GROUNDWATER MONITORING WELL INSTALLATION AND SAMPLING REPORT

Fourth Quarter 2019

Acrowood Corp
Site Address: 4425 S 3rd Avenue
Everett, Washington 98203
Facility/Site No.: 22755667
VCP Project No.: NW2151
Cleanup Site ID No.: 4703

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Prepared for:

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1.0 INTRODUCTION

EcoCon, Inc. (ECI) has prepared this Groundwater Monitoring Well Installation and Sampling Report to document the installation of four additional groundwater monitoring wells and groundwater-sampling conducted at 4425 South 3rd Avenue, Everett, Washington (Site/Subject Site/Property/Subject Property) (Figure 1, Appendix A). This report details field activities and observations, sampling activities, chemical analysis, and provides conclusions and recommendations.

As established in WAC 173-340-200, the "Site" is defined as:

> *"...any area where a hazardous substance, other than a consumer product in consumer use, has been deposited, stored, disposed of, or placed or otherwise come to be located..."*

For this report, the "Site" is defined by the full lateral and vertical extent of contamination that has resulted from a former diesel underground storage tank (UST) that was located on the Property. Based on the findings of the previous environmental investigations, the Site has been defined as the nature and extent of the following contaminants in the soil and groundwater:

- Diesel-range Organics (DRO), and
- Oil-range Organics (ORO),
- Naphthalene, and
- Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs).

1.1 Property Description/Location

According to the Snohomish County Assessor, the Property (Snohomish County Tax Parcel numbers 29053200200100, 29053200200200, 29053200201400, 29053200205900, and 29053200304200) consists of a single industrial lot, approximately 21.07 acres in total. The Site is contained within the northernmost parcel, 29053200200100. This parcel is approximately 6.87 acres in size, and currently improved with two structures. The first structure was constructed in 1913 totally 120,284 square feet, and the second structure was constructed in 1948 totaling 324 square feet. Other buildings are present on the Property but are not listed on the Snohomish County Assessor's website. According to information obtained at the Snohomish County Assessor's office, the site is zoned "M-1" for general manufacturing/industrial uses.

ECI's historical research on the Property indicates that former land use activities included metal fabrication and iron foundry facilities dating as far back as the 1890s. The Property is currently used as a metal fabrication facility specializing in machinery for the pulp and paper industry. According to the Snohomish County Assessor, the Property is currently owned by Acrowood Corp.

1.2 Physical Setting

1.2.1 Geology and Hydrogeology

Geological and hydrogeological conditions can often affect, to some extent, the environmental integrity of property. Underlying soil and bedrock formations may facilitate or impede the migration of chemical contaminants in groundwater and may even be the source of contaminants such as radon and metals. This section of the report summarizes geologic factors that may affect the Subject Property in regard to environmental concerns.

The Site is located in the Puget Lowland geologic region. The Puget Sound Lowland is an elongated topographic and structural depression filled with complex sequences of glacial and non-glacial sediments that overlie bedrock. Continental ice sheets up to 3,000 feet thick covered portions of the Puget Lowland several times during the Quaternary period. Retreating ice carved new landscapes, rechanneled rivers, drained or formed lakes, and deposited glacial drift including till and outwash sands and gravels (WA DNR, 2002).

The primary aquifers in the Puget Sound region are typically in glacial sands and gravels overlain by relatively impermeable glacial till deposits, that are present at or near the ground surface. Within these till deposits are localized areas or lenses of water-bearing sands and gravels that may result in a shallow, localized, perched water table. Lateral and vertical migration of shallow groundwater may be impeded by the relatively impermeable nature of the till and by the sometimes-discontinuous nature of the perched water-bearing sands and gravel.

Perched and discontinuous zones of shallow groundwater may be seasonally or perennially present, depending on site-specific conditions. Shallow groundwater flow directions fluctuate and tend to follow topographic gradient but are also affected by seasonal high-water tables and variable soil characteristics. Groundwater migration pathways may also follow underground conduits.

1.2.2 Site Geology

According to the Washington State Geologic Portal, the area near the Property is characterized by Pleistocene Fraser-age to pre-Fraser transitional beds. These deposits consist of clay, silt, and very fine to fine sand; some layers of peaty sand and gravel are in the lower part of compact deposits but may be unstable because of high moisture content, plasticity, and local vertical jointing. The sediments were mostly deposited in still to slowly moving water, except for the coarse stream deposits in the lower part of the unit In the urban and more highly developed areas these materials can include modified land and artificial fill.

Soils observed during this and previous Site investigations on the Subject Property include red to medium brown silts and sands overlain by dark brown to black topsoil typically containing organic matter.

1.2.3 Site Hydrogeology

Based on previous environmental investigations at the Site, the depth to groundwater is between 2 and 9 feet below ground surface (bgs). Shallow groundwater beneath the Subject Property is anticipated to follow

the general topography near the Property and flow to the east towards wetlands and the Snohomish River approximately 1000 feet to the east (Figure 2, Appendix A). Land development and glacial till may also cause contaminants to migrate in different directions through utility corridors or other paths of least resistance.

2.0 PREVIOUS INVESTIGATIONS / INTERIM ACTIONS

According to documents reviewed by ECI, several previous investigations have been performed at the Site by Adapt Engineering, Inc (Adapt) beginning in 1999. During the course of investigations, three areas were identified as containing concentrations of target analytes in soil and/or groundwater at concentrations above the Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method A or B Cleanup Levels (Figure 3, Appendix A). These areas are described as:

- Area 1 - A paint and solvent storage shed where trichloroethene (TCE) was encountered in soil and groundwater at concentrations exceeded applicable MTCA Method A Soil and Groundwater Cleanup Levels.
- Area 2 - A former heating oil UST location where oil-range organics (ORO) were encountered in soil at concentrations below the MTCA Method A Soil Cleanup Level. This area is referred to as Area 2.
- Area 3 - An area where a release from a former fuel tank occurred and concentrations of DRO, ORO and polycyclic aromatic hydrocarbons (PAHs) in soil and groundwater exceeded MTCA Method A Soil and Groundwater Cleanup Levels.

An "*Opinion Letter*" dated June 22, 2010 issued through the Ecology Voluntary Cleanup Program (VCP) indicated that:

> *"Ecology does agree that groundwater monitoring in the area of the former paint and solvent storage shed [Area 1] indicates that there is no longer a TCE impact."*

This opinion letter also indicated that:

> *"Groundwater characterization has not been completed for the area around the former heating oil UST [Area 2] located by the shipping and receiving dock."*

Groundwater characterization in Area 2 was later completed in 2011 by ECI.

Because of the opinions given by Ecology in their 2010 "*Opinion Letter*", and the completion of the groundwater characterization in 2011 by ECI, Area 1 and Area 2 were not investigated during this groundwater monitoring event. The history presented in this section therefore omits information regarding Area 1 and Area 2 and focuses on presenting historical environmental investigations pertaining to Area 3.

2.1 Adapt Engineering, Inc, November 1999, Preliminary Phase II Environmental Site Assessment

In 1999, ADAPT conducted a Preliminary Phase II Environmental Site Assessment (ESA) to evaluate possible impacts from recognized environmental conditions identified in a Phase I ESA dated August 20, 1999. The Phase I ESA had identified five potential recognized environmental conditions that included:

- A former (heating oil) underground storage tank (Area 2),
- An area where a former fuel oil tank was located (Area 3),

- A paint storage building (Area 1),
- Iron and foundry waste fill area, and
- A storm water discharge pipe.

The Preliminary Phase II assessed the soil, and groundwater, conditions beneath the Site to provide data for evaluation of possible contaminants associated with the identified recognized environmental conditions.

The Preliminary Phase II ESA consisted of advancing 16 Geoprobe® borings to depths of between 8 and 22 feet within the areas of concern and the collection of soil and groundwater samples. Three of the boring were advanced in Area 3, the subject area of this report. The field and analytical data collected suggested that there was petroleum hydrocarbon impact in soil and groundwater above MTCA Method A Cleanup Levels (Figure 5, Appendix A; Table 5, Appendix B).

Adapt detailed the history and investigation of Area 3 in their Preliminary Phase II ESA report,

> *"The 1960 Sanborn Map, reviewed by ADAPT, depicts suspect fuel oil tanks located adjacent to the steel shop on the east edge of the site. According to Acrowood personnel, the tanks were removed prior to the 1970s when Acrowood purchased the site. Additional information was not available regarding the nature of these suspected tanks. Based on the location and current limited access to the area, it is likely that the fuel oil tanks were above ground tanks.*
>
> *Analytical results from borings placed in and around the suspected fuel oil tanks area indicated that there had been a release of petroleum hydrocarbons. One boring (P1) placed within the estimated footprint of the fuel tanks, exhibited heavy staining and residual free product adhering to the soil particles from approximately 5 to 15 feet below ground surface. Analytical results from a soil sample at 16 feet below ground surface exhibited concentrations of diesel and heavy oil at 10,000 and 4,010 ppm, respectively.*
>
> *Two additional borings (P3 and P2) were placed approximately 12 and 20 feet radial from P1, respectively, to the west and south, to delineate the lateral migration of the petroleum hydrocarbon. Diesel and heavy oil hydrocarbons were exhibited in P3, at 134 ppm for diesel and 210 for heavy oil, but not in P2. Analytical results appeared to limit the lateral extent of the release to an area within approximately 10 to 12 feet of P1. Vertical soil sampling results appeared to delineate the vertical extent to between approximately 4.5 feet and 20 feet below ground surface."*

2.2 Adapt Engineering, Inc, May 2000 - Supplemental Phase II Environmental Site Assessment

Based on the results of the Preliminary Phase II ESA, a Supplemental Phase II was performed by Adapt to further delineate the extent of soil and groundwater impacts in Areas 1, 2, and 3 .

Adapt states that four additional borings (P2, P3, HA1 and HA2) were placed south, west, east and northeast of boring P1 in Area 3 at a radial distance of approximately 20, 12, 10 and 15 feet from P1, respectively. However, results reported by Adapt in the Supplemental Phase I ESA indicated that samples from boring

locations P20, HA1, and HA2 were collected in April 2000 and that samples from locations P2 and P3 were collected in November 1999. The analytical results of samples from the borings revealed concentrations of ORO and DRO below the MTCA Method A Cleanup level of 2,000mg/kg for soils.

Adapt concluded that analytical results from soil and groundwater samples appeared to indicate that the area of petroleum hydrocarbon impact was localized to an area approximately 10 to 15 feet radial from P1 and P20 to the east, west and south. Adapt noted that the vertical extent of the release appears to be located from approximately 8 to 15 feet bgs. Due to the presence of the steel shop building, the northern lateral extent was not delineated. Adapt also noted that it was possible there may be residual localized petroleum hydrocarbons beneath the steel shop structure (Figure 5 & Figure 6, Appendix A; Tables 4 & 5, Appendix B).

2.3 Adapt Engineering, Inc, August 2000 through August 2001 - Groundwater Monitoring Well Installation and Groundwater Quality Monitoring Reports

In August 2000, Adapt oversaw the installation of three groundwater-monitoring wells in the former fuel tank area (Area 3) adjacent to the south wall of the fabrication shop. A *"Groundwater Monitoring Well Installation Report"* dated August 29, 2000 was prepared detailing the installation of the three monitoring wells and the results of the first quarterly groundwater quality sampling.

At the time of well installation, groundwater was estimated to be flowing to the east towards the Snohomish River. An upgradient well was placed approximately 30 feet west of the Geoprobe® borings that were located in the former fuel tank area during the Phase II ESAs and two downgradient wells were placed approximately ten feet east of a retaining wall on the fire lane easement.

The three groundwater-monitoring wells were sampled using low-flow purge and sample methods to minimize interferences caused by particulate material. Based on results from the initial (1st Quarter) sampling event, groundwater was observed to be flowing east-southeast. Analytical results indicated that ORO observed in the Geoprobe® and hand auger borings were not detected above the standard laboratory detection limits in the groundwater of the three wells.

Adapt conducted three additional quarterly sampling events in the groundwater-monitoring wells installed in the vicinity of the former fuel tanks. Based on the results of the additional quarterly sampling, DRO, ORO, and PAHs, were not detected above the standard laboratory detection limits in the upgradient or downgradient wells (Figure 6, Appendix A; Table 6, Appendix B).

2.4 Adapt Engineering, Inc, January 2002 – Acrowood Closure Report

In January 2002, Adapt prepared a closure report for Acrowood which detailed the previous environmental activities on the Property and recommended that the report be submitted to Ecology to obtain a "No Further Action" (NFA) determination. Based on the information summarized below, ADAPT believed the Subject Property qualified for an NFA. Adapt also noted that restrictive covenants as dictated by Ecology may be an appropriate condition for the NFA. Adapt made the following arguments for closure in Area 3:

- *According to empirical data collected from four quarterly sampling events, in the area of the former fuel oil tanks, the groundwater migrating off-site meets MTCA Method A Cleanup Levels for TPH* [total petroleum hydrocarbons] *and PAHs. Based on these results, it appears site groundwater conditions meet requirements for site closure.*

- *Using the Johnson and Ettinger vapor intrusion model it appears that residual PAHs concentrations in on-site soil and groundwater do not pose an unacceptable risk to workers in the existing or proposed future site structures.*

- *Using Ecology's Worksheet for Calculating Soil Cleanup Levels for Unrestricted & Industrial Land Use for individual chemicals the current observed concentration of… TPH in soil meets current MTCA Method B cleanup levels and is protective of groundwater.*

- *Based on a review of records at the Washington Department of Ecology, it appears the closest possible sensitive receptor is the Snohomish River, located approximately 1/2 mile to the east of the site. Based on the attenuation observed on site, the likelihood that this receptor could be affected by the subject property appears to be low. No wetlands or drinking water wells were reported within approximately one mile of the subject property. The City of Everett provides water to the subject property and surrounding area. The water is obtained from surface sources collected approximately 10 to 20 miles east. It is unlikely the shallow aquifer below the site would be developed for beneficial uses.*

- *The site as well as adjacent and downgradient properties are currently used and zoned for industrial purposes. It is unlikely the site or downgradient properties would be used for residential purposes in the foreseeable future, further mitigating concern about residual TPH and PAHs.*

- *Proposed restrictive covenants would likely include requirement to excavate any heavy oil impacted soil during future redevelopment of the site, restriction on use of groundwater from the site, and deed restrictions.*

2.5 Adapt Engineering, Inc., February 2009 – Supplemental Phase II Environmental Site Assessment

In 2009, a Phase II Environmental Site Assessment (Phase II ESA) was conducted by Adapt Engineering, Inc. (Adapt). The purpose of this Phase II ESA was to comply with additional sampling requirements requested by Ecology an April 18, 2007 "*Opinion Letter*". In June 2007, a total of eight direct push borings were advanced on site (three borings within Area 3) as well as four hollow-stem auger borings which were completed as 2-inch diameter monitoring wells (one of which was installed in Area 3). Groundwater samples were collected from the wells at the Site on August 20, 2007 and January 17, 2008.

Soil samples from borings advanced in Area 3 (P-23 through P-27) did not contain detectible concentrations of DRO, ORO, naphthalene, or PAHs except for soil sample P-26:12-14. While this sample contained DRO, ORO, and naphthalene below the MTCA Method A Cleanup Level, it contained a concentration of benzo(a)pyrene (BaP) at 6.1 ug/L with a total carcinogenic PAH (cPAH) toxic equivalent concentration (TEQ) as BaP of 8.2 ug/L, both well above the MTCA Method A Cleanup Level.

Groundwater samples collected from Area 3 revealed ORO above the MTCA Method A Cleanup in borings P-26 and P-27. DRO and cPAHs above the MTCA Method A Cleanup Level were also reported in P-26 (Figure 5 & Figure 6, Appendix A; Table 4 & Table 5, Appendix B).

Adapt concluded the following regarding Area 3:

- That further groundwater monitoring would not be necessary in Area 3 based on four consecutive quarters of groundwater monitoring in MW4 which did not indicate that groundwater contamination was migrating.
- Adapt argued that excavation of the residual contamination in Area 3 would likely affect the structural integrity of the building due to the sandy nature of soil observed on site. Adapt went on to say that the contamination is not anticipated to be migrating and that the retaining wall adjacent to the contaminated area may be acting as a barrier to contamination migration.

2.6 EcoCon Inc., September 2011 – Focused Subsurface Investigation

On July 21, 2011 ECI advanced a total of six borings (three within Area 3) as part of a Focused Subsurface investigation (FSI) on the Subject Property. The purpose of the FSI was to comply with a request from Ecology in their 2010 "*Further Action Letter*" stating that a single downgradient well in Area 3 is insufficient to demonstrate groundwater is meeting cleanup standards. The maximum depth of exploration during the FSI was approximately 20.5 feet bgs. Groundwater samples were collected from each of the boring locations except ECIMW-5,which was completed as a monitoring well with a 1-inch diameter PVC casing and 0.010-inch factory slotted well screen.

A total of 9 soil samples and 3 groundwater samples were collected in Area 3 and submitted to ESN Northwest Chemistry Laboratory in Olympia, Washington for analysis of DRO and ORO using Ecology Method NWTPH-Dx. One soil sample and one groundwater sample were selected for additional analysis of PAHs using EPA Method 8270 based on initial analytical results.

On August 25, 2011, ECI returned to the Site to develop, monitor, and sample the monitoring wells in Area 3. Groundwater samples obtained from MW1, MW4, and ECIMW-5 (Referred to as MW5 in this report) were submitted to ALS Environmental Laboratory (ALS) in Everett, Washington for analysis of DRO and ORO using Ecology Method NWTHP-Dx and PAHs using EPA Method 8270SIM.

Of the soil samples submitted to the laboratory, only soil sample ECIA3B-2:12 was above the MTCA Method A Cleanup Level for the contaminants analyzed, containing concentrations of DRO, ORO, total naphthalenes, and cPAHs above the MTCA Method A Cleanup Level.

Of the groundwater samples collected, one sample (ECIA3B-1GW) was above the MTCA Method A Cleanup Level for DRO, but below the MTCA Method A Cleanup Level for total naphthalene and cPAHs. However, ECI noted that the laboratory reporting limit for cPAHs for this sample was 0.1 ug/L, which makes it possible for the TEQ to be greater than 0.1 ug/L, and thus above the MTCA Method A Cleanup Level. Additionally, the analytical results of the groundwater sample (ECIMW5-5) collected from the newly installed MW5

revealed that cPAHs were present below the MTCA method A Cleanup Level with a total toxic equivalent concentration (TEQ) of 0.046 ug/L (Figure 5 & Figure 6, Appendix A; Tables 4 & 5, Appendix B).

The following conclusions were reported by ECI regarding Area 3:

- FSI soil and groundwater data combined with previous investigation data were sufficient to characterize the extent of soil and groundwater impacts at the Site.
- Soil in Area 3 was impacted with DRO, ORO, cPAHs, and naphthalenes at concentrations exceeding applicable MTCA Method A Soil Cleanup Levels. Soil impacts in Area 3 are confined to a relatively small area and do not appear to extend off-Property. It was estimated that approximately 60 yards of impacted soil remain in place in this location and that some of this soil is likely situated beneath the building. Soil impacts did not appear to be present below the groundwater table as previously reported.
- It would not be cost effective to excavate the small amount of impacted soil in Area 3 due to excessive costs associated with supporting the building and retaining wall during excavation activities.
- Groundwater in Area 3 is impacted with DRO, ORO, and cPAHs at concentrations exceeding MTCA Method A Groundwater Cleanup Levels. Groundwater impacts in Area 3 are confined to a relatively small area and do not appear to extend off-Property.
- The observed decreases in dissolved-phase concentrations of DRO, ORO, and cPAHs from July 2007 to July 2011 in the location of borings ECIA3B-2 and P-26 indicated that natural attenuation may be effective at remediating the observed groundwater impacts at the Site.
- The installation of groundwater monitoring well ECIMW-5 (MW5) has satisfied Ecology's requirement to install a monitoring well downgradient and south of the former excavation area in Area 3.

Based on the findings of this FSI, ECI recommended the following:

- ECI recommended leaving the estimated 60 yards of impacted soil in place and allowing groundwater impacts to naturally attenuate. This would involve requesting a "*No Further Action*" (NFA) determination from Ecology with an Environmental Covenant. ECI noted that Ecology would likely require the installation of additional groundwater monitoring wells in the impacted area and upgradient along with continued groundwater monitoring to achieve this goal.
- Ecology had indicated in previous opinion letters that a Feasibility Study (FS), including a disproportionate cost analysis (DCA) would be needed to support the selected cleanup action of leaving contaminated soil in place and implementing institutional controls. Ecology had also indicated that a Terrestrial Ecological Evaluation (TEE) needed to be completed for the Site.
- ECI also recommended scheduling a meeting with the Project Manager once he had had the opportunity to review the FSI report. The intent of the meeting would be to determine that the next actions taken at the Site were appropriate and cost effective.

3.0 GROUNDWATER MONITORING PROGRAM

The groundwater monitoring program discussed in this report was initiated at the Site beginning the fourth quarter of 2019 and includes:

- Installation of four additional groundwater-monitoring wells;
- Sampling the wells on a quarterly basis for four consecutive quarters; and
- Describes contaminants of concern along with their respective MTCA Method A Clean Up Levels (CULs).

3.1 Regulatory Compliance

Regulatory compliance for this project is based on the Washington Administrative Code (WAC) 173-340 – Model Toxic Control Act (MTCA) - RCW Chapter 70.105D, implemented by the Washington State Department of Ecology (Ecology). Pursuant to Chapter 70.105D RCW, Ecology has established procedures for developing cleanup levels and requirements for cleanup actions. The rules establishing these levels and requirements were developed by Ecology in consultation with a Science Advisory Board (established under the Act) and with representatives from local government, citizen, environmental, and business groups. The rules were first published in February 1991, with amendments in January 1996, February 2001, and October 2007.

3.2 Contaminants of Concern (COCs) and Cleanup Levels

Based upon the results of previous investigations, the COCs and respective MTCA Method A Cleanup Levels for the Site are presented below:

Table 1: Contaminants of Concern

Contaminant	Analytical Method	Soil MTCA Method A CULs (mg/kg)	Groundwater MTCA Method A CULs (µg/L)
Primary Contaminants of Concern - Petroleum Hydrocarbons			
Diesel-range Organics (DRO)	NWTPH-Dx	2000	500
Oil-range Organics (ORO)	NWTPH-Dx	2000	500
Secondary Contaminants of Concern - Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)			
Benzo (a) anthracene	EPA 8270	--	--
Chrysene	EPA 8270	--	--
Benzo (b) fluoranthene	EPA 8270	--	--
Benzo (k) fluoranthene	EPA 8270	--	--
Benzo (a) pyrene*	EPA 8270	0.1	0.1
dibenzo(a,h)anthracene	EPA 8270	--	--
Indeno (1,2,3-cd) pyrene	EPA 8270	--	--

MTCA = Model Toxics Control Act
*The MTCA Method A Cleanup Level for cPAHs is based on a total toxic equivalent concentration (TEQ) calculation which compares the toxicity of individual cPAH compounds and presents them as a number equivalent to benzo(a)pyrene.

3.2.1 cPAH Soil and Groundwater Cleanup Levels

Carcinogenic PAHs (cPAHs) analyzed in soil and groundwater during the well installation and groundwater sampling included benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, chrysene, dibenzo(a,h)anthracene and ideno(1,2,3-cd)pyrene. When establishing compliance with cleanup levels under MTCA, the mixture of these compounds is considered a single hazardous substance. The toxicity equivalency factor (TEF) methodology was developed by the U.S. Environmental Protection Agency (EPA) to evaluate the toxicity and assess the risks of a mixture of structurally related chemicals with a common mechanism of action. To evaluate the human health toxicity of a cPAH mixture, the chemical concentrations of the cPAHs in the mixture are converted to an equivalent concentration of benzo(a)pyrene. This calculation is expressed mathematically, below. For notation purposes, the result is referred here as the "total toxic equivalent concentration" or "cPAH TEQ."

$$\text{Total TEQ} = \sum(Cn * TEFn)$$

Where:
Total TEQ = Total Toxic Equivalent Concentration of a cPAH mixture
Cn = Concentration of the individual cPAH in the mixture
TEFn = Toxicity equivalency factor for the individual cPAH in the mixture

3.3 Monitoring Well Installation

On March 7, 2019 ECI oversaw the installation of three groundwater monitoring wells on the Subject Property (Figure 4, Appendix A). A fourth monitoring well was installed on April 4, 2019. The wells were drilled using a push-probe operated by a Washington State licensed driller. The borings for the wells were drilled until groundwater was encountered and then a minimum of five feet past the soil-water interface. The wells were constructed pursuant to the Washington State Resource Protection Well Regulations (Chapter 173-160 WAC) with ten feet of 1-inch diameter slotted PVC well screen starting at the base of the boring. The boring logs and well construction details are presented in Appendix B.

After installation, to assure that representative samples of the groundwater could be obtained, each well was developed to remove the effects that drilling may have had on the soils adjacent to the boing and to clean the sand-pack of silt that may have been introduced during well construction. This was accomplished by surging the well and pumping the water from the well until the water was clear or as clear as reasonably possible.

The following wells were installed on the Subject Property:

- **MW6** was installed northeast of the known impacted area in the anticipated cross and downgradient direction.
- **MW7** was installed southeast of the known impacted area in the anticipated downgradient direction.

- **MW8** was installed directly through the known impacted soil area. This well was the most likely to have groundwater impacted by the COCs.
- **MW9** was installed inside of the building adjacent to the known impacted area in the anticipated upgradient position.

3.3.1 Soil Sampling

During drilling of the borings for the monitoring wells, undisturbed soil samples were collected directly from the Macro-core® liner of the drilling rod. The samples collected at the capillary fringe in each boring were submitted to the laboratory for analysis.

The analytical results of the samples collected are detailed in Table 2 below:

Table 2: Well Installation Soil Sample Results

Sample ID	Sample Depth (ft)	Date Sampled	Total Petroleum Hydrocarbons (mg/kg)		Polycyclic Aromatic Hydrocarbons (PAHs) (EPA 8270 SIM) (mg/kg)			
			Diesel (mg/kg)[2]	Heavy Oil (mg/kg)[2]	Naphthalene	2-Methyl Naphthalene	1-Methyl Naphthalene	cPAHs TEQ[1] as Benzo (a) Pyrene
MW6-6	6	11/12/2019	<25	<50	<0.02	<0.02	<0.02	<0.02
MW7-5	5	11/12/2019	**80**	**210**	<0.02	<0.02	<0.02	**0.06149**
MW8-5	5	11/12/2019	**27**	**120**	--	--	--	--
MW8-15	15	11/12/2019	**11,000**	**5,700**	**18**	**130**	**90**	**4.396**
MW8-19	19	11/12/2019	<25	<50	--	--	--	--
MW9-11	11	11/12/2019	<25	<50	<0.02	<0.02	<0.02	**0.06463**
Laboratory Reporting Limit			25	50	0.020	0.020	0.020	--
Ecology MTCA Method A Cleanup Levels			2,000	2,000	5	5	5	0.1

Notes:
[1]TEQ refers to total toxic equivalent concentration (TEQ) of cPAHs as benzo(a)pyrene. Full PAH results for soil are displayed in Table 4, Appendix B.
MTCA = Model Toxics Control Act
Mg/kg = milligram per kilogram
< indicated that the result is below the laboratory PQL
-- indicates that sample was not analyzed for this constituent
Bold indicates a detected concentration that is below Ecology MTCA Method A Cleanup Levels
Bold and Shaded indicates the detected concentration exceeds Ecology MTCA Method A or B Cleanup Levels

The analytical results revealed that monitoring well MW8 had been placed within the impacted area as intended. Analytical results of sample MW8-15 revealed DRO, ORO, Naphthalene, and the TEQ for cPAHs as benzo(a)pyrene were each above their respective MTCA Method A Cleanup Levels in soil. Two additional soil samples were collected and analyzed for DRO and ORO from boring MW8 in order to delineate the vertical extent of contamination. The results of the analysis of samples MW8-5 and MW8-19 indicated that DRO and ORO impact to soils is limited to between 5 and 19 feet bgs in the vicinity of MW8.

The analytical results for the soil sample collected from monitoring well MW6 were below laboratory reporting limits for each of the COCs analyzed, which are below their respective MTCA Method A Cleanup Levels.

Analytical results of the soil samples collected from monitoring wells MW7 and MW9 reported cPAHs above the reporting limit, with a calculated cPAH TEQ below the MTCA Method A Cleanup Level. Analytical results of soil from monitoring well MW7 revealed DRO, ORO above the reporting limit, but below the MTCA Method A Cleanup Level for DRO and ORO. For detailed analytical results including individual cPAH values, refer to Table 4, Appendix B.

Additional DRO and ORO analysis was requested for samples collected from MW8 at 5 feet and 19 feet bgs to further delineate the vertical extent of petroleum impact to soil. Analytical results revealed DRO and ORO present below the MTCA Method A Cleanup Level in sample MW8-5, and below the laboratory reporting limit for DRO and ORO in sample MW8-19. Detailed soil analytical results are presented in Table 4, Appendix B.

3.4 Groundwater Sampling Activities

Groundwater samples were collected from each of the seven monitoring wells (MW1, and MW4 through MW9) on November 13 and November 14, 2019 in accordance with American Society of Testing and Materials (*ASTM) Guideline* D6771-02 "*Standard Practice for Low-Flow Purging and Sampling for Wells and Devices Used for Ground-Water Quality Investigations*". Monitoring wells MW2 and MW3 had previously been destroyed and decommissioned in 2007.

ECI field staff followed the procedures described below when collecting groundwater samples:

- The cap from each monitoring well at the Site was removed and the groundwater level was allowed to equilibrate to atmospheric pressure for a minimum of 20 minutes.
- The depth to groundwater in each monitoring well at the Site was measured relative to the top of the well casing using an electronic water-level meter.
- Each monitoring well that was sampled was then purged at a low-flow rate (100 to 300 milliliters per minute) using a peristaltic pump and dedicated polyethylene tubing. Temperature, pH, dissolved oxygen (DO), oxygen reduction potential (ORP) and specific conductivity were monitored during purging using a water quality meter and a flow-through cell to determine when these parameters stabilized.

Samples were collected in new laboratory-provided analyte-specific sample containers and assigned a unique sample ID. The samples were placed in a climate-controlled container and maintained at or below 4° Celsius until they were delivered to the laboratory ALS Environmental under industry standard chain of custody protocol.

3.5 Groundwater Monitoring Results

3.5.1 Analytical Results

Seven groundwater samples were submitted to ALS Environmental, of Everett, Washington and analyzed for site-specific COCs. Analytical methods were consistent with those presented in Section 3.2.

The analytical results for groundwater samples collected from MW4 and MW6 were below their respective laboratory reporting limits, which are below their respective MTCA Method A Cleanup Levels for the identified COCs. Analytical results for groundwater samples in MW1, MW7, and MW9 were above their respective laboratory reporting limits for DRO, ORO, and total naphthalene, but below the MTCA Method A Cleanup Level.

Analytical results for groundwater samples collected from MW5 and MW8 indicated that groundwater was impacted above the MTCA Method A Cleanup Level for the cPAH TEQ in each of these areas. Analytical results for DRO and ORO were above the MTCA Method A Cleanup Level in the groundwater sample collected from monitoring well MW8. A summary of the laboratory analytical results is provided in Table 3 below. The laboratory data sheets are presented in Appendix C.

Table 3: Groundwater Sample Analytical Results

Sample Number	Date Sampled	Depth to Water	Total Petroleum Hydrocarbons (NWTPH-Dx) (µg/l)		Polycyclic Aromatic Hydrocarbons (EPA 8270 SIM) (µg/l)	
			Diesel (DRO)	Heavy Oil (ORO)	Total Naphthalene	cPAHs TEQ[1] as Benzo (a) Pyrene
MW1	11/13/19	12.76	**150**	<250	<0.040	<0.040
MW4	11/13/19	4.70	<130	<250	<0.040	<0.040
MW5	11/13/19	13.41	<130	<250	<0.040	**0.2405**
MW6	11/13/19	4.21	<130	<250	<0.040	<0.040
MW7	11/13/19	4.58	**320**	**400**	<0.040	<0.040
MW8	11/14/19	13.39	**16000**	**4000**	**174**	**0.1111**
MW9	11/13/19	11.18	**200**	<250	**0.37**	<0.040
Laboratory Reporting Limit			130	250	0.040	0.04
Ecology MTCA Method A Cleanup Levels			500	500	160	0.1

Notes:
[1]TEQ refers to total toxic equivalent concentration of cPAHs as benzo(a)pyrene. Full individual PAH results for groundwater are displayed in Table 6, Appendix B.
MTCA = Model Toxics Control Act
µg/l = milligram per kilogram
< indicated that the result is below the laboratory PQL
Bold indicates a detected concentration that is below Ecology MTCA Method A Cleanup Levels
Bold and Shaded indicates the detected concentration exceeds Ecology MTCA Method A or B Cleanup Levels

3.5.2 Site Groundwater Characteristics

The groundwater observed within the monitoring wells did not exhibit any strange odors or colors, however the water from monitoring well MW8 did exhibit some sheen on the surface of the purge water and sample. Monitoring wells MW4, MW6, and MW7 each exhibited either high pH values or malfunction of the pH probe (which is assumed to be the result of high pH). Each of these wells are located on the downgradient side of a partially buried concrete retaining wall within the fire lane. This concrete retaining wall may be the source of at least part of the elevated pH levels.

According to previous reports, the groundwater flow direction is to the east-southeast. Groundwater was encountered between 11.18 and 13.41 feet bgs in wells located on the level ground outside of the steel shop, and between 4.21 and 4.7 feet bgs in wells located in the fire lane beyond the retaining wall along the east of the steel shop. The elevation difference between the fire lane and the front of the steel shop is approximately 10 feet.

Groundwater levels for monitoring wells MW1 through MW9 were measured during the sampling of each well. A survey of the recently installed monitoring wells has not been conducted as of the date of this report. However, groundwater flow direction is expected to follow the general topography of the site to the east and southeast toward the Snohomish River as reported in previous groundwater monitoring reports. Detailed groundwater monitoring well results are presented in Table 6, Appendix B.

4.0 CONCLUSION & RECOMMENDATIONS

4.1 Conclusions

On November 12, 2019, ECI oversaw the installation of four additional groundwater monitoring wells on the Subject Property (MW6 through MW9). These wells were installed with the intent of monitoring the groundwater over four consecutive quarters before petitioning the Department of Ecology for a "*No Further Action*" determination with an Environmental Covenant to be prepared for the Subject Property.

Analytical results of soil samples collected during the well installation indicated DRO, ORO, and cPAH concentrations below the MTCA Method A Cleanup Levels in monitoring well MW7 and cPAH concentrations below the MTCA Method A Cleanup Level in monitoring well MW9. Analytical results of the soil sample MW8-15 indicated DRO, ORO, naphthalene, and cPAH concentrations above the MTCA Method A Cleanup Level in monitoring well MW8 at a depth of 15 feet bgs. Additional analysis of samples MW8-5 and MW8-19 indicated that the vertical extent of DRO and ORO contamination above the MTCA Method A Cleanup Level in the vicinity of MW8 is between 5 and 19 feet bgs.

On November 13 and November 14, 2019, groundwater samples were collected from the seven groundwater monitoring wells installed the Site. The samples were collected to evaluate groundwater quality and potential mobility of contaminants in Area 3.

The analytical results revealed concentrations of DRO, ORO, naphthalene, and cPAHs above their respective MTCA Method A Cleanup Levels in the groundwater sample collected from MW8, and cPAHs above the MTCA Method A Cleanup Levels for benzo(a)pyrene and total TEQ for cPAHs in the groundwater sample collected from MW5 (Table 6, Appendix B).

4.2 Recommendations

ECI recommends that the groundwater impact of cPAHs in the vicinity of MW5 be fully delineated. Following delineation, the source of the soil and groundwater contamination in Area 3 will need to be remediated, or show that the contamination is not migrating, and four consecutive quarters of groundwater monitoring completed before Ecology can be petitioned for a "*No Further Action*" determination.

5.0 REPORT LIMITATIONS AND GUIDELINES FOR USE

Some clients, design professionals and contractors may not recognize that the geoscience practices (geotechnical engineering, geology, and environmental science) are far less exact than other engineering and natural science disciplines. This lack of understanding can create unrealistic expectations that could lead to disappointments, claims and disputes. EcoCon Inc. includes these explanatory "limitations" provisions in our reports to help reduce such risks. Please confer with EcoCon if you are unclear how these "Report Limitations and Guidelines for Use" apply to your project or Site.

5.1 Use of this Report by Others

Our report was prepared for the exclusive use of Acrowood Corporation (Client) and / or their designated parties. This report may be provided to regulatory agencies for review if requested or required. No other party may rely on the product of our services unless we agree in advance to such reliance in writing. This is to provide our firm with reasonable protection against open-ended liability claims by third parties with whom there would otherwise be no contractual limits to their actions. Within the limitations of scope, schedule and budget, our services have been executed in accordance with our Agreement with the Client and generally accepted environmental practices in this area at the time this report was prepared.

This report has been prepared for subsurface investigation activities at the Subject Property. ECI considered a number of unique, project-specific factors when establishing the scope of services for this project and report. No one except our Client should rely on this environmental report without first conferring with ECI. This report should not be applied for any purpose or project except the one originally contemplated.

Unless ECI specifically indicates otherwise, do not rely on this report if it was:

- Not prepared for you,
- Not prepared for your project,
- Not prepared for the specific site explored, or
- Completed before important site changes were made.

If important changes are made after the date of this report, ECI should be given the opportunity to review our interpretations and recommendations and provide written modifications or confirmation, as appropriate.

5.2 Uncertainty May Remain after Completion of Site Investigation and Remedial Activities

The investigation and remediation activities completed in a portion of a site cannot wholly eliminate uncertainty regarding the potential for contamination in connection with the entire property. Our interpretation of subsurface conditions in this study is based on field observations and chemical analytical data from the locations sampled. It is always possible that contamination exists in areas that were not explored, sampled, or analyzed.

5.3 Subsurface Conditions Can Change

This environmental report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time, by manmade events such as construction on or adjacent to the Site, by new releases of hazardous substances, or by natural events such as floods, earthquakes, slope instability or groundwater fluctuations. Always contact EcoCon before applying this report to determine if it is still applicable.

5.4 Soil and Groundwater End Use

The cleanup levels referenced in this report are Site- and situation-specific and could change with time due to regulatory or Site changes. The cleanup levels may not be applicable for other sites or for other on-site uses of the affected media (soil and/or groundwater).

Note that hazardous substances may be present in some of the Site soil and/or groundwater at detectable concentrations that are less than the referenced cleanup levels. Because these cleanup levels can change, ECI should be contacted to evaluate the potential for associated environmental liabilities prior to the export of soil or groundwater from the Subject Site or reuse of the affected media on the Site. We cannot be responsible for potential environmental liability arising out of the transfer of soil and/or groundwater from the Subject Site to another location or its reuse on the Site in instances that we were not aware of or could not control.

5.5 Most Environmental Findings Are Professional Opinions

Our interpretations of subsurface conditions are based on field observations and chemical analytical data from the locations sampled at the Site. Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. EcoCon Inc. reviewed field and laboratory data and then applied our professional judgment to render an opinion about subsurface conditions throughout the Site. Actual subsurface conditions may differ – sometimes significantly – from those indicated in this report. Our report, conclusions and interpretations should not be construed as a warranty of the subsurface conditions.

List of Appendices

Appendix A - Project Figures

N
Not To Scale

Site Location Map
Groundwater Monitoring Well Installation & Sampling Report
4425 S 3rd Ave
Everett, Washington 98203

Date:	December 3, 2019
Completed By:	C. Long
Reviewed By.:	S. Spencer
Version:	ECI-001
Project No.:	0377-08

Figure No.: 01
Sheet 01 of 07

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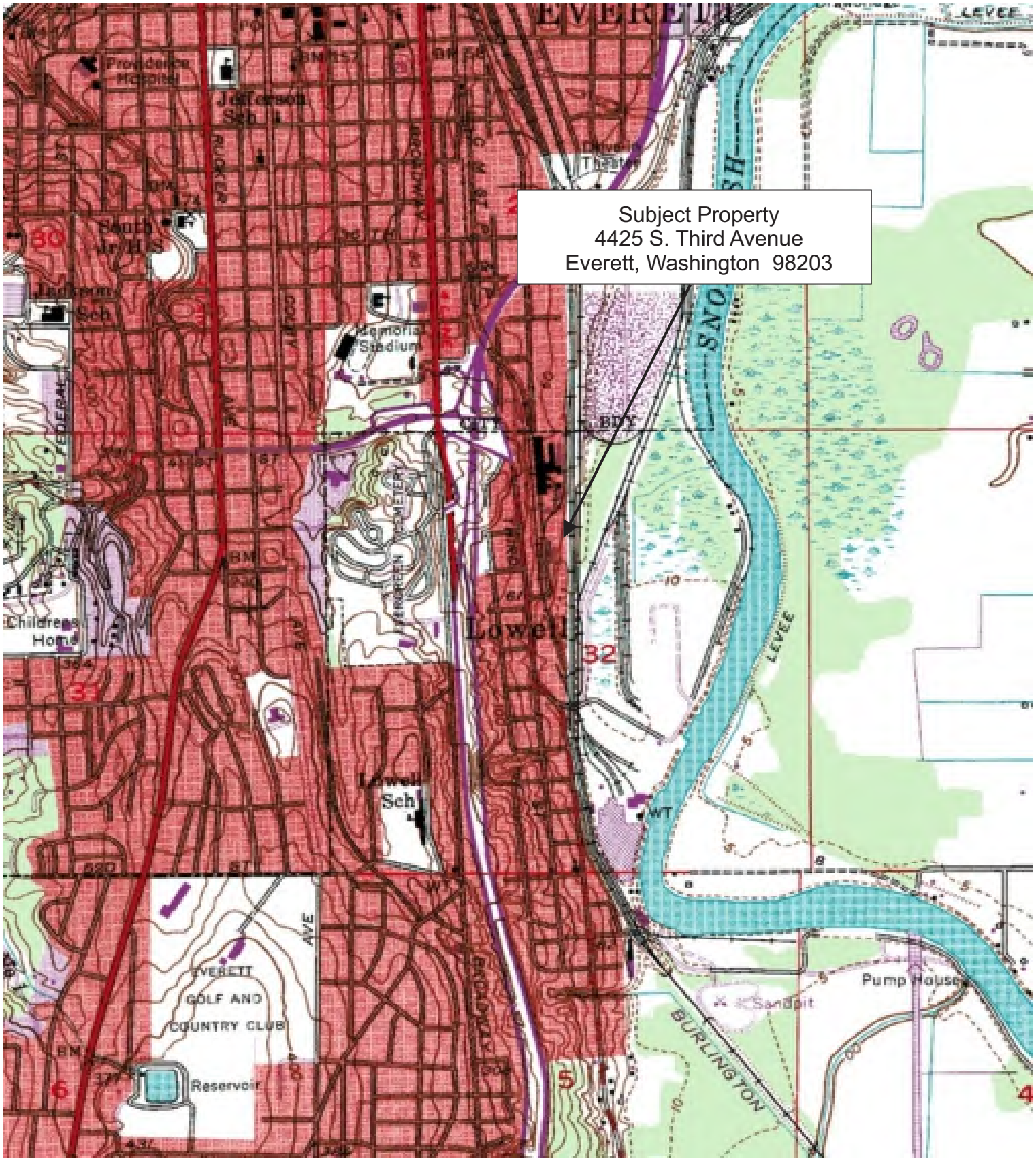

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Site Topographic Map
Groundwater Monitoring Well Installation & Sampling Report
4425 S 3rd Ave
Everett, Washington 98203

Date:	December 3, 2019
Completed By:	C. Long
Reviewed By.:	S. Spencer
Version:	ECI-001
Project No.:	0377-08

Figure No.: 02

Sheet 02 of 07

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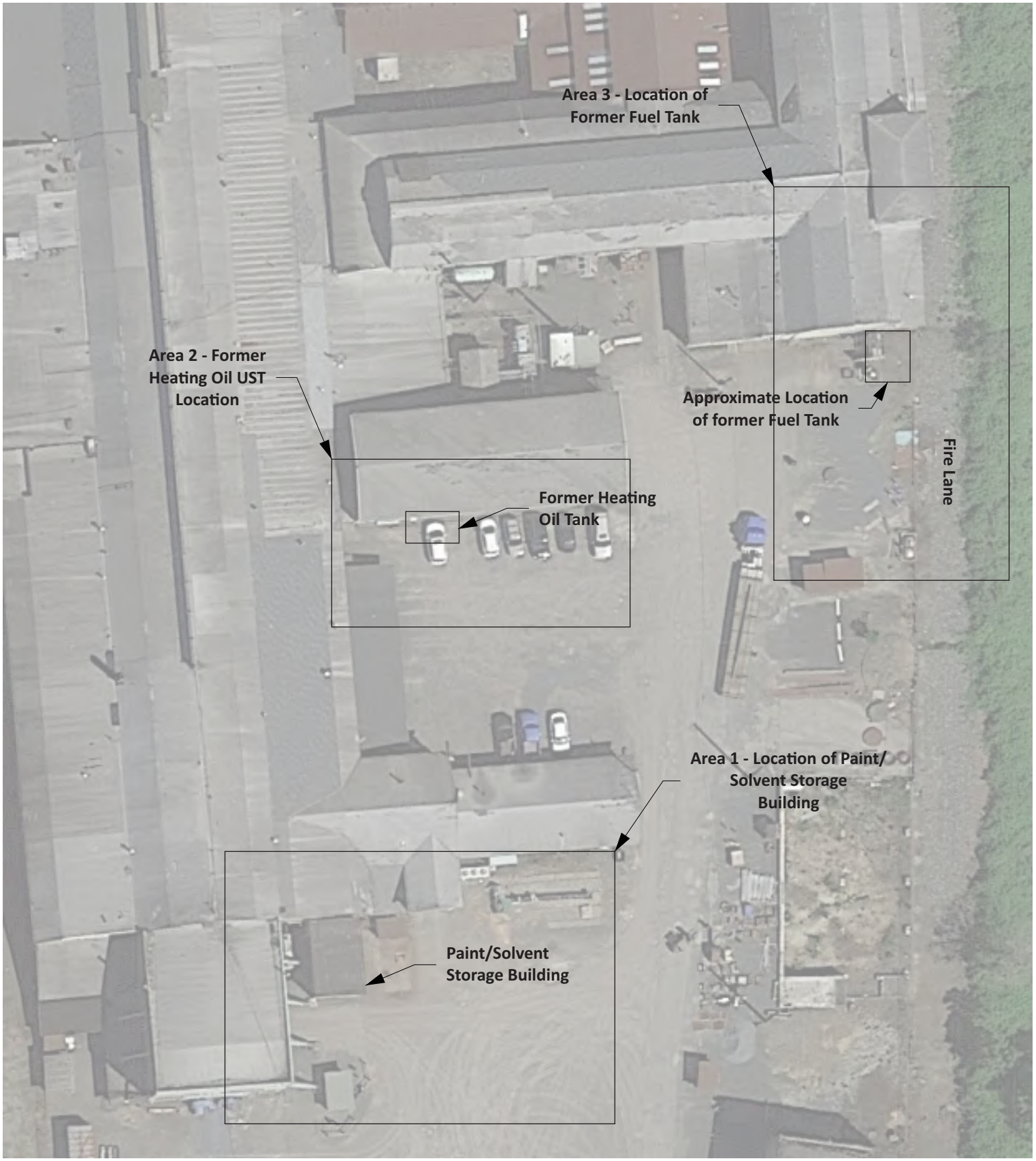

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Site Overview

Groundwater Monitoring Well Installation & Sampling Report
4425 S 3rd Ave
Everett, Washington 98203

Date:	December 12, 2019
Completed By:	K. Spencer
Reviewed By.:	S. Spencer
Version:	ECI-001
Project No.:	0377-08

Figure No.: 03

Sheet 03 of 07

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Steel Shop

MW9-W (ug/L)
DRO:200, ORO:<250
Tnap:0.37, cPAHs TEQ:<0.040
MW9-11 (mg/Kg)
DRO:<25, ORO:<50
Tnap:<0.020, **cPAHs TEQ: 0.06463**

MW-9

MW6-W (ug/L)
DRO:<130, ORO:<250,
Tnap:<0.040, cPAHs TEQ:<0.040
MW6-6 (mg/Kg)
DRO:<25, ORO:<50,
Tnap:<0.020, cPAHs TEQ:<0.020

MW-6

MW8-W (ug/L)
DRO:16000, ORO:4000
Tnap:174, cPAHs TEQ: 0.1111
MW8-15(mg/Kg)
DRO:11000, ORO:5700
Tnap:18, cPAHs TEQ: 4.396

MW-8

Approximate Location of Former Fuel Tank

MW7-W (ug/L)
DRO:320, ORO:400
Tnap:<0.040, cPAHs TEQ:<0.040
MW-5 (mg/Kg)
DRO:80, ORO:210,
Tnap: <0.020, cPAHs TEQ: 0.06149

MW1-W (ug/L)
DRO:150, ORO:<250
Tnap:<0.040, cPAHs TEQ: <0.040

MW-1

10' Retaining Wall

Fire Lane

MW4-W (ug/L)
DRO:<130, ORO:<250
Tnap: <0.040, cPAHs TEQ: <0.040

MW5-W (ug/L)
DRO:<130, ORO:<250
Tnap:<0.040, **cPAHs TEQ: 0.2405**

N

0 3.75 7.5 15

Approximate Scale

Legend

Samples < MTCA

Samples >MTCA

DRO: Diesel Range Organics

ORO: Oil Range Organics

Tnap: Total Naphtalene

cPAHs TEQ: Carcinogenic Polycyclic Aromatic Hydrocarbon Toxic Equivalent Quantity

Area 3 Well Location Map
Groundwater Monitoring Well Installation & Sampling Report
4425 S 3rd Ave
Everett, Washington 98203

Date:	December 3, 2019
Completed By:	C. Long
Reviewed By.:	S. Spencer
Version:	ECI-001
Project No.:	0377-08

Figure No.: 04

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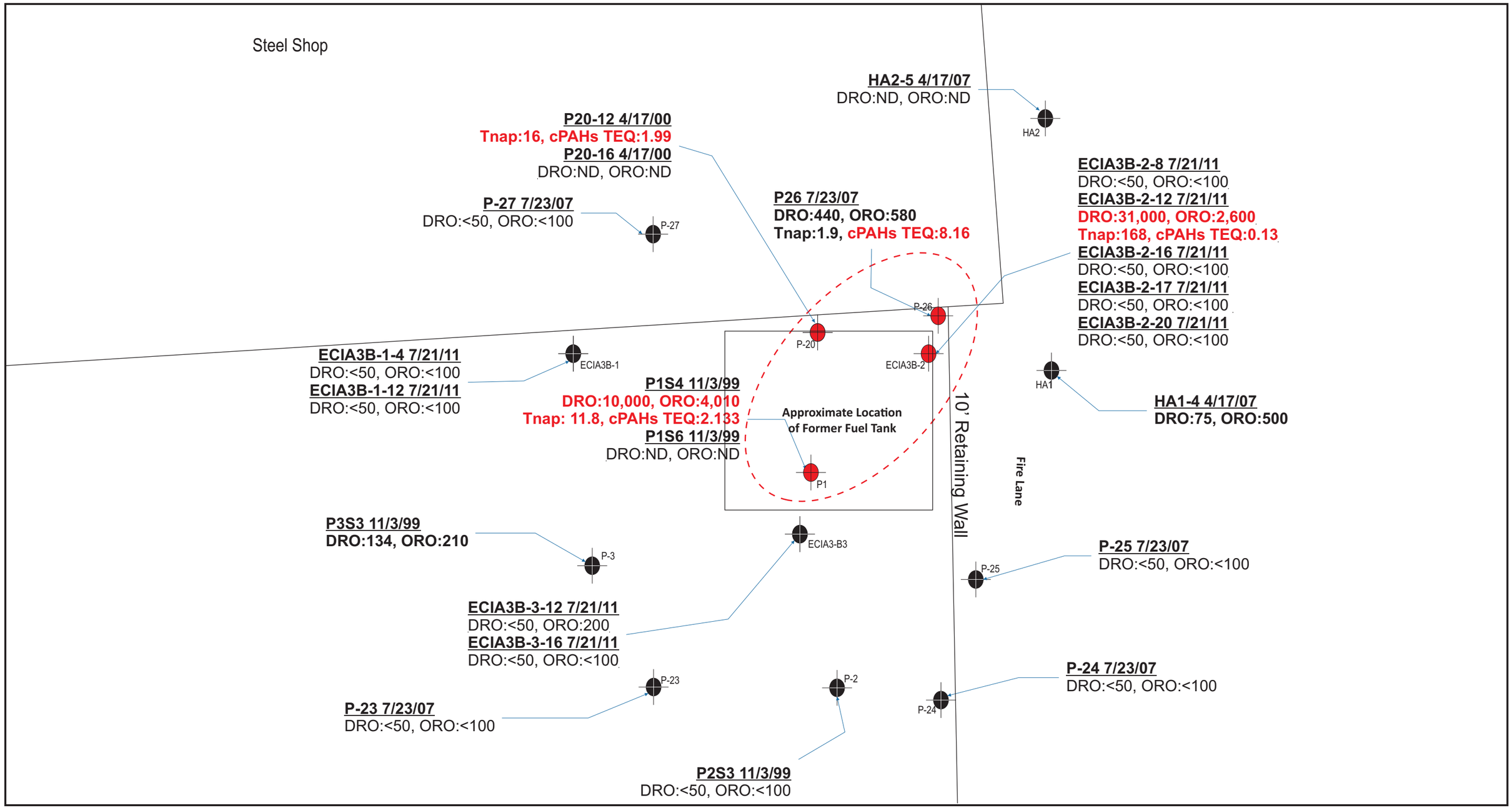

N

0 7.5 15 30

Approximate Scale

Legend

- Soil Samples < MTCA
- Soil Samples >MTCA
- Estimated Area of Impact

DRO: Diesel Range Organics

ORO: Oil Range Organics

Tnap: Total Naphtalene

cPAHs TEQ: Carcinogenic Polycyclic Aromatic Hydrocarbon Toxic Equivalent Quantity

Area 3 Historical Soil Sample Map
Groundwater Monitoring Well Installation & Sampling Report
4425 S 3rd Ave
Everett, Washington 98203

Date:	December 3, 2019
Completed By:	C. Long
Reviewed By.:	S. Spencer
Version:	ECI-001
Project No.:	0377-08

Figure No.: 05

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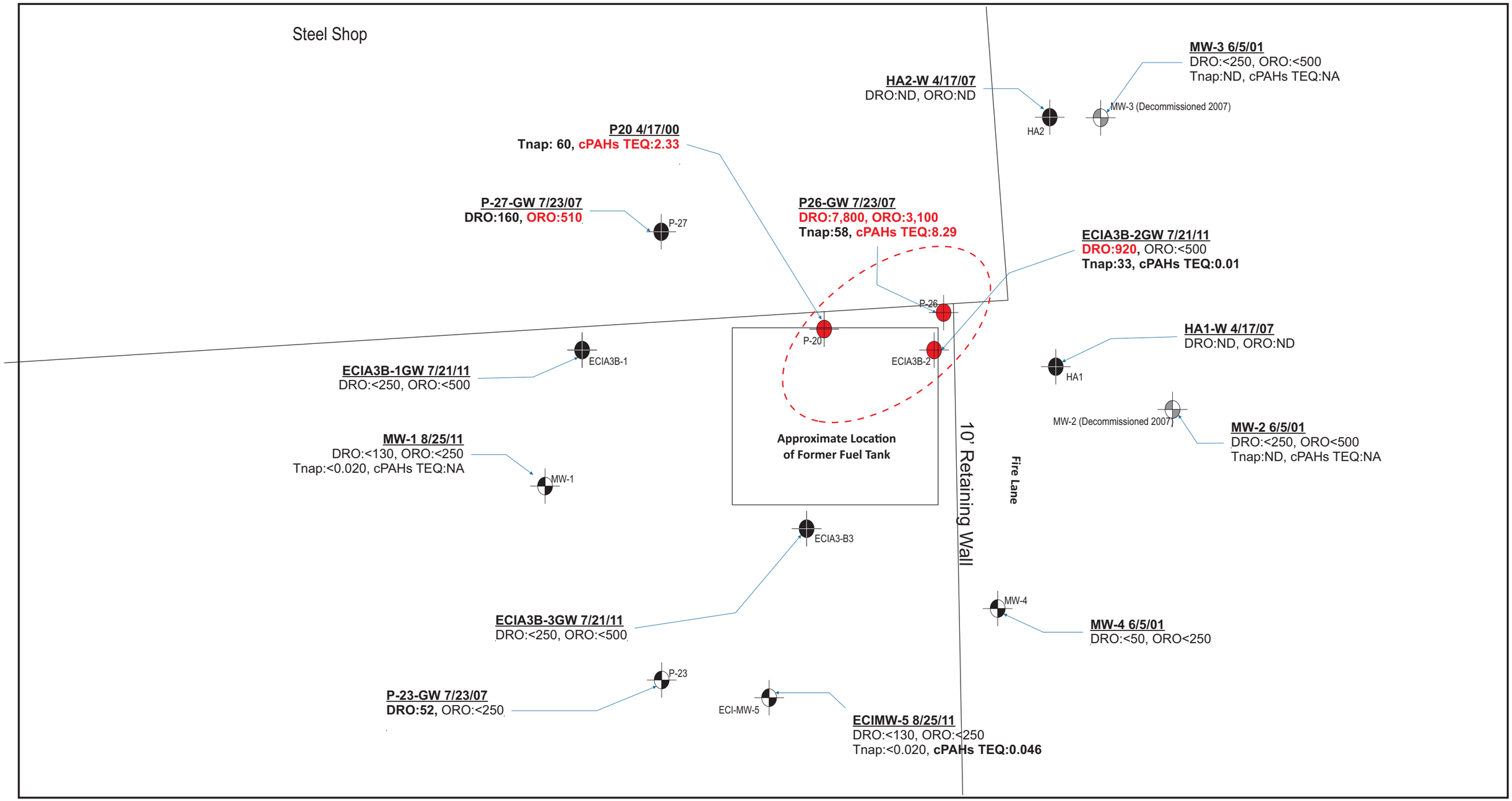

Legend

- Boring Groundwater Samples < MTCA
- Monitoring Well Groundwater Samples < MTCA
- Groundwater Samples > MTCA
- Estimated Area of Impact

DRO: Diesel Range Organics

ORO: Oil Range Organics

Tnap: Total Naphthalenes

cPAHs TEQ: Carcinogenic Polycyclic Aromatic Hydrocarbon Toxic Equivalent Quantity

N

0 7.5 15 30

Approximate Scale

Area 3 Historical Groundwater Sample Map
Groundwater Monitoring Well Installation & Sampling Report
4425 S 3rd Ave
Everett, Washington 98203

Date:	December 3, 2019
Completed By:	C. Long
Reviewed By.:	S. Spencer
Version:	ECI-001
Project No.:	0377-08

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Photograph One: Advancing Boring MW6

Photograph Two: MW7 Soil Core

Photograph Three: Preparing to Develop MW7

Photograph Four: Drilling sample with sheen from MW8

Photograph Five: Finished MW8

Photograph Six: Drilling of MW9

N

Not To Scale

Project Photographs

Groundwater Monitoring Well Installation & Sampling Report

4425 S 3rd Ave

Everett, Washington 98203

Date:	December 3, 2019
Completed By:	C. Long
Reviewed By.:	S.Spencer
Version:	ECI-001
Project No.:	0377-08

Figure No.: 07

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Appendix B – Project Tables

Table 4: Summary of Area 3 Soil Analytical Results

Table 5: Summary of Area 3 Groundwater Analytical Results

Table 6: Summary of Area 3 Monitoring Well Analytical Results

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Table 4: Summary of Area 3 Soil Analytical Results

Acrowood - Groundwater Monitoring Well Installation & Sampling

4425 S 3rd Avenue, Everett, Washington

Sample ID	Sample Depth (ft)	Date Sampled	Total Petroleum Hydrocarbons (NWTPH-DX) (mg/kg)		Semivolatile Organic Compounds (EPA 8270 SIM) (mg/kg)																		
			Diesel (DRO)	Heavy Oil (ORO)	Naphthalene	2-Methyl naphthlene	1-Methyl naphthlene	Total Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo (a) anthracene	Chrysene	Benzo (b) fluoranthene	Benzo (k) fluoranthene	Benzo (a) pyrene	Indeno (1,2,3-cd) pyrene	Dibenz (a,h) anthracene	Benzo (g,h,i) perylene	cPAHs TEQ as Benzo (a) Pyrene
Adapt Engineering Historical Soil Results																							
P1S4	16	11/3/1999	**10,000**	**4,010**	-	-	-	**11.8**	**1.21**	**6.27**	**7.86**	**28.2**	**6.94**	**2.86**	**11.3**	**4.62**	**7.01**	**0.705**	<ND	**1.53**	<ND	<ND	**0.745**	**2.133**
P1S6	22	11/3/1999	<ND	<ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
P2S3	12	11/3/1999	<ND	<ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
P3S3	12	11/3/1999	**134**	**210**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
P20-12	9-12	4/17/2000	-	-	-	-	-	**16**	**ND**	**7.9**	**12**	**33**	**7.1**	**2.1**	**11**	**5.1**	**8**	<2	<2	**1.4**	<ND	<ND	<2	**1.99**
P20-16	12-16	4/17/2000	<ND	<ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
HA1-4	3-4	4/17/2000	**75**	**500**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
HA2-5	4-5	4/17/2000	<ND	<ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
P-23	12-14	7/23/2007	<50	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
P-24	12-14	7/23/2007	<50	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
P-25	4-6	7/24/2007	<50	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
P-26	12-14	7/24/2007	**440**	**580**	-	-	-	**1.9**	<0.5	**1.9**	**2**	**5.8**	**1.6**	**1.7**	**4.3**	**3.1**	**5**	**7**	**2.9**	**6.1**	**5.2**	**1.9**	**6.2**	**8.16**
P-27	12-14	7/24/2007	<50	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
ECI Historical Soil Results																								
ECIA3B-1:4	4	7/21/2011	<50	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
ECIA3B-1:12	12	7/21/2011	<50	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
ECIA3B-2:8	8	7/21/2011	<50	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
ECIA3B-2:12	12	7/21/2011	**31,000**	**2,600**	**14**	**96**	**58**	**154**	**1.5**	**11**	**2.4**	**29**	**7.3**	**ND**	**ND**	**0.3**	**0.61**	<ND	**0.91**	<ND	<ND	<ND	**0.61**	**0.13**
ECIA3B-2:16	16	7/21/2011	<50	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
ECIA3B-2:17	17	7/21/2011	**250**	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
ECIA3B-2:20	20	7/21/2011	<50	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
ECIA3B-3:12	12	7/21/2011	<50	**200**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
ECIA3B-3:16	16	7/21/2011	<50	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
ECI 2019 Well Installation Soil Results																								
MW6-6	6	11/12/2019	<25	<50	<0.02	<0.02	<0.02	<0.02	--	--	--	--	--	--	--	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	--	<0.02
MW7-5	5	11/12/2019	**80**	**210**	<0.02	<0.02	<0.02	<0.02	--	--	--	--	--	--	--	**0.036**	**0.059**	**0.064**	<0.02	**0.039**	**0.097**	**0.022**	--	**0.06149**
MW8-5	5	11/12/2019	**27**	**120**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW8-15	15	11/12/2019	**11,000**	**5,700**	**18**	**130**	**90**	**238**	--	--	--	--	--	--	--	**6.4**	**11**	**2.6**	**0.86**	**3.1**	**1.2**	**0.8**	--	**4.396**
MW8-19	19	11/12/2019	<25	<50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW9-11	11	11/12/2019	<25	<50	<0.02	<0.02	<0.02	<0.02	--	--	--	--	--	--	--	**0.041**	**0.063**	**0.096**	**0.03**	**0.043**	**0.043**	<0.020	--	**0.06463**
Laboratory Reporting Limit			25	50	0.020	0.020	0.020	--	0.020							0.020	0.020	0.020	0.020	0.020	0.020	0.020		--
Ecology MTCA Method A Cleanup Levels			2,000	2,000	5	5	5	5	NE	NE	NE	NE	NE	NE	NE	1.0	10	1.0	1.0	0.1	1.0	1.0	NE	0.1

Notes:

mg/kg = Milligrams per kilogram

MTCA = Model Toxics Control Act

-- = not analyzed for this constituent

< = not detected above laboratory detection limits

NE = Ecology has not designated a MTCA Method A cleanup level for this constituent

Bold indicates a detected concentration that is below Ecology MTCA Method A Cleanup Levels

Bold and Shaded indicates the detected concentration exceeds Ecology MTCA Method A or B Cleanup Levels

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Table 5: Summary of Area 3 Groundwater Results
Acrowood - Groundwater Monitoring Well Installation & Sampling
4425 S 3rd Avenue, Everett, Washington

Sample Number	Date Sampled	Total Petroleum Hydrocarbons (µg/l)		Polycyclic Aromatic Hydrocarbons (PAHs) (µg/l)																			cPAHs TEQ as Benzo (a) Pyrene
		Diesel (DRO)	Heavy Oil (ORO)	Naphthalene	2-Methyl naphthlene	1-Methyl naphthlene	Total Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo (a) anthracene	Chrysene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (k) fluoranthene	Indeno (1,2,3-cd) pyrene	Dibenz (a,h) anthracene	Benzo (g,h,i) perylene	
Adapt Engineering Historical Groundwater Results																							
P-20	4/17/00	--	--	--	--	--	**60**	**2.1**	**16**	**17**	**36**	**8.7**	**2.7**	**12**	**5.6**	**8.8**	**0.77**	<0.5	**1.6**	<0.5	<0.5	**0.94**	**2.33**
HA1-W	4/17/00	<ND	<ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
HA2-W	4/17/00	<ND	<ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
P23-GW	7/23/07	**52**	<250	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
P26-GW	7/24/07	**7,800**	**3,100**	--	--	--	**58**	<1	**17**	**16**	**43**	**11**	**4.9**	**18**	**7.4**	**13**	**5.4**	**2.3**	**6.2**	**3.4**	**1.1**	**4.4**	**8.29**
P27-GW	7/24/07	**160**	**510**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ECI Historical Groundwater Results																							
ECIA3B-1GW	7/21/2011	<250	<500	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ECIA3B-2GW	7/21/2011	**920**	<500	**6**	**15**	**12**	**33**	**0.1**	**0.3**	**0.2**	--	<0.1	<0.1	--	**0.1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	--	**0.01**
ECIA3B-3GW	7/21/2011	<250	<500	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ecology MTCA Method A Cleanup Levels		500	500	160	160	160	160	NE	NE	NE	NE	NE	NE	NE	NE	NE	0.1	NE	NE	NE	NE	NE	0.1

Notes:
(µg/l) = micrograms per liter
-- Not analyzed for constituent
< or ND indicates Not detected above the laboratory reporting limit
Bold indicates the detected concentration is below Ecology MTCA Method A cleanup levels
Red Bold indicates the detected concentration exceeds Ecology MTCA Method A cleanup level

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Offices In: Anchorage | Tacoma | Portland

Table 6: Summary of Area 3 Monitoring Well Analytical Results
Acrowood - Groundwater Monitoring Well Installation & Sampling
4425 S 3rd Avenue, Everett, WA

Sample Number	Date Sampled	Total Petroleum Hydrocarbons (NWTPH-Dx) (µg/l)		Semivolatile Organic Compounds (EPA 8270 SIM) (µg/l)																		
		Diesel (DRO)	Heavy Oil (ORO)	Naphthalene	2-Methyl Naphthalene	1-Methyl Naphthalene	Total Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo (a) anthracene	Chrysene	Benzo (b) fluoranthene	Benzo (k) fluoranthene	Benzo (a) pyrene	Indeno (1,2,3-cd) pyrene	Dibenz (a,h) anthracene	Benzo (g,h,i) perylene	cPAHs TEQ as Benzo (a) Pyrene
MW1	8/10/00	<250	<500	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND
	11/15/00	<250	<500	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND
	2/23/01	<250	<500	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND
	6/5/01	<250	<500	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND
	6/20/07	<50	<250	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1/17/08	<50	<250	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/21/08	<50	<250	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/7/08	<50	<250	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/25/11	<130	<250	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	11/13/19	**150**	<250	<0.040	<0.040	<0.040	<0.040	--	--	--	--	--	--	--	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	--	<0.040
MW2	8/10/00	<250	<500	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND
	11/15/00	<250	<500	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND
	2/23/01	<250	<500	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND
	6/5/01	<250	<500	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND
	Well reported to be destroyed - was decomissioned by Adapt Engineering																						
MW3	8/10/00	<250	<500	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND
	11/15/00	<250	<500	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND
	2/23/01	<250	<500	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND
	6/5/01	<250	<500	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND	<ND
	Well reported to be destroyed - was decomissioned by Adapt Engineering																						
MW4	8/10/00	<50	<250	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/15/00	<50	<250	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/23/01	<50	<250	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/5/01	<50	<250	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/13/19	<130	<250	<0.040	<0.040	<0.040	<0.040	--	--	--	--	--	--	--	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040		<0.040
MW5	8/25/11	<130	<250	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	**0.036**	**0.034**	**0.03**	**0.041**	**0.048**	**0.03**	**0.032**	**0.028**	<0.02	**0.036**	**0.046**
	11/13/19	<130	<250	<0.040	<0.040	<0.040	<0.040	--	--	--	--	--	--	--	**0.16**	**0.21**	**0.31**	**0.13**	**0.16**	**0.13**	**0.054**	--	**0.2405**
MW6	11/13/19	<130	<250	<0.040	<0.040	<0.040	<0.040	--	--	--	--	--	--	--	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	--	<0.040
MW7	11/13/19	**320**	**400**	<0.040	<0.040	<0.040	<0.040	--	--	--	--	--	--	--	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	--	<0.040
MW8	11/14/19	**16,000**	**4,000**	**32**	**71**	**71**	**174**	--	--	--	--	--	--	--	**0.22**	**0.33**	**0.068**	<0.040	**0.079**	<0.040	<0.040	--	**0.1111**
MW9	11/13/19	**200**	<250	<0.040	**0.17**	**0.2**	**0.37**	--	--	--	--	--	--	--	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	--	<0.040
Laboratory Reporting Limit		130	250	0.040	0.040	0.040	0.040	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.02	0.04
Ecology MTCA Method A Cleanup Levels		500	500	160	160	160	160	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	0.1	NE	NE	NE	0.1

Notes:
(µg/l) = micrograms per liter
-- Not analyzed for constituent
< Not detected above the laboratory reporting limit
Dates in blue indicate current sampling event
Bold indicates the detected concentration is below Ecology MTCA Method A cleanup levels
Red Bold indicates the detected concentration exceeds Ecology MTCA Method A cleanup level

Appendix C – Project Documentation

Well Installation Logs

Field Sampling Forms

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Offices In: Anchorage | Tacoma | Portland

Project:	Monitoring Well Installation
Location:	4425 S 3rd Avenue Everett, WA
Client:	Acrowood

Boring ID: MW6

Project Number: 0377-08

Date Start/Finish:	11/12/2019	**Drilling Method:**	Direct Push
Logged By:	S. Holt	**Auger ID/OD:**	--
Checked By:	D. Polivka	**Borehole ID/OD:**	2"
Contractor:	Standard Environmental Probe	**Sampler:**	Geoprobe
Operator:	Russell	**Hammer Wt./Fall:**	--
Boring Location:	NW of building corner	**Ground Elevation:**	
Coordinates:		**Water Depth:**	6'
Weather:	Rain	**Boring Depth:**	10'

Unified Soil Classification System

NON-COHESIVE SOILS	GW	WELL-GRADED GRAVEL, FINE TO COARSE GRAVEL
	GP	POORLY-GRADED GRAVEL
	GM	SILTY GRAVEL
	GC	CLAYEY GRAVEL
	SW	WELL-GRADED SAND, FINE TO COARSE SAND
	SP	POORLY-GRADED SAND
	SM	SILTY SAND
	SC	CLAYEY SAND
COHESIVE SOILS	ML	SILT
	CL	CLAY
	OL	ORGANIC SILT, ORGANIC CLAY
	MH	SILT OF HIGH PLASTICITY, ELASTIC SILT
	CH	CLAY OF HIGH PLASTICITY, FAT CLAY
	OH	ORGANIC CLAY, ORGANIC SILT
	PT	PEAT

Depth (ft bgs)	Sample No.	Time	PID Reading	Remarks: Odor, Sheen, Etc	Soil and Rock Description	Unified Classification	Well Construction Detail
0					0' to 2.5' Dark brown to black topsoil		
1							
2					2.5' to 4' Reddish brown SAND	SP	Bentonite
3							Sand
4					4' to 5' Medium brown SAND	SP	
5				ATD	Medium brown silty SAND, moist	SP	
6	MW6-6	8:45			6' to 10' Brown SAND with some gravel, wet	SP	
7							
8							
9							
10							
11							
12							
13							
14							
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29							
30							

Notes: Well Tag ID: BLS 084

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Offices In: Anchorage | Tacoma | Portland

Project:	Monitoring Well Installation
Location:	4425 S 3rd Avenue Everett, WA
Client:	Acrowood

Boring ID: MW7

Project Number: 0377-08

Date Start/Finish:	11/12/2019	**Drilling Method:**	Direct Push
Logged By:	S. Holt	**Auger ID/OD:**	--
Checked By:	D. Polivka	**Borehole ID/OD:**	2"
Contractor:	Standard Environmental Probe	**Sampler:**	Geoprobe
Operator:	Russell	**Hammer Wt./Fall:**	--
Boring Location:		**Ground Elevation:**	
Coordinates:		**Water Depth:**	5'
Weather:	Cloudy	**Boring Depth:**	10'

Unified Soil Classification System

NON-COHESIVE SOILS	GW	WELL-GRADED GRAVEL, FINE TO COARSE GRAVEL
	GP	POORLY-GRADED GRAVEL
	GM	SILTY GRAVEL
	GC	CLAYEY GRAVEL
	SW	WELL-GRADED SAND, FINE TO COARSE SAND
	SP	POORLY-GRADED SAND
	SM	SILTY SAND
	SC	CLAYEY SAND
COHESIVE SOILS	ML	SILT
	CL	CLAY
	OL	ORGANIC SILT, ORGANIC CLAY
	MH	SILT OF HIGH PLASTICITY, ELASTIC SILT
	CH	CLAY OF HIGH PLASTICITY, FAT CLAY
	OH	ORGANIC CLAY, ORGANIC SILT
	PT	PEAT

Depth (ft bgs)	Sample No.	Time	PID Reading	Remarks: Odor, Sheen, Etc	Soil and Rock Description	Unified Classification	Well Construction Detail
0					0' to 4' Dark brown silty SAND with organic matter	SP	
1							
2							Bentonite
3							Sand
4				▽ ATD	4' to 5' Reddish brown silty SAND	SP	
5	MW7-5	9:30			5' to 10' Medium brown silty SAND, grades to sand with some gravel, wet	SP	
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
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27							
28							
29							
30							

Notes: Well Tag ID: BLS 085

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Offices In: Anchorage | Tacoma | Portland

Project:	Monitoring Well Installation
Location:	4425 S 3rd Avenue Everett, WA
Client:	Acrowood

Boring ID: MW8

Project Number: 0377-08

Date Start/Finish:	11/12/2019	**Drilling Method:**	Direct Push
Logged By:	S. Holt	**Auger ID/OD:**	--
Checked By:	D. Polivka	**Borehole ID/OD:**	2"
Contractor:	Standard Environmental Probe	**Sampler:**	Geoprobe
Operator:	Russell	**Hammer Wt./Fall:**	--
Boring Location:	In former contaminated area	**Ground Elevation:**	
Coordinates:		**Water Depth:**	12'
Weather:	Rain	**Boring Depth:**	20'

Unified Soil Classification System

NON-COHESIVE SOILS	GW	WELL-GRADED GRAVEL, FINE TO COARSE GRAVEL
	GP	POORLY-GRADED GRAVEL
	GM	SILTY GRAVEL
	GC	CLAYEY GRAVEL
	SW	WELL-GRADED SAND, FINE TO COARSE SAND
	SP	POORLY-GRADED SAND
	SM	SILTY SAND
	SC	CLAYEY SAND
COHESIVE SOILS	ML	SILT
	CL	CLAY
	OL	ORGANIC SILT, ORGANIC CLAY
	MH	SILT OF HIGH PLASTICITY, ELASTIC SILT
	CH	CLAY OF HIGH PLASTICITY, FAT CLAY
	OH	ORGANIC CLAY, ORGANIC SILT
	PT	PEAT

Depth (ft bgs)	Sample No.	Time	PID Reading	Remarks: Odor, Sheen, Etc	Soil and Rock Description	Unified Classification	Well Construction Detail
0					0' to 10' Black silty sandy FILL: streaks of orange and blue at 5'	FILL	
1							
2							Bentonite
3							
4							
5	MW8-5	10:45		Odor			
6							
7							
8							Sand
9							
10	MW8-10	10:45		Heavy odor, slight sheen	10' to 15' Black to gray/green silty SAND, with higher silt content, sheen on soil	SP	
11							
12				ATD			
13							
14							
15	MW8-15	10:45		Heavy odor, heavy sheen	15' to 20' sandy SILT: heavy sheen and odor on soil, green color grades to sand at 19'	ML	
16							
17							
18							
19	MW8-19	10:45		Slight odor, no sheen			
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

Notes: Well Tag ID: BLS 086

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Offices In: Anchorage | Tacoma | Portland

Project:	Monitoring Well Installation
Location:	4425 S 3rd Avenue Everett, WA
Client:	Acrowood

Boring ID: MW9

Project Number: 0377-08

Date Start/Finish:	11/12/2019	**Drilling Method:**	Direct Push
Logged By:	S. Holt	**Auger ID/OD:**	--
Checked By:	D. Polivka	**Borehole ID/OD:**	2"
Contractor:	Standard Environmental Probe	**Sampler:**	Geoprobe
Operator:	Russell	**Hammer Wt./Fall:**	--
Boring Location:	Inside building	**Ground Elevation:**	
Coordinates:		**Water Depth:**	12'
Weather:	Cloudy	**Boring Depth:**	20'

Unified Soil Classification System

NON-COHESIVE SOILS	GW	WELL-GRADED GRAVEL, FINE TO COARSE GRAVEL
	GP	POORLY-GRADED GRAVEL
	GM	SILTY GRAVEL
	GC	CLAYEY GRAVEL
	SW	WELL-GRADED SAND, FINE TO COARSE SAND
	SP	POORLY-GRADED SAND
	SM	SILTY SAND
	SC	CLAYEY SAND
COHESIVE SOILS	ML	SILT
	CL	CLAY
	OL	ORGANIC SILT, ORGANIC CLAY
	MH	SILT OF HIGH PLASTICITY, ELASTIC SILT
	CH	CLAY OF HIGH PLASTICITY, FAT CLAY
	OH	ORGANIC CLAY, ORGANIC SILT
	PT	PEAT

Depth (ft bgs)	Sample No.	Time	PID Reading	Remarks: Odor, Sheen, Etc	Soil and Rock Description	Unified Classification	Well Construction Detail
0					Top 3" of concrete		
1					0' to 7.5' Medium brown SAND with mottled organics: layer of anthracite at 2.5' to 3', layer of black organic sand at 7.5' to 8'	SP	
2							Bentonite
3							
4							
5							
6							
7					8' to 20' Medium brown to red SAND: wet at 12'	SP	
8							Sand
9							
10							
11	MW9-11	13:35		▽ ATD			
12							
13							
14							
15							
16							
17							
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30							

Notes: Well Tag ID: BLS 087

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MONITORING WELL SAMPLING LOG

Date:11-13-19

Project Name: Acrowood	Project No.: 0377-08	Well No.: MW1
Field Personnel: CZL	Static Water Level: 12.76	
Water Level Measurement Method: E-Tape		
Time Start Purge: 2:40	Time End Purge: 3:00	Time Sampled: 3:02
Measuring Point Description: TOC		
Purge Method: Low Flow	Purge Depth: 1' from bottom	

Well Volume Calculation **(Fill in before purging)**	Total Depth (ft)	Depth to Water (ft)	Water Column (ft)	Multiplier for Casing Diameter (in)		Casing Volume (gal)
	20.07	12.76				
	Notes:					

Time	2:40	2:45	2:50	2:55	3:00	
Depth to Water (ft)						
Volume Purged (mL)	0	500	1000	1500	2000	
pH (0.1)	7.71	6.03	5.89	5.88	5.87	
Temperature C. (3%)	15.8	16.50	16.55	16.50	16.50	
Conductivity uS/cm (3%)	198	174	161	159	170	
Turbidity (10%)	0	0	0	0	0	
Dissolved Oxygen (0.3)	3.01	0	47.22	47.22	0	
ORP	178	199	209	215	219	
Color	Clear	Clear	Clear	Clear	Clear	
Odor/Sheen	None	None	None	None	None	

Comments:

Percent Recovery: Depth to Water at Sampling (ft): Note(s):

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sample No.	Sample Quantity	Container Type 40 mL VOA/500 mL Amber / 1 L Amber / 250 mL Poly	Preservative / Field Filtered (FF)	Analysis Request	Visual Observation (Clear, Cloudy, Silty, Etc.)
MW1	2	500mL Amber	None	DRO/ORO PAH	Clear

Total Discharge (gal): 0.5gal	Disposal Method: Drum	Drum Designation(s)/Volume:

WELL HEAD CONDITIONS CHECKLIST (Circle YES or NO -- if NO, add comments)

Well Security Devices OK (Bollards, Christy Lid, Casing Lid and Lock): YES / NO Well Casing: YES / NO

Inside of Well Head and Outer Casing Dry: YES / NO

Comments:

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MONITORING WELL SAMPLING LOG

Date:11-13-19

Project Name: Acrowood	Project No.:0377-08	Well No.: MW4
Field Personnel: CZL	Static Water Level: 4.70	
Water Level Measurement Method: E-Tape		
Time Start Purge: 11:20	Time End Purge: 11:40	Time Sampled: 11:42
Measuring Point Description: TOC		
Purge Method: Low Flow	Purge Depth: 1' from bottom	

Well Volume Calculation **(Fill in before purging)**	Total Depth (ft)	Depth to Water (ft)	Water Column (ft)	Multiplier for Casing Diameter (in)			Casing Volume (gal)
	9.19	4.70					
	Notes:						

Time	11:20	11:25	11:30	11:35	11:40	
Depth to Water (ft)						
Volume Purged (mL)	0	500	1000	1500	2000	
pH (0.1)	6.76	--	--	--	--	
Temperature C. (3%)	14.23	14.10	14.00	14.00	14.00	
Conductivity uS/cm (3%)	177	188	077	194	164	
Turbidity (10%)	0	0	0	0	0	
Dissolved Oxygen (0.3)	14.13	49.59	49.60	49.70	49.70	
ORP	50	-580	-549	-568	-534	
Color	Cloudy	Cloudy	Clear	Clear	Clear	
Odor/Sheen	None	None	None	None	None	

Comments:

Percent Recovery: Depth to Water at Sampling (ft): Note(s):

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sample No.	Sample Quantity	Container Type 40 mL VOA/500 mL Amber / 1 L Amber / 250 mL Poly	Preservative / Field Filtered (FF)	Analysis Request	Visual Observation (Clear, Cloudy, Silty, Etc.)
MW4	2	500 mL Amber	None	DRO/ORO PAH	Clear

Total Discharge (gal):	Disposal Method: Drum	Drum Designation(s)/Volume:

WELL HEAD CONDITIONS CHECKLIST (Circle YES or NO -- if NO, add comments)

Well Security Devices OK (Bollards, Christy Lid, Casing Lid and Lock): YES / NO Well Casing: YES / NO

Inside of Well Head and Outer Casing Dry: YES / NO

Comments:

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MONITORING WELL SAMPLING LOG

Date:11-13-19

Project Name: Acrowood	Project No.: 0377-08	Well No.: MW5
Field Personnel: CZL	Static Water Level: 13.41	
Water Level Measurement Method: E-Tape		
Time Start Purge: 3:45	Time End Purge: 4:05	Time Sampled: 4:07
Measuring Point Description: TOC		
Purge Method: Low Flow	Purge Depth: 1' from bottom	

Well Volume Calculation **(Fill in before purging)**	Total Depth (ft)	Depth to Water (ft)	Water Column (ft)	Multiplier for Casing Diameter (in)			Casing Volume (gal)
	19.83	13.41					
	Notes:						

Time	3:45	3:50	3:55	4:00	4:05	
Depth to Water (ft)						
Volume Purged (mL)	0	500	1000	1500	2000	
pH (0.1)	5.96	5.83	5.81	5.91	7..43	
Temperature C. (3%)	15.17	15.80	15.70	15.60	15.50	
Conductivity uS/cm (3%)	185	183	186	186	184	
Turbidity (10%)	0	0	0	0	0	
Dissolved Oxygen (0.3)	48.08	2.29	47.88	48.08	48.18	
ORP	45	90	119	133	62	
Color	Cloudy	Clear	Clear	Clear	Clear	
Odor/Sheen	None	None	None	None	None	

Comments:

Percent Recovery: Depth to Water at Sampling (ft): Note(s):

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sample No.	Sample Quantity	Container Type 40 mL VOA/500 mL Amber / 1 L Amber / 250 mL Poly	Preservative / Field Filtered (FF)	Analysis Request	Visual Observation (Clear, Cloudy, Silty, Etc.)
MW5	2	500 mL Amber	None	DRO/ORO PAH	Clear

Total Discharge (gal): 0.5 gal	Disposal Method:	Drum Designation(s)/Volume:

WELL HEAD CONDITIONS CHECKLIST (Circle YES or NO -- if NO, add comments)

Well Security Devices OK (Bollards, Christy Lid, Casing Lid and Lock): YES / NO Well Casing: YES / NO

Inside of Well Head and Outer Casing Dry: YES / NO

Comments:

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Offices In: Anchorage | Tacoma | Portland

MONITORING WELL SAMPLING LOG

Date:11-13-19

Project Name: Acrowood	Project No.: 0377-08	Well No.: MW6
Field Personnel: CZL	Static Water Level: 4.21	
Water Level Measurement Method: E-Tape		
Time Start Purge: 10:00	Time End Purge: 10:20	Time Sampled: 10:22
Measuring Point Description: TOC		
Purge Method: Low Flow	Purge Depth: 1' from bottom	

Well Volume Calculation **(Fill in before purging)**	Total Depth (ft)	Depth to Water (ft)	Water Column (ft)	Multiplier for Casing Diameter (in)			Casing Volume (gal)
	10.41	4.21					
	Notes:						

Time	10:00	10:05	10:10	10:15	10:20	
Depth to Water (ft)						
Volume Purged (mL)	0	500	1000	150	2000	
pH (0.1)	8.16	12	--	--	--	
Temperature C. (3%)	16.38	14.20	14.20	14.20	14.20	
Conductivity uS/cm (3%)	155	141	140	137	138	
Turbidity (10%)	0	0	0	0	0	
Dissolved Oxygen (0.3)	1.60	0	0	0	0	
ORP	74	-239	-502	-694	-797	
Color	Cloudy	Cloudy	Cloudy	Cloudy	Clear	
Odor/Sheen	None	None	None	None	None	

Comments:

Percent Recovery: Depth to Water at Sampling (ft): Note(s):

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sample No.	Sample Quantity	Container Type 40 mL VOA/500 mL Amber / 1 L Amber / 250 mL Poly	Preservative / Field Filtered (FF)	Analysis Request	Visual Observation (Clear, Cloudy, Silty, Etc.)
MW6	2	500 mL Amber	None	DOR/ORO PAH	Clear

Total Discharge (gal): 0.5 gal	Disposal Method: Drum	Drum Designation(s)/Volume:

WELL HEAD CONDITIONS CHECKLIST (Circle YES or NO -- if NO, add comments)

Well Security Devices OK (Bollards, Christy Lid, Casing Lid and Lock): YES / NO Well Casing: YES / NO

Inside of Well Head and Outer Casing Dry: YES / NO

Comments:

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MONITORING WELL SAMPLING LOG

Date:11-13-19

Project Name: Acrowood	Project No.: 0377-08	Well No.: MW7
Field Personnel: CZL	Static Water Level: 4.58	
Water Level Measurement Method: E-Tape		
Time Start Purge: 10:42	Time End Purge: 11:02	Time Sampled: 11:05
Measuring Point Description: TOC		
Purge Method: Low Flow	Purge Depth: 1' from bottom	

Well Volume Calculation **(Fill in before purging)**	Total Depth (ft)	Depth to Water (ft)	Water Column (ft)	Multiplier for Casing Diameter (in)		Casing Volume (gal)
	9.46	4.58				
	Notes:					

Time	10:42	10:47	10:52	10:57	11:02	
Depth to Water (ft)						
Volume Purged (mL)	0	500	1000	1500	2000	
pH (0.1)	6.35	11.06	--	--	--	
Temperature C. (3%)	14.60	14.43	14.33	14.30	14.35	
Conductivity uS/cm (3%)	235	219	231	233	231	
Turbidity (10%)	632	589	350	130	0	
Dissolved Oxygen (0.3)	59.17	49.28	49.28	49.38	49.28	
ORP	62.4	-264	-726	-804	-849	
Color	Cloudy	Cloudy	Semi-cloudy	Clear	Clear	
Odor/Sheen	None	None	None	None	None	

Comments:

Percent Recovery: Depth to Water at Sampling (ft): Note(s):

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sample No.	Sample Quantity	Container Type 40 mL VOA/500 mL Amber / 1 L Amber / 250 mL Poly	Preservative / Field Filtered (FF)	Analysis Request	Visual Observation (Clear, Cloudy, Silty, Etc.)
MW7	2	500 mL Amber	None	DRO/ORO PAH	Clear

Total Discharge (gal): 0.5 gal	Disposal Method:	Drum Designation(s)/Volume:

WELL HEAD CONDITIONS CHECKLIST (Circle YES or NO -- if NO, add comments)

Well Security Devices OK (Bollards, Christy Lid, Casing Lid and Lock): YES / NO Well Casing: YES / NO

Inside of Well Head and Outer Casing Dry: YES / NO

Comments:

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MONITORING WELL SAMPLING LOG

Date:11-14-19

Project Name: Acrowood	Project No.: 0377-08	Well No.: MW8
Field Personnel: CZL	Static Water Level: 13.39	
Water Level Measurement Method: TOC		
Time Start Purge: 8:35	Time End Purge: 8:55	Time Sampled: 8:57
Measuring Point Description: TOC		
Purge Method: Low Flow	Purge Depth: 1' from bottom	

Well Volume Calculation **(Fill in before purging)**	Total Depth (ft)	Depth to Water (ft)	Water Column (ft)	Multiplier for Casing Diameter (in)			Casing Volume (gal)
	18.74	13.39					
	Notes:						

Time	8:35	8:40	8:45	8:50	8:55	
Depth to Water (ft)						
Volume Purged (mL)	0	5800	1000	1500	2000	
pH (0.1)	6.52	6.56	6.54	6.53	6.52	
Temperature C. (3%)	11.81	14.20	14.00	14.10	14.30	
Conductivity uS/cm (3%)	626	588	579	587	563	
Turbidity (10%)	0	0	0	0	0	
Dissolved Oxygen (0.3)	13.93	49.54	49.76	49.55	49.34	
ORP	-64	-67	-61	-66	-56	
Color	Cloudy	Cloudy	Cloudy	Cloudy	Clear	
Odor/Sheen	None	Some sheen	Some sheen	None	None	

Comments:

Percent Recovery: Depth to Water at Sampling (ft): Note(s):

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sample No.	Sample Quantity	Container Type 40 mL VOA/500 mL Amber / 1 L Amber / 250 mL Poly	Preservative / Field Filtered (FF)	Analysis Request	Visual Observation (Clear, Cloudy, Silty, Etc.)
MW8	2	500 mL	None	DRO/ORO PAH	Clear

Total Discharge (gal): 0.5 gal	Disposal Method: Drum	Drum Designation(s)/Volume:

WELL HEAD CONDITIONS CHECKLIST (Circle YES or NO -- if NO, add comments)

Well Security Devices OK (Bollards, Christy Lid, Casing Lid and Lock): YES / NO Well Casing: YES / NO

Inside of Well Head and Outer Casing Dry: YES / NO

Comments:

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MONITORING WELL SAMPLING LOG

Date:11-13-19

Project Name: Acrowood	Project No.: 0377-08	Well No.: MW9
Field Personnel: CZL	Static Water Level: 11.18	
Water Level Measurement Method: E-Tape		
Time Start Purge: 3:15	Time End Purge: 3:35	Time Sampled: 3:37
Measuring Point Description: TOC		
Purge Method: Low Flow	Purge Depth: 1' from bottom	

Well Volume Calculation **(Fill in before purging)**	Total Depth (ft)	Depth to Water (ft)	Water Column (ft)	Multiplier for Casing Diameter (in)			Casing Volume (gal)
	16.59	11.18					
	Notes:						

Time	3:15	3:20	3:25	3:30	3:35	
Depth to Water (ft)						
Volume Purged (mL)	0	500	1000	1500	2000	
pH (0.1)	6.22	6.35	6.47	9.00	9.27	
Temperature C. (3%)	15.60	15.40	15.40	15.40	15.40	
Conductivity uS/cm (3%)	155	177	176	176	176	
Turbidity (10%)	0	0	0	0	0	
Dissolved Oxygen (0.3)	0.24	48.28	48.28	48.28	48.28	
ORP	156	104	39	-152	-187	
Color	Cloudy	Cloudy	Cloudy	Cloudy	Clear	
Odor/Sheen	None	None	None	None	None	

Comments:

Percent Recovery: Depth to Water at Sampling (ft): Note(s):

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sampling / Field Equipment (Manufacture / Model / Last Calibration): _____ / _____ / _____

Sample No.	Sample Quantity	Container Type 40 mL VOA/500 mL Amber / 1 L Amber / 250 mL Poly	Preservative / Field Filtered (FF)	Analysis Request	Visual Observation (Clear, Cloudy, Silty, Etc.)
MW9	2	500 mL Amber	None	DRO/ORO PAH	Clear

Total Discharge (gal): 0.5 Gal	Disposal Method: Drum	Drum Designation(s)/Volume:

WELL HEAD CONDITIONS CHECKLIST (Circle YES or NO -- if NO, add comments)

Well Security Devices OK (Bollards, Christy Lid, Casing Lid and Lock): YES / NO Well Casing: YES / NO

Inside of Well Head and Outer Casing Dry: YES / NO

Comments:

Appendix D – Project Analytical Results

Laboratory Analytical Report

Chain of Custody

December 4, 2019

Ms. Stephanie Holt
EcoCon, Inc.
PO Box 153
Fox Island, WA 98333

Dear Ms. Holt,

On November 14th, 14 samples were received by our laboratory and assigned our laboratory project number EV19110109. The project was identified as your 0377-08. 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:	EcoCon, Inc. PO Box 153 Fox Island, WA 98333	DATE: ALS JOB#: ALS SAMPLE#:	12/4/2019 EV19110109 EV19110109-01
CLIENT CONTACT:	Stephanie Holt	DATE RECEIVED:	11/14/2019
CLIENT PROJECT:	0377-08	COLLECTION DATE:	11/12/2019 8:45:00 AM
CLIENT SAMPLE ID	MW6-6	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	U	25	1	MG/KG	11/19/2019	EBS
TPH-Oil Range	NWTPH-DX	U	50	1	MG/KG	11/19/2019	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	11/20/2019	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	11/20/2019	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	11/20/2019	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	11/20/2019	JMK
Chrysene	EPA-8270 SIM	U	20	1	UG/KG	11/20/2019	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	11/20/2019	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	11/20/2019	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	11/20/2019	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	11/20/2019	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	11/20/2019	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**103**	11/19/2019	EBS
Terphenyl-d14	EPA-8270 SIM	**129**	11/20/2019	JMK

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

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CERTIFICATE OF ANALYSIS

CLIENT:	EcoCon, Inc. PO Box 153 Fox Island, WA 98333	DATE: ALS JOB#: ALS SAMPLE#:	12/4/2019 EV19110109 EV19110109-02
CLIENT CONTACT:	Stephanie Holt	DATE RECEIVED:	11/14/2019
CLIENT PROJECT:	0377-08	COLLECTION DATE:	11/12/2019 9:30:00 AM
CLIENT SAMPLE ID	MW7-5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	**80**	25	1	MG/KG	11/20/2019	EBS
TPH-Oil Range	NWTPH-DX	**210**	50	1	MG/KG	11/20/2019	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	11/25/2019	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	11/25/2019	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	11/25/2019	JMK
Benzo[A]Anthracene	EPA-8270 SIM	**36**	20	1	UG/KG	11/25/2019	JMK
Chrysene	EPA-8270 SIM	**59**	20	1	UG/KG	11/25/2019	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	**64**	20	1	UG/KG	11/25/2019	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	11/25/2019	JMK
Benzo[A]Pyrene	EPA-8270 SIM	**39**	20	1	UG/KG	11/25/2019	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	**97**	20	1	UG/KG	11/25/2019	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	**22**	20	1	UG/KG	11/25/2019	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**73.1**	11/20/2019	EBS
Terphenyl-d14	EPA-8270 SIM	**101**	11/25/2019	JMK

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:	EcoCon, Inc. PO Box 153 Fox Island, WA 98333	DATE: ALS JOB#: ALS SAMPLE#:	12/4/2019 EV19110109 EV19110109-03
CLIENT CONTACT:	Stephanie Holt	DATE RECEIVED:	11/14/2019
CLIENT PROJECT:	0377-08	COLLECTION DATE:	11/12/2019 10:45:00 AM
CLIENT SAMPLE ID	MW8-5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	**27 HT07**	25	1	MG/KG	12/03/2019	EBS
TPH-Oil Range	NWTPH-DX	**120 HT07**	50	1	MG/KG	12/03/2019	EBS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**113**	12/03/2019	EBS

HT07 -Sample holding time expired prior to sample receipt. It was analyzed at the request of the client. Results should be considered estimated. 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:	EcoCon, Inc. PO Box 153 Fox Island, WA 98333	DATE: ALS JOB#: ALS SAMPLE#:	12/4/2019 EV19110109 EV19110109-05
CLIENT CONTACT:	Stephanie Holt	DATE RECEIVED:	11/14/2019
CLIENT PROJECT:	0377-08	COLLECTION DATE:	11/12/2019 10:45:00 AM
CLIENT SAMPLE ID	MW8-15	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	**11000**	120	5	MG/KG	11/20/2019	EBS
TPH-Oil Range	NWTPH-DX	**5700**	250	5	MG/KG	11/20/2019	EBS
Naphthalene	EPA-8270 SIM	**18000**	200	10	UG/KG	11/26/2019	JMK
2-Methylnaphthalene	EPA-8270 SIM	**130000**	6000	300	UG/KG	11/20/2019	JMK
1-Methylnaphthalene	EPA-8270 SIM	**90000**	6000	300	UG/KG	11/20/2019	JMK
Benzo[A]Anthracene	EPA-8270 SIM	**6400**	200	10	UG/KG	11/26/2019	JMK
Chrysene	EPA-8270 SIM	**11000**	200	10	UG/KG	11/26/2019	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	**2600**	200	10	UG/KG	11/26/2019	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	**860**	200	10	UG/KG	11/26/2019	JMK
Benzo[A]Pyrene	EPA-8270 SIM	**3100**	200	10	UG/KG	11/26/2019	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	**1200**	200	10	UG/KG	11/26/2019	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	**800**	200	10	UG/KG	11/26/2019	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25 5X Dilution	NWTPH-DX	**224 SUR12**	11/20/2019	EBS
Terphenyl-d14 300X Dilution	EPA-8270 SIM	**139**	11/20/2019	JMK
Terphenyl-d14 10X Dilution	EPA-8270 SIM	**90.4**	11/26/2019	JMK

SUR12 -Surrogate recoveries were outside of the control limits due to matrix interference.
Chromatogram indicates that it is likely that sample contains bunker C.

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CERTIFICATE OF ANALYSIS

CLIENT:	EcoCon, Inc. PO Box 153 Fox Island, WA 98333	DATE: ALS JOB#: ALS SAMPLE#:	12/4/2019 EV19110109 EV19110109-06
CLIENT CONTACT:	Stephanie Holt	DATE RECEIVED:	11/14/2019
CLIENT PROJECT:	0377-08	COLLECTION DATE:	11/12/2019 10:45:00 AM
CLIENT SAMPLE ID	MW8-19	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	U, HT07	25	1	MG/KG	12/03/2019	EBS
TPH-Oil Range	NWTPH-DX	U, HT07	50	1	MG/KG	12/03/2019	EBS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**90.9**	12/03/2019	EBS

HT07 -Sample holding time expired prior to sample receipt. It was analyzed at the request of the client. Results should be considered estimated.

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CERTIFICATE OF ANALYSIS

CLIENT:	EcoCon, Inc. PO Box 153 Fox Island, WA 98333	DATE:	12/4/2019
		ALS JOB#:	EV19110109
		ALS SAMPLE#:	EV19110109-07
CLIENT CONTACT:	Stephanie Holt	DATE RECEIVED:	11/14/2019
CLIENT PROJECT:	0377-08	COLLECTION DATE:	11/12/2019 1:35:00 PM
CLIENT SAMPLE ID	MW9-11	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	U	25	1	MG/KG	11/20/2019	EBS
TPH-Oil Range	NWTPH-DX	U	50	1	MG/KG	11/20/2019	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	11/25/2019	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	11/25/2019	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	11/25/2019	JMK
Benzo[A]Anthracene	EPA-8270 SIM	**41**	20	1	UG/KG	11/25/2019	JMK
Chrysene	EPA-8270 SIM	**63**	20	1	UG/KG	11/25/2019	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	**96**	20	1	UG/KG	11/25/2019	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	**30**	20	1	UG/KG	11/25/2019	JMK
Benzo[A]Pyrene	EPA-8270 SIM	**43**	20	1	UG/KG	11/25/2019	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	**43**	20	1	UG/KG	11/25/2019	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	11/25/2019	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**70.1**	11/20/2019	EBS
Terphenyl-d14	EPA-8270 SIM	**113**	11/25/2019	JMK

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

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CERTIFICATE OF ANALYSIS

CLIENT:	EcoCon, Inc. PO Box 153 Fox Island, WA 98333	DATE: ALS JOB#: ALS SAMPLE#:	12/4/2019 EV19110109 EV19110109-08
CLIENT CONTACT:	Stephanie Holt	DATE RECEIVED:	11/14/2019
CLIENT PROJECT:	0377-08	COLLECTION DATE:	11/13/2019 10:22:00 AM
CLIENT SAMPLE ID	MW6	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	U	130	1	UG/L	11/16/2019	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	11/16/2019	EBS
Naphthalene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Chrysene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**120**	11/16/2019	EBS
Terphenyl-d14	EPA-8270 SIM	**123**	11/19/2019	JMK

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:	EcoCon, Inc. PO Box 153 Fox Island, WA 98333	DATE: ALS JOB#: ALS SAMPLE#:	12/4/2019 EV19110109 EV19110109-09
CLIENT CONTACT:	Stephanie Holt	DATE RECEIVED:	11/14/2019
CLIENT PROJECT:	0377-08	COLLECTION DATE:	11/13/2019 11:05:00 AM
CLIENT SAMPLE ID	MW7	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	**320**	130	1	UG/L	11/16/2019	EBS
TPH-Oil Range	NWTPH-DX	**400**	250	1	UG/L	11/16/2019	EBS
Naphthalene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Chrysene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**123**	11/16/2019	EBS
Terphenyl-d14	EPA-8270 SIM	**118**	11/19/2019	JMK

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:	EcoCon, Inc. PO Box 153 Fox Island, WA 98333	DATE: ALS JOB#: ALS SAMPLE#:	12/4/2019 EV19110109 EV19110109-10
CLIENT CONTACT:	Stephanie Holt	DATE RECEIVED:	11/14/2019
CLIENT PROJECT:	0377-08	COLLECTION DATE:	11/13/2019 11:42:00 AM
CLIENT SAMPLE ID	MW4	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	U	130	1	UG/L	11/16/2019	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	11/16/2019	EBS
Naphthalene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Chrysene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**111**	11/16/2019	EBS
Terphenyl-d14	EPA-8270 SIM	**126**	11/19/2019	JMK

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:	EcoCon, Inc. PO Box 153 Fox Island, WA 98333	DATE: ALS JOB#: ALS SAMPLE#:	12/4/2019 EV19110109 EV19110109-11
CLIENT CONTACT:	Stephanie Holt	DATE RECEIVED:	11/14/2019
CLIENT PROJECT:	0377-08	COLLECTION DATE:	11/13/2019 3:02:00 PM
CLIENT SAMPLE ID	MW1	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	**150**	130	1	UG/L	11/16/2019	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	11/16/2019	EBS
Naphthalene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Chrysene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**123**	11/16/2019	EBS
Terphenyl-d14	EPA-8270 SIM	**127**	11/19/2019	JMK

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:	EcoCon, Inc. PO Box 153 Fox Island, WA 98333	DATE: ALS JOB#: ALS SAMPLE#:	12/4/2019 EV19110109 EV19110109-12
CLIENT CONTACT:	Stephanie Holt	DATE RECEIVED:	11/14/2019
CLIENT PROJECT:	0377-08	COLLECTION DATE:	11/13/2019 4:07:00 PM
CLIENT SAMPLE ID	MW5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	U	130	1	UG/L	11/16/2019	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	11/16/2019	EBS
Naphthalene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Benzo[A]Anthracene	EPA-8270 SIM	**0.16**	0.040	1	UG/L	11/19/2019	JMK
Chrysene	EPA-8270 SIM	**0.21**	0.040	1	UG/L	11/19/2019	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	**0.31**	0.040	1	UG/L	11/19/2019	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	**0.13**	0.040	1	UG/L	11/19/2019	JMK
Benzo[A]Pyrene	EPA-8270 SIM	**0.16**	0.040	1	UG/L	11/19/2019	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	**0.13**	0.040	1	UG/L	11/19/2019	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	**0.054**	0.040	1	UG/L	11/19/2019	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**112**	11/16/2019	EBS
Terphenyl-d14	EPA-8270 SIM	**126**	11/19/2019	JMK

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

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CERTIFICATE OF ANALYSIS

CLIENT:	EcoCon, Inc. PO Box 153 Fox Island, WA 98333	DATE: ALS JOB#: ALS SAMPLE#:	12/4/2019 EV19110109 EV19110109-13
CLIENT CONTACT:	Stephanie Holt	DATE RECEIVED:	11/14/2019
CLIENT PROJECT:	0377-08	COLLECTION DATE:	11/13/2019 3:37:00 PM
CLIENT SAMPLE ID	MW9	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	**200**	130	1	UG/L	11/16/2019	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	11/16/2019	EBS
Naphthalene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
2-Methylnaphthalene	EPA-8270 SIM	**0.17**	0.040	1	UG/L	11/19/2019	JMK
1-Methylnaphthalene	EPA-8270 SIM	**0.20**	0.040	1	UG/L	11/19/2019	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Chrysene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX	**121**	11/16/2019	EBS
Terphenyl-d14	EPA-8270 SIM	**124**	11/19/2019	JMK

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:	EcoCon, Inc. PO Box 153 Fox Island, WA 98333	DATE: ALS JOB#: ALS SAMPLE#:	12/4/2019 EV19110109 EV19110109-14
CLIENT CONTACT:	Stephanie Holt	DATE RECEIVED:	11/14/2019
CLIENT PROJECT:	0377-08	COLLECTION DATE:	11/14/2019 8:57:00 AM
CLIENT SAMPLE ID	MW8	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	**16000**	1300	10	UG/L	11/16/2019	EBS
TPH-Oil Range	NWTPH-DX	**4000**	2500	10	UG/L	11/16/2019	EBS
Naphthalene	EPA-8270 SIM	**32**	0.20	10	UG/L	11/20/2019	JMK
2-Methylnaphthalene	EPA-8270 SIM	**71**	0.20	10	UG/L	11/20/2019	JMK
1-Methylnaphthalene	EPA-8270 SIM	**71**	0.20	10	UG/L	11/20/2019	JMK
Benzo[A]Anthracene	EPA-8270 SIM	**0.22**	0.040	1	UG/L	11/19/2019	JMK
Chrysene	EPA-8270 SIM	**0.33**	0.040	1	UG/L	11/19/2019	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	**0.068**	0.040	1	UG/L	11/19/2019	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Benzo[A]Pyrene	EPA-8270 SIM	**0.079**	0.040	1	UG/L	11/19/2019	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	0.040	1	UG/L	11/19/2019	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25 10X Dilution	NWTPH-DX	**98.3**	11/16/2019	EBS
Terphenyl-d14	EPA-8270 SIM	**109**	11/19/2019	JMK
Terphenyl-d14 10X Dilution	EPA-8270 SIM	**136**	11/20/2019	JMK

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

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CERTIFICATE OF ANALYSIS

CLIENT: EcoCon, Inc.
PO Box 153
Fox Island, WA 98333
CLIENT CONTACT: Stephanie Holt
CLIENT PROJECT: 0377-08

DATE: 12/4/2019
ALS SDG#: EV19110109
WDOE ACCREDITATION: C601

LABORATORY BLANK RESULTS

MB-111919S - Batch 147747 - Soil by NWTPH-DX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	U	MG/KG	25	11/19/2019	EBS
TPH-Oil Range	NWTPH-DX	U	MG/KG	50	11/19/2019	EBS

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

MB-120219S - Batch 148243 - Soil by NWTPH-DX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	U	MG/KG	25	12/02/2019	EBS
TPH-Oil Range	NWTPH-DX	U	MG/KG	50	12/02/2019	EBS

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

MB-111519W2 - Batch 147697 - Water by NWTPH-DX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	U	UG/L	130	11/16/2019	EBS
TPH-Oil Range	NWTPH-DX	U	UG/L	250	11/16/2019	EBS

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

MB-111819S - Batch 147709 - Soil by EPA-8270 SIM

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Naphthalene	EPA-8270 SIM	U	UG/KG	20	11/18/2019	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	11/18/2019	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	11/18/2019	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	UG/KG	20	11/18/2019	JMK
Chrysene	EPA-8270 SIM	U	UG/KG	20	11/18/2019	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	11/18/2019	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	11/18/2019	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	UG/KG	20	11/18/2019	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	UG/KG	20	11/18/2019	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	UG/KG	20	11/18/2019	JMK
Benzo[G,H,I]Perylene	EPA-8270 SIM	U	UG/KG	20	11/18/2019	JMK

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

MB-111919W - Batch 147768 - Water by EPA-8270 SIM

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Naphthalene	EPA-8270 SIM	U	UG/L	0.020	11/19/2019	JMK

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

CERTIFICATE OF ANALYSIS

CLIENT:	EcoCon, Inc. PO Box 153 Fox Island, WA 98333	DATE:	12/4/2019
		ALS SDG#:	EV19110109
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Stephanie Holt		
CLIENT PROJECT:	0377-08		

LABORATORY BLANK RESULTS

MB-111919W - Batch 147768 - Water by EPA-8270 SIM

2-Methylnaphthalene	EPA-8270 SIM	U	UG/L	0.020	11/19/2019	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	UG/L	0.020	11/19/2019	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	UG/L	0.040	11/19/2019	JMK
Chrysene	EPA-8270 SIM	U	UG/L	0.040	11/19/2019	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	UG/L	0.040	11/19/2019	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	UG/L	0.040	11/19/2019	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	UG/L	0.040	11/19/2019	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	UG/L	0.040	11/19/2019	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	UG/L	0.040	11/19/2019	JMK
Benzo[G,H,I]Perylene	EPA-8270 SIM	U	UG/L	0.020	11/19/2019	JMK

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

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CERTIFICATE OF ANALYSIS

CLIENT: EcoCon, Inc.
PO Box 153
Fox Island, WA 98333
CLIENT CONTACT: Stephanie Holt
CLIENT PROJECT: 0377-08

DATE: 12/4/2019
ALS SDG#: EV19110109
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 147747 - Soil by NWTPH-DX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range - BS	NWTPH-DX	**91.0**			75.5	122.1	11/19/2019	EBS
TPH-Diesel Range - BSD	NWTPH-DX	**97.5**	**7**		75.5	122.1	11/19/2019	EBS

ALS Test Batch ID: 148243 - Soil by NWTPH-DX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range - BS	NWTPH-DX	**111**			75.5	122.1	12/02/2019	EBS
TPH-Diesel Range - BSD	NWTPH-DX	**102**	**9**		75.5	122.1	12/02/2019	EBS

ALS Test Batch ID: 147697 - Water by NWTPH-DX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range - BS	NWTPH-DX	**89.5**			67	125.2	11/16/2019	EBS
TPH-Diesel Range - BSD	NWTPH-DX	**89.4**	**0**		67	125.2	11/16/2019	EBS

ALS Test Batch ID: 147709 - Soil by EPA-8270 SIM

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Naphthalene - BS	EPA-8270 SIM	**90.7**			20	150	11/18/2019	JMK
Naphthalene - BSD	EPA-8270 SIM	**95.6**	**5**		20	150	11/18/2019	JMK
2-Methylnaphthalene - BS	EPA-8270 SIM	**86.6**			20	150	11/18/2019	JMK
2-Methylnaphthalene - BSD	EPA-8270 SIM	**92.0**	**6**		20	150	11/18/2019	JMK
1-Methylnaphthalene - BS	EPA-8270 SIM	**86.9**			20	150	11/18/2019	JMK
1-Methylnaphthalene - BSD	EPA-8270 SIM	**92.0**	**6**		20	150	11/18/2019	JMK
Benzo[A]Anthracene - BS	EPA-8270 SIM	**95.4**			20	150	11/18/2019	JMK
Benzo[A]Anthracene - BSD	EPA-8270 SIM	**105**	**10**		20	150	11/18/2019	JMK
Chrysene - BS	EPA-8270 SIM	**117**			20	150	11/18/2019	JMK
Chrysene - BSD	EPA-8270 SIM	**123**	**5**		20	150	11/18/2019	JMK
Benzo[B]Fluoranthene - BS	EPA-8270 SIM	**90.2**			20	150	11/18/2019	JMK
Benzo[B]Fluoranthene - BSD	EPA-8270 SIM	**97.2**	**7**		20	150	11/18/2019	JMK
Benzo[K]Fluoranthene - BS	EPA-8270 SIM	**101**			20	150	11/18/2019	JMK
Benzo[K]Fluoranthene - BSD	EPA-8270 SIM	**106**	**5**		20	150	11/18/2019	JMK
Benzo[A]Pyrene - BS	EPA-8270 SIM	**85.3**			20	150	11/18/2019	JMK
Benzo[A]Pyrene - BSD	EPA-8270 SIM	**92.0**	**8**		20	150	11/18/2019	JMK
Indeno[1,2,3-Cd]Pyrene - BS	EPA-8270 SIM	**86.3**			20	150	11/18/2019	JMK
Indeno[1,2,3-Cd]Pyrene - BSD	EPA-8270 SIM	**92.4**	**7**		20	150	11/18/2019	JMK
Dibenz[A,H]Anthracene - BS	EPA-8270 SIM	**85.1**			20	150	11/18/2019	JMK
Dibenz[A,H]Anthracene - BSD	EPA-8270 SIM	**91.0**	**7**		20	150	11/18/2019	JMK
Benzo[G,H,I]Perylene - BS	EPA-8270 SIM	**85.4**			20	150	11/18/2019	JMK

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: EcoCon, Inc.
PO Box 153
Fox Island, WA 98333

CLIENT CONTACT: Stephanie Holt
CLIENT PROJECT: 0377-08

DATE: 12/4/2019
ALS SDG#: EV19110109
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Benzo[G,H,I]Perylene - BSD	EPA-8270 SIM	**90.4**	**6**		20	150	11/18/2019	JMK

ALS Test Batch ID: 147768 - Water by EPA-8270 SIM

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Naphthalene - BS	EPA-8270 SIM	**65.1**			36	118	11/20/2019	JMK
Naphthalene - BSD	EPA-8270 SIM	**68.4**	**5**		36	118	11/20/2019	JMK
2-Methylnaphthalene - BS	EPA-8270 SIM	**66.4**			20	150	11/20/2019	JMK
2-Methylnaphthalene - BSD	EPA-8270 SIM	**68.4**	**3**		20	150	11/20/2019	JMK
1-Methylnaphthalene - BS	EPA-8270 SIM	**67.8**			20	150	11/20/2019	JMK
Benzo[A]Anthracene - BS	EPA-8270 SIM	**110**			20	150	11/20/2019	JMK
Benzo[A]Anthracene - BSD	EPA-8270 SIM	**116**	**5**		20	150	11/20/2019	JMK
Chrysene - BS	EPA-8270 SIM	**116**			20	150	11/20/2019	JMK
Chrysene - BSD	EPA-8270 SIM	**123**	**5**		20	150	11/20/2019	JMK
Benzo[B]Fluoranthene - BS	EPA-8270 SIM	**97.3**			20	150	11/20/2019	JMK
Benzo[B]Fluoranthene - BSD	EPA-8270 SIM	**104**	**7**		20	150	11/20/2019	JMK
Benzo[K]Fluoranthene - BS	EPA-8270 SIM	**96.1**			20	150	11/20/2019	JMK
Benzo[K]Fluoranthene - BSD	EPA-8270 SIM	**105**	**9**		20	150	11/20/2019	JMK
Benzo[A]Pyrene - BS	EPA-8270 SIM	**86.4**			20	150	11/20/2019	JMK
Benzo[A]Pyrene - BSD	EPA-8270 SIM	**91.9**	**6**		20	150	11/20/2019	JMK
Indeno[1,2,3-Cd]Pyrene - BS	EPA-8270 SIM	**74.7**			20	150	11/20/2019	JMK
Indeno[1,2,3-Cd]Pyrene - BSD	EPA-8270 SIM	**78.0**	**4**		20	150	11/20/2019	JMK
Dibenz[A,H]Anthracene - BS	EPA-8270 SIM	**75.2**			20	150	11/20/2019	JMK
Dibenz[A,H]Anthracene - BSD	EPA-8270 SIM	**78.3**	**4**		20	150	11/20/2019	JMK
Benzo[G,H,I]Perylene - BS	EPA-8270 SIM	**72.8**			43	140	11/20/2019	JMK
Benzo[G,H,I]Perylene - BSD	EPA-8270 SIM	**76.1**	**4**		43	140	11/20/2019	JMK

APPROVED BY

Laboratory Director

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Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only): EV1911O109

Date 11·14·19 Page 1 Of 2

PROJECT ID:	0377-08
REPORT TO COMPANY:	ECI
PROJECT MANAGER:	Stephanie Holt
ADDRESS:	P.O. Box 153
	Fox Island, WA
PHONE:	479-426-1489 P.O. #: 0377-08
E-MAIL:	Stephanie@alleci.com
INVOICE TO COMPANY:	ECI
ATTENTION:	Kelly Melland
ADDRESS:	

ANALYSIS REQUESTED — OTHER (Specify)

SAMPLE I.D.	DATE	TIME	TYPE	LAB#	NWTPH-HCID	NWTPH-DX	NWTPH-GX	BTEX by EPA 8021 ☐ BTEX by EPA 8260 ☐	MTBE by EPA 8021 ☐ MTBE by EPA 8260 ☐	Halogenated Volatiles by EPA 8260	Volatile Organic Compounds by EPA 8260	EDB / EDC by EPA 8260 SIM (water)	EDB / EDC by EPA 8260 (soil)	Semivolatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA 8270 SIM (PAH & Naph)	PCB by EPA 8082 ☐ Pesticides by EPA 8081 ☐	Metals-MTCA-5 ☐ RCRA-8 ☐ Pri Pol ☐ TAL ☐	Metals Other (Specify)	TCLP-Metals ☐ VOA ☐ Semi-Vol ☐ Pest ☐ Herbs ☐	NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?
1. MW6-6	11·12·19	8:45	Soil	1		X									X						
2. MW7-5		9:30	Soil	2		X									X						
3. MW8-5		10:45	Soil	3		(X)															
4. MW8-10		10:45	Soil	4																	
5. MW8-15		10:45	Soil	5		X									X						
6. MW8-19		10:45	Soil	6		(X)															
7. MW9-11		13:35	Soil	7		X									X						
8. MW6	11·13·19	10:22	H_2O	8		X									X						
9. MW7	11·13·19	11:05	H_2O	9		X									X						
10. MW4	11·13·19	11:42	H_2O	10		X									X						

SPECIAL INSTRUCTIONS: (X) Added 11/27/19 per Stephanie Stadard TAT out of hold time.

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: [signature] 11-14-19 13:56
   Received By: [signature] ALS 11/14/19 13:56
2. Relinquished By:
   Received By:

TURNAROUND REQUESTED in Business Days*

Organic, Metals & Inorganic Analysis: ☒ 10 Standard ☐ 5 ☐ 3 ☐ 2 ☐ 1 ☐ SAME DAY

Fuels & Hydrocarbon Analysis: ☒ 5* Standard ☐ 3 ☐ 1 ☐ SAME DAY

OTHER: Specify:

*Turnaround request less than standard may incur Rush Charges

ALS Environmental
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
Fax (425) 356-2626
http://www.alsglobal.com

Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only): EV1910109

Date 11-14-19 Page 2 Of 2

PROJECT ID:	0377-08
REPORT TO COMPANY:	ECI
PROJECT MANAGER:	Stephanie Holt
ADDRESS:	
PHONE:	P.O. #:
E-MAIL:	
INVOICE TO COMPANY:	
ATTENTION:	
ADDRESS:	

ANALYSIS REQUESTED — OTHER (Specify)

SAMPLE I.D.	DATE	TIME	TYPE	LAB#	NWTPH-HCID	NWTPH-DX	NWTPH-GX	BTEX by EPA 8021 ☐ BTEX by EPA 8260 ☐	MTBE by EPA 8021 ☐ MTBE by EPA 8260 ☐	Halogenated Volatiles by EPA 8260	Volatile Organic Compounds by EPA 8260	EDB / EDC by EPA 8260 SIM (water)	EDB / EDC by EPA 8260 (soil)	Semivolatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA 8270 SIM	PCB by EPA 8082 ☐ Pesticides by EPA 8081 ☐	Metals-MTCA-5 ☐ RCRA-8 ☐ Pri Pol ☐ TAL ☐	Metals Other (Specify)	TCLP-Metals ☐ VOA ☐ Semi-Vol ☐ Pest ☐ Herbs ☐	NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?
1. MW1	11-13-19	15:02	H_2O	11		X									X						
2. MW5	11-13-19	16:07	↓	12		X									X						
3. MW9	11-13-19	15:37		13		X									X						
4. MW8	11-14-19	8:57		14		X									X						
5.																					
6.																					
7.																					
8.																					
9.																					
10.																					

CLAH & Naph

SPECIAL INSTRUCTIONS

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: Stephanie Holt / 11-14-19/13:56
   Received By: Jack Byrd ALS 11/14/19 13:56
2. Relinquished By:
   Received By:

TURNAROUND REQUESTED in Business Days*

Organic, Metals & Inorganic Analysis: ~~10~~ Standard | 5 | 3 | 2 | 1 | SAME DAY

Fuels & Hydrocarbon Analysis: ~~5~~ Standard | 3 | 1 | SAME DAY

OTHER: Specify:

*Turnaround request less than standard may incur Rush Charges