Groundwater Monitoring Report
Former Monroe Auto Wrecking/River's Edge Site
Monroe, Washington
VCP No. NW3251

September 18, 2020

Prepared for

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Monroe, Washington

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LIST OF ABBREVIATIONS AND ACRONYMS

µg/L ..... micrograms per liter
AOC ..... Area of Concern
bgs ..... below ground surface
City ..... City of Monroe, Washington
COC ..... chain of custody
CUL ..... cleanup level
Ecology ..... Washington State Department of Ecology
EPA ..... US Environmental Protection Agency
ft ..... foot/feet
IDW ..... investigation-derived waste
LAI ..... Landau Associates, Inc.
mg/L ..... milligrams per liter
MTCA ..... Model Toxics Control Act
NFA ..... No Further Action
NWTPH-Dx ..... Northwest Total Petroleum Hydrocarbon diesel extended
PVC ..... polyvinyl chloride
Site ..... former Monroe Auto Wrecking/River's Edge site
SM ..... standard method
TOC ..... total organic carbon
TPH ..... total petroleum hydrocarbons
TPH-D ..... diesel-range total petroleum hydrocarbons
TPH-O ..... oil-range total petroleum hydrocarbons
VCP ..... Ecology's Voluntary Cleanup Program
WAC ..... Washington Administrative Code

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1.0 INTRODUCTION AND SITE BACKGROUND

At the request of River's Edge Wa LLLP (owner), Landau Associates, Inc. (LAI) prepared this groundwater monitoring report to document groundwater monitoring results for the former Monroe Auto Wrecking/River's Edge site (Site) from June 2019 through June 2020. The Site is located at 426 East Fremont Street in Monroe, Washington (City; Figure 1), and is enrolled in the Washington State Department of Ecology (Ecology) Voluntary Cleanup Program (VCP) under number NW3251.

The Site was historically occupied by a lumber mill and an auto wrecking facility. Previous environmental investigations and remedial actions at the Site were conducted beginning in 1990 and were completed in 2000, and resulted in Ecology issuing a No Further Action (NFA) determination in 2001 (Ecology 2001). However, in 2008, Ecology re-evaluated the Site and determined that the remedial action was not sufficient to meet Model Toxics Control Act (MTCA) requirements. The previously issued NFA determination was rescinded due to the presence of total petroleum hydrocarbons (TPH), cadmium, and lead left in place at concentrations exceeding applicable cleanup levels (CULs) (Ecology 2008). Therefore, the remaining contamination is being cleaned up concurrently with redevelopment of the Site. Soil cleanup activities were conducted in 2019 during the earthwork phase of the redevelopment; this portion of the cleanup is documented in the soil cleanup summary report (soil cleanup report; LAI 2019), which was submitted to the VCP on November 20, 2019.

This report documents the quarterly groundwater and surface water monitoring conducted at the Site during and after the 2019 cleanup activities. Groundwater monitoring was conducted to support evaluation of potential impacts to groundwater from cadmium- and lead-contaminated soil remaining below 15 ft below ground surface (bgs) in the southern and eastern portions of AOC1 and at 14 ft bgs at the southeast edge of the cleanup area, and to further evaluate groundwater analytical results from previous groundwater monitoring activities. Additionally, one transition zone groundwater sample was collected and analyzed during the cleanup, and is discussed below. For information regarding the previous soil and debris removal and cleanup activities, please refer to the soil cleanup report (LAI 2019).

The results of groundwater monitoring conducted following the completion of the soil cleanup activities at the Site indicate that groundwater conditions downgradient of the Site are in compliance with MTCA Method A groundwater CULs. Soil cleanup conducted in 2019 adequately addressed the remaining contaminated soil, and the limited and isolated areas of soil with cadmium and/or lead concentrations above applicable CULs do not result in downgradient groundwater contamination. The surface water results also indicate that transition zone groundwater flowing to Woods Creek does not appear to impact surface water quality in Woods Creek.

2.0 GROUNDWATER MONITORING ACTIVITIES

This section describes quarterly groundwater and surface water monitoring activities conducted at the Site from August 2019 through June 2020. One transition zone groundwater sample collected in June 2019 during soil cleanup activities is also discussed in this section.

2.1 Monitoring Well Installation

Groundwater monitoring well DP6-MW was installed upgradient of the Site to provide groundwater data for comparison purposes to the Site's existing downgradient wells DP3-MW, DP4-MW, and DP5-MW. Groundwater monitoring wells DP3-MW, DP4-MW, and DP5-MW were installed in 2018, and their installation is described in the supplemental Phase II environmental site assessment report (LAI 2018), although these wells were originally named P3-MW, P4-MW, and P5-MW, respectively. The locations of the monitoring wells are shown on Figure 2.

Monitoring well DP6-MW was installed on July 29, 2019 using the direct-push drilling method by a Washington State licensed driller, in accordance with the Minimum Standards for Construction and Maintenance of Wells (Chapter 173-160 Washington Administration Code [WAC]). Oversight of the well installation activities was conducted by LAI. The monitoring well was constructed with a 1-inch-diameter, Schedule 80 polyvinyl chloride (PVC) casing with a 10-ft long 0.010-inch machine-slotted PVC screen surrounded by a 10/20 sand prepack. The well was installed such that the top of the well screen was above the water table observed at the time of drilling; the well screen was placed between approximately 22 ft and 32 ft bgs. Additional filter pack material, consisting of pre-washed number 10/20 silica sand, was placed from the bottom of the well boring to 1 ft above the top of the screen. Filter pack material was placed slowly to avoid bridging of material. A bentonite chip seal was placed above the filter sand pack material to within approximately 2 ft of the ground surface. Concrete was used to backfill the boring from the top of the bentonite seal to the surface for placement of the well monument and protective cover. Drilling and well construction details are provided in the boring log (Appendix A).

2.2 Groundwater Sampling and Analysis

Groundwater samples were collected from monitoring wells DP3-MW, DP4-MW, and DP5-MW, and upgradient monitoring well DP6-MW, in August 2019, November 2019, February 2020, and June 2020. Samples were collected using low-flow sampling procedures using a bladder pump. During the February 2020 monitoring event, a sample was not collected from DP6-MW due to damage to the casing in the upper section of the well. Also, during this monitoring event, the bladder pump did not function properly, and sample collection procedures were altered by requiring the removal and replacement of the bladder pump between well purging and sample collection, resulting in increased turbidity during sample collection. Groundwater samples collected during this event from DP3-MW and DP4-MW were gray and brown with high turbidity. The DP6-MW well damage was addressed prior to the June 2020 monitoring event. The repair, which was performed by licensed well driller,

consisted of replacement of the monument and upper section of the well casing. After this well was repaired, it was redeveloped and purged prior to collection of a sample for an additional 10 minutes.

Groundwater samples were collected directly from the sampling equipment into laboratory-supplied containers, and stored on ice in a cooler. Samples were submitted to ALS Laboratory in Everett, Washington under standard chain-of-custody (COC) procedures. Samples were analyzed for the following:

- Diesel-range and oil-range TPH (TPH-D and TPH-O, respectively) using the Ecology-approved Northwest Total Petroleum Hydrocarbon diesel extended (NWTPH-Dx) method.
  - Samples with TPH-D or TPH-O detections that exceeded applicable CULs were also analyzed using the acid silica gel cleanup preparation method
- Total metals and dissolved metals (arsenic, zinc, cadmium, and lead) by US Environmental Protection Agency (EPA) Method 200.8
- Hardness by Standard Method (SM) 2340
- Nitrate and sulfate by EPA Method 300.0
- Total organic carbon (TOC) by SM5310/EPA Method 415.1.

Dissolved oxygen, temperature, conductivity, oxidation reduction potential, and pH were also measured and recorded at each well prior to sample collection; qualitative turbidity observations were also recorded.

2.2.1 Transition Zone Groundwater Water Sampling and Analysis

A temporary drive point well, DPW-1, was installed on June 28, 2019 during the soil and debris cleanup activities to support evaluation of groundwater in the groundwater transition zone adjacent to Woods Creek and potential impacts from releases at the Site. The temporary drive point well was installed on an exposed sandbar on the west side of the bank along Woods Creek downgradient of well DP4-MW and the Area of Concern 1 (AOC1) excavation area (LAI 2019) and downstream of the City's stormwater outfall. A stainless steel drive point with a wire mesh-wrapped screen was driven approximately 2 ft bgs into the sandy bank. The temporary drive point well was purged for 20 minutes prior to transition zone groundwater sample collection using a peristaltic pump. A groundwater sample was also collected from the monitoring well directly uphill from the temporary drive point (DP4-MW) on the same day. Sampling at both the temporary drive point well and the monitoring well was conducted using the groundwater sample collection procedures described in Section 2.2, with the exception of the types of pumps used for purging and sampling; the groundwater sample from DP4-MW was collected using a ball valve Waterra pump and the sample collected from DPW-1 was collected using a peristaltic pump.

2.3 Surface Water Sampling and Analysis

Surface water samples were collected from two locations in Woods Creek concurrently with the groundwater monitoring activities in August 2019, November 2019, February 2020, and June 2020. These samples were collected upstream and downstream of the Site from the same location for each sampling event. The upstream samples were collected from an old river terrace on the east bank due to ease of access within Al Borlin Park. The downstream samples were collected from the west bank from an old river terrace located downslope of the Site, which is downstream of a City stormwater outfall that discharges into the creek. The sampling locations are shown on Figure 2. Surface water samples were collected by extending a sampling pole with a reusable sampling cup out into the flow of the creek. In between sample collection, the reusable sampling equipment (sampling pole and cup) were decontaminated using a mixture of Alconox® soap and tap water rinse. Both upstream and downstream samples were collected within 1 hour of each other.

Field observations noted the flow of Woods Creek was faster during the third and fourth quarter sampling events (February and June 2020) in comparison to the first and second quarter events (August and November 2019).

Surface water samples were collected directly from the sampling equipment into laboratory-supplied containers, and stored on ice in a cooler. Samples were submitted to ALS Laboratory in Everett, Washington under standard COC procedures. Surface water samples were analyzed for the following:

- TPH-O and TPH-D using the Ecology-approved NWTPH-Dx method.
- Total metals (arsenic, zinc, cadmium, and lead) by EPA Method 200.8
- Hardness by SM 2340.

2.4 Quality Assurance

Field and laboratory quality control samples were used to evaluate data precision, accuracy, representativeness, completeness, and comparability of the analytical results. The quality assurance process included collection and analysis of one groundwater sample field duplicate for each of the November 2019, February 2020, and June 2020 monitoring events, and analysis of laboratory duplicate and trip blanks.

Validation of the analytical data was performed by LAI and included evaluation of the following:

- Chain-of-custody records
- Holding times
- Laboratory method blanks
- Surrogate recoveries
- Blank spikes/laboratory control samples
- Field duplicate results

- Completeness
- Overall assessment of data quality.

Based on the validation, all of the data were determined to be acceptable for monitoring purposes. No qualification of the data was necessary, with the exception of results from DP3-MW and DP4-MW (and the associated field duplicate) during the February 2020 monitoring event. The TPH-D and TPH-O results for the sample from DP3-MW were qualified as estimated due to a high surrogate recovery. The TPH-D and TPH-O results as well as several of the total metals results for the sample from DP4-MW and the associated field duplicate were qualified as estimated due to high relative percent differences between the parent sample and field duplicate results. However, the data were considered usable for compliance evaluation at the Site.

2.5 Investigation-Derived Waste

Investigation-derived waste (i.e., purge water, redevelopment water, and decontamination water [IDW]) generated during the quarterly monitoring events was placed in a 55-gallon drum and stored on site. IDW from soil cuttings from DP6-MW were added to stockpiled soil generated during the soil cleanup activities and disposed of as described in the soil cleanup report. Based on the analytical results, as defined in Chapter 173-303 WAC, the IDW is non-hazardous. LAI will coordinate with a local disposal company and the owner to transport the drum to an appropriate disposal facility.

3.0 SAMPLING AND ANALYTICAL RESULTS

This section presents the results of the August 2019 through June 2020 groundwater/surface water monitoring events, plus results of the transition zone groundwater sampling conducted in June 2019.

3.1 Groundwater Sampling Results

Groundwater analytical results are summarized below. Laboratory and field parameter data are provided in Table 1. These analytical results were compared to applicable MTCA Method A CULs for groundwater. Copies of laboratory analytical reports are provided in Appendix B.

- TPH-D was detected at concentrations above the laboratory reporting limits at DP3-MW (2 quarters only with a maximum concentration of 260 micrograms per liter [µg/L]), DP4-MW, including a duplicate sample collected from this well (2 quarters only with a maximum concentration of an estimated 670 µg/L), and upgradient well DP6-MW (one quarter only with a concentration of 190 µg/L). TPH-D was not detected at concentrations above the laboratory reporting limit in any samples collected at DP5-MW. Of these detections, only one detection (the field duplicate sample collected from DP4-MW during the February 2020 monitoring event) was above the CUL; this sample was one of the samples with high turbidity due to issues with the bladder pump. Follow-up analysis of this sample using the silica-gel cleanup preparation method indicated a significantly lower TPH-D concentration of an estimated 280 µg/L.
- TPH-O was detected at concentrations above the laboratory reporting limits at DP3-MW (2 quarters only with a maximum concentration of 1,500 µg/L), DP4-MW (3 quarters only with a maximum estimated concentration of 2,100 µg/L (detected in the duplicate sample collected from this well), and upgradient well DP6-MW (one quarter only with a concentration of 260 µg/L). TPH-O was not detected above the laboratory reporting limit in any samples collected at DP5-MW. Of these detections, one detection at DP3-MW (February 2020) and three detections at DP4-MW (November 2019, February 2020, and June 2020) were above the CUL; these exceedances included the February 2020 samples with high turbidity due to issues with the bladder pump. Follow-up analysis of these samples using the silica-gel cleanup preparation method indicated significantly lower TPH-O concentrations; all concentrations were below the CUL except for the February 2020 samples at DP3-MW (estimated at 1,200 µg/L) and the duplicate sample collected from DP4-MW (estimated at 1,400 µg/L; the TPH-O concentration for the parent sample was 440 µg/L).
- Total arsenic was detected at concentrations above the laboratory reporting limit at DP3-MW for only one quarter (2.5 µg/L; February 2020), at DP4-MW for all four quarters (including duplicate sample results, 1.7 µg/L to an estimated 21 µg/L), and at upgradient well DP6-MW for one quarter (1.1 µg/L; June 2020). The only concentration that exceeded the CUL was from DP4-MW during the February 2020 monitoring event. Dissolved arsenic results were significantly lower and/or below the laboratory reporting limit. The only detections of dissolved arsenic were concentrations of 1.5 µg/L and 1.7 µg/L detected at DP4-MW during the August 2019 and November 2019 monitoring events, respectively; dissolved arsenic was not detected at a concentration above the laboratory reporting limit at DP4-MW during the February 2020 monitoring event.

- Total cadmium was not detected above the laboratory reporting limit during any monitoring events except for at DP4-MW during the February 2020 monitoring event. The detected estimated concentration of 2.7 µg/L was below the CUL, but the analytical result for the duplicate sample collected from this well indicated an estimated concentration of 5.2 µg/L, which is just above the CUL. Dissolved cadmium was not detected at a concentration above the laboratory reporting limit during any monitoring event, including the February 2020 event.
- Total lead was not detected above the laboratory reporting limit during any monitoring events except for DP3-MW during the February 2020 monitoring event (4.4 µg/L), and DP4-MW during the November 2019 (1.1 µg/L), February 2020 (an estimated 43 µg/L, and 57 µg/L in the duplicate sample), and June 2020 (1.4 µg/L) monitoring events. The detected concentration during the February 2020 event (an estimated 43 µg/L) is above the CUL of 15 µg/L. Dissolved lead was not detected at a concentration above the laboratory reporting limit during any monitoring event, including the February 2020 event.
- Total and dissolved zinc were detected at nearly all monitoring wells during each monitoring event at concentrations as high as an estimated 2,600 µg/L (DP4-MW duplicate sample in February 2020) and an estimated 1,900 µg/L (DP4-MW in February 2020), respectively. A Method A CUL is not available for zinc; however, for comparison purposes, the detected concentrations are well below Method B CULs.
- Throughout the four quarterly monitoring events, detected concentrations in all samples of nitrate ranged from below the laboratory reporting limit to 18 milligrams per liter (mg/L), sulfate from 7.1 mg/L to 180 mg/L, hardness from 31 mg/L to 330 mg/L, and TOC from below the laboratory reporting limit to 14 mg/L. Hardness, sulfate, and TOC concentrations were generally greatest at DP4-MW; notably, TOC concentrations were generally an order of magnitude higher at DP4-MW (ranging between 10 and 14 mg/L during the November 2019 through June 2020 monitoring events) than each of the other monitoring wells.

Analytical results from the transition zone groundwater sample (drive point well DPW-1) and associated monitoring well (DP4-MW) collected during soil cleanup activities on June 28, 2019, are also provided in Table 1. Some metals were detected in the transition zone groundwater sample at concentrations above the laboratory reporting limits [detected concentrations of arsenic (120 µg/L), lead (6.5 µg/L), and zinc (57 µg/L), respectively]; TPH-D, TPH-O, and cadmium were not detected at concentrations above the laboratory reporting limits. Results for the sample collected from DP4-MW on the same day indicated concentrations of metals (arsenic [49 µg/L], cadmium [6.0 µg/L], lead [100 µg/L] and zinc [2,800 µg/L]), plus detections of TPH-D (estimated at 420 µg/L) and TPH-O (800 µg/L). Arsenic, which was not identified at concentrations above soil CULs in any confirmation soil samples collected in AOC1, increased in concentration between DP4-MW and DPW-1. However, concentrations of cadmium and lead, which are the two metals of concern based on soil left in place in AOC1, both decreased significantly between DP4-MW and DPW-1.

3.2 Surface Water Sampling Results

Surface water laboratory data are provided in Table 2. For comparison purposes only, these results were compared to applicable MTCA Method B Surface Water CULs, which are the most conservative

Applicable or Relevant and Appropriate Requirement available; notes regarding the source of each CUL are included in Table 2. Copies of laboratory analytical reports are provided in Appendix B.

TPH-D and TPH-O were not detected in any surface water samples at concentrations above the laboratory reporting limits. Total arsenic was detected in three samples (one upstream sample [1.2 µg/L in August 2019] and two downstream samples [1.3 µg/L in August 2019 and 1.2 µg/L in June 2020]). The detected concentrations are greater than the CUL, but are consistently just above the laboratory reporting limit and were detected in both upstream and downstream samples. Neither cadmium nor lead was detected at concentrations above laboratory reporting limits. Zinc was detected with a maximum concentration of 8.2 µg/L (well below the CUL).

Hardness values ranged between 13 mg/L and 48 mg/L. Though cadmium and zinc CULs can be adjusted based on hardness values (WAC 173-201A-240), the standard Method B CUL for each of these metals was used as a CUL because cadmium and zinc concentrations were either not detected, or detected at a concentration significantly less than the CUL.

4.0 FINDINGS AND CONCLUSIONS

Soil cleanup activities were conducted in 2017 and 2018 during construction activities at the Site, and quarterly groundwater and surface water monitoring activities were subsequently conducted in 2019 and 2020 to support evaluation of groundwater conditions following the cleanup. The soil cleanup is documented in the soil cleanup report (LAI 2019); groundwater and surface water sampling is documented in this report. Groundwater and surface water samples were collected quarterly from one upgradient monitoring well (DP6-MW) and three downgradient monitoring wells (DP3-MW, DP4-MW, and DP5-MW), and from Woods Creek.

Groundwater analytical results indicated concentrations of TPH-D, TPH-O, and total and dissolved metals (arsenic, cadmium, lead, and zinc) below MTCA Method A groundwater CULs with the following exceptions:

- TPH-O was detected at a concentration above the CUL, with and without the silica-gel cleanup sampling preparation procedure, at DP3-MW during the February 2020 monitoring event. The samples collected during this event had higher than typical turbidity due a malfunctioning sampling pump, and should be considered anomalous.
- TPH-O was detected at a concentration above the CUL at DP4-MW during the November 2019, February 2020, and June 2020 monitoring events. Follow-up analysis of TPH-O with the silica-gel cleanup procedure indicated TPH-O concentrations below the CUL except for the February 2020 sample. As with the DP3-MW February 2020 sample, this sample had high turbidity due to a malfunctioning sampling pump and should be considered anomalous. TOC was also detected at elevated concentrations at DP4-MW during these monitoring events, indicating that results following use of the silica-gel cleanup preparation procedure are most representative of groundwater conditions at this location.
- TPH-D was detected at a concentration above the CUL at DP4-MW (in the duplicate sample only) during the February 2020 monitoring event. Follow-up analysis of TPH-D with the silica-gel cleanup procedure indicated TPH-D concentrations below the CUL. As discussed above, due to high turbidity in the samples and elevated TOC concentrations, the results following use of the silica-gel cleanup preparation procedure are most representative of groundwater conditions at this location during this event.
- During the February 2020 monitoring event, total metals (arsenic, cadmium, and lead) were detected at concentrations above the CULs in the parent and/or duplicate sample collected at DP4-MW. The analytical results of dissolved metals in these samples indicated these concentrations were all below the laboratory reporting limits (below the CULs). Because total metals results are typically impacted by elevated turbidity, the total metals results in these samples are likely anomalous and dissolved metals results are most representative of groundwater conditions at this location during this event.

Results at DP4-MW and DPW-1 indicate decreasing concentrations of primary Site groundwater contaminants of concern between downgradient monitoring well locations and the groundwater transition zone adjacent to Woods Creek. Compared with results for the monitoring well DP4-MW sample collected on the same day, concentrations of cadmium and lead were significantly lower in the

DPW-1 sample. The analytical results from drive-point well DPW-1 also indicate concentrations of arsenic and zinc above the laboratory reporting limits in transition zone groundwater.

Surface water samples both upstream and downstream of the Site indicate occasional arsenic and zinc concentrations above the laboratory reporting limit; cadmium and lead were not detected above the laboratory reporting limit in any samples. Arsenic and zinc detections ranged between 1.2 µg/L and 1.3 µg/L, and 2.7 µg/L to 8.2 µg/L, respectively. These concentrations were detected in both upstream and downstream samples, therefore, are likely due to background concentrations in the creek and are not indicative of surface water impacted by releases from the Site.

The results of groundwater monitoring conducted following the completion of the soil cleanup activities at the Site indicate that groundwater conditions downgradient of the Site are in compliance with MTCA Method A groundwater CULs.[1] Soil cleanup conducted in 2019 adequately addressed the remaining contaminated soil, and the limited and isolated areas of soil with cadmium and/or lead concentrations above applicable CULs do not result in downgradient groundwater contamination. The surface water results also indicate that transition zone groundwater flowing to Woods Creek does not appear to impact surface water quality in Woods Creek. Based on these results, contamination from past Site activities that was addressed by the 2019 soil cleanup no longer presents a risk to human health or the environment, and on behalf of River's Edge WA LLLP, LAI requests a No Further Action determination be granted by Ecology for this Site.

[1] Predicated on the conclusion that February 2020 groundwater results from DP3-MW and DP4-MW were anomalous due to faulty pumps resulting in overly turbid and non-representative samples.

5.0 USE OF THIS REPORT

This report has been prepared for the exclusive use of River's Edge Wa LLLP and applicable regulatory agencies for specific application to the former Monroe Auto Wrecking/River's Edge Site. No other party is entitled to rely on the information, conclusions, and recommendations included in this document without the express written consent of LAI. Further, the reuse of information, conclusions, and recommendations provided herein for extensions of the project or for any other project, without review and authorization by LAI, shall be at the user's sole risk. LAI warrants that within the limitations of scope, schedule, and budget, our services have been provided in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions as this project. LAI makes no other warranty, either express or implied.

6.0 REFERENCES

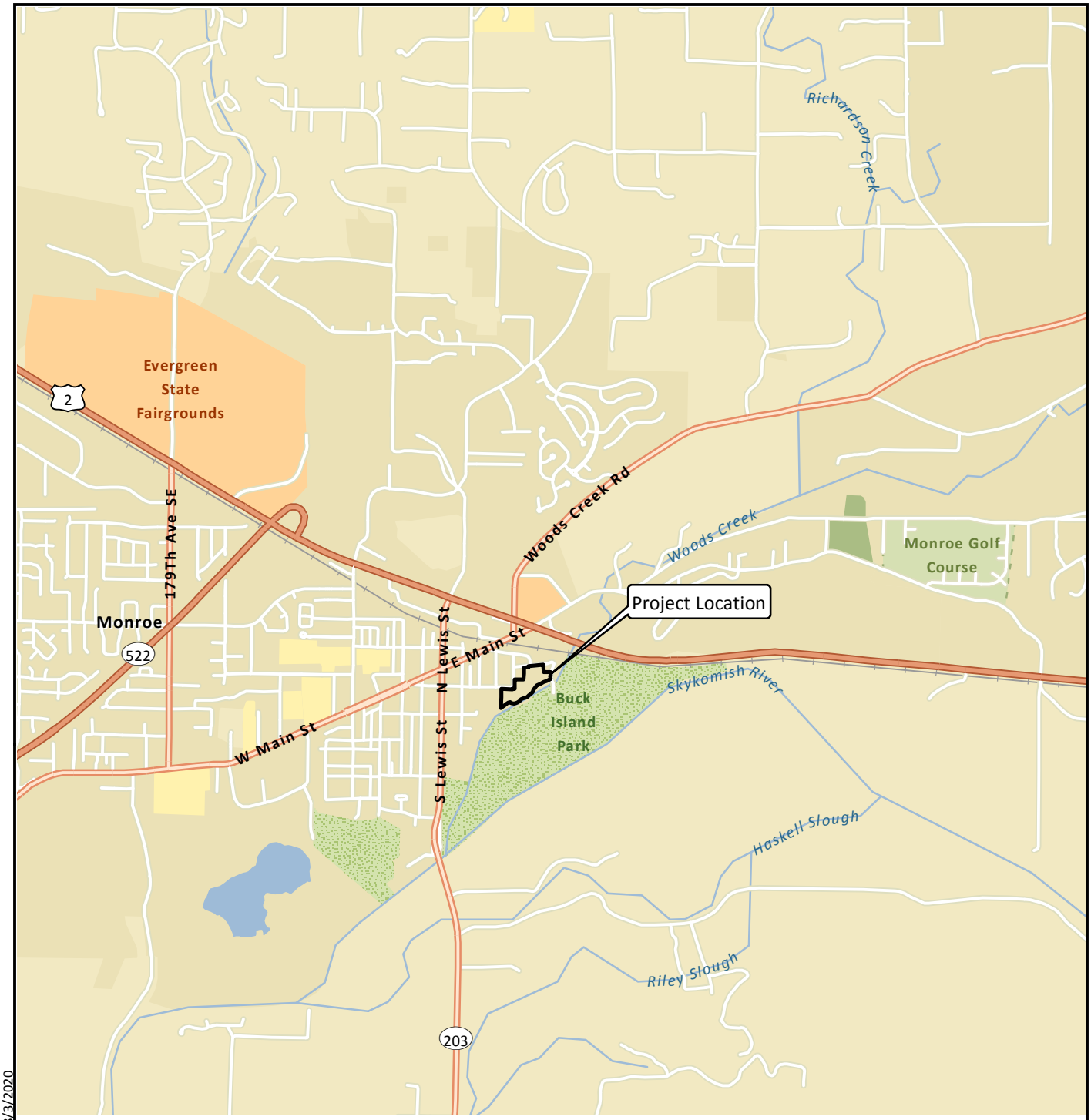
Ecology. 2001. Letter: Independent Remedial Action, Monroe Auto Salvage, 426 Fremont Street, Monroe, Washington. From Judith M. Aitken, Toxics Cleanup Program, Washington State Department of Ecology, to Reta Jensen, c/o Peter Jewett, Farallon Consulting LLC. February 2.

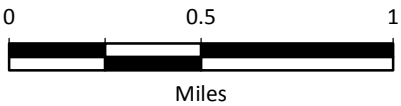
Ecology. 2008. Letter: Rescission of Previously Issued No Further Action Determination, Monroe Auto Salvage (Snohomish Tax Parcel 27070600300700). From Dale Myers, Toxics Cleanup Program, Washington State Department of Ecology, to Mr. Wibbelman. June 2.

Ecology. 2019. Draft Implementation Memorandum No. 23: Concentrations of Fresh Gasoline and Diesel Range Organics Predicted to be Protective of Aquatic Receptors in Surface Waters. Washington State Department of Ecology. March 7. https://fortress.wa.gov/ecy/publications/documents/1909043.pdf.

LAI. 2018. Supplemental Phase II Environmental Site Assessment, Former Monroe Auto Wrecking Site, Monroe, Washington. Landau Associates, Inc. November 12.

LAI. 2019. Soil Cleanup Summary Report, Former Monroe Auto Wrecking/River's Edge Site, 426 Fremont Street, Monroe, Washington. Landau Associates, Inc. November 20.





Data Source: Esri 2012

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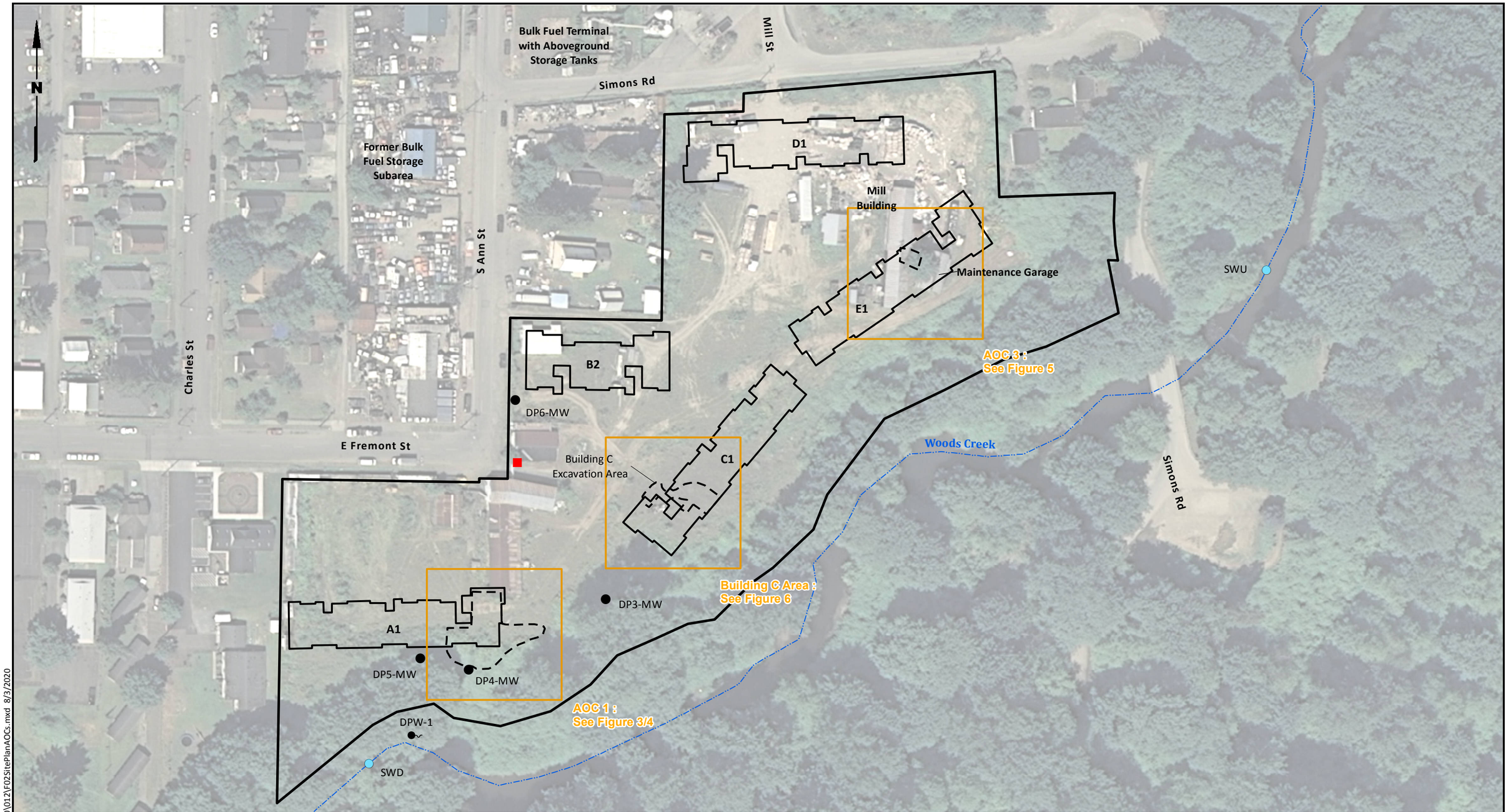
Former Monroe Auto Wrecking/ River's Edge Site Monroe, Washington	**Vicinity Map**	Figure 1



Legend

- Monitoring Well Location
- Transition Zone Groundwater Sampling Location
- Surface Water Sampling Location
- Discovered Underground Storage Tank Location
- Site Boundary
- Building
- Excavation Areas

0 100 200

Scale in Feet

Data Source: Snohomish County GIS; Esri Imagery Service.

Note

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

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Former Monroe Auto Wrecking/ River's Edge Site Monroe, Washington	**Site Plan with Areas of Concern**	Figure 2

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Table 1
Groundwater Analytical Results
Former Monroe Auto Wrecking/River's Edge Site
Monroe, Washington

Analyte	MTCA Method A Cleanup Level	Sampling Location, Field Sample ID, Lab SDG, Sampling Date																	
		DP3-MW (P3-MW) EV19080030 8/5/2019	DP3-MW (P3-MW) EV19110168 11/21/2019	DP3-MW (P3-MW) EV20020138 2/24/2020	DP3-MW (P3-MW) EV20060011 6/2/2020	DP4-MW (P4-MW) EV19080030 8/5/2019	DP4-MW (P4-MW) EV19110168 11/21/2019	DP4-MW (P4-MW) EV20020138 2/24/2020	DP4-MW DUP1 EV20020138 2/24/2020	DP4-MW (P4-MW) EV20060011 6/2/2020	DP5-MW (P5-MW) EV19080030 8/5/2019	DP5-MW (P5-MW) EV19110168 11/21/2019	DP5-MW (P5-MW) EV20020138 2/24/2020	DP5-MW (P5-MW) EV20060011 6/2/2020	DP5-MW DUP1 EV20060011 6/2/2020	DP6-MW (P6-MW) EV19080030 8/5/2019	DP6-MW (P6-MW) EV19110168 11/21/2019	DP6-MW DUP1 EV19110168 11/21/2019	DP6-MW (P6-MW) EV20060011 6/2/2020
Total Petroleum Hydrocarbons (µg/L; NWTPH-Dx)																			
Diesel-range Organics	500	130 U	130 U	**260**	**150**	130 U	130 U	**470 J**	**670 J**	**400**	130 U	130 U	130 U	130 U	130 U	130 U	**190**	**130**	130 U
Oil-range Organics	500	250 U	**290**	**1,500**	250 U	250 U	**1,800**	**940 J**	**2,100 J**	**760**	250 U	250 U	250 U	250 U	250 U	250 U	**260**	250 U	250 U
Diesel-range Organics (w/ SGC)	500	--	--	**180 J**	--	--	130 U	130 UJ	**280 J**	130 U	--	--	--	--	--	--	--	--	--
Oil-range Organics (w/ SGC)	500	--	--	**1,200 J**	--	--	250 U	**440 J**	**1,400 J**	250 U	--	--	--	--	--	--	--	--	--
Total Metals (µg/L; EPA 200.8)																			
Arsenic	5	1.0 U	1.0 U	**2.5**	1.0 U	**1.7**	**2.0**	**9.7 J**	**21 J**	**1.2**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**1.1**
Cadmium	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**2.7 J**	**5.2 J**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Hardness (as CaCO3) (mg/L)	N/A	**63**	**63**	**73**	**68**	**60**	**330**	**200**	**210**	**260**	**46**	**52**	**31**	**51**	**51**	**57**	**54**	**57**	**72**
Lead	15	1.0 U	1.0 U	**4.4**	1.0 U	1.0 U	**1.1**	**43 J**	**57 J**	**1.4**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Zinc	N/A	**21**	**72**	**32**	**23**	**140**	**130**	**1,900 J**	**2,600 J**	**830**	**5.7**	**7.7**	**8.2**	**6.1**	**7.0**	**5.5**	**7.0 J**	2.5 UJ	**12**
Dissolved Metals (µg/L; EPA 200.8)																			
Arsenic	5	1.0 U	1.0 U	--	1.0 U	**1.5**	**1.7**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cadmium	5	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Lead	15	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Zinc	N/A	**22**	**72**	--	**22**	**120**	**100**	**1,100**	**1,100**	**550**	**6.1**	**5.9**	**4.7**	**4.2**	**4.5**	**6.0**	2.5 U	2.5 U	**7.7**
General Chemistry (mg/L; EPA 300.0/SM 5310C)																			
Nitrate	N/A	**4.6**	**3.6**	**18**	**6.8**	**6.8**	0.15 U	**2.8**	**3.0**	**1.9**	**9.0**	**12**	**3.5**	**6.4**	**6.4**	**6.8**	**9.1**	**9.3**	**6.8**
Sulfate	N/A	**8.0**	**7.8**	**9.6**	**9.1**	**11**	**180**	**60**	**59**	**53**	**9.2**	**8.4**	**13**	**14**	**13**	**7.3**	**7.1**	**7.9**	**11**
Total Organic Carbon	N/A	0.5 U	0.50 U	**--**	**1.5**	**0.85**	**11**	**14**	**12**	**10**	0.5 U	0.50 U	**0.71**	**1.0**	**1.2**	0.5 U	0.50 U	0.50 U	**1.3**

Table 1
Groundwater Analytical Results
Former Monroe Auto Wrecking/River's Edge Site
Monroe, Washington

Analyte	MTCA Method A Cleanup Level	Transition Groundwater Zone Sampling Event	
		DPW-1 DPW-1 EV19060217 6/28/2019	DP4-MW (P4-MW) EV19060217 6/28/2019
Total Petroleum Hydrocarbons (µg/L; NWTPH-Dx)			
Diesel-range Organics	500	130 U	**420 J**
Oil-range Organics	500	250 U	**800**
Diesel-range Organics (w/ SGC)	500		
Oil-range Organics (w/ SGC)	500		
Total Metals (µg/L; EPA 200.8)			
Arsenic	5	**120**	**49**
Cadmium	5	1.0 U	**6.0**
Hardness (as CaCO3) (mg/L)	N/A	**160**	**130**
Lead	15	**6.5**	**100**
Zinc	N/A	**57**	**2,800**
Dissolved Metals (µg/L; EPA 200.8)			
Arsenic	5		
Cadmium	5		
Lead	15		
Zinc	N/A		
General Chemistry (mg/L; EPA 300.0/SM 5310C)			
Nitrate	N/A		
Sulfate	N/A		
Total Organic Carbon	N/A		

Notes:

U = The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ = The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Bold indicates a detected compound.

Green Box = reported concentration is greater than the MTCA Method A cleanup level.

Abbreviations/Acronyms:

µg/L = micrograms per liter
CaCO3 = calcium carbonate
EPA = US Environmental Protection Agency
ID = identification
mg/L = milligrams per liter
MTCA = Model Toxics Control Act
N/A = not applicable
SDG = sample delivery group
SGC = silica gel cleanup

Table 2
Surface Water Analytical Results
Former Monroe Auto Wrecking/River's Edge Site
Monroe, Washington

Analyte	MTCA Method B Cleanup Level	Applicable, Federal or State Requirement	Sampling Location, Field Sample ID, Lab SDG, Sampling Date							
			SWD SWD EV19080030 8/5/2019	SWD SWD EV19110168 11/21/2019	SWD SWD EV20020138 2/24/2020	SWD SWD EV20060011 6/2/2020	SWUP SWU EV19080030 8/5/2019	SWUP SWU EV19110168 11/21/2019	SWUP SWU EV20020138 2/24/2020	SWUP SWU EV20060011 6/2/2020
Total Petroleum Hydrocarbons (µg/L; NWTPH-Dx)										
Diesel-range Organics	150	(a)	130 U	130 U	130 U	130 U	130 U	130 U	130 U	130 U
Oil-range Organics	N/A	N/A	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U
Total Metals (µg/L; EPA 200.8)										
Arsenic	0.15	(b)	**1.3**	1.0 U	1.0 U	**1.2**	**1.2**	1.0 U	1.0 U	1.0 U
Cadmium	0.72	(c)	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Hardness (as CaCO3) (mg/L)	N/A	N/A	**48**	**21**	**19**	**18**	**48**	**21**	**19**	**13**
Lead	N/A (d)	N/A	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Zinc	100	(e)	5.0 U	**8.2**	2.5 U	4.0 U	5.0 U	**2.7**	2.5 U	4.0 U

Notes:

(a) Diesel protective of freshwater aquatic life, from Ecology 2019.

(b) MTCA Method B CUL for arsenic in surface water is based on the Clean Water Act ARAR (Section 304) for water and organisms (freshwater) (0.018 µg/L; this CUL is adjusted up to the PQL.

(c) MTCA Method B CUL for cadmium in surface water is based on the Clean Water Act ARAR (Section 304) for water and organisms (freshwater).

(d) MTCA Method B CUL for lead is unavailable.

(e) MTCA Method B CUL for zinc in surface water is based on the Chapter 173-201A WAC ARAR for water and organisms (freshwater - chronic).

U = The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

Bold indicates a detected compound.

Green Box = reported concentration is greater than the MTCA Method B cleanup level.

Abbreviations/Acronyms:

µg/L = micrograms per liter
ARAR = applicable or relevant and appropriate requirement
CaCO3 = calcium carbonate
CUL = cleanup level
EPA = US Environmental Protection Agency
ID = identification
MTCA = Model Toxics Control Act
N/A = not applicable
PQL = practical quantitation limit

APPENDIX A

Boring Logs

Soil Classification System

MAJOR DIVISIONS			GRAPHIC SYMBOL	USCS LETTER SYMBOL[1]	TYPICAL DESCRIPTIONS [2][3]
COARSE-GRAINED SOIL (More than 50% of material is larger than No. 200 sieve size)	GRAVEL AND GRAVELLY SOIL (More than 50% of coarse fraction retained on No. 4 sieve)	CLEAN GRAVEL (Little or no fines)		GW	Well-graded gravel; gravel/sand mixture(s); little or no fines
				GP	Poorly graded gravel; gravel/sand mixture(s); little or no fines
		GRAVEL WITH FINES (Appreciable amount of fines)		GM	Silty gravel; gravel/sand/silt mixture(s)
				GC	Clayey gravel; gravel/sand/clay mixture(s)
	SAND AND SANDY SOIL (More than 50% of coarse fraction passed through No. 4 sieve)	CLEAN SAND (Little or no fines)		SW	Well-graded sand; gravelly sand; little or no fines
				SP	Poorly graded sand; gravelly sand; little or no fines
		SAND WITH FINES (Appreciable amount of fines)		SM	Silty sand; sand/silt mixture(s)
				SC	Clayey sand; sand/clay mixture(s)
FINE-GRAINED SOIL (More than 50% of material is smaller than No. 200 sieve size)	SILT AND CLAY (Liquid limit less than 50)			ML	Inorganic silt and very fine sand; rock flour; silty or clayey fine sand or clayey silt with slight plasticity
				CL	Inorganic clay of low to medium plasticity; gravelly clay; sandy clay; silty clay; lean clay
				OL	Organic silt; organic, silty clay of low plasticity
	SILT AND CLAY (Liquid limit greater than 50)			MH	Inorganic silt; micaceous or diatomaceous fine sand
				CH	Inorganic clay of high plasticity; fat clay
				OH	Organic clay of medium to high plasticity; organic silt
	HIGHLY ORGANIC SOIL			PT	Peat; humus; swamp soil with high organic content

OTHER MATERIALS	GRAPHIC SYMBOL	LETTER SYMBOL	TYPICAL DESCRIPTIONS
PAVEMENT		AC or PC	Asphalt concrete pavement or Portland cement pavement
ROCK		RK	Rock (See Rock Classification)
WOOD		WD	Wood, lumber, wood chips
DEBRIS		DB	Construction debris, garbage

Notes:
1. USCS letter symbols correspond to symbols used by the Unified Soil Classification System and ASTM classification methods. Dual letter symbols (e.g., SP-SM for sand or gravel) indicate soil with an estimated 5-15% fines. Multiple letter symbols (e.g., ML/CL) indicate borderline or multiple soil classifications.
2. Soil descriptions are based on the general approach presented in the Standard Practice for Description and Identification of Soils (Visual-Manual Procedure), outlined in ASTM D 2488. Where laboratory index testing has been conducted, soil classifications are based on the Standard Test Method for Classification of Soils for Engineering Purposes, as outlined in ASTM D 2487.
3. Soil description terminology is based on visual estimates (in the absence of laboratory test data) of the percentages of each soil type and is defined as follows:

Primary Constituent:	> 50% - "GRAVEL," "SAND," "SILT," "CLAY," etc.
Secondary Constituents:	> 30% and ≤ 50% - "very gravelly," "very sandy," "very silty," etc.
	> 15% and ≤ 30% - "gravelly," "sandy," "silty," etc.
Additional Constituents:	> 5% and ≤ 15% - "with gravel," "with sand," "with silt," etc.
	≤ 5% - "with trace gravel," "with trace sand," "with trace silt," etc., or not noted.

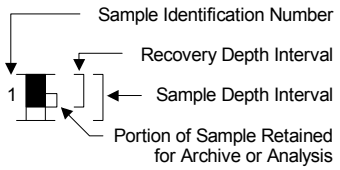
4. Soil density or consistency descriptions are based on judgement using a combination of sampler penetration blow counts, drilling or excavating conditions, field tests, and laboratory tests, as appropriate.

Drilling and Sampling Key

SAMPLER TYPE

Code	Description
a	3.25-inch O.D., 2.42-inch I.D. Split Spoon
b	2.00-inch O.D., 1.50-inch I.D. Split Spoon
c	Shelby Tube
d	Grab Sample
e	Single-Tube Core Barrel
f	Double-Tube Core Barrel
g	2.50-inch O.D., 2.00-inch I.D. WSDOT
h	3.00-inch O.D., 2.375-inch I.D. Mod. California
i	Other - See text if applicable
1	300-lb Hammer, 30-inch Drop
2	140-lb Hammer, 30-inch Drop
3	Pushed
4	Vibrocore (Rotosonic/Geoprobe)
5	Other - See text if applicable

SAMPLE NUMBER & INTERVAL



Field and Lab Test Data

Code	Description
PP = 1.0	Pocket Penetrometer, tsf
TV = 0.5	Torvane, tsf
PID = 100	Photoionization Detector VOC screening, ppm
W = 10	Moisture Content, %
D = 120	Dry Density, pcf
-200 = 60	Material smaller than No. 200 sieve, %
GS	Grain Size - See separate figure for data
AL	Atterberg Limits - See separate figure for data
GT	Other Geotechnical Testing
CA	Chemical Analysis

Groundwater

▽ Approximate water level at time of drilling (ATD)

▼ Approximate water level at time after drilling/excavation/well

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Former Monroe Auto Wrecking/River's Edge Site Groundwater Monitoring Report Monroe, Washington

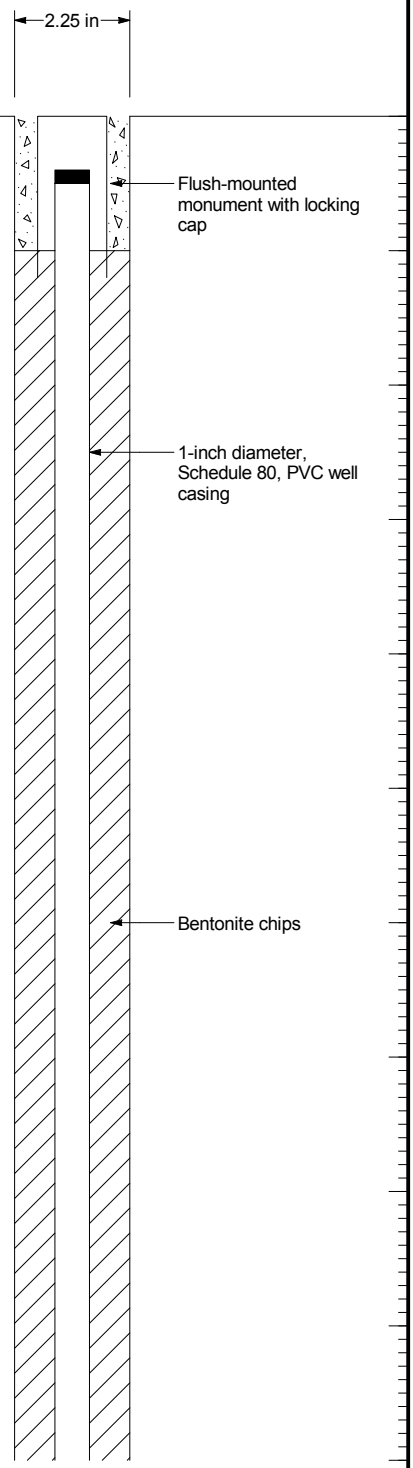
Soil Classification System and Key

Figure A-1

DP3-MW

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft):	Water Level

Monitoring Well Detail
(DOE#: BKX 646)



0
2
4
6
8
10
12
14
16
18
20

-For approximate lithology see log of P-3

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1759001.01 7/16/20 N:\PROJECTS\1759001.010.GPJ WELL LOG

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Groundwater Monitoring Report
Monroe, Washington

Log of Monitoring Well DP3-MW

Figure
A-2
(1 of 2)

DP3-MW

SAMPLE DATA | **SOIL PROFILE** | **GROUNDWATER**

Depth (ft) | Sample Number & Interval | Sampler Type | Blows/Foot | Test Data | Graphic Symbol | USCS Symbol

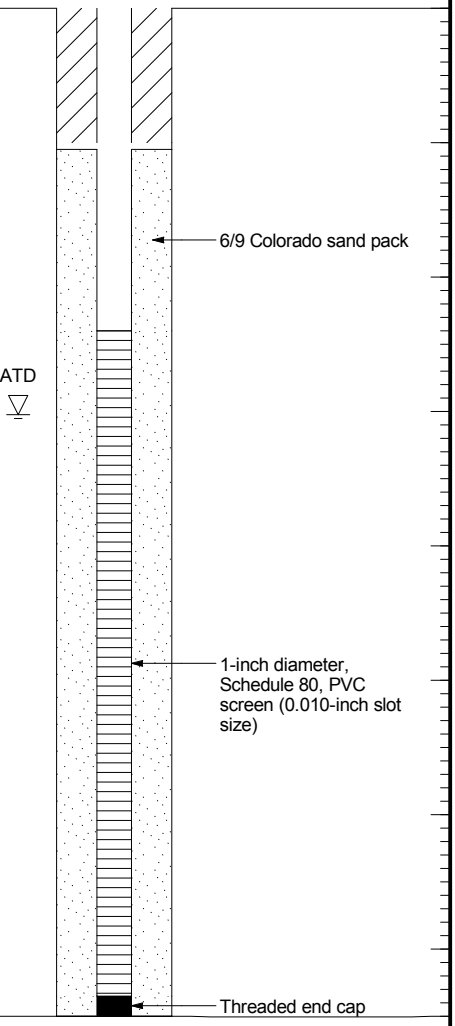
Drilling Method: Geoprobe™

Ground Elevation (ft):

-For approximate lithology see log of P-3

Water Level

Monitoring Well Detail
(DOE#: BKX 646)



Boring Completed 08/10/18
Total Depth of Boring = 35.0 ft.

Monitoring Well Completed 08/10/18

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1759001.01 7/16/20 N:\PROJECTS\1759001.010.GPJ WELL LOG

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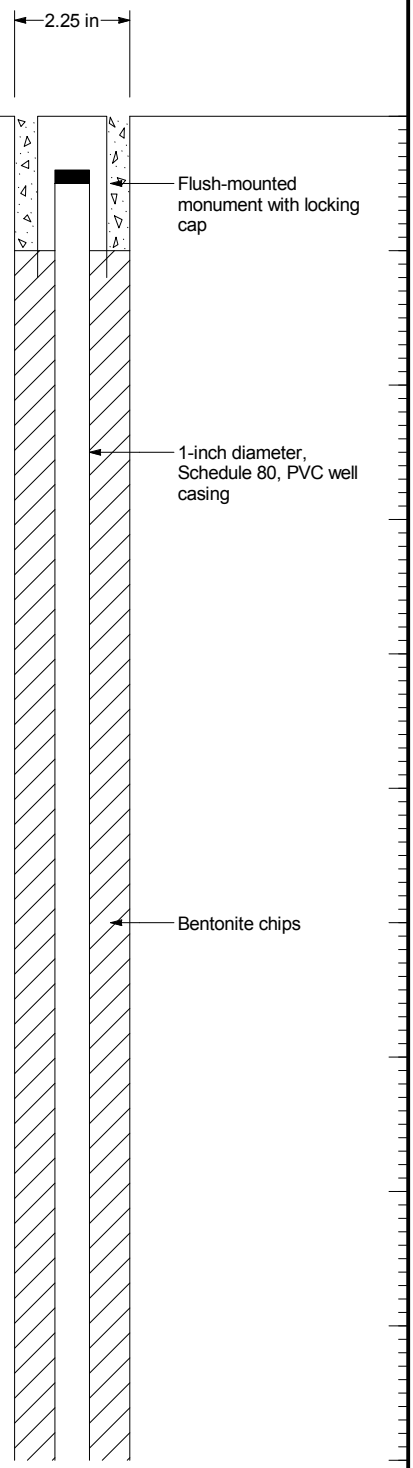
Former Monroe Auto Wrecking/River's Edge Site Groundwater Monitoring Report Monroe, Washington	Log of Monitoring Well DP3-MW	Figure A-2 (2 of 2)

DP4-MW

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft):	Water Level

Monitoring Well Detail
(DOE#: BKX 645)



0
2
4
6
8
10
12
14
16
18
20

-For approximate lithology see log of P-4

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1759001.01 7/16/20 N:\PROJECTS\1759001.010.GPJ WELL LOG

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Former Monroe Auto Wrecking/River's Edge Site
Groundwater Monitoring Report
Monroe, Washington

Log of Monitoring Well DP4-MW

Figure
A-3
(1 of 2)

DP4-MW

SAMPLE DATA | **SOIL PROFILE** | **GROUNDWATER**

Drilling Method: Geoprobe™

Ground Elevation (ft):

Monitoring Well Detail
(DOE#: BKX 645)

Depth (ft) | Sample Number & Interval | Sampler Type | Blows/Foot | Test Data | Graphic Symbol | USCS Symbol | Water Level

-For approximate lithology see log of P-4

20
22
24
26
28
30
32
34
36
38
40

ATD

6/9 Colorado sand pack

1-inch diameter, Schedule 80, PVC screen (0.010-inch slot size)

Threaded end cap

Boring Completed 08/10/18
Total Depth of Boring = 35.0 ft.

Monitoring Well Completed 08/10/18

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1759001.01 7/16/20 N:\PROJECTS\1759001.010.GPJ WELL LOG

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Former Monroe Auto Wrecking/River's Edge Site
Groundwater Monitoring Report
Monroe, Washington

Log of Monitoring Well DP4-MW

Figure
A-3
(2 of 2)

DP5-MW

SAMPLE DATA | **SOIL PROFILE** | **GROUNDWATER**

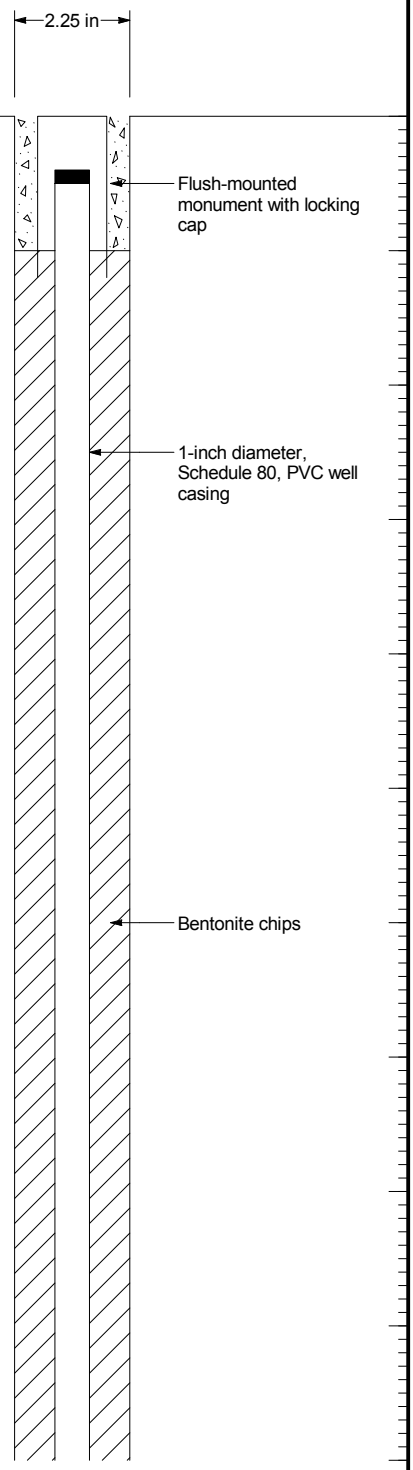
Depth (ft) | Sample Number & Interval | Sampler Type | Blows/Foot | Test Data | Graphic Symbol | USCS Symbol

Drilling Method: Geoprobe™

Ground Elevation (ft):

Water Level

Monitoring Well Detail
(DOE#: BKX 644)



0
2
4
6
8
10
12
14
16
18
20

-For approximate lithology see log of P-5

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1759001.01 7/16/20 N:\PROJECTS\1759001.010.GPJ WELL LOG

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Groundwater Monitoring Report
Monroe, Washington

Log of Monitoring Well DP5-MW

Figure
A-4
(1 of 2)

DP5-MW

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Water Level

Drilling Method: Geoprobe™

Ground Elevation (ft):

-For approximate lithology see log of P-5

Monitoring Well Detail
(DOE#: BKX 644)

ATD

6/9 Colorado sand pack

1-inch diameter, Schedule 80, PVC screen (0.010-inch slot size)

Threaded end cap

Boring Completed 08/10/18
Total Depth of Boring = 35.0 ft.

Monitoring Well Completed 08/10/18

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1759001.01 7/16/20 N:\PROJECTS\1759001.010.GPJ WELL LOG

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Former Monroe Auto Wrecking/River's Edge Site
Groundwater Monitoring Report
Monroe, Washington

Log of Monitoring Well DP5-MW

Figure
A-4
(2 of 2)

DP6-MW

SAMPLE DATA | **SOIL PROFILE** | **GROUNDWATER**

Drilling Method: Geoprobe™

Ground Elevation (ft):

Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Soil Description
0						SM	Brown, silty, fine SAND with gravel (loose, dry to damp)
							- cobble around 0.3' long and soil becomes rust colored
							- several large cobbles
2		d3					No recovery
4						SM	Dark brown, silty, fine to medium SAND with gravel (loose, dry to damp)
							- becomes gray with cobbles and dry
6						SP	Brown, medium to coarse SAND with gravel and some silt (loose, dry to damp)
		d3					- with cobbles
8							No recovery
10						SP	Brown and gray, fine to medium SAND with gravel (loose, dry to damp)
							Brown and gray, medium to coarse SAND with gravel and some silt and cobbles (loose, dry to damp)
12		d3					
						SP	- ligth gray cobles
							Brown and gray, fine SAND with trace coarse sand and silt (loose, damp)
14							No recovery
						SM	Brown, very silty, fine SAND with gravel and trace cobles and coarse sand (loose, damp)
16							- becomes gray
						ML	Gray, sandy, SILT with gravel, trace cobbles and coarse sand (soft to medium stiff, damp)
		d3				SP/SM	
18							Brown, fine to medium SAND with gravel and silt and trace cobbles (loose, damp)
						SM	Brown, silty, fine SAND with gravel and trace cobbles (loose, damp to wet)
20							

GROUNDWATER

Water Level

Monitoring Well Detail
(DOE#: BLC765)

2.25 in

- Flush-mounted monument with locking cap
- 1-inch diameter, Schedule 80, PVC well casing
- Bentonite chips

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1759001.01 7/16/20 N:\PROJECTS\1759001.010.GPJ WELL LOG

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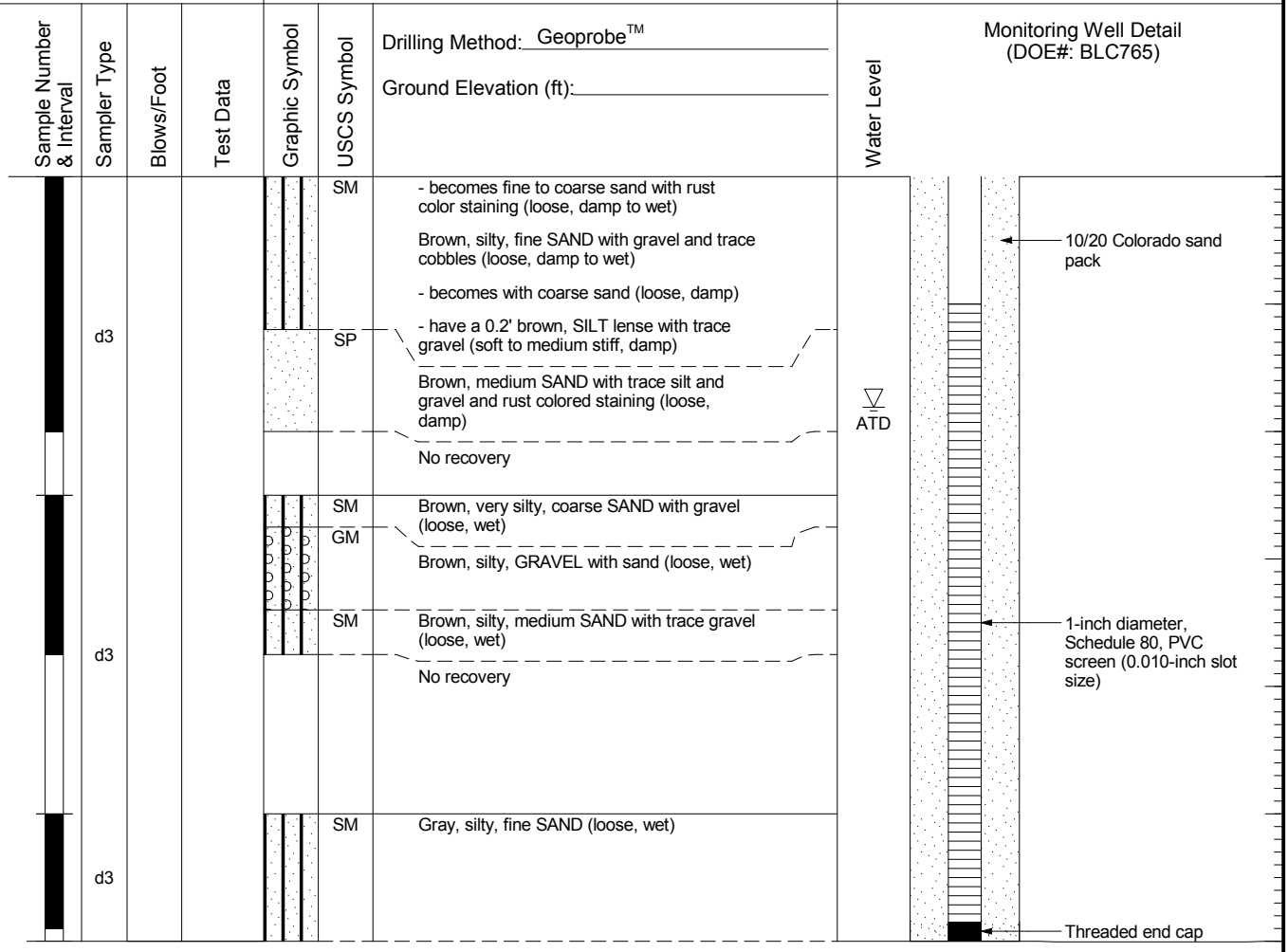
Former Monroe Auto Wrecking/River's Edge Site
Groundwater Monitoring Report
Monroe, Washington

Log of Monitoring Well DP6-MW

Figure
A-5
(1 of 2)

DP6-MW



Boring Completed 07/29/19
Total Depth of Boring = 32.0 ft.

Monitoring Well Completed 07/29/19

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1759001.01 7/16/20 N:\PROJECTS\1759001.010.GPJ WELL LOG

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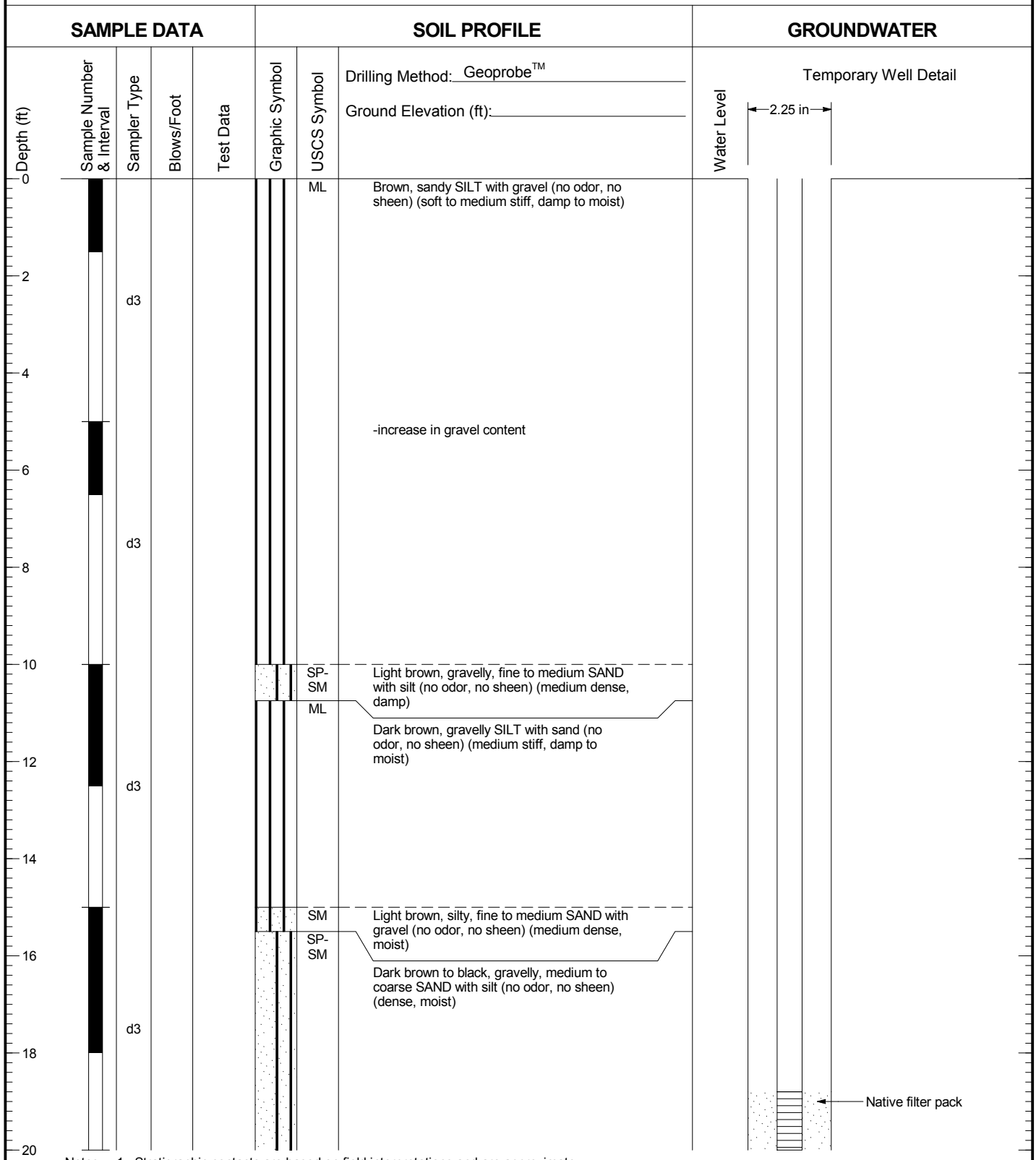
Former Monroe Auto Wrecking/River's Edge Site
Groundwater Monitoring Report
Monroe, Washington

Log of Monitoring Well DP6-MW

Figure
A-5
(2 of 2)

P-3



Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1759001.01 7/16/20 N:\PROJECTS\1759001.010.GPJ WELL LOG

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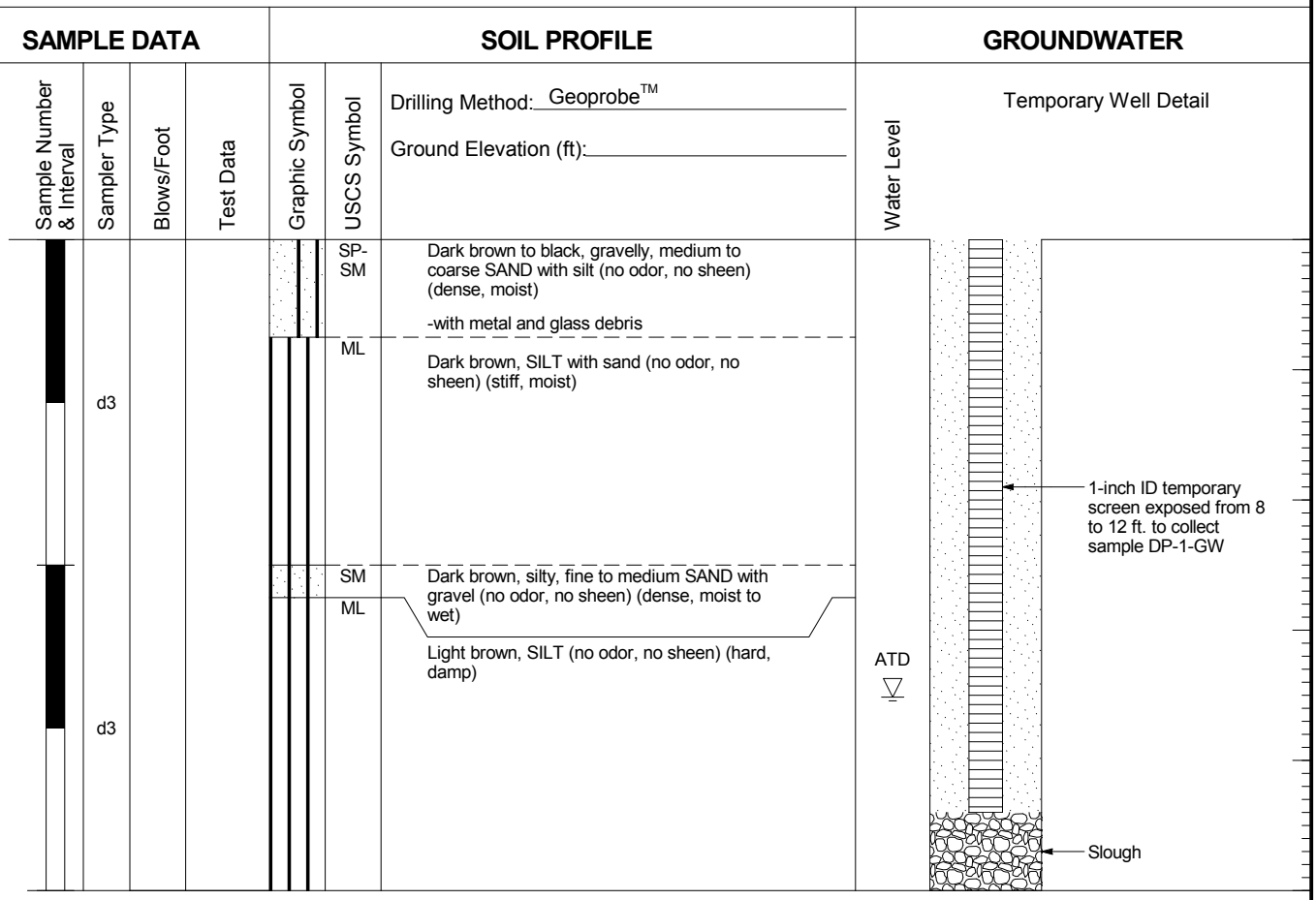
Former Monroe Auto Wrecking/River's Edge Site Groundwater Monitoring Report Monroe, Washington

Log of Temporary Well P-3

Figure A-6 (1 of 2)

P-3



Boring Completed 06/19/18
Total Depth of Boring = 30.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1759001.01 7/16/20 N:\PROJECTS\1759001.010.GPJ WELL LOG

LANDAU ASSOCIATES

Former Monroe Auto Wrecking/River's Edge Site
Groundwater Monitoring Report
Monroe, Washington

Log of Temporary Well P-3

Figure
A-6
(2 of 2)

P-4

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Sample Number & Interval	Sampler Type	Blows/Foot	Test Data	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft):	Water Level / Temporary Well Detail (2.25 in)
0						ML	Dark brown, SILT with gravel and sand (no odor, no sheen) (stiff, moist)	
2		d3						
4							-increase in sand content	
6						SM	Black, silty, fine to medium SAND with gravel (no odor, no sheen) (dense, damp)	
						ML	Brown, sandy, SILT with gravel (no odor, no sheen) (stiff, damp to moist)	
8		d3						
10								
12		d3						
14						SM	Grey, silty, medium SAND with gravel (no odor, no sheen) (medium dense, moist)	
16						ML	Black, sandy, gravelly SILT (no odor, no sheen) (soft, moist)	
		d3				GM	Black, silty, GRAVEL with sand and wood debris (no odor, no sheen) (dense, moist to wet)	
18								
20								

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1759001.01 7/16/20 N:\PROJECTS\1759001.010.GPJ WELL LOG

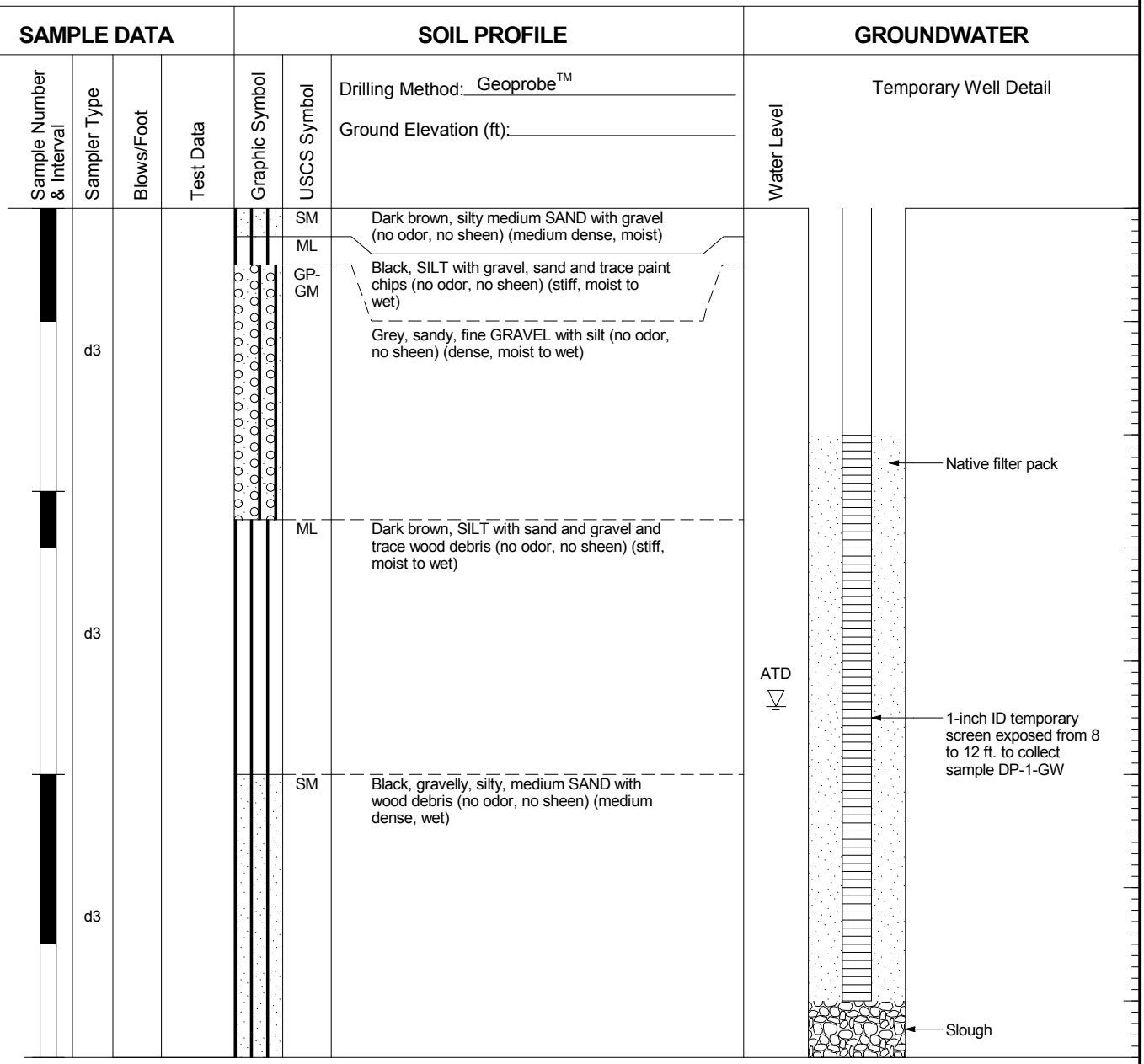
LANDAU ASSOCIATES

Former Monroe Auto Wrecking/River's Edge Site Groundwater Monitoring Report Monroe, Washington

Log of Temporary Well P-4

Figure A-7 (1 of 2)

P-4



Boring Completed 06/19/18
Total Depth of Boring = 35.0 ft.

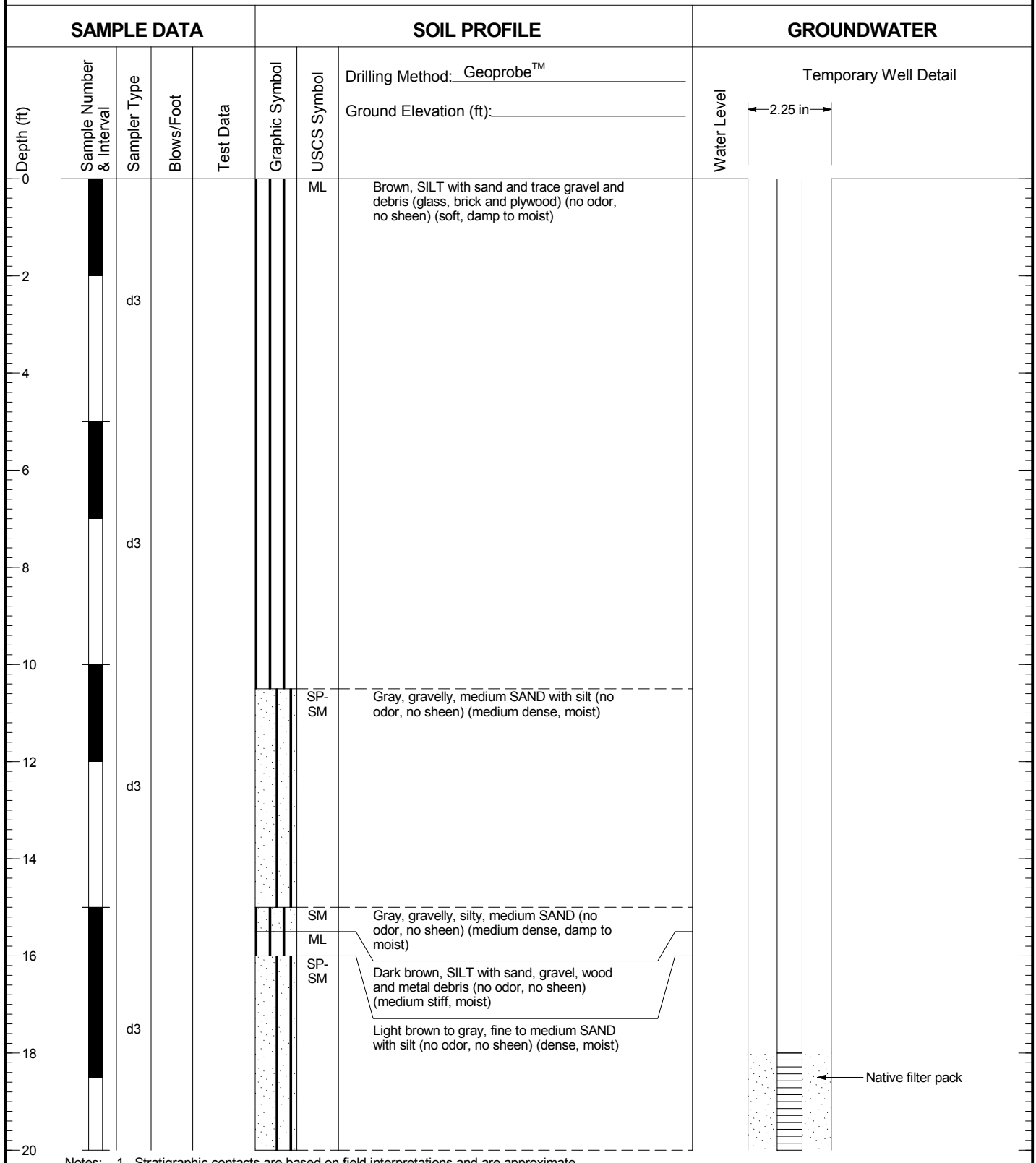
Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1759001.01 7/16/20 N:\PROJECTS\1759001.010.GPJ WELL LOG

LANDAU ASSOCIATES

Former Monroe Auto Wrecking/River's Edge Site Groundwater Monitoring Report Monroe, Washington	Log of Temporary Well P-4	Figure A-7 (2 of 2)

P-5



Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1759001.01 7/16/20 N:\PROJECTS\1759001.010.GPJ WELL LOG

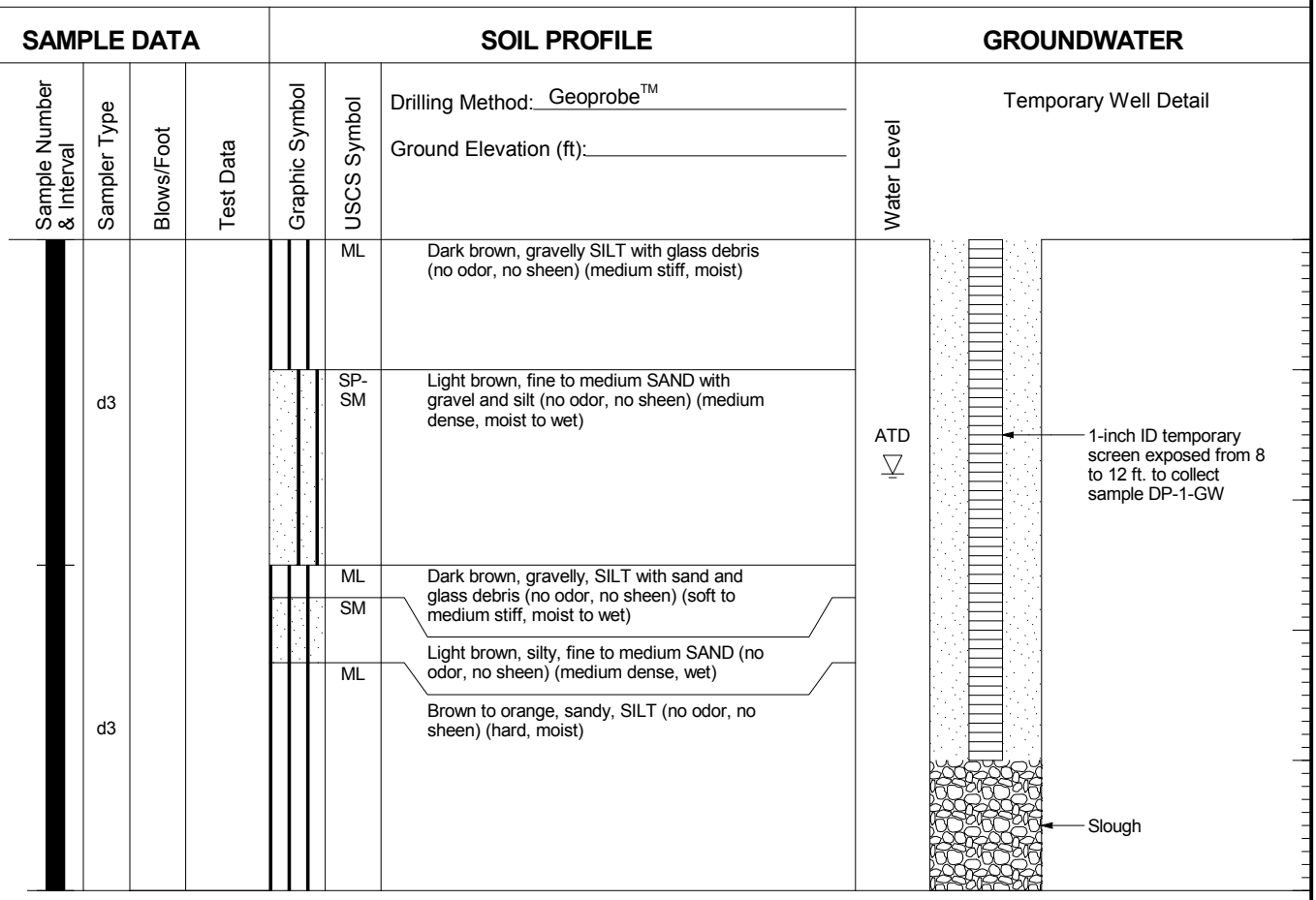
LANDAU ASSOCIATES

Former Monroe Auto Wrecking/River's Edge Site
Groundwater Monitoring Report
Monroe, Washington

Log of Temporary Well P-5

Figure
A-8
(1 of 2)

P-5



Boring Completed 06/19/18
Total Depth of Boring = 30.0 ft.

32
34
36
38
40

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

1759001.01 7/16/20 N:\PROJECTS\1759001.010.GPJ WELL LOG

LANDAU ASSOCIATES

Former Monroe Auto Wrecking/River's Edge Site Groundwater Monitoring Report Monroe, Washington	Log of Temporary Well P-5	Figure A-8 (2 of 2)

APPENDIX B

Laboratory Analytical Reports

July 8, 2019

Mr. Dylan Frazer
Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

Dear Mr. Frazer,

On June 28th, 19 samples were received by our laboratory and assigned our laboratory project number EV19060217. The project was identified as your River's Edge - 1759001.020.026. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rick Bagan
Laboratory Director

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	7/8/2019 EV19060217 EV19060217-01
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	06/28/2019
CLIENT PROJECT:	River's Edge - 1759001.020.026	COLLECTION DATE:	6/28/2019 8:06:00 AM
CLIENT SAMPLE ID	AOC3-SW2 (0-2)	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Acenaphthylene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Acenaphthene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Fluorene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Phenanthrene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Anthracene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Pyrene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Chrysene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Benzo[G,H,I]Perylene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
Terphenyl-d14	EPA-8270 SIM	**92.2**	07/02/2019	JMK

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ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	7/8/2019 EV19060217 EV19060217-02
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	06/28/2019
CLIENT PROJECT:	River's Edge - 1759001.020.026	COLLECTION DATE:	6/28/2019 8:05:00 AM
CLIENT SAMPLE ID	AOC3-SW1 (0-2)	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Acenaphthylene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Acenaphthene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Fluorene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Phenanthrene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Anthracene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Pyrene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Chrysene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	**21**	20	1	UG/KG	07/02/2019	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Benzo[G,H,I]Perylene	EPA-8270 SIM	**21**	20	1	UG/KG	07/02/2019	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
Terphenyl-d14	EPA-8270 SIM	**89.1**	07/02/2019	JMK

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ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	7/8/2019 EV19060217 EV19060217-03
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	06/28/2019
CLIENT PROJECT:	River's Edge - 1759001.020.026	COLLECTION DATE:	6/28/2019 8:20:00 AM
CLIENT SAMPLE ID	AOC3-B (2.5)	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Acenaphthylene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Acenaphthene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Fluorene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Phenanthrene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Anthracene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Pyrene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Chrysene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Benzo[G,H,I]Perylene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
Terphenyl-d14	EPA-8270 SIM	**95.5**	07/02/2019	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	7/8/2019 EV19060217 EV19060217-04
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	06/28/2019
CLIENT PROJECT:	River's Edge - 1759001.020.026	COLLECTION DATE:	6/28/2019 8:19:00 AM
CLIENT SAMPLE ID	AOC3-SW3 (0-2)	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Acenaphthylene	EPA-8270 SIM	**33**	20	1	UG/KG	07/02/2019	JMK
Acenaphthene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Fluorene	EPA-8270 SIM	U	20	1	UG/KG	07/02/2019	JMK
Phenanthrene	EPA-8270 SIM	**360**	20	1	UG/KG	07/02/2019	JMK
Anthracene	EPA-8270 SIM	**96**	20	1	UG/KG	07/02/2019	JMK
Fluoranthene	EPA-8270 SIM	**700**	20	1	UG/KG	07/02/2019	JMK
Pyrene	EPA-8270 SIM	**700**	20	1	UG/KG	07/02/2019	JMK
Benzo[A]Anthracene	EPA-8270 SIM	**340**	20	1	UG/KG	07/02/2019	JMK
Chrysene	EPA-8270 SIM	**360**	20	1	UG/KG	07/02/2019	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	**400**	20	1	UG/KG	07/02/2019	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	**150**	20	1	UG/KG	07/02/2019	JMK
Benzo[A]Pyrene	EPA-8270 SIM	**360**	20	1	UG/KG	07/02/2019	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	**240**	20	1	UG/KG	07/02/2019	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	**62**	20	1	UG/KG	07/02/2019	JMK
Benzo[G,H,I]Perylene	EPA-8270 SIM	**320**	20	1	UG/KG	07/02/2019	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
Terphenyl-d14	EPA-8270 SIM	**127**	07/02/2019	JMK

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ALS Group USA, Corp dba ALS Environmental

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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	7/8/2019 EV19060217 EV19060217-05
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	06/28/2019
CLIENT PROJECT:	River's Edge - 1759001.020.026	COLLECTION DATE:	6/28/2019 8:40:00 AM
CLIENT SAMPLE ID	AOC3-SW5 (0-0.5)	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	07/08/2019	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	07/08/2019	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	07/08/2019	JMK
Acenaphthylene	EPA-8270 SIM	U	20	1	UG/KG	07/08/2019	JMK
Acenaphthene	EPA-8270 SIM	U	20	1	UG/KG	07/08/2019	JMK
Fluorene	EPA-8270 SIM	U	20	1	UG/KG	07/08/2019	JMK
Phenanthrene	EPA-8270 SIM	**87**	20	1	UG/KG	07/08/2019	JMK
Anthracene	EPA-8270 SIM	U	20	1	UG/KG	07/08/2019	JMK
Fluoranthene	EPA-8270 SIM	**170**	20	1	UG/KG	07/08/2019	JMK
Pyrene	EPA-8270 SIM	**200**	20	1	UG/KG	07/08/2019	JMK
Benzo[A]Anthracene	EPA-8270 SIM	**74**	20	1	UG/KG	07/08/2019	JMK
Chrysene	EPA-8270 SIM	**86**	20	1	UG/KG	07/08/2019	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	**120**	20	1	UG/KG	07/08/2019	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	**40**	20	1	UG/KG	07/08/2019	JMK
Benzo[A]Pyrene	EPA-8270 SIM	**81**	20	1	UG/KG	07/08/2019	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	**59**	20	1	UG/KG	07/08/2019	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	07/08/2019	JMK
Benzo[G,H,I]Perylene	EPA-8270 SIM	**110**	20	1	UG/KG	07/08/2019	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
Terphenyl-d14	EPA-8270 SIM	**115**	07/08/2019	JMK

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ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	7/8/2019 EV19060217 EV19060217-07
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	06/28/2019
CLIENT PROJECT:	River's Edge - 1759001.020.026	COLLECTION DATE:	6/28/2019 8:49:00 AM
CLIENT SAMPLE ID	AOC3-SW6 (0-0.5)	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	07/08/2019	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	07/08/2019	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	07/08/2019	JMK
Acenaphthylene	EPA-8270 SIM	**29**	20	1	UG/KG	07/08/2019	JMK
Acenaphthene	EPA-8270 SIM	U	20	1	UG/KG	07/08/2019	JMK
Fluorene	EPA-8270 SIM	U	20	1	UG/KG	07/08/2019	JMK
Phenanthrene	EPA-8270 SIM	**280**	20	1	UG/KG	07/08/2019	JMK
Anthracene	EPA-8270 SIM	**64**	20	1	UG/KG	07/08/2019	JMK
Fluoranthene	EPA-8270 SIM	**450**	20	1	UG/KG	07/08/2019	JMK
Pyrene	EPA-8270 SIM	**490**	20	1	UG/KG	07/08/2019	JMK
Benzo[A]Anthracene	EPA-8270 SIM	**220**	20	1	UG/KG	07/08/2019	JMK
Chrysene	EPA-8270 SIM	**280**	20	1	UG/KG	07/08/2019	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	**330**	20	1	UG/KG	07/08/2019	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	**110**	20	1	UG/KG	07/08/2019	JMK
Benzo[A]Pyrene	EPA-8270 SIM	**290**	20	1	UG/KG	07/08/2019	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	**170**	20	1	UG/KG	07/08/2019	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	**47**	20	1	UG/KG	07/08/2019	JMK
Benzo[G,H,I]Perylene	EPA-8270 SIM	**240**	20	1	UG/KG	07/08/2019	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
Terphenyl-d14	EPA-8270 SIM	**103**	07/08/2019	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	7/8/2019 EV19060217 EV19060217-08
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	06/28/2019
CLIENT PROJECT:	River's Edge - 1759001.020.026	COLLECTION DATE:	6/28/2019 10:27:00 AM
CLIENT SAMPLE ID	AOC1-B (16)	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	25	1	MG/KG	07/01/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	**140**	50	1	MG/KG	07/01/2019	EBS
Arsenic	EPA-6020	**5.6**	0.20	1	MG/KG	07/02/2019	RAL
Cadmium	EPA-6020	**0.55**	0.10	1	MG/KG	07/02/2019	RAL
Chromium	EPA-6020	**41**	0.10	1	MG/KG	07/02/2019	RAL
Lead	EPA-6020	**67**	0.10	1	MG/KG	07/02/2019	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**79.2**	07/01/2019	EBS

U - Analyte analyzed for but not detected at level above reporting limit.
Chromatogram indicates that it is likely that sample contains lube oil.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE:	7/8/2019
		ALS JOB#:	EV19060217
		ALS SAMPLE#:	EV19060217-09
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	06/28/2019
CLIENT PROJECT:	River's Edge - 1759001.020.026	COLLECTION DATE:	6/28/2019 10:37:00 AM
CLIENT SAMPLE ID	AOC1-SW17 (12-13)	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	50	2	MG/KG	07/02/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	**660**	100	2	MG/KG	07/02/2019	EBS
Arsenic	EPA-6020	**17**	0.20	1	MG/KG	07/02/2019	RAL
Cadmium	EPA-6020	**4.0**	0.10	1	MG/KG	07/02/2019	RAL
Chromium	EPA-6020	**43**	0.10	1	MG/KG	07/02/2019	RAL
Lead	EPA-6020	**720**	0.10	1	MG/KG	07/02/2019	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25 2X Dilution	NWTPH-DX	**103**	07/02/2019	EBS

U - Analyte analyzed for but not detected at level above reporting limit.
Chromatogram indicates that it is likely that sample contains lube oil.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	7/8/2019 EV19060217 EV19060217-10
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	06/28/2019
CLIENT PROJECT:	River's Edge - 1759001.020.026	COLLECTION DATE:	6/28/2019 10:44:00 AM
CLIENT SAMPLE ID	AOC1-SW17 (5.5-11)	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	25	1	MG/KG	07/01/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	U	50	1	MG/KG	07/01/2019	EBS
Arsenic	EPA-6020	**1.9**	0.20	1	MG/KG	07/02/2019	RAL
Cadmium	EPA-6020	**0.14**	0.10	1	MG/KG	07/02/2019	RAL
Chromium	EPA-6020	**28**	0.10	1	MG/KG	07/02/2019	RAL
Lead	EPA-6020	**5.2**	0.10	1	MG/KG	07/02/2019	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**86.0**	07/01/2019	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	7/8/2019 EV19060217 EV19060217-11
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	06/28/2019
CLIENT PROJECT:	River's Edge - 1759001.020.026	COLLECTION DATE:	6/28/2019 12:12:00 PM
CLIENT SAMPLE ID	AOC1-SW18 (11-15)	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	25	1	MG/KG	07/01/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	**75**	50	1	MG/KG	07/01/2019	EBS
Arsenic	EPA-6020	**9.7**	0.20	1	MG/KG	07/02/2019	RAL
Cadmium	EPA-6020	**0.89**	0.10	1	MG/KG	07/02/2019	RAL
Chromium	EPA-6020	**32**	0.10	1	MG/KG	07/02/2019	RAL
Lead	EPA-6020	**260**	0.10	1	MG/KG	07/02/2019	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**97.5**	07/01/2019	EBS

U - Analyte analyzed for but not detected at level above reporting limit.
Chromatogram indicates that it is likely that sample contains lube oil.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	7/8/2019 EV19060217 EV19060217-12
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	06/28/2019
CLIENT PROJECT:	River's Edge - 1759001.020.026	COLLECTION DATE:	6/28/2019 12:20:00 PM
CLIENT SAMPLE ID	AOC1-SW18 (10-11)	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	50	2	MG/KG	07/01/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	**470**	100	2	MG/KG	07/01/2019	EBS
Arsenic	EPA-6020	**11**	0.20	1	MG/KG	07/02/2019	RAL
Cadmium	EPA-6020	**6.2**	0.10	1	MG/KG	07/02/2019	RAL
Chromium	EPA-6020	**50**	0.10	1	MG/KG	07/02/2019	RAL
Lead	EPA-6020	**2200**	1.0	10	MG/KG	07/02/2019	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25 2X Dilution	NWTPH-DX	**127**	07/01/2019	EBS

U - Analyte analyzed for but not detected at level above reporting limit.
Chromatogram indicates that it is likely that sample contains lube oil.

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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	7/8/2019 EV19060217 EV19060217-13
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	06/28/2019
CLIENT PROJECT:	River's Edge - 1759001.020.026	COLLECTION DATE:	6/28/2019 12:39:00 PM
CLIENT SAMPLE ID	AOC1-SW18 (7-10)	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	25	1	MG/KG	07/01/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	**100**	50	1	MG/KG	07/01/2019	EBS
Arsenic	EPA-6020	**6.6**	0.20	1	MG/KG	07/02/2019	RAL
Cadmium	EPA-6020	**0.71**	0.10	1	MG/KG	07/02/2019	RAL
Chromium	EPA-6020	**54**	0.10	1	MG/KG	07/02/2019	RAL
Lead	EPA-6020	**140**	0.10	1	MG/KG	07/02/2019	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**90.5**	07/01/2019	EBS

U - Analyte analyzed for but not detected at level above reporting limit.
Chromatogram indicates that it is likely that sample contains lube oil.

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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE:	7/8/2019
		ALS JOB#:	EV19060217
		ALS SAMPLE#:	EV19060217-14
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	06/28/2019
CLIENT PROJECT:	River's Edge - 1759001.020.026	COLLECTION DATE:	6/28/2019 12:25:00 PM
CLIENT SAMPLE ID	DPW-1	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	130	1	UG/L	07/01/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	U	250	1	UG/L	07/01/2019	EBS
Arsenic	EPA-200.8	**120**	1.0	1	UG/L	07/02/2019	RAL
Cadmium	EPA-200.8	U	1.0	1	UG/L	07/02/2019	RAL
Hardness	EPA-200.8	**160**	1.0	1	MG/L	07/02/2019	RAL
Lead	EPA-200.8	**6.5**	1.0	1	UG/L	07/02/2019	RAL
Zinc	EPA-200.8	**57**	2.5	1	UG/L	07/02/2019	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**82.6**	07/01/2019	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE:	7/8/2019
		ALS JOB#:	EV19060217
		ALS SAMPLE#:	EV19060217-15
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	06/28/2019
CLIENT PROJECT:	River's Edge - 1759001.020.026	COLLECTION DATE:	6/28/2019 10:25:00 AM
CLIENT SAMPLE ID	P4-MW	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	**420**	130	1	UG/L	07/01/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	**800**	250	1	UG/L	07/01/2019	EBS
Arsenic	EPA-200.8	**49**	1.0	1	UG/L	07/02/2019	RAL
Cadmium	EPA-200.8	**6.0**	1.0	1	UG/L	07/02/2019	RAL
Hardness	EPA-200.8	**130**	1.0	1	MG/L	07/02/2019	RAL
Lead	EPA-200.8	**100**	1.0	1	UG/L	07/02/2019	RAL
Zinc	EPA-200.8	**2800**	2.5	1	UG/L	07/02/2019	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**84.8**	07/01/2019	EBS

Chromatogram indicates that it is likely that sample contains an unidentified diesel range product and lube oil.
Diesel range product results biased high due to oil range product overlap.

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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	7/8/2019 EV19060217 EV19060217-16
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	06/28/2019
CLIENT PROJECT:	River's Edge - 1759001.020.026	COLLECTION DATE:	6/28/2019 1:15:00 PM
CLIENT SAMPLE ID	AOC1-SW19 (14.5-15)	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	**100**	25	1	MG/KG	07/01/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	**270**	50	1	MG/KG	07/01/2019	EBS
Arsenic	EPA-6020	**7.4**	0.20	1	MG/KG	07/02/2019	RAL
Cadmium	EPA-6020	**1.9**	0.10	1	MG/KG	07/02/2019	RAL
Chromium	EPA-6020	**35**	0.10	1	MG/KG	07/02/2019	RAL
Lead	EPA-6020	**140**	0.10	1	MG/KG	07/02/2019	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**102**	07/01/2019	EBS

Chromatogram indicates that it is likely that sample contains light oil/lube oil.

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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	7/8/2019 EV19060217 EV19060217-17
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	06/28/2019
CLIENT PROJECT:	River's Edge - 1759001.020.026	COLLECTION DATE:	6/28/2019 1:30:00 PM
CLIENT SAMPLE ID	AOC1-SW19 (10-11.5)	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	**250**	25	1	MG/KG	07/01/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	**1000**	50	1	MG/KG	07/01/2019	EBS
Arsenic	EPA-6020	**9.6**	0.20	1	MG/KG	07/02/2019	RAL
Cadmium	EPA-6020	**1.5**	0.10	1	MG/KG	07/02/2019	RAL
Chromium	EPA-6020	**48**	0.10	1	MG/KG	07/02/2019	RAL
Lead	EPA-6020	**140**	0.10	1	MG/KG	07/02/2019	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**97.1**	07/01/2019	EBS

Chromatogram indicates that it is likely that sample contains light oil/lube oil.

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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	7/8/2019 EV19060217 EV19060217-18
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	06/28/2019
CLIENT PROJECT:	River's Edge - 1759001.020.026	COLLECTION DATE:	6/28/2019 1:27:00 PM
CLIENT SAMPLE ID	AOC1-SW19 (11.5-14.5)	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	**64**	25	1	MG/KG	07/01/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	**92**	50	1	MG/KG	07/01/2019	EBS
Arsenic	EPA-6020	**8.1**	0.20	1	MG/KG	07/02/2019	RAL
Cadmium	EPA-6020	**0.50**	0.10	1	MG/KG	07/02/2019	RAL
Chromium	EPA-6020	**34**	0.10	1	MG/KG	07/02/2019	RAL
Lead	EPA-6020	**74**	0.10	1	MG/KG	07/02/2019	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**87.4**	07/01/2019	EBS

Chromatogram indicates that it is likely that sample contains highly weathered diesel and lube oil.

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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	7/8/2019 EV19060217 EV19060217-19
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	06/28/2019
CLIENT PROJECT:	River's Edge - 1759001.020.026	COLLECTION DATE:	6/28/2019 1:38:00 PM
CLIENT SAMPLE ID	AOC1-SW19 (7-10)	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	25	1	MG/KG	07/01/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	**140**	50	1	MG/KG	07/01/2019	EBS
Arsenic	EPA-6020	**5.6**	0.20	1	MG/KG	07/02/2019	RAL
Cadmium	EPA-6020	**0.62**	0.10	1	MG/KG	07/02/2019	RAL
Chromium	EPA-6020	**39**	0.10	1	MG/KG	07/02/2019	RAL
Lead	EPA-6020	**110**	0.10	1	MG/KG	07/02/2019	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**102**	07/01/2019	EBS

U - Analyte analyzed for but not detected at level above reporting limit.
Chromatogram indicates that it is likely that sample contains lube oil.

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CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

CLIENT CONTACT: Dylan Frazer

CLIENT PROJECT: River's Edge - 1759001.020.026

DATE: 7/8/2019
ALS SDG#: EV19060217
WDOE ACCREDITATION: C601

LABORATORY BLANK RESULTS

MB-063019S - Batch 142646 - Soil by NWTPH-DX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	MG/KG	25	07/01/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	U	MG/KG	50	07/01/2019	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

MB-070119W - Batch 142676 - Water by NWTPH-DX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	UG/L	130	07/01/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	U	UG/L	250	07/01/2019	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

MB-070119S - Batch 142657 - Soil by EPA-8270 SIM

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Naphthalene	EPA-8270 SIM	U	UG/KG	20	07/01/2019	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	07/01/2019	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	07/01/2019	JMK
Acenaphthylene	EPA-8270 SIM	U	UG/KG	20	07/01/2019	JMK
Acenaphthene	EPA-8270 SIM	U	UG/KG	20	07/01/2019	JMK
Fluorene	EPA-8270 SIM	U	UG/KG	20	07/01/2019	JMK
Phenanthrene	EPA-8270 SIM	U	UG/KG	20	07/01/2019	JMK
Anthracene	EPA-8270 SIM	U	UG/KG	20	07/01/2019	JMK
Fluoranthene	EPA-8270 SIM	U	UG/KG	20	07/01/2019	JMK
Pyrene	EPA-8270 SIM	U	UG/KG	20	07/01/2019	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	UG/KG	20	07/01/2019	JMK
Chrysene	EPA-8270 SIM	U	UG/KG	20	07/01/2019	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	07/01/2019	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	07/01/2019	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	UG/KG	20	07/01/2019	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	UG/KG	20	07/01/2019	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	UG/KG	20	07/01/2019	JMK
Benzo[G,H,I]Perylene	EPA-8270 SIM	U	UG/KG	20	07/01/2019	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

MB-070519S - Batch 142818 - Soil by EPA-8270 SIM

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Naphthalene	EPA-8270 SIM	U	UG/KG	20	07/08/2019	JMK

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CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

CLIENT CONTACT: Dylan Frazer
CLIENT PROJECT: River's Edge - 1759001.020.026

DATE: 7/8/2019
ALS SDG#: EV19060217
WDOE ACCREDITATION: C601

LABORATORY BLANK RESULTS

MB-070519S - Batch 142818 - Soil by EPA-8270 SIM

2-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	07/08/2019	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	07/08/2019	JMK
Acenaphthylene	EPA-8270 SIM	U	UG/KG	20	07/08/2019	JMK
Acenaphthene	EPA-8270 SIM	U	UG/KG	20	07/08/2019	JMK
Fluorene	EPA-8270 SIM	U	UG/KG	20	07/08/2019	JMK
Phenanthrene	EPA-8270 SIM	U	UG/KG	20	07/08/2019	JMK
Anthracene	EPA-8270 SIM	U	UG/KG	20	07/08/2019	JMK
Fluoranthene	EPA-8270 SIM	U	UG/KG	20	07/08/2019	JMK
Pyrene	EPA-8270 SIM	U	UG/KG	20	07/08/2019	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	UG/KG	20	07/08/2019	JMK
Chrysene	EPA-8270 SIM	U	UG/KG	20	07/08/2019	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	07/08/2019	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	07/08/2019	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	UG/KG	20	07/08/2019	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	UG/KG	20	07/08/2019	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	UG/KG	20	07/08/2019	JMK
Benzo[G,H,I]Perylene	EPA-8270 SIM	U	UG/KG	20	07/08/2019	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

MB-070119S - Batch 142689 - Soil by EPA-6020

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Arsenic	EPA-6020	U	MG/KG	0.20	07/02/2019	RAL
Cadmium	EPA-6020	U	MG/KG	0.10	07/02/2019	RAL
Chromium	EPA-6020	U	MG/KG	0.10	07/02/2019	RAL
Lead	EPA-6020	U	MG/KG	0.10	07/02/2019	RAL

U - Analyte analyzed for but not detected at level above reporting limit.

MB-070119W - Batch 142670 - Water by EPA-200.8

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Arsenic	EPA-200.8	U	UG/L	1.0	07/02/2019	RAL
Cadmium	EPA-200.8	U	UG/L	1.0	07/02/2019	RAL
Hardness	EPA-200.8	U	MG/L	1.0	07/02/2019	RAL
Lead	EPA-200.8	U	UG/L	1.0	07/02/2019	RAL
Zinc	EPA-200.8	U	UG/L	2.5	07/02/2019	RAL

U - Analyte analyzed for but not detected at level above reporting limit.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

CLIENT CONTACT: Dylan Frazer
CLIENT PROJECT: River's Edge - 1759001.020.026

DATE: 7/8/2019
ALS SDG#: EV19060217
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 142646 - Soil by NWTPH-DX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24) - BS	NWTPH-DX	**102**			75.5	122.1	07/01/2019	EBS
TPH-Diesel Range (C12-C24) - BSD	NWTPH-DX	**95.2**	**7**		75.5	122.1	07/01/2019	EBS

ALS Test Batch ID: 142676 - Water by NWTPH-DX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24) - BS	NWTPH-DX	**99.0**			67	125.2	07/01/2019	EBS
TPH-Diesel Range (C12-C24) - BSD	NWTPH-DX	**95.0**	**4**		67	125.2	07/01/2019	EBS

ALS Test Batch ID: 142657 - Soil by EPA-8270 SIM

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Naphthalene - BS	EPA-8270 SIM	**79.2**			20	150	07/01/2019	JMK
Naphthalene - BSD	EPA-8270 SIM	**79.2**	**0**		20	150	07/01/2019	JMK
2-Methylnaphthalene - BS	EPA-8270 SIM	**84.6**			20	150	07/01/2019	JMK
2-Methylnaphthalene - BSD	EPA-8270 SIM	**79.4**	**6**		20	150	07/01/2019	JMK
1-Methylnaphthalene - BS	EPA-8270 SIM	**83.3**			20	150	07/01/2019	JMK
1-Methylnaphthalene - BSD	EPA-8270 SIM	**78.4**	**6**		20	150	07/01/2019	JMK
Acenaphthylene - BS	EPA-8270 SIM	**85.8**			20	150	07/01/2019	JMK
Acenaphthylene - BSD	EPA-8270 SIM	**79.5**	**8**		20	150	07/01/2019	JMK
Acenaphthene - BS	EPA-8270 SIM	**87.4**			41	107	07/01/2019	JMK
Acenaphthene - BSD	EPA-8270 SIM	**80.3**	**8**		41	107	07/01/2019	JMK
Fluorene - BS	EPA-8270 SIM	**87.2**			20	150	07/01/2019	JMK
Fluorene - BSD	EPA-8270 SIM	**79.0**	**10**		20	150	07/01/2019	JMK
Phenanthrene - BS	EPA-8270 SIM	**90.6**			20	150	07/01/2019	JMK
Phenanthrene - BSD	EPA-8270 SIM	**80.3**	**12**		20	150	07/01/2019	JMK
Anthracene - BS	EPA-8270 SIM	**82.3**			20	150	07/01/2019	JMK
Anthracene - BSD	EPA-8270 SIM	**73.5**	**11**		20	150	07/01/2019	JMK
Fluoranthene - BS	EPA-8270 SIM	**86.3**			20	150	07/01/2019	JMK
Fluoranthene - BSD	EPA-8270 SIM	**76.6**	**12**		20	150	07/01/2019	JMK
Pyrene - BS	EPA-8270 SIM	**80.4**			18	136	07/01/2019	JMK
Pyrene - BSD	EPA-8270 SIM	**68.7**	**16**		18	136	07/01/2019	JMK
Benzo[A]Anthracene - BS	EPA-8270 SIM	**82.6**			20	150	07/01/2019	JMK
Benzo[A]Anthracene - BSD	EPA-8270 SIM	**70.5**	**16**		20	150	07/01/2019	JMK
Chrysene - BS	EPA-8270 SIM	**91.0**			20	150	07/01/2019	JMK
Chrysene - BSD	EPA-8270 SIM	**77.8**	**16**		20	150	07/01/2019	JMK
Benzo[B]Fluoranthene - BS	EPA-8270 SIM	**91.2**			20	150	07/01/2019	JMK
Benzo[B]Fluoranthene - BSD	EPA-8270 SIM	**78.2**	**15**		20	150	07/01/2019	JMK
Benzo[K]Fluoranthene - BS	EPA-8270 SIM	**92.4**			20	150	07/01/2019	JMK

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CERTIFICATE OF ANALYSIS

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130 - 2nd Ave. S.
Edmonds, WA 98020

DATE: 7/8/2019
ALS SDG#: EV19060217
WDOE ACCREDITATION: C601

CLIENT CONTACT: Dylan Frazer
CLIENT PROJECT: River's Edge - 1759001.020.026

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Benzo[K]Fluoranthene - BSD	EPA-8270 SIM	**78.6**	**16**		20	150	07/01/2019	JMK
Benzo[A]Pyrene - BS	EPA-8270 SIM	**91.6**			20	150	07/01/2019	JMK
Benzo[A]Pyrene - BSD	EPA-8270 SIM	**79.1**	**15**		20	150	07/01/2019	JMK
Indeno[1,2,3-Cd]Pyrene - BS	EPA-8270 SIM	**96.7**			20	150	07/01/2019	JMK
Indeno[1,2,3-Cd]Pyrene - BSD	EPA-8270 SIM	**86.5**	**11**		20	150	07/01/2019	JMK
Dibenz[A,H]Anthracene - BS	EPA-8270 SIM	**95.3**			20	150	07/01/2019	JMK
Dibenz[A,H]Anthracene - BSD	EPA-8270 SIM	**85.0**	**11**		20	150	07/01/2019	JMK
Benzo[G,H,I]Perylene - BS	EPA-8270 SIM	**101**			20	150	07/01/2019	JMK
Benzo[G,H,I]Perylene - BSD	EPA-8270 SIM	**90.3**	**11**		20	150	07/01/2019	JMK

ALS Test Batch ID: 142818 - Soil by EPA-8270 SIM

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Naphthalene - BS	EPA-8270 SIM	**63.8**			20	150	07/08/2019	JMK
Naphthalene - BSD	EPA-8270 SIM	**71.5**	**11**		20	150	07/08/2019	JMK
2-Methylnaphthalene - BS	EPA-8270 SIM	**66.3**			20	150	07/08/2019	JMK
2-Methylnaphthalene - BSD	EPA-8270 SIM	**76.2**	**14**		20	150	07/08/2019	JMK
1-Methylnaphthalene - BS	EPA-8270 SIM	**65.8**			20	150	07/08/2019	JMK
1-Methylnaphthalene - BSD	EPA-8270 SIM	**76.0**	**14**		20	150	07/08/2019	JMK
Acenaphthylene - BS	EPA-8270 SIM	**66.0**			20	150	07/08/2019	JMK
Acenaphthylene - BSD	EPA-8270 SIM	**77.4**	**16**		20	150	07/08/2019	JMK
Acenaphthene - BS	EPA-8270 SIM	**66.4**			41	107	07/08/2019	JMK
Acenaphthene - BSD	EPA-8270 SIM	**78.3**	**17**		41	107	07/08/2019	JMK
Fluorene - BS	EPA-8270 SIM	**63.7**			20	150	07/08/2019	JMK
Fluorene - BSD	EPA-8270 SIM	**76.4**	**18**		20	150	07/08/2019	JMK
Phenanthrene - BS	EPA-8270 SIM	**66.6**			20	150	07/08/2019	JMK
Phenanthrene - BSD	EPA-8270 SIM	**79.6**	**18**		20	150	07/08/2019	JMK
Anthracene - BS	EPA-8270 SIM	**59.5**			20	150	07/08/2019	JMK
Anthracene - BSD	EPA-8270 SIM	**71.0**	**18**		20	150	07/08/2019	JMK
Fluoranthene - BS	EPA-8270 SIM	**60.9**			20	150	07/08/2019	JMK
Fluoranthene - BSD	EPA-8270 SIM	**72.1**	**17**		20	150	07/08/2019	JMK
Pyrene - BS	EPA-8270 SIM	**64.4**			18	136	07/08/2019	JMK
Pyrene - BSD	EPA-8270 SIM	**70.6**	**9**		18	136	07/08/2019	JMK
Benzo[A]Anthracene - BS	EPA-8270 SIM	**58.0**			20	150	07/08/2019	JMK
Benzo[A]Anthracene - BSD	EPA-8270 SIM	**63.9**	**10**		20	150	07/08/2019	JMK
Chrysene - BS	EPA-8270 SIM	**66.1**			20	150	07/08/2019	JMK
Chrysene - BSD	EPA-8270 SIM	**70.6**	**7**		20	150	07/08/2019	JMK
Benzo[B]Fluoranthene - BS	EPA-8270 SIM	**64.0**			20	150	07/08/2019	JMK
Benzo[B]Fluoranthene - BSD	EPA-8270 SIM	**69.8**	**9**		20	150	07/08/2019	JMK
Benzo[K]Fluoranthene - BS	EPA-8270 SIM	**67.0**			20	150	07/08/2019	JMK

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DATE: 7/8/2019
ALS SDG#: EV19060217
WDOE ACCREDITATION: C601

CLIENT CONTACT: Dylan Frazer
CLIENT PROJECT: River's Edge - 1759001.020.026

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Benzo[K]Fluoranthene - BSD	EPA-8270 SIM	**72.6**	**8**		20	150	07/08/2019	JMK
Benzo[A]Pyrene - BS	EPA-8270 SIM	**67.3**			20	150	07/08/2019	JMK
Benzo[A]Pyrene - BSD	EPA-8270 SIM	**74.3**	**10**		20	150	07/08/2019	JMK
Indeno[1,2,3-Cd]Pyrene - BS	EPA-8270 SIM	**66.8**			20	150	07/08/2019	JMK
Indeno[1,2,3-Cd]Pyrene - BSD	EPA-8270 SIM	**73.1**	**9**		20	150	07/08/2019	JMK
Dibenz[A,H]Anthracene - BS	EPA-8270 SIM	**62.8**			20	150	07/08/2019	JMK
Dibenz[A,H]Anthracene - BSD	EPA-8270 SIM	**69.2**	**10**		20	150	07/08/2019	JMK
Benzo[G,H,I]Perylene - BS	EPA-8270 SIM	**70.4**			20	150	07/08/2019	JMK
Benzo[G,H,I]Perylene - BSD	EPA-8270 SIM	**77.1**	**9**		20	150	07/08/2019	JMK

ALS Test Batch ID: 142689 - Soil by EPA-6020

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Arsenic - BS	EPA-6020	**104**			80	120	07/02/2019	RAL
Arsenic - BSD	EPA-6020	**105**	**1**		80	120	07/02/2019	RAL
Cadmium - BS	EPA-6020	**106**			80	120	07/02/2019	RAL
Cadmium - BSD	EPA-6020	**109**	**3**		80	120	07/02/2019	RAL
Chromium - BS	EPA-6020	**106**			80	120	07/02/2019	RAL
Chromium - BSD	EPA-6020	**107**	**1**		80	120	07/02/2019	RAL
Lead - BS	EPA-6020	**103**			80	120	07/02/2019	RAL
Lead - BSD	EPA-6020	**106**	**3**		80	120	07/02/2019	RAL

ALS Test Batch ID: 142670 - Water by EPA-200.8

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Arsenic - BS	EPA-200.8	**99.9**			89.1	110	07/02/2019	RAL
Arsenic - BSD	EPA-200.8	**99.5**	**0**		89.1	110	07/02/2019	RAL
Cadmium - BS	EPA-200.8	**103**			89.4	110	07/02/2019	RAL
Cadmium - BSD	EPA-200.8	**104**	**1**		89.4	110	07/02/2019	RAL
Lead - BS	EPA-200.8	**101**			87.5	107	07/02/2019	RAL
Lead - BSD	EPA-200.8	**101**	**0**		87.5	107	07/02/2019	RAL
Zinc - BS	EPA-200.8	**104**			88.2	111	07/02/2019	RAL
Zinc - BSD	EPA-200.8	**103**	**1**		88.2	111	07/02/2019	RAL

APPROVED BY

Laboratory Director

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS ENVIRONMENTAL

Sample Receiving Checklist

Client: Landau Associates ALS Job #: EV1906021 7

Project: Rivers Edge

Received Date: 6/26/19 Received Time: 2:30 By: RB

Type of shipping container: Cooler X Box ___ Other ___

Shipped via: FedEx Ground ___ UPS ___ Mail ___ Courier ___ Hand Delivered X
FedEx Express ___

	Yes	No	N/A
Were custody seals on outside of shipping container?	___	X	___
If yes, how many? ___ Where? ___			
Custody seal date: ___ Seal name: ___			
Was Chain of Custody properly filled out (ink, signed, dated, etc.)?	X	___	___
Did all bottles have labels?	X	___	___
Did all bottle labels and tags agree with Chain of Custody?	X	___	___
Were samples received within hold time?	X	___	___
Did all bottles arrive in good condition (unbroken, etc.)?	X	___	___
Was sufficient amount of sample sent for the tests indicated?	X	___	___
Was correct preservation added to samples?	X	___	___

If no, Sample Control added preservative to the following:

Sample Number	Reagent	Analyte

Were VOA vials checked for absence of air bubbles?	___	___	X
Bubbles present in sample #: ___			

Temperature of cooler upon receipt: 11.5°C on ice Cold (Cool) Ambient N/A

Explain any discrepancies: ___

Was client contacted? ___ Who was called? ___ By whom? ___ Date: ___

Outcome of call: ___

EV1906021 7

Chain-of-Custody Record

LANDAU ASSOCIATES

☒ Seattle/Edmonds (425) 778-0907 ☐ Spokane (509) 327-9737
☐ Tacoma (253) 926-2493 ☐ Portland (503) 542-1080
☐ _____

Date 6/28/19
Page 1 of _____

Turnaround Time:
Standard _____
Accelerated 24 hrs

Project Name River's Edge Project No. 1759001.020.026
Project Location/Event 426 Fremont St. Monroe, WA
Sampler's Name BXM JKG
Project Contact D. Frazer
Send Results To D. Frazer, K. Schultz, D. Jorgensen

Special Handling Requirements: _____
Shipment Method: _____
Stored on ice: (Yes) / No

	Sample I.D.	Date	Time	Matrix	No. of Containers	Testing Parameters: 8270-SIM	NWTPH-Dx	6020 *	200.8 ◆	Hardness	1	Hold Samples	Observations/Comments
1	AOC3 - SW2 (0-2)	6/28/19	806	Soil	1	X							
2	AOC3 - SW1 (0-2)	6/28/19	805	Soil	1	X							
3	AOC3 - B (2.5)	6/28/19	820	Soil	1	X							
4	AOC3 - SW3 (0-2)	6/28/19	819	Soil	1	X							
5	AOC3 - SW5 (0-0.5)	6/28/19	840	Soil	1	⊗						*	
6	AOC3 - SW4 (0-0.5)	6/28/19	842	Soil	1	X						X	
7	AOC3 - SW6 (0-0.5)	6/28/19	849	Soil	1	⊗						*	
8	AOC1 - B (16)	6/28/19	1027	Soil	1		X	X					
9	AOC1 - SW17 (12-13)	6/28/19	1037	Soil	1		X	X					
10	AOC1 - SW17 (5.5-11)	6/28/19	1044	Soil	1		X	X					
11	AOC1 - SW18 (11-15)	6/28/19	1212	Soil	1		X	X					
12	AOC1 - SW18 (10-11)	6/28/19	1220	Soil	1		X	X					
13	AOC1 - SW18 (7-10)	6/28/19	1239	Soil	1		X	X					
14	DPW - 1	6/28/19	1225	Water	2		+		X	X			
15	P4 - MW	6/28/19	1025	Water	2		+		X	X			
16	AOC1 - SW19 (14.5-15)	6/28/19	1315	Soil	1		X	X					
17	AOC1 - SW19 (10-11.5)	6/28/19	1330	Soil	1		X	X					
18	AOC1 - SW19 (11.5-14.5)	6/28/19	1327	Soil	1		X	X					
19	AOC1 - SW19 (7-10)	6/28/19	1338	Soil	1		X	X					

___ Allow water samples to settle, collect aliquot from clear portion ☐
___ NWTPH-Dx - Acid wash cleanup ☐
- Silica gel cleanup ☐
___ Dissolved metal samples were field filtered

Other
* Metals [arsenic, chromium, cadmium, and lead]
☒ Hold samples
◆ Total arsenic, total zinc, Total cadmium, Total lead
⊗ Added 7/3/19 per Dylan on a 2 day TAT Due Monday 7-8

Relinquished by
Signature _____
Printed Name Brittany McManus
Company Landau Associates
Date 6/28/19 Time 2:32

Received by
Signature _____
Printed Name R. De Bagan
Company NLS
Date 6-28-19 Time 2:32

Relinquished by
Signature _____
Printed Name _____
Company _____
Date _____ Time _____

Received by
Signature _____
Printed Name _____
Company _____
Date _____ Time _____

WHITE COPY - Laboratory YELLOW COPY - Project File PINK COPY - Client Representative

10/2018

August 19, 2019

Mr. Dylan Frazer
Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

Dear Mr. Frazer,

On August 6th, 6 samples were received by our laboratory and assigned our laboratory project number EV19080030. The project was identified as your River's Edge - 1759001.030.014. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rick Bagan
Laboratory Director

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE:	8/19/2019
		ALS JOB#:	EV19080030
		ALS SAMPLE#:	EV19080030-01
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	08/06/2019
CLIENT PROJECT:	River's Edge - 1759001.030.014	COLLECTION DATE:	8/5/2019 11:30:00 AM
CLIENT SAMPLE ID	DP3-MW	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	130	1	UG/L	08/07/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	U	250	1	UG/L	08/07/2019	EBS
Nitrate	EPA-300.0	**4.6**	0.15	1	MG/L	08/07/2019	SMH
Sulfate	EPA-300.0	**8.0**	0.26	1	MG/L	08/07/2019	SMH
Arsenic	EPA-200.8	U	1.0	1	UG/L	08/08/2019	RAL
Cadmium	EPA-200.8	U	1.0	1	UG/L	08/08/2019	RAL
Hardness	EPA-200.8	**63**	1.0	1	MG/L	08/08/2019	RAL
Lead	EPA-200.8	U	1.0	1	UG/L	08/08/2019	RAL
Zinc	EPA-200.8	**21**	5.0	1	UG/L	08/08/2019	RAL
Arsenic (Dissolved)	EPA-200.8	U	1.0	1	UG/L	08/08/2019	RAL
Cadmium (Dissolved)	EPA-200.8	U	1.0	1	UG/L	08/08/2019	RAL
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	08/08/2019	RAL
Zinc (Dissolved)	EPA-200.8	**22**	5.0	1	UG/L	08/08/2019	RAL
Total Organic Carbon (TOC)	SM5310C	U	0.50	1	MG/L	08/14/2019	CAS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**80.0**	08/07/2019	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

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ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	8/19/2019 EV19080030 EV19080030-02
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	08/06/2019
CLIENT PROJECT:	River's Edge - 1759001.030.014	COLLECTION DATE:	8/5/2019 12:40:00 PM
CLIENT SAMPLE ID	DP4-MW	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	130	1	UG/L	08/07/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	U	250	1	UG/L	08/07/2019	EBS
Nitrate	EPA-300.0	**6.8**	0.15	1	MG/L	08/07/2019	SMH
Sulfate	EPA-300.0	**11**	0.26	1	MG/L	08/07/2019	SMH
Arsenic	EPA-200.8	**1.7**	1.0	1	UG/L	08/08/2019	RAL
Cadmium	EPA-200.8	U	1.0	1	UG/L	08/08/2019	RAL
Hardness	EPA-200.8	**60**	1.0	1	MG/L	08/08/2019	RAL
Lead	EPA-200.8	U	1.0	1	UG/L	08/08/2019	RAL
Zinc	EPA-200.8	**140**	5.0	1	UG/L	08/08/2019	RAL
Arsenic (Dissolved)	EPA-200.8	**1.5**	1.0	1	UG/L	08/08/2019	RAL
Cadmium (Dissolved)	EPA-200.8	U	1.0	1	UG/L	08/08/2019	RAL
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	08/08/2019	RAL
Zinc (Dissolved)	EPA-200.8	**120**	5.0	1	UG/L	08/08/2019	RAL
Total Organic Carbon (TOC)	SM5310C	**0.85**	0.50	1	MG/L	08/14/2019	CAS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**87.1**	08/07/2019	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	8/19/2019 EV19080030 EV19080030-03
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	08/06/2019
CLIENT PROJECT:	River's Edge - 1759001.030.014	COLLECTION DATE:	8/5/2019 2:00:00 PM
CLIENT SAMPLE ID	DP5-MW	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	130	1	UG/L	08/07/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	U	250	1	UG/L	08/07/2019	EBS
Nitrate	EPA-300.0	**9.0**	0.15	1	MG/L	08/07/2019	SMH
Sulfate	EPA-300.0	**9.2**	0.26	1	MG/L	08/07/2019	SMH
Arsenic	EPA-200.8	U	1.0	1	UG/L	08/08/2019	RAL
Cadmium	EPA-200.8	U	1.0	1	UG/L	08/08/2019	RAL
Hardness	EPA-200.8	**46**	1.0	1	MG/L	08/08/2019	RAL
Lead	EPA-200.8	U	1.0	1	UG/L	08/08/2019	RAL
Zinc	EPA-200.8	**5.7**	5.0	1	UG/L	08/08/2019	RAL
Arsenic (Dissolved)	EPA-200.8	U	1.0	1	UG/L	08/08/2019	RAL
Cadmium (Dissolved)	EPA-200.8	U	1.0	1	UG/L	08/08/2019	RAL
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	08/08/2019	RAL
Zinc (Dissolved)	EPA-200.8	**6.1**	5.0	1	UG/L	08/08/2019	RAL
Total Organic Carbon (TOC)	SM5310C	U	0.50	1	MG/L	08/14/2019	CAS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**85.4**	08/07/2019	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

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ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	8/19/2019 EV19080030 EV19080030-04
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	08/06/2019
CLIENT PROJECT:	River's Edge - 1759001.030.014	COLLECTION DATE:	8/5/2019 9:40:00 AM
CLIENT SAMPLE ID	DP6-MW	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	130	1	UG/L	08/07/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	U	250	1	UG/L	08/07/2019	EBS
Nitrate	EPA-300.0	**6.8**	0.15	1	MG/L	08/07/2019	SMH
Sulfate	EPA-300.0	**7.3**	0.26	1	MG/L	08/07/2019	SMH
Arsenic	EPA-200.8	U	1.0	1	UG/L	08/08/2019	RAL
Cadmium	EPA-200.8	U	1.0	1	UG/L	08/08/2019	RAL
Hardness	EPA-200.8	**57**	1.0	1	MG/L	08/08/2019	RAL
Lead	EPA-200.8	U	1.0	1	UG/L	08/08/2019	RAL
Zinc	EPA-200.8	**5.5**	5.0	1	UG/L	08/08/2019	RAL
Arsenic (Dissolved)	EPA-200.8	U	1.0	1	UG/L	08/08/2019	RAL
Cadmium (Dissolved)	EPA-200.8	U	1.0	1	UG/L	08/08/2019	RAL
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	08/08/2019	RAL
Zinc (Dissolved)	EPA-200.8	**6.0**	5.0	1	UG/L	08/08/2019	RAL
Total Organic Carbon (TOC)	SM5310C	U	0.50	1	MG/L	08/14/2019	CAS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**83.9**	08/07/2019	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

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ALS Group USA, Corp dba ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE:	8/19/2019
		ALS JOB#:	EV19080030
		ALS SAMPLE#:	EV19080030-05
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	08/06/2019
CLIENT PROJECT:	River's Edge - 1759001.030.014	COLLECTION DATE:	8/5/2019 9:30:00 AM
CLIENT SAMPLE ID	SWU	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	130	1	UG/L	08/07/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	U	250	1	UG/L	08/07/2019	EBS
Arsenic	EPA-200.8	**1.2**	1.0	1	UG/L	08/08/2019	RAL
Cadmium	EPA-200.8	U	1.0	1	UG/L	08/08/2019	RAL
Hardness	EPA-200.8	**48**	1.0	1	MG/L	08/08/2019	RAL
Lead	EPA-200.8	U	1.0	1	UG/L	08/08/2019	RAL
Zinc	EPA-200.8	U	5.0	1	UG/L	08/08/2019	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**91.9**	08/07/2019	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

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ALS Group USA, Corp dba ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE:	8/19/2019
		ALS JOB#:	EV19080030
		ALS SAMPLE#:	EV19080030-06
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	08/06/2019
CLIENT PROJECT:	River's Edge - 1759001.030.014	COLLECTION DATE:	8/5/2019 10:00:00 AM
CLIENT SAMPLE ID	SWD	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	130	1	UG/L	08/07/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	U	250	1	UG/L	08/07/2019	EBS
Arsenic	EPA-200.8	**1.3**	1.0	1	UG/L	08/08/2019	RAL
Cadmium	EPA-200.8	U	1.0	1	UG/L	08/08/2019	RAL
Hardness	EPA-200.8	**48**	1.0	1	MG/L	08/08/2019	RAL
Lead	EPA-200.8	U	1.0	1	UG/L	08/08/2019	RAL
Zinc	EPA-200.8	U	5.0	1	UG/L	08/08/2019	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**86.3**	08/07/2019	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE:	8/19/2019
		ALS SDG#:	EV19080030
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Dylan Frazer		
CLIENT PROJECT:	River's Edge - 1759001.030.014		

LABORATORY BLANK RESULTS

MB-080619W - Batch 143910 - Water by NWTPH-DX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	UG/L	130	08/06/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	U	UG/L	250	08/06/2019	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-R344515 - Batch R344515 - Water by EPA-300.0

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Nitrate	EPA-300.0	U	MG/L	0.15	08/07/2019	SMH
Sulfate	EPA-300.0	U	MG/L	0.26	08/07/2019	SMH

U - Analyte analyzed for but not detected at level above reporting limit.

MB-080819W - Batch 143953 - Water by EPA-200.8

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Arsenic	EPA-200.8	U	UG/L	1.0	08/08/2019	RAL
Cadmium	EPA-200.8	U	UG/L	1.0	08/08/2019	RAL
Hardness	EPA-200.8	U	MG/L	1.0	08/08/2019	RAL
Lead	EPA-200.8	U	UG/L	1.0	08/08/2019	RAL
Zinc	EPA-200.8	U	UG/L	5.0	08/08/2019	RAL

U - Analyte analyzed for but not detected at level above reporting limit.

MB-080819W - Batch 143954 - Water by EPA-200.8

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Arsenic (Dissolved)	EPA-200.8	U	UG/L	1.0	08/08/2019	RAL
Cadmium (Dissolved)	EPA-200.8	U	UG/L	1.0	08/08/2019	RAL
Lead (Dissolved)	EPA-200.8	U	UG/L	1.0	08/08/2019	RAL
Zinc (Dissolved)	EPA-200.8	U	UG/L	5.0	08/08/2019	RAL

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-R344521 - Batch R344521 - Water by SM5310C

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Total Organic Carbon (TOC)	SM5310C	U	MG/L	0.50	08/14/2019	CAS

U - Analyte analyzed for but not detected at level above reporting limit.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

CLIENT CONTACT: Dylan Frazer
CLIENT PROJECT: River's Edge - 1759001.030.014

DATE: 8/19/2019
ALS SDG#: EV19080030
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 143910 - Water by NWTPH-DX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24) - BS	NWTPH-DX	**76.6**			67	125.2	08/06/2019	EBS
TPH-Diesel Range (C12-C24) - BSD	NWTPH-DX	**70.3**	**9**		67	125.2	08/06/2019	EBS

ALS Test Batch ID: R344515 - Water by EPA-300.0

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Nitrate - BS	EPA-300.0	**99.0**			80	120	08/07/2019	SMH
Nitrate - BSD	EPA-300.0	**103**	**4**		80	120	08/07/2019	SMH
Sulfate - BS	EPA-300.0	**95.0**			80	120	08/07/2019	SMH
Sulfate - BSD	EPA-300.0	**101**	**6**		80	120	08/07/2019	SMH

ALS Test Batch ID: 143953 - Water by EPA-200.8

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Arsenic - BS	EPA-200.8	**97.1**			89.1	110	08/08/2019	RAL
Arsenic - BSD	EPA-200.8	**98.4**	**1**		89.1	110	08/08/2019	RAL
Cadmium - BS	EPA-200.8	**98.8**			89.4	110	08/08/2019	RAL
Cadmium - BSD	EPA-200.8	**102**	**3**		89.4	110	08/08/2019	RAL
Lead - BS	EPA-200.8	**97.2**			87.5	107	08/08/2019	RAL
Lead - BSD	EPA-200.8	**98.6**	**1**		87.5	107	08/08/2019	RAL
Zinc - BS	EPA-200.8	**101**			88.2	111	08/08/2019	RAL
Zinc - BSD	EPA-200.8	**103**	**2**		88.2	111	08/08/2019	RAL

ALS Test Batch ID: 143954 - Water by EPA-200.8

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Arsenic (Dissolved) - BS	EPA-200.8	**97.1**			89.1	110	08/08/2019	RAL
Arsenic (Dissolved) - BSD	EPA-200.8	**98.4**	**1**		89.1	110	08/08/2019	RAL
Cadmium (Dissolved) - BS	EPA-200.8	**98.8**			89.4	110	08/08/2019	RAL
Cadmium (Dissolved) - BSD	EPA-200.8	**102**	**3**	SR1	89.4	110	08/08/2019	RAL
Lead (Dissolved) - BS	EPA-200.8	**97.2**			87.5	107	08/08/2019	RAL
Lead (Dissolved) - BSD	EPA-200.8	**98.6**	**1**		87.5	107	08/08/2019	RAL
Zinc (Dissolved) - BS	EPA-200.8	**101**			88.2	111	08/08/2019	RAL
Zinc (Dissolved) - BSD	EPA-200.8	**103**	**2**		88.2	111	08/08/2019	RAL

SR1 - RPD outside of control limits.

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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE:	8/19/2019
		ALS SDG#:	EV19080030
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Dylan Frazer		
CLIENT PROJECT:	River's Edge - 1759001.030.014		

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: R344521 - Water by SM5310C

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Total Organic Carbon (TOC) - BS	SM5310C	**97.2**			80	120	08/14/2019	CAS

APPROVED BY

Laboratory Director

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

EV1908003O

Chain-of-Custody Record

LANDAU ASSOCIATES

☒ Seattle/Edmonds (425) 778-0907 ☐ Spokane (509) 327-9737
☐ Tacoma (253) 926-2493 ☐ Portland (503) 542-1080
☐ _____

Date 8/5/19
Page 1 of 1

Turnaround Time:
(Standard) / Accelerated

Project Name River's Edge Project No. 175900L030.014
Project Location/Event Monroe, WA
Sampler's Name BXM
Project Contact D. Frazer
Send Results To D. Frazer, K. Shultz, D. Jorgensen

Special Handling Requirements:
Shipment Method:
Stored on ice: (Yes) / No

	Sample I.D.	Date	Time	Matrix	No. of Containers	NWTPH-Dx	Total Metals *	Dissolved Metals *	Nitrate/Sulfate	TOC	Hardness
1	DP3-MW	8/5/19	1130	H_2O	5	X	X	X	X	X	X
2	DP4-MW	8/5/19	1240	H_2O	5	X	X	X	X	X	X
3	DP5-MW	8/5/19	1400	H_2O	5	X	X	X	X	X	X
4	DP6-MW	8/5/19	940	H_2O	5	X	X	X	X	X	X
5	SW U	8/5/19	~~0950~~ 930	H_2O	2	X	X				X
6	SW D	8/5/19	1000	H_2O	2	X	X				X

Observations/Comments

☐ Allow water samples to settle, collect aliquot from clear portion ☐
☒ NWTPH-Dx - Acid wash cleanup ☐
- Silica gel cleanup ☐
☒ Dissolved metal samples were field filtered

Other
* Arsenic, Zinc, Cadmium, lead

☒ Want to see prelim data for Dx before full report is done to see if we need silica gel cleanup

Relinquished by	Received by	Relinquished by	Received by
Signature BM	Signature	Signature	Signature
Printed Name Brittany McManus	Printed Name Rick Bagan	Printed Name	Printed Name
Company Landau Associates, Inc.	Company NLS	Company	Company
Date 8/5/19 Time 4:07	Date 8/6/19 Time 2:20	Date Time	Date Time

WHITE COPY - Laboratory YELLOW COPY - Project File PINK COPY - Client Representative

10/2018

ALS ENVIRONMENTAL

Sample Receiving Checklist

Client: Landau ALS Job #: EV1908031

Project: Rivers Edge

Received Date: 8/6/19 Received Time: 2:20 By: RB

Type of shipping container: Cooler X Box ____ Other ____

Shipped via: FedEx Ground ____ UPS ____ Mail ____ Courier ALS Hand Delivered ____
FedEx Express ____

	Yes	No	N/A
Were custody seals on outside of shipping container?	X		
If yes, how many? 1 Where? Top			
Custody seal date: 8.5.19 Seal name: Custody Seal			
Was Chain of Custody properly filled out (ink, signed, dated, etc.)?	X		
Did all bottles have labels?	X		
Did all bottle labels and tags agree with Chain of Custody?	X		
Were samples received within hold time?	X		
Did all bottles arrive in good condition (unbroken, etc.)?	X		
Was sufficient amount of sample sent for the tests indicated?	X		
Was correct preservation added to samples?	X		

If no, Sample Control added preservative to the following:

Sample Number	Reagent	Analyte

Were VOA vials checked for absence of air bubbles?			X
Bubbles present in sample #: ____			

Temperature of cooler upon receipt: 4.4 °C on ice (Cold) Cool Ambient N/A

Explain any discrepancies: ____

Was client contacted? ____ Who was called? ____ By whom? ____ Date: ____

Outcome of call: ____

December 3, 2019

Mr. Dylan Frazer
Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

Dear Mr. Frazer,

On November 22nd, 7 samples were received by our laboratory and assigned our laboratory project number EV19110168. The project was identified as your River's Edge - 1759001.030.014. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rick Bagan
Laboratory Director

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	12/3/2019 EV19110168 EV19110168-01
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	11/22/2019
CLIENT PROJECT:	River's Edge - 1759001.030.014	COLLECTION DATE:	11/21/2019 8:00:00 AM
CLIENT SAMPLE ID	DUP1-191121	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	**130**	130	1	UG/L	11/22/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	U	250	1	UG/L	11/22/2019	EBS
Nitrate	EPA-300.0	**9.3**	0.15	1	MG/L	11/22/2019	SMH
Sulfate	EPA-300.0	**7.9**	0.26	1	MG/L	11/22/2019	SMH
Arsenic	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Cadmium	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Hardness	EPA-200.8	**57**	1.0	1	MG/L	11/26/2019	RAL
Lead	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Zinc	EPA-200.8	U	2.5	1	UG/L	11/26/2019	RAL
Arsenic (Dissolved)	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Cadmium (Dissolved)	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Zinc (Dissolved)	EPA-200.8	U	2.5	1	UG/L	11/26/2019	RAL
Total Organic Carbon (TOC)	SM5310C	U	0.50	1	MG/L	11/26/2019	CAS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**121**	11/22/2019	EBS

U - Analyte analyzed for but not detected at level above reporting limit.
Chromatogram indicates that it is likely that sample contains an unidentified diesel range product.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	12/3/2019 EV19110168 EV19110168-02
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	11/22/2019
CLIENT PROJECT:	River's Edge - 1759001.030.014	COLLECTION DATE:	11/21/2019 9:20:00 AM
CLIENT SAMPLE ID	SWU	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	130	1	UG/L	11/22/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	U	250	1	UG/L	11/22/2019	EBS
Arsenic	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Cadmium	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Hardness	EPA-200.8	**21**	1.0	1	MG/L	11/26/2019	RAL
Lead	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Zinc	EPA-200.8	**2.7**	2.5	1	UG/L	11/26/2019	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**117**	11/22/2019	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

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ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	12/3/2019 EV19110168 EV19110168-03
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	11/22/2019
CLIENT PROJECT:	River's Edge - 1759001.030.014	COLLECTION DATE:	11/21/2019 10:10:00 AM
CLIENT SAMPLE ID	SWD	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	130	1	UG/L	11/22/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	U	250	1	UG/L	11/22/2019	EBS
Arsenic	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Cadmium	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Hardness	EPA-200.8	**21**	1.0	1	MG/L	11/26/2019	RAL
Lead	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Zinc	EPA-200.8	**8.2**	2.5	1	UG/L	11/26/2019	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**121**	11/22/2019	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	12/3/2019 EV19110168 EV19110168-04
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	11/22/2019
CLIENT PROJECT:	River's Edge - 1759001.030.014	COLLECTION DATE:	11/21/2019 11:40:00 AM
CLIENT SAMPLE ID	DP5-MW	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	130	1	UG/L	11/25/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	U	250	1	UG/L	11/25/2019	EBS
Nitrate	EPA-300.0	**12**	0.15	1	MG/L	11/22/2019	SMH
Sulfate	EPA-300.0	**8.4**	0.26	1	MG/L	11/22/2019	SMH
Arsenic	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Cadmium	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Hardness	EPA-200.8	**52**	1.0	1	MG/L	11/26/2019	RAL
Lead	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Zinc	EPA-200.8	**7.7**	2.5	1	UG/L	11/26/2019	RAL
Arsenic (Dissolved)	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Cadmium (Dissolved)	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Zinc (Dissolved)	EPA-200.8	**5.9**	2.5	1	UG/L	11/26/2019	RAL
Total Organic Carbon (TOC)	SM5310C	U	0.50	1	MG/L	11/26/2019	CAS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**82.4**	11/25/2019	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	12/3/2019 EV19110168 EV19110168-05
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	11/22/2019
CLIENT PROJECT:	River's Edge - 1759001.030.014	COLLECTION DATE:	11/21/2019 1:00:00 PM
CLIENT SAMPLE ID	DP4-MW	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	130	1	UG/L	11/25/2019	EBS
TPH-Diesel Range (C12-C24)	NWTPH-DX w/ SGA	U	130	1	UG/L	12/02/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	**1800**	250	1	UG/L	11/25/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX w/ SGA	U	250	1	UG/L	12/02/2019	EBS
Nitrate	EPA-300.0	U	0.15	1	MG/L	11/22/2019	SMH
Sulfate	EPA-300.0	**180**	0.26	1	MG/L	11/22/2019	SMH
Arsenic	EPA-200.8	**2.0**	1.0	1	UG/L	11/26/2019	RAL
Cadmium	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Hardness	EPA-200.8	**330**	1.0	1	MG/L	11/26/2019	RAL
Lead	EPA-200.8	**1.1**	1.0	1	UG/L	11/26/2019	RAL
Zinc	EPA-200.8	**130**	2.5	1	UG/L	11/26/2019	RAL
Arsenic (Dissolved)	EPA-200.8	**1.7**	1.0	1	UG/L	11/26/2019	RAL
Cadmium (Dissolved)	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Zinc (Dissolved)	EPA-200.8	**100**	2.5	1	UG/L	11/26/2019	RAL
Total Organic Carbon (TOC)	SM5310C	**11**	0.50	1	MG/L	11/26/2019	CAS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**87.9**	11/25/2019	EBS
C25	NWTPH-DX w/ SGA	**93.5**	12/02/2019	EBS

U - Analyte analyzed for but not detected at level above reporting limit.
Chromatogram indicates that it is likely that sample contains light oil.

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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	12/3/2019 EV19110168 EV19110168-06
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	11/22/2019
CLIENT PROJECT:	River's Edge - 1759001.030.014	COLLECTION DATE:	11/21/2019 2:15:00 PM
CLIENT SAMPLE ID	DP3-MW	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	130	1	UG/L	11/25/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	**290**	250	1	UG/L	11/25/2019	EBS
Nitrate	EPA-300.0	**3.6**	0.15	1	MG/L	11/22/2019	SMH
Sulfate	EPA-300.0	**7.8**	0.26	1	MG/L	11/22/2019	SMH
Arsenic	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Cadmium	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Hardness	EPA-200.8	**63**	1.0	1	MG/L	11/26/2019	RAL
Lead	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Zinc	EPA-200.8	**72**	2.5	1	UG/L	11/26/2019	RAL
Arsenic (Dissolved)	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Cadmium (Dissolved)	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Zinc (Dissolved)	EPA-200.8	**72**	2.5	1	UG/L	11/26/2019	RAL
Total Organic Carbon (TOC)	SM5310C	U	0.50	1	MG/L	11/26/2019	CAS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**89.3**	11/25/2019	EBS

U - Analyte analyzed for but not detected at level above reporting limit.
Chromatogram indicates that it is likely that sample contains an unidentified oil range product.

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ALS Group USA, Corp dba ALS Environmental

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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	12/3/2019 EV19110168 EV19110168-07
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	11/22/2019
CLIENT PROJECT:	River's Edge - 1759001.030.014	COLLECTION DATE:	11/21/2019 4:00:00 PM
CLIENT SAMPLE ID	DP6-MW	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	**190**	130	1	UG/L	11/22/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	**260**	250	1	UG/L	11/22/2019	EBS
Nitrate	EPA-300.0	**9.1**	0.15	1	MG/L	11/22/2019	SMH
Sulfate	EPA-300.0	**7.1**	0.26	1	MG/L	11/22/2019	SMH
Arsenic	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Cadmium	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Hardness	EPA-200.8	**54**	1.0	1	MG/L	11/26/2019	RAL
Lead	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Zinc	EPA-200.8	**7.0**	2.5	1	UG/L	11/26/2019	RAL
Arsenic (Dissolved)	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Cadmium (Dissolved)	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	11/26/2019	RAL
Zinc (Dissolved)	EPA-200.8	U	2.5	1	UG/L	11/26/2019	RAL
Total Organic Carbon (TOC)	SM5310C	U	0.50	1	MG/L	11/26/2019	CAS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**120**	11/22/2019	EBS

U - Analyte analyzed for but not detected at level above reporting limit.
Chromatogram indicates that it is likely that sample contains an unidentified diesel range product and an unidentified oil range product.

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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS SDG#: WDOE ACCREDITATION:	12/3/2019 EV19110168 C601
CLIENT CONTACT:	Dylan Frazer		
CLIENT PROJECT:	River's Edge - 1759001.030.014		

LABORATORY BLANK RESULTS

MB-112219W - Batch 147997 - Water by NWTPH-DX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	UG/L	130	11/22/2019	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	U	UG/L	250	11/22/2019	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-R351569 - Batch R351569 - Water by EPA-300.0

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Nitrate	EPA-300.0	U	MG/L	0.15	11/22/2019	SMH
Sulfate	EPA-300.0	U	MG/L	0.26	11/22/2019	SMH

U - Analyte analyzed for but not detected at level above reporting limit.

MB-112519W - Batch 147999 - Water by EPA-200.8

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Arsenic	EPA-200.8	U	UG/L	1.0	11/26/2019	RAL
Cadmium	EPA-200.8	U	UG/L	1.0	11/26/2019	RAL
Hardness	EPA-200.8	U	MG/L	1.0	11/26/2019	RAL
Lead	EPA-200.8	U	UG/L	1.0	11/26/2019	RAL
Zinc	EPA-200.8	U	UG/L	2.5	11/26/2019	RAL

U - Analyte analyzed for but not detected at level above reporting limit.

MB-112519W - Batch 148000 - Water by EPA-200.8

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Arsenic (Dissolved)	EPA-200.8	U	UG/L	1.0	11/26/2019	RAL
Cadmium (Dissolved)	EPA-200.8	U	UG/L	1.0	11/26/2019	RAL
Lead (Dissolved)	EPA-200.8	U	UG/L	1.0	11/26/2019	RAL
Zinc (Dissolved)	EPA-200.8	U	UG/L	2.5	11/26/2019	RAL

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-351697 - Batch R351697 - Water by SM5310C

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Total Organic Carbon (TOC)	SM5310C	U	MG/L	0.50	11/26/2019	CAS

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020
CLIENT CONTACT: Dylan Frazer
CLIENT PROJECT: River's Edge - 1759001.030.014

DATE: 12/3/2019
ALS SDG#: EV19110168
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 147997 - Water by NWTPH-DX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24) - BS	NWTPH-DX	**86.0**			67	125.2	11/22/2019	EBS
TPH-Diesel Range (C12-C24) - BSD	NWTPH-DX	**88.8**	**3**		67	125.2	11/22/2019	EBS

ALS Test Batch ID: R351569 - Water by EPA-300.0

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Nitrate - BS	EPA-300.0	**105**			80	120	11/22/2019	SMH
Nitrate - BSD	EPA-300.0	**104**	**0**		80	120	11/22/2019	SMH
Sulfate - BS	EPA-300.0	**100**			80	120	11/22/2019	SMH
Sulfate - BSD	EPA-300.0	**104**	**3**		80	120	11/22/2019	SMH

ALS Test Batch ID: 147999 - Water by EPA-200.8

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Arsenic - BS	EPA-200.8	**97.2**			89.1	110	11/26/2019	RAL
Arsenic - BSD	EPA-200.8	**98.0**	**1**		89.1	110	11/26/2019	RAL
Cadmium - BS	EPA-200.8	**100**			89.4	110	11/26/2019	RAL
Cadmium - BSD	EPA-200.8	**99.9**	**1**		89.4	110	11/26/2019	RAL
Lead - BS	EPA-200.8	**97.8**			87.5	107	11/26/2019	RAL
Lead - BSD	EPA-200.8	**96.9**	**1**		87.5	107	11/26/2019	RAL
Zinc - BS	EPA-200.8	**96.6**			88.2	111	11/26/2019	RAL
Zinc - BSD	EPA-200.8	**97.1**	**1**		88.2	111	11/26/2019	RAL

ALS Test Batch ID: 148000 - Water by EPA-200.8

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Arsenic (Dissolved) - BS	EPA-200.8	**97.2**			89.1	110	11/26/2019	RAL
Arsenic (Dissolved) - BSD	EPA-200.8	**98.0**	**1**		89.1	110	11/26/2019	RAL
Cadmium (Dissolved) - BS	EPA-200.8	**100**			89.4	110	11/26/2019	RAL
Cadmium (Dissolved) - BSD	EPA-200.8	**99.9**	**1**		89.4	110	11/26/2019	RAL
Lead (Dissolved) - BS	EPA-200.8	**97.8**			87.5	107	11/26/2019	RAL
Lead (Dissolved) - BSD	EPA-200.8	**96.9**	**1**		87.5	107	11/26/2019	RAL
Zinc (Dissolved) - BS	EPA-200.8	**96.6**			88.2	111	11/26/2019	RAL
Zinc (Dissolved) - BSD	EPA-200.8	**97.1**	**1**		88.2	111	11/26/2019	RAL

ALS Test Batch ID: R351697 - Water by SM5310C

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Total Organic Carbon (TOC) - BS	SM5310C	**100**			83	117	11/26/2019	CAS

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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS SDG#: WDOE ACCREDITATION:	12/3/2019 EV19110168 C601
CLIENT CONTACT:	Dylan Frazer		
CLIENT PROJECT:	River's Edge - 1759001.030.014		

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY

APPROVED BY

Laboratory Director

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS ENVIRONMENTAL

Sample Receiving Checklist

Client: Landau Associates ALS Job #: EV1911016 8

Project: River's Edge - 175900.030-014

Received Date: 11/22/19 Received Time: 11:45 By: RB

Type of shipping container: Cooler X Box ___ Other ___

Shipped via: FedEx Ground ___ UPS ___ Mail ___ Courier X ALS Hand Delivered ___
FedEx Express ___

	Yes	No	N/A
Were custody seals on outside of shipping container?	X		
If yes, how many? 1 Where? Top			
Custody seal date: 11-21-19 Seal name: Custody Seal			
Was Chain of Custody properly filled out (ink, signed, dated, etc.)?	X		
Did all bottles have labels?	X		
Did all bottle labels and tags agree with Chain of Custody?	X		
Were samples received within hold time?	X		
Did all bottles arrive in good condition (unbroken, etc.)?	X		
Was sufficient amount of sample sent for the tests indicated?	X		
Was correct preservation added to samples?	X		

If no, Sample Control added preservative to the following:

Sample Number	Reagent	Analyte

Were VOA vials checked for absence of air bubbles?			X
Bubbles present in sample #: ___			

Temperature of cooler upon receipt: 4.7°C on Ice (Cold) Cool Ambient N/A

Explain any discrepancies: ___

Was client contacted? ___ Who was called? ___ By whom? ___ Date: ___

Outcome of call: ___

EV19110168

Chain-of-Custody Record

LANDAU ASSOCIATES

- [x] Seattle/Edmonds (425) 778-0907
- [ ] Tacoma (253) 926-2493
- [ ] Spokane (509) 327-9737
- [ ] Portland (503) 542-1080

Date 11/21/19

Page 1 of 1

Turnaround Time: (Standard) / Accelerated

Project Name River's Edge Project No. 175900.030.014

Project Location/Event Monroe, WA

Sampler's Name BXM

Project Contact D. Frazer

Send Results To D. Frazer, K Shultz, D. Jorgensen

Special Handling Requirements:

Shipment Method: Pick-up

Stored on ice: (Yes) / No

	Sample I.D.	Date	Time	Matrix	No. of Containers	NWTPH-Dx ■	Total Metals *	Hardness	Dissolved Metals *	N. Nitrate/Sulfate	TOC
1	DUP2-191120	11/21/19	800	AQ	5	X	X	X	X	X	X
2	SWU	11/21/19	920	AQ	2	X	X	X			
3	SWD	11/21/19	1010	AQ	2	X	X	X			
4	DP5-MW	11/21/19	1140	AQ	5	X	X	X	X	X	X
5	DP4-MW	11/21/19	1300	AQ	5	X	X	X	X	X	X
6	DP3-MW	11/21/19	1415	AQ	5	X	X	X	X	X	X
7	DP6-MW	11/21/19	1600	AQ	5	X	X	X	X	X	X

Observations/Comments

- [ ] Allow water samples to settle, collect aliquot from clear portion ☐
- [x] NWTPH-Dx - Acid wash cleanup ☐ - Silica gel cleanup ☐
- [x] Dissolved metal samples were field filtered

Other

■ Want to see prelim data for Dx before full report is ~~due~~ done to see if we need silica gel cleanup

* Arsenic, Zinc, Cadmium, Lead

Relinquished by
Signature
Printed Name Brittany McManus
Company Landau Associates
Date 11/21/19 Time 1830

Received by
Signature
Printed Name Rick Bagn
Company ALS
Date 11-22-19 Time 11:45 AM

Relinquished by
Signature
Printed Name
Company
Date Time

Received by
Signature
Printed Name
Company
Date Time

WHITE COPY - Laboratory YELLOW COPY - Project File PINK COPY - Client Representative

10/2018

March 10, 2020

Mr. Dylan Frazer
Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

Dear Mr. Frazer,

On February 25th, 6 samples were received by our laboratory and assigned our laboratory project number EV20020138. The project was identified as your River's Edge - 1759001.030.014. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rick Bagan
Laboratory Director

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	3/10/2020 EV20020138 EV20020138-01
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	02/25/2020
CLIENT PROJECT:	River's Edge - 1759001.030.014	COLLECTION DATE:	2/24/2020 10:05:00 AM
CLIENT SAMPLE ID	DUP1-200224	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	**670**	130	1	UG/L	02/26/2020	EBS
TPH-Diesel Range (C12-C24)	NWTPH-DX w/ SGA	**280**	130	1	UG/L	02/28/2020	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	**2100**	250	1	UG/L	02/26/2020	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX w/ SGA	**1400**	250	1	UG/L	02/28/2020	EBS
Nitrate	EPA-300.0	**3.0**	0.15	1	MG/L	02/25/2020	JNF
Sulfate	EPA-300.0	**59**	0.26	1	MG/L	02/25/2020	JNF
Arsenic	EPA-200.8	**21**	1.0	1	UG/L	02/26/2020	RAL
Cadmium	EPA-200.8	**5.2**	1.0	1	UG/L	02/26/2020	RAL
Hardness	EPA-200.8	**210**	1.0	1	MG/L	02/26/2020	RAL
Lead	EPA-200.8	**57**	1.0	1	UG/L	02/26/2020	RAL
Zinc	EPA-200.8	**2600**	2.5	1	UG/L	02/26/2020	RAL
Arsenic (Dissolved)	EPA-200.8	U	1.0	1	UG/L	02/26/2020	RAL
Cadmium (Dissolved)	EPA-200.8	U	1.0	1	UG/L	02/26/2020	RAL
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	02/26/2020	RAL
Zinc (Dissolved)	EPA-200.8	**1100**	2.5	1	UG/L	02/26/2020	RAL
Total Organic Carbon (TOC)	SM5310C	**12**	0.50	1	MG/L	02/28/2020	CAS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**107**	02/26/2020	EBS
C25	NWTPH-DX w/ SGA	**126**	02/28/2020	EBS

U - Analyte analyzed for but not detected at level above reporting limit.
Chromatogram indicates that it is likely that sample contains light oil/lube oil.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	3/10/2020 EV20020138 EV20020138-02
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	02/25/2020
CLIENT PROJECT:	River's Edge - 1759001.030.014	COLLECTION DATE:	2/24/2020 8:35:00 AM
CLIENT SAMPLE ID	SWU	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	130	1	UG/L	02/26/2020	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	U	250	1	UG/L	02/26/2020	EBS
Arsenic	EPA-200.8	U	1.0	1	UG/L	02/26/2020	RAL
Cadmium	EPA-200.8	U	1.0	1	UG/L	02/26/2020	RAL
Hardness	EPA-200.8	**19**	1.0	1	MG/L	02/26/2020	RAL
Lead	EPA-200.8	U	1.0	1	UG/L	02/26/2020	RAL
Zinc	EPA-200.8	U	2.5	1	UG/L	02/26/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**92.7**	02/26/2020	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	3/10/2020 EV20020138 EV20020138-03
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	02/25/2020
CLIENT PROJECT:	River's Edge - 1759001.030.014	COLLECTION DATE:	2/24/2020 9:05:00 AM
CLIENT SAMPLE ID	SWD	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	130	1	UG/L	02/26/2020	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	U	250	1	UG/L	02/26/2020	EBS
Arsenic	EPA-200.8	U	1.0	1	UG/L	02/26/2020	RAL
Cadmium	EPA-200.8	U	1.0	1	UG/L	02/26/2020	RAL
Hardness	EPA-200.8	**19**	1.0	1	MG/L	02/26/2020	RAL
Lead	EPA-200.8	U	1.0	1	UG/L	02/26/2020	RAL
Zinc	EPA-200.8	U	2.5	1	UG/L	02/26/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**109**	02/26/2020	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	3/10/2020 EV20020138 EV20020138-04
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	02/25/2020
CLIENT PROJECT:	River's Edge - 1759001.030.014	COLLECTION DATE:	2/24/2020 12:15:00 PM
CLIENT SAMPLE ID	DP5-MW	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	130	1	UG/L	02/26/2020	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	U	250	1	UG/L	02/26/2020	EBS
Nitrate	EPA-300.0	**3.5**	0.15	1	MG/L	02/25/2020	JNF
Sulfate	EPA-300.0	**13**	0.26	1	MG/L	02/25/2020	JNF
Arsenic	EPA-200.8	U	1.0	1	UG/L	02/26/2020	RAL
Cadmium	EPA-200.8	U	1.0	1	UG/L	02/26/2020	RAL
Hardness	EPA-200.8	**31**	1.0	1	MG/L	02/26/2020	RAL
Lead	EPA-200.8	U	1.0	1	UG/L	02/26/2020	RAL
Zinc	EPA-200.8	**8.2**	2.5	1	UG/L	02/26/2020	RAL
Arsenic (Dissolved)	EPA-200.8	U	1.0	1	UG/L	02/26/2020	RAL
Cadmium (Dissolved)	EPA-200.8	U	1.0	1	UG/L	02/26/2020	RAL
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	02/26/2020	RAL
Zinc (Dissolved)	EPA-200.8	**4.7**	2.5	1	UG/L	02/26/2020	RAL
Total Organic Carbon (TOC)	SM5310C	**0.71**	0.50	1	MG/L	02/28/2020	CAS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**108**	02/26/2020	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	3/10/2020 EV20020138 EV20020138-05
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	02/25/2020
CLIENT PROJECT:	River's Edge - 1759001.030.014	COLLECTION DATE:	2/24/2020 1:50:00 PM
CLIENT SAMPLE ID	DP4-MW	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	**470**	130	1	UG/L	02/26/2020	EBS
TPH-Diesel Range (C12-C24)	NWTPH-DX w/ SGA	U	130	1	UG/L	02/29/2020	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	**940**	250	1	UG/L	02/26/2020	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX w/ SGA	**440**	250	1	UG/L	02/29/2020	EBS
Nitrate	EPA-300.0	**2.8**	0.15	1	MG/L	02/26/2020	JNF
Sulfate	EPA-300.0	**60**	0.26	1	MG/L	02/26/2020	JNF
Arsenic	EPA-200.8	**9.7**	1.0	1	UG/L	02/26/2020	RAL
Cadmium	EPA-200.8	**2.7**	1.0	1	UG/L	02/26/2020	RAL
Hardness	EPA-200.8	**200**	1.0	1	MG/L	02/26/2020	RAL
Lead	EPA-200.8	**43**	1.0	1	UG/L	02/26/2020	RAL
Zinc	EPA-200.8	**1900**	2.5	1	UG/L	02/26/2020	RAL
Arsenic (Dissolved)	EPA-200.8	U	1.0	1	UG/L	02/26/2020	RAL
Cadmium (Dissolved)	EPA-200.8	U	1.0	1	UG/L	02/26/2020	RAL
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	02/26/2020	RAL
Zinc (Dissolved)	EPA-200.8	**1100**	2.5	1	UG/L	02/26/2020	RAL
Total Organic Carbon (TOC)	SM5310C	**14**	0.50	1	MG/L	02/28/2020	CAS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**112**	02/26/2020	EBS
C25	NWTPH-DX w/ SGA	**121**	02/29/2020	EBS

U - Analyte analyzed for but not detected at level above reporting limit.
Chromatogram indicates that it is likely that sample contains light oil/lube oil.

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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	3/10/2020 EV20020138 EV20020138-06
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	02/25/2020
CLIENT PROJECT:	River's Edge - 1759001.030.014	COLLECTION DATE:	2/24/2020 4:15:00 PM
CLIENT SAMPLE ID	DP3-MW	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	**260**	130	1	UG/L	02/26/2020	EBS
TPH-Diesel Range (C12-C24)	NWTPH-DX w/ SGA	**180**	130	1	UG/L	02/29/2020	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	**1500**	250	1	UG/L	02/26/2020	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX w/ SGA	**1200**	250	1	UG/L	02/29/2020	EBS
Nitrate	EPA-300.0	**18**	0.15	1	MG/L	02/25/2020	JNF
Sulfate	EPA-300.0	**9.6**	0.26	1	MG/L	02/25/2020	JNF
Arsenic	EPA-200.8	**2.5**	1.0	1	UG/L	02/26/2020	RAL
Cadmium	EPA-200.8	U	1.0	1	UG/L	02/26/2020	RAL
Hardness	EPA-200.8	**73**	1.0	1	MG/L	02/26/2020	RAL
Lead	EPA-200.8	**4.4**	1.0	1	UG/L	02/26/2020	RAL
Zinc	EPA-200.8	**32**	2.5	1	UG/L	02/26/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**108**	02/26/2020	EBS
C25	NWTPH-DX w/ SGA	**129 SUR12**	02/29/2020	EBS

U - Analyte analyzed for but not detected at level above reporting limit.
SUR12 -Surrogate recoveries were outside of the control limits due to matrix interference.
Chromatogram indicates that it is likely that sample contains an unidentified diesel range product and lube oil.

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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE:	3/10/2020
		ALS SDG#:	EV20020138
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Dylan Frazer		
CLIENT PROJECT:	River's Edge - 1759001.030.014		

LABORATORY BLANK RESULTS

MB-022620W - Batch 151119 - Water by NWTPH-DX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	UG/L	130	02/26/2020	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	U	UG/L	250	02/26/2020	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-357426 - Batch R357426 - Water by EPA-300.0

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Nitrate	EPA-300.0	U	MG/L	0.15	02/25/2020	JNF
Sulfate	EPA-300.0	U	MG/L	0.26	02/25/2020	JNF

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-357427 - Batch R357427 - Water by EPA-300.0

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Sulfate	EPA-300.0	U	MG/L	0.26	02/26/2020	JNF

U - Analyte analyzed for but not detected at level above reporting limit.

MB-022520W - Batch 151070 - Water by EPA-200.8

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Arsenic	EPA-200.8	U	UG/L	1.0	02/26/2020	RAL
Cadmium	EPA-200.8	U	UG/L	1.0	02/26/2020	RAL
Hardness	EPA-200.8	U	MG/L	1.0	02/26/2020	RAL
Lead	EPA-200.8	U	UG/L	1.0	02/26/2020	RAL
Zinc	EPA-200.8	U	UG/L	2.5	02/26/2020	RAL

U - Analyte analyzed for but not detected at level above reporting limit.

MB-022520W - Batch 151071 - Water by EPA-200.8

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Arsenic (Dissolved)	EPA-200.8	U	UG/L	1.0	02/26/2020	RAL
Cadmium (Dissolved)	EPA-200.8	U	UG/L	1.0	02/26/2020	RAL
Lead (Dissolved)	EPA-200.8	U	UG/L	1.0	02/26/2020	RAL
Zinc (Dissolved)	EPA-200.8	U	UG/L	2.5	02/26/2020	RAL

U - Analyte analyzed for but not detected at level above reporting limit.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE:	3/10/2020
		ALS SDG#:	EV20020138
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Dylan Frazer		
CLIENT PROJECT:	River's Edge - 1759001.030.014		

LABORATORY BLANK RESULTS

MBLK-357425 - Batch R357425 - Water by SM5310C

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Total Organic Carbon (TOC)	SM5310C	U	MG/L	0.50	02/28/2020	CAS

U - Analyte analyzed for but not detected at level above reporting limit.

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ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020
CLIENT CONTACT: Dylan Frazer
CLIENT PROJECT: River's Edge - 1759001.030.014

DATE: 3/10/2020
ALS SDG#: EV20020138
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 151119 - Water by NWTPH-DX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24) - BS	NWTPH-DX	**88.5**			67	125.2	02/26/2020	EBS
TPH-Diesel Range (C12-C24) - BSD	NWTPH-DX	**88.1**	**0**		67	125.2	02/26/2020	EBS

ALS Test Batch ID: R357426 - Water by EPA-300.0

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Nitrate - BS	EPA-300.0	**105**			80	120	02/25/2020	JNF
Nitrate - BSD	EPA-300.0	**104**	**1**		80	120	02/25/2020	JNF
Sulfate - BS	EPA-300.0	**101**			80	120	02/25/2020	JNF
Sulfate - BSD	EPA-300.0	**99.5**	**1**		80	120	02/25/2020	JNF

ALS Test Batch ID: R357427 - Water by EPA-300.0

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Sulfate - BS	EPA-300.0	**96.0**			80	120	02/26/2020	JNF
Sulfate - BSD	EPA-300.0	**98.5**	**3**		80	120	02/26/2020	JNF

ALS Test Batch ID: 151070 - Water by EPA-200.8

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Arsenic - BS	EPA-200.8	**96.9**			89.1	110	02/26/2020	RAL
Arsenic - BSD	EPA-200.8	**98.5**	**2**		89.1	110	02/26/2020	RAL
Cadmium - BS	EPA-200.8	**104**			89.4	110	02/26/2020	RAL
Cadmium - BSD	EPA-200.8	**105**	**1**		89.4	110	02/26/2020	RAL
Lead - BS	EPA-200.8	**97.6**			87.5	107	02/26/2020	RAL
Lead - BSD	EPA-200.8	**99.7**	**2**		87.5	107	02/26/2020	RAL
Zinc - BS	EPA-200.8	**97.6**			88.2	111	02/26/2020	RAL
Zinc - BSD	EPA-200.8	**99.2**	**2**		88.2	111	02/26/2020	RAL

ALS Test Batch ID: 151071 - Water by EPA-200.8

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Arsenic (Dissolved) - BS	EPA-200.8	**96.9**			89.1	110	02/26/2020	RAL
Arsenic (Dissolved) - BSD	EPA-200.8	**98.5**	**2**		89.1	110	02/26/2020	RAL
Cadmium (Dissolved) - BS	EPA-200.8	**104**			89.4	110	02/26/2020	RAL
Cadmium (Dissolved) - BSD	EPA-200.8	**105**	**1**		89.4	110	02/26/2020	RAL
Lead (Dissolved) - BS	EPA-200.8	**97.6**			87.5	107	02/26/2020	RAL
Lead (Dissolved) - BSD	EPA-200.8	**99.7**	**2**		87.5	107	02/26/2020	RAL
Zinc (Dissolved) - BS	EPA-200.8	**97.6**			88.2	111	02/26/2020	RAL

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ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE:	3/10/2020
		ALS SDG#:	EV20020138
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Dylan Frazer		
CLIENT PROJECT:	River's Edge - 1759001.030.014		

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Zinc (Dissolved) - BSD	EPA-200.8	**99.2**	**2**		88.2	111	02/26/2020	RAL

ALS Test Batch ID: R357425 - Water by SM5310C

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Total Organic Carbon (TOC) - BS	SM5310C	**110**			83	117	02/28/2020	CAS

APPROVED BY

Laboratory Director

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
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ALS ENVIRONMENTAL

Sample Receiving Checklist

Client: Landau Associates ALS Job #: EV20020138

Project: River's Edge

Received Date: 2/25/20 Received Time: 12:00 pm By: [illegible]

Type of shipping container: Cooler X Box ___ Other ___

Shipped via: FedEx Ground ___ UPS ___ Mail ___ Courier X Hand Delivered ___
FedEx Express ___ ALS

	Yes	No	N/A
Were custody seals on outside of shipping container?	X		
If yes, how many? 1 Where? Top of cooler			
Custody seal date: 2/24/20 Seal name: SEAL			
Was Chain of Custody properly filled out (ink, signed, dated, etc.)?	X		
Did all bottles have labels?	X		
Did all bottle labels and tags agree with Chain of Custody?	X		
Were samples received within hold time?	X		
Did all bottles arrive in good condition (unbroken, etc.)?	X		
Was sufficient amount of sample sent for the tests indicated?	X		
Was correct preservation added to samples?	X		

If no, Sample Control added preservative to the following:

Sample Number	Reagent	Analyte

Were VOA vials checked for absence of air bubbles?			X
Bubbles present in sample #: ___			

Temperature of cooler upon receipt: 1.0 °C on ice (Cold) Cool Ambient N/A

Explain any discrepancies: ___

Was client contacted? ___ Who was called? ___ By whom? ___ Date: ___

Outcome of call: ___

EV20020138

LANDAU ASSOCIATES

Chain-of-Custody Record

✓ Seattle/Edmonds (425) 778-0907 | Tacoma (253) 926-2493 | Spokane (509) 327-9737 | Portland (503) 542-1080

Date 2/24/20 Page 1 of 1

Turnaround Time: (Standard) Accelerated

Project Name River's Edge Project No. 1759001.030.014

Project Location/Event Monroe, WA

Sampler's Name B McManus

Project Contact D Frazer

Send Results To D Frazer, K. Shultz, D. Jorgensen

Testing Parameters: NWTPH-Dx ▪ | Total Metals [200.8] * | Hardness | Dissolved Metals [200.8] * | Nitrate/Sulfide [300.0] | TOC [415.1/9060] | Dx cleanup

	Sample I.D.	Date	Time	Matrix	No. of Containers	NWTPH-Dx	Total Metals	Hardness	Dissolved Metals	Nitrate/Sulfide	TOC	Dx cleanup
1	**DUP1 - 200224	2/24/20	1005	AQ	5	X	X	X	X	X	X	⊗
2	SWU	2/24/20	835	AQ	2	X	X	X				
3	SWD	2/24/20	905	AQ	2	X	X	X				
4	DP5 - MW	2/24/20	1215	AQ	5	X	X	X	X	X	X	
5	** DP4 - MW	2/24/20	1350	AQ	5	X	X	X	X	X	X	⊗
6	** DP3 - MW	2/24/20	1615	AQ	5	X	X	X	[scribbled out]	X	[scribbled out]	⊗
	~~DP6 - MW~~	~~2/24/20~~		~~AQ~~	~~5~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	Did NOT collect

Special Handling Requirements:

Shipment Method:

Stored on ice: Yes / No

Observations/Comments

Allow water samples to settle, collect aliquot from clear portion ☐

▪ NWTPH-Dx - Acid wash cleanup ☐

- Silica gel cleanup ☐

X Dissolved metal samples were field filtered

Other

▪ Want to see prelim data for Dx before full report is done to see if we need silica gel cleanup

* Arsenic, Zinc, Cadmium, Lead

⊗ Silica Gel Cleanup added 2/28/20 for Brittany

**Please run silica gel cleanup on DUP1-200224, DP3-MW, and DP4-MW - BXM 2/28/20

Relinquished by	Received by	Relinquished by	Received by
Signature [signature]	Signature Shawn Robinson	Signature	Signature
Printed Name Brittany McManus	Printed Name Shawn Robinson	Printed Name	Printed Name
Company Landau Associates	Company ALS	Company	Company
Date 2/24/20 Time 650	Date 2/25/20 Time 12:00p.	Date Time	Date Time

WHITE COPY - Laboratory YELLOW COPY - Project File PINK COPY - Client Representative

10/2018

June 12, 2020

Mr. Dylan Frazer
Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020

Dear Mr. Frazer,

On June 2nd, 7 samples were received by our laboratory and assigned our laboratory project number EV20060011. The project was identified as your River's Edge - 1759001.030.014. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rick Bagan
Laboratory Director

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	6/12/2020 EV20060011 EV20060011-01
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	06/02/2020
CLIENT PROJECT:	River's Edge - 1759001.030.014	COLLECTION DATE:	6/2/2020 6:30:00 AM
CLIENT SAMPLE ID	SWU	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	130	1	UG/L	06/03/2020	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	U	250	1	UG/L	06/03/2020	EBS
Arsenic	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Cadmium	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Hardness	EPA-200.8	**13**	1.0	1	MG/L	06/04/2020	RAL
Lead	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Zinc	EPA-200.8	U	4.0	1	UG/L	06/04/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**99.1**	06/03/2020	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

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ALS Group USA, Corp dba ALS Environmental

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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	6/12/2020 EV20060011 EV20060011-02
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	06/02/2020
CLIENT PROJECT:	River's Edge - 1759001.030.014	COLLECTION DATE:	6/2/2020 7:00:00 AM
CLIENT SAMPLE ID	SWD	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	130	1	UG/L	06/03/2020	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	U	250	1	UG/L	06/03/2020	EBS
Arsenic	EPA-200.8	**1.2**	1.0	1	UG/L	06/04/2020	RAL
Cadmium	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Hardness	EPA-200.8	**18**	1.0	1	MG/L	06/04/2020	RAL
Lead	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Zinc	EPA-200.8	U	4.0	1	UG/L	06/04/2020	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**97.0**	06/03/2020	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	6/12/2020 EV20060011 EV20060011-03
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	06/02/2020
CLIENT PROJECT:	River's Edge - 1759001.030.014	COLLECTION DATE:	6/2/2020 8:00:00 AM
CLIENT SAMPLE ID	DUP1-200602	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	130	1	UG/L	06/03/2020	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	U	250	1	UG/L	06/03/2020	EBS
Nitrate	EPA-300.0	**6.4**	0.15	1	MG/L	06/03/2020	JNF
Sulfate	EPA-300.0	**13**	0.26	1	MG/L	06/03/2020	JNF
Arsenic	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Cadmium	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Hardness	EPA-200.8	**51**	1.0	1	MG/L	06/04/2020	RAL
Lead	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Zinc	EPA-200.8	**7.0**	4.0	1	UG/L	06/04/2020	RAL
Arsenic (Dissolved)	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Cadmium (Dissolved)	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Zinc (Dissolved)	EPA-200.8	**4.5**	4.0	1	UG/L	06/04/2020	RAL
Total Organic Carbon (TOC)	SM5310C	**1.2**	0.50	1	MG/L	06/07/2020	CAS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**96.7**	06/03/2020	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	6/12/2020 EV20060011 EV20060011-04
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	06/02/2020
CLIENT PROJECT:	River's Edge - 1759001.030.014	COLLECTION DATE:	6/2/2020 8:55:00 AM
CLIENT SAMPLE ID	DP3-MW	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	**150**	130	1	UG/L	06/03/2020	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	U	250	1	UG/L	06/03/2020	EBS
Nitrate	EPA-300.0	**6.8**	0.15	1	MG/L	06/03/2020	JNF
Sulfate	EPA-300.0	**9.1**	0.26	1	MG/L	06/03/2020	JNF
Arsenic	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Cadmium	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Hardness	EPA-200.8	**68**	1.0	1	MG/L	06/04/2020	RAL
Lead	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Zinc	EPA-200.8	**23**	4.0	1	UG/L	06/04/2020	RAL
Arsenic (Dissolved)	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Cadmium (Dissolved)	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Zinc (Dissolved)	EPA-200.8	**22**	4.0	1	UG/L	06/04/2020	RAL
Total Organic Carbon (TOC)	SM5310C	**1.5**	0.50	1	MG/L	06/07/2020	CAS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**95.2**	06/03/2020	EBS

U - Analyte analyzed for but not detected at level above reporting limit.
Chromatogram indicates that it is likely that sample contains an unidentified diesel range product.

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CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	6/12/2020 EV20060011 EV20060011-05
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	06/02/2020
CLIENT PROJECT:	River's Edge - 1759001.030.014	COLLECTION DATE:	6/2/2020 12:55:00 PM
CLIENT SAMPLE ID	DP4-MW	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	**400**	130	1	UG/L	06/03/2020	EBS
TPH-Diesel Range (C12-C24)	NWTPH-DX w/ SGA	U	130	1	UG/L	06/09/2020	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	**760**	250	1	UG/L	06/03/2020	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX w/ SGA	U	250	1	UG/L	06/09/2020	EBS
Nitrate	EPA-300.0	**1.9**	0.15	1	MG/L	06/03/2020	JNF
Sulfate	EPA-300.0	**53**	0.26	1	MG/L	06/03/2020	JNF
Arsenic	EPA-200.8	**1.2**	1.0	1	UG/L	06/04/2020	RAL
Cadmium	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Hardness	EPA-200.8	**260**	1.0	1	MG/L	06/04/2020	RAL
Lead	EPA-200.8	**1.4**	1.0	1	UG/L	06/04/2020	RAL
Zinc	EPA-200.8	**830**	4.0	1	UG/L	06/04/2020	RAL
Arsenic (Dissolved)	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Cadmium (Dissolved)	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Zinc (Dissolved)	EPA-200.8	**550**	4.0	1	UG/L	06/04/2020	RAL
Total Organic Carbon (TOC)	SM5310C	**10**	0.50	1	MG/L	06/07/2020	CAS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**98.1**	06/03/2020	EBS
C25	NWTPH-DX w/ SGA	**98.3**	06/09/2020	EBS

U - Analyte analyzed for but not detected at level above reporting limit.
Chromatogram indicates that it is likely that sample contains light oil/lube oil.

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ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	6/12/2020 EV20060011 EV20060011-06
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	06/02/2020
CLIENT PROJECT:	River's Edge - 1759001.030.014	COLLECTION DATE:	6/2/2020 10:40:00 AM
CLIENT SAMPLE ID	DP5-MW	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	130	1	UG/L	06/03/2020	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	U	250	1	UG/L	06/03/2020	EBS
Nitrate	EPA-300.0	**6.4**	0.15	1	MG/L	06/03/2020	JNF
Sulfate	EPA-300.0	**14**	0.26	1	MG/L	06/03/2020	JNF
Arsenic	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Cadmium	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Hardness	EPA-200.8	**51**	1.0	1	MG/L	06/04/2020	RAL
Lead	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Zinc	EPA-200.8	**6.1**	4.0	1	UG/L	06/04/2020	RAL
Arsenic (Dissolved)	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Cadmium (Dissolved)	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Zinc (Dissolved)	EPA-200.8	**4.2**	4.0	1	UG/L	06/04/2020	RAL
Total Organic Carbon (TOC)	SM5310C	**1.0**	0.50	1	MG/L	06/07/2020	CAS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**93.6**	06/03/2020	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
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ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS JOB#: ALS SAMPLE#:	6/12/2020 EV20060011 EV20060011-07
CLIENT CONTACT:	Dylan Frazer	DATE RECEIVED:	06/02/2020
CLIENT PROJECT:	River's Edge - 1759001.030.014	COLLECTION DATE:	6/2/2020 2:40:00 PM
CLIENT SAMPLE ID	DP6-MW	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	130	1	UG/L	06/03/2020	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	U	250	1	UG/L	06/03/2020	EBS
Nitrate	EPA-300.0	**6.8**	0.15	1	MG/L	06/03/2020	JNF
Sulfate	EPA-300.0	**11**	0.26	1	MG/L	06/03/2020	JNF
Arsenic	EPA-200.8	**1.1**	1.0	1	UG/L	06/04/2020	RAL
Cadmium	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Hardness	EPA-200.8	**72**	1.0	1	MG/L	06/04/2020	RAL
Lead	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Zinc	EPA-200.8	**12**	4.0	1	UG/L	06/04/2020	RAL
Arsenic (Dissolved)	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Cadmium (Dissolved)	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	06/04/2020	RAL
Zinc (Dissolved)	EPA-200.8	**7.7**	4.0	1	UG/L	06/04/2020	RAL
Total Organic Carbon (TOC)	SM5310C	**1.3**	0.50	1	MG/L	06/07/2020	CAS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**97.4**	06/03/2020	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

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CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020
CLIENT CONTACT: Dylan Frazer
CLIENT PROJECT: River's Edge - 1759001.030.014

DATE: 6/12/2020
ALS SDG#: EV20060011
WDOE ACCREDITATION: C601

LABORATORY BLANK RESULTS

MB-060320W - Batch 154138 - Water by NWTPH-DX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24)	NWTPH-DX	U	UG/L	130	06/03/2020	EBS
TPH-Oil Range (C24-C40)	NWTPH-DX	U	UG/L	250	06/03/2020	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-R363130 - Batch R363130 - Water by EPA-300.0

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Nitrate	EPA-300.0	U	MG/L	0.15	06/03/2020	JNF
Sulfate	EPA-300.0	U	MG/L	0.26	06/03/2020	JNF

U - Analyte analyzed for but not detected at level above reporting limit.

MB-060320W - Batch 154084 - Water by EPA-200.8

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Arsenic	EPA-200.8	U	UG/L	1.0	06/04/2020	RAL
Cadmium	EPA-200.8	U	UG/L	1.0	06/04/2020	RAL
Hardness	EPA-200.8	U	MG/L	1.0	06/04/2020	RAL
Lead	EPA-200.8	U	UG/L	1.0	06/04/2020	RAL
Zinc	EPA-200.8	U	UG/L	4.0	06/04/2020	RAL

U - Analyte analyzed for but not detected at level above reporting limit.

MB-060320W - Batch 154086 - Water by EPA-200.8

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Arsenic (Dissolved)	EPA-200.8	U	UG/L	1.0	06/04/2020	RAL
Cadmium (Dissolved)	EPA-200.8	U	UG/L	1.0	06/04/2020	RAL
Lead (Dissolved)	EPA-200.8	U	UG/L	1.0	06/04/2020	RAL
Zinc (Dissolved)	EPA-200.8	U	UG/L	4.0	06/04/2020	RAL

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-R363131 - Batch R363131 - Water by SM5310C

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Total Organic Carbon (TOC)	SM5310C	U	MG/L	0.50	06/07/2020	CAS

U - Analyte analyzed for but not detected at level above reporting limit.

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ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT: Landau Associates, Inc.
130 - 2nd Ave. S.
Edmonds, WA 98020
CLIENT CONTACT: Dylan Frazer
CLIENT PROJECT: River's Edge - 1759001.030.014

DATE: 6/12/2020
ALS SDG#: EV20060011
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 154138 - Water by NWTPH-DX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range (C12-C24) - BS	NWTPH-DX	**92.1**			67	125.2	06/03/2020	EBS
TPH-Diesel Range (C12-C24) - BSD	NWTPH-DX	**88.9**	**4**		67	125.2	06/03/2020	EBS

ALS Test Batch ID: R363130 - Water by EPA-300.0

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Nitrate - BS	EPA-300.0	**98.0**			80	120	06/03/2020	JNF
Nitrate - BSD	EPA-300.0	**98.0**	**0**		80	120	06/03/2020	JNF
Sulfate - BS	EPA-300.0	**96.5**			80	120	06/03/2020	JNF
Sulfate - BSD	EPA-300.0	**94.0**	**3**		80	120	06/03/2020	JNF

ALS Test Batch ID: 154084 - Water by EPA-200.8

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Arsenic - BS	EPA-200.8	**97.8**			89.1	110	06/04/2020	RAL
Arsenic - BSD	EPA-200.8	**99.3**	**2**		89.1	110	06/04/2020	RAL
Cadmium - BS	EPA-200.8	**98.3**			89.4	110	06/04/2020	RAL
Cadmium - BSD	EPA-200.8	**100**	**2**		89.4	110	06/04/2020	RAL
Lead - BS	EPA-200.8	**98.9**			87.5	107	06/04/2020	RAL
Lead - BSD	EPA-200.8	**101**	**2**		87.5	107	06/04/2020	RAL
Zinc - BS	EPA-200.8	**100**			88.2	111	06/04/2020	RAL
Zinc - BSD	EPA-200.8	**101**	**1**		88.2	111	06/04/2020	RAL

ALS Test Batch ID: 154086 - Water by EPA-200.8

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Arsenic (Dissolved) - BS	EPA-200.8	**97.8**			89.1	110	06/04/2020	RAL
Arsenic (Dissolved) - BSD	EPA-200.8	**99.3**	**2**		89.1	110	06/04/2020	RAL
Cadmium (Dissolved) - BS	EPA-200.8	**98.3**			89.4	110	06/04/2020	RAL
Cadmium (Dissolved) - BSD	EPA-200.8	**100**	**2**		89.4	110	06/04/2020	RAL
Lead (Dissolved) - BS	EPA-200.8	**98.9**			87.5	107	06/04/2020	RAL
Lead (Dissolved) - BSD	EPA-200.8	**101**	**2**		87.5	107	06/04/2020	RAL
Zinc (Dissolved) - BS	EPA-200.8	**100**			88.2	111	06/04/2020	RAL
Zinc (Dissolved) - BSD	EPA-200.8	**101**	**1**		88.2	111	06/04/2020	RAL

ALS Test Batch ID: R363131 - Water by SM5310C

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Total Organic Carbon (TOC) - BS	SM5310C	**86.4**			80	120	06/07/2020	CAS

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Landau Associates, Inc. 130 - 2nd Ave. S. Edmonds, WA 98020	DATE: ALS SDG#: WDOE ACCREDITATION:	6/12/2020 EV20060011 C601
CLIENT CONTACT:	Dylan Frazer		
CLIENT PROJECT:	River's Edge - 1759001.030.014		

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY

APPROVED BY

Laboratory Director

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

EV2006011

Chain-of-Custody Record

LANDAU ASSOCIATES

☑ Seattle/Edmonds (425) 778-0907 ☐ Spokane (509) 327-9737
☐ Tacoma (253) 926-2493 ☐ Portland (503) 542-1080
☐ _____

Date 6/2/20
Page 1 of 1

Turnaround Time:
(Standard)
Accelerated

Project Name River's Edge Project No. 175900 1.030.014
Project Location/Event Monroe, WA
Sampler's Name Brittany McManus
Project Contact D. Frazer
Send Results To D. Frazer, K. Shultz, D. Jorgensen, K. Cleveland

Special Handling Requirements:
Shipment Method: Drop OFF
Stored on ice: (Yes) / No

	Sample I.D.	Date	Time	Matrix	No. of Containers	NWTPH-Dx ■	Total Metals *	Hardness	Dissolved Metals *	Nitrate/Sulfate	TOC	Dx w/ Silica-gel	Observations/Comments
1	SWU	6/2/20	630	AQ	2	X	X	X					
2	SWD	6/2/20	700	AQ	2	X	X	X					
3	DUP1-200602	6/2/20	800	AQ	5	X	X	X	X	X	X		
4	DP3-MW	6/2/20	855	AQ	5	X	X	X	X	X	X		
5	DP4-MW	6/2/20	1255	AQ	5	X	X	X	X	X	X	⊗	
6	DP5-MW	6/2/20	1040	AQ	5	X	X	X	X	X	X		
7	DP6-MW	6/2/20	1440	AQ	5	X	X	X	X	X	X		

Allow water samples to settle, collect aliquot from clear portion ☐
■ NWTPH-Dx - Acid wash cleanup ☐
- Silica gel cleanup ☐
X Dissolved metal samples were field filtered

Other
■ Want to see prelim data for Dx before full report is done to see if we need silica gel cleanup

* Arsenic, Zinc, Cadmium, Lead

⊗ Added, 6/9/20 per Brittany Stated TAT

Relinquished by	Received by	Relinquished by	Received by
Signature	Signature	Signature	Signature
Printed Name Brittany McManus	Printed Name Rick Bagan	Printed Name	Printed Name
Company Landau Associates, Inc.	Company ALS	Company	Company
Date 6/2/20 Time 1633	Date 6-2-20 Time 4:35	Date Time	Date Time

WHITE COPY - Laboratory YELLOW COPY - Project File PINK COPY - Client Representative

10/2018

ALS ENVIRONMENTAL

Sample Receiving Checklist

Client: Landau Assoc ALS Job #: EV2006001

Project: Rivers Edge

Received Date: 6/2/20 Received Time: 4:35 By: MB

Type of shipping container: Cooler X Box ____ Other ____

Shipped via: FedEx Ground ____ UPS ____ Mail ____ Courier ____ Hand Delivered X
FedEx Express ____

	Yes	No	N/A
Were custody seals on outside of shipping container?	____	X	____
If yes, how many? ____ Where? ____			
Custody seal date: ____ Seal name: ____			
Was Chain of Custody properly filled out (ink, signed, dated, etc.)?	X	____	____
Did all bottles have labels?	X	____	____
Did all bottle labels and tags agree with Chain of Custody?	X	____	____
Were samples received within hold time?	X	____	____
Did all bottles arrive in good condition (unbroken, etc.)?	X	____	____
Was sufficient amount of sample sent for the tests indicated?	X	____	____
Was correct preservation added to samples?	X	____	____

If no, Sample Control added preservative to the following:

Sample Number	Reagent	Analyte

Were VOA vials checked for absence of air bubbles?	____	____	X
Bubbles present in sample #: ____			

Temperature of cooler upon receipt: 5.6°C on Ice (Cold) Cool Ambient N/A

Explain any discrepancies: ____

Was client contacted? ____ Who was called? ____ By whom? ____ Date: ____

Outcome of call: ____