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Whitten Oil Monitoring Well Decommissioning/ Installation and Groundwater Monitoring Event For September/ October 2020

Whitty's Chevron
370 West 5th Avenue
Colville, Washington 99114

Project Number: 213162.00

Date: January 8, 2021

Prepared for:

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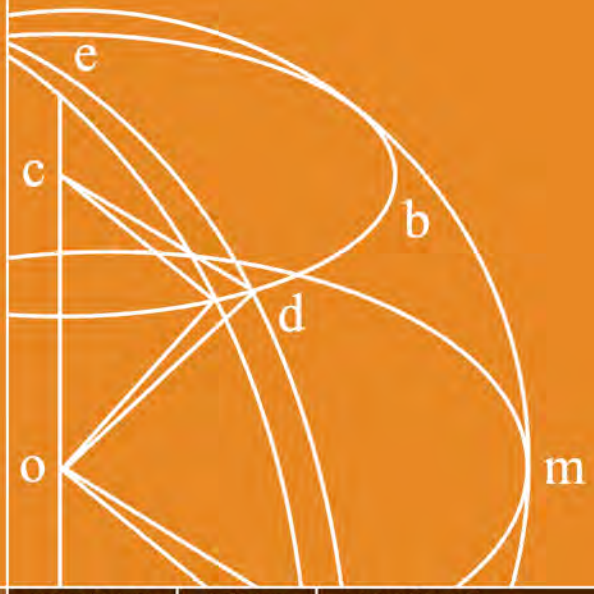

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The professionals who completed site services and prepared and reviewed this report include, but are not limited to:

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Report Integrity

Fulcrum Environmental Consulting, Inc.'s scope of service for this project was limited to those services as established in the proposal, contract, verbal direction, and/or agreement. This report is subject to applicable federal, state, and local regulations governing project-specific conditions and was performed using recognized procedures and standards of the industry. Scientific data collected in situ may document conditions that may be specific to the time and day of service, and subject to change as a result of conditions beyond Fulcrum's control or knowledge. Fulcrum makes no warranties, expressed or implied, as to the accuracy or completeness of other's work included herein. Fulcrum has performed these services in accordance with generally accepted environmental science standards of care at the time of the inspection. No warranty, expressed or implied, is made.

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1.0 INTRODUCTION

Whitty's Chevron
370 West 5th Avenue, Colville, Washington

On September 30, 2020, Fulcrum Environmental Consulting, Inc. (Fulcrum) coordinated the decommissioning of two (2) historical monitoring wells and installation of four (4) new wells at Whitty's Chevron located at 370 West 5th Avenue in Colville, Washington. Historic monitoring wells MW-04 and MW-06 were decommissioned due to failing surface seals and poor recharge rates. These two (2) wells were replaced with new monitoring wells and two (2) additional wells were added to the site. Monitoring well MW-02 was installed upgradient behind the gas station where the former Leaking Underground Storage Tanks (LUSTs) were removed and monitoring well MW-07 was installed downgradient at the northwest corner of the property to act as a downgradient sentinel well. Figure 1 presents a general Site Location Map.

View of monitoring well MW-06 being installed north of the carwash. The historical MW-06 was decommissioned in place (see arrow).

On October 14, 2020, Fulcrum conducted semi-annual groundwater monitoring for seven (7) onsite monitoring wells to evaluate monitoring well performance and petroleum hydrocarbon impacts to site groundwater associated with a historical gasoline release identified in September 1989.

Monitoring well installation and sampling was directed by Travis Trent, Washington State Licensed Hydrogeologist. Scott Groat, a Washington State recognized Geologist-In-Training, provided site services under the direction of Mr. Trent. Relevant professional certifications are presented in Appendix A. Well decommissioning and installation services were conducted by Environmental West Exploration, Inc. (Environmental West) a, Washington State Licensed driller.

1.1 Scope of Services

Fulcrum was retained by Whitten Oil (Whitten) to complete groundwater monitoring well decommissioning and installation services, monitoring well development activities, waste characterization of onsite soil cuttings and wash water associated with well installation activities,

and to conduct semi-annual groundwater sampling services utilizing existing and newly installed onsite groundwater monitoring wells at Whitty's Chevron located at 370 West 5th Avenue in Colville, Washington. In September 2020, Fulcrum oversaw the decommissioning of two (2) historical monitoring wells MW-04 and MW-06; and the installation of four (4) new groundwater monitoring wells MW-02, MW-04, MW-06, and MW-07.

Following well installation services, Fulcrum conducted a semi-annual sampling event which consisted of the measurement of water depths in seven (7) onsite groundwater monitoring wells followed by collection of water samples from each well. All samples were collected in accordance with industry standard of care and were submitted under a standard chain of custody to a Washington State accredited laboratory to be analyzed for benzene, toluene, ethyl benzene, xylene (BTEX), gasoline-range extended organics, diesel-range extended organics, and heavy oil-range extended organics. Documentation of September 2020 monitoring well decommissioning and installation activities and results from investigation and testing from October 2020, are presented in this summary report.

1.2 Site Description

View looking southwest across site, a drill rig can be seen installing the new MW-04 well in the background.

The site is located on the northeast corner of West Fifth Avenue (U.S. Highway 395) and North Lincoln Street in Colville, Washington. The subject facility functions as an active gasoline service station and car wash. One refueling area containing one (1) dispenser island is located south of the office building, while another gasoline/diesel refueling area with two (2) dispenser islands is located north of the office building. A more recently constructed dispensing island is located southeast of the office building. Four (4) operational underground storage tanks (USTs) are reported to be located west of the office building within the southern portion of the property: two 10,000-gallon diesel tanks, one 6,000-gallon premium gasoline tank, and one 10,000-gallon unleaded gasoline tank. An operational six-bay carwash station is located northwest of the office building.

The entire surface of the property was observed to be covered by concrete or asphalt with the exception of a small area immediately east of the office building which was finished with gravel. Historical reports and onsite observations from recent well installation indicate that beneath the paved surface are 3 to 8 feet (ft) of sandy fill material underlain by fine-grained alluvium down to approximately 15 feet below ground surface (ft bgs).

1.3 Site Hydrogeology

The site sits approximately 1,586 feet (ft) above mean sea level (MSL). The inferred groundwater flow direction is to the northwest, generally following surface topography of the area, with a hydraulic gradient of 0.042.

During Fulcrum's investigation, recorded site groundwater levels ranged from 4.53 to 9.65 ft bgs.

1.4 Background

The following information is summarized in part, from prior project reporting provided by the owner. Fulcrum has made no independent investigation to verify accuracy of provided historical site information. A copy of select representative historical documentation is provided in Appendix B.

The subject facility has been in operation as a service station or bulk plant since the 1950s. Whitten Oil began operation around 1973, and the carwash was constructed around 1988. In September 1989, Petroleum Equipment Sales, Inc. (PES) was reportedly retained to decommission and replace onsite USTs during the construction of a new tank basin. Sunrise Environmental Services (SES) was reportedly retained by PES to observe the removal of the USTs and provide recommendations for corrective action. PES reportedly removed a total of six (6) USTs from the site, with one (1) UST abandoned in place due to its location beneath the onsite office building. Three (3) of the USTs were reported to have been suspect for leakage. Approximately 1,200 cubic yards of petroleum-contaminated soil was removed along with the USTs.

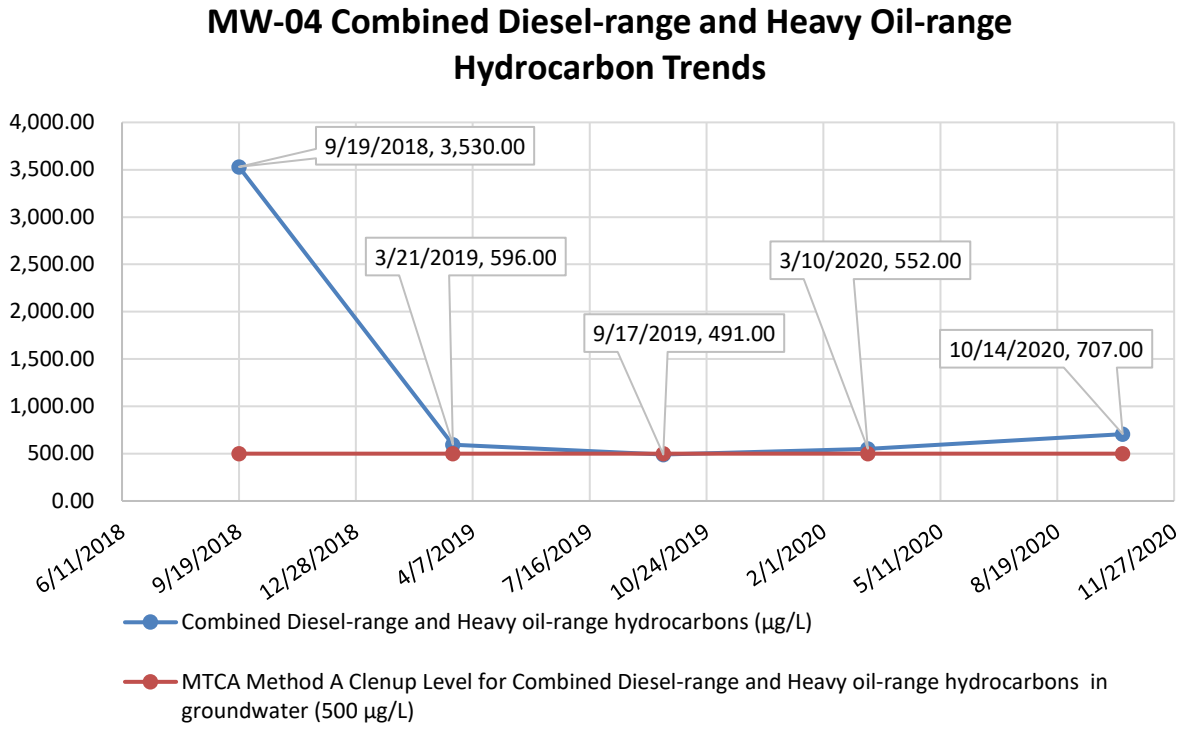
Following removal of the USTs and associated contaminated soils, additional site investigation was conducted to evaluate the potential for residual soil and/or groundwater impact. In January 1990, Delta Environmental Consultants (Delta) supervised drilling activities performed by Budinger & Associates. Six soil borings were drilled in suspected areas of petroleum hydrocarbon contamination to investigate for potential petroleum hydrocarbon impact to site soils/groundwater. The depth of soil borings ranged from 10- to 14.5-ft bgs. Soil samples were collected at five-foot intervals during the advancement of soil borings. Soil samples that exhibited a petroleum hydrocarbon odor were submitted to Technology Laboratory, Inc. of Fort Collins, Colorado for benzene, toluene, ethylbenzene, xylenes (BTEX) and total hydrocarbon analyses. Laboratory analysis identified petroleum hydrocarbons in only one (1) of the collected samples (SB-5). Concentrations were reportedly below Washington State Department of Ecology's specified guidelines at the time.

All soil borings, with the exception of SB-5, were completed as groundwater monitoring wells, and groundwater samples were collected and submitted to Technology Laboratory, Inc. of Fort Collins, Colorado, for BTEX and total hydrocarbon analyses. Laboratory analyses for BTEX and total hydrocarbons indicated that the groundwater had been impacted at the subject site. The highest hydrocarbon concentrations were detected in groundwater samples from monitoring wells MW-2 and MW-4, which were located in close proximity to the former UST basin. Detectable hydrocarbon concentrations were also found in downgradient monitoring well MW-6. It was Delta's professional opinion that site conditions posed little threat to humans or the environment due to tight soil conditions, thus preventing contamination from migrating off site. Therefore, no significant remedial action was recommended. Locations of the historical soil borings, monitoring wells, and approximate areas of excavation are presented as Figure 2. Historical soil boring and groundwater monitoring data is presented as Appendix B.

In December 2005, additional soil sampling was conducted by Northwest Environmental Solutions, Inc. to facilitate the change in ownership for the subject site. The investigation consisted of five (5) soil borings drilled in areas proximal to regions of historical soil work or current UST presence. The depth of the soil borings ranged from 5- to 15-ft bgs. One (1) soil sample was collected at the bottom of each soil boring. All five (5) soil samples were submitted to Spectra Laboratories of Tacoma, Washington, for lead, methyl tert-butyl ether (MTBE), BTEX, and for diesel-range hydrocarbons by Northwest Total Petroleum Hydrocarbons as diesel (NWTPH-Dx), as oil (NWTPH-Oil), and as gasoline (NWTPH-Gx). Detectable analytes (gasoline range petroleum hydrocarbons, ethyl benzene, toluene, xylene, and lead) were reported in soil boring 2-A and toluene and xylene were detected in soil borings 2-C and 2-D; all were below MTCA Method A cleanup levels for soil. The 2005 historical soil boring results and locations are presented as Appendix C.

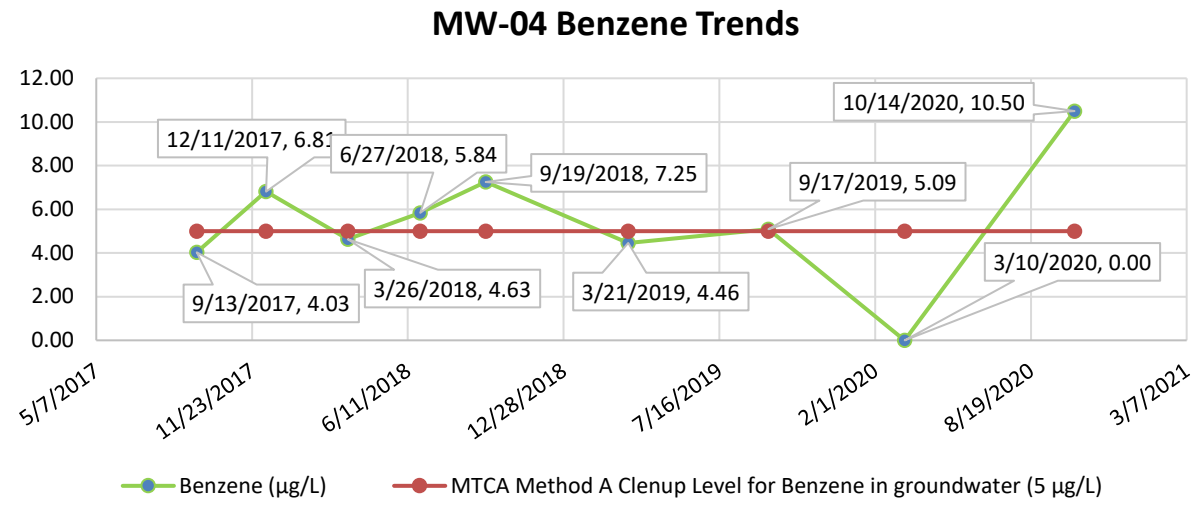
On September 30, 2020, Fulcrum coordinated and oversaw decommissioning of two (2) historical groundwater monitoring wells (MW-04 and MW-06) and installation of four (4) new monitoring wells. The two (2) decommissioned monitoring wells, MW-04 and MW-06, were identified by Fulcrum to have failing surface seals. New monitoring wells were placed in the MW-04 and MW-06 locations and two (2) additional monitoring wells were added to the site. Monitoring well MW-02 was installed in the area where the former LUSTs were removed and monitoring well MW-07 was installed downgradient at the northwest corner of the property to act as a sentinel well. In summary, a total of four (4) new monitoring wells were installed to provide additional characterization of the site's groundwater conditions.

General trending for combined diesel-range and heavy oil-range hydrocarbons concentrations from September of 2018 to October of 2020, in monitoring well MW-04, is presented in the following graph.



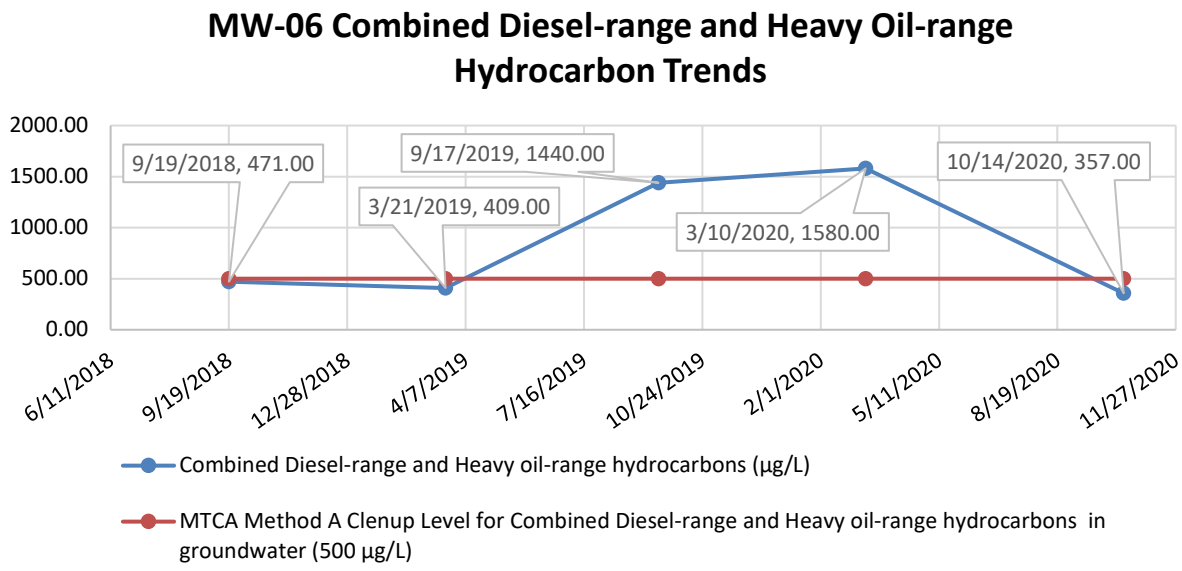
Results show relatively stable concentrations of combined diesel-range and heavy oil-range hydrocarbons in MW-04 at concentrations around the Method A cleanup level over the last four (4) semi-annual sampling events.

General trending of benzene concentrations from September 2017 to October 2020, is presented in the graph below.



After monitoring of benzene began in September 2017, benzene concentrations have fluctuated between non-detect and 10.50 µg/L. A general downward trend in benzene concentrations was observed since September of 2018, until the most recent sampling conducted in October of 2020, which identified benzene concentrations at 10.50 µg/L. Increases and decreases in benzene concentrations appear to be associated with high and low groundwater levels, but additional data of groundwater characteristics will be necessary to predict future trends in benzene concentrations.

General trending for combined diesel-range and heavy oil-range hydrocarbons concentrations from September of 2018 to October of 2020, in monitoring well MW-06, is presented in the graph below.



Analytical results show that diesel-range and heavy oil-range hydrocarbons concentrations were trending upwards since March of 2019 to March of 2020. The most recent sampling event conducted in October 2020, identified combined diesel-range and heavy-oil range concentrations to have dropped from 1580.00 µg/L to 357.00 µg/L.

2.0 DISCUSSION OF PERTINENT REGULATIONS AND GUIDANCE

2.1 MTCA Regulations

In Washington State, MTCA Cleanup Regulations became effective in March of 1989, with amended MTCA Cleanup Regulations effective in February of 2001. The MTCA Cleanup

Regulations set standards to ensure quality of cleanup and protection of human health and the environment.

A major portion of the MTCA regulations are the development of numerical cleanup standards and requirements for cleanup actions. MTCA establishes three (3) options for site-specific cleanup levels: Method A, B, and C. Method A defines cleanup levels for 25-30 of the most common hazardous substances found in soil and groundwater. Method B cleanup levels are established using applicable state and federal laws, risk assessment equations, and other requirements specified for each medium. Method C is similar to Method B, but cleanup levels are based on less stringent exposure assumptions, and the lifetime cancer risk is set at 1 in 100,000 rather than 1 in 1,000,000.

2.2 MTCA Cleanup Standards

Contaminants of concern at the subject site are gasoline-range hydrocarbons, diesel-range hydrocarbons, and BTEX, for which regulatory cleanup limits are provided under MTCA Method A. Based on the contaminants released at the subject site, the Method A Cleanup Levels are the most appropriate and conservative for determining site cleanup.

3.0 FIELD ACTIVITIES

3.1 September 2020 - Well Installation and Decommissioning

On September 30, 2020, Fulcrum coordinated monitoring well decommissioning and installation activities at Whitty's Chevron located at 370 West 5th Avenue in Colville, Washington. A total of two (2) monitoring wells MW-04 and MW-06 were decommissioned due to failing surface seals and poor recharge rates. These well conditions were identified as the most likely source of recent contamination spikes observed within MW-04 and MW-06 during groundwater monitoring events conducted in 2019 and the spring of 2020.

View looking southwest across site, a drill rig can be seen installing the new MW-06 monitoring well in the background.

The two (2) decommissioned monitoring wells (MW-04 and MW-06) were installed in 1990, to allow for groundwater monitoring at the site. These monitoring wells were completed as follows:

- MW-04, adjacent to eastern wall of carwash: Completed to a depth of 14.5 feet below ground surface (bgs)
- MW-06, north of carwash in western portion of site: Completed to a depth of 14.5 feet bgs

Environmental West, A Washington State Licensed Driller was retained by Fulcrum to provide the decommissioning of the two (2) onsite monitoring wells in conformance with the requirements of Washington Administrative Code (WAC) 173-160-460. Fulcrum field geology staff met with Environmental West staff onsite to document well decommissioning activities. Fulcrum staff conducted a brief site health and safety meeting at the start of the monitoring well decommissioning and installation activities.

View of historical monitoring well MW-06 after decommissioning.

Well decommissioning activities completed by Environmental West consisted of infilling each monitoring well with bentonite chips to approximately 1-foot below ground surface level. The remaining space was filled with cement which was leveled at ground surface to complete well closure. Fulcrum observed and documented the decommissioning process for MW-04 and MW-06 confirming that the work met the requirements of WAC 173-160-460.

Once MW-04 and MW-06 were decommissioned, new monitoring wells were installed in their place. Two (2) additional wells were also installed on the property, monitoring well MW-02 was installed upgradient behind the gas station where the former Leaking Underground Storage Tanks (LUSTs) were removed and monitoring well MW-07 was installed downgradient at the northwest corner of the property. Resource Protection Well Decommissioning Reports are presented in Appendix D.

3.2 Monitoring Well Construction

On September 29, 2020, four (4) monitoring wells MW-02, MW-04, MW-06, and MW-07 were installed to the site. MW-02 and MW-06 were installed proximal to previously removed wells of the same designation. MW-02 was installed just north of office in an upgradient location and MW-07 was installed in a downgradient location proximal to the northwest corner of the property. All monitoring wells were completed as two-inch diameter monitoring wells. Each well was

constructed of schedule 40 PVC casing with 10 feet of No. 10 slot screen centered on the anticipated water table. Medium-grained, clean, washed silica sand was placed in the annular space to approximately one-foot above the screened interval. A one-foot bentonite seal was placed above the sand pack and neat cement grout filled the remainder of the well annulus to the ground surface. Each well was constructed down to 15-feet bgs and completed with a locking well seal and "monitoring well" manhole cover.

View of monitoring well MW-02 after completion of well installation.

3.3 Soil Cuttings and Wash Water Waste Characterization

Monitoring well installation activities resulted in four 55-gallon drums containing soil cuttings and one and a half drums containing wash water from decontaminating down-hole equipment between borings. Drums 1-4 contained soil cuttings associated with soil borings completed to install monitoring wells MW-02, MW-04, MW-06, and MW-07. Drums 5 and 6 contained wash water associated with decontaminating down-hole equipment between borings.

View of soil and waste water drums associated with September 29, 2020, well installation activities.

Fulcrum collected composite samples from the soil and water waste drums and placed the samples in a pre-cooled ice chest and shipped the samples under standard chain-of-custody for analysis to Fremont Analytical Inc. (Fremont); a Washington State certified laboratory located in Seattle, Washington.

All soil waste and water waste composite samples were analyzed for concentrations of gasoline-range hydrocarbons by Northwest Total Petroleum Hydrocarbons as Gasoline (NWTPH-Gx), diesel-range and heavy oil-range hydrocarbons by Northwest Total Petroleum Hydrocarbons as diesel (NWTPH-Dx), and benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8260c. Table 1 summarizes composite sample identification and analyte concentrations, which are reported in micrograms per kilogram (mg/kg).

Table 1: Whitty's Chevron Soil Waste Composite Sample Analytical Results – 10/14/2020

Drums	Sample Number	Results (mg/kg)						
		NWTPH-Dx		NWTPH-Gx	Benzene	Toluene	Ethyl-benzene	Xylene
		Diesel–range hydrocarbons	Heavy oil-range hydrocarbons					
1 - 4	WOS-101420-SCOMP-01	ND	ND	**35.5**	ND	ND	ND	ND
MTCA Cleanup Levels[1]		500+		25+	0.0075+	1.75+	1.5+	2.25+

Bold – MTCA Method A exceedance
ND – Nondetect
+ MTCA Cleanup Levels reduced to 25% of cleanup due to composite sample
mg/kg – Micrograms per kilogram (mg/kg), equivalent to parts per million (ppm)
[1]Model Toxic Cleanup Act Method A Cleanup Levels for groundwater in µg/L, as established by the Washington State Department of Ecology

Laboratory analytical results were non-detect for NWTPH-Dx, benzene, toluene, ethylbenzene, and xylene. Laboratory analytical identified NWTPH-Gx at 35.5 mg/kg, which is above the MTCA Method A Cleanup Level for composite samples of 25 mg/kg indicating that the soil cuttings should be treated as petroleum contaminated soil for disposal purposes. A copy of the laboratory analytical report is presented in Appendix E.

Table 2: Whitty's Chevron Water Waste Composite Sample Analytical Results – 10/14/2020

Drums	Sample Number	Results (mg/kg)						
		NWTPH-Dx		NWTPH-Gx	Benzene	Toluene	Ethyl-benzene	Xylene
		Diesel–range hydrocarbons	Heavy oil-range hydrocarbons					
5 - 6	WOS-101420-WCOMP-01	89.2	ND	ND	ND	ND	ND	ND
MTCA Cleanup Levels[1]		125+		200*	1.25	250	175	250

Bold – MTCA Method A exceedance
ND – Nondetect
+ MTCA Cleanup Levels reduced to 25% of cleanup due to composite sample
Mg/kg – Micrograms per kilogram (mg/kg), equivalent to parts per million (ppm)
[1]Model Toxic Cleanup Act Method A Cleanup Levels for groundwater in µg/L, as established by the Washington State Department of Ecology

Laboratory analytical results were non-detect for heavy oil-range hydrocarbons, NWTPH-Gx, benzene, toluene, ethylbenzene, and xylene. Laboratory analytical identified detectable concentrations of diesel-range hydrocarbons at 89.2 µg/L, which is below the MTCA Method A Cleanup Level for composite samples of 125 µg/L. Although the concentration was below regulatory thresholds, Fulcrum determined that is was most appropriate to designate the waste water as petroleum impacted for disposal purposes. A copy of the laboratory analytical report is presented in Appendix E.

3.4 Soil Cuttings and Wash Water Waste Disposal

October 14, 2020, waste characterization of the soil composite samples identified NWTPH-Gx to be above MTCA Method A Cleanup Levels for composite samples and waste characterization of the wash water composite samples identified detectable concentrations of diesel-range hydrocarbons. The waste water was mixed with solids to form a solid waste and all six drums were transported to the Graham Road Landfill disposal facility for disposal as petroleum contaminated soil December 16, 2020. A copy of the disposal receipt is presented in Appendix F.

View of soil and water waste containing drums loaded for transport to the Graham Road Landfill.

3.5 Groundwater Sampling

On October 14, 2020, Fulcrum completed groundwater sampling of the following seven (7) monitoring wells; CW-01, CW-02, MW-02, MW-03, MW-04, MW-06, and MW-07. Seven (7) groundwater samples (WOS-101420-CW01, -CW02, -MW02, -MW03, -MW04, -MW06, -MW07) and one (1) field duplicate sample (WOS-101420-MW08) were collected for a total of eight (8) groundwater samples.

Prior to sample collection, Fulcrum measured the depth to groundwater (DTW) and depth to bottom (DTB) utilizing an electronic water level indicator accurate to ± 0.01 foot. Elevation corrections were made using wellhead elevation data from the subject site. Sampling activities were completed using a peristaltic pump or submersible pump and field water quality instruments. In each location the monitoring well was either pumped dry or for a minimum of three (3) well volumes. Field parameters were measure prior to, during, and following completion of the monitoring well pumping to ensure that they stabilized, indicating that sampled water was representative of groundwater.

Samples were placed in a pre-cooled ice chest and shipped under standard chain-of-custody for analysis to Fremont Analytical Inc. (Fremont); a Washington State certified laboratory located in Seattle, Washington. A site diagram map is presented as Figure 3.

While onsite, Fulcrum noted damage to the well cap of CW-02 (broken compression cap) that could put the monitoring well at risk for adverse impact associated with runoff from the proximal car wash bay. A new cap was placed on CW-02 during Fulcrum's October 2020 site visit.

4.0 RESULTS

4.1 Laboratory Analytical Results

All groundwater samples were analyzed for concentrations of gasoline-range hydrocarbons by Northwest Total Petroleum Hydrocarbons as Gasoline (NWTPH-Gx), diesel-range and heavy oil-range hydrocarbons by Northwest Total Petroleum Hydrocarbons as diesel (NWTPH-Dx), and benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8260c.

Table 3 summarizes sample identification, locations, and analyte concentrations, which are reported in micrograms per liter (µg/L). Copies of current groundwater sampling laboratory analytical results are presented in Appendix G.

Table 3: Whitty's Chevron Groundwater Analytical Results for October 14, 2020

Location	Sample Number	Groundwater Elevation	Results (µg/L)						
			NWTPH-Dx		NWTPH-Gx	Benzene	Toluene	Ethyl-benzene	Xylene
			Diesel–range hydrocarbons	Heavy oil-range hydrocarbons					
CW-01	WOS-101420-CW01	93.69	212.00	ND	ND	ND	ND	ND	ND
CW-02^	WOS-101420-CW02	93.47	**4,570.00**	**777.00**	**864.00**	**7.58**	1.89	8.41	43.10
MW-02	WOS-101420-MW02	93.09	249.00	ND	106.00	ND	ND	ND	ND
MW-03	WOS-101420-MW03	92.07	ND	ND	ND	ND	ND	ND	ND
MW-04	WOS-101420-MW04	93.47	**707.00**	ND	**818.00**	**10.50**	1.19	9.92	1.91
MW-06	WOS-101420-MW06	87.62	357.00	ND	202.00	ND	ND	ND	ND
MW-07	WOS-101420-MW07	86.55	179.00	ND	ND	ND	ND	ND	ND
MTCA Cleanup Levels[2]			500+		800*	5	1,000	700	1,000

Bold – MTCA Method A exceedance ND – Nondetect

*Established cleanup level when benzene is present in groundwater µg/L – Micrograms per liter (µg/L), equivalent to parts per billion (ppb)

[1]Model Toxic Cleanup Act Method A Cleanup Levels for groundwater in µg/L, as established by the Washington State Department of Ecology.

+ Diesel-range and heavy oil-range hydrocarbon concentrations are combined together per MTCA Method A cleanup standards for groundwater.

^Laboratory analytical results for the original and duplicate sample were combined due to variance between the samples.

4.2 Diesel-Range and Heavy Oil-Range Extended Organics

Laboratory analytical results report detectable concentrations for diesel-range hydrocarbons in monitoring wells CW-01, MW-02, MW-06, and MW-07 below MTCA Method A Cleanup Levels.

Laboratory analytical results identified diesel-range hydrocarbons in monitoring well MW-04 at 707.00 µg/L, which is above the MTCA Method A Cleanup Level of 500 µg/L. Laboratory analytical results identified diesel-range hydrocarbons at 4,570.00 µg/L and heavy oil-range hydrocarbons at 707.00 µg/L in monitoring well CW-02, which are both above the MTCA Method A Cleanup Level of 500 µg/L.

Laboratory analytical results report non-detect concentrations of diesel-range and heavy oil-range hydrocarbons in monitoring well MW-03.

4.3 Gasoline-Range Extended Organics

Laboratory analytical results report detectable concentrations of gasoline-range hydrocarbons by NWTPH-Gx for monitoring well MW-02 at 106.00 µg/L and MW-06 at 202.00 µg/L, which are both below the MTCA Method A cleanup level of 800 µg/L.

Laboratory analytical results identified gasoline-range hydrocarbons by NWTPH-Gx for monitoring well CW-02 at 818 µg/L and 864 µg/L, and MW-04 at 818.00 µg/L, which are both above the MTCA Method A Cleanup Level of 800 µg/L.

Laboratory analytical results report non-detect concentrations of gasoline-range hydrocarbons by NWTPH-Gx for monitoring wells CW-01, MW-03, and MW-07.

4.4 Benzene, Toluene, Ethylbenzene and Xylenes

Laboratory analytical results identified benzene concentrations in monitoring well CW-02 at 7.45 µg/L and 7.58 µg/L, and MW-04 at 10.50 µg/L, which are both above the MTCA Method A Cleanup Levels of 5.00 µg/L.

Laboratory analytical results identified detectable concentrations of toluene in monitoring well CW-02 at 1.89 µg/L and MW-04 at 1.19 µg/L, which are both below the MTCA Method A Cleanup Level of 1,000 µg/L.

Laboratory analytical results identified detectable concentrations of ethylbenzene in monitoring well CW-02 at 8.26 µg/L and 8.41 µg/L, and MW-04 at 9.92 µg/L, which are both below the MTCA Method A Cleanup Level of 700 µg/L.

Laboratory analytical results identified detectable concentrations of xylene in monitoring well CW-02 at 42.20 µg/L and 43.10 µg/L, and MW-04 at 1.19 µg/L, which are both below the MTCA Method A Cleanup Level of 1,000 µg/L.

Laboratory analytical results report non-detect concentrations for BTEX in monitoring wells CW-01, MW-02, MW-03, MW-06, and MW-07.

4.5 Hydraulic Results

The groundwater flow direction, as determined by this sampling and monitoring event, is northwest with a hydraulic gradient of 0.042 (1.40-ft change in groundwater depth over 95-feet), which is consistent with site geomorphology. A groundwater elevation map is presented as Figure 4.

4.6 Data Quality

Samples were shown as received by the laboratory at an acceptable temperature. Results for Fulcrum's field duplicate was identified as outside the normal range of variance with one (1) sample showing elevated diesel range hydrocarbons and the duplicate sample showing elevated oil range hydrocarbons. Discussion with the laboratory manager indicated that this may have been attributed to higher levels of petroleum product (free product) situated near the top of the duplicated sample container and not for the original sample. As a conservative approach, Fulcrum took the higher concentration from each sample result as presented in the above summary table. Qualifiers were not present in the laboratory quality control (QC) sample results report. Based on reported analytical results, identified cleanup standards, and the absence of lab data qualifiers, it is Fulcrum's opinion that field and laboratory data quality results confirm acceptable accuracy of analytical data for all samples with the exception of duplicate sample WOS-101420-MW08.

5.0 DISCUSSION

Fulcrum coordinated decommissioning of two (2) historical monitoring wells and installation of four (4) new wells. A brief discussion of the newly installed wells is provided below:

- **MW-02:** This monitoring well was installed approximately 30 ft north of the main office building in a upgradient location where the former LUSTs were removed. The monitoring

well was observed to have acceptable recharge rate and analytical results indicated that all groundwater contaminants where below their respective MTCA Method A Cleanup Levels.

- **MW-04:** This monitoring well was installed approximately 5 ft southwest from the original MW-04 location adjacent to the east end of the car wash bays. The monitoring well was observed to have acceptable recharge rate and analytical results indicated that all groundwater contaminants where comparable to their previous levels.

- **MW-06:** This monitoring well was installed approximately 4 ft northwest from the original MW-06 location which is approximately 25 ft north of the carwash bays. The monitoring well was observed to have a low recharge rate which may be attributed to the relatively new age of the well and limited well development which has taken place. Analytical results indicated that all groundwater contaminants where below their respective MTCA Method A Cleanup Levels. Previous diesel-range and heavy oil-range hydrocarbons concentrations for MW-06 were trending upwards since March of 2019 to March of 2020. The most recent sampling event conducted in October 2020, identified combined diesel-range and heavy-oil range concentrations to have dropped from 1580.00 µg/L to 357.00 µg/L.
- **MW-08:** This monitoring well was installed in a downgradient at the northwest corner of the property to act as a sentinel well. The monitoring well was observed to have a low recharge rate which may be attributed to the relatively new age of the well and limited well development which has taken place. Analytical results indicated that all groundwater contaminants where below their respective MTCA Method A Cleanup Levels.

Review of current groundwater analytical data indicates the following:

- **CW-01:** Analytical results for groundwater samples collected from the CW-01 reported detectable concentrations of diesel-range hydrocarbons below MTCA Method A Cleanup Levels. Analytical results for groundwater samples report concentrations of heavy oil-range hydrocarbons, gasoline-range hydrocarbons, benzene, toluene, ethyl benzene and xylene below the laboratory method of detection limit.
- **CW-02: Analytical results for groundwater samples collected from CW-02 reported detectable concentrations of diesel-range hydrocarbons above MTCA Method A Cleanup Levels. Analytical results for groundwater samples report detectable concentrations for gasoline-range hydrocarbons above MTCA Method A Cleanup Levels. Analytical results for groundwater samples report detectable concentrations for benzene above MTCA Method A Cleanup Levels.** Laboratory analytical results for groundwater samples report detectable concentrations for toluene, ethylbenzene, and xylene below their respective MTCA Method A Cleanup Levels.

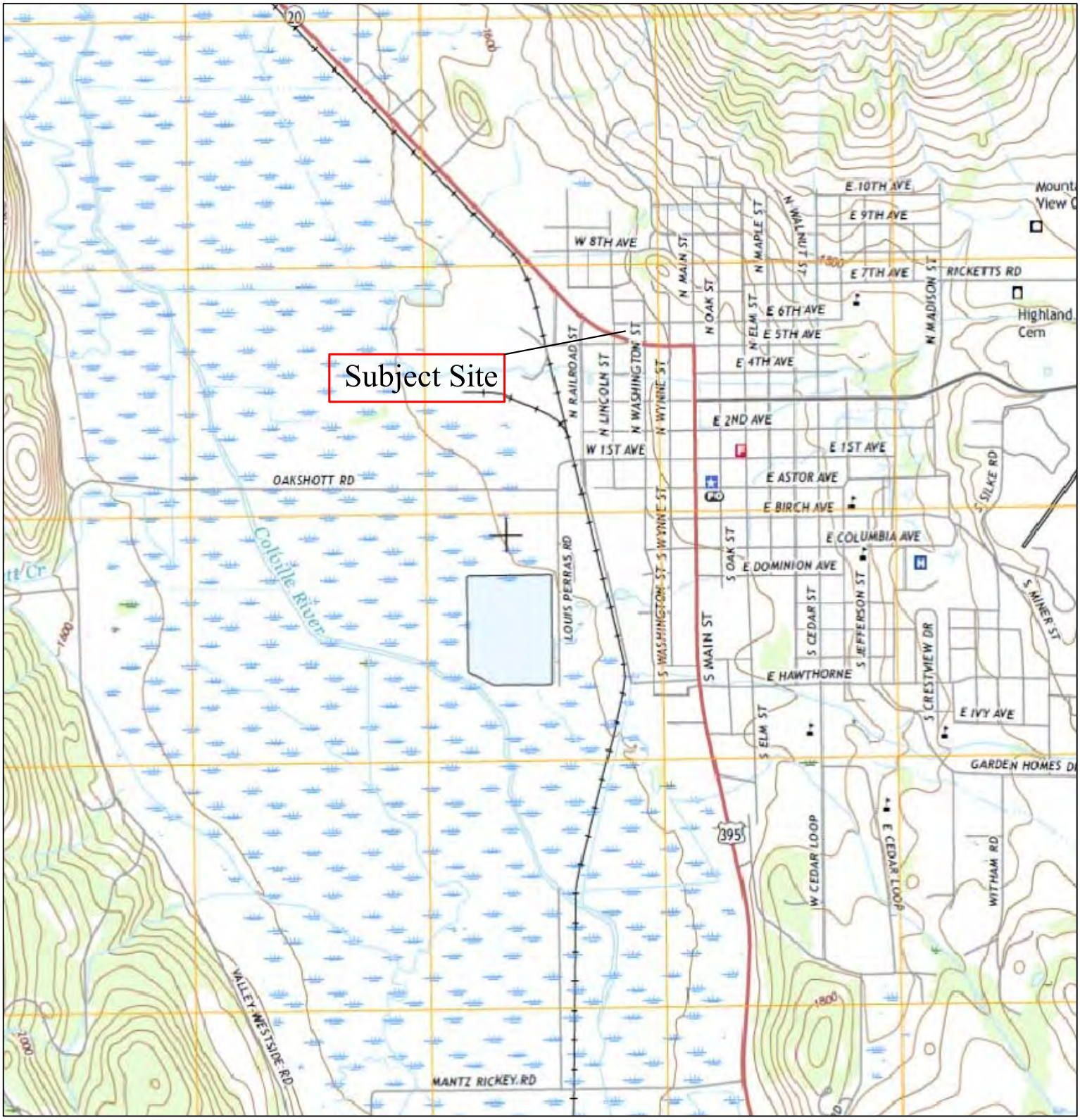
- **MW-02:** Analytical results for groundwater samples collected from MW-02 reported detectable concentrations of diesel-range hydrocarbons below MTCA Method A Cleanup Levels. Analytical results for groundwater samples report detectable concentrations of gasoline-range hydrocarbons below MTCA Method A Cleanup Levels. Analytical results for groundwater samples report non-detectable concentrations for heavy oil-range hydrocarbons, benzene, toluene, ethylbenzene, and xylene at the laboratory method detection limit.
- **MW-03:** Analytical results for groundwater samples collected from MW-03 report non-detectable concentrations for diesel-range hydrocarbons, heavy oil-range hydrocarbons, gasoline-range hydrocarbons, benzene, toluene, ethylbenzene, and xylene at the laboratory method detection limit.
- **MW-04: Analytical results for groundwater samples collected from MW-04 reported detectable concentrations of diesel-range hydrocarbons and heavy oil-range hydrocarbons above MTCA Method A Cleanup Levels. Analytical results for groundwater samples report detectable concentrations for gasoline-range hydrocarbons above MTCA Method A Cleanup Levels. Analytical results for groundwater samples report detectable concentrations for benzene above MTCA Method A Cleanup Levels.** Laboratory analytical results for groundwater samples report detectable concentrations for toluene, ethylbenzene, and xylene below their respective MTCA Method A Cleanup Levels.
- **MW-06:** Analytical results for groundwater samples collected from MW-06 reported detectable concentrations of diesel-range hydrocarbons below MTCA Method A Cleanup Levels. Analytical results for groundwater samples report detectable concentrations of gasoline-range hydrocarbons below MTCA Method A Cleanup Levels. Analytical results for groundwater samples report non-detectable concentrations for heavy oil-range hydrocarbons, benzene, toluene, ethylbenzene, and xylene at the laboratory method detection limit.
- **MW-07:** Analytical results for groundwater samples collected from MW-07 reported detectable concentrations of diesel-range hydrocarbons below MTCA Method A Cleanup Levels. Analytical results for groundwater samples report non-detectable concentrations for heavy oil-range hydrocarbons, gasoline-range hydrocarbons, benzene, toluene, ethylbenzene, and xylene at the laboratory method detection limit.

The October 2020 groundwater analytical data indicates contaminant concentrations in all wells to be below MTCA method A cleanup levels with the exception of diesel-range hydrocarbons in CW-02 and MW-04, heavy oil-range hydrocarbons in CW-02, and gasoline-range and benzene in CW-02 and MW-04.

6.0 RECOMMENDATIONS

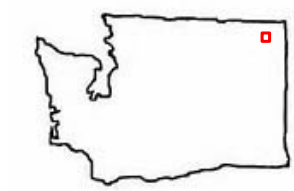
Based on the results of this investigation, Fulcrum recommends continuing semi-annual monitoring of the onsite monitoring wells.

FIGURES



LEGEND

Map Location



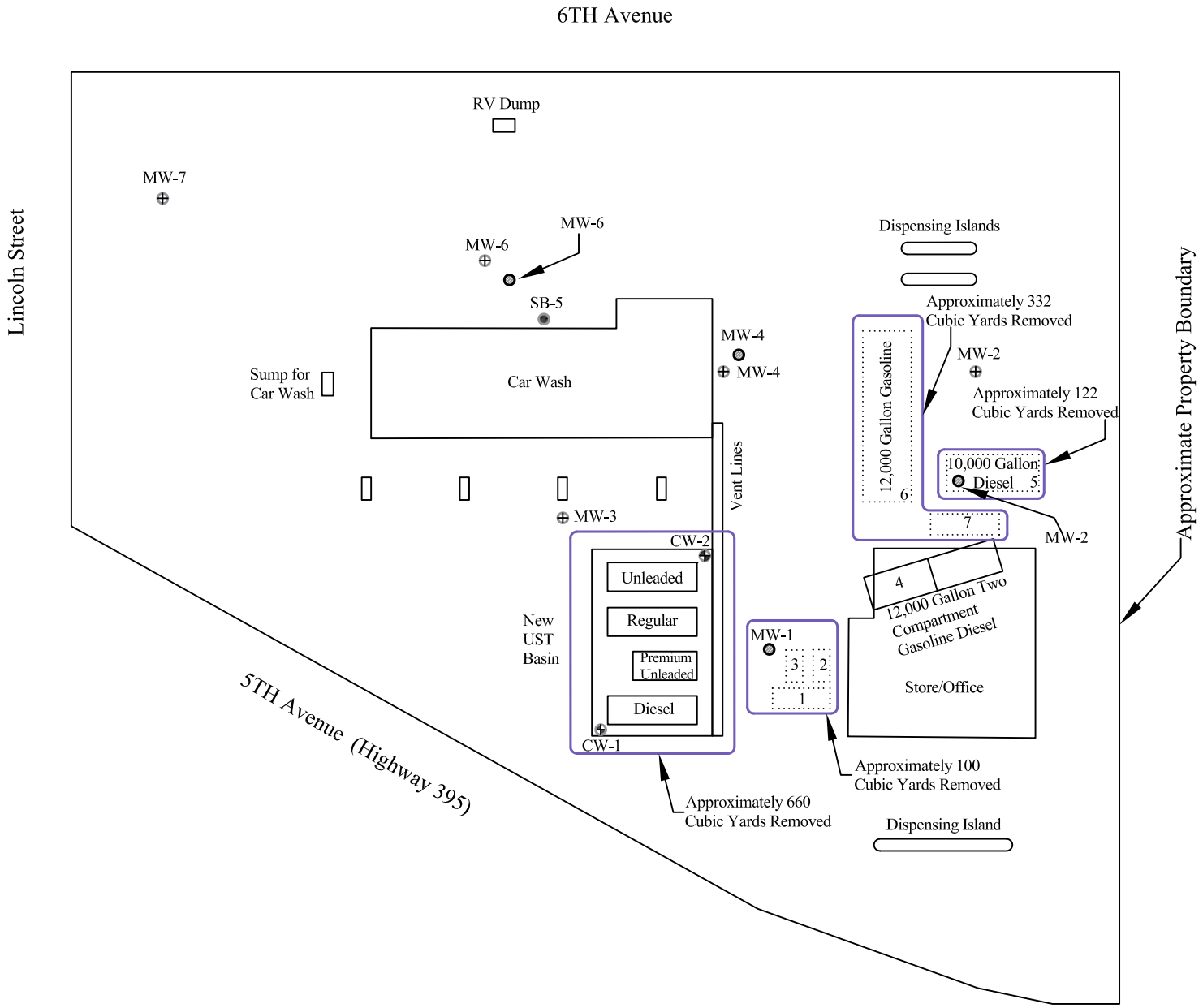
N

Figure 1: General Site Location Map

Second Semi-annual Groundwater Sampling Event October 2020
Whitty's Chevron
370 West 5th Avenue
Colville, Washington

FULCRUM ENVIRONMENTAL CONSULTING, INC.
207 W. BOONE AVENUE
SPOKANE, WASHINGTON 99201
(509) 459-9220 www.efulcrum.net

MAP BY: S. Groat	PROJECT NUMBER: 172206.00
DATE: November 11, 2020	REVIEWED BY: T. Trent



LEGEND

- Approximate extent of soil excavation
- Existing onsite UST
- Historical UST removed from site
- Historic Soil Boring
- Historical Monitoring Well
- Existing onsite Monitoring Well
- Existing onsite Compliance Well

N

0 30

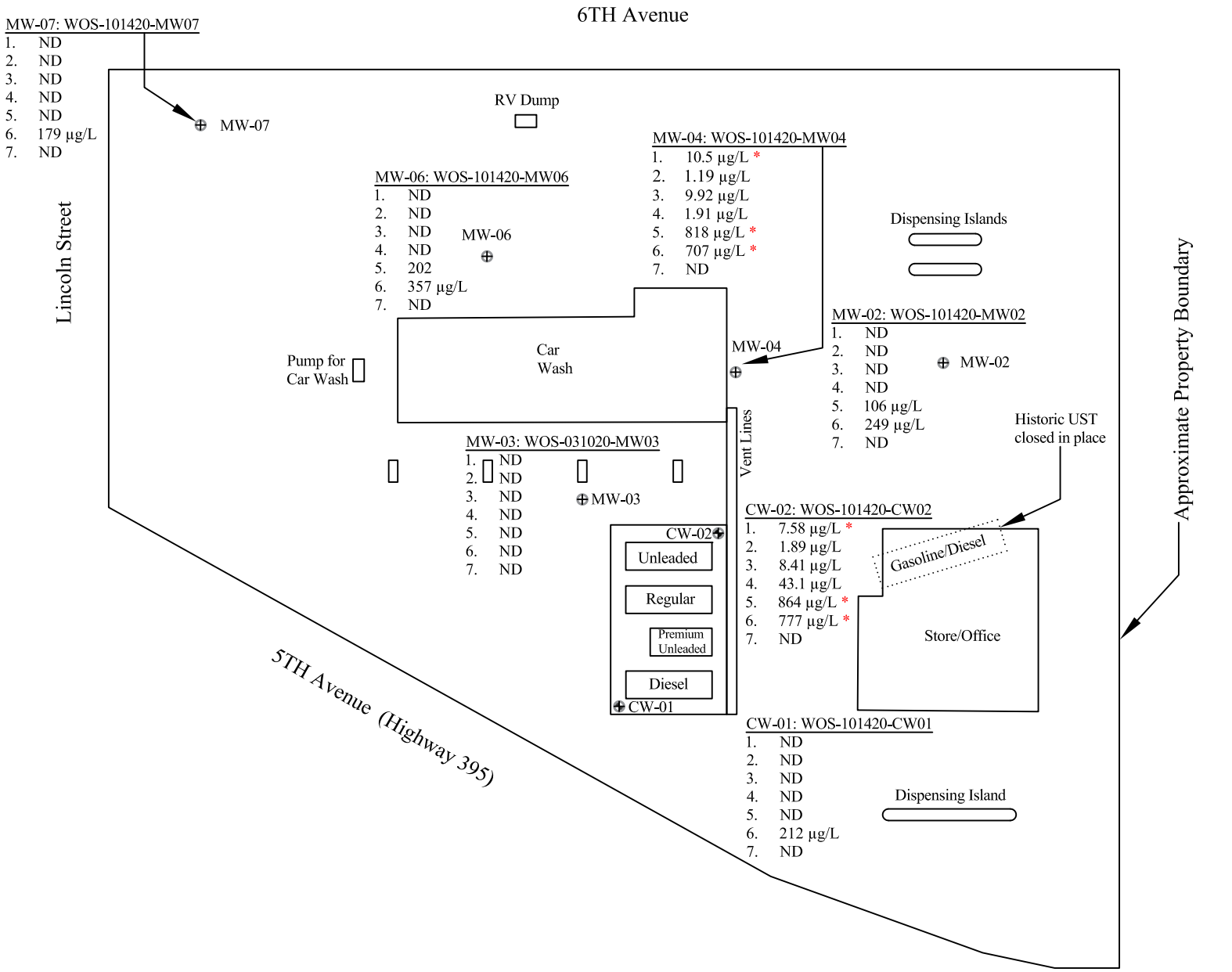
Approximate Scale In Feet

Figure 2: Historical USTs, Soil Borings, and Monitoring Wells Site Diagram Map

Second Semi-annual Groundwater Sampling Event October 2020
Whitty's Chevron
370 West 5th Avenue
Colville, Washington

FULCRUM ENVIRONMENTAL CONSULTING, INC.
207 W. BOONE AVENUE
SPOKANE, WASHINGTON 99201
(509) 459-9220 www.efulcrum.net

MAP BY: S. Groat	PROJECT NUMBER: 172206.00
DATE: November 20, 2020	REVIEWED BY: T. Trent



LEGEND

Parameters (µg/L)
1. Benzene
2. Toluene
3. Ethyl-benzene
4. Xylenes
5. NWTPH-GX
6. Diesel Range Organics
7. Heavy Oil

⊕ Monitoring Well

⊕ Compliance Well

* Analyte Concentration Exceeds MTCA Method A Cleanup Level

N

0 30

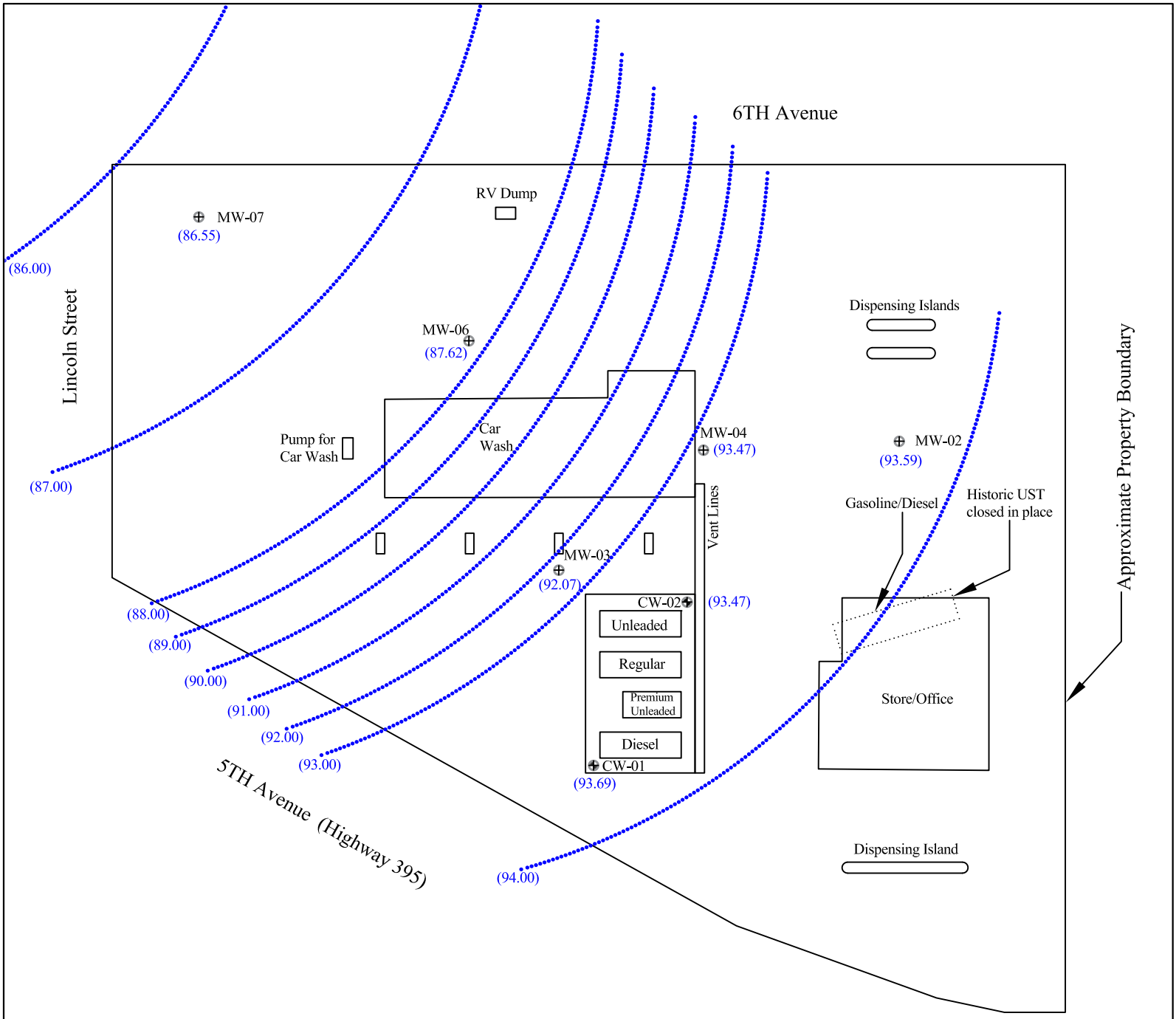
Approximate Scale In Feet

Figure 3: Site Diagram Map

Second Semi-annual Groundwater Sampling Event October 2020
Whitty's Chevron
370 West 5th Avenue
Colville, Washington

FULCRUM ENVIRONMENTAL CONSULTING, INC.
207 W. BOONE AVENUE
SPOKANE, WASHINGTON 99201
(509) 459-9220 www.efulcrum.net

MAP BY: S. Groat	PROJECT NUMBER: 172206.00
DATE: December 8, 2020	REVIEWED BY: T. Trent



LEGEND

Approximate Groundwater Flow Direction & Gradient

93.00 — Groundwater Elevation Contour (In Feet)

(93.00) — Monitoring Well Groundwater Elevation (In Feet)

Monitoring Well

Compliance Well

N

0 30

Approximate Scale In Feet

Figure 4: Groundwater Elevation Map

Second Semi-annual Groundwater Sampling Event October 2020
Whitty's Chevron
370 West 5th Avenue
Colville, Washington

FULCRUM ENVIRONMENTAL CONSULTING, INC.
207 W. BOONE AVENUE
SPOKANE, WASHINGTON 99201
(509) 459-9220 www.efulcrum.net

MAP BY: S. Groat	PROJECT NUMBER: 172206.00
DATE: December 8, 2020	REVIEWED BY: T. Trent

APPENDIX A

Professional Certifications

STATE OF WASHINGTON

DEPARTMENT OF LICENSING – BUSINESS AND PROFESSIONS DIVISION

WASHINGTON STATE DEPARTMENT OF LICENSING

THIS CERTIFIES THAT THE PERSON OR BUSINESS NAMED BELOW IS AUTHORIZED AS A

GEOLOGIST
Hydrogeologist

Travis L Trent
1127 W 8th Ave
Spokane WA 99204-3107

License Number	Issue Date	Expiration Date
364	2002-01-08	2021-06-06

Teresa Berntsen

Teresa Berntsen, Director

(R/7/19)

APPENDIX B

Summary of Historical Data

HISTORICAL GROUNDWATER ELEVATION AND ANALYTICAL DATA

Whitty's Chervon

370 West Fifth Avenue
Colville, Washington

Boring ID	Sampling Date	ERP (feet)	DS (feet)	TD (feet)	TPH (µg/L)	Diesel-range hydrocarbons (µg/L)	Heavy oil-range hydrocarbons (µg/L)	Combined Diesel-range and Heavy oil-range (µg/L)	NWTPH-Gx (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
SB-1	1/8/1990	*100.20*	---	*15.00*	---	---	---	---	---	---	---	---	---
SB-2	1/8/1990	*99.39*	*10.00*	*15.00*	ND	---	---	---	ND	ND	ND	ND	ND
SB-3	1/9/1990	*99.30*	---	*15.00*	---	---	---	---	---	---	---	---	---
SB-4	1/9/1990	*98.96*	*5.00*	*15.00*	ND	---	---	---	ND	ND	ND	ND	ND
SB-5	1/9/1990	*99.29*	*5.00*	*15.00*	*1,220*	---	---	---	---	*0.476*	*1.38*	*5.62*	*50.2*
SB-6	1/9/1990	*97.87*	---	*15.00*	---	---	---	---	---	---	---	---	---

Well ID	Sampling Date	ERP (feet)	DTW (feet)	GWE (feet)	TPH (µg/L)	Diesel-range hydrocarbons (µg/L)	Heavy oil-range hydrocarbons (µg/L)	Combined Diesel-range and Heavy oil-range (µg/L)	NWTPH-Gx (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
CW-01	1/10/1990	*99.50*	*5.82*	*93.68*	---	---	---	---	---	---	---	---	---
	9/13/2017	*99.50*	5.91	*93.59*	---	---	---	---	ND	ND	ND	ND	ND
	12/11/2017	*99.50*	4.96	*94.54*	---	---	---	---	ND	ND	ND	ND	ND
	3/26/2018	*99.50*	4.71	*94.79*	---	---	---	---	ND	ND	ND	ND	ND
	3/26/2018	*99.50*	4.71	*94.79*	---	---	---	---	ND	ND	ND	ND	ND
	6/27/2018	*99.50*	5.53	*93.97*	---	---	---	---	ND	ND	ND	ND	ND
	9/19/2018	*99.50*	5.86	*93.64*	---	214.00	ND	214.00	ND	ND	ND	ND	ND
	3/21/2019	*99.50*	4.84	*94.66*	---	ND	ND	ND	ND	ND	ND	ND	ND
	9/17/2019	*99.50*	5.85	*93.65*	---	63.30	ND	63.30	ND	ND	ND	ND	ND
	3/10/2020	*99.50*	4.89	*94.61*	---	ND	ND	ND	ND	ND	ND	ND	ND
	10/14/2020	*99.50*	5.81	*93.69*	---	212.00	ND	212.00	ND	ND	ND	ND	ND
CW-02	1/10/1990	*99.01*	*5.33*	*93.68*	---	---	---	---	---	---	---	---	---
	9/13/2017	*99.01*	5.64	*93.36*	---	---	---	---	ND	ND	ND	ND	ND
	12/11/2017	*99.01*	4.65	*94.36*	---	---	---	---	ND	ND	ND	ND	ND
	3/26/2018	*99.01*	4.39	*94.62*	---	---	---	---	ND	ND	ND	ND	ND
	6/27/2018	*99.01*	5.24	*93.77*	---	---	---	---	ND	ND	ND	ND	ND
	9/19/2018	*99.01*	5.56	*93.45*	---	ND	ND	ND	50.60	**10.60**	16.60	ND	ND
	9/19/2018	*99.01*	5.56	*93.45*	---	ND	188.00	188.00	56.80	**9.94**	15.90	ND	ND
	3/21/2019	*99.01*	4.53	*94.48*	---	ND	261.00	261.00	ND	ND	ND	ND	ND

2001 MTCA Method A Cleanup Levels for Groundwater	**NE**	**500**	**800**	**5**	**1000**	**700**	**1000**

Well ID	Sampling Date	ERP (feet)	DTW (feet)	GWE (feet)	TPH (µg/L)	Diesel-range hydrocarbons (µg/L)	Heavy oil-range hydrocarbons (µg/L)	Combined Diesel-range and Heavy oil-range (µg/L)	NWTPH-Gx (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
CW-02	9/17/2019	*99.01*	5.54	*93.46*	---	ND	ND	ND	ND	ND	ND	ND	ND
	3/10/2020	*99.01*	5.20	*93.81*	---	ND	255.00	255.00	ND	ND	ND	ND	ND
	10/14/2020	*99.01*	5.54	*93.47*	---	ND	**777.00**	**777.00**	**864.00**	**7.58**	1.89	8.41	43.10
	10/14/2020	*99.01*	5.54	*93.47*	---	**4,570.00**	**ND**	**4570.00**	**818.00**	**7.45**	1.89	8.26	42.20
MW-1	1/10/1990	*100.00*	*5.59*	*94.41*	*ND*	---	---	---	---	ND	ND	ND	ND
Decommissioned													
MW-2	1/10/1990	*98.92*	*4.51*	*94.41*	*2,460*		---	---	---	***1,643.0***	*409.00*	*ND*	***2955.00***
Decommissioned													
New Well Installed	10/14/2020	*98.92*	5.83	93.09	---	249.00	ND	249.00	106.00	*ND*	*ND*	*ND*	*ND*
MW-03	1/10/1990	*98.56*	*5.77*	*92.79*	*ND*	---	---	---	---	*ND*	*ND*	*ND*	*ND*
	9/13/2017	*98.56*	5.55	93.02	---	---	---	---	131.00	ND	ND	ND	ND
	12/11/2017	*98.56*	5.05	93.51	---	---	---	---	ND	1.65	ND	ND	ND
	12/11/2017	*98.56*	5.05	93.51	---	---	---	---	ND	1.60	ND	ND	ND
	3/26/2018	*98.56*	4.44	94.12	---	---	---	---	ND	ND	ND	ND	ND
	6/27/2018	*98.56*	5.26	*93.30*	---	---	---	---	ND	ND	ND	ND	ND
	9/19/2018	*98.56*	5.56	*93.01*	---	ND	172.00	172.00	ND	ND	ND	ND	ND
	3/21/2019	*98.56*	4.80	*93.76*	---	273	ND	273	202.00	**24.40**	32.00	1.10	16.54
	9/17/2019	*98.56*	5.55	*93.01*	---	ND	ND	ND	67.30	ND	ND	ND	ND
	3/10/2020	*98.56*	5.57	*92.99*	---	ND	122.00	122.00	ND	ND	ND	ND	ND
	10/14/2020	*98.56*	5.86	*92.70*	---	ND	ND	ND	ND	ND	ND	ND	ND
MW-04	1/10/1990	*98.27*	*4.06*	*94.21*	*3,050*	---	---	---	---	***118***	*23.00*	*ND*	*284.00*
	9/13/2017	*98.27*	5.32	92.96	---	---	---	---	558.00	4.03	ND	1.51	1.46
	9/13/2017	*98.27*	5.32	92.96	---	---	---	---	547.00	ND	ND	ND	ND
	12/11/2017	*98.27*	4.13	94.17	---	---	---	---	702.00	**6.81**	1.07	9.07	ND
	3/26/2018	*98.27*	3.75	94.52	---	---	---	---	302.00	4.63	1.34	15.70	ND
	6/27/2018	*98.27*	4.80	*93.47*	---	---	---	---	284.00	**5.84**	1.32	16.60	ND
	9/19/2018	*98.27*	4.83	*93.44*	---	**1,450.00**	**2,080.00**	**3,530.00**	644.00	**7.25**	2.61	25.80	2.72
	3/21/2019	*98.27*	3.60	*94.67*	---	220.00	376.00	**596.00**	718.00	4.46	1.78	18.10	2.70
	9/17/2019	*98.27*	4.92	*93.35*	---	181.00	310.00	491.00	780.00	**5.09**	ND	3.08	1.16
	3/10/2020	*98.27*	4.12	*94.15*	---	ND	**552.00**	**552.00**	96.00	ND	ND	2.60	ND
Lab Filtered	3/10/2020	*98.27*	4.12	*94.15*	---	ND	**602.00**	**602.00**	80.10	ND	ND	2.61	ND
New Well Installed	10/14/2020	*98.27*	4.80	*93.47*	---	**707.00**	ND	**707.00**	**818.00**	**10.50**	1.19	9.92	1.91
MW-06	1/10/1990	*97.27*	*9.01*	*88.26*	*ND*	---	---	---	---	***9.00***	*5.00*	*15.00*	*80.00*
2001 MTCA Method A Cleanup Levels for Groundwater		**NE**			**500**			**800**	**5**	**1,000**	**700**	**1,000**	

Well ID	Sampling Date	ERP (feet)	DTW (feet)	GWE (feet)	TPH (µg/L)	Diesel-range hydrocarbons (µg/L)	Heavy oil-range hydrocarbons (µg/L)	Combined Diesel-range and Heavy oil-range (µg/L)	NWTPH-Gx (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
MW-06	9/13/2017	*97.27*	---	---	---	---	---	---	ND	ND	ND	ND	ND
	12/11/2017	*97.27*	---	---	---	---	---	---	---	---	---	---	---
	3/26/2018	*97.27*	5.24	*92.03*	---	---	---	---	404.00	ND	ND	ND	ND
	6/27/2018	*97.27*	5.31	*91.96*	---	---	---	---	101.00	ND	ND	ND	ND
	9/19/2018	*97.27*	6.36	*90.92*	---	102.00	369.00	471.00	119.00	ND	ND	ND	ND
	3/21/2019	*97.27*	5.08	*92.19*	---	ND	409.00	409.00	ND	ND	ND	ND	ND
	9/17/2019	*97.27*	4.95	*92.32*	---	ND	**1440.00**	**1440.00**	90.20	ND	ND	ND	ND
	3/10/2020	*97.27*	4.51	*92.76*	---	ND	**1580.00**	**1580.00**	ND	ND	ND	ND	ND
Lab Filtered	3/10/2020	*97.27*	4.51	*92.76*	---	ND	**1350.00**	**1350.00**	ND	ND	ND	ND	ND
New well installed	10/14/2020	*97.27*	*9.65*	*87.62*	---	357.00	ND	357.00	202	ND	ND	ND	ND
MW-07 *New well installed*	10/14/2020	*95.27*	*8.72*	*86.55*	---	179.00	ND	179.00	ND	ND	ND	ND	ND
2001 MTCA Method A Cleanup Levels for Groundwater					**NE**	**500**			**800**	**5**	**1000**	**700**	**1000**

Notes :

MTCA Method A exceedences shown in bold

Historic Data not collected by Fulcrum shown in italics

NE	Not Established. Indvidual analyte thresholds for Total Petroleum Hydrocarbons (TPH) have not been established and are referenced as the appropriate regulatory values above
TPH	Total Petroleum Hydrocarbons
TD	Total Boring Depth

Notes :

DS	Depth Sampled
ERP	Elevation of riser pipe based on an arbitrary datum of 100.00 feet
DTW	Depth to water
GWE	Groundwater elevation based on an arbitrary datum of 100.00 feet
NWTPHGx	Northwest total petroleum hydrocarbons as gasoline;
BTEX	Benzene, toluene, ethylbenzene and total xylenes
µg/L	micrograms per liter or parts per billion
ND	Not detected in concentrations exceeding laboratory method detection limit
---	Not available, not tested, not measured

APPENDIX C

2005 Soil Sampling Results

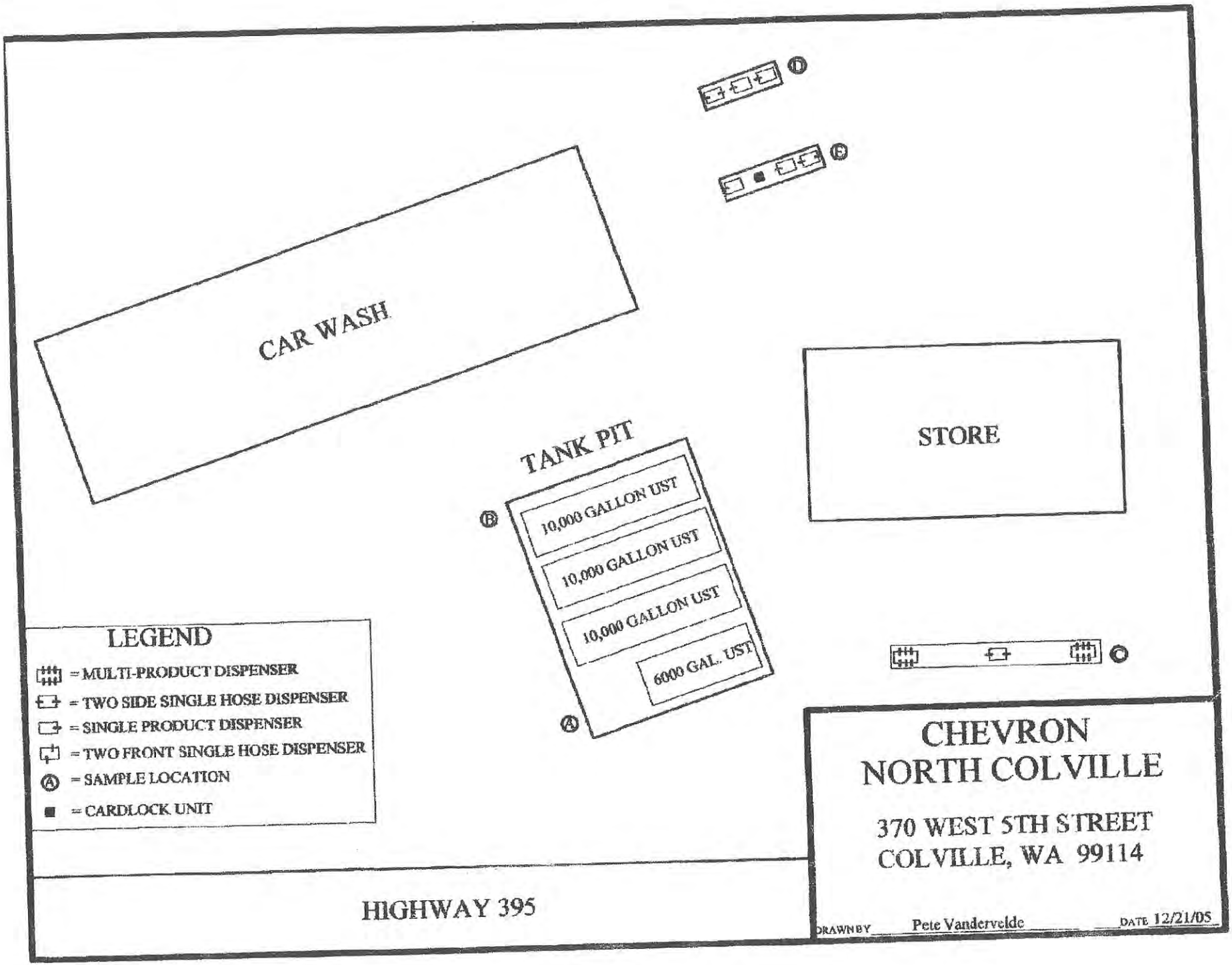


TABLE 1
SOIL SAMPLE RESULTS
CHEVRON
NORTH COLVILLE

DEPTH OF SAMPLE	15'	14	5'	5'	5'	*CLEANUP STANDARD*
ANALYSES	2-A	2-B	2-C	2-D	2-E	
NWTPH-OIL	<100	<100	<100	<100	<100	*2000 mg/Kg*
NWTPH-DIESEL	<10	<10	<10	<10	<10	*2000 mg/Kg*
NWTPH-GAS	8	<5.0	<5.0	<5.0	<5.0	*100 mg/Kg OR 30mg/Kg*
BENZENE	<0.025	<0.025	<0.025	<0.025	<0.025	*0.03 mg/Kg*
ETHYLBENZENE	0.12	<0.025	<0.025	<0.025	<0.025	*6.0 mg/Kg*
MTBE	<0.025	<0.025	<0.025	<0.025	<0.025	*0.1 mg/Kg*
TOLUENE	0.229	<0.05	0.111	0.066	<0.05	*7.0 mg/Kg*
XYLENE	0.69	<0.05	0.099	0.081	<0.05	*9.0 mg/Kg*
TOTAL LEAD	13	N/A	N/A	N/A	N/A	*250 mg/Kg*

N/A = NOT ANALYZED (verifys analyte is below cleanup standards for highest NWTPH-G concentration reported)

BOLDED RESULTS = ABOVE CLEANUP STANDARDS

ITALICIZED RESULTS = ESTIMATED CONCENTRATION. RESULT IS ABOVE NORMAL CALIBRATION RANGE. FINAL RESULT IS MOST LIKELY HIGHER

<1.25 ? = SAMPLE METHOD DETECTION LIMIT WAS DILUTED ABOVE CLEANUP STANDARD DUE TO HIGH CONCENTRATION OF OTHER ANALYTE DETECTED

SPECTRA Laboratories
2221 Ross Way • Tacoma, WA 98421 • (253) 272-4850 • Fax (253) 572-9838 • www.spectra-lab.com

12/16/2005

Northwest Environmental Solutions, Inc
PO Box 1583
Sumner, WA 98390
Attn: Pete Vanderveide

P.O.#: Pd Ck #7160319036
Project: Whitton Oil
Client ID: 2-A
Sample Matrix: Soil
Date Sampled: 12/08/2005
Date Received: 12/12/2005
Spectra Project: 2005120166
Spectra Number: 1
Rush

Analyte	Result	Units	Method
Diesel	<10	mg/Kg	NWTPH-D
Oil	<100	mg/Kg	NWTPH-D
Gasoline	8	mg/Kg	NWTPH-G
Benzene	<0.025	mg/Kg	SW846 8260B
Ethylbenzene	0.12	mg/Kg	SW846 8260B
Methyl-tert-Butyl Ether	<0.025	mg/Kg	SW846 8260B
Toluene	0.229	mg/Kg	SW846 8260B
Total Xylenes	0.69	mg/Kg	SW846 8260B

Surrogate	Recovery	Method
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	NWTPH-D
[illegible]	[illegible]	[illegible]

SPECTRA LABORATORIES

[illegible]

SPECTRA Laboratories
2221 Ross Way • Tacoma, WA 98421 • (253) 272-4850 • Fax (253) 572-9838 • www.spectra-lab.com

12/16/2005

Northwest Environmental Solutions, Inc
PO Box 1583
Sumner, WA 98390
Attn: Pete Vandervelde

P.O.#: Pd Ck #7160319036
Project: Whitton Oil
Client ID: 2-B
Sample Matrix: Soil
Date Sampled: 12/08/2005
Date Received: 12/12/2005
Spectra Project: 2005120166
Spectra Number: 2
Rush

Analyte	Result	Units	Method
Diesel	<10	mg/Kg	NWTPH-D
Oil	<100	mg/Kg	NWTPH-D
Gasoline	<5	mg/Kg	NWTPH-G
Benzene	<0.025	mg/Kg	SW846 8260B
Ethylbenzene	<0.025	mg/Kg	SW846 8260B
Methyl-tert-Butyl Ether	<0.025	mg/Kg	SW846 8260B
Toluene	<0.05	mg/Kg	SW846 8260B
Total Xylenes	<0.05	mg/Kg	SW846 8260B

Surrogate	Recovery	Method
Toluene-d8	118	NWTPH-G
a,a,a-Trifluorotoluene	111	NWTPH-G
p-Terphenyl	60	NWTPH-D

SPECTRA LABORATORIES

Steve Hibbs, Laboratory Manager
sh/ih

SPECTRA Laboratories
2221 Ross Way • Tacoma, WA 98421 • (253) 272-4850 • Fax (253) 572-9838 • www.spectra-lab.com

12/16/2005

Northwest Environmental Solutions, Inc
PO Box 1583
Sumner, WA 98390
Attn: Pete Vandervelde

P.O.#: Pd Ck #7160319036
Project: Whitton Oil
Client ID: 2-C
Sample Matrix: Soil
Date Sampled: 12/08/2005
Date Received: 12/12/2005
Spectra Project: 2005120166
Spectra Number: 3
Rush

Analyte	Result	Units	Method
Diesel	<10	mg/Kg	NWTPH-D
Oil	<100	mg/Kg	NWTPH-D
Gasoline	<5	mg/Kg	NWTPH-G
Benzene	<0.025	mg/Kg	SW846 8260B
Ethylbenzene	<0.025	mg/Kg	SW846 8260B
Methyl-tert-Butyl Ether	<0.025	mg/Kg	SW846 8260B
Toluene	0.111	mg/Kg	SW846 8260B
Total Xylenes	0.099	mg/Kg	SW846 8260B

Surrogate	Recovery	Method
Trifluorotoluene	111	NWTPH-G
4-Bromofluorobenzene	119	NWTPH-G
p-Terphenyl	62	NWTPH-D

SPECTRA LABORATORIES

Steve Hibbs, Laboratory Manager
nd/jjh

SPECTRA Laboratories
2221 Ross Way • Tacoma, WA 98421 • (253) 272-4850 • Fax (253) 572-9838 • www.spectra-lab.com

12/16/2005

Northwest Environmental Solutions, Inc
PO Box 1583
Sumner, WA 98390
Attn: Pete Vandervelde

P.O.#: Pd Ck #7160319036
Project: Whitton Oil
Client ID: 2-D
Sample Matrix: Soil
Date Sampled: 12/08/2005
Date Received: 12/12/2005
Spectra Project: 2005120166
Spectra Number: 4
Rush

Analyte	Result	Units	Method
Diesel	<10	mg/Kg	NWTPH-D
Oil	<100	mg/Kg	NWTPH-D
Gasoline	<5	mg/Kg	NWTPH-G
Benzene	<0.025	mg/Kg	SW846 8260B
Ethylbenzene	<0.025	mg/Kg	SW846 8260B
Methyl-tert-Butyl Ether	<0.025	mg/Kg	SW846 8260B
Toluene	0.066	mg/Kg	SW846 8260B
Total Xylenes	0.081	mg/Kg	SW846 8260B

Surrogate	Recovery	Method
Toluene d8	116	NWTPH-G
4-Bromofluorobenzene	112	NWTPH-G
p-Terphenyl	76	NWTPH-D

SPECTRA LABORATORIES

Steve Hibbs, Laboratory Manager
sg/jb

SPECTRA Laboratories
2221 Ross Way • Tacoma, WA 98421 • (253) 272-4850 • Fax (253) 572-9838 • www.spectra-lab.com

12/16/2005

Northwest Environmental Solutions, Inc
PO Box 1583
Sumner, WA 98390
Attn: Pete Vandervelde

P.O.#: Pd Ck #7160319036
Project: Whitton Oil
Client ID: 2-E
Sample Matrix: Soil
Date Sampled: 12/08/2005
Date Received: 12/12/2005
Spectra Project: 2005120166
Spectra Number: 5
Rush

Analyte	Result	Units	Method
Diesel	<10	mg/Kg	NWTPH-D
Oil	<100	mg/Kg	NWTPH-D
Gasoline	<5	mg/Kg	NWTPH-G
Benzene	<0.025	mg/Kg	SW846 8260B
Ethylbenzene	<0.025	mg/Kg	SW846 8260B
Methyl-tert-Butyl Ether	<0.025	mg/Kg	SW846 8260B
Toluene	<0.05	mg/Kg	SW846 8260B
Total Xylenes	<0.05	mg/Kg	SW846 8260B

Surrogate	Recovery	Method
Toluene-d8	112	NWTPH-G
4-Bromofluorobenzene	113	NWTPH-G
p-Terphenyl	82	NWTPH-D

SPECTRA LABORATORIES

Steve Hibbs, Laboratory Manager

FROM

APPENDIX D

Resource Protection Well Decommissioning Reports

DEPARTMENT OF ECOLOGY
State of Washington

Resource Protection Well Report

Submit one well report per well installed. See page two for instructions.

Type of Work:

☐ Construction
☒ Decommission ⇨ Original NOI No. AE62980

Ecology Well ID Tag No. _____

Site Well Name _____

Consulting Firm Fulcrum Environmental

Was a variance approved for this well/boring? ☐ Yes ☐ No

If yes, what was the variance for? _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

■ Driller ☐ Trainee ☐ Engineer

Name (Print Last, First Name) Johnson, Brent

Driller/Engineer/Trainee Signature _____

License No. 3225

Company Name Environmental West Exploration Inc.

If trainee box is checked, sponsor's license number: _____

Sponsor's signature _____

Notice of Intent No. AE 62980 FUL093020

Type of Well:

☒ Resource Protection Well ☐ Injection Point
☐ Remediation Well ☐ Grounding Well
☐ Geotechnical Soil Boring ☐ Ground Source Heat Pump
☐ Environmental Boring ☐ Other _____
↳ ☐ Soil- ☐ Vapor- ☐ Water-sampling

Property Owner Aditi Sood

Well Street Address 370 W 5th Ave

City Colville County Stevens

Tax Parcel No. 0070900

Location (see instructions): WWM ☐ or EWM ☐

SW ¼-¼ NW ¼, Section 09 Town 35N Range 39E

Latitude (Example: 47.12345) _____

Longitude (Example: -120.12345) _____

(WGS 84 Coordinate System)

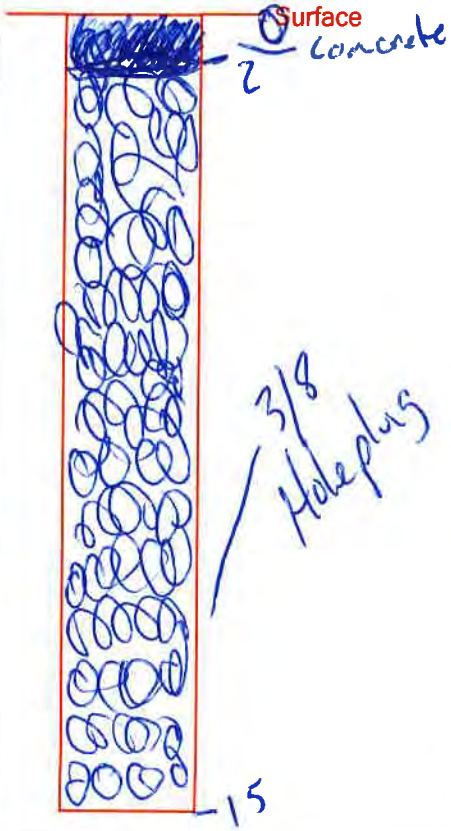
Borehole diameter _____ inches Casing diameter 2" inches

Static water level N/A ft below top of casing Date 9/30/2020

☐ Above-ground completion with bollards ☑ Flush monument

↳ Stick-up of top of well casing _____ ft above ground surface

Start Date 9/30/2020 Completed Date 9/30/2020

Construction Design	Well Data	Driller's Log
		

DEPARTMENT OF ECOLOGY
State of Washington

Resource Protection Well Report

Submit one well report per well installed. See page two for instructions.

Type of Work:

☒ Construction
☐ Decommission ⇨ Original NOI No. _____

Ecology Well ID Tag No. BMA 279
Site Well Name MW-4
Consulting Firm Fulcrum Environmental
Was a variance approved for this well/boring? ☐ Yes ☐ No
If yes, what was the variance for? _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

■ Driller ☐ Trainee ☐ Engineer
Name (Print Last, First Name) Johnson, Brent
Driller/Engineer/Trainee Signature _____
License No. 3225
Company Name Environmental West Exploration Inc.

If trainee box is checked, sponsor's license number: _____
Sponsor's signature _____

Notice of Intent No. RE20059 FUL093020

Type of Well:

☒ Resource Protection Well ☐ Injection Point
☐ Remediation Well ☐ Grounding Well
☐ Geotechnical Soil Boring ☐ Ground Source Heat Pump
☐ Environmental Boring ☐ Other _____
↳ ☐ Soil- ☐ Vapor- ☐ Water-sampling

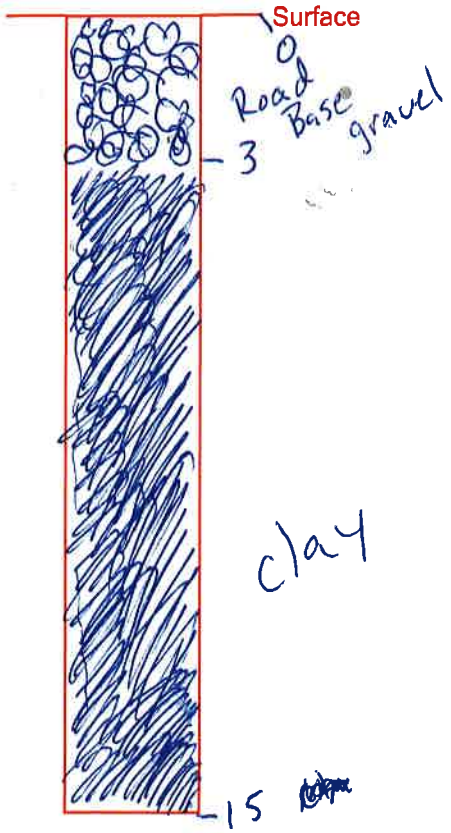
Property Owner Aditi Sood
Well Street Address 370 W 5th Ave
City Colville County Stevens
Tax Parcel No. 0070900

Location (see instructions): WWM ☐ or EWM ☐
SW ¼-¼ NW ¼, Section 09 Town 35N Range 39E
Latitude (Example: 47.12345) _____
Longitude (Example: -120.12345) _____
(WGS 84 Coordinate System)

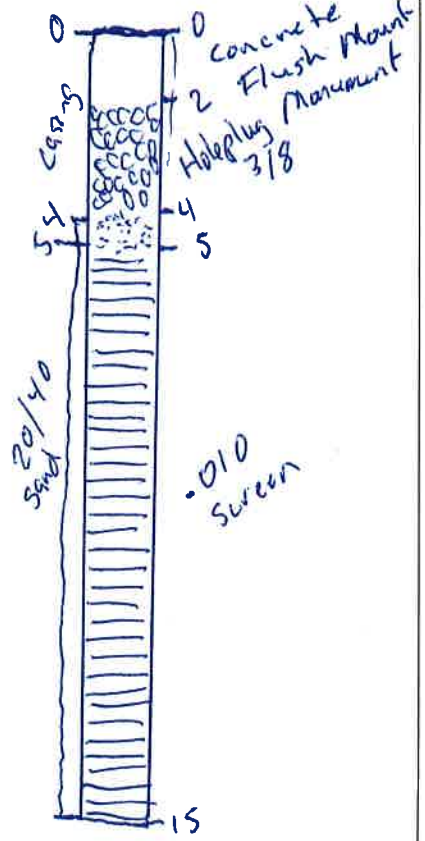
Borehole diameter 6" inches Casing diameter 2" inches
Static water level 13 ft below top of casing Date 9/30/2020

☐ Above-ground completion with bollards ☒ Flush monument
↳ Stick-up of top of well casing _____ ft above ground surface
Start Date 9/30/2020 Completed Date 9/30/2020

Construction Design



Well Data



Driller's Log

DEPARTMENT OF ECOLOGY
State of Washington

Resource Protection Well Report

Submit one well report per well installed. See page two for instructions.

Type of Work:

☒ Construction
☐ Decommission ⇨ Original NOI No. _____

Ecology Well ID Tag No. BMA 281
Site Well Name MW-7
Consulting Firm Fulcrum Environmental
Was a variance approved for this well/boring? ☐ Yes ☐ No
If yes, what was the variance for? _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

▣ Driller ☐ Trainee ☐ Engineer
Name (Print Last, First Name) Johnson, Brent
Driller/Engineer/Trainee Signature [signature]
License No. 3225
Company Name Environmental West Exploration Inc.

If trainee box is checked, sponsor's license number: _____
Sponsor's signature _____

Notice of Intent No. RE20059 FUL093020

Type of Well:

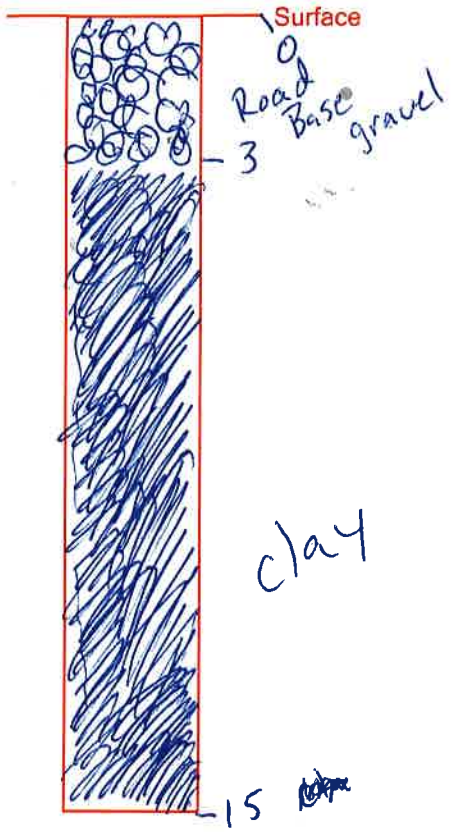
☒ Resource Protection Well ☐ Injection Point
☐ Remediation Well ☐ Grounding Well
☐ Geotechnical Soil Boring ☐ Ground Source Heat Pump
☐ Environmental Boring ☐ Other _____
↳ ☐ Soil- ☐ Vapor- ☐ Water-sampling

Property Owner Aditi Sood
Well Street Address 370 W 5th Ave
City Colville County Stevens
Tax Parcel No. 0070900

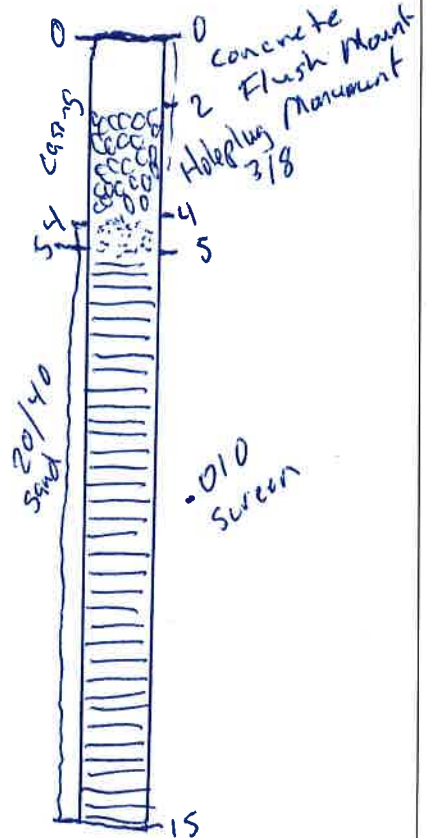
Location (see instructions): WWM ☐ or EWM ☐
SW ¼-¼ NW ¼, Section 09 Town 35N Range 39E
Latitude (Example: 47.12345) _____
Longitude (Example: -120.12345) _____
(WGS 84 Coordinate System)

Borehole diameter 6" inches Casing diameter 2" inches
Static water level 13 ft below top of casing Date 9/30/2020
☐ Above-ground completion with bollards ☒ Flush monument
↳ Stick-up of top of well casing _____ ft above ground surface
Start Date 9/30/2020 Completed Date 9/30/2020

Construction Design



Well Data



Driller's Log

DEPARTMENT OF ECOLOGY
State of Washington

Resource Protection Well Report

Submit one well report per well installed. See page two for instructions.

Type of Work:

☒ Construction
☐ Decommission ⇨ Original NOI No. _____

Ecology Well ID Tag No. BMA 280
Site Well Name MW-2
Consulting Firm Fulcrum Environmental
Was a variance approved for this well/boring? ☐ Yes ☐ No
If yes, what was the variance for? _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

■ Driller ☐ Trainee ☐ Engineer
Name (Print Last, First Name) Johnson, Brent
Driller/Engineer/Trainee Signature _____
License No. 3225
Company Name Environmental West Exploration Inc.

If trainee box is checked, sponsor's license number: _____
Sponsor's signature _____

Notice of Intent No. RE20059 FUL093020

Type of Well:

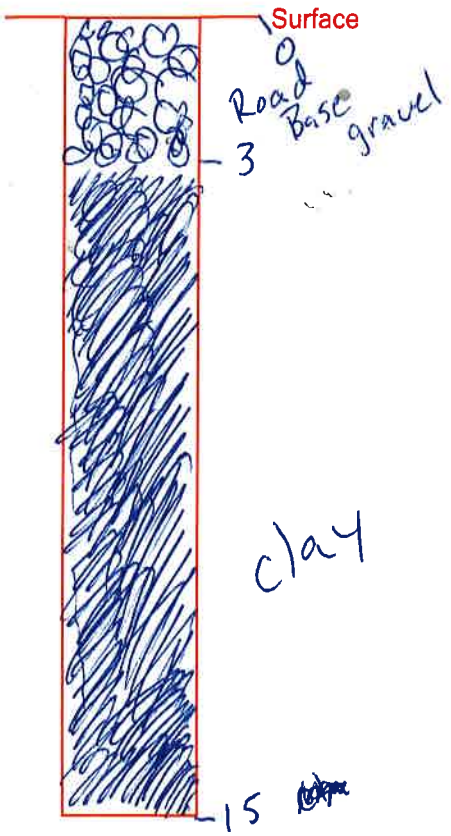
☒ Resource Protection Well ☐ Injection Point
☐ Remediation Well ☐ Grounding Well
☐ Geotechnical Soil Boring ☐ Ground Source Heat Pump
☐ Environmental Boring ☐ Other _____
↳ ☐ Soil- ☐ Vapor- ☐ Water-sampling

Property Owner Aditi Sood
Well Street Address 370 W 5th Ave
City Colville County Stevens
Tax Parcel No. 0070900

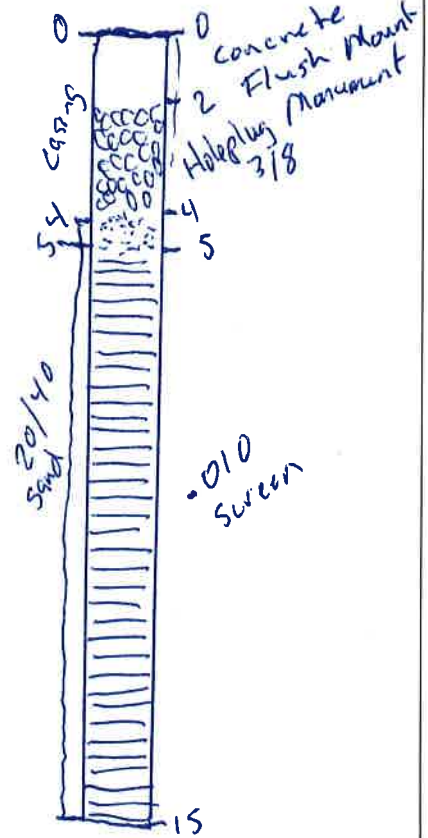
Location (see instructions): WWM ☐ or EWM ☐
SW ¼-¼ NW ¼, Section 09 Town 35N Range 39E
Latitude (Example: 47.12345) _____
Longitude (Example: -120.12345) _____
(WGS 84 Coordinate System)

Borehole diameter 6" inches Casing diameter 2" inches
Static water level 13 ft below top of casing Date 9/30/2020
☐ Above-ground completion with bollards ☒ Flush monument
↳ Stick-up of top of well casing _____ ft above ground surface
Start Date 9/30/2020 Completed Date 9/30/2020

Construction Design



Well Data



Driller's Log

DEPARTMENT OF ECOLOGY
State of Washington

Resource Protection Well Report

Submit one well report per well installed. See page two for instructions.

Type of Work:

☒ Construction
☐ Decommission ⇨ Original NOI No. _____

Ecology Well ID Tag No. BMA 278

Site Well Name MW-6

Consulting Firm Fulcrum Environmental

Was a variance approved for this well/boring? ☐ Yes ☐ No

If yes, what was the variance for? _____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

■ Driller ☐ Trainee ☐ Engineer

Name (Print Last, First Name) Johnson, Brent

Driller/Engineer/Trainee Signature BJA

License No. 3225

Company Name Environmental West Exploration Inc.

If trainee box is checked, sponsor's license number: _____

Sponsor's signature _____

Notice of Intent No. RE20059 FUL093020

Type of Well:

☒ Resource Protection Well ☐ Injection Point
☐ Remediation Well ☐ Grounding Well
☐ Geotechnical Soil Boring ☐ Ground Source Heat Pump
☐ Environmental Boring ☐ Other _____
↳ ☐ Soil- ☐ Vapor- ☐ Water-sampling

Property Owner Aditi Sood

Well Street Address 370 W 5th Ave

City Colville County Stevens

Tax Parcel No. 0070900

Location (see instructions): WWM ☐ or EWM ☐

SW ¼-¼ NW ¼, Section 09 Town 35N Range 39E

Latitude (Example: 47.12345) _____

Longitude (Example: -120.12345) _____

(WGS 84 Coordinate System)

Borehole diameter 6" inches Casing diameter _____ inches

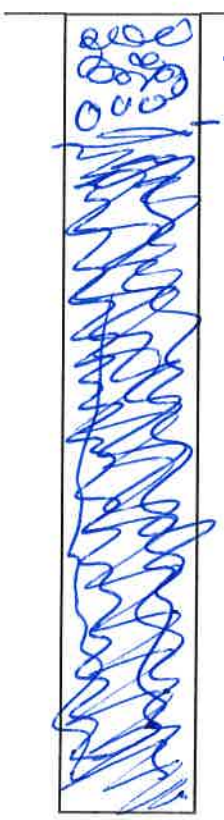
Static water level 13 ft below top of casing Date 9/30/2020

☐ Above-ground completion with bollards ☒ Flush monument

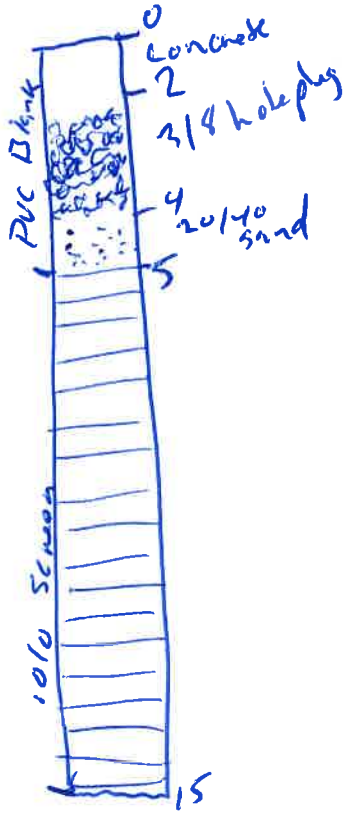
↳ Stick-up of top of well casing _____ ft above ground surface

Start Date 9/30/2020 Completed Date 9/30/2020

Construction Design



Well Data



Driller's Log

APPENDIX E

Waste Characterization Laboratory Analytical Results

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Fulcrum Environmental
Scott Groat
207 W Boone Ave.
Spokane, WA 99201

RE: Whitten Oil
Work Order Number: 2010351

October 28, 2020

Attention Scott Groat:

Fremont Analytical, Inc. received 2 sample(s) on 10/22/2020 for the analyses presented in the following report.

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.
Gasoline by NWTPH-Gx
Sample Moisture (Percent Moisture)
Volatile Organic Compounds by EPA Method 8260D

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes
Project Manager

Date: *10/28/2020*

CLIENT: Fulcrum Environmental
Project: Whitten Oil
Work Order: 2010351

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2010351-001	W05-101420-SCOMP-01	10/21/2020 4:13 PM	10/22/2020 9:30 AM
2010351-002	W05-101420-WCOMP-01	10/21/2020 4:03 PM	10/22/2020 9:30 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Original

Case Narrative

WO#: **2010351**
Date: **10/28/2020**

CLIENT: Fulcrum Environmental
Project: Whitten Oil

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
DUP - Sample Duplicate
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
REP - Sample Replicate
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Analytical Report

Work Order: **2010351**
Date Reported: **10/28/2020**

Client: Fulcrum Environmental
Collection Date: 10/21/2020 4:13:00 PM
Project: Whitten Oil
Lab ID: 2010351-001
Matrix: Soil
Client Sample ID: **W05-101420-SCOMP-01**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 30162		Analyst: IH
Diesel (Fuel Oil)	ND	27.3		mg/Kg-dry	1	10/27/2020 2:27:18 AM
Heavy Oil	ND	68.2		mg/Kg-dry	1	10/27/2020 2:27:18 AM
Surr: 2-Fluorobiphenyl	78.5	50 - 150		%Rec	1	10/27/2020 2:27:18 AM
Surr: o-Terphenyl	68.6	50 - 150		%Rec	1	10/27/2020 2:27:18 AM
Gasoline by NWTPH-Gx				Batch ID: 30154		Analyst: KT
Gasoline	ND	5.94		mg/Kg-dry	1	10/26/2020 10:31:36 AM
Gasoline Range Organics (C6-C12)	35.5	5.94		mg/Kg-dry	1	10/26/2020 10:31:36 AM
Surr: Toluene-d8	98.8	65 - 135		%Rec	1	10/26/2020 10:31:36 AM
Surr: 4-Bromofluorobenzene	103	65 - 135		%Rec	1	10/26/2020 10:31:36 AM
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 30154		Analyst: KT
Benzene	ND	0.0237		mg/Kg-dry	1	10/26/2020 10:31:36 AM
Toluene	ND	0.0237		mg/Kg-dry	1	10/26/2020 10:31:36 AM
Ethylbenzene	ND	0.0297		mg/Kg-dry	1	10/26/2020 10:31:36 AM
m,p-Xylene	ND	0.0594		mg/Kg-dry	1	10/26/2020 10:31:36 AM
o-Xylene	ND	0.0297		mg/Kg-dry	1	10/26/2020 10:31:36 AM
Surr: Dibromofluoromethane	98.5	85.2 - 113		%Rec	1	10/26/2020 10:31:36 AM
Surr: Toluene-d8	97.0	88.5 - 110		%Rec	1	10/26/2020 10:31:36 AM
Surr: 1-Bromo-4-fluorobenzene	102	88.6 - 109		%Rec	1	10/26/2020 10:31:36 AM
Sample Moisture (Percent Moisture)				Batch ID: R62839		Analyst: RL
Percent Moisture	29.3	0.500		wt%	1	10/26/2020 11:15:51 AM

NOTES:
GRO - Indicates the presence of unresolved compounds eluting from hexane to dodecane (~C6-C12).

Analytical Report

Work Order: **2010351**
Date Reported: **10/28/2020**

Client: Fulcrum Environmental
Collection Date: 10/21/2020 4:03:00 PM
Project: Whitten Oil
Lab ID: 2010351-002
Matrix: Water
Client Sample ID: **W05-101420-WCOMP-01**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 30147		Analyst: IH
Diesel (Fuel Oil)	89.2	48.9		µg/L	1	10/26/2020 2:27:59 PM
Heavy Oil	ND	97.8		µg/L	1	10/26/2020 2:27:59 PM
Surr: 2-Fluorobiphenyl	78.2	50 - 150		%Rec	1	10/26/2020 2:27:59 PM
Surr: o-Terphenyl	71.2	50 - 150		%Rec	1	10/26/2020 2:27:59 PM
Gasoline by NWTPH-Gx				Batch ID: 30155		Analyst: KT
Gasoline	ND	50.0		µg/L	1	10/26/2020 5:08:39 PM
Surr: Toluene-d8	100	65 - 135		%Rec	1	10/26/2020 5:08:39 PM
Surr: 4-Bromofluorobenzene	99.7	65 - 135		%Rec	1	10/26/2020 5:08:39 PM
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 30155		Analyst: KT
Benzene	ND	1.00		µg/L	1	10/26/2020 5:08:39 PM
Toluene	ND	1.00		µg/L	1	10/26/2020 5:08:39 PM
Ethylbenzene	ND	1.00		µg/L	1	10/26/2020 5:08:39 PM
m,p-Xylene	ND	1.00		µg/L	1	10/26/2020 5:08:39 PM
o-Xylene	ND	1.00		µg/L	1	10/26/2020 5:08:39 PM
Surr: Dibromofluoromethane	104	84.8 - 113		%Rec	1	10/26/2020 5:08:39 PM
Surr: Toluene-d8	106	88.5 - 110		%Rec	1	10/26/2020 5:08:39 PM
Surr: 1-Bromo-4-fluorobenzene	99.9	89.9 - 108		%Rec	1	10/26/2020 5:08:39 PM

Work Order: 2010351
CLIENT: Fulcrum Environmental
Project: Whitten Oil

QC SUMMARY REPORT

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID: **MB-30162**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **10/26/2020**	RunNo: **62871**
Client ID: **MBLKS**	Batch ID: **30162**		Analysis Date: **10/26/2020**	SeqNo: **1261974**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	20.0									
Heavy Oil	ND	50.0									
Surr: 2-Fluorobiphenyl	18.7		20.00		93.7	50	150				
Surr: o-Terphenyl	16.2		20.00		81.1	50	150				

Sample ID: **LCS-30162**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **10/26/2020**	RunNo: **62871**
Client ID: **LCSS**	Batch ID: **30162**		Analysis Date: **10/26/2020**	SeqNo: **1261975**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	451	20.0	500.0	0	90.2	65	135				
Surr: 2-Fluorobiphenyl	19.3		20.00		96.6	50	150				
Surr: o-Terphenyl	18.6		20.00		93.1	50	150				

Sample ID: **2010318-002AMS**	SampType: **MS**	Units: **mg/Kg-dry**	Prep Date: **10/26/2020**	RunNo: **62871**
Client ID: **BATCH**	Batch ID: **30162**		Analysis Date: **10/26/2020**	SeqNo: **1261978**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	491	21.5	538.4	0	91.1	65	135				
Surr: 2-Fluorobiphenyl	23.1		21.54		107	50	150				
Surr: o-Terphenyl	21.8		21.54		101	50	150				

Sample ID: **2010318-002AMSD**	SampType: **MSD**	Units: **mg/Kg-dry**	Prep Date: **10/26/2020**	RunNo: **62871**
Client ID: **BATCH**	Batch ID: **30162**		Analysis Date: **10/26/2020**	SeqNo: **1261979**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	513	20.2	504.8	0	102	65	135	490.7	4.45	30	
Surr: 2-Fluorobiphenyl	22.4		20.19		111	50	150		0		
Surr: o-Terphenyl	22.2		20.19		110	50	150		0		

Work Order: 2010351
CLIENT: Fulcrum Environmental
Project: Whitten Oil

QC SUMMARY REPORT

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID: **2010350-002ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **10/26/2020** RunNo: **62871**
Client ID: **BATCH** Batch ID: **30162** Analysis Date: **10/26/2020** SeqNo: **1261983**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	17.3						0		30	
Heavy Oil	ND	43.3						0		30	
Surr: 2-Fluorobiphenyl	16.4		17.31		94.9	50	150		0		
Surr: o-Terphenyl	14.6		17.31		84.2	50	150		0		

Work Order: 2010351
CLIENT: Fulcrum Environmental
Project: Whitten Oil

QC SUMMARY REPORT

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID: **MB-30147**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **10/23/2020**	RunNo: **62866**
Client ID: **MBLKW**	Batch ID: **30147**		Analysis Date: **10/26/2020**	SeqNo: **1261806**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	49.4									
Heavy Oil	ND	98.7									
Surr: 2-Fluorobiphenyl	61.5		79.00		77.9	50	150				
Surr: o-Terphenyl	55.6		79.00		70.4	50	150				

Sample ID: **LCS-30147**	SampType: **LCS**	Units: **µg/L**	Prep Date: **10/23/2020**	RunNo: **62866**
Client ID: **LCSW**	Batch ID: **30147**		Analysis Date: **10/26/2020**	SeqNo: **1261807**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	734	49.7	994.0	0	73.9	52	107				
Surr: 2-Fluorobiphenyl	60.5		79.52		76.0	50	150				
Surr: o-Terphenyl	54.0		79.52		67.9	50	150				

Sample ID: **2010351-002AMS**	SampType: **MS**	Units: **µg/L**	Prep Date: **10/23/2020**	RunNo: **62866**
Client ID: **W05-101420-WCOMP-0**	Batch ID: **30147**		Analysis Date: **10/26/2020**	SeqNo: **1261810**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	826	49.0	979.9	89.21	75.2	23.6	130				
Surr: 2-Fluorobiphenyl	63.7		78.39		81.3	50	150				
Surr: o-Terphenyl	55.8		78.39		71.2	50	150				

Sample ID: **2010351-002AMSD**	SampType: **MSD**	Units: **µg/L**	Prep Date: **10/23/2020**	RunNo: **62866**
Client ID: **W05-101420-WCOMP-0**	Batch ID: **30147**		Analysis Date: **10/26/2020**	SeqNo: **1261811**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	827	48.9	978.9	89.21	75.3	23.6	130	826.0	0.0736	30	
Surr: 2-Fluorobiphenyl	60.0		78.31		76.6	50	150		0		
Surr: o-Terphenyl	55.4		78.31		70.8	50	150		0		

Work Order: 2010351
CLIENT: Fulcrum Environmental
Project: Whitten Oil

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID: **LCS-30154**	SampType: **LCS**			Units: **mg/Kg**		Prep Date: **10/26/2020**		RunNo: **62869**			
Client ID: **LCSS**	Batch ID: **30154**					Analysis Date: **10/26/2020**		SeqNo: **1261882**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	26.3	5.00	25.00	0	105	65	135				
Surr: Toluene-d8	1.24		1.250		99.5	65	135				
Surr: 4-Bromofluorobenzene	1.30		1.250		104	65	135				

Sample ID: **2010304-009BDUP**	SampType: **DUP**			Units: **mg/Kg-dry**		Prep Date: **10/26/2020**		RunNo: **62869**			
Client ID: **BATCH**	Batch ID: **30154**					Analysis Date: **10/26/2020**		SeqNo: **1261857**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	5.13						0		30	
Surr: Toluene-d8	1.28		1.282		99.6	65	135		0		
Surr: 4-Bromofluorobenzene	1.29		1.282		101	65	135		0		

Sample ID: **2010304-010BMS**	SampType: **MS**			Units: **mg/Kg-dry**		Prep Date: **10/26/2020**		RunNo: **62869**			
Client ID: **BATCH**	Batch ID: **30154**					Analysis Date: **10/26/2020**		SeqNo: **1261859**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	18.4	4.71	23.55	0	78.2	65	135				
Surr: Toluene-d8	1.16		1.178		98.6	65	135				
Surr: 4-Bromofluorobenzene	1.17		1.178		99.5	65	135				

Sample ID: **2010304-010BMSD**	SampType: **MSD**			Units: **mg/Kg-dry**		Prep Date: **10/26/2020**		RunNo: **62869**			
Client ID: **BATCH**	Batch ID: **30154**					Analysis Date: **10/26/2020**		SeqNo: **1261860**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	21.6	4.71	23.55	0	91.6	65	135	18.41	15.9	30	
Surr: Toluene-d8	1.18		1.178		99.9	65	135		0		
Surr: 4-Bromofluorobenzene	1.19		1.178		101	65	135		0		

Work Order: 2010351
CLIENT: Fulcrum Environmental
Project: Whitten Oil

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID: **2010413-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **10/26/2020** RunNo: **62869**
Client ID: **BATCH** Batch ID: **30154** Analysis Date: **10/26/2020** SeqNo: **1261871**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	6.05						0		30	
Surr: Toluene-d8	1.50		1.513		99.5	65	135		0		
Surr: 4-Bromofluorobenzene	1.51		1.513		99.9	65	135		0		

Work Order: 2010351
CLIENT: Fulcrum Environmental
Project: Whitten Oil

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID: **LCS-30155**	SampType: **LCS**	Units: **µg/L**	Prep Date: **10/26/2020**	RunNo: **62892**
Client ID: **LCSW**	Batch ID: **30155**		Analysis Date: **10/26/2020**	SeqNo: **1262380**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	482	50.0	500.0	0	96.4	65	135				
Surr: Toluene-d8	25.1		25.00		100	65	135				
Surr: 4-Bromofluorobenzene	25.1		25.00		101	65	135				

Sample ID: **LCSD-30155**	SampType: **LCSD**	Units: **µg/L**	Prep Date: **10/26/2020**	RunNo: **62892**
Client ID: **LCSW02**	Batch ID: **30155**		Analysis Date: **10/26/2020**	SeqNo: **1262381**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	459	50.0	500.0	0	91.8	65	135	482.1	4.88	20	
Surr: Toluene-d8	24.9		25.00		99.7	65	135		0		
Surr: 4-Bromofluorobenzene	25.3		25.00		101	65	135		0		

Sample ID: **MB-30155**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **10/26/2020**	RunNo: **62892**
Client ID: **MBLKW**	Batch ID: **30155**		Analysis Date: **10/26/2020**	SeqNo: **1262382**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	50.0									
Surr: Toluene-d8	25.1		25.00		100	65	135				
Surr: 4-Bromofluorobenzene	25.2		25.00		101	65	135				

Sample ID: **2010348-001BDUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **10/26/2020**	RunNo: **62892**
Client ID: **BATCH**	Batch ID: **30155**		Analysis Date: **10/26/2020**	SeqNo: **1262346**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	50.0						0		30	
Surr: Toluene-d8	24.9		25.00		99.6	65	135		0		
Surr: 4-Bromofluorobenzene	25.3		25.00		101	65	135		0		

Work Order: 2010351
CLIENT: Fulcrum Environmental
Project: Whitten Oil

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID: **2010357-005ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **10/26/2020** RunNo: **62892**
Client ID: **BATCH** Batch ID: **30155** Analysis Date: **10/26/2020** SeqNo: **1262358**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	929	50.0						829.5	11.3	30	
Surr: Toluene-d8	25.2		25.00		101	65	135		0		
Surr: 4-Bromofluorobenzene	26.1		25.00		105	65	135		0		

Work Order: 2010351
CLIENT: Fulcrum Environmental
Project: Whitten Oil

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260D

Sample ID: **LCS-30154** SampType: **LCS** Units: **mg/Kg** Prep Date: **10/26/2020** RunNo: **62868**
Client ID: **LCSS** Batch ID: **30154** Analysis Date: **10/26/2020** SeqNo: **1261852**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1.02	0.0200	1.000	0	102	79.4	116				
Toluene	1.00	0.0200	1.000	0	100	80.5	115				
Ethylbenzene	1.04	0.0250	1.000	0	104	81.6	116				
m,p-Xylene	2.07	0.0500	2.000	0	104	83.2	115				
o-Xylene	1.03	0.0250	1.000	0	103	82.5	114				
Surr: Dibromofluoromethane	1.29		1.250		103	85.2	113				
Surr: Toluene-d8	1.24		1.250		99.4	88.5	110				
Surr: 1-Bromo-4-fluorobenzene	1.31		1.250		104	88.6	109				

Sample ID: **MB-30154** SampType: **MBLK** Units: **mg/Kg** Prep Date: **10/26/2020** RunNo: **62868**
Client ID: **MBLKS** Batch ID: **30154** Analysis Date: **10/26/2020** SeqNo: **1261853**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.0200									
Toluene	ND	0.0200									
Ethylbenzene	ND	0.0250									
m,p-Xylene	ND	0.0500									
o-Xylene	ND	0.0250									
Surr: Dibromofluoromethane	1.21		1.250		96.8	85.2	113				
Surr: Toluene-d8	1.22		1.250		97.9	88.5	110				
Surr: 1-Bromo-4-fluorobenzene	1.22		1.250		98.0	88.6	109				

Sample ID: **2010351-001BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **10/26/2020** RunNo: **62868**
Client ID: **W05-101420-SCOMP-01** Batch ID: **30154** Analysis Date: **10/26/2020** SeqNo: **1261836**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1.32	0.0237	1.187	0	111	74.6	126				
Toluene	1.29	0.0237	1.187	0.006538	108	72.6	127				
Ethylbenzene	1.31	0.0297	1.187	0	110	77.3	126				

Work Order: 2010351
CLIENT: Fulcrum Environmental
Project: Whitten Oil

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260D

Sample ID: **2010351-001BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **10/26/2020** RunNo: **62868**
Client ID: **W05-101420-SCOMP-01** Batch ID: **30154** Analysis Date: **10/26/2020** SeqNo: **1261836**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
m,p-Xylene	2.62	0.0594	2.374	0	110	78.5	126				
o-Xylene	1.31	0.0297	1.187	0	110	79.4	123				
Surr: Dibromofluoromethane	1.54		1.484		104	85.2	113				
Surr: Toluene-d8	1.50		1.484		101	88.5	110				
Surr: 1-Bromo-4-fluorobenzene	1.55		1.484		105	88.6	109				

Sample ID: **2010351-001BMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **10/26/2020** RunNo: **62868**
Client ID: **W05-101420-SCOMP-01** Batch ID: **30154** Analysis Date: **10/26/2020** SeqNo: **1261837**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1.25	0.0237	1.187	0	105	74.6	126	1.317	5.28	30	
Toluene	1.21	0.0237	1.187	0.006538	102	72.6	127	1.290	6.09	30	
Ethylbenzene	1.26	0.0297	1.187	0	106	77.3	126	1.305	3.64	30	
m,p-Xylene	2.52	0.0594	2.374	0	106	78.5	126	2.622	3.95	30	
o-Xylene	1.25	0.0297	1.187	0	105	79.4	123	1.311	4.60	30	
Surr: Dibromofluoromethane	1.52		1.484		103	85.2	113		0		
Surr: Toluene-d8	1.46		1.484		98.2	88.5	110		0		
Surr: 1-Bromo-4-fluorobenzene	1.54		1.484		104	88.6	109		0		

Sample ID: **2010304-009BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **10/26/2020** RunNo: **62868**
Client ID: **BATCH** Batch ID: **30154** Analysis Date: **10/26/2020** SeqNo: **1261839**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.0205						0		30	
Toluene	ND	0.0205						0		30	
Ethylbenzene	ND	0.0256						0		30	
m,p-Xylene	ND	0.0513						0		30	
o-Xylene	ND	0.0256						0		30	
Surr: Dibromofluoromethane	1.25		1.282		97.8	85.2	113		0		

Work Order: 2010351
CLIENT: Fulcrum Environmental
Project: Whitten Oil

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260D

Sample ID: **2010304-009BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **10/26/2020** RunNo: **62868**
Client ID: **BATCH** Batch ID: **30154** Analysis Date: **10/26/2020** SeqNo: **1261839**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Toluene-d8	1.26		1.282		98.4	88.5	110		0		
Surr: 1-Bromo-4-fluorobenzene	1.27		1.282		99.3	88.6	109		0		

Sample ID: **2010413-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **10/26/2020** RunNo: **62868**
Client ID: **BATCH** Batch ID: **30154** Analysis Date: **10/26/2020** SeqNo: **1261841**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.0242						0		30	
Toluene	ND	0.0242						0		30	
Ethylbenzene	ND	0.0303						0		30	
m,p-Xylene	ND	0.0605						0		30	
o-Xylene	ND	0.0303						0		30	
Surr: Dibromofluoromethane	1.45		1.513		96.0	85.2	113		0		
Surr: Toluene-d8	1.46		1.513		96.7	88.5	110		0		
Surr: 1-Bromo-4-fluorobenzene	1.49		1.513		98.5	88.6	109		0		

Work Order: 2010351
CLIENT: Fulcrum Environmental
Project: Whitten Oil

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260D

Sample ID: **LCS-30155** SampType: **LCS** Units: **µg/L** Prep Date: **10/26/2020** RunNo: **62890**
Client ID: **LCSW** Batch ID: **30155** Analysis Date: **10/26/2020** SeqNo: **1262311**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	22.0	1.00	20.00	0	110	80.5	126				
Toluene	21.8	1.00	20.00	0	109	82.9	124				
Ethylbenzene	21.0	1.00	20.00	0	105	85.3	123				
m,p-Xylene	41.3	1.00	40.00	0	103	85.8	122				
o-Xylene	20.4	1.00	20.00	0	102	85.4	121				
Surr: Dibromofluoromethane	24.7		25.00		98.7	84.8	113				
Surr: Toluene-d8	26.7		25.00		107	88.5	110				
Surr: 1-Bromo-4-fluorobenzene	25.4		25.00		102	89.9	108				

Sample ID: **MB-30155** SampType: **MBLK** Units: **µg/L** Prep Date: **10/26/2020** RunNo: **62890**
Client ID: **MBLKW** Batch ID: **30155** Analysis Date: **10/26/2020** SeqNo: **1262312**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1.00									
Toluene	ND	1.00									
Ethylbenzene	ND	1.00									
m,p-Xylene	ND	1.00									
o-Xylene	ND	1.00									
Surr: Dibromofluoromethane	26.1		25.00		105	84.8	113				
Surr: Toluene-d8	26.3		25.00		105	88.5	110				
Surr: 1-Bromo-4-fluorobenzene	25.3		25.00		101	89.9	108				

Sample ID: **2010348-001BDUP** SampType: **DUP** Units: **µg/L** Prep Date: **10/26/2020** RunNo: **62890**
Client ID: **BATCH** Batch ID: **30155** Analysis Date: **10/26/2020** SeqNo: **1262275**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1.00						0		30	
Toluene	ND	1.00						0		30	
Ethylbenzene	ND	1.00						0		30	

Work Order: 2010351
CLIENT: Fulcrum Environmental
Project: Whitten Oil

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260D

Sample ID: **2010348-001BDUP** SampType: **DUP** Units: **µg/L** Prep Date: **10/26/2020** RunNo: **62890**
Client ID: **BATCH** Batch ID: **30155** Analysis Date: **10/26/2020** SeqNo: **1262275**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
m,p-Xylene	ND	1.00						0		30	
o-Xylene	ND	1.00						0		30	
Surr: Dibromofluoromethane	26.8		25.00		107	84.8	113		0		
Surr: Toluene-d8	26.2		25.00		105	88.5	110		0		
Surr: 1-Bromo-4-fluorobenzene	25.3		25.00		101	89.9	108		0		

Sample ID: **2010357-005ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **10/26/2020** RunNo: **62890**
Client ID: **BATCH** Batch ID: **30155** Analysis Date: **10/26/2020** SeqNo: **1262289**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	2.16	1.00						2.089	3.16	30	
Toluene	ND	1.00						0		30	
Ethylbenzene	8.79	1.00						7.138	20.8	30	
m,p-Xylene	ND	1.00						0		30	
o-Xylene	ND	1.00						0		30	
Surr: Dibromofluoromethane	27.1		25.00		108	84.8	113		0		
Surr: Toluene-d8	26.0		25.00		104	88.5	110		0		
Surr: 1-Bromo-4-fluorobenzene	25.1		25.00		100	89.9	108		0		

Sample ID: **2010351-002BMS** SampType: **MS** Units: **µg/L** Prep Date: **10/26/2020** RunNo: **62890**
Client ID: **W05-101420-WCOMP-0** Batch ID: **30155** Analysis Date: **10/26/2020** SeqNo: **1262277**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	23.5	1.00	20.00	0	118	80.5	126				
Toluene	23.3	1.00	20.00	0	116	82.9	124				
Ethylbenzene	22.3	1.00	20.00	0	112	85.3	123				
m,p-Xylene	43.6	1.00	40.00	0	109	85.8	122				
o-Xylene	21.4	1.00	20.00	0	107	85.4	121				
Surr: Dibromofluoromethane	27.0		25.00		108	84.8	113				

Work Order: 2010351
CLIENT: Fulcrum Environmental
Project: Whitten Oil

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260D

Sample ID: **2010351-002BMS** SampType: **MS** Units: **µg/L** Prep Date: **10/26/2020** RunNo: **62890**
Client ID: **W05-101420-WCOMP-0** Batch ID: **30155** Analysis Date: **10/26/2020** SeqNo: **1262277**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Toluene-d8	26.6		25.00		106	88.5	110				
Surr: 1-Bromo-4-fluorobenzene	25.5		25.00		102	89.9	108				

Sample ID: **2010351-002BMSD** SampType: **MSD** Units: **µg/L** Prep Date: **10/26/2020** RunNo: **62890**
Client ID: **W05-101420-WCOMP-0** Batch ID: **30155** Analysis Date: **10/26/2020** SeqNo: **1262278**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	23.5	1.00	20.00	0	117	80.5	126	23.54	0.344	30	
Toluene	23.2	1.00	20.00	0	116	82.9	124	23.30	0.461	30	
Ethylbenzene	22.5	1.00	20.00	0	113	85.3	123	22.33	0.764	30	
m,p-Xylene	44.4	1.00	40.00	0	111	85.8	122	43.57	1.97	30	
o-Xylene	22.0	1.00	20.00	0	110	85.4	121	21.40	2.72	30	
Surr: Dibromofluoromethane	26.5		25.00		106	84.8	113		0		
Surr: Toluene-d8	26.1		25.00		105	88.5	110		0		
Surr: 1-Bromo-4-fluorobenzene	25.7		25.00		103	89.9	108		0		

Sample Log-In Check List

Client Name:	**FES**	Work Order Number:	**2010351**
Logged by:	**Gabrielle Coeuille**	Date Received:	**10/22/2020 9:30:00 AM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes	☑	No	☐	Not Present ☐
2.	How was the sample delivered?	FedEx				

Log In

3.	Coolers are present?	Yes	☑	No	☐	NA ☐
4.	Shipping container/cooler in good condition?	Yes	☑	No	☐	
5.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes	☐	No	☐	Not Present ☑
6.	Was an attempt made to cool the samples?	Yes	☑	No	☐	NA ☐
7.	Were all items received at a temperature of >2°C to 6°C *	Yes	☑	No	☐	NA ☐
8.	Sample(s) in proper container(s)?	Yes	☑	No	☐	
9.	Sufficient sample volume for indicated test(s)?	Yes	☑	No	☐	
10.	Are samples properly preserved?	Yes	☑	No	☐	
11.	Was preservative added to bottles?	Yes	☐	No	☑	NA ☐
12.	Is there headspace in the VOA vials?	Yes	☐	No	☑	NA ☐
13.	Did all samples containers arrive in good condition(unbroken)?	Yes	☑	No	☐	
14.	Does paperwork match bottle labels?	Yes	☑	No	☐	
15.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No	☐	
16.	Is it clear what analyses were requested?	Yes	☑	No	☐	
17.	Were all holding times able to be met?	Yes	☑	No	☐	

Special Handling (if applicable)

18.	Was client notified of all discrepancies with this order?	Yes	☐	No	☐	NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Item Information

Item #	Temp ºC
Sample 1	0.9

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Fremont Analytical
3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Chain of Custody Record & Laboratory Services Agreement

Date: 10/21/2020 Page: 1 of: 1
Laboratory Project No (internal): 2010351
Project Name: Whitter oil
Special Remarks:
Client: Fulcrum Environmental
Project No: 172206.00
Address: 202 W. Boone Avenue
Collected by: S. Groat
City, State, Zip: Spokane, WA 99201
Location: Colville, WA
Telephone: 509-459-9220
Report To (PM): Scott Groat
Sample Disposal: ☐ Return to client ☒ Disposal by lab (after 30 days)
Fax:
PM Email: Sgroat@fulcrum.net

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T)	Dissolved (D)	Anions (IC)***	EDB (8011)	Comments
1 WOS-101420-SCOMP-01	10/21/20	1613	S	X					X									
2 WOS-101420-WCOMP-01	↓	1603	W	X					X									
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

*Matrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

**Metals (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above and that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished	Date/Time	Received	Date/Time
x Scott Groat	10/21/20 @ 1700	x	10/22/20 @ 0930
x Scott Groat	10/21/20 @ 1700	x	

Turn-around Time:
☒ Standard
☐ 3 Day
☐ 2 Day
☐ Next Day
Same Day ____ (specify)

APPENDIX F

Waste Disposal Receipts

Graham [illegible] Facility
1820 [illegible] Graham Road
Medical Lake, WA 99022

Original
Ticket# 628584

Ph: (509)244-0151

COPY
✓upload

Customer Name ABLECLEAN ABLE CLEAN-UP
Ticket Date 12/16/2020
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
Manifest 109512WA
Profile 109512WA (LF01 - Drill Cuttings Geo Tech (WM012A))
Generator WA-ABLE CLEANUP TECHNOLOGIES ABLE CLEANUP TECHNOLOGIES
PO# 20427 Fulcrum

Carrier ABLECLEANUP ABLE CLEANUP TECHNOLOGIE
Vehicle# ALLAN
Container
Driver
Check#
Billing# 0000726
Grid

	Time	Scale	Operator	Inbound		
In	12/16/2020 10:51:05	Scale1	ashield2		Gross	19380 lb
Out	12/16/2020 11:00:39	Scale1	ashield2		Tare	17160 lb
					Net	2220 lb
					Tons	1.11

Comments

	Product	LD%	Qty	UOM	Rate	Tax/Fee	Amount	Origin
1	Spwaste Solid Oth-Tons-	100	1.11	Tons	34.50	1.80	$50.00	SPOKANE
2	SRHD1-Spokane Regional	100	1.11	Tons	0.32	0.01	$0.36	SPOKANE

Total Tax/Fees	$1.81
Total Ticket	$52.17

Driver's Signature AS H Allen

The total amount includes fees and taxes that may not all be listed on this ticket due to technic limitation.

Grah[illegible] Facility
1820 [illegible]ham Road
Medical Lake, WA 99022

Original
Ticket# 628594

Ph: (509)244-0151

COPY
✓ upload

Customer Name ABLECLEAN ABLE CLEAN-UP
Ticket Date 12/16/2020
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
Manifest 110586WA
Profile 110586WA (LF01 Non Haz Solidified Purge Water)
Generator WA-ABLE CLEANUP TECH 18838 ABLE CLEANUP TECHNOLOGIES INC_5308 N MYRTLE ST,
PO# 20427 Fulcrum Enviros

Carrier ABLECLEANUP ABLE CLEANUP TECHNOLOGIE
Vehicle# ALLEN
Container
Driver ALLEN PHILLIPS
Check#
Billing# 0000726
Grid

	Time	Scale	Operator	Inbound		
In	12/16/2020 11:23:32	Scale1	ashield2		Gross	15920 lb
Out	12/16/2020 11:31:17	Scale1	ashield2		Tare	14940 lb
					Net	980 lb
					Tons	0.49

Comments

	Product	LD%	Qty	UOM	Rate	Tax/Fee	Amount	Origin
1	Spwaste Solid Oth-Tons-	100	0.49	Tons	34.51	1.80	$50.00	SPOKANE
2	SRHD1-Spokane Regional	100	0.49	Tons	0.32		$0.16	SPOKANE

Total Tax/Fees	$1.80
Total Ticket	$51.96

Driver`s Signature ABPrAllen

The total amount includes fees and taxes that may not all be listed on this ticket due to technic limitation.

APPENDIX G

Groundwater Sampling Laboratory Analytical Results

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Fulcrum Environmental
Scott Groat
207 W Boone Ave.
Spokane, WA 99201

RE: Whitten Oil GW
Work Order Number: 2010271

October 23, 2020

Attention Scott Groat:

Fremont Analytical, Inc. received 8 sample(s) on 10/16/2020 for the analyses presented in the following report.

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.
Gasoline by NWTPH-Gx
Volatile Organic Compounds by EPA Method 8260D

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes
Project Manager

CC:
Amanda Biondi
Travis Trent

Date: *10/23/2020*

CLIENT: Fulcrum Environmental
Project: Whitten Oil GW
Work Order: 2010271

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2010271-001	WOS-101420-CW02	10/14/2020 7:03 AM	10/16/2020 10:25 AM
2010271-002	WOS-101420-MW04	10/14/2020 10:39 AM	10/16/2020 10:25 AM
2010271-003	WOS-101420-CW01	10/14/2020 11:03 AM	10/16/2020 10:25 AM
2010271-004	WOS-101420-MW03	10/14/2020 1:22 PM	10/16/2020 10:25 AM
2010271-005	WOS-101420-MW06	10/14/2020 1:35 PM	10/16/2020 10:25 AM
2010271-006	WOS-101420-MW02	10/14/2020 2:42 PM	10/16/2020 10:25 AM
2010271-007	WOS-101420-MW07	10/14/2020 3:03 PM	10/16/2020 10:25 AM
2010271-008	WOS-101420-MW08	10/14/2020 4:30 PM	10/16/2020 10:25 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **2010271**
Date: **10/23/2020**

CLIENT: Fulcrum Environmental
Project: Whitten Oil GW

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
DUP - Sample Duplicate
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
REP - Sample Replicate
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Analytical Report

Work Order: **2010271**
Date Reported: **10/23/2020**

Client: Fulcrum Environmental
Collection Date: 10/14/2020 7:03:00 AM
Project: Whitten Oil GW
Lab ID: 2010271-001
Matrix: Groundwater
Client Sample ID: WOS-101420-CW02

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 30094		Analyst: DW
Diesel (Fuel Oil)	ND	49.4		µg/L	1	10/22/2020 4:34:34 PM
Diesel Range Organics (C12-C24)	777	49.4		µg/L	1	10/22/2020 4:34:34 PM
Heavy Oil	ND	98.8		µg/L	1	10/22/2020 4:34:34 PM
Surr: 2-Fluorobiphenyl	107	50 - 150		%Rec	1	10/22/2020 4:34:34 PM
Surr: o-Terphenyl	82.6	50 - 150		%Rec	1	10/22/2020 4:34:34 PM

NOTES:
DRO - Indicates the presence of unresolved compounds eluting from dodecane through tetracosane (~C12-C24).
Chromatographic pattern resembles a continuation of the gasoline detection not quantified under NWTPH-Gx method.

Gasoline by NWTPH-Gx				Batch ID: 30059		Analyst: CR
Gasoline	864	50.0		µg/L	1	10/19/2020 1:45:31 PM
Surr: Toluene-d8	100	65 - 135		%Rec	1	10/19/2020 1:45:31 PM
Surr: 4-Bromofluorobenzene	103	65 - 135		%Rec	1	10/19/2020 1:45:31 PM
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 30059		Analyst: CR
Benzene	7.58	1.00		µg/L	1	10/19/2020 1:45:31 PM
Toluene	1.89	1.00		µg/L	1	10/19/2020 1:45:31 PM
Ethylbenzene	8.41	1.00		µg/L	1	10/19/2020 1:45:31 PM
m,p-Xylene	19.2	1.00		µg/L	1	10/19/2020 1:45:31 PM
o-Xylene	23.9	1.00		µg/L	1	10/19/2020 1:45:31 PM
Surr: Dibromofluoromethane	106	84.8 - 113		%Rec	1	10/19/2020 1:45:31 PM
Surr: Toluene-d8	101	88.5 - 110		%Rec	1	10/19/2020 1:45:31 PM
Surr: 1-Bromo-4-fluorobenzene	101	89.9 - 108		%Rec	1	10/19/2020 1:45:31 PM

Analytical Report

Work Order: **2010271**
Date Reported: **10/23/2020**

Client: Fulcrum Environmental
Collection Date: 10/14/2020 10:39:00 AM
Project: Whitten Oil GW
Lab ID: 2010271-002
Matrix: Groundwater
Client Sample ID: WOS-101420-MW04

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 30094		Analyst: DW
Diesel (Fuel Oil)	ND	49.8		µg/L	1	10/22/2020 5:04:18 PM
Diesel Range Organics (C12-C24)	707	49.8		µg/L	1	10/22/2020 5:04:18 PM
Heavy Oil	ND	99.5		µg/L	1	10/22/2020 5:04:18 PM
Surr: 2-Fluorobiphenyl	114	50 - 150		%Rec	1	10/22/2020 5:04:18 PM
Surr: o-Terphenyl	77.5	50 - 150		%Rec	1	10/22/2020 5:04:18 PM

NOTES:
DRO - Indicates the presence of unresolved compounds eluting from dodecane through tetracosane (~C12-C24). Chromatographic pattern resembles a continuation of the gasoline detection not quantified under NWTPH-Gx method, as well as diesel-range material.

Gasoline by NWTPH-Gx				Batch ID: 30059		Analyst: CR
Gasoline	818	50.0		µg/L	1	10/19/2020 2:15:42 PM
Surr: Toluene-d8	102	65 - 135		%Rec	1	10/19/2020 2:15:42 PM
Surr: 4-Bromofluorobenzene	103	65 - 135		%Rec	1	10/19/2020 2:15:42 PM
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 30059		Analyst: CR
Benzene	10.5	1.00		µg/L	1	10/19/2020 2:15:42 PM
Toluene	1.19	1.00		µg/L	1	10/19/2020 2:15:42 PM
Ethylbenzene	9.92	1.00		µg/L	1	10/19/2020 2:15:42 PM
m,p-Xylene	1.91	1.00		µg/L	1	10/19/2020 2:15:42 PM
o-Xylene	ND	1.00		µg/L	1	10/19/2020 2:15:42 PM
Surr: Dibromofluoromethane	100	84.8 - 113		%Rec	1	10/19/2020 2:15:42 PM
Surr: Toluene-d8	98.1	88.5 - 110		%Rec	1	10/19/2020 2:15:42 PM
Surr: 1-Bromo-4-fluorobenzene	99.1	89.9 - 108		%Rec	1	10/19/2020 2:15:42 PM

Analytical Report

Work Order: **2010271**
Date Reported: **10/23/2020**

Client: Fulcrum Environmental
Collection Date: 10/14/2020 11:03:00 AM
Project: Whitten Oil GW
Lab ID: 2010271-003
Matrix: Groundwater
Client Sample ID: WOS-101420-CW01

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 30094		Analyst: DW
Diesel (Fuel Oil)	ND	49.7		µg/L	1	10/22/2020 5:34:05 PM
Diesel Range Organics (C12-C24)	212	49.7		µg/L	1	10/22/2020 5:34:05 PM
Heavy Oil	ND	99.4		µg/L	1	10/22/2020 5:34:05 PM
Surr: 2-Fluorobiphenyl	99.0	50 - 150		%Rec	1	10/22/2020 5:34:05 PM
Surr: o-Terphenyl	80.3	50 - 150		%Rec	1	10/22/2020 5:34:05 PM
NOTES: Diesel Range Organics - Indicates unresolved compounds in the Diesel range.						
Gasoline by NWTPH-Gx				Batch ID: 30059		Analyst: CR
Gasoline	ND	50.0		µg/L	1	10/19/2020 2:45:54 PM
Surr: Toluene-d8	99.9	65 - 135		%Rec	1	10/19/2020 2:45:54 PM
Surr: 4-Bromofluorobenzene	101	65 - 135		%Rec	1	10/19/2020 2:45:54 PM
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 30059		Analyst: CR
Benzene	ND	1.00		µg/L	1	10/19/2020 2:45:54 PM
Toluene	ND	1.00		µg/L	1	10/19/2020 2:45:54 PM
Ethylbenzene	ND	1.00		µg/L	1	10/19/2020 2:45:54 PM
m,p-Xylene	ND	1.00		µg/L	1	10/19/2020 2:45:54 PM
o-Xylene	ND	1.00		µg/L	1	10/19/2020 2:45:54 PM
Surr: Dibromofluoromethane	107	84.8 - 113		%Rec	1	10/19/2020 2:45:54 PM
Surr: Toluene-d8	100	88.5 - 110		%Rec	1	10/19/2020 2:45:54 PM
Surr: 1-Bromo-4-fluorobenzene	99.9	89.9 - 108		%Rec	1	10/19/2020 2:45:54 PM

Analytical Report

Work Order: **2010271**
Date Reported: **10/23/2020**

Client: Fulcrum Environmental
Collection Date: 10/14/2020 1:22:00 PM
Project: Whitten Oil GW
Lab ID: 2010271-004
Matrix: Groundwater
Client Sample ID: WOS-101420-MW03

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 30094		Analyst: DW
Diesel (Fuel Oil)	ND	50.0		µg/L	1	10/22/2020 6:03:51 PM
Heavy Oil	ND	100		µg/L	1	10/22/2020 6:03:51 PM
Surr: 2-Fluorobiphenyl	97.1	50 - 150		%Rec	1	10/22/2020 6:03:51 PM
Surr: o-Terphenyl	84.4	50 - 150		%Rec	1	10/22/2020 6:03:51 PM
Gasoline by NWTPH-Gx				Batch ID: 30059		Analyst: CR
Gasoline	ND	50.0		µg/L	1	10/19/2020 3:16:06 PM
Surr: Toluene-d8	99.2	65 - 135		%Rec	1	10/19/2020 3:16:06 PM
Surr: 4-Bromofluorobenzene	100	65 - 135		%Rec	1	10/19/2020 3:16:06 PM
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 30059		Analyst: CR
Benzene	ND	1.00		µg/L	1	10/19/2020 3:16:06 PM
Toluene	ND	1.00		µg/L	1	10/19/2020 3:16:06 PM
Ethylbenzene	ND	1.00		µg/L	1	10/19/2020 3:16:06 PM
m,p-Xylene	ND	1.00		µg/L	1	10/19/2020 3:16:06 PM
o-Xylene	ND	1.00		µg/L	1	10/19/2020 3:16:06 PM
Surr: Dibromofluoromethane	105	84.8 - 113		%Rec	1	10/19/2020 3:16:06 PM
Surr: Toluene-d8	102	88.5 - 110		%Rec	1	10/19/2020 3:16:06 PM
Surr: 1-Bromo-4-fluorobenzene	99.3	89.9 - 108		%Rec	1	10/19/2020 3:16:06 PM

Analytical Report

Work Order: **2010271**
Date Reported: **10/23/2020**

Client: Fulcrum Environmental
Collection Date: 10/14/2020 1:35:00 PM
Project: Whitten Oil GW
Lab ID: 2010271-005
Matrix: Groundwater
Client Sample ID: WOS-101420-MW06

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 30094		Analyst: DW
Diesel (Fuel Oil)	ND	49.6		µg/L	1	10/22/2020 6:33:35 PM
Diesel Range Organics (C12-C24)	357	49.6		µg/L	1	10/22/2020 6:33:35 PM
Heavy Oil	ND	99.3		µg/L	1	10/22/2020 6:33:35 PM
Surr: 2-Fluorobiphenyl	103	50 - 150		%Rec	1	10/22/2020 6:33:35 PM
Surr: o-Terphenyl	84.0	50 - 150		%Rec	1	10/22/2020 6:33:35 PM
NOTES: Diesel Range Organics - Indicates unresolved compounds in the Diesel range.						
Gasoline by NWTPH-Gx				Batch ID: 30059		Analyst: CR
Gasoline	202	50.0		µg/L	1	10/19/2020 3:46:13 PM
Surr: Toluene-d8	99.5	65 - 135		%Rec	1	10/19/2020 3:46:13 PM
Surr: 4-Bromofluorobenzene	101	65 - 135		%Rec	1	10/19/2020 3:46:13 PM
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 30059		Analyst: CR
Benzene	ND	1.00		µg/L	1	10/19/2020 3:46:13 PM
Toluene	ND	1.00		µg/L	1	10/19/2020 3:46:13 PM
Ethylbenzene	ND	1.00		µg/L	1	10/19/2020 3:46:13 PM
m,p-Xylene	ND	1.00		µg/L	1	10/19/2020 3:46:13 PM
o-Xylene	ND	1.00		µg/L	1	10/19/2020 3:46:13 PM
Surr: Dibromofluoromethane	103	84.8 - 113		%Rec	1	10/19/2020 3:46:13 PM
Surr: Toluene-d8	102	88.5 - 110		%Rec	1	10/19/2020 3:46:13 PM
Surr: 1-Bromo-4-fluorobenzene	99.0	89.9 - 108		%Rec	1	10/19/2020 3:46:13 PM

Analytical Report

Work Order: **2010271**
Date Reported: **10/23/2020**

Client: Fulcrum Environmental
Collection Date: 10/14/2020 2:42:00 PM
Project: Whitten Oil GW
Lab ID: 2010271-006
Matrix: Groundwater
Client Sample ID: WOS-101420-MW02

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 30094		Analyst: DW
Diesel (Fuel Oil)	ND	49.9		µg/L	1	10/22/2020 7:03:16 PM
Diesel Range Organics (C12-C24)	249	49.9		µg/L	1	10/22/2020 7:03:16 PM
Heavy Oil	ND	99.9		µg/L	1	10/22/2020 7:03:16 PM
Surr: 2-Fluorobiphenyl	103	50 - 150		%Rec	1	10/22/2020 7:03:16 PM
Surr: o-Terphenyl	84.0	50 - 150		%Rec	1	10/22/2020 7:03:16 PM
NOTES: Diesel Range Organics - Indicates unresolved compounds in the Diesel range.						
Gasoline by NWTPH-Gx				Batch ID: 30059		Analyst: CR
Gasoline	106	50.0		µg/L	1	10/19/2020 4:16:31 PM
Surr: Toluene-d8	99.7	65 - 135		%Rec	1	10/19/2020 4:16:31 PM
Surr: 4-Bromofluorobenzene	100	65 - 135		%Rec	1	10/19/2020 4:16:31 PM
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 30059		Analyst: CR
Benzene	ND	1.00		µg/L	1	10/19/2020 4:16:31 PM
Toluene	ND	1.00		µg/L	1	10/19/2020 4:16:31 PM
Ethylbenzene	ND	1.00		µg/L	1	10/19/2020 4:16:31 PM
m,p-Xylene	ND	1.00		µg/L	1	10/19/2020 4:16:31 PM
o-Xylene	ND	1.00		µg/L	1	10/19/2020 4:16:31 PM
Surr: Dibromofluoromethane	103	84.8 - 113		%Rec	1	10/19/2020 4:16:31 PM
Surr: Toluene-d8	102	88.5 - 110		%Rec	1	10/19/2020 4:16:31 PM
Surr: 1-Bromo-4-fluorobenzene	98.7	89.9 - 108		%Rec	1	10/19/2020 4:16:31 PM

Analytical Report

Work Order: **2010271**
Date Reported: **10/23/2020**

Client: Fulcrum Environmental
Collection Date: 10/14/2020 3:03:00 PM
Project: Whitten Oil GW
Lab ID: 2010271-007
Matrix: Groundwater
Client Sample ID: WOS-101420-MW07

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 30094		Analyst: DW
Diesel (Fuel Oil)	ND	49.5		µg/L	1	10/22/2020 7:32:57 PM
Diesel Range Organics (C12-C24)	179	49.5		µg/L	1	10/22/2020 7:32:57 PM
Heavy Oil	ND	98.9		µg/L	1	10/22/2020 7:32:57 PM
Surr: 2-Fluorobiphenyl	85.6	50 - 150		%Rec	1	10/22/2020 7:32:57 PM
Surr: o-Terphenyl	68.8	50 - 150		%Rec	1	10/22/2020 7:32:57 PM
NOTES: Diesel Range Organics - Indicates unresolved compounds in the Diesel range.						
Gasoline by NWTPH-Gx				Batch ID: 30059		Analyst: CR
Gasoline	ND	50.0		µg/L	1	10/19/2020 4:46:45 PM
Surr: Toluene-d8	99.0	65 - 135		%Rec	1	10/19/2020 4:46:45 PM
Surr: 4-Bromofluorobenzene	101	65 - 135		%Rec	1	10/19/2020 4:46:45 PM
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 30059		Analyst: CR
Benzene	ND	1.00		µg/L	1	10/19/2020 4:46:45 PM
Toluene	ND	1.00		µg/L	1	10/19/2020 4:46:45 PM
Ethylbenzene	ND	1.00		µg/L	1	10/19/2020 4:46:45 PM
m,p-Xylene	ND	1.00		µg/L	1	10/19/2020 4:46:45 PM
o-Xylene	ND	1.00		µg/L	1	10/19/2020 4:46:45 PM
Surr: Dibromofluoromethane	105	84.8 - 113		%Rec	1	10/19/2020 4:46:45 PM
Surr: Toluene-d8	101	88.5 - 110		%Rec	1	10/19/2020 4:46:45 PM
Surr: 1-Bromo-4-fluorobenzene	99.1	89.9 - 108		%Rec	1	10/19/2020 4:46:45 PM

Analytical Report

Work Order: **2010271**
Date Reported: **10/23/2020**

Client: Fulcrum Environmental
Collection Date: 10/14/2020 4:30:00 PM
Project: Whitten Oil GW
Lab ID: 2010271-008
Matrix: Groundwater
Client Sample ID: WOS-101420-MW08

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 30094		Analyst: DW
Diesel (Fuel Oil)	4,570	49.6		µg/L	1	10/22/2020 8:02:41 PM
Heavy Oil	ND	99.1		µg/L	1	10/22/2020 8:02:41 PM
Surr: 2-Fluorobiphenyl	105	50 - 150		%Rec	1	10/22/2020 8:02:41 PM
Surr: o-Terphenyl	94.5	50 - 150		%Rec	1	10/22/2020 8:02:41 PM
Gasoline by NWTPH-Gx				Batch ID: 30059		Analyst: CR
Gasoline	818	50.0		µg/L	1	10/19/2020 5:16:53 PM
Surr: Toluene-d8	99.8	65 - 135		%Rec	1	10/19/2020 5:16:53 PM
Surr: 4-Bromofluorobenzene	103	65 - 135		%Rec	1	10/19/2020 5:16:53 PM
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 30059		Analyst: CR
Benzene	7.45	1.00		µg/L	1	10/19/2020 5:16:53 PM
Toluene	1.89	1.00		µg/L	1	10/19/2020 5:16:53 PM
Ethylbenzene	8.26	1.00		µg/L	1	10/19/2020 5:16:53 PM
m,p-Xylene	18.8	1.00		µg/L	1	10/19/2020 5:16:53 PM
o-Xylene	23.4	1.00		µg/L	1	10/19/2020 5:16:53 PM
Surr: Dibromofluoromethane	105	84.8 - 113		%Rec	1	10/19/2020 5:16:53 PM
Surr: Toluene-d8	101	88.5 - 110		%Rec	1	10/19/2020 5:16:53 PM
Surr: 1-Bromo-4-fluorobenzene	101	89.9 - 108		%Rec	1	10/19/2020 5:16:53 PM

Work Order: 2010271
CLIENT: Fulcrum Environmental
Project: Whitten Oil GW

QC SUMMARY REPORT

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID: **MB-30094**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **10/20/2020**	RunNo: **62775**
Client ID: **MBLKW**	Batch ID: **30094**		Analysis Date: **10/22/2020**	SeqNo: **1259786**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	49.9									
Heavy Oil	ND	99.8									
Surr: 2-Fluorobiphenyl	77.7		79.83		97.3	50	150				
Surr: o-Terphenyl	65.3		79.83		81.8	50	150				

Sample ID: **LCS-30094**	SampType: **LCS**	Units: **µg/L**	Prep Date: **10/20/2020**	RunNo: **62775**
Client ID: **LCSW**	Batch ID: **30094**		Analysis Date: **10/22/2020**	SeqNo: **1259787**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	625	49.4	988.6	0	63.2	52	107				
Surr: 2-Fluorobiphenyl	85.6		79.09		108	50	150				
Surr: o-Terphenyl	65.9		79.09		83.3	50	150				

Sample ID: **LCSD-30094**	SampType: **LCSD**	Units: **µg/L**	Prep Date: **10/20/2020**	RunNo: **62775**
Client ID: **LCSW02**	Batch ID: **30094**		Analysis Date: **10/22/2020**	SeqNo: **1259788**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	655	49.8	996.0	0	65.7	52	107	624.6	4.73	30	
Surr: 2-Fluorobiphenyl	81.5		79.68		102	50	150		0		
Surr: o-Terphenyl	61.4		79.68		77.1	50	150		0		

Sample ID: **2010244-001AMS**	SampType: **MS**	Units: **µg/L**	Prep Date: **10/20/2020**	RunNo: **62775**
Client ID: **BATCH**	Batch ID: **30094**		Analysis Date: **10/22/2020**	SeqNo: **1259791**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	547	49.8	996.5	0	54.9	23.6	130				
Surr: 2-Fluorobiphenyl	79.3		79.72		99.5	50	150				
Surr: o-Terphenyl	35.5		79.72		44.6	50	150				S

Work Order: 2010271
CLIENT: Fulcrum Environmental
Project: Whitten Oil GW

QC SUMMARY REPORT

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID: **2010244-001AMS** SampType: **MS** Units: **µg/L** Prep Date: **10/20/2020** RunNo: **62775**
Client ID: **BATCH** Batch ID: **30094** Analysis Date: **10/22/2020** SeqNo: **1259791**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:
S - Outlying surrogate recovery(ies) observed.

Sample ID: **2010245-001ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **10/20/2020** RunNo: **62775**
Client ID: **BATCH** Batch ID: **30094** Analysis Date: **10/22/2020** SeqNo: **1259792**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	49.5						0		30	
Heavy Oil	1,430	99.0						1,356	5.52	30	
Surr: 2-Fluorobiphenyl	65.1		79.20		82.2	50	150		0		
Surr: o-Terphenyl	23.5		79.20		29.6	50	150		0		S

NOTES:
S - Outlying surrogate recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Work Order: 2010271
CLIENT: Fulcrum Environmental
Project: Whitten Oil GW

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID: **LCS-30059**	SampType: **LCS**	Units: **µg/L**	Prep Date: **10/19/2020**	RunNo: **62678**
Client ID: **LCSW**	Batch ID: **30059**		Analysis Date: **10/19/2020**	SeqNo: **1257681**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	478	50.0	500.0	0	95.6	65	135				
Surr: Toluene-d8	24.8		25.00		99.3	65	135				
Surr: 4-Bromofluorobenzene	25.1		25.00		100	65	135				

Sample ID: **LCSD-30059**	SampType: **LCSD**	Units: **µg/L**	Prep Date: **10/19/2020**	RunNo: **62678**
Client ID: **LCSW02**	Batch ID: **30059**		Analysis Date: **10/19/2020**	SeqNo: **1257682**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	457	50.0	500.0	0	91.4	65	135	478.0	4.51	20	
Surr: Toluene-d8	25.1		25.00		100	65	135		0		
Surr: 4-Bromofluorobenzene	25.3		25.00		101	65	135		0		

Sample ID: **MB-30059**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **10/19/2020**	RunNo: **62678**
Client ID: **MBLKW**	Batch ID: **30059**		Analysis Date: **10/19/2020**	SeqNo: **1257683**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	50.0									
Surr: Toluene-d8	24.9		25.00		99.5	65	135				
Surr: 4-Bromofluorobenzene	24.6		25.00		98.4	65	135				

Sample ID: **2010259-040BDUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **10/19/2020**	RunNo: **62678**
Client ID: **BATCH**	Batch ID: **30059**		Analysis Date: **10/19/2020**	SeqNo: **1257659**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	50.0						0		30	
Surr: Toluene-d8	24.8		25.00		99.2	65	135		0		
Surr: 4-Bromofluorobenzene	24.8		25.00		99.1	65	135		0		

Work Order: 2010271
CLIENT: Fulcrum Environmental
Project: Whitten Oil GW

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID: **2010307-002CDUP** SampType: **DUP** Units: **µg/L** Prep Date: **10/19/2020** RunNo: **62678**
Client ID: **BATCH** Batch ID: **30059** Analysis Date: **10/20/2020** SeqNo: **1257677**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	50.0						0		30	
Surr: Toluene-d8	25.3		25.00		101	65	135		0		
Surr: 4-Bromofluorobenzene	24.1		25.00		96.5	65	135		0		

Work Order: 2010271
CLIENT: Fulcrum Environmental
Project: Whitten Oil GW

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260D

Sample ID: **LCS-30059** SampType: **LCS** Units: **µg/L** Prep Date: **10/19/2020** RunNo: **62677**
Client ID: **LCSW** Batch ID: **30059** Analysis Date: **10/19/2020** SeqNo: **1257656**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.3	1.00	20.00	0	107	80.5	126				
Toluene	21.0	1.00	20.00	0	105	82.9	124				
Ethylbenzene	20.5	1.00	20.00	0	103	85.3	123				
m,p-Xylene	40.9	1.00	40.00	0	102	85.8	122				
o-Xylene	20.1	1.00	20.00	0	100	85.4	121				
Surr: Dibromofluoromethane	25.6		25.00		102	84.8	113				
Surr: Toluene-d8	25.9		25.00		104	88.5	110				
Surr: 1-Bromo-4-fluorobenzene	25.2		25.00		101	89.9	108				

Sample ID: **MB-30059** SampType: **MBLK** Units: **µg/L** Prep Date: **10/19/2020** RunNo: **62677**
Client ID: **MBLKW** Batch ID: **30059** Analysis Date: **10/19/2020** SeqNo: **1257657**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1.00									
Toluene	ND	1.00									
Ethylbenzene	ND	1.00									
m,p-Xylene	ND	1.00									
o-Xylene	ND	1.00									
Surr: Dibromofluoromethane	25.7		25.00		103	84.8	113				
Surr: Toluene-d8	25.6		25.00		102	88.5	110				
Surr: 1-Bromo-4-fluorobenzene	24.4		25.00		97.7	89.9	108				

Sample ID: **2010271-001BMS** SampType: **MS** Units: **µg/L** Prep Date: **10/19/2020** RunNo: **62677**
Client ID: **WOS-101420-CW02** Batch ID: **30059** Analysis Date: **10/19/2020** SeqNo: **1257636**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	29.3	1.00	20.00	7.577	109	80.5	126				
Toluene	23.7	1.00	20.00	1.893	109	82.9	124				
Ethylbenzene	30.9	1.00	20.00	8.414	113	85.3	123				

Work Order: 2010271
CLIENT: Fulcrum Environmental
Project: Whitten Oil GW

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260D

Sample ID: **2010271-001BMS** SampType: **MS** Units: **µg/L** Prep Date: **10/19/2020** RunNo: **62677**
Client ID: **WOS-101420-CW02** Batch ID: **30059** Analysis Date: **10/19/2020** SeqNo: **1257636**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
m,p-Xylene	63.6	1.00	40.00	19.24	111	85.8	122				
o-Xylene	45.8	1.00	20.00	23.91	110	85.4	121				
Surr: Dibromofluoromethane	25.4		25.00		102	84.8	113				
Surr: Toluene-d8	25.1		25.00		100	88.5	110				
Surr: 1-Bromo-4-fluorobenzene	25.4		25.00		102	89.9	108				

Sample ID: **2010271-001BMSD** SampType: **MSD** Units: **µg/L** Prep Date: **10/19/2020** RunNo: **62677**
Client ID: **WOS-101420-CW02** Batch ID: **30059** Analysis Date: **10/19/2020** SeqNo: **1257637**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	28.8	1.00	20.00	7.577	106	80.5	126	29.31	1.66	30	
Toluene	23.3	1.00	20.00	1.893	107	82.9	124	23.69	1.88	30	
Ethylbenzene	31.0	1.00	20.00	8.414	113	85.3	123	30.94	0.315	30	
m,p-Xylene	63.6	1.00	40.00	19.24	111	85.8	122	63.57	0.107	30	
o-Xylene	46.0	1.00	20.00	23.91	110	85.4	121	45.82	0.394	30	
Surr: Dibromofluoromethane	25.1		25.00		100	84.8	113		0		
Surr: Toluene-d8	24.7		25.00		98.9	88.5	110		0		
Surr: 1-Bromo-4-fluorobenzene	25.4		25.00		102	89.9	108		0		

Sample ID: **2010259-040BDUP** SampType: **DUP** Units: **µg/L** Prep Date: **10/19/2020** RunNo: **62677**
Client ID: **BATCH** Batch ID: **30059** Analysis Date: **10/19/2020** SeqNo: **1257633**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1.00						0		30	
Toluene	ND	1.00						0		30	
Ethylbenzene	ND	1.00						0		30	
m,p-Xylene	ND	1.00						0		30	
o-Xylene	ND	1.00						0		30	
Surr: Dibromofluoromethane	26.0		25.00		104	84.8	113		0		

Work Order: 2010271
CLIENT: Fulcrum Environmental
Project: Whitten Oil GW

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260D

Sample ID: **2010259-040BDUP** SampType: **DUP** Units: **µg/L** Prep Date: **10/19/2020** RunNo: **62677**
Client ID: **BATCH** Batch ID: **30059** Analysis Date: **10/19/2020** SeqNo: **1257633**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Toluene-d8	25.4		25.00		101	88.5	110		0		
Surr: 1-Bromo-4-fluorobenzene	24.6		25.00		98.3	89.9	108		0		

Sample ID: **2010307-002CDUP** SampType: **DUP** Units: **µg/L** Prep Date: **10/19/2020** RunNo: **62677**
Client ID: **BATCH** Batch ID: **30059** Analysis Date: **10/20/2020** SeqNo: **1257652**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1.00						0		30	
Toluene	ND	1.00						0		30	
Ethylbenzene	ND	1.00						0		30	
m,p-Xylene	ND	1.00						0		30	
o-Xylene	ND	1.00						0		30	
Surr: Dibromofluoromethane	25.9		25.00		104	84.8	113		0		
Surr: Toluene-d8	25.4		25.00		102	88.5	110		0		
Surr: 1-Bromo-4-fluorobenzene	23.9		25.00		95.8	89.9	108		0		

Sample Log-In Check List

Client Name:	**FES**	Work Order Number:	**2010271**
Logged by:	**Carissa True**	Date Received:	**10/16/2020 10:25:00 AM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes	☑	No ☐	Not Present	☐
2.	How was the sample delivered?	FedEx				

Log In

3.	Coolers are present?	Yes	☑	No ☐	NA	☐
4.	Shipping container/cooler in good condition?	Yes	☑	No ☐		
5.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes	☐	No ☐	Not Present	☑
6.	Was an attempt made to cool the samples?	Yes	☑	No ☐	NA	☐
7.	Were all items received at a temperature of >2°C to 6°C *	Yes	☑	No ☐	NA	☐
8.	Sample(s) in proper container(s)?	Yes	☑	No ☐		
9.	Sufficient sample volume for indicated test(s)?	Yes	☑	No ☐		
10.	Are samples properly preserved?	Yes	☑	No ☐		
11.	Was preservative added to bottles?	Yes	☐	No ☑	NA	☐
12.	Is there headspace in the VOA vials?	Yes	☐	No ☐	NA	☑
13.	Did all samples containers arrive in good condition(unbroken)?	Yes	☑	No ☐		
14.	Does paperwork match bottle labels?	Yes	☑	No ☐		
15.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No ☐		
16.	Is it clear what analyses were requested?	Yes	☑	No ☐		
17.	Were all holding times able to be met?	Yes	☑	No ☐		

Special Handling (if applicable)

18.	Was client notified of all discrepancies with this order?	Yes	☐	No ☐	NA	☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Item Information

Item #	Temp ºC
Sample 1	1.4
Sample 2	3.8

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Chain of Custody Record & Laboratory Services Agreement

Fremont Analytical
3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Date: 10/15/2020 Page: 1 of: 1

Laboratory Project No (internal): 201027 | 1

Project Name: Whitten Oil GW

Special Remarks: Please cc: ~~sgroat@efulcrum.net~~ ttrent@efulcrum.net amanda.biondi@efulcrum.net

Client: Fulcrum Env. Consulting

Project No: 172206.00

Address: 207 West Boone Ave

Collected by: S. Groat and A. Biondi

City, State, Zip: Spokane, WA 99201

Location: Colville, WA

Telephone: 509-459-9220

Report To (PM): ~~Travis Trent~~ Scott Groat

Sample Disposal: ☐ Return to client ☒ Disposal by lab (after 30 days)

Fax:

PM Email: sgroat@efulcrum.net

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	Comments
1	WOS-101420-CW02	10/14/20	0703	GW		X				X								
2	WOS-101420-MW04		1039			X				X								
3	WOS-101420-CW01		1103			X				X								
4	WOS-101420-MW03		1322			X				X								
5	WOS-101420-MW06		1335			X				X								
6	WOS-101420-MW02		1442			X				X								
7	WOS-101420-MW07		1503			X				X								
8	WOS-101420-MW08		1630			X				X								
9																		
10																		

*Matrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

**Metals (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Turn-around Time:
- ☒ Standard
- ☐ 3 Day
- ☐ 2 Day
- ☐ Next Day
- Same Day _____ (specify)

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above and that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished	Date/Time	Received	Date/Time
x Amanda S. Biondi	10/15/2020 1500	x Claire Anderson	10/16/20 1025
Relinquished	Date/Time	Received	Date/Time
x		x	