW-3 (580-94738-1) was analyzed for volatile organic compounds (GC-MS) in accordance with 8260D. The sample was analyzed on 05/21/2020.

The continuing calibration verification (CCV) associated with batch 580-328818 recovered above the upper control limit for Chlorobenzene, Chlorodibromomethane, Styrene and tert-Butylbenzene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: MW-3 (580-94738-1) and (CCVIS 580-328818/3).

The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 580-328818 was outside criteria for the following analyte(s): 2-Butanone, 2-Hexanone, 4-Methyl-2-pentanone, Acetone and Chloroethane. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analytes is considered estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GASOLINE RANGE ORGANICS (GRO)

Sample MW-3 (580-94738-1) was analyzed for gasoline range organics (GRO) in accordance with Method NWTPH-Gx. The sample was analyzed on 05/20/2020.

Sample MW-3 (580-94738-1) displays an atypical hydrocarbon pattern when compared to laboratory control samples.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

1,2-DIBROMOETHANE BY MICROEXTRACTION AND GAS CHROMATOGRAPHY

Sample MW-3 (580-94738-1) was analyzed for 1,2-dibromoethane by microextraction and gas chromatography in accordance with

Case Narrative

Client: Blaes Environmental Inc.
Project/Site: Circle K #6042

Job ID: 580-94738-1

Job ID: 580-94738-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

EPA SW-846 Method 8011. The sample was prepared on 05/19/2020 and analyzed on 05/20/2020.

CCV 580-328626/1-A recovered outside drift limits, high-biased, for Ethylene Dibromide on one column. The analyte was not detected in associated client samples; therefore, the data is reported from the passing column.

Ethylene Dibromide failed the recovery criteria high for LLCS 580-328626/6-A. The analyte was not detected in the associated client samples; therefore, the data is reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

DIESEL AND MOTOR OIL RANGE ORGANICS

Sample MW-3 (580-94738-1) was analyzed for diesel and motor oil range organics in accordance with Method NWTPH-Dx. The sample was prepared on 05/20/2020 and analyzed on 05/21/2020.

CCV 580-328759/14, CCV 580-328759/29 and CCVRT 580-328759/3 recovered outside drift limits for o-Terphenyl surrogate. Associated QC and client samples recovered within control limits; therefore, the data is reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

METALS (ICPMS)

Sample MW-3 (580-94738-1) was analyzed for Metals (ICPMS) in accordance with 6020B. The sample was prepared on 05/18/2020 and analyzed on 05/19/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



Definitions/Glossary

Client: Blaes Environmental Inc.
Project/Site: Circle K #6042

Job ID: 580-94738-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Blaes Environmental Inc.
Project/Site: Circle K #6042

Job ID: 580-94738-1

Client Sample ID: MW-3
Date Collected: 05/16/20 14:40
Date Received: 05/18/20 08:20

Lab Sample ID: 580-94738-1
Matrix: Water

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.30		ug/L			05/21/20 14:59	1
1,1,1-Trichloroethane	ND		0.20		ug/L			05/21/20 14:59	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			05/21/20 14:59	1
1,1,2-Trichloroethane	4.9		0.20		ug/L			05/21/20 14:59	1
1,1-Dichloroethane	ND		0.20		ug/L			05/21/20 14:59	1
1,1-Dichloroethene	ND		0.20		ug/L			05/21/20 14:59	1
1,1-Dichloropropene	ND		0.20		ug/L			05/21/20 14:59	1
1,2,3-Trichlorobenzene	ND		0.50		ug/L			05/21/20 14:59	1
1,2,3-Trichloropropane	ND		0.20		ug/L			05/21/20 14:59	1
1,2,4-Trichlorobenzene	ND		0.50		ug/L			05/21/20 14:59	1
1,2,4-Trimethylbenzene	7.7		0.30		ug/L			05/21/20 14:59	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			05/21/20 14:59	1
1,2-Dichlorobenzene	ND		0.30		ug/L			05/21/20 14:59	1
1,2-Dichloropropane	ND		0.20		ug/L			05/21/20 14:59	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			05/21/20 14:59	1
1,3-Dichlorobenzene	ND		0.30		ug/L			05/21/20 14:59	1
1,3-Dichloropropane	ND		0.20		ug/L			05/21/20 14:59	1
1,4-Dichlorobenzene	ND		0.30		ug/L			05/21/20 14:59	1
2,2-Dichloropropane	ND		0.50		ug/L			05/21/20 14:59	1
2-Chlorotoluene	ND		0.50		ug/L			05/21/20 14:59	1
4-Chlorotoluene	ND		0.30		ug/L			05/21/20 14:59	1
4-Isopropyltoluene	ND		0.50		ug/L			05/21/20 14:59	1
Benzene	ND		0.20		ug/L			05/21/20 14:59	1
Bromobenzene	ND		0.20		ug/L			05/21/20 14:59	1
Bromoform	ND		0.50		ug/L			05/21/20 14:59	1
Bromomethane	ND		0.50		ug/L			05/21/20 14:59	1
Carbon tetrachloride	ND		0.20		ug/L			05/21/20 14:59	1
Chlorobenzene	ND		0.20		ug/L			05/21/20 14:59	1
Chlorobromomethane	ND		0.20		ug/L			05/21/20 14:59	1
Chlorodibromomethane	ND		0.20		ug/L			05/21/20 14:59	1
Chloroethane	ND		0.50		ug/L			05/21/20 14:59	1
Chloroform	ND		0.20		ug/L			05/21/20 14:59	1
Chloromethane	ND		0.50		ug/L			05/21/20 14:59	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			05/21/20 14:59	1
cis-1,3-Dichloropropene	ND		0.20		ug/L			05/21/20 14:59	1
Dibromomethane	ND		0.20		ug/L			05/21/20 14:59	1
Dichlorobromomethane	ND		0.20		ug/L			05/21/20 14:59	1
Dichlorodifluoromethane	ND		0.40		ug/L			05/21/20 14:59	1
EDC	ND		0.20		ug/L			05/21/20 14:59	1
Ethylbenzene	3.2		0.20		ug/L			05/21/20 14:59	1
Hexachlorobutadiene	ND		0.50		ug/L			05/21/20 14:59	1
Isopropylbenzene	3.5		1.0		ug/L			05/21/20 14:59	1
Methyl tert-butyl ether	ND		0.30		ug/L			05/21/20 14:59	1
Methylene Chloride	ND		5.0		ug/L			05/21/20 14:59	1
m-Xylene & p-Xylene	ND		0.50		ug/L			05/21/20 14:59	1
Naphthalene	ND		1.0		ug/L			05/21/20 14:59	1
n-Butylbenzene	9.0		1.0		ug/L			05/21/20 14:59	1
N-Propylbenzene	9.2		0.30		ug/L			05/21/20 14:59	1
o-Xylene	ND		0.50		ug/L			05/21/20 14:59	1

Eurofins TestAmerica, Seattle

Client Sample Results

Client: Blaes Environmental Inc.
Project/Site: Circle K #6042

Job ID: 580-94738-1

Client Sample ID: MW-3
Date Collected: 05/16/20 14:40
Date Received: 05/18/20 08:20

Lab Sample ID: 580-94738-1
Matrix: Water

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	4.8		1.0		ug/L			05/21/20 14:59	1
Styrene	ND		1.0		ug/L			05/21/20 14:59	1
tert-Butylbenzene	ND		0.50		ug/L			05/21/20 14:59	1
Tetrachloroethene	ND		0.50		ug/L			05/21/20 14:59	1
Toluene	ND		0.20		ug/L			05/21/20 14:59	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			05/21/20 14:59	1
trans-1,3-Dichloropropene	ND		0.20		ug/L			05/21/20 14:59	1
Trichloroethene	ND		0.20		ug/L			05/21/20 14:59	1
Trichlorofluoromethane	ND		0.50		ug/L			05/21/20 14:59	1
Vinyl chloride	ND		0.020		ug/L			05/21/20 14:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 120					05/21/20 14:59	1
Dibromofluoromethane (Surr)	96		80 - 120					05/21/20 14:59	1
4-Bromofluorobenzene (Surr)	101		80 - 120					05/21/20 14:59	1
1,2-Dichloroethane-d4 (Surr)	101		80 - 120					05/21/20 14:59	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	0.38		0.25		mg/L			05/20/20 18:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		50 - 150					05/20/20 18:25	1

Method: 8011 - EDB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND	*	0.010		ug/L		05/19/20 18:58	05/20/20 01:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	106		60 - 140				05/19/20 18:58	05/20/20 01:06	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.28		0.10		mg/L		05/20/20 12:19	05/21/20 03:23	1
Motor Oil (>C24-C36)	ND		0.32		mg/L		05/20/20 12:19	05/21/20 03:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	57		50 - 150				05/20/20 12:19	05/21/20 03:23	1

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		10		ug/L		05/18/20 15:18	05/19/20 19:46	10
Lead	ND		8.0		ug/L		05/18/20 15:18	05/19/20 19:46	10

QC Sample Results

Client: Blaes Environmental Inc.
Project/Site: Circle K #6042

Job ID: 580-94738-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-328818/7
Matrix: Water
Analysis Batch: 328818

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.30		ug/L			05/21/20 12:20	1
1,1,1-Trichloroethane	ND		0.20		ug/L			05/21/20 12:20	1
1,1,2,2-Tetrachloroethane	ND		0.20		ug/L			05/21/20 12:20	1
1,1,2-Trichloroethane	ND		0.20		ug/L			05/21/20 12:20	1
1,1-Dichloroethane	ND		0.20		ug/L			05/21/20 12:20	1
1,1-Dichloroethene	ND		0.20		ug/L			05/21/20 12:20	1
1,1-Dichloropropene	ND		0.20		ug/L			05/21/20 12:20	1
1,2,3-Trichlorobenzene	ND		0.50		ug/L			05/21/20 12:20	1
1,2,3-Trichloropropane	ND		0.20		ug/L			05/21/20 12:20	1
1,2,4-Trichlorobenzene	ND		0.50		ug/L			05/21/20 12:20	1
1,2,4-Trimethylbenzene	ND		0.30		ug/L			05/21/20 12:20	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			05/21/20 12:20	1
1,2-Dichlorobenzene	ND		0.30		ug/L			05/21/20 12:20	1
1,2-Dichloropropane	ND		0.20		ug/L			05/21/20 12:20	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			05/21/20 12:20	1
1,3-Dichlorobenzene	ND		0.30		ug/L			05/21/20 12:20	1
1,3-Dichloropropane	ND		0.20		ug/L			05/21/20 12:20	1
1,4-Dichlorobenzene	ND		0.30		ug/L			05/21/20 12:20	1
2,2-Dichloropropane	ND		0.50		ug/L			05/21/20 12:20	1
2-Chlorotoluene	ND		0.50		ug/L			05/21/20 12:20	1
4-Chlorotoluene	ND		0.30		ug/L			05/21/20 12:20	1
4-Isopropyltoluene	ND		0.50		ug/L			05/21/20 12:20	1
Benzene	ND		0.20		ug/L			05/21/20 12:20	1
Bromobenzene	ND		0.20		ug/L			05/21/20 12:20	1
Bromoform	ND		0.50		ug/L			05/21/20 12:20	1
Bromomethane	ND		0.50		ug/L			05/21/20 12:20	1
Carbon tetrachloride	ND		0.20		ug/L			05/21/20 12:20	1
Chlorobenzene	ND		0.20		ug/L			05/21/20 12:20	1
Chlorobromomethane	ND		0.20		ug/L			05/21/20 12:20	1
Chlorodibromomethane	ND		0.20		ug/L			05/21/20 12:20	1
Chloroethane	ND		0.50		ug/L			05/21/20 12:20	1
Chloroform	ND		0.20		ug/L			05/21/20 12:20	1
Chloromethane	ND		0.50		ug/L			05/21/20 12:20	1
cis-1,2-Dichloroethene	ND		0.20		ug/L			05/21/20 12:20	1
cis-1,3-Dichloropropene	ND		0.20		ug/L			05/21/20 12:20	1
Dibromomethane	ND		0.20		ug/L			05/21/20 12:20	1
Dichlorobromomethane	ND		0.20		ug/L			05/21/20 12:20	1
Dichlorodifluoromethane	ND		0.40		ug/L			05/21/20 12:20	1
EDC	ND		0.20		ug/L			05/21/20 12:20	1
Ethylbenzene	ND		0.20		ug/L			05/21/20 12:20	1
Hexachlorobutadiene	ND		0.50		ug/L			05/21/20 12:20	1
Isopropylbenzene	ND		1.0		ug/L			05/21/20 12:20	1
Methyl tert-butyl ether	ND		0.30		ug/L			05/21/20 12:20	1
Methylene Chloride	ND		5.0		ug/L			05/21/20 12:20	1
m-Xylene & p-Xylene	ND		0.50		ug/L			05/21/20 12:20	1
Naphthalene	ND		1.0		ug/L			05/21/20 12:20	1
n-Butylbenzene	ND		1.0		ug/L			05/21/20 12:20	1
N-Propylbenzene	ND		0.30		ug/L			05/21/20 12:20	1

Eurofins TestAmerica, Seattle

QC Sample Results

Client: Blaes Environmental Inc.
Project/Site: Circle K #6042

Job ID: 580-94738-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-328818/7
Matrix: Water
Analysis Batch: 328818

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.50		ug/L			05/21/20 12:20	1
sec-Butylbenzene	ND		1.0		ug/L			05/21/20 12:20	1
Styrene	ND		1.0		ug/L			05/21/20 12:20	1
tert-Butylbenzene	ND		0.50		ug/L			05/21/20 12:20	1
Tetrachloroethene	ND		0.50		ug/L			05/21/20 12:20	1
Toluene	ND		0.20		ug/L			05/21/20 12:20	1
trans-1,2-Dichloroethene	ND		0.20		ug/L			05/21/20 12:20	1
trans-1,3-Dichloropropene	ND		0.20		ug/L			05/21/20 12:20	1
Trichloroethene	ND		0.20		ug/L			05/21/20 12:20	1
Trichlorofluoromethane	ND		0.50		ug/L			05/21/20 12:20	1
Vinyl chloride	ND		0.020		ug/L			05/21/20 12:20	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		80 - 120		05/21/20 12:20	1
Dibromofluoromethane (Surr)	95		80 - 120		05/21/20 12:20	1
4-Bromofluorobenzene (Surr)	100		80 - 120		05/21/20 12:20	1
1,2-Dichloroethane-d4 (Surr)	100		80 - 120		05/21/20 12:20	1

Lab Sample ID: LCS 580-328818/4
Matrix: Water
Analysis Batch: 328818

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	5.00	5.39		ug/L		108	79 - 127
1,1,1-Trichloroethane	5.00	4.79		ug/L		96	74 - 128
1,1,1,2,2-Tetrachloroethane	5.00	5.73		ug/L		115	69 - 139
1,1,2-Trichloroethane	5.00	5.72		ug/L		114	80 - 127
1,1-Dichloroethane	5.00	4.85		ug/L		97	74 - 135
1,1-Dichloroethene	5.00	5.17		ug/L		103	71 - 126
1,1-Dichloropropene	5.00	5.17		ug/L		103	72 - 132
1,2,3-Trichlorobenzene	5.00	5.57		ug/L		111	75 - 137
1,2,3-Trichloropropane	5.00	5.66		ug/L		113	80 - 127
1,2,4-Trichlorobenzene	5.00	5.49		ug/L		110	79 - 130
1,2,4-Trimethylbenzene	5.00	5.46		ug/L		109	78 - 136
1,2-Dibromo-3-Chloropropane	5.00	5.10		ug/L		102	69 - 130
1,2-Dichlorobenzene	5.00	5.65		ug/L		113	80 - 129
1,2-Dichloropropane	5.00	5.38		ug/L		108	80 - 130
1,3,5-Trimethylbenzene	5.00	5.79		ug/L		116	80 - 139
1,3-Dichlorobenzene	5.00	5.72		ug/L		114	80 - 130
1,3-Dichloropropane	5.00	5.75		ug/L		115	80 - 130
1,4-Dichlorobenzene	5.00	5.59		ug/L		112	80 - 129
2,2-Dichloropropane	5.00	4.86		ug/L		97	58 - 150
2-Chlorotoluene	5.00	5.23		ug/L		105	80 - 136
4-Chlorotoluene	5.00	5.59		ug/L		112	80 - 130
4-Isopropyltoluene	5.00	5.65		ug/L		113	78 - 132
Benzene	5.00	5.25		ug/L		105	73 - 133
Bromobenzene	5.00	5.62		ug/L		112	80 - 130
Bromoform	5.00	5.36		ug/L		107	69 - 137

Eurofins TestAmerica, Seattle

QC Sample Results

Client: Blaes Environmental Inc.
Project/Site: Circle K #6042

Job ID: 580-94738-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-328818/4

Matrix: Water

Analysis Batch: 328818

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromomethane	5.00	4.73		ug/L		95	68 - 120
Carbon tetrachloride	5.00	4.76		ug/L		95	71 - 132
Chlorobenzene	5.00	6.03		ug/L		121	80 - 123
Chlorobromomethane	5.00	5.29		ug/L		106	79 - 131
Chlorodibromomethane	5.00	6.06		ug/L		121	76 - 131
Chloroethane	5.00	4.61		ug/L		92	49 - 135
Chloroform	5.00	5.13		ug/L		103	80 - 130
Chloromethane	5.00	4.69		ug/L		94	32 - 143
cis-1,2-Dichloroethene	5.00	5.04		ug/L		101	72 - 130
cis-1,3-Dichloropropene	5.00	5.61		ug/L		112	66 - 141
Dibromomethane	5.00	5.35		ug/L		107	65 - 141
Dichlorobromomethane	5.00	5.55		ug/L		111	74 - 131
Dichlorodifluoromethane	5.00	4.80		ug/L		96	20 - 137
EDC	5.00	5.28		ug/L		106	74 - 130
Ethylbenzene	5.00	5.03		ug/L		101	80 - 130
Hexachlorobutadiene	5.00	5.26		ug/L		105	72 - 138
Isopropylbenzene	5.00	5.36		ug/L		107	75 - 137
Methyl tert-butyl ether	5.00	4.96		ug/L		99	60 - 150
Methylene Chloride	5.00	5.27		ug/L		105	75 - 134
m-Xylene & p-Xylene	5.00	5.23		ug/L		105	78 - 130
Naphthalene	5.00	5.77		ug/L		115	64 - 132
n-Butylbenzene	5.00	5.38		ug/L		108	73 - 135
N-Propylbenzene	5.00	5.51		ug/L		110	77 - 142
o-Xylene	5.00	5.92		ug/L		118	80 - 139
sec-Butylbenzene	5.00	5.73		ug/L		115	78 - 140
Styrene	5.00	6.21		ug/L		124	74 - 136
tert-Butylbenzene	5.00	5.81		ug/L		116	77 - 140
Tetrachloroethene	5.00	5.21		ug/L		104	75 - 131
Toluene	5.00	5.03		ug/L		101	80 - 126
trans-1,2-Dichloroethene	5.00	5.16		ug/L		103	63 - 133
trans-1,3-Dichloropropene	5.00	5.57		ug/L		111	71 - 128
Trichloroethene	5.00	5.31		ug/L		106	72 - 136
Trichlorofluoromethane	5.00	5.03		ug/L		101	60 - 132
Vinyl chloride	5.00	4.56		ug/L		91	52 - 128

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	98		80 - 120
4-Bromofluorobenzene (Surr)	99		80 - 120
1,2-Dichloroethane-d4 (Surr)	100		80 - 120

Lab Sample ID: LCSD 580-328818/5

Matrix: Water

Analysis Batch: 328818

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	5.00	5.57		ug/L		111	79 - 127	3	20
1,1,1-Trichloroethane	5.00	5.02		ug/L		100	74 - 128	5	14

Eurofins TestAmerica, Seattle

QC Sample Results

Client: Blaes Environmental Inc.
Project/Site: Circle K #6042

Job ID: 580-94738-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-328818/5

Matrix: Water

Analysis Batch: 328818

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,2,2-Tetrachloroethane	5.00	5.62		ug/L		112	69 - 139	2	22
1,1,2-Trichloroethane	5.00	5.40		ug/L		108	80 - 127	6	19
1,1-Dichloroethane	5.00	5.07		ug/L		101	74 - 135	4	20
1,1-Dichloroethene	5.00	5.50		ug/L		110	71 - 126	6	17
1,1-Dichloropropene	5.00	5.22		ug/L		104	72 - 132	1	13
1,2,3-Trichlorobenzene	5.00	5.79		ug/L		116	75 - 137	4	20
1,2,3-Trichloropropane	5.00	5.54		ug/L		111	80 - 127	2	20
1,2,4-Trichlorobenzene	5.00	5.77		ug/L		115	79 - 130	5	20
1,2,4-Trimethylbenzene	5.00	5.68		ug/L		114	78 - 136	4	20
1,2-Dibromo-3-Chloropropane	5.00	5.23		ug/L		105	69 - 130	2	26
1,2-Dichlorobenzene	5.00	5.80		ug/L		116	80 - 129	3	14
1,2-Dichloropropane	5.00	5.12		ug/L		102	80 - 130	5	14
1,3,5-Trimethylbenzene	5.00	6.00		ug/L		120	80 - 139	4	20
1,3-Dichlorobenzene	5.00	5.85		ug/L		117	80 - 130	2	12
1,3-Dichloropropane	5.00	5.35		ug/L		107	80 - 130	7	19
1,4-Dichlorobenzene	5.00	5.63		ug/L		113	80 - 129	1	11
2,2-Dichloropropane	5.00	5.22		ug/L		104	58 - 150	7	28
2-Chlorotoluene	5.00	5.43		ug/L		109	80 - 136	4	20
4-Chlorotoluene	5.00	5.71		ug/L		114	80 - 130	2	20
4-Isopropyltoluene	5.00	5.88		ug/L		118	78 - 132	4	14
Benzene	5.00	5.19		ug/L		104	73 - 133	1	20
Bromobenzene	5.00	5.58		ug/L		112	80 - 130	1	20
Bromoform	5.00	5.25		ug/L		105	69 - 137	2	20
Bromomethane	5.00	5.09		ug/L		102	68 - 120	7	18
Carbon tetrachloride	5.00	5.01		ug/L		100	71 - 132	5	15
Chlorobenzene	5.00	5.98		ug/L		120	80 - 123	1	12
Chlorobromomethane	5.00	5.46		ug/L		109	79 - 131	3	20
Chlorodibromomethane	5.00	5.81		ug/L		116	76 - 131	4	20
Chloroethane	5.00	5.12		ug/L		102	49 - 135	11	27
Chloroform	5.00	5.31		ug/L		106	80 - 130	3	20
Chloromethane	5.00	5.27		ug/L		105	32 - 143	12	23
cis-1,2-Dichloroethene	5.00	5.26		ug/L		105	72 - 130	4	20
cis-1,3-Dichloropropene	5.00	5.32		ug/L		106	66 - 141	5	22
Dibromomethane	5.00	5.14		ug/L		103	65 - 141	4	20
Dichlorobromomethane	5.00	5.34		ug/L		107	74 - 131	4	20
Dichlorodifluoromethane	5.00	5.00		ug/L		100	20 - 137	4	22
EDC	5.00	5.08		ug/L		102	74 - 130	4	15
Ethylbenzene	5.00	5.20		ug/L		104	80 - 130	3	20
Hexachlorobutadiene	5.00	5.50		ug/L		110	72 - 138	4	20
Isopropylbenzene	5.00	5.69		ug/L		114	75 - 137	6	20
Methyl tert-butyl ether	5.00	5.01		ug/L		100	60 - 150	1	25
Methylene Chloride	5.00	5.59		ug/L		112	75 - 134	6	18
m-Xylene & p-Xylene	5.00	5.41		ug/L		108	78 - 130	3	20
Naphthalene	5.00	5.81		ug/L		116	64 - 132	1	20
n-Butylbenzene	5.00	5.64		ug/L		113	73 - 135	5	18
N-Propylbenzene	5.00	5.74		ug/L		115	77 - 142	4	20
o-Xylene	5.00	6.18		ug/L		124	80 - 139	4	20
sec-Butylbenzene	5.00	5.94		ug/L		119	78 - 140	4	20
Styrene	5.00	6.22		ug/L		124	74 - 136	0	20

Eurofins TestAmerica, Seattle

QC Sample Results

Client: Blaes Environmental Inc.
Project/Site: Circle K #6042

Job ID: 580-94738-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-328818/5
Matrix: Water
Analysis Batch: 328818

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
tert-Butylbenzene	5.00	5.80		ug/L		116	77 - 140	0	20
Tetrachloroethene	5.00	5.28		ug/L		106	75 - 131	1	20
Toluene	5.00	5.05		ug/L		101	80 - 126	0	20
trans-1,2-Dichloroethene	5.00	5.55		ug/L		111	63 - 133	7	17
trans-1,3-Dichloropropene	5.00	5.13		ug/L		103	71 - 128	8	21
Trichloroethene	5.00	5.33		ug/L		107	72 - 136	0	14
Trichlorofluoromethane	5.00	5.23		ug/L		105	60 - 132	4	20
Vinyl chloride	5.00	5.12		ug/L		102	52 - 128	12	21

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
Toluene-d8 (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	101		80 - 120
4-Bromofluorobenzene (Surr)	99		80 - 120
1,2-Dichloroethane-d4 (Surr)	97		80 - 120

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-328705/5
Matrix: Water
Analysis Batch: 328705

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.25		mg/L			05/20/20 14:48	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		50 - 150		05/20/20 14:48	1

Lab Sample ID: LCS 580-328705/6
Matrix: Water
Analysis Batch: 328705

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	1.00	0.880		mg/L		88	79 - 120

Surrogate	LCS %Recovery	LCS Qualifier	LCS Limits
4-Bromofluorobenzene (Surr)	92		50 - 150

Lab Sample ID: LCSD 580-328705/7
Matrix: Water
Analysis Batch: 328705

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	1.00	0.945		mg/L		94	79 - 120	7	10

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
4-Bromofluorobenzene (Surr)	100		50 - 150

Eurofins TestAmerica, Seattle

QC Sample Results

Client: Blaes Environmental Inc.
Project/Site: Circle K #6042

Job ID: 580-94738-1

Method: 8011 - EDB

Lab Sample ID: MB 580-328626/3-A
Matrix: Water
Analysis Batch: 328629

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 328626

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.010		ug/L		05/19/20 18:58	05/19/20 21:19	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	99		60 - 140				05/19/20 18:58	05/19/20 21:19	1

Lab Sample ID: LCS 580-328626/4-A
Matrix: Water
Analysis Batch: 328629

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 328626

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Ethylene Dibromide	0.0576	0.0657		ug/L		114	60 - 140	
Surrogate	LCS %Recovery	LCS Qualifier	Limits					
1,2-Dibromopropane	100		60 - 140					

Lab Sample ID: LCSD 580-328626/5-A
Matrix: Water
Analysis Batch: 328629

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 328626

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylene Dibromide	0.0576	0.0683		ug/L		119	60 - 140	4	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1,2-Dibromopropane	107		60 - 140						

Lab Sample ID: LLCS 580-328626/6-A
Matrix: Water
Analysis Batch: 328629

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 328626

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Ethylene Dibromide	0.0115	0.0168	*	ug/L		146	60 - 145	
Surrogate	LLCS %Recovery	LLCS Qualifier	Limits					
1,2-Dibromopropane	107		60 - 140					

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-328699/1-A
Matrix: Water
Analysis Batch: 328759

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 328699

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.11		mg/L		05/20/20 12:19	05/20/20 20:00	1
Motor Oil (>C24-C36)	ND		0.35		mg/L		05/20/20 12:19	05/20/20 20:00	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	67		50 - 150				05/20/20 12:19	05/20/20 20:00	1

Eurofins TestAmerica, Seattle

QC Sample Results

Client: Blaes Environmental Inc.
Project/Site: Circle K #6042

Job ID: 580-94738-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 580-328699/2-A
Matrix: Water
Analysis Batch: 328759

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 328699
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
#2 Diesel (C10-C24)	2.00	1.78		mg/L	-	89	50 - 120
Motor Oil (>C24-C36)	2.00	2.16		mg/L	-	108	64 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
<i>o</i> -Terphenyl	72		50 - 150

Lab Sample ID: LCSD 580-328699/3-A
Matrix: Water
Analysis Batch: 328759

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 328699
%Rec.

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
#2 Diesel (C10-C24)	2.00	1.86		mg/L	-	93	50 - 120	4	26
Motor Oil (>C24-C36)	2.00	2.26		mg/L	-	113	64 - 120	5	24

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
<i>o</i> -Terphenyl	72		50 - 150

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 580-328506/11-A
Matrix: Water
Analysis Batch: 328661

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 328506

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		10		ug/L	-	05/18/20 15:18	05/19/20 18:53	10
Lead	ND		8.0		ug/L	-	05/18/20 15:18	05/19/20 18:53	10

Lab Sample ID: LCS 580-328506/12-A
Matrix: Water
Analysis Batch: 328661

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 328506
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Arsenic	1000	977		ug/L	-	98	80 - 120
Lead	1000	980		ug/L	-	98	80 - 120

Lab Sample ID: LCSD 580-328506/13-A
Matrix: Water
Analysis Batch: 328661

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 328506
%Rec.

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Arsenic	1000	993		ug/L	-	99	80 - 120	2	20
Lead	1000	1000		ug/L	-	100	80 - 120	2	20

Lab Chronicle

Client: Blaes Environmental Inc.
Project/Site: Circle K #6042

Job ID: 580-94738-1

Client Sample ID: MW-3
Date Collected: 05/16/20 14:40
Date Received: 05/18/20 08:20

Lab Sample ID: 580-94738-1
Matrix: Water

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Prepared or Analyzed</u>	<u>Analyst</u>	<u>Lab</u>
Total/NA	Analysis	8260D		1	328818	05/21/20 14:59	CJ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	328705	05/20/20 18:25	PRO	TAL SEA
Total/NA	Prep	8011			328626	05/19/20 18:58	APR	TAL SEA
Total/NA	Analysis	8011		1	328629	05/20/20 01:06	JCM	TAL SEA
Total/NA	Prep	3510C			328699	05/20/20 12:19	S1S	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	328759	05/21/20 03:23	T1W	TAL SEA
Total/NA	Prep	3010A			328506	05/18/20 15:18	ART	TAL SEA
Total/NA	Analysis	6020B		10	328661	05/19/20 19:46	FCW	TAL SEA

Laboratory References:

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: Blaes Environmental Inc.
Project/Site: Circle K #6042

Job ID: 580-94738-1

Laboratory: Eurofins TestAmerica, Seattle

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C553	02-18-21

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11

Sample Summary

Client: Blaes Environmental Inc.
Project/Site: Circle K #6042

Job ID: 580-94738-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-94738-1	MW-3	Water	05/16/20 14:40	05/18/20 08:20	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11

Login Sample Receipt Checklist

Client: Blaes Environmental Inc.

Job Number: 580-94738-1

Login Number: 94738

List Source: Eurofins TestAmerica, Seattle

List Number: 1

Creator: Blankinship, Tom X

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

