ECI | environmental services
www.ecocononline.com

EMS Group Inc. is now EcoCon, Inc.

February 28, 2012



Washington State Department of Ecology
Northwest Regional Office: Toxics Cleanup Division
Attention: Dale Myers
3190 160th Avenue, SE
Bellevue, WA 98008

*Delivery Method:* USPS & Electronic Copy
*Emailed:* damy461@ecy.wa.gov

Re: Feasibility Study/Disproportionate Cost Analysis Report & Submittal
Acrowood Corporation
VCP No.: NW2151
4425 S. Third Avenue
Everett, WA 98203

Than Smith 253-365-7647

Mr. Myers:

EcoCon, Inc. (ECI), on half of The Acrowood Corporation (Acrowood) is pleased to present you with a Draft Feasibility Study (FS), Disproportionate Cost Analysis (DCA) and Terrestrial & Ecological Evaluation. These documents were competed as requested from the Washington State Department of Ecology (Ecology) in the Further Action Letter dated June 22, 2010.

***Feasibility Study & Disproportionate Cost Analysis***

ECI completed the FS and DCA with the assumption that a minimum of one groundwater monitoring well will be installed in the area of the previously decommissioned monitoring wells MW2 and MW3, located immediately northeast of the impacted area (Area 3) discussed in the FS/DCA. It is not clear why the original monitoring wells MW2 & MW3 were decommissioned, however, a replacement monitoring well in this area, positioned between former MW2 and MW3 will be necessary to adequately monitor groundwater down gradient of Area 3.

The results of the FS/DCA determined that the remedial selection of natural attenuation, institutional controls and compliance groundwater monitoring is compliant with MTCA's DCA process for cost/benefit analysis. As a part of the DCA and on-going FS, ECI recommends capping the general area with asphalt to prevent vertical movement of surface water, along with a compliance groundwater monitoring plan (including a minimum of quarterly monitoring for one year) and deed restriction.

***Terrestrial Ecological Evaluation (TEE)***

The TEE was completed as part of a process to evaluate how contaminates of concern may potentially impact surrounding properties' habitat or potential habitat. Following in-depth review of the general area, subject property, proposed remedial efforts (Capping & Natural Attenuation Monitoring), ECI determined the area to the east, Lowell Riverfront was the most susceptible area for "potential" impact. ECI understands through the City of Everett, the current and future development of the Lowell Riverfront area will include increased traffic, municipal infrastructure and private mixed use development to the east of the Site beyond the immediately adjacent BNSF railroad tracks.

This development greatly reduces any potential impact that may have been of concern. The combination of the depth of contamination (beyond 6-feet bgs – conditional point of compliance), asphalt capping, and limited adjacent/contiguous properties containing critical habitat, limits the TEE process Exclusion 2 - Incomplete Pathway. Refer to the attached TEE Process Evaluation Table – Primary Exclusions created by Ecology and completed by ECI. Ecology denotes that "If any of these exclusions apply to your site, you may end your ecological evaluation". Electronic copies of the Final Environmental Impact Statement (FEIS), Addendum No. 1 of the FEIS and Riverfront Development Public Amenities Master Plan are available from the City of Everett Riverfront Redevelopment web page and electronic document library at http://www.everettwa.org/default.aspx?ID=1614.

On behalf of Acrowood, ECI requests Ecology perform a review of Site data and information submitted from Acrowood, ECI and previous consultants with specific focus on the FS/DCA and TEE.

On behalf of Acrowood and ECI, we appreciate your time and efforts. Please let me know if you have any questions regarding the enclosed documents or project.

Respectfully,

No Longer @ ECI

Matthew P. Loxterman
Sr. Environmental Scientist

Direst: (360) 561-4656
mloxterman@ecocononline.com

Enc: Terrestrial Ecological Evaluation Process – Primary Exclusions (2 pages)

Washington State Department of Ecology
Toxics Cleanup Program

# Terrestrial Ecological Evaluation Process - Primary Exclusions

## Documentation Form

| Exclusion # | Exclusion Detail | Yes or No? | Are Institutional Controls Required If The Exclusion Applies? |
|---|---|---|---|
| 1 | Will soil contamination be located at least 6 feet beneath the ground surface and less than 15 feet? | Yes / No | Yes |
| | Will soil contamination located at least 15 feet beneath the ground surface? | Yes / No | No |
| | Will soil contamination located below the conditional point of compliance? | Yes / No | Yes |
| 2 | Will soil contamination be covered by buildings, paved roads, pavement, or other physical barriers that will prevent plants or wildlife from being exposed? | Yes / No | Yes |
| 3 | Is there less than 1.5 acres of contiguous undeveloped land on the site, or within 500 feet of any area of the site affected by hazardous substances **other than** those listed in the table of Hazardous Substances of Concern?<br><br>And<br><br>Is there less than 0.25 acres of contiguous undeveloped land on or within 500 feet of any area of the site affected by hazardous substances **listed in** the table of Hazardous Substances of Concern? | Yes / No<br><br>Yes / No | Other factors determine |
| 4 | Are concentrations of hazardous substances in the soil less than or equal to natural background concentrations of those substances at the point of compliance | Yes / No | No |

[Exclusions Main] [TEE Definitions] [Simplified or Site-Specific?] [Simplified Ecological Evaluation] [Site-Specific Ecological Evaluation] [WAC 173-340-7493]

[TEE Home]

Washington State Department of Ecology
Toxics Cleanup Program

Acrowood Corporation – 4425 S. 3rd Avenue, Everett, WA

## Terrestrial Ecological Evaluation Process - Primary Exclusions

**If any of these exclusions apply to your site, you may end your ecological evaluation.**

| Exclusion # | Exclusion Detail | Yes or No? | Are Institutional Controls Required If The Exclusion Applies? |
|---|---|---|---|
| 1 | Will soil contamination be located at least 6 feet beneath the ground surface and less than 15 feet? | **Yes** | **Yes** |
| | Will soil contamination located at least 15 feet beneath the ground surface? | **No** | **No** |
| | Will soil contamination located below the conditional point of compliance? | **Yes** | **Yes** |
| 2 | Will soil contamination be covered by buildings, paved roads, pavement, or other physical barriers that will prevent plants or wildlife from being exposed? | **Yes** | **Yes** |
| 3 | Is there less than 1.5 acres of contiguous undeveloped land on the site, or within 500 feet of any area of the site affected by hazardous substances **other than** those listed in the table of Hazardous Substances of Concern?<br>&<br>Is there less than 0.25 acres of contiguous undeveloped land on or within 500 feet of any area of the site affected by hazardous substances **listed in** the table of Hazardous Substances of Concern? | **No**<br><br>**No** | Other factors determine |
| 4 | Are concentrations of hazardous substances in the soil less than or equal to natural background concentrations of those substances at the point of compliance | **Yes** | No |

[Exclusions Main] [TEE Definitions] [Simplified or Site-Specific?] [Simplified Ecological Evaluation] [Site-Specific Ecological Evaluation] [WAC 173-340-7493]

NW 2151



# DRAFT Feasibility Study / Disproportionate Cost Analysis

4425 South 3rd Street
Everett, Washington
Facility/Site ID#: 22755667
VCP #: NW2151

February 27, 2012

**Prepared For:**
Acrowood Corporation
4425 South 3rd Street
Everett, Washington

Matthew P. Loxterman, LG
Sr. Environmental Scientist

Stephen M. Spencer
Principal Environmental Scientist

**Prepared By:**
ECI | Environmental Consulting
PO Box 153
Fox Island, Washington 98333
(253) 238-9270

ECI Project No. 0377-03

ECI | environmental services
www.ecocononline.com

## Table of Contents

**List of Attachments**

## 1.0 Introduction

The following report provides a site-specific Feasibility Study (FS) / Disproportionate Cost Analysis (DCA) for selection of potential remedial alternatives for addressing petroleum-impacted soil and groundwater at the Acrowood Corporation (Acrowood) Facility located at 4425 South 3rd Street, in Everett, Washington (Site/Facility). The Site is currently enrolled in Washington State Department of Ecology's (Ecology) Voluntary Cleanup Program (VCP) and is moving forward with remedial action planning. This report, attachments and enclosures were prepared per to satisfy Ecology's "Further Action" letter dated June 22, 2010.

This FS/DCA report includes a summary and timeline of previous subsurface investigations completed by ECI and others at the Site and incorporates ECI's investigations detailed below and documented in the *Focused Subsurface Investigation/Remedial Investigation Report* dated September 30, 2011. As a part of this FS, three remedial alternatives were evaluated against Model Toxics Control Act (MTCA) requirements. Each alternative addresses contaminated media with a combination of remedial methodologies and/or controls appropriate for the chemicals of concern (COCs) and Site conditions. The three alternatives represent a reasonable number and range of potentially applicable cleanup components to provide a basis for evaluation as the DCA.

This FS/DCA has been completed with three main assumptions:

1. Additional soil and groundwater investigations will be completed to the east and northeast of the impacted area;
2. Soil and groundwater conditions are similar to previous investigations in this area, i.e., any impacted media is below current or Site specific cleanup levels, and
3. Current and proposed additional groundwater monitoring wells located in the impacted area will provide adequate groundwater monitoring requirements.

### 1.1 Site Location & Description

#### 1.1.1 Topography

The United States Geological Survey (USGS), Everett, Washington 7.5-Minute Quadrangle topographic map 1991, was reviewed for this ESA. According to the contour lines on the topographic map, the Site is located approximately 45 feet above mean sea level (MSL). The contour lines in the area of the Site indicate the area is generally flat, confirmed by on-site reconnaissance.

#### 1.1.2 Geology and Soils

The subject property and surrounding area are located within the Puget Sound Basin on glaciated outwash (toward the west of the Site), and nearly level alluvial plains closer to the Snohomish River. The

lands in the vicinity of the Site are underlain by inter-bedded gravelly sandy loam (coarse-grained soils) with silty sands.

The USDA Natural Resources Conservation Service, Washington Soil Survey Reports for Snohomish County, indicates the native soil at the Site and surrounding properties is the Everett Gravelly Sandy Loam. This soil is in the Class A Hydrologic Group, indicating high infiltration rates, through both drained sand and gravels. This soil is reported to have high conductivity and low water holding capacity.

### 1.1.3 Surface Water and Groundwater

No naturally occurring water bodies or wetlands were observed at or within the Site boundary during this investigation. The nearest mapped surface water body is the Snohomish River that lies just to the east of the subject Site. The Snohomish River flows northwesterly through Everett towards the Puget Sound.

The groundwater elevations in monitoring wells in Area 3 of the Site ranged from 85.07 to 87.93 feet on June 14, 2011. The hydraulic gradient was approximately 0.055 feet/foot (i.e., MW-1 to MW-4) and the inferred groundwater flow direction is generally southeast. However, variations in the site-specific geology can influence gradient direction, including perched conditions, confining soil conditions/characteristics, and a retaining wall along the eastern side of Area 3.

## 2.0 Background & Previous Environmental Investigations

The Site is currently utilized as a metal fabrication facility and is currently occupied by a company named Acrowood. The facility was reportedly constructed in 1913 and occupied by an iron and metal foundry until the early-1970s. Since then, the Site has reportedly been used for metal fabrication since the early-1970s; Acrowood being the owner / operator since 1984.

### 2.1 Adapt Engineering (1999-2008)

In 1999, Adapt Engineering (Adapt) conducted investigations identifying three areas as containing concentrations of trichloroethene (TCE), oil-range organics (ORO), diesel-range organics (DRO), and polycyclic aromatic hydrocarbons (PAHs) COCs in soil and/or groundwater at concentrations above Model Toxics Control Act (MTCA) Method A or B Cleanup Levels (CULs). Details of these investigations are provided in Adapt's *Supplemental Phase II Site Assessment Report* dated February 6, 2009.

The three areas are of concern are as follows:

1) Area 1: - Paint and solvent storage shed where TCE was encountered in soil and groundwater at concentrations exceeding applicable Method A Soil & Groundwater CULs. (Refer to Figure 3).

2) Area 2: - Former heating oil UST location where ORO were encountered in soil at concentrations below the Method A Soil CUL (Refer to Figure 4).

3) Area 3: - Former diesel fuel tank occurred and concentrations of DRO, ORO and PAHs in soil and groundwater exceeded Method A & B Soil & Groundwater CULs (Refer to Figures 5 & 6).

Subsequent investigations by Adapt between 1999 and 2002 involved the installation and monitoring of groundwater monitoring wells MW-1, MW-2 and MW-3 and additional soil and groundwater sampling to further evaluate the extent of impacts in these three areas. The Site was submitted into the VCP by Adapt in January 2007 and Adapt requested a No Further Action (NFA) determination. Ecology responded to this request in a Further Action Opinion Letter dated April 18, 2007 stating that it was necessary to determine the areal extent and depth of TCE groundwater contamination in Area 1 using groundwater monitoring wells. Ecology further indicated that was necessary to determine the areal extent and depth of COCs in Area 2 using existing and additional groundwater monitoring wells.

Based on Ecology's comments, Adapt conducted a Supplemental Phase II Environmental Site Assessment in 2007, which included the installation and quarterly sampling of groundwater monitoring wells MW-4 – MW-7. MW-4 was installed in Area 3, south of the former diesel tank at a lower elevation and MW-5 – MW-7 were installed within Area 1. Refer to attached Figures.

techniques in the locations depicted on Figures 4, 5 and 6. The maximum depth of exploration during the FSI was approximately 14 feet bgs in Area 2 and 20.5 feet bgs in Area 3.

The groundwater table was consistently encountered during soil logging between 8 and 10 feet bgs in Area 2 and between 12 and 14 feet bgs in Area 3. Groundwater samples were collected from all boring locations except ECIMW-5, which required development at a later date prior to sampling. Groundwater samples were collected through a temporary stainless steel well screen using a peristaltic pump and dedicated tubing.

Boring ECIMW-5 was completed as a monitoring well with a 1-inch diameter PVC casing and 0.010-inch factory slotted well screen. The well screen was placed from 5 feet bgs to 20 feet bgs which was sufficient to allow the well screen to intersect the saturated/unsaturated interface throughout normal seasonal changes in water levels. Saturated soil conditions were encountered at approximately 14 feet bgs during drilling. A sand filter-pack surrounds the PVC from 4 feet bgs to 20 feet bgs and a bentonite seal is present above that between 1.5 and 4 feet bgs. The well was completed with a surface seal consisting of a concrete and a flush-mounted well box.

A total of 11 soil samples and five groundwater samples were 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 follow-up analysis with PAHs using EPA Method 8270 based on initial analytical results.

### 2.4 Groundwater Sampling

On August 25, 2011 ECI returned to the Site to develop, monitor and sample monitoring well ECIMW-5, monitor and sample MW-1 and MW-4 and sample and take inventory of the 9 unlabeled soil and water drums situated in Area 3 for disposal purposes.

ECI developed well ECIMW-5 by purging approximately 20-gallons of water from the well prior to sampling. Water was observed to be very clear upon completion of well development and no visual or olfactory evidence of impacts were observed. Prior to sampling or development of monitoring wells, the water level in each well was measured relative to the northernmost point on the well casing using an electronic probe. Groundwater samples were transferred directly into laboratory supplied sample containers using standard low-flow groundwater sampling techniques.

Groundwater samples obtained from MW-1, MW-4 and ECIMW-5 were submitted to ALS Environmental Laboratory (ALS) in Everett, WA for analysis of DRO and ORO using Ecology Method NWTHP-Dx and PAHs using EPA Method 8270SIM.

Surface and subsurface conditions at the Site generally consisted of asphalt, gravel or grass at the surface underlain by fill material and intermittent intervals of silt, sand and gravel mixtures that were observed to the maximum depth of exploration of approximately 20.5 feet bgs. Saturated conditions were consistently encountered between 8 and 10 feet bgs in Area 2 and between 12 and 14 feet bgs in Area 3.

## 2.5 ECI's Analytical Results & cPAH Soil and Groundwater Cleanup Levels

Carcinogenic PAHs (cPAHs) were analyzed in soil and groundwater during the FSI and include 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 US 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. A TEF is an estimate of the relative toxicity of a chemical compared to a reference chemical. For mixtures of cPAHs, the reference chemical is benzo(a)pyrene. Therefore, for compliance purposes, the calculated total cPAHs (TEF modified) is compared to the MTCA Method A Soil or Groundwater Cleanup Level for benzo(a)pyrene of 0.1 micrograms/liter (ug/L) for groundwater and 0.1 milligrams/kilogram (mg/kg) for soil.

*Soil* - Eleven soil samples were collected in Area 3 and submitted to ESN for analysis of DRO and ORO using Ecology Method NWTPH-Dx. Soil sample ECIA3B-2:12 was selected for follow-up analysis with PAHs using EPA Method 8270 based on the results of initial analytical results and field screening. Soil sample analytical results are provided in ECI's FSI Report.

Soil sample location ECIA3B-2:12 was the only location where soil concentrations exceeded MTCA Method A Soil Cleanup Levels. DRO, ORO, total naphthalenes and total cPAHs (TEF modified) were detected in soil at concentrations of 31,000 mg/kg, 2,600 mg/kg, 168 mg/kg and 0.13 mg/kg, respectively. The MTCA Method A Soil Cleanup Level is 2,000 mg/kg for DRO and ORO, 5 mg/kg for total naphthalenes and 0.1 mg/kg for total cPAHs (TEF modified).

Soil samples were collected from below the groundwater table in boring locations ECIA3B-2 and ECIA3B-3 to verify if soil containing concentrations of target analytes exceeding MTCA Method A Soil Cleanup Levels was present below the groundwater table as previously reported. In all of the soil sample locations collected below the observed ground water level, target analytes were either not detected above the laboratory detection limit or detected at a concentration below the applicable MTCA Method A Soil Cleanup Level. No target analytes were detected above laboratory detection limits in any of the remaining soil sample locations.

*Groundwater* - As previously mentioned, a total of eight groundwater samples were collected during the FSI (i.e., Two from probe locations in Area 2, three from probe locations in Area 3 and three from groundwater monitoring wells). Groundwater samples collected during the first phase of the FSI were submitted to ESN for analysis of DRO and ORO using Ecology Method NWTPH-Dx. Groundwater sample ECIA3B-2GW was selected for follow-up analysis with PAHs using EPA Method 8270 based on initial analytical results. All groundwater monitoring well samples were submitted to ALS for analysis of DRO and ORO using Ecology Method NWTPH-Dx and PAHs using EPA Method 8270 SIM which has a lower laboratory detection limit of 0.02 ug/L. Groundwater analytical results obtained during the FSI are presented in ECI's FSI Report.

During the first phase of the FSI, DRO was detected in sample location ECIA3B-2GW at a concentration of 920 ug/L, which exceeds the MTCA Method A Groundwater Cleanup Level for DRO of 500 ug/L. Naphthalenes and cPAHs were also detected in this location, but at concentrations below applicable MTCA Method A Groundwater Cleanup Levels. It should be noted that the laboratory detection limit for cPAHs was 0.1 ug/L and it is possible for concentrations of cPAHs below 0.1 ug/L to result in a total cPAH (TEF modified) concentration that exceeds the MTCA Method A Groundwater Cleanup Level of 0.1 ug/L. During the second phase of the FSI, monitoring wells MW-1, MW-4 and ECIMW-5 were sampled and none of the monitoring wells contained dissolved-phase concentrations of target analytes that exceeded MTCA Method A Groundwater Cleanup Levels. Dissolved-phase concentrations of cPAHs were detected in ECIMW-5, but at concentrations below the MTCA Method A Groundwater Cleanup Level. No target analytes were detected above laboratory detection limits in the remaining two groundwater monitoring well sample locations.

## 2.6 Chemicals of Concern (COCs) & Media of Concern

| Cleanup Level (CUL) | Remedial Action Objective |
|---|---|
| **GROUNDWATER**<br>500 µg/L – Diesel Range Organics<br>500 µg/L – Oil Range Organics | Reduce concentrations of COCs in groundwater to achieve the respective MTCA Method A cleanup levels. |
| **SOIL**<br>2,000 mg/kg - Diesel Range Organics<br>2,000 mg/kg - Oil Range Organics | Reduce concentrations of COCs in soil to achieve the respective MTCA Method A cleanup levels. |

## 2.7 Extent of Impacts

### 2.7.1 Soil

Soil analytical data obtained from previous investigation activities combined with FSI data demonstrate that soil impacts are no longer a concern in Areas 1 and 2 and these areas require no further action.

The estimated lateral extent of soil impacts in Area 3 is depicted on Figure 5. Soil data obtained during the FSI indicates that all soil containing concentrations of target analytes exceeding MTCA Method A Soil Cleanup Levels is situated above the ground water table. Therefore, the estimated vertical extent of the area where soil exceeds MTCA Cleanup Levels is between 9 and 13 feet bgs. This is a conservative estimate based on the fact that current FSI data was incorporated with previous investigation data, some of which is over 10 years old, to generate the estimated area of impacts. It is possible that soil concentrations in the previous sample locations have decreased due natural attenuation and this was not taken into consideration when estimating the area of soil impacts.

There is an estimated 60 cubic-yards of impacted soil present in this area and soil impacts do not appear to extend off-Site. However, soil impacts likely extend beneath the eastern portion of the shop structure. This would appear to make it cost prohibitive to excavate these soils due to the fact that extensive costs would be associated with supporting the building and retaining wall during excavation. When compared to the benefit of removing such a such a small volume of soil, the costs are disproportionate.

### 2.7.2 Groundwater

Groundwater analytical data obtained from previous investigation activities demonstrate that groundwater impacts are no longer a concern in Area 1. Therefore, no further action is necessary in Area 1.

During the FSI, ECI complied with Ecology's request to sample groundwater in the area of the former heating oil tank (Area 2) by collecting groundwater sample ECIA2B-1 in the location where a previous soil sample (i.e., P-8) contained an ORO soil concentration of 1,920 mg/kg. In addition, ground water was collected at ECIA2B-2 situated west of ECIA2B-1, also in the location of the former heating oil tank. Neither of the groundwater samples contained concentrations of target analytes above the laboratory detection limits. Therefore, no further action is necessary in Area 2.

The estimated extent of groundwater impacts in Area 3 is depicted on Figure 6. FSI data combined with previous groundwater data indicate that an approximate 500 square-foot area is impacted with concentrations of one or more target analytes exceeding MTCA Method A Groundwater Cleanup Levels. It does not appear that impacted ground water extends off-site and the estimated area of groundwater impacts is a conservative estimate based on the fact that current FSI data was incorporated with

previous investigation data, some of which is over 10 years old, to generate the estimated area of impacts and potential natural attenuation of impacts was not taken into consideration.

During ECI's FSI, sample ECIA3B-2 was collected approximately 2 feet southwest of boring P-26, which was sampled in July of 2007. The dissolved-phase concentration of DRO detected at that time was 7,800 ug/L and the detected DRO concentration in ECIA3B-2 during the FSI in July of 2011 was 920 ug/L. This decrease in concentration over a 4 year period appears to indicate that natural attenuation may be effective at remediating groundwater impacts at the Site and the estimated area of groundwater impacts depicted on Figure 6 of ECI's FSI Report.

## 2.8 Exposure Pathways

This section presents the evaluation, findings and conclusions pertaining to the exposure pathways at the Site. The goal of this subsection is to identify potential exposure scenarios that will assist in the evaluation of potential feasible cleanup alternatives that are protective of human health.

### 2.8.1 Direct-Contact Pathway

Direct contact with soil and groundwater exhibiting concentrations of petroleum hydrocarbons in excess of the cleanup levels is limited to human receptors that come into close contact with the media via direct exposure, including dermal contact or ingestion of excavated soil or groundwater. The standard point of compliance for soil contamination beneath a site is approximately 15 feet bgs, which represents a reasonable estimate of the depth that could be accessed during normal site redevelopment activities (WAC 173-340-740[6][d]). Although PCS is present within 15 feet of the ground surface, due to the existing pavement, contaminated soil beneath the Site is not easily accessible, thereby minimizing the direct-contact pathway. However, until such point as the contaminated soil and groundwater are removed from the Site or an institutional control limiting direct contact is implemented, the direct-contact pathway is complete.

### 2.8.2 Soil to Groundwater Pathway

Results from the FSI and previous investigations conducted by others suggest that soil contamination exists locally in the subsurface at depths greater than the seasonally high groundwater level (FSI – ECI 2012). The petroleum contaminated soil can therefore potentially act as an ongoing source to groundwater contamination as the hydrocarbons desorb from the soil particles into water.

Under MTCA, monitored natural attenuation can be considered an active remedial measure if site conditions conform to the expectations listed in WAC 173-340-370(7), as follows:

- Source control (including removal and/or treatment of hazardous substances) has been conducted to the maximum extent practicable.
- Leaving contaminants on-site during the restoration time frame does not pose an unacceptable threat to human health or the environment.

- There is evidence that natural biodegradation or chemical degradation is occurring and will continue to occur at a reasonable rate at the site.
- Appropriate monitoring requirements are conducted to ensure that the monitored natural attenuation process

### 2.8.3 Vapor Intrusion Pathway

Using the guidance provided in Ecology 2009 draft guidance document *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action* (Ecology 2009), the potential risks to human health and the environmental from the vapor intrusion pathway at the Site are not significant and do not warrant additional investigation. The observations that form the basis for this conclusion are the following:

- The risk of vapor intrusion into overlying building is mitigated by the absence of volatile organic compounds in soil and groundwater, as stated in Section 1.4.1 of the Ecology draft guidance document.

### 2.8.4 Surface Water

Migration of contaminants via surface water infiltration and leaching to the subsurface is partially mitigated by the asphalt and concrete covering certain areas of the Site. Additional institutional controls may be necessary to manage future surface water infiltration.

## 3.0 Remedial Alternatives Review

The purpose of this feasibility study (FS) is to develop and evaluate cleanup action alternatives to facilitate selection of a final cleanup action at the Site in accordance with WAC 173-340-350(8). An FS typically includes an extensive development, screening, and evaluation process for numerous remedial alternatives. However, because property-specific conditions preclude many remedial components from application at the Site, the evaluation focused on a limited number of likely feasible components and alternatives that are both implementable and capable of achieving the remediation objectives.

In addition, the FS process screens cleanup alternatives to eliminate those that are not technically possible, those with costs that are disproportionate under WAC 173-340-360(3)(e), or those that will substantially affect the future planned business operations at the Site. Based on the screening, the FS presented below evaluates the most advantageous remedial components to recommend a final cleanup action for the Site in conformance with WAC 173-340-360 through WAC 173-340-390. Selection of the final cleanup action and details of its implementation will be documented in the Cleanup Action Plan (CAP), which will be prepared by Ecology in accordance with WAC 173-340-380.

### 3.1 Cleanup Standards

The selected cleanup alternative must comply with MTCA cleanup regulations specified in WAC 173-340 and with applicable state and federal laws. The cleanup standards selected for the Site are discussed in detail below.

#### 3.1.1 Applicable or Relevant and Appropriate Requirements

Under WAC 173-340-350 and 173-340-710, applicable requirements include regulatory cleanup standards, standards of control, and other environmental requirements, criteria, or limitations established under state or federal law that specifically address a contaminant, remedial action, location, or other circumstances at a site.

MTCA (WAC 173-340-710[3]) defines relevant and appropriate requirements as:

> *Those cleanup action standards, standards of control, and other environmental requirements, criteria or limitations established under state and federal law that, while not legally applicable to the hazardous substance, cleanup action, location, or other circumstances at a site, address problems or situations sufficiently similar to those encountered at the site that their use is well suited to the particular site.*

The criteria used to make this determination are presented in WAC 173-340-710(4)(a)-(i).

Remedial actions conducted under MTCA must comply with the substantive requirements of the applicable or relevant and appropriate requirements (ARARs) but are exempt from their procedural

requirements (WAC 173-340-710[9]). Specifically, this exemption applies to state and local permitting requirements under the Washington State Water Pollution Control Act, Solid Waste Management Act, Hazardous Waste Management Act, Clean Air Act, State Fisheries Code, and Shoreline Management Act.

### 3.1.2 Development of Cleanup Standards

MTCA Method A cleanup levels for soil and groundwater have been established as the cleanup level for groundwater at the Site. The table below provides the MTCA Method A cleanup level for soil and groundwater for each COC that has historically been detected at a concentration exceeding its respective cleanup level, as well as the Site-specific benzene concentration in soil that would be protective of occupational vapor intrusion scenarios.

### 3.1.3 Remedial Action Objectives

RAOs are general administrative goals for a cleanup action that address the overall MTCA cleanup process. The purpose of establishing RAOs for a site is to provide remedial alternatives that protect human health and the environment (WAC 173-340-350). In addition, RAOs are designated in order to:

- Implement administrative principles for cleanup (WAC 173-340-130).
- Meet the requirements, procedures, and expectations for conducting an FS and developing cleanup action alternatives as discussed in WAC 173-340-350 through 173-340-370.
- Develop cleanup levels (WAC 173-340-700 through 173-340-760) and remedial alternatives that are protective of human health and the environment.

In particular, RAOs must include the following threshold requirements from WAC 173-340:

- Protect human health and the environment.
- Comply with cleanup levels.
- Comply with applicable state and federal laws.
- Provide for compliance monitoring.

The remedial action objectives for the Site are to mitigate risks to human health and the environment and to obtain regulatory closure from Ecology.

## 3.2 Evaluation of Alternatives

The evaluation of remedial alternatives was based on Model Toxics Control Act's (MTCA) disproportionate cost analysis (DCA) that identifies which of the alternatives met MTCA threshold requirements and Remedial Action Objectives. This analysis compares the relative benefits and costs of cleanup alternatives in selecting the alternative whose incremental cost is not disproportionate to the incremental benefits. The seven criteria used in the DCA, as specified in WAC 173-340-360(2) and (3), are:

Table 1: Remediation Alternative Comparison

| MTCA threshold requirements and Remedial Action Objectives | Remedial Alternatives | | | |
|---|---|---|---|---|
| | Alternative 1 | Alternative 2 | Alternative 3 | Alternative 4 |
| Protectiveness | 1 | 2 | 2 | 3 |
| Permanence | 1 | 2 | 2 | 3 |
| Long-term Effectiveness | 1 | 2 | 2 | 3 |
| Management of Short-term Risks | 1 | 3 | 3 | 3 |
| Technical & Administrative Implementability | 3 | 3 | 3 | 1 |
| Consideration of Public Concerns | 1 | 2 | 3 | 3 |
| Totals: | 8 | 14 | 15 | 16 |

## 4.2 Base Alternative

Alternative 2, Capping and Institutional Controls, is considered to be the *base alternative* because it represents a viable remedy with the lowest cost disregarding Alternative 1: No Action. The benefits and costs of all other alternatives are compared to the base alternative to determine if their higher costs are in proportion to their expected increased benefit. This procedure is termed the "disproportionate cost analysis" and is one of the evaluation steps referenced under MTCA.

For the DCA, *benefit* is defined in terms of the evaluation criteria and each of the seven criteria is on an equal scale. Each alternative receives a score from 1 to 3 under each criterion. A score of 1 indicates the alternative satisfies the MTCA criterion the least, while a score of 3 indicates the best performance. A minimum score of 7 and a total maximum score of 21 is possible. The basis for scoring under each criterion is described below. Alternatives are evaluated and scored in Table 2: Evaluation and Scoring of Remedial Action Alternatives, attached.

### 4.2.1 Base Alternative Detail

The Base Alternative includes the preparation of a Cleanup Action Plan (CAP), implementation / installation of a containment cap (asphalt and / or concrete) over the affected exterior areas of the Site and implementation of an institutional control such as a management plan or contaminant contingency plan to limit access and/or administer proper protocol for dealing with soil beneath portions of the property. This cleanup alternative would also include monitoring of groundwater to demonstrate that the natural attenuation process is taking place at a reasonable rate.

DRO and ORO (COCs) concentrations in soil beneath the Site are expected to attenuate slowly by virtue of their physical and chemical properties that preclude volatilization as a significant removal mechanism for these compounds. To account for the slower attenuation rate of the COC compounds, the expected duration to achieve soil cleanup levels for all COCs ranges from 7 to 13 years with an average of 10 years.

Quarterly groundwater monitoring would be conducted until a minimum of four consecutive quarters of groundwater samples indicate concentrations of COCs that are compliant with their respective MTCA Method A cleanup levels.

## 4.3 Basis for *Benefit* Scoring

This section indicates the specific factors for each of the MTCA criteria used to assign a score between 1 and 3 to for the remedial alternatives.

### 4.3.1 Overall Protection of Human Health and the Environment

1. Protection of human health and the environment is uncertain.
2. Achieves remedial objectives for preventing exposure to indicator hazardous substances. Provides limited control of future releases to groundwater and surface water. Cleanup standards achieved over a long period of time.
3. Prevents exposure to indicator hazardous substances. Eliminates future releases to groundwater and surface water. Cleanup standards are achieved relatively quickly.

### 4.3.2 MTCA Compliance – Point of Compliance

1. Attaining the Point of Compliance is uncertain. Approvals may be difficult to obtain or require a lengthy process.
2. Meets Point of Compliance. Approvals from agencies and affected parties are likely to be obtainable.
3. Meets Point of Compliance. Cleanup standards are readily achievable. Approvals from agencies and affected parties are likely to be readily obtainable.

### 4.3.3 Short-term Effectiveness

1. Protection of human health and the environment is uncertain. May not reduce risks prior to attainment of cleanup standards.
2. Protects human health and the environment. Moderately reduces risks prior to attainment of cleanup standards.
3. Protects human health and the environment. Greatly reduces risks prior to attainment of cleanup standards.

4.3.4 Long-term Effectiveness

1. Cleanup success and long-term reliability are uncertain. Management of treatment wastes and untreated indicator hazardous substances is uncertain.
2. Moderate probability of cleanup success and long-term reliability. Management approaches for indicator hazardous substances are moderately certain to succeed.
3. High probability of cleanup success and long-term reliability. Management approaches for indicator hazardous substances are highly likely to succeed.

4.3.5 Reduction of Toxicity/Mobility/Volume through Treatment

1. Other than existing source controls indicator hazardous substances are not permanently reduced in toxicity, mobility, or volume, nor are they irreversibly immobilized or destroyed.
2. Some indicator hazardous substances would likely be permanently reduced in toxicity, mobility, or volume.
3. Most indicator hazardous substances would be permanently reduced in toxicity.

4.3.6 Implementability

1. Technology has technical or administrative constraints.
2. Technology that may have some technical or administrative constraints.
3. Conventional and readily available technology with no expected technical or administrative constraints.

4.3.7 Degree to which Community Concerns Are Addressed

Community concerns are not known at this time. However, the remedial efforts are within the confines of a large industrial facility, which is less than 5% of the area of the Property and facility.

1. Does not address community concerns.
2. Partially addresses community concerns, such as reducing long-term releases to groundwater and surface water.
3. Addresses community.

## 4.4 Cost Basis

Proposed costs for each alternative are presented below:

Alternative 1: NA

Alternative 2: $100,000 to $125,000

Alternative 3: $200,000 to $250,000

Alternative 4: $275,000 to $350,000

## 5.0 Summary

As an aid to selecting a preferred remedial alternative, costs versus benefits were assessed for each alternative, as shown in Table 2. The key result of the cost versus benefit evaluation is the cost/benefit ratio, shown in the far right column. This ratio indicates how the cost and benefit of each alternative varies relative to the base alternatives.

Alternative 2 (Capping and Institutional Controls) was used as the base cost alternative because it is a viable alternative and predicted to have the lowest cost, other than No Action. Benefit ratios were determined relative to the base case of Alternative 4 because it has the highest benefit score.

A cost-benefit ratio of 1 indicates that an alternative's benefits are in proportion to its cost. If the ratio is greater than 1, it indicates that the cost is disproportionate to the benefit. As shown in Table 4 Remedial Action Cost Comparison, Alternative 4 were judged to have costs that are disproportionate to benefits.

Alternative 3 has a cost-benefit ratio of 1.1, indicating that its cost only slightly exceeds its benefit. All of the other alternatives (other than No Action) have much higher cost-benefit ratios than Alternative 2, indicating their costs exceed their benefits to a much greater degree than for Alternative 2.

# Attachment A

Project Figures

Figure 1 - General Vicinity map

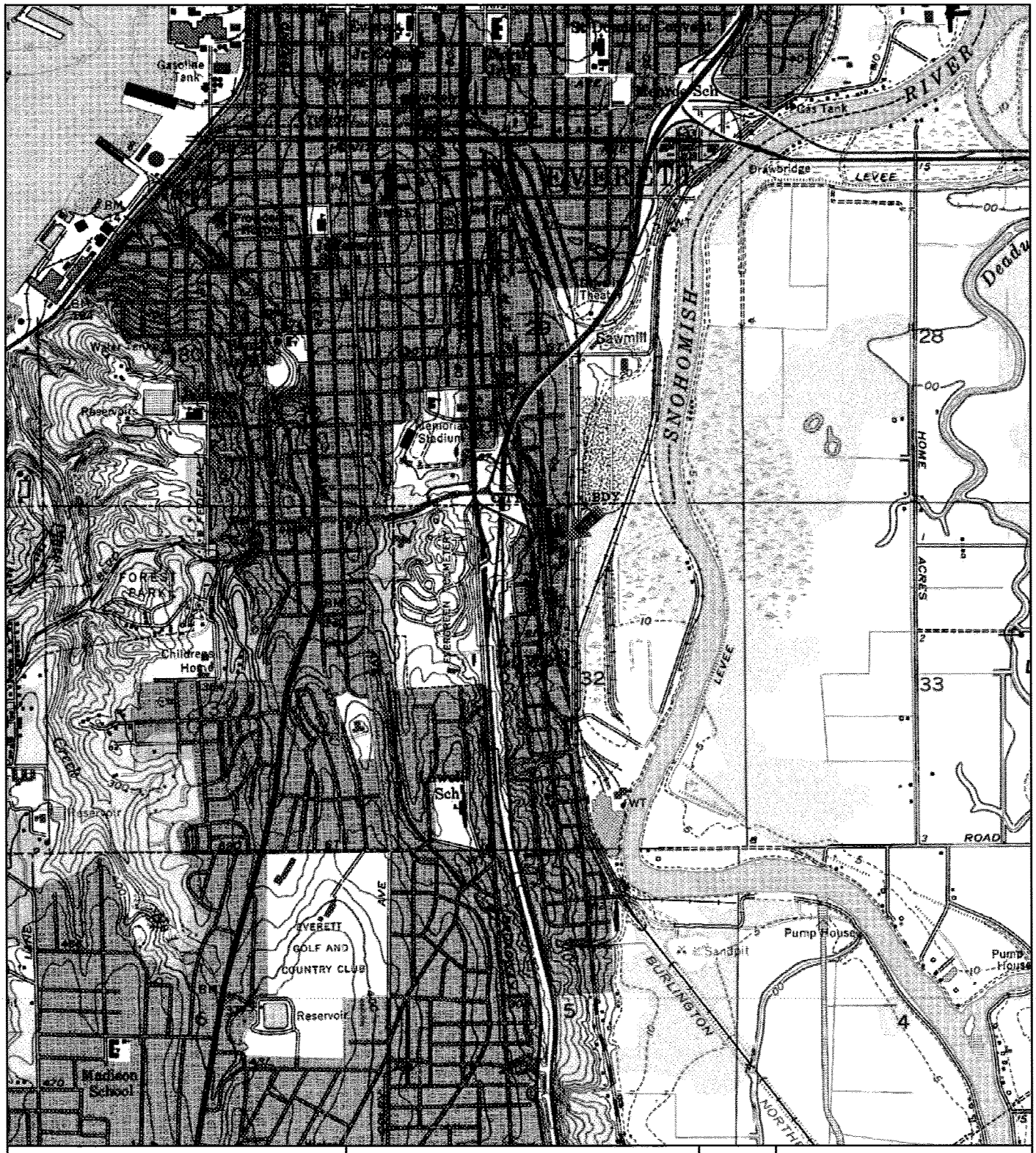
Figure 2 - Site Representation Map

Figure 3 - Area 1 Paint/Solvent Storage Area

Figure 4 - Area 2 Former Heating Oil UST & ECI Investigation Area

Figure 5 - Area 3 Former Location of Fuel Tank & Estimated Extent of Soil Impacts

Figure 6 - Area 3 Former Location of Fuel Tank & Estimated Extent of Groundwater Impacts




KEY:

SOURCE: USGS 7.5 MINUTE QUADRANGLES (TOPOGRAPHIC)

EVERETT, WASHINGTON
NW 1/4 OF EVERETT 15' QUADRANGLE
1953 (PHOTOREVISED 1968 & 1973)

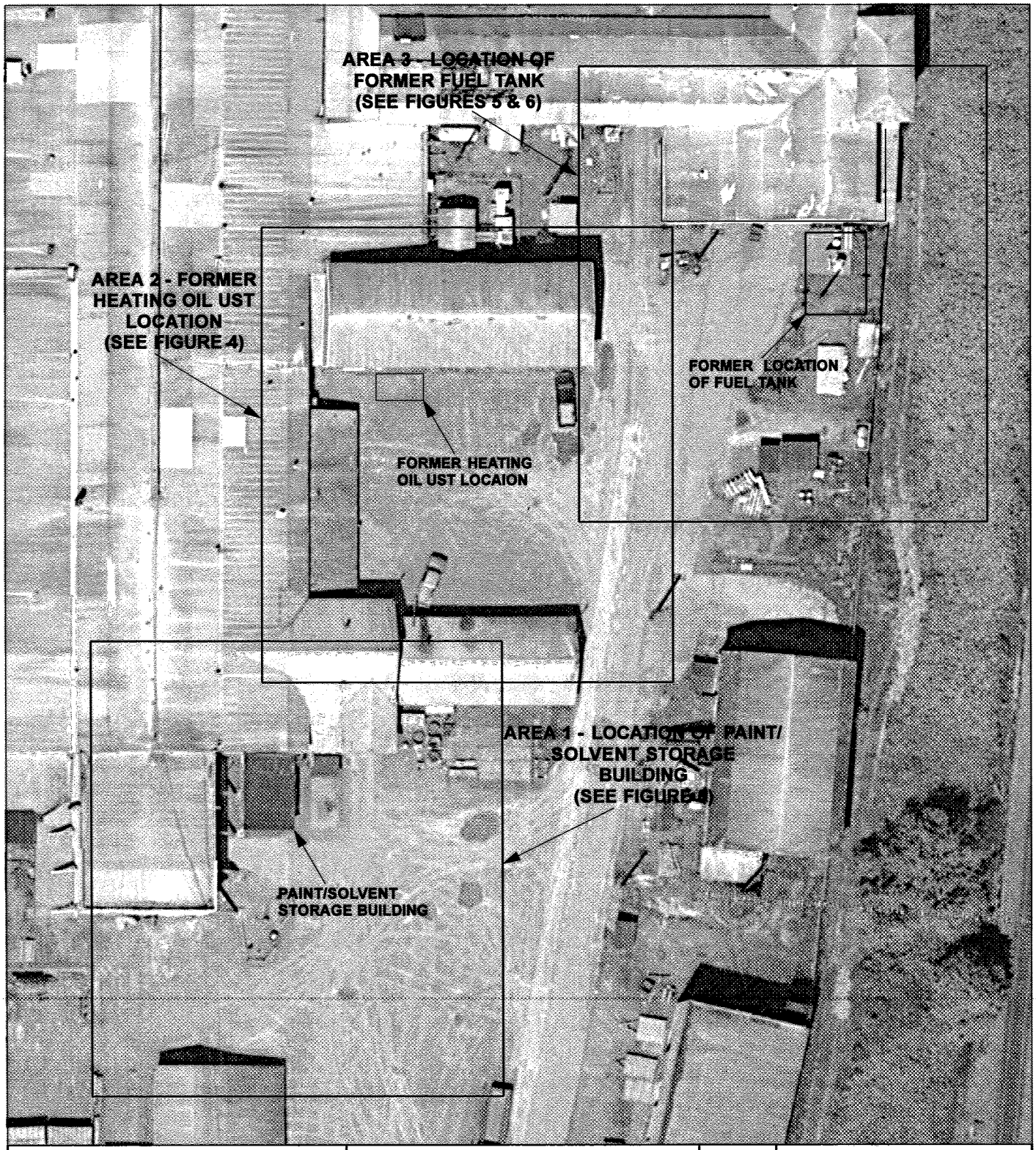
SCALE = 1:24,000

ECI environmental services
www.ecconline.com

FIGURE 1

GENERAL VICINITY MAP

| | | | |
|---|---|---|---|
| PROJECT | ACROWOOD CORP | | |
| PREPARED FOR | ACROWOOD CORPORATION | | |
| LOCATION | 4425 SOUTH THIRD AVENUE<br>EVERETT, WASHINGTON | | |
| SHEET | DRAWN BY | REVIEWED BY | DATE |
| 1 of 1 | JS | SS | 9/30/11 |




0 25 50

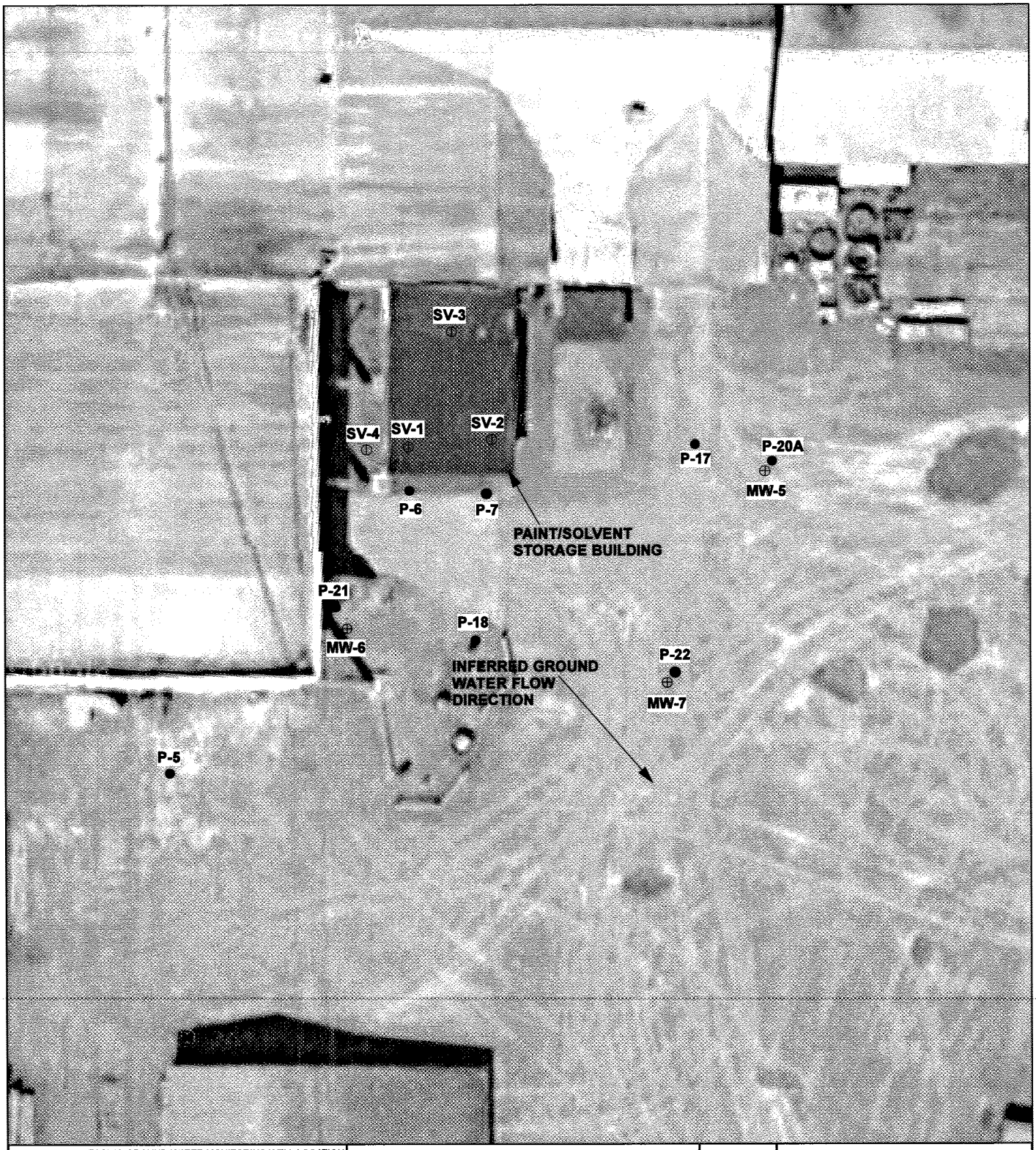
APPROXIMATE SCALE: 1" = 50'

ECI environmental services
www.ecocononline.com

FIGURE 2

SITE REPRESENTATION

| | | | |
|---|---|---|---|
| PROJECT | ACROWOOD CORP | | |
| PREPARED FOR | ACROWOOD CORPORATION | | |
| LOCATION | 4425 SOUTH THIRD AVENUE EVERETT, WASHINGTON | | |
| SHEET | DRAWN BY | REVIEWED BY | DATE |
| 1 of 1 | JS | SS | 9/30/11 |




⊕ ADAPT ENGINEERING GROUND WATER MONITORING WELL LOCATION
⊙ ADAPT ENGINEERING SOIL VAPOR HOLE LOCATION
● ADAPT ENGINEERING GEOPROBE LOCATION

INFERRED GROUND WATER FLOW DIRECTION BASED ON GROUND WATER ELEVATION DATA OBTAINED FROM PREVIOUS INVESTIGATIONS

0 10 20

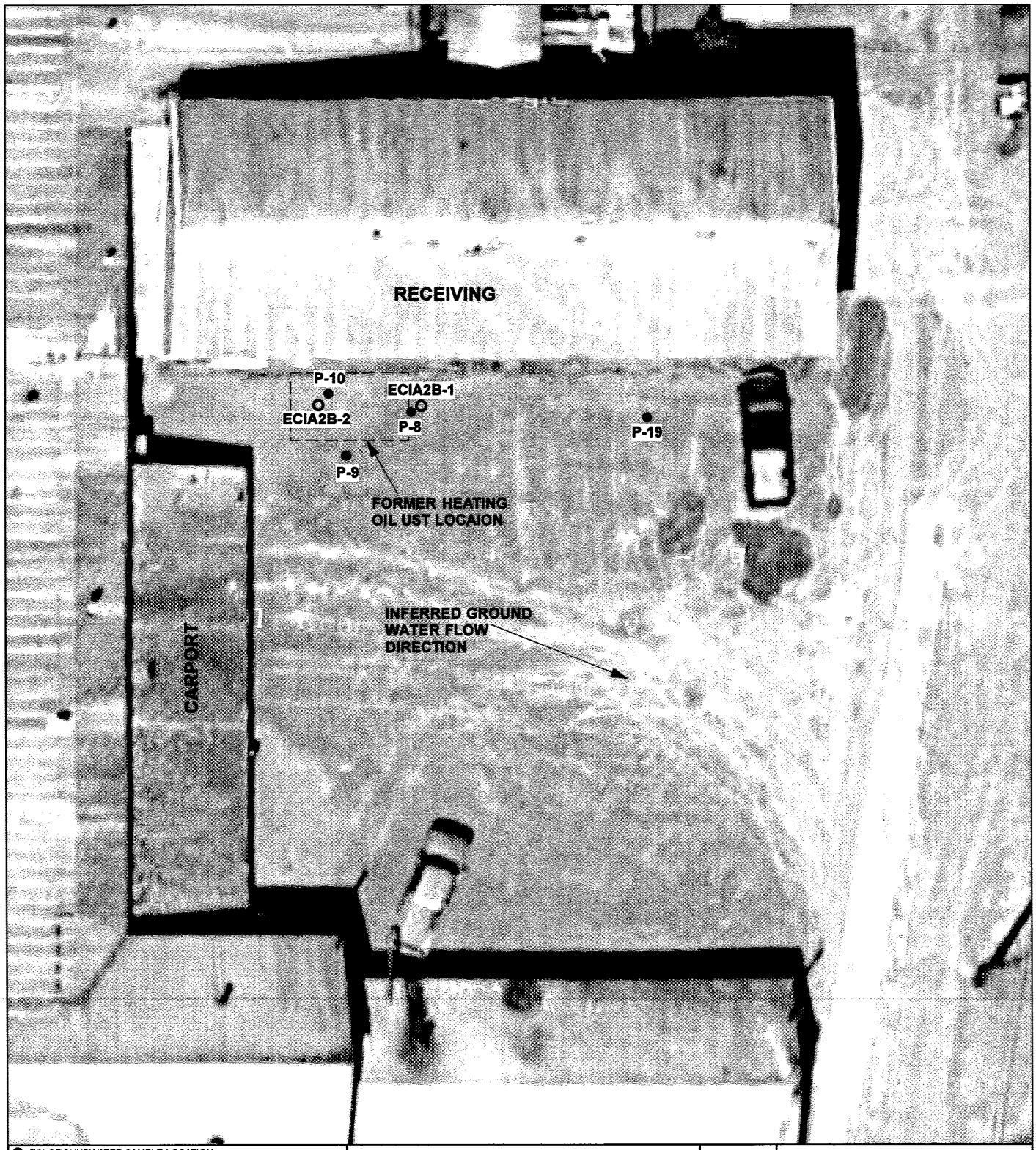
APPROXIMATE SCALE: 1" = 20'

ECI environmental services
www.ecoconline.com

FIGURE 3

AREA 1
PAINT/SOLVENT STORAGE AREA

| | | | |
|---|---|---|---|
| PROJECT | ACROWOOD CORP | | |
| PREPARED FOR | ACROWOOD CORPORATION | | |
| LOCATION | 4425 SOUTH THIRD STREET<br>EVERETT, WASHINGTON | | |
| SHEET<br>1 of 1 | DRAWN BY<br>JS | REVIEWED BY<br>SS | DATE<br>9/30/11 |




O ECI GROUNDWATER SAMPLE LOCATION

● ADAPT ENGINEERING GEOPROBE LOCATION

INFERRED GROUND WATER FLOW DIRECTION BASED ON GROUND WATER ELEVATION DATA OBTAINED FROM PREVIOUS INVESTIGATIONS

HEATING OIL UST LOCATION BASED ON ADAPT ENGINEERING SITE PLAN WHICH WAS NOT TO SCALE

0 10 20

APPROXIMATE SCALE: 1" = 20'

ECI environmental services
www.ecoconline.com

FIGURE 4

AREA 2
FORMER HEATING OIL UST LOCATION &
ECI INVESTIGATION AREA

| | | | |
|---|---|---|---|
| PROJECT | ACROWOOD CORP | | |
| PREPARED FOR | ACROWOOD CORPORATION | | |
| LOCATION | 4425 SOUTH THIRD AVENUE<br>EVERETT, WASHINGTON | | |
| SHEET | DRAWN BY | REVIEWED BY | DATE |
| 1 of 1 | JS | SS | 9/30/11 |


- ECI GROUNDWATER MONITORING WELL LOCATION
- ECI SOIL AND/OR GROUNDWATER SAMPLE LOCATION
- ADAPT ENGINEERING GROUND WATER MONITORING WELL LOCATION
- ADAPT ENGINEERING GEOPROBE LOCATION
- ADAPT ENGINEERING HAND AUGER LOCATION

INFERRED GROUND WATER FLOW DIRECTION BASED ON GROUND WATER ELEVATION DATA OBTAINED FROM PREVIOUS INVESTIGATIONS

0 10 20

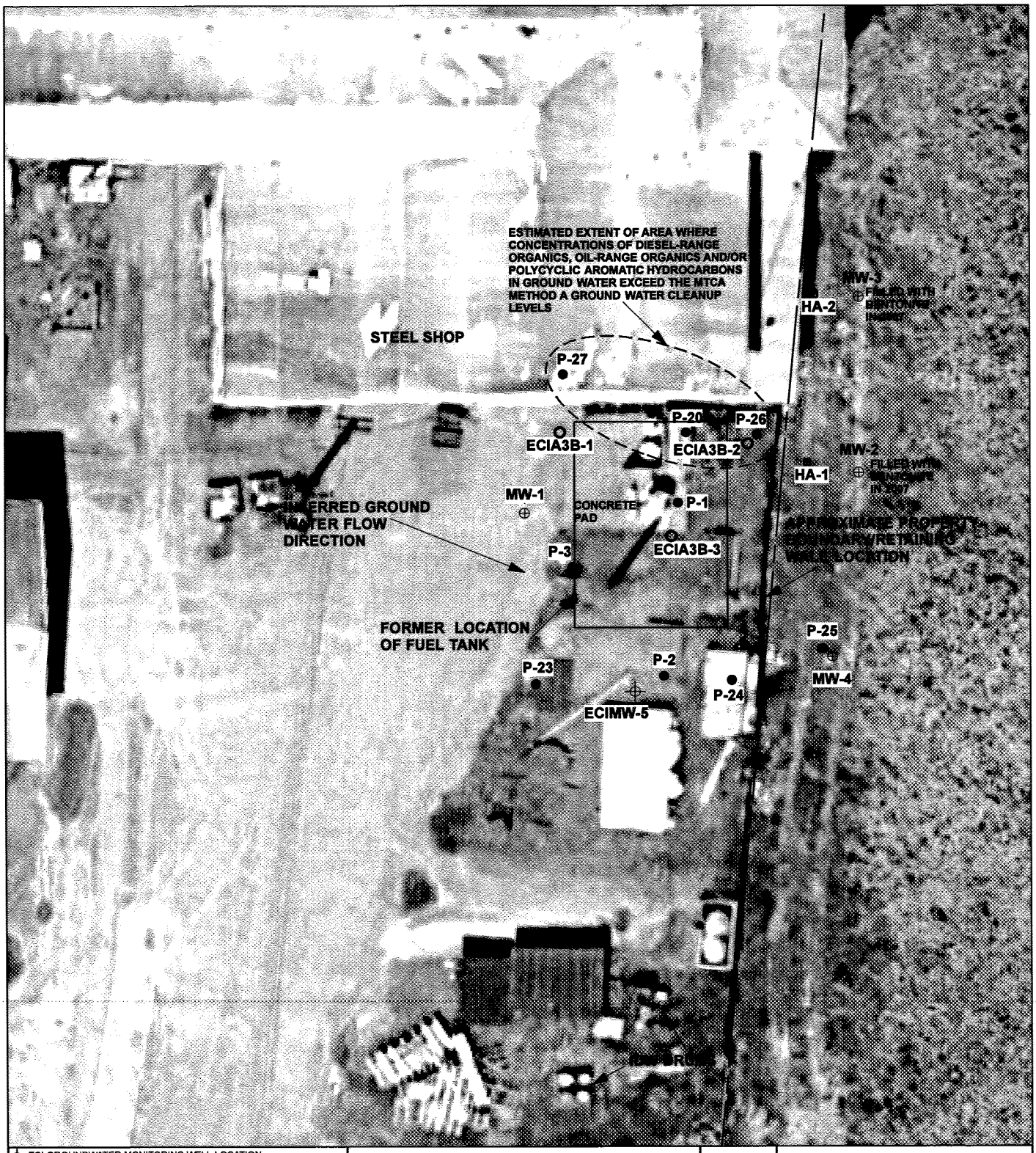
APPROXIMATE SCALE: 1" = 20'

ECI environmental services
www.econonline.com

FIGURE 5

AREA 3
FORMER LOCATION OF FUEL TANK &
ESTIMATED EXTENT OF SOIL IMPACTS

| | | | |
|---|---|---|---|
| PROJECT | ACROWOOD CORP | | |
| PREPARED FOR | ACROWOOD CORPORATION | | |
| LOCATION | 4425 SOUTH THIRD AVENUE EVERETT, WASHINGTON | | |
| SHEET | DRAWN BY | REVIEWED BY | DATE |
| 1 of 1 | JS | SS | 9/30/11 |




- ECI GROUNDWATER MONITORING WELL LOCATION
- ECI SOIL AND/OR GROUNDWATER SAMPLE LOCATION
- ADAPT ENGINEERING GROUND WATER MONITORING WELL LOCATION
- ADAPT ENGINEERING GEOPROBE LOCATION
- ADAPT ENGINEERING HAND AUGER LOCATION

INFERRED GROUND WATER FLOW DIRECTION BASED ON GROUND WATER ELEVATION DATA OBTAINED FROM PREVIOUS INVESTIGATIONS

0 10 20

APPROXIMATE SCALE: 1" = 20'

ECI environmental services
www.ecoonline.com

FIGURE 6

AREA 3
FORMER LOCATION OF FUEL TANK &
ESTIMATED EXTENT OF GROUND WATER IMPACTS

| | | | |
|---|---|---|---|
| PROJECT | ACROWOOD CORP | | |
| PREPARED FOR | ACROWOOD CORPORATION | | |
| LOCATION | 4425 SOUTH THIRD AVENUE EVERETT, WASHINGTON | | |
| SHEET | DRAWN BY | REVIEWED BY | DATE |
| 1 of 1 | JS | SS | 9/30/11 |

# Attachment B

Feasibility Level Cost Estimate Tables

Alternative 1 - Monitored Natural Attenuation with Institutional Controls

Alternative 2 - Partial Removal & Off Site Disposal & Institutional Controls

Alternative 3 - Complete Removal & Offsite Disposal

ECI environmental services www.ecoconline.com

Feasibility Level Cost Estimate
Alternative 1 - Monitored Natural Attenuation with Institutional Controls
**Acrowood Facility**
4425 South 3rd Street
Everett, Washington
Facility/Site ID#: 22755667 | VCP #: NW2151

| Cost Description | | Qty | Unit | Unit Cost | Total Cost |
|---|---|---|---|---|---|
| Institutional Controls | | | | | |
| | Negotiate with Ecology and implement institutional control | 1 | $ 15,000.00 | $ 15,000.00 | |
| Site Work | | | | | |
| | Installation of an asphalt/concrete cap | 1 | $ 15,000.00 | $ 15,000.00 | |
| Contingency | | | | | |
| | Percentage of total scope of work | 1 | | $ 6,000.00 | |
| Professional Services | | | | | |
| | Project management & administration (15% of total) | | | $ 5,400.00 | |
| | | | **Total Project Costs:** | | **$ 41,400.00** |

| **Operations & Maintenance Items** | | **Annual Cost** | | **Extended Costs** |
|---|---|---|---|---|
| Quarterly Groundwater Monitoring and Reporting (1 year) | $ | 15,000.00 | $ | 15,000.00 |
| Annual Maintenance and Monitoring (10 years) | $ | 500.00 | $ | 5,000.00 |
| Annual MNA Sampling (10 years) | $ | 5,000.00 | $ | 50,000.00 |
| Confirmation Sampling, Analysis, Well Closure and Reporting (Year 10) | | | $ | 15,000.00 |
| **Total O&M Project Costs:** | | | | **$ 85,000.00** |

**Total Project Estiamted Cost: $ 126,400.00**

ECI | environmental services www.ecoconline.com

Feasibility Level Cost Estimate
Alternative 2 - Partial Removal & Off-Site Disposal & Institutional Controls
**Acrowood Facility**
4425 South 3rd Street
Everett, Washington
Facility/Site ID#: 22755667 | VCP #: NW2151

| Cost Description | Qty | Unit | Unit Cost | Total Cost |
|---|---|---|---|---|
| Permitting | | | | |
| Grading Permit Fees | 1 | ls | $ 3,500.00 | $ 3,500.00 |
| Shoring Permit Fees | 1 | ls | $ 3,500.00 | $ 3,500.00 |
| Geotechnical Engineering Support Services | | | | |
| Preliminary geotechnical engineering report | 1 | | $ 7,500.00 | $ 7,500.00 |
| Structural Engineering Support Services | | | | |
| Shoring Design | 1 | | $ 3,000.00 | $ 3,000.00 |
| Geotechnical Engineering Services | | | | |
| Field oversight - shoring installation | 3 | day | $ 1,200.00 | $ 3,600.00 |
| Field oversight - excavation and backfill | 10 | day | $ 1,200.00 | $ 12,000.00 |
| Shoring Contractor | | | | |
| Install H-pile & lagging shoring | 250 | face foot | $ 55.00 | $ 13,750.00 |
| Install pin pile shoring around building perimeter | 20 | ea | $ 750.00 | $ 15,000.00 |
| Well abandonment within proposed excavation | | | | |
| Survey - baseline, weekly, conclusion of field work | 1 | ls | $ 10,000.00 | $ 10,000.00 |
| Excavation Contractor | | | | |
| Mob/demob, erosion control, temporary site controls | 1 | | $ 7,500.00 | $ 7,500.00 |
| Asphalt demolition and removal | 1 | ls | $ 2,000.00 | $ 2,000.00 |
| Asphalt and concrete disposal | 1 | ls | $ 1,000.00 | $ 1,000.00 |
| Excavate and stockpile overburden | 250 | tn | $ 5.00 | $ 1,250.00 |
| Excavate, haul and dispose PCS at Subtitle D landfill | 250 | tn | $ 55.00 | $ 13,750.00 |
| Place and compact overburden | 250 | tn | $ 20.00 | $ 5,000.00 |
| Import, place and compact structural backfill | 250 | tn | $ 25.00 | $ 6,250.00 |
| Confirmation analytical - Mobile Laboratory | 3 | ea | $ 1,750.00 | $ 5,250.00 |
| Well replacement | 2 | ea | $ 2,000.00 | $ 4,000.00 |
| Site restoration (gravel only) | 1 | ls | $ 3,000.00 | $ 3,000.00 |
| Institutional Controls | | | | |
| Negotiate with Ecology and implement institutional control | | | | $ 15,000.00 |
| Contingency: Percentage of total scope of work | 20 | % | | $ 27,170.00 |
| | | ***Construction Subtotal:*** | | **$ 163,020.00** |
| Mobilization, Contingencies & Demobilization | | | | |
| Mobilization (0.5% of construction subtotal) | | | | $ 815.10 |
| Bid (1.5% of construction subtotal) | | | | $ 2,445.30 |
| Scope (10% of construction subtotal) | | | | $ 16,302.00 |
| Engineering / Environmental Consulting Services (15% of construction total) | | | | $ 24,453.00 |
| | | **Construction Total:** | | **$ 207,035.40** |

| Operations & Maintenance Items | Annual Cost | Extended Costs |
|---|---|---|
| Quarterly Groundwater Monitoring and Reporting (1 year) | $ 15,000.00 | $ 15,000.00 |
| Annual Maintenance and Monitoring (10 years) | $ 500.00 | $ 5,000.00 |
| Annual MNA Sampling (10 years) | $ 5,000.00 | $ 50,000.00 |
| Confirmation Sampling, Analysis, Well Closure and Reporting (Year 10) | | $ 15,000.00 |
| **Total O&M Project Costs:** | | **$ 85,000.00** |
| | **Total Project Estimated Cost:** | **$ 292,035.40** |

ECI environmental services www.ecconline.com

Feasibility Level Cost Estimate
Alternative 3 - Complete Removal & Off-Site Disposal
**Acrowood Facility**
4425 South 3rd Street
Everett, Washington
Facility/Site ID#: 22755667 | VCP #: NW2151

| Cost Description | Qty | Unit | Unit Cost | Total Cost |
|---|---|---|---|---|
| Permitting | | | | |
| Grading Permit Fees | 1 | ls | $ 3,500.00 | $ 3,500.00 |
| Shoring Permit Fees | 1 | ls | $ 3,500.00 | $ 3,500.00 |
| Geotechnical Engineering Support Services | | | | |
| Preliminary geotechnical engineering report | 1 | ls | $ 7,500.00 | $ 7,500.00 |
| Structural Engineering Support Services | | | | |
| Shoring Design (Building & Retaining Wall) | 1 | ls | $ 7,500.00 | $ 7,500.00 |
| Geotechnical Engineering Services | | | | |
| Field oversight - shoring installation | 5 | day | $ 1,200.00 | $ 6,000.00 |
| Field oversight - excavation and backfill | 15 | day | $ 1,200.00 | $ 18,000.00 |
| Shoring Contractor | | | | |
| Install H-pile & lagging shoring | 500 | face foot | $ 55.00 | $ 27,500.00 |
| Install pin pile shoring | 40 | ea | $ 750.00 | $ 30,000.00 |
| Well abandonment within proposed excavation | | | | |
| Survey - baseline, weekly, conclusion of field work | 1 | ls | $ 15,000.00 | $ 15,000.00 |
| Excavation Contractor | | | | |
| Mob/demob, erosion control, temporary site controls | 1 | | $ 7,500.00 | $ 7,500.00 |
| Asphalt demolition and removal | 1 | ls | $ 2,000.00 | $ 2,000.00 |
| Asphalt and concrete disposal | 1 | ls | $ 1,000.00 | $ 1,000.00 |
| Excavate and stockpile overburden | 250 | tn | $ 5.00 | $ 1,250.00 |
| Excavate, haul and dispose PCS at Subtitle D landfill (exterior) | 250 | tn | $ 55.00 | $ 13,750.00 |
| Excavate, haul and dispose PCS at Subtitle D landfill (exterior) | 400 | tn | $ 75.00 | $ 30,000.00 |
| Place and compact overburden (exterior) | 250 | tn | $ 20.00 | $ 5,000.00 |
| Import, place and compact structural backfill | 250 | tn | $ 25.00 | $ 6,250.00 |
| Import, place and compact structural backfill | 400 | tn | $ 25.00 | $ 10,000.00 |
| Confirmation analytical - Mobile Laboratory | 3 | ea | $ 1,750.00 | $ 5,250.00 |
| Well replacement | 2 | ea | $ 2,000.00 | $ 4,000.00 |
| Site restoration (exterior gravel only) | 1 | ls | $ 3,000.00 | $ 3,000.00 |
| Site restoration (Interior Floor) | 1 | ls | $ 16,000.00 | $ 16,000.00 |
| Institutional Controls | | | | |
| Negotiate with Ecology and implement institutional control | 1 | ls | | $ 15,000.00 |
| Contingency: Percentage of total scope of work | 20 | % | | $ 47,700.00 |
| | | | **Construction Subtotal:** | **$ 286,200.00** |
| Mobilization, Contingencies & Demobilization | | | | |
| Mobilization (0.5% of construction subtotal) | | | | $ 1,431.00 |
| Bid (1.5% of construction subtotal) | | | | $ 4,293.00 |
| Scope (10% of construction subtotal) | | | | $ 28,620.00 |
| Engineering / Environmental Consulting Services (15% of construction total) | | | | $ 42,930.00 |
| | | | **Construction Total:** | **$ 363,474.00** |

| Operations & Maintenance Items | Annual Cost | Extended Costs |
|---|---|---|
| Quarterly Groundwater Monitoring and Reporting (1 year) | $ 15,000.00 | $ 15,000.00 |
| Well Decommissining | | $ 5,000.00 |
| **Total O&M Project Costs:** | | **$ 20,000.00** |
| | **Total Project Estimated Cost:** | **$ 383,474.00** |

# Attachment C

Project Analytical Tables

Table 1- Summary of Area 1 Soil Analytical Results

Table 2 - Summary of Area 2 Soil Analytical Results

Table 3 - Summary of Area 3 Soil Analytical Results

Table 4 - Summary of Area 1 Groundwater Analytical Results

Table 5 - Summary of Areas 2 & 3 Groundwater Analytical Results

ECI | environmental services
www.ecocononline.com

Table 1
Summary of Area 1 Analytical Results
VOCs in Soil (milligrams/kilogram)
Acrowood Corporation
4425 South Third Avenue, Everett, WA
September 09, 2011

| Sample ID | Date Collected | Sample depth (bg) | Benzene | Toluene | Ethylbenzene | Total Xylenes | cis-1,2-Dichloroethylene | Trichloroethylene | Tetrachloroethylene | Acetone | 1,1-Dichloroethylene |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P5S2 | 11/3/1999 | 8 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| P6S2 | 11/3/1999 | 8 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| P7S2 | 11/3/1999 | 8 | ND | ND | ND | ND | ND | **0.055** | ND | ND | ND |
| SV-1-4 | 3/27/2000 | 2.5-4 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| SV-2-3.5 | 3/27/2000 | 2.5-3.5 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| SV-3-3.5 | 3/27/2000 | 2.5-3.5 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| SV-4-3.5 | 3/27/2000 | 2.5-3.5 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| P20A | 7/24/2007 | 10-12 | <0.03 | <0.05 | <0.06 | <0.1 | <0.05 | <0.03 | <0.026 | <0.5 | <0.05 |
| P-21 | 7/24/2007 | 8-10 | <0.03 | <0.05 | <0.06 | <0.1 | <0.05 | <0.03 | <0.026 | <0.5 | <0.05 |
| P-22 | 7/24/2007 | 8-10 | <0.03 | <0.05 | <0.06 | <0.1 | <0.05 | <0.03 | <0.026 | <0.5 | <0.05 |
| **MTCA Method A Soil Cleanup Level For Unrestricted Land Uses** | | | **0.03** | **7** | **6** | **9** | NA | **0.03** | **0.05** | NA | NA |

**Bolded and shaded concentration** - indicates that the concentration exceeded the MTCA Method A Soil Cleanup Level

Volatile organic compounds analyzed using EPA Method 8260

All data obtained from previous consultants

ND - indicates analyte was not detected at a concentration above the laboratory detection limit

NA - indicates that data was not available

ECI | environmental services
www.ecocononline.com

**Table 2**
Summary of Area 2 Analytical Results
DRO & ORO in Soil (milligrams/kilogram)
Acrowood Corporation
4425 South Third Avenue, Everett, WA

September 9, 2011

| Sample ID | Date Collected | Sample depth (bg) | HCID-Gasoline Range Organics | HCID-Diesel Range Organics | HCID-Oil Range Organics | Diesel Range Organics | Oil Range Organics |
|---|---|---|---|---|---|---|---|
| P8S3 | 11/3/1999 | 8.5 | <20 | **>50** | **>100** | **983** | **1,920** |
| P9S3 | 11/3/1999 | 12 | <20 | <50 | <100 | - | - |
| P10S3 | 11/3/1999 | 12 | <20 | <50 | <100 | - | - |
| P19-9 | 4/17/2000 | 6-9 | - | - | - | <30 | <60 |
| **MTCA Method A Soil Cleanup Level For Unrestricted Land Uses** | | | NA | NA | NA | **2,000** | **2,000** |

**Bolded concentration** - Indicates that the detected concentration was above the compound-specific laboratory detection limit

HCID - Hydrocarbon Identification analyzed using Ecology Method NWTPH-HCID

Diesel and oil range organics anayzed using Ecology Method NWTPH-Dx

All data obtained from previous consultants

NA - indicates that data was not available

"-" Indicates sample was not analyzed for the inicated analysis

ECI environmental services
www.ecocononline.com

**Table 3**
Summary of Area 3 Analytical Results
DRO, ORO and PAHs in Soil (milligrams/kilogram)
Acrowood Corporation
4425 South Third Avenue, Everett, WA

September 9, 2011

| Sample ID | Date Collected | Sample depth (bg) | Diesel-Range Organics(e) | Oil-Range Organics(e) | 1-Methylnaphthalene(b) | 2-Methylnaphthalene(b) | Naphthalene(b) | Total Naphthalenes(b,c) | Acenaphthene(b) | Acenaphthylene(b) | Anthracene(b) | Benzo(g,h,i)perylene(b) | Fluorene(b) | Fluoranthene(b) | Phenanthrene(b) | Pyrene(b) | Benzo(a)anthracene(d) | Benzo(a)pyrene(d) | Benzo(b)fluoranthene(d) | Benzo(k)fluoranthene(d) | Chrysene(d) | Dibenzo(a,h)anthracene(d) | Ideno(1,2,3-cd)pyrene(d) | Total cPAHs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Adapt Engineering Investigation Data** | | | | | | | | | | | | | | | | | | | | | | | | |
| P1S4 | 11/3/1999 | 16 | 10,000 | 4,010 | - | - | - | 11.8 | 6.27 | 1.21 | 6.94 | 0.745 | 7.86 | 2.86 | 28.2 | 11.3 | 4.62 | 1.53 | 0.705 | ND | 7.01 | ND | ND | 2.133 |
| P1S6 | 11/3/1999 | 22 | ND | ND | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | NA |
| P2S3 | 11/3/1999 | 12 | ND | ND | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | NA |
| P3S3 | 11/3/1999 | 12 | 134 | 210 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | NA |
| P20-12 | 4/17/2000 | 9-12 | - | - | - | - | - | 16 | 7.9 | ND | 7.1 | <2 | 12 | 2.1 | 33 | 11 | 5.1 | 1.4 | <2 | <2 | 8 | ND | ND | 1.99 |
| P20-16 | 4/17/2000 | 12-16 | ND | ND | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | NA |
| HA1-4 | 4/17/2000 | 3-4 | 75 | 500 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | NA |
| HA2-5 | 4/17/2000 | 4-5 | ND | ND | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | NA |
| P-23 | 7/23/2007 | 12-14 | <50 | <100 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | NA |
| P-24 | 7/23/2007 | 12-14 | <50 | <100 | - | - | - | - | - | - | - | - | - | | - | - | - | - | - | - | - | - | - | NA |
| P-25 | 7/24/2007 | 4-6 | <50 | <100 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | NA |
| P-26 | 7/24/2007 | 12-14 | 440 | 580 | - | - | - | 1.9 | 1.9 | <0.5 | 1.6 | 6.2 | 2 | 1.7 | 5.8 | 4.3 | 3.1 | 6.1 | 7 | 2.9 | 5 | 1.9 | 5.2 | 5.16 |
| P-27 | 7/24/2007 | 12-14 | <50 | <250 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | NA |
| **EcoCon, Inc Investigation Data** | | | | | | | | | | | | | | | | | | | | | | | | |
| ECIA3B-1:4 | 7/21/2011 | 4 | <50 | <100 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | NA |
| ECIA3B-1:12 | 7/21/2011 | 12 | <50 | <100 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | NA |
| ECIA3B-2:8 | 7/21/2011 | 8 | <50 | <100 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | NA |
| ECIA3B-2:12 | 7/21/2011 | 12 | 31,000 | 2,600 | 58 | 96 | 14 | 168 | 11 | 1.5 | 7.3 | 0.61 | 2.4 | ND | 29 | ND | 0.3 | ND | ND | 0.91 | 0.61 | ND | ND | 0.13 |
| ECIA3B-2:16 | 7/21/2011 | 16 | <50 | <100 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | NA |
| ECIA3B-2:17 | 7/21/2011 | 17 | 250 | <100 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | NA |

ECI | environmental services
www.ecocononline.com

**Table 3**
Summary of Area 3 Analytical Results
DRO, ORO and PAHs in Soil (milligrams/kilogram)
Acrowood Corporation
4425 South Third Avenue, Everett, WA

September 9, 2011

| Sample ID | Date Collected | Sample depth (bg) | Diesel-Range Organics(a) | Oil-Range Organics(a) | 1-Methylnaphthalene(b) | 2-Methylnaphthalene(b) | Naphthalene(b) | Total Naphthalenes(b,c) | Acenaphthene(b) | Acenaphthylene(b) | Anthracene(b) | Benzo(g,h,i)perylene(b) | Fluorene(b) | Fluoranthene(b) | Phenanthrene(b) | Pyrene(b) | Benzo(a)anthracene(d) | Benzo(a)pyrene(d) | Benzo(b)fluoranthene(d) | Benzo(k)fluoranthene(d) | Chrysene(d) | Dibenzo(a,h)anthracene(d) | Ideno(1,2,3-cd)pyrene(d) | Total cPAHs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ECIA3B-2:20 | 7/21/2011 | 20 | <50 | <100 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | NA |
| ECIA3B-3:12 | 7/21/2011 | 12 | <50 | 200 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | NA |
| ECIA3B-3:16 | 7/21/2011 | 16 | <50 | <100 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | NA |
| **Toxicity Equivalency Factors (TEF)** | | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **0.1** | **1** | **0.1** | **0.1** | **0.01** | **0.1** | **0.1** | NA |
| **MTCA Method A Soil Cleanup Level For Unrestricted Land Uses** | | | **2,000** | **2,000** | NA | NA | **5** | **5** | NA | NA | NA | NA | NA | NA | NA | NA | NA | **0.1** | NA | NA | NA | NA | NA | **0.1** |

**Bolded and shaded concentration** - indicates that the concentration exceeded the MTCA Method A Soil Cleanup Level

**Bolded concentration** - Indicates that the detected concentration was above the compound-specific laboratory detection limit, but did not exceed a cleanup level

(a) Diesel and oil-range orgainics analyzed using Ecology Method NWTPH-Dx with silica gel cleanup

(b) Polycyclic aromatic hydrocarbons (PAHs) analyzed using EPA Method 8270

(c) Total naphthalenes is the sum of the naphthalene, 1-Methylnaphthalene and 2-Methylnaphthalene concentrations

(d) Carcinogenic PAHs analyzed using EPA Method 8270

(e) Total carcenogenic polycyclic aromatic hydrobarbons is the sum of each individual cPAH concentration multiplied by the corresponding toxicity equivalency factors. The total represents the total toxicity equivalent concentration for the mixture and is compared to the MTCA Method A Cleanup Level for benzo(a)pyrene for compliance purposes

EcoCon, Inc. investigation soil sample analysis performed by Environmental Services Network

"-" Indicates sample was not analyzed for the inicated compound

NA - indicates that data was not available or applicable

ECI | environmental services
www.ecocononline.com

**Table 4**
Summary of Area 1 Analytical Results
VOCs in Groundwater (micrograms/liter)
Acrowood Corporation
4425 South Third Avenue, Everett, WA

September 9, 2011

| Sample ID | Date Collected | Benzene | Toluene | Ethylbenzene | Total Xylenes | cis-1,2-Dichloroethylene | Trichloroethylene | Tetrachloroethylene | Acetone | 1,1-Dichloroethylene |
|---|---|---|---|---|---|---|---|---|---|---|
| P6W1 | 11/3/1999 | ND | ND | ND | ND | ND | **8.38** | ND | ND | ND |
| P-17W | 11/3/1999 | ND | ND | ND | ND | ND | **4.9** | ND | ND | ND |
| P-18W | 11/3/1999 | ND | ND | ND | ND | ND | **0.27** | ND | ND | ND |
| MW-5 | 8/20/2007 | <1 | <1 | <1 | <2 | <1 | **1.6** | <1 | <10 | <1 |
| | 1/17/2008 | <1 | <1 | <1 | <2 | <1 | <1 | <1 | <10 | <1 |
| | 3/21/2008 | <1 | <1 | <1 | <2 | <1 | <1 | <1 | <10 | <1 |
| | 8/7/2008 | <1 | <1 | <1 | <2 | <1 | <1 | <1 | <10 | <1 |
| MW-6 | 8/20/2007 | <1 | <1 | <1 | <2 | <1 | <1 | <1 | <10 | <1 |
| | 1/17/2008 | <1 | <1 | <1 | <2 | <1 | <1 | <1 | <10 | <1 |
| | 3/21/2008 | <1 | <1 | <1 | <2 | <1 | <1 | <1 | <10 | <1 |
| | 8/7/2008 | <1 | <1 | <1 | <2 | <1 | <1 | <1 | <10 | <1 |
| MW-7 | 8/20/2007 | <1 | <1 | <1 | <2 | <1 | <1 | <1 | <10 | <1 |
| | 1/17/2008 | <1 | <1 | <1 | <2 | <1 | <1 | <1 | <10 | <1 |
| | 3/21/2008 | <1 | <1 | <1 | <2 | <1 | <1 | <1 | <10 | <1 |
| | 8/7/2008 | <1 | <1 | <1 | <2 | <1 | <1 | <1 | <10 | <1 |
| P20A | 7/24/2007 | <1 | <1 | <1 | <2 | <1 | <1 | <1 | <10 | <1 |
| P-21 | 7/24/2007 | <1 | <1 | <1 | <2 | <1 | <1 | <1 | <10 | <1 |
| P-22 | 7/24/2007 | <1 | <1 | <1 | <2 | <1 | <1 | <1 | <10 | <1 |
| **MTCA Method A Groundwater Cleanup Level For Unrestricted Land Uses** | | **5** | **1,000** | **700** | **1,000** | NA | **5** | **5** | NA | NA |

ates that the concentration exceeded the MTCA Method A Ground Water Cleanup Leve
:ted concentration was above the laboratory detection limit, but did not exceed a cleanup le
rganic compounds analyzed using EPA Method 826
All data obtained from previous consultants
as not detected at a concentration above the laboratory detection lin
NA - indicates that data was not available

ECI | environmental services
www.ecocononline.com

**Table 5**
Summary of Areas 2 & 3 Analytical Results
DRO, ORO and PAHs in Ground Water (micrograms/liter)
Acrowood Corporation
4425 South Third Avenue, Everett, WA

September 09, 2011

| Sample ID | Date Collected | Diesel-Range Organics(a) | Oil-Range Organics(a) | 1-Methylnaphthalene(b) | 2-Methylnaphthalene(b) | Naphthalene(b) | Total Naphthalenes(b,c) | Acenaphthene(b) | Acenaphthylene(b) | Anthracene(b) | Benzo(g,h,i)perylene(b) | Fluorene(b) | Fluoranthene(b) | Phenanthrene(b) | Pyrene(b) | Benzo(a)anthracene(d) | Benzo(a)pyrene(d) | Benzo(b)fluoranthene(d) | Benzo(k)fluoranthene(d) | Chrysene(d) | Dibenzo(a,h)anthracene(d) | Ideno(1,2,3-cd)pyrene(d) | Total cPAHs(e) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Adapt Engineering Area 3 Investigation Data** | | | | | | | | | | | | | | | | | | | | | | | |
| P-20 | 4/17/2000 | - | - | - | - | - | 60 | 16 | 2.1 | 8.7 | 0.94 | 17 | 2.7 | 36 | 12 | 5.6 | 1.6 | 0.77 | <0.5 | 8.8 | <0.5 | <0.5 | 2.33 |
| HA1-W | 4/17/2000 | ND | ND | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | NA |
| HA2-W | 4/17/2000 | ND | ND | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | NA |
| P23-GW | 7/23/2007 | 52 | <250 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | NA |
| P26-GW | 7/24/2007 | 7,800 | 3,100 | - | - | - | 58 | 17 | <1 | 11 | 4.4 | 16 | 4.9 | 43 | 18 | 7.4 | 6.2 | 5.4 | 2.3 | 13 | 1.1 | 3.4 | 8.29 |
| P27-GW | 7/24/2007 | 160 | 510 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | NA |
| MW-1 | 8/10/2000 | <250 | <500 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | NA |
| | 11/15/2000 | <250 | <500 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | NA |
| | 2/23/2001 | <250 | <500 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | NA |
| | 6/5/2001 | <250 | <500 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | | ND | ND | ND | ND | ND | ND | ND | ND | NA |
| | 6/20/2007 | <50 | <250 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | NA |
| | 1/17/2008 | <50 | <250 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | NA |
| | 3/21/2008 | <50 | <250 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | NA |
| | 8/7/2008 | <50 | <250 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | NA |
| MW-2 | 8/10/2000 | <250 | <500 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | NA |
| | 11/15/2000 | <250 | <500 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | NA |
| | 2/23/2001 | <250 | <500 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | NA |
| | 6/5/2001 | <250 | <500 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | NA |
| MW-3 | 8/10/2000 | <250 | <500 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | NA |
| | 11/15/2000 | <250 | <500 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | NA |
| | 2/23/2001 | <250 | <500 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | NA |
| | 6/5/2001 | <250 | <500 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | NA |

ESN NORTHWEST, INC. | Environmental Services Network

# CHAIN-OF-CUSTODY RECORD

CLIENT: Ecocon, Inc.
ADDRESS: 1912 64th Ave Tacoma WA
PHONE: 253-238-9270 FAX: 253-369-6228
CLIENT PROJECT #: PROJECT MANAGER: Jerry Sawetz

DATE: 7/21/11 PAGE 1 OF 2
PROJECT NAME: Acro wood
LOCATION: Everett, WA
COLLECTOR: Jerry Sawetz DATE OF COLLECTION 7/21/11

| Sample Number | Depth | Time | Sample Type | Container Type | ANALYSES: TPH-HCID | TPH - DIESEL & OIL | TPH - GASOLINE | BTEX | VOC 8260CL | VOC 8260 | SemiVol 8270 | PAH's 8270 | PCB's 8082 | CL Pesticides 8081 | RCRA 8 Metals | MTCA 5 Metals | Pb | Asbestos-PLM | GRO Suite | DRO Suite | WO Suite | NOTES | Total Number of Containers | Laboratory Note Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.ECI A3MW-5:4 | 4 | 1000 | Soil | 4oz | | | | | | | | | | | | | | | | | | Hold all samples | | |
| 2.ECI A3MW-5:8 | 8 | 1005 | Soil | ↓ | | | | | | | | | | | | | | | | | | will give instructions | | |
| 3.ECI A3MW-5:12 | 12 | 1010 | Soil | ↓ | | | | | | | | | | | | | | | | | | 7/22 am | | |
| 4. ECI A3B-1:4 | 4 | 1110 | Soil | ↓ | • | | | | | | | | | | | | | | | | | | | |
| 5. ECI A3B-1:8 | 8 | 1115 | Soil | ↓ | • | | | | | | | | | | | | | | | | | | | |
| 6. ECI A3B-1:12 | 12 | 1125 | Soil | ↓ | • | | | | | | | | | | | | | | | | | | | |
| 7. ECI A3B-1GW | | 1155 | GW | 500 ml | • | | | | | | | | | | | | | | | | | | | |
| 8. ECI A3B-2:4 | 4 | 1215 | Soil | 4oz | | | | | | | | | | | | | | | | | | | | |
| 9. ECI A3B-2:8 | 8 | 1220 | Soil | ↓ | • | | | | | | | | | | | | | | | | | | | |
| 10. ECI A3B-2:12 | 12 | 1225 | Soil | ↓ | • | | | | | | | | | | | | | | | | | | | |
| 11. ECI A3B-2:16 | 16 | 1230 | Soil | ↓ | • | | | | | | | | | | | | | | | | | | | |
| 12. ECI A3B-2:17 | 17 | 1245 | Soil | ↓ | • | | | | | | | | | | | | | | | | | | | |
| 13. ECI A3B-2:20 | 20 | 1255 | Soil | ↓ | • | | | | | | | | | | | | | | | | | | | |
| 14. ECI A3B-2GW | | 1310 | GW | 500 ml | • | | | | | | | | | | | | | | | | | | | |
| 15. ECI A3B-3:4 | 4 | 1320 | Soil | 4oz | | | | | | | | | | | | | | | | | | | | |
| 16. ECI A3B-3:12 | 12 | 1325 | Soil | ↓ | • | | | | | | | | | | | | | | | | | | | |
| 17. ECI A3B-3:16 | 16 | 1330 | Soil | ↓ | • | | | | | | | | | | | | | | | | | | | |
| 18. ECI A3B-3:20 | 20 | 1340 | Soil | ↓ | | | | | | | | | | | | | | | | | | | | |

| RELINQUISHED BY (Signature) | DATE/TIME | RECEIVED BY (Signature) | DATE/TIME |
|---|---|---|---|
| | 7/21/11 | | |
| RELINQUISHED BY (Signature) | DATE/TIME | RECEIVED BY (Signature) | DATE/TIME |
| | | 7/21/11 1630 | |

**SAMPLE DISPOSAL INSTRUCTIONS**

☐ ESN DISPOSAL @ $2.00 each ☐ Return ☐ Pickup

| SAMPLE RECEIPT | |
|---|---|
| TOTAL NUMBER OF CONTAINERS | |
| CHAIN OF CUSTODY SEALS Y/N/NA | |
| SEALS INTACT? Y/N/NA | |
| RECEIVED GOOD COND./COLD | |
| NOTES: | |

LABORATORY NOTES:

Turn Around Time: 24 HR 48 HR 5 DAY

ESN NORTHWEST, INC. Environmental Services Network

# CHAIN-OF-CUSTODY RECORD

CLIENT: Ecocon, Inc.

DATE: _____ PAGE 2 OF 2

ADDRESS: SAME AS PAGE 1

PROJECT NAME: _____

PHONE: _____ FAX: _____

LOCATION: _____

CLIENT PROJECT #: _____ PROJECT MANAGER: _____

COLLECTOR: _____ DATE OF COLLECTION _____

| Sample Number | Depth | Time | Sample Type | Container Type | ANALYSES: TPH-HCID | TPH - DIESEL & OIL | TPH - GASOLINE | BTEX | VOC 8260CL | VOC 8260 | SemiVol 8270 | PAH's 8270 | PCB's 8082 | CL Pesticides 8081 | RCRA 8 Metals | MTCA 5 Metals | Pb | Asbestos-PLM | GRO Suite | DRO Suite | WO Suite | NOTES | Total Number of Containers | Laboratory Note Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. ECTA3 B-3 GW | | 1400 | GW | 500ml | | ✓ | | | | | | | | | | | | | | | | | | |
| 2. ECTA2 B-1 GW | | 1515 | GW | ↓ | | ✓ | | | | | | | | | | | | | | | | | | |
| 3. ECTA2 B-2 GW | | 1555 | GW | ↓ | | ✓ | | | | | | | | | | | | | | | | | | |
| 4. | | | | | | | | | | | | | | | | | | | | | | | | |
| 5. | | | | | | | | | | | | | | | | | | | | | | | | |
| 6. | | | | | | | | | | | | | | | | | | | | | | | | |
| 7. | | | | | | | | | | | | | | | | | | | | | | | | |
| 8. | | | | | | | | | | | | | | | | | | | | | | | | |
| 9. | | | | | | | | | | | | | | | | | | | | | | | | |
| 10. | | | | | | | | | | | | | | | | | | | | | | | | |
| 11. | | | | | | | | | | | | | | | | | | | | | | | | |
| 12. | | | | | | | | | | | | | | | | | | | | | | | | |
| 13. | | | | | | | | | | | | | | | | | | | | | | | | |
| 14. | | | | | | | | | | | | | | | | | | | | | | | | |
| 15. | | | | | | | | | | | | | | | | | | | | | | | | |
| 16. | | | | | | | | | | | | | | | | | | | | | | | | |
| 17. | | | | | | | | | | | | | | | | | | | | | | | | |
| 18. | | | | | | | | | | | | | | | | | | | | | | | | |

| RELINQUISHED BY (Signature) | DATE/TIME | RECEIVED BY (Signature) | DATE/TIME |
|---|---|---|---|
| [signature] | 7/21/11 | [signature] | 7/21/11 1630 |
| RELINQUISHED BY (Signature) | DATE/TIME | RECEIVED BY (Signature) | DATE/TIME |

**SAMPLE DISPOSAL INSTRUCTIONS**

☐ ESN DISPOSAL @ $2.00 each ☐ Return ☐ Pickup

| SAMPLE RECEIPT | |
|---|---|
| TOTAL NUMBER OF CONTAINERS | |
| CHAIN OF CUSTODY SEALS Y/N/NA | |
| SEALS INTACT? Y/N/NA | |
| RECEIVED GOOD COND./COLD | |
| NOTES: | |

LABORATORY NOTES:

Turn Around Time: 24 HR 48 HR 5 DAY

## Lab

**From:** Jerry Sawetz [jerrys@ecocononline.com]
**Sent:** Monday, August 01, 2011 12:30 PM
**To:** Lab
**Subject:** Re: Acrowood Project Analysis
**Attachments:** image003.jpg; ATT00024.txt; image003.jpg; ATT00027.txt

Hi Sara,

Please provide the PAH and naphthalene data for the ECIA3-B2GW ground water sample and run soil sample ECIA3-B2:12 for PAHs and naphthalenes using 8270. Please feel free to contact me at 425-301-1227 or via email with any questions.

Thanks

Jerry Sawetz
Environmental Scientist | EcoCon, Inc.

**ESN NORTHWEST CHEMISTRY LABORATORY**

EcoCon
ACROWOOD PROJECT
Everett, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

**Analysis of Polynuclear Aromatic Hydrocarbons in Water by Method 8270**

Analytical Results

| | Reporting | MTH BLK | LCS | ECIA3B-2GW |
|---|---|---|---|---|
| Date extracted | Limits | 07/27/11 | 07/27/11 | 07/27/11 |
| Date analyzed | (ug/L) | 07/28/11 | 07/28/11 | 07/28/11 |
| Acenaphthene | 0.1 | nd | 134% | **0.30** |
| Acenaphthylene | 0.1 | nd | 109% | **0.10** |
| Anthracene | 0.1 | nd | 137% | nd |
| Benzo(a)anthracene* | 0.1 | nd | 139% | **0.10** |
| Benzo(a)pyrene* | 0.1 | nd | 143% | nd |
| Benzo(b)fluoranthene* | 0.1 | nd | 137% | nd |
| Benzo(ghi)perylene | 0.1 | nd | 126% | nd |
| Benzo(k)fluoranthene* | 0.1 | nd | 130% | nd |
| Chrysene* | 0.1 | nd | 129% | nd |
| Dibenzo(a,h)anthracene* | 0.1 | nd | 132% | nd |
| Fluorene | 0.1 | nd | 125% | **0.20** |
| Fluoranthene | 0.1 | nd | 146% | nd |
| Indeno(1,2,3-cd)pyrene* | 0.1 | nd | 128% | nd |
| Naphthalene | 0.1 | nd | 116% | **6.0** |
| 1-Methylnaphthalene | 0.1 | nd | ns | **12** |
| 2-Methylnaphthalene | 0.1 | nd | ns | **15** |
| Phenanthrene | 0.1 | nd | 137% | **1.1** |
| Pyrene | 0.1 | nd | 142% | nd |

| Surrogate recoveries: | | | |
|---|---|---|---|
| 2-Fluorobiphenyl | 100% | 87% | 103% |
| p-Terphenyl-d14 | 106% | 108% | 105% |

Data Qualifiers and Analytical Comments

* - Carcinogenic Analyte
nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
M - matrix interference
J - estimated value
Results reported on dry-weight basis
Acceptable Recovery limits: 50% TO 150%
Acceptable RPD limit: 35%

**ESN NORTHWEST CHEMISTRY LABORATORY**

EcoCon
ACROWOOD PROJECT
Everett, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

**Analysis of Polynuclear Aromatic Hydrocarbons in Soil by Method 8270**

Analytical Results

| | | MTH BLK | LCS | ECIA3-B2:12 |
|---|---|---|---|---|
| Date extracted | Reporting | 08/02/11 | 08/02/11 | 08/02/11 |
| Date analyzed | Limits | 08/02/11 | 08/02/11 | 08/02/11 |
| Moisture, % | (mg/kg) | | | 25% |
| Acenaphthene | 0.02 | nd | 136% | 11 |
| Acenaphthylene | 0.02 | nd | 111% | 1.5 |
| Anthracene | 0.02 | nd | 134% | 7.3 |
| Benzo(a)anthracene* | 0.02 | nd | 123% | 0.30 |
| Benzo(a)pyrene* | 0.02 | nd | 149% | nd |
| Benzo(b)fluoranthene* | 0.02 | nd | 145% | nd |
| Benzo(ghi)perylene | 0.02 | nd | 133% | 0.61 |
| Benzo(k)fluoranthene* | 0.02 | nd | 136% | 0.91 |
| Chrysene* | 0.02 | nd | 124% | 0.61 |
| Dibenzo(a,h)anthracene* | 0.02 | nd | 138% | nd |
| Fluorene | 0.02 | nd | 128% | 2.4 |
| Fluoranthene | 0.02 | nd | 144% | nd |
| Indeno(1,2,3-cd)pyrene* | 0.02 | nd | 132% | nd |
| Naphthalene | 0.02 | nd | 115% | 14 |
| 1-Methylnaphthalene | 0.02 | nd | ns | 58 |
| 2-Methylnaphthalene | 0.02 | nd | ns | 96 |
| Phenanthrene | 0.02 | nd | 138% | 29 |
| Pyrene | 0.02 | nd | 142% | nd |

| Surrogate recoveries: | | | |
|---|---|---|---|
| 2-Fluorobiphenyl | 98% | 90% | 101% |
| p-Terphenyl-d14 | 105% | 111% | 106% |

Data Qualifiers and Analytical Comments

* - Carcinogenic Analyte
nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
M - matrix interference
J - estimated value
Results reported on dry-weight basis
Acceptable Recovery limits: 50% TO 150%
Acceptable RPD limit: 35%

ESN NORTHWEST, INC. | Environmental Services Network

# CHAIN-OF-CUSTODY RECORD

CLIENT: Ecocon, Inc.
ADDRESS: 1912 64th Ave Tacoma WA
PHONE: 253-238-9270 FAX: 253-369-6228
CLIENT PROJECT #: PROJECT MANAGER: Jerry Sawetz

DATE: 7/21/11 PAGE 1 OF 2
PROJECT NAME: Acro wood
LOCATION: Everett, WA
COLLECTOR: Jerry Sawetz DATE OF COLLECTION 7/21/11

| Sample Number | Depth | Time | Sample Type | Container Type | TPH-HCID | TPH - DIESEL & OIL | TPH - GASOLINE | BTEX | VOC 8260CL | VOC 8260 | SemiVol 8270 | PAH's 8270 | PCB's 8082 | CL Pesticides 8081 | RCRA 8 Metals | MTCA 5 Metals | Pb | Asbestos-PLM | GRO Suite | DRO Suite | WO Suite | NOTES | Total Number of Containers | Laboratory Note Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.ECI A3MW-5:4 | 4 | 1000 | Soil | 4oz | | | | | | | | | | | | | | | | | | Hold all samples | | |
| 2.ECI A3MW-5:8 | 8 | 1005 | Soil | ↓ | | | | | | | | | | | | | | | | | | will give instructions | | |
| 3.ECI A3MW-5:12 | 12 | 1010 | Soil | ↓ | | | | | | | | | | | | | | | | | | 7/22 am | | |
| 4. ECI A3B-1:4 | 4 | 1110 | Soil | ↓ | | | | | | | | | | | | | | | | | | | | |
| 5. ECI A3B-1:8 | 8 | 1115 | Soil | ↓ | | | | | | | | | | | | | | | | | | | | |
| 6. ECI A3B-1:12 | 12 | 1125 | Soil | ↓ | | | | | | | | | | | | | | | | | | | | |
| 7. ECI A3B-1GW | | 1155 | GW | 500 ml | | | | | | | | | | | | | | | | | | | | |
| 8. ECI A3B-2:4 | 4 | 1215 | Soil | 4oz | | | | | | | | | | | | | | | | | | | | |
| 9. ECI A3B-2:8 | 8 | 1220 | Soil | ↓ | | | | | | | | | | | | | | | | | | | | |
| 10. ECI A3B-2:12 | 12 | 1225 | Soil | ↓ | | | | | | | | | | | | | | | | | | | | |
| 11. ECI A3B-2:16 | 16 | 1230 | Soil | ↓ | | | | | | | | | | | | | | | | | | | | |
| 12. ECI A3B-2:17 | 17 | 1245 | Soil | ↓ | | | | | | | | | | | | | | | | | | | | |
| 13. ECI A3B-2:20 | 20 | 1255 | Soil | ↓ | | | | | | | | | | | | | | | | | | | | |
| 14. ECI A3B-2GW | | 1310 | GW | 500 ml | | | | | | | | | | | | | | | | | | | | |
| 15. ECI A3B-3:4 | 4 | 1320 | Soil | 4oz | | | | | | | | | | | | | | | | | | | | |
| 16. ECI A3B-3:12 | 12 | 1325 | Soil | ↓ | | | | | | | | | | | | | | | | | | | | |
| 17. ECI A3B-3:16 | 16 | 1330 | Soil | ↓ | | | | | | | | | | | | | | | | | | | | |
| 18. ECI A3B-3:20 | 20 | 1340 | Soil | ↓ | | | | | | | | | | | | | | | | | | | | |

| RELINQUISHED BY (Signature) | DATE/TIME | RECEIVED BY (Signature) | DATE/TIME |
|---|---|---|---|
| | 7/21/11 | | 7/21/11 1630 |
| RELINQUISHED BY (Signature) | DATE/TIME | RECEIVED BY (Signature) | DATE/TIME |

**SAMPLE DISPOSAL INSTRUCTIONS**

☐ ESN DISPOSAL @ $2.00 each ☐ Return ☐ Pickup

| SAMPLE RECEIPT | |
|---|---|
| TOTAL NUMBER OF CONTAINERS | |
| CHAIN OF CUSTODY SEALS Y/N/NA | |
| SEALS INTACT? Y/N/NA | |
| RECEIVED GOOD COND./COLD | |
| NOTES: | |

LABORATORY NOTES:

Turn Around Time: 24 HR 48 HR 5 DAY

ESN Northwest, Inc. | Environmental Services Network

# CHAIN-OF-CUSTODY RECORD

CLIENT: Ecocon, Inc.

ADDRESS: SAME AS PAGE 1

PHONE: _____ FAX: _____

CLIENT PROJECT #: _____ PROJECT MANAGER: _____

DATE: _____ PAGE 2 OF 2

PROJECT NAME: _____

LOCATION: _____

COLLECTOR: _____ DATE OF COLLECTION _____

| Sample Number | Depth | Time | Sample Type | Container Type | ANALYSES: TPH-HCID | TPH - DIESEL & OIL | TPH - GASOLINE | BTEX | VOC 8260CL | VOC 8260 | Semi/Vol 8270 | PAH's 8270 | PCB's 8082 | CL Pesticides 8081 | RCRA 8 Metals | MTCA 5 Metals | Pb | Asbestos-PLM | GRO Suite | DRO Suite | WO Suite | NOTES | Total Number of Containers | Laboratory Note Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. ECI A3 B-3 GW | | 1400 | GW | 500ml | | | | | | | | | | | | | | | | | | | | |
| 2. ECI A2 B-1 GW | | 1515 | GW | " | | | | | | | | | | | | | | | | | | | | |
| 3. ECI A2 B-2 GW | | 1555 | GW | " | | | | | | | | | | | | | | | | | | | | |
| 4. | | | | | | | | | | | | | | | | | | | | | | | | |
| 5. | | | | | | | | | | | | | | | | | | | | | | | | |
| 6. | | | | | | | | | | | | | | | | | | | | | | | | |
| 7. | | | | | | | | | | | | | | | | | | | | | | | | |
| 8. | | | | | | | | | | | | | | | | | | | | | | | | |
| 9. | | | | | | | | | | | | | | | | | | | | | | | | |
| 10. | | | | | | | | | | | | | | | | | | | | | | | | |
| 11. | | | | | | | | | | | | | | | | | | | | | | | | |
| 12. | | | | | | | | | | | | | | | | | | | | | | | | |
| 13. | | | | | | | | | | | | | | | | | | | | | | | | |
| 14. | | | | | | | | | | | | | | | | | | | | | | | | |
| 15. | | | | | | | | | | | | | | | | | | | | | | | | |
| 16. | | | | | | | | | | | | | | | | | | | | | | | | |
| 17. | | | | | | | | | | | | | | | | | | | | | | | | |
| 18. | | | | | | | | | | | | | | | | | | | | | | | | |

| RELINQUISHED BY (Signature) | DATE/TIME | RECEIVED BY (Signature) | DATE/TIME |
|---|---|---|---|
| [signature] | 7/21/11 | [signature] | 7/21/11 1630 |
| RELINQUISHED BY (Signature) | DATE/TIME | RECEIVED BY (Signature) | DATE/TIME |

**SAMPLE DISPOSAL INSTRUCTIONS**

☐ ESN DISPOSAL @ $2.00 each ☐ Return ☐ Pickup

| SAMPLE RECEIPT | |
|---|---|
| TOTAL NUMBER OF CONTAINERS | |
| CHAIN OF CUSTODY SEALS Y/N/NA | |
| SEALS INTACT? Y/N/NA | |
| RECEIVED GOOD COND./COLD | |
| NOTES: | |

LABORATORY NOTES:

Turn Around Time: 24 HR 48 HR 5 DAY

**ESN NORTHWEST CHEMISTRY LABORATORY**

EcoCon
ACROWOOD PROJECT
Everett, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

**Analysis of Polynuclear Aromatic Hydrocarbons in Water by Method 8270**

Analytical Results

| | Reporting | MTH BLK | LCS | ECIA3B-2GW |
|---|---|---|---|---|
| Date extracted | Limits | 07/27/11 | 07/27/11 | 07/27/11 |
| Date analyzed | (ug/L) | 07/28/11 | 07/28/11 | 07/28/11 |
| Acenaphthene | 0.1 | nd | 134% | **0.30** |
| Acenaphthylene | 0.1 | nd | 109% | **0.10** |
| Anthracene | 0.1 | nd | 137% | nd |
| Benzo(a)anthracene* | 0.1 | nd | 139% | **0.10** |
| Benzo(a)pyrene* | 0.1 | nd | 143% | nd |
| Benzo(b)fluoranthene* | 0.1 | nd | 137% | nd |
| Benzo(ghi)perylene | 0.1 | nd | 126% | nd |
| Benzo(k)fluoranthene* | 0.1 | nd | 130% | nd |
| Chrysene* | 0.1 | nd | 129% | nd |
| Dibenzo(a,h)anthracene* | 0.1 | nd | 132% | nd |
| Fluorene | 0.1 | nd | 125% | **0.20** |
| Fluoranthene | 0.1 | nd | 146% | nd |
| Indeno(1,2,3-cd)pyrene* | 0.1 | nd | 128% | nd |
| Naphthalene | 0.1 | nd | 116% | **6.0** |
| 1-Methylnaphthalene | 0.1 | nd | ns | **12** |
| 2-Methylnaphthalene | 0.1 | nd | ns | **15** |
| Phenanthrene | 0.1 | nd | 137% | **1.1** |
| Pyrene | 0.1 | nd | 142% | nd |

| Surrogate recoveries: | | | |
|---|---|---|---|
| 2-Fluorobiphenyl | 100% | 87% | 103% |
| p-Terphenyl-d14 | 106% | 108% | 105% |

Data Qualifiers and Analytical Comments

* - Carcinogenic Analyte
nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
M - matrix interference
J - estimated value
Results reported on dry-weight basis
Acceptable Recovery limits: 50% TO 150%
Acceptable RPD limit: 35%

**ESN NORTHWEST CHEMISTRY LABORATORY**

EcoCon
ACROWOOD PROJECT
Everett, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

**Analysis of Polynuclear Aromatic Hydrocarbons in Soil by Method 8270**

Analytical Results

| | | MTH BLK | LCS | ECIA3-B2:12 |
|---|---|---|---|---|
| Date extracted | Reporting | 08/02/11 | 08/02/11 | 08/02/11 |
| Date analyzed | Limits | 08/02/11 | 08/02/11 | 08/02/11 |
| Moisture, % | (mg/kg) | | | 25% |
| Acenaphthene | 0.02 | nd | 136% | 11 |
| Acenaphthylene | 0.02 | nd | 111% | 1.5 |
| Anthracene | 0.02 | nd | 134% | 7.3 |
| Benzo(a)anthracene* | 0.02 | nd | 123% | 0.30 |
| Benzo(a)pyrene* | 0.02 | nd | 149% | nd |
| Benzo(b)fluoranthene* | 0.02 | nd | 145% | nd |
| Benzo(ghi)perylene | 0.02 | nd | 133% | 0.61 |
| Benzo(k)fluoranthene* | 0.02 | nd | 136% | 0.91 |
| Chrysene* | 0.02 | nd | 124% | 0.61 |
| Dibenzo(a,h)anthracene* | 0.02 | nd | 138% | nd |
| Fluorene | 0.02 | nd | 128% | 2.4 |
| Fluoranthene | 0.02 | nd | 144% | nd |
| Indeno(1,2,3-cd)pyrene* | 0.02 | nd | 132% | nd |
| Naphthalene | 0.02 | nd | 115% | 14 |
| 1-Methylnaphthalene | 0.02 | nd | ns | 58 |
| 2-Methylnaphthalene | 0.02 | nd | ns | 96 |
| Phenanthrene | 0.02 | nd | 138% | 29 |
| Pyrene | 0.02 | nd | 142% | nd |

Surrogate recoveries:

| | | | |
|---|---|---|---|
| 2-Fluorobiphenyl | 98% | 90% | 101% |
| p-Terphenyl-d14 | 105% | 111% | 106% |

Data Qualifiers and Analytical Comments

* - Carcinogenic Analyte
nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
M - matrix interference
J - estimated value
Results reported on dry-weight basis
Acceptable Recovery limits: 50% TO 150%
Acceptable RPD limit: 35%

ESN Northwest, Inc. — Environmental Services Network

# CHAIN-OF-CUSTODY RECORD

CLIENT: Ecocon, Inc.
ADDRESS: 1912 64th Ave Tacoma WA
PHONE: 253-238-9270 FAX: 253-369-6228
CLIENT PROJECT #: _____ PROJECT MANAGER: Jerry Sawetz

DATE: 7/21/11 PAGE 1 OF 2
PROJECT NAME: Acro wood
LOCATION: Everett, WA
COLLECTOR: Jerry Sawetz DATE OF COLLECTION 7/21/11

| Sample Number | Depth | Time | Sample Type | Container Type | ANALYSES: TPH-HCID | TPH - DIESEL & OIL | TPH - GASOLINE | BTEX | VOC 8260CL | VOC 8260 | Semivol 8270 | PAH's 8270 | PCB's 8082 | CL Pesticides 8081 | RCRA 8 Metals | MTCA 5 Metals | Pb | Asbestos-PLM | GRO Suite | DRO Suite | WO Suite | NOTES | Total Number of Containers | Laboratory Note Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.ECI A3MW-5:4 | 4 | 1000 | Soil | 4oz | | | | | | | | | | | | | | | | | | Hold all samples | | |
| 2.ECI A3MW-5:8 | 8 | 1005 | Soil | ↓ | | | | | | | | | | | | | | | | | | will give instructions | | |
| 3.ECI A3MW-5:12 | 12 | 1010 | Soil | | | | | | | | | | | | | | | | | | | 7/22 am | | |
| 4. ECI A3B-1:4 | 4 | 1110 | Soil | | • | | | | | | | | | | | | | | | | | | | |
| 5.ECI A3B-1:8 | 8 | 1115 | Soil | | • | | | | | | | | | | | | | | | | | | | |
| 6.ECI A3B-1:12 | 12 | 1125 | Soil | ↓ | • | | | | | | | | | | | | | | | | | | | |
| 7.ECI A3B-1GW | | 1155 | GW | 500 ml | • | | | | | | | | | | | | | | | | | | | |
| 8.ECI A3B-2:4 | 4 | 1215 | Soil | 4oz | | | | | | | | | | | | | | | | | | | | |
| 9.ECI A3B-2:8 | 8 | 1220 | Soil | | • | | | | | | | | | | | | | | | | | | | |
| 10.ECI A3B-2:12 | 12 | 1225 | Soil | | • | | | | | | | | | | | | | | | | | | | |
| 11ECI A3B-2:16 | 16 | 1230 | Soil | | • | | | | | | | | | | | | | | | | | | | |
| 12.ECI A3B-2:17 | 17 | 1245 | Soil | | • | | | | | | | | | | | | | | | | | | | |
| 13.ECI A3B-2:20 | 20 | 1255 | Soil | ↓ | • | | | | | | | | | | | | | | | | | | | |
| 14.ECI A3B-2GW | | 1310 | GW | 500 ml | • | | | | | | | | | | | | | | | | | | | |
| 15.ECI A3B-3:4 | 4 | 1320 | Soil | 4oz | | | | | | | | | | | | | | | | | | | | |
| 16.ECI A3B-3:12 | 12 | 1325 | Soil | | • | | | | | | | | | | | | | | | | | | | |
| 17.ECI A3B-3:16 | 16 | 1330 | Soil | | • | | | | | | | | | | | | | | | | | | | |
| 18.ECI A3B-3:20 | 20 | 1340 | Soil | ↓ | | | | | | | | | | | | | | | | | | | | |

| RELINQUISHED BY (Signature) | DATE/TIME | RECEIVED BY (Signature) | DATE/TIME |
|---|---|---|---|
| [signature] | 7/22/11 | [signature] | 7/24/11 1630 |
| RELINQUISHED BY (Signature) | DATE/TIME | RECEIVED BY (Signature) | DATE/TIME |

**SAMPLE DISPOSAL INSTRUCTIONS**

☐ ESN DISPOSAL @ $2.00 each ☐ Return ☐ Pickup

| SAMPLE RECEIPT | |
|---|---|
| TOTAL NUMBER OF CONTAINERS | |
| CHAIN OF CUSTODY SEALS Y/N/NA | |
| SEALS INTACT? Y/N/NA | |
| RECEIVED GOOD COND./COLD | |
| NOTES: | |

LABORATORY NOTES:

Turn Around Time: 24 HR 48 HR 5 DAY

ESN Northwest, Inc. | Environmental Services Network

# CHAIN-OF-CUSTODY RECORD

CLIENT: Ecocon, Inc.

ADDRESS: SAME AS PAGE 1

PHONE: _____ FAX: _____

CLIENT PROJECT #: _____ PROJECT MANAGER: _____

DATE: _____ PAGE 2 OF 2

PROJECT NAME: _____

LOCATION: _____

COLLECTOR: _____ DATE OF COLLECTION _____

| Sample Number | Depth | Time | Sample Type | Container Type | ANALYSES: TPH-HCID | TPH - DIESEL & OIL | TPH - GASOLINE | BTEX | VOC 8260/CL | VOC 8260 | SemiVol 8270 | PAH's 8270 | PCB's 8082 | CL Pesticides 8081 | RCRA 8 Metals | MTCA 5 Metals | Pb | Asbestos-PLM | GRO Suite | DRO Suite | WO Suite | NOTES | Total Number of Containers | Laboratory Note Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. ECT A3 B-3 GW | | 1400 | GW | 500ml | | ✓ | | | | | | | | | | | | | | | | | | |
| 2. ECI A2 B-1 GW | | 1515 | GW | ↓ | | ✓ | | | | | | | | | | | | | | | | | | |
| 3. ECI A2 B-2 GW | | 1555 | GW | ↓ | | ✓ | | | | | | | | | | | | | | | | | | |
| 4. | | | | | | | | | | | | | | | | | | | | | | | | |
| 5. | | | | | | | | | | | | | | | | | | | | | | | | |
| 6. | | | | | | | | | | | | | | | | | | | | | | | | |
| 7. | | | | | | | | | | | | | | | | | | | | | | | | |
| 8. | | | | | | | | | | | | | | | | | | | | | | | | |
| 9. | | | | | | | | | | | | | | | | | | | | | | | | |
| 10. | | | | | | | | | | | | | | | | | | | | | | | | |
| 11. | | | | | | | | | | | | | | | | | | | | | | | | |
| 12. | | | | | | | | | | | | | | | | | | | | | | | | |
| 13. | | | | | | | | | | | | | | | | | | | | | | | | |
| 14. | | | | | | | | | | | | | | | | | | | | | | | | |
| 15. | | | | | | | | | | | | | | | | | | | | | | | | |
| 16. | | | | | | | | | | | | | | | | | | | | | | | | |
| 17. | | | | | | | | | | | | | | | | | | | | | | | | |
| 18. | | | | | | | | | | | | | | | | | | | | | | | | |

| RELINQUISHED BY (Signature) | DATE/TIME | RECEIVED BY (Signature) | DATE/TIME |
|---|---|---|---|
| | 7/27/11 | | 7/21/11 1630 |
| RELINQUISHED BY (Signature) | DATE/TIME | RECEIVED BY (Signature) | DATE/TIME |

**SAMPLE DISPOSAL INSTRUCTIONS**

☐ ESN DISPOSAL @ $2.00 each ☐ Return ☐ Pickup

| SAMPLE RECEIPT | |
|---|---|
| TOTAL NUMBER OF CONTAINERS | |
| CHAIN OF CUSTODY SEALS Y/N/NA | |
| SEALS INTACT? Y/N/NA | |
| RECEIVED GOOD COND./COLD | |
| NOTES: | |

LABORATORY NOTES:

Turn Around Time: 24 HR 48 HR 5 DAY

**ESN NORTHWEST CHEMISTRY LABORATORY**

EcoCon
ACROWOOD PROJECT
Everett, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

**Analysis of Diesel Range Organics & Lube Oil Range Organics in Water**
**by Method NWTPH-Dx/Dx Extended with Silica Gel Cleanup**

| Sample Number | Date Prepared | Date Analyzed | Surrogate Recovery (%) | Diesel Range Organics (ug/L) | Lube Oil Range Organics (ug/L) |
|---|---|---|---|---|---|
| Method Blank | 7/27/2011 | 7/28/2011 | 86% | nd | nd |
| ECIA3B-1GW | 7/27/2011 | 7/28/2011 | 97% | nd | nd |
| ECIA3B-2GW | 7/27/2011 | 7/28/2011 | 86% | 920 | nd |
| ECIA3B-3GW | 7/27/2011 | 7/28/2011 | 104% | nd | nd |
| ECIA2B-1GW | 7/27/2011 | 7/28/2011 | 85% | nd | nd |
| ECIA2B-2GW | 7/27/2011 | 7/28/2011 | 86% | nd | nd |
| Reporting Limits | | | | 250 | 500 |

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

**ESN NORTHWEST CHEMISTRY LABORATORY**

EcoCon
ACROWOOD PROJECT
Everett, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

**Analysis of Diesel Range Organics & Lube Oil Range Organics in Soil by Method NWTPH-Dx/Dx Extended with Silica Gel Cleanup**

| Sample Number | Date Prepared | Date Analyzed | Surrogate Recovery (%) | Diesel Range Organics (mg/kg) | Lube Oil Range Organics (mg/kg) |
|---|---|---|---|---|---|
| Method Blank | 7/26/2011 | 7/26/2011 | 111 | nd | nd |
| ECIA3B-1:4 | 7/26/2011 | 7/26/2011 | 101 | nd | nd |
| ECIA3B-1:4 Duplicate | 7/26/2011 | 7/26/2011 | 126 | nd | nd |
| ECIA3B-1:12 | 7/26/2011 | 7/26/2011 | 118 | nd | nd |
| ECIA3B-2:8 | 7/26/2011 | 7/26/2011 | 85 | nd | nd |
| ECIA3B-2:12 | 7/26/2011 | 7/26/2011 | Int | **31000** | **2600** |
| ECIA3B-2:16 | 7/26/2011 | 7/26/2011 | 114 | nd | nd |
| ECIA3B-2:17 | 7/26/2011 | 7/26/2011 | 129 | **250** | nd |
| ECIA3B-2:20 | 7/26/2011 | 7/26/2011 | 121 | nd | nd |
| ECIA3B-3:12 | 7/26/2011 | 7/26/2011 | 114 | nd | **200** |
| ECIA3B-3:16 | 7/26/2011 | 7/26/2011 | 96 | nd | nd |
| Reporting Limits | | | | 50 | 100 |

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%
Int-Surrogate recovery was not determined due to matrix interferences.

ESN NORTHWEST, INC. Environmental Services Network

# CHAIN-OF-CUSTODY RECORD

CLIENT: Ecocon, Inc.

ADDRESS: 1912 64th Ave Tacoma WA

PHONE: 253-238-9270 FAX: 253-369-6228

CLIENT PROJECT #: _____ PROJECT MANAGER: Jerry Sawetz

DATE: 7/21/11 PAGE 1 OF 2

PROJECT NAME: Acro wood

LOCATION: Everett, WA

COLLECTOR: Jerry Sawetz DATE OF COLLECTION 7/21/11

| Sample Number | Depth | Time | Sample Type | Container Type | ANALYSES: TPH-HCID | TPH - DIESEL & OIL | TPH - GASOLINE | BTEX | VOC 8260CL | VOC 8260 | SemiVol 8270 | PAH's 8270 | PCB's 8082 | CL Pesticides 8081 | RCRA 8 Metals | MTCA 5 Metals | Pb | Asbestos-PLM | GRO Suite | DRO Suite | WO Suite | NOTES | Total Number of Containers | Laboratory Note Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. ECI A3 MW-5:4 | 4 | 1000 | Soil | 4oz | | | | | | | | | | | | | | | | | | Hold all samples | | |
| 2. ECI A3 MW-5:8 | 8 | 1005 | Soil | | | | | | | | | | | | | | | | | | | will give instructions | | |
| 3. ECI A3 MW-5:12 | 12 | 1010 | Soil | | | | | | | | | | | | | | | | | | | 7/22 am | | |
| 4. ECI A3 B-1:4 | 4 | 1110 | Soil | | • | | | | | | | | | | | | | | | | | | | |
| 5. ECI A3 B-1:8 | 8 | 1115 | Soil | | • | | | | | | | | | | | | | | | | | | | |
| 6. ECI A3 B-1:12 | 12 | 1125 | Soil | ↓ | • | | | | | | | | | | | | | | | | | | | |
| 7. ECI A3 B-1 GW | | 1155 | GW | 500 ml | • | | | | | | | | | | | | | | | | | | | |
| 8. ECI A3 B-2:4 | 4 | 1215 | Soil | 4oz | | | | | | | | | | | | | | | | | | | | |
| 9. ECI A3 B-2:8 | 8 | 1220 | Soil | | • | | | | | | | | | | | | | | | | | | | |
| 10. ECI A3 B-2:12 | 12 | 1225 | Soil | | • | | | | | | | | | | | | | | | | | | | |
| 11. ECI A3 B-2:16 | 16 | 1230 | Soil | | • | | | | | | | | | | | | | | | | | | | |
| 12. ECI A3 B-2:17 | 17 | 1245 | Soil | | • | | | | | | | | | | | | | | | | | | | |
| 13. ECI A3 B-2:20 | 20 | 1255 | Soil | ↓ | • | | | | | | | | | | | | | | | | | | | |
| 14. ECI A3 B-2 GW | | 1310 | GW | 500 ml | • | | | | | | | | | | | | | | | | | | | |
| 15. ECI A3 B-3:4 | 4 | 1320 | Soil | 4oz | | | | | | | | | | | | | | | | | | | | |
| 16. ECI A3 B-3:12 | 12 | 1325 | Soil | | • | | | | | | | | | | | | | | | | | | | |
| 17. ECI A3 B-3:16 | 16 | 1330 | Soil | | • | | | | | | | | | | | | | | | | | | | |
| 18. ECI A3 B-3:20 | 20 | 1340 | Soil | ↓ | • | | | | | | | | | | | | | | | | | | | |

| RELINQUISHED BY (Signature) | DATE/TIME | RECEIVED BY (Signature) | DATE/TIME |
|---|---|---|---|
| | 7/22/11 | | 7/21/11 1630 |
| RELINQUISHED BY (Signature) | DATE/TIME | RECEIVED BY (Signature) | DATE/TIME |

**SAMPLE DISPOSAL INSTRUCTIONS**

☐ ESN DISPOSAL @ $2.00 each ☐ Return ☐ Pickup

| SAMPLE RECEIPT | |
|---|---|
| TOTAL NUMBER OF CONTAINERS | |
| CHAIN OF CUSTODY SEALS Y/N/NA | |
| SEALS INTACT? Y/N/NA | |
| RECEIVED GOOD COND./COLD | |
| NOTES: | |

LABORATORY NOTES:

Turn Around Time: 24 HR 48 HR 5 DAY

ESN Northwest, Inc. Environmental Services Network

# CHAIN-OF-CUSTODY RECORD

CLIENT: Ecology, Inc.

ADDRESS: SAME AS PAGE 1

PHONE: _____ FAX: _____

CLIENT PROJECT #: _____ PROJECT MANAGER: _____

DATE: _____ PAGE 2 OF 2

PROJECT NAME: _____

LOCATION: _____

COLLECTOR: _____ DATE OF COLLECTION _____

| Sample Number | Depth | Time | Sample Type | Container Type | ANALYSES: TPH-HCID | TPH - DIESEL & OIL | TPH - GASOLINE | BTEX | VOC 8260CL | VOC 8260 | Semivol 8270 | PAH's 8270 | PCB's 8082 | CL Pesticides 8081 | RCRA 8 Metals | MTCA 5 Metals | Pb | Asbestos-PLM | GRO Suite | DRO Suite | WO Suite | NOTES | Total Number of Containers | Laboratory Note Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. ECI A3 B-3 GW | | 1400 | GW | 500ml | | 3 | | | | | | | | | | | | | | | | | | |
| 2. ECI A2 B-1 GW | | 1515 | GW | \| | | 3 | | | | | | | | | | | | | | | | | | |
| 3. ECI A2 B-2 GW | | 1555 | GW | \| | | 3 | | | | | | | | | | | | | | | | | | |
| 4. | | | | | | | | | | | | | | | | | | | | | | | | |
| 5. | | | | | | | | | | | | | | | | | | | | | | | | |
| 6. | | | | | | | | | | | | | | | | | | | | | | | | |
| 7. | | | | | | | | | | | | | | | | | | | | | | | | |
| 8. | | | | | | | | | | | | | | | | | | | | | | | | |
| 9. | | | | | | | | | | | | | | | | | | | | | | | | |
| 10. | | | | | | | | | | | | | | | | | | | | | | | | |
| 11. | | | | | | | | | | | | | | | | | | | | | | | | |
| 12. | | | | | | | | | | | | | | | | | | | | | | | | |
| 13. | | | | | | | | | | | | | | | | | | | | | | | | |
| 14. | | | | | | | | | | | | | | | | | | | | | | | | |
| 15. | | | | | | | | | | | | | | | | | | | | | | | | |
| 16. | | | | | | | | | | | | | | | | | | | | | | | | |
| 17. | | | | | | | | | | | | | | | | | | | | | | | | |
| 18. | | | | | | | | | | | | | | | | | | | | | | | | |

| RELINQUISHED BY (Signature) | DATE/TIME | RECEIVED BY (Signature) | DATE/TIME |
|---|---|---|---|
| [signature] | 7/27/11 | [signature] | 7/27/11 1630 |
| RELINQUISHED BY (Signature) | DATE/TIME | RECEIVED BY (Signature) | DATE/TIME |

**SAMPLE DISPOSAL INSTRUCTIONS**

☐ ESN DISPOSAL @ $2.00 each ☐ Return ☐ Pickup

| SAMPLE RECEIPT | |
|---|---|
| TOTAL NUMBER OF CONTAINERS | |
| CHAIN OF CUSTODY SEALS Y/N/NA | |
| SEALS INTACT? Y/N/NA | |
| RECEIVED GOOD COND./COLD | |
| NOTES: | |

LABORATORY NOTES:

Turn Around Time: 24 HR 48 HR 5 DAY

**ESN NORTHWEST CHEMISTRY LABORATORY**

EcoCon
ACROWOOD PROJECT
Everett, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

**Analysis of Diesel Range Organics & Lube Oil Range Organics in Water**
**by Method NWTPH-Dx/Dx Extended with Silica Gel Cleanup**

| Sample Number | Date Prepared | Date Analyzed | Surrogate Recovery (%) | Diesel Range Organics (ug/L) | Lube Oil Range Organics (ug/L) |
|---|---|---|---|---|---|
| Method Blank | 7/27/2011 | 7/28/2011 | 86% | nd | nd |
| ECIA3B-1GW | 7/27/2011 | 7/28/2011 | 97% | nd | nd |
| ECIA3B-2GW | 7/27/2011 | 7/28/2011 | 86% | 920 | nd |
| ECIA3B-3GW | 7/27/2011 | 7/28/2011 | 104% | nd | nd |
| ECIA2B-1GW | 7/27/2011 | 7/28/2011 | 85% | nd | nd |
| ECIA2B-2GW | 7/27/2011 | 7/28/2011 | 86% | nd | nd |
| Reporting Limits | | | | 250 | 500 |

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

**ESN NORTHWEST CHEMISTRY LABORATORY**

EcoCon
ACROWOOD PROJECT
Everett, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

**Analysis of Diesel Range Organics & Lube Oil Range Organics in Soil**
**by Method NWTPH-Dx/Dx Extended with Silica Gel Cleanup**

| Sample Number | Date Prepared | Date Analyzed | Surrogate Recovery (%) | Diesel Range Organics (mg/kg) | Lube Oil Range Organics (mg/kg) |
|---|---|---|---|---|---|
| Method Blank | 7/26/2011 | 7/26/2011 | 111 | nd | nd |
| ECIA3B-1:4 | 7/26/2011 | 7/26/2011 | 101 | nd | nd |
| ECIA3B-1:4 Duplicate | 7/26/2011 | 7/26/2011 | 126 | nd | nd |
| ECIA3B-1:12 | 7/26/2011 | 7/26/2011 | 118 | nd | nd |
| ECIA3B-2:8 | 7/26/2011 | 7/26/2011 | 85 | nd | nd |
| ECIA3B-2:12 | 7/26/2011 | 7/26/2011 | Int | **31000** | **2600** |
| ECIA3B-2:16 | 7/26/2011 | 7/26/2011 | 114 | nd | nd |
| ECIA3B-2:17 | 7/26/2011 | 7/26/2011 | 129 | **250** | nd |
| ECIA3B-2:20 | 7/26/2011 | 7/26/2011 | 121 | nd | nd |
| ECIA3B-3:12 | 7/26/2011 | 7/26/2011 | 114 | nd | **200** |
| ECIA3B-3:16 | 7/26/2011 | 7/26/2011 | 96 | nd | nd |
| Reporting Limits | | | | 50 | 100 |

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%
Int-Surrogate recovery was not determined due to matrix interferences.

September 2, 2011

Mr. Jerry Sawetz
ECI
1912 - 64th Ave W.
Tacoma, WA 98466

Dear Mr. Sawetz,

On August 26th, 3 samples were received by our laboratory and assigned our laboratory project number 1108120. The project was identified as your Acrowood. The sample identification and requested analyses are outlined on the attached chain of custody record.

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

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

Sincerely,

ALS Laboratory Group

Rick Bagan
Laboratory Director



ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

## CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| CLIENT: | ECI<br>1912 - 64th Ave W.<br>Tacoma, WA 98466 | DATE:<br>ALS JOB#:<br>ALS SAMPLE#: | 9/2/2011<br>1108120<br>-01 |
| CLIENT CONTACT: | Jerry Sawetz | DATE RECEIVED: | 8/26/2011 |
| CLIENT PROJECT: | Acrowood | COLLECTION DATE: | 8/25/2011 13:30 |
| CLIENT SAMPLE ID | ECIMW-5 | WDOE ACCREDITATION: | C601 |

## DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|---|---|---|
| TPH-Diesel Range | NWTPH-DX | U | 130 | 1 | UG/L | 08/26/2011 | EBS |
| TPH-Oil Range | NWTPH-DX | U | 250 | 1 | UG/L | 08/26/2011 | EBS |
| Naphthalene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| 2-Methylnaphthalene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| 1-Methylnaphthalene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Acenaphthylene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Acenaphthene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Fluorene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Phenanthrene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Anthracene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Fluoranthene | EPA-8270 SIM | **0.036** | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Pyrene | EPA-8270 SIM | **0.034** | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Benzo[A]Anthracene | EPA-8270 SIM | **0.030** | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Chrysene | EPA-8270 SIM | **0.041** | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Benzo[B]Fluoranthene | EPA-8270 SIM | **0.048** | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Benzo[K]Fluoranthene | EPA-8270 SIM | **0.030** | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Benzo[A]Pyrene | EPA-8270 SIM | **0.032** | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Indeno[1,2,3-Cd]Pyrene | EPA-8270 SIM | **0.028** | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Dibenz[A,H]Anthracene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Benzo[G,H,I]Perylene | EPA-8270 SIM | **0.036** | 0.020 | 1 | UG/L | 08/30/2011 | LAP |

| SURROGATE | METHOD | %REC | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|
| C25 | NWTPH-DX | **94.2** | 08/26/2011 | EBS |
| Terphenyl-d14 | EPA-8270 SIM | **109** | 08/30/2011 | LAP |

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



ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company
www.alsglobal.com

ALS Environmental

## CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| CLIENT: | ECI<br>1912 - 64th Ave W.<br>Tacoma, WA 98466 | DATE:<br>ALS JOB#:<br>ALS SAMPLE#: | 9/2/2011<br>1108120<br>-02 |
| CLIENT CONTACT: | Jerry Sawetz | DATE RECEIVED: | 8/26/2011 |
| CLIENT PROJECT: | Acrowood | COLLECTION DATE: | 8/25/2011 14:45 |
| CLIENT SAMPLE ID | MW-1 | WDOE ACCREDITATION: | C601 |

## DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|---|---|---|
| TPH-Diesel Range | NWTPH-DX | U | 130 | 1 | UG/L | 08/26/2011 | EBS |
| TPH-Oil Range | NWTPH-DX | U | 250 | 1 | UG/L | 08/26/2011 | EBS |
| Naphthalene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| 2-Methylnaphthalene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| 1-Methylnaphthalene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Acenaphthylene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Acenaphthene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Fluorene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Phenanthrene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Anthracene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Fluoranthene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Pyrene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Benzo[A]Anthracene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Chrysene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Benzo[B]Fluoranthene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Benzo[K]Fluoranthene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Benzo[A]Pyrene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Indeno[1,2,3-Cd]Pyrene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Dibenz[A,H]Anthracene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Benzo[G,H,I]Perylene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |

| SURROGATE | METHOD | %REC | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|
| C25 | NWTPH-DX | **75.6** | 08/26/2011 | EBS |
| Terphenyl-d14 | EPA-8270 SIM | **112** | 08/31/2011 | LAP |

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



ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

## CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| CLIENT: | ECI<br>1912 - 64th Ave W.<br>Tacoma, WA 98466 | DATE:<br>ALS JOB#:<br>ALS SAMPLE#: | 9/2/2011<br>1108120<br>-03 |
| CLIENT CONTACT: | Jerry Sawetz | DATE RECEIVED: | 8/26/2011 |
| CLIENT PROJECT: | Acrowood | COLLECTION DATE: | 8/25/2011 16:30 |
| CLIENT SAMPLE ID | MW-4 | WDOE ACCREDITATION: | C601 |

## DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|---|---|---|
| TPH-Diesel Range | NWTPH-DX | U | 130 | 1 | UG/L | 08/26/2011 | EBS |
| TPH-Oil Range | NWTPH-DX | U | 250 | 1 | UG/L | 08/26/2011 | EBS |
| Naphthalene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| 2-Methylnaphthalene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| 1-Methylnaphthalene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Acenaphthylene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Acenaphthene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Fluorene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Phenanthrene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Anthracene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Fluoranthene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Pyrene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Benzo[A]Anthracene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Chrysene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Benzo[B]Fluoranthene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Benzo[K]Fluoranthene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Benzo[A]Pyrene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Indeno[1,2,3-Cd]Pyrene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Dibenz[A,H]Anthracene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Benzo[G,H,I]Perylene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |

| SURROGATE | METHOD | %REC | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|
| C25 | NWTPH-DX | **73.2** | 08/26/2011 | EBS |
| Terphenyl-d14 | EPA-8270 SIM | **113** | 08/31/2011 | LAP |

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



ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

## CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| CLIENT: | ECI | DATE: | 9/2/2011 |
| | 1912 - 64th Ave W. | ALS SDG#: | 1108120 |
| | Tacoma, WA 98466 | WDOE ACCREDITATION: | C601 |
| CLIENT CONTACT: | Jerry Sawetz | | |
| CLIENT PROJECT: | Acrowood | | |

## LABORATORY BLANK RESULTS

### MB-082411W - Batch 2048 - Water by NWTPH-DX

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|---|---|---|
| TPH-Diesel Range | NWTPH-DX | U | 130 | 1 | UG/L | 08/24/2011 | EBS |
| TPH-Oil Range | NWTPH-DX | U | 250 | 1 | UG/L | 08/24/2011 | EBS |

### MB-082411W - Batch 2049 - Water by EPA-8270 SIM

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|---|---|---|
| Naphthalene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| 2-Methylnaphthalene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| 1-Methylnaphthalene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Acenaphthylene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Acenaphthene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Fluorene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Phenanthrene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Anthracene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Fluoranthene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Pyrene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Benzo[A]Anthracene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Chrysene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Benzo[B]Fluoranthene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Benzo[K]Fluoranthene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Benzo[A]Pyrene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Indeno[1,2,3-Cd]Pyrene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Dibenz[A,H]Anthracene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Benzo[G,H,I]Perylene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |



ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

## CERTIFICATE OF ANALYSIS

CLIENT: ECI
1912 - 64th Ave W.
Tacoma, WA 98466
CLIENT CONTACT: Jerry Sawetz
CLIENT PROJECT: Acrowood

DATE: 9/2/2011
ALS SDG#: 1108120
WDOE ACCREDITATION: C601

## LABORATORY CONTROL SAMPLE RESULTS

### ALS Test Batch ID: 2048 - Water by NWTPH-DX

| SPIKED COMPOUND | METHOD | %REC | RPD | QUAL | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|---|---|
| TPH-Diesel Range - BS | NWTPH-DX | **92.1** | | | 08/24/2011 | EBS |
| TPH-Diesel Range - BSD | NWTPH-DX | **87.7** | **5** | | 08/24/2011 | EBS |

### ALS Test Batch ID: 2049 - Water by EPA-8270 SIM

| SPIKED COMPOUND | METHOD | %REC | RPD | QUAL | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|---|---|
| Naphthalene - BS | EPA-8270 SIM | **63.4** | | | 08/25/2011 | LAP |
| Naphthalene - BSD | EPA-8270 SIM | **57.8** | **9** | | 08/25/2011 | LAP |
| Acenaphthene - BS | EPA-8270 SIM | **73.1** | | | 08/25/2011 | LAP |
| Acenaphthene - BSD | EPA-8270 SIM | **71.0** | **3** | | 08/25/2011 | LAP |
| Pyrene - BS | EPA-8270 SIM | **71.0** | | | 08/25/2011 | LAP |
| Pyrene - BSD | EPA-8270 SIM | **73.4** | **3** | | 08/25/2011 | LAP |
| Benzo[G,H,I]Perylene - BS | EPA-8270 SIM | **67.2** | | | 08/25/2011 | LAP |
| Benzo[G,H,I]Perylene - BSD | EPA-8270 SIM | **70.4** | **5** | | 08/25/2011 | LAP |

APPROVED BY

Laboratory Director



ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

**ALS Environmental**
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
(206) 292-9059 Seattle
(425) 356-2626 Fax
http://www.alsglobal.com

# Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only) 1108120

Date 8/25/11 Page 1 Of 1

PROJECT ID: Acrowood
REPORT TO COMPANY: ECI
PROJECT MANAGER: Jerry Sawetz
ADDRESS: 1912 64th Ave W Tacoma WA 98466
PHONE: 425-301-1227 FAX: 253-319-6228
P.O. NUMBER: E-MAIL: jerrys@ecaconsult.com
INVOICE TO COMPANY: SAME
ATTENTION: Steve Spencer
ADDRESS:

ANALYSIS REQUESTED

| SAMPLE I.D. | DATE | TIME | TYPE | LAB# | NWTPH-HCID | NWTPH-DX | NWTPH-GX | BTEX by EPA-8021 | MTBE by EPA-8021 / 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 / Pesticides by EPA 8081/8082 | Metals-MTCA-5 / RCRA-8 / Pri Pol / TAL | Metals Other (Specify) | TCLP-Metals / VOA / Semi-Vol / Pest / Herbs | OTHER (Specify) | NUMBER OF CONTAINERS | RECEIVED IN GOOD CONDITION? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. ECIMW-5 | 8/25/11 | 1330 | GW | 1 | | X | | | | | | | | | X | | | | | | 2 | |
| 2. MW-1 | | 1445 | GW | 2 | | X | | | | | | | | | X | | | | | | 2 | |
| 3. MW-4 | | 1630 | GW | 3 | | X | | | | | | | | | X | | | | | | 2 | |
| 4. | | | | | | | | | | | | | | | | | | | | | | |
| 5. | | | | | | | | | | | | | | | | | | | | | | |
| 6. | | | | | | | | | | | | | | | | | | | | | | |
| 7. | | | | | | | | | | | | | | | | | | | | | | |
| 8. | | | | | | | | | | | | | | | | | | | | | | |
| 9. | | | | | | | | | | | | | | | | | | | | | | |
| 10. | | | | | | | | | | | | | | | | | | | | | | |

LABORATORY COPY

SPECIAL INSTRUCTIONS

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: ECI
   Received By: ALS 8/25/11 5:45
2. Relinquished By:
   Received By:

TURNAROUND REQUESTED in Business Days*

Organic, Metals & Inorganic Analysis: X 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

September 2, 2011

Mr. Jerry Sawetz
ECI
1912 - 64th Ave W.
Tacoma, WA 98466

Dear Mr. Sawetz,

On August 26th, 3 samples were received by our laboratory and assigned our laboratory project number 1108120. The project was identified as your Acrowood. The sample identification and requested analyses are outlined on the attached chain of custody record.

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

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

Sincerely,

ALS Laboratory Group

Rick Bagan
Laboratory Director



ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

## CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| CLIENT: | ECI<br>1912 - 64th Ave W.<br>Tacoma, WA 98466 | DATE: | 9/2/2011 |
| | | ALS JOB#: | 1108120 |
| | | ALS SAMPLE#: | -01 |
| CLIENT CONTACT: | Jerry Sawetz | DATE RECEIVED: | 8/26/2011 |
| CLIENT PROJECT: | Acrowood | COLLECTION DATE: | 8/25/2011 13:30 |
| CLIENT SAMPLE ID | ECIMW-5 | WDOE ACCREDITATION: | C601 |

## DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|---|---|---|
| TPH-Diesel Range | NWTPH-DX | U | 130 | 1 | UG/L | 08/26/2011 | EBS |
| TPH-Oil Range | NWTPH-DX | U | 250 | 1 | UG/L | 08/26/2011 | EBS |
| Naphthalene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| 2-Methylnaphthalene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| 1-Methylnaphthalene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Acenaphthylene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Acenaphthene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Fluorene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Phenanthrene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Anthracene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Fluoranthene | EPA-8270 SIM | **0.036** | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Pyrene | EPA-8270 SIM | **0.034** | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Benzo[A]Anthracene | EPA-8270 SIM | **0.030** | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Chrysene | EPA-8270 SIM | **0.041** | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Benzo[B]Fluoranthene | EPA-8270 SIM | **0.048** | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Benzo[K]Fluoranthene | EPA-8270 SIM | **0.030** | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Benzo[A]Pyrene | EPA-8270 SIM | **0.032** | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Indeno[1,2,3-Cd]Pyrene | EPA-8270 SIM | **0.028** | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Dibenz[A,H]Anthracene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/30/2011 | LAP |
| Benzo[G,H,I]Perylene | EPA-8270 SIM | **0.036** | 0.020 | 1 | UG/L | 08/30/2011 | LAP |

| SURROGATE | METHOD | %REC | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|
| C25 | NWTPH-DX | **94.2** | 08/26/2011 | EBS |
| Terphenyl-d14 | EPA-8270 SIM | **109** | 08/30/2011 | LAP |

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



ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

## CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| CLIENT: | ECI<br>1912 - 64th Ave W.<br>Tacoma, WA 98466 | DATE:<br>ALS JOB#:<br>ALS SAMPLE#: | 9/2/2011<br>1108120<br>-02 |
| CLIENT CONTACT: | Jerry Sawetz | DATE RECEIVED: | 8/26/2011 |
| CLIENT PROJECT: | Acrowood | COLLECTION DATE: | 8/25/2011 14:45 |
| CLIENT SAMPLE ID | MW-1 | WDOE ACCREDITATION: | C601 |

## DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|---|---|---|
| TPH-Diesel Range | NWTPH-DX | U | 130 | 1 | UG/L | 08/26/2011 | EBS |
| TPH-Oil Range | NWTPH-DX | U | 250 | 1 | UG/L | 08/26/2011 | EBS |
| Naphthalene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| 2-Methylnaphthalene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| 1-Methylnaphthalene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Acenaphthylene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Acenaphthene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Fluorene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Phenanthrene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Anthracene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Fluoranthene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Pyrene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Benzo[A]Anthracene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Chrysene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Benzo[B]Fluoranthene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Benzo[K]Fluoranthene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Benzo[A]Pyrene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Indeno[1,2,3-Cd]Pyrene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Dibenz[A,H]Anthracene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Benzo[G,H,I]Perylene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |

| SURROGATE | METHOD | %REC | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|
| C25 | NWTPH-DX | **75.6** | 08/26/2011 | EBS |
| Terphenyl-d14 | EPA-8270 SIM | **112** | 08/31/2011 | LAP |

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



ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

## CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| CLIENT: | ECI<br>1912 - 64th Ave W.<br>Tacoma, WA 98466 | DATE:<br>ALS JOB#:<br>ALS SAMPLE#: | 9/2/2011<br>1108120<br>-03 |
| CLIENT CONTACT: | Jerry Sawetz | DATE RECEIVED: | 8/26/2011 |
| CLIENT PROJECT: | Acrowood | COLLECTION DATE: | 8/25/2011 16:30 |
| CLIENT SAMPLE ID | MW-4 | WDOE ACCREDITATION: | C601 |

## DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|---|---|---|
| TPH-Diesel Range | NWTPH-DX | U | 130 | 1 | UG/L | 08/26/2011 | EBS |
| TPH-Oil Range | NWTPH-DX | U | 250 | 1 | UG/L | 08/26/2011 | EBS |
| Naphthalene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| 2-Methylnaphthalene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| 1-Methylnaphthalene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Acenaphthylene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Acenaphthene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Fluorene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Phenanthrene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Anthracene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Fluoranthene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Pyrene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Benzo[A]Anthracene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Chrysene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Benzo[B]Fluoranthene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Benzo[K]Fluoranthene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Benzo[A]Pyrene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Indeno[1,2,3-Cd]Pyrene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Dibenz[A,H]Anthracene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |
| Benzo[G,H,I]Perylene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/31/2011 | LAP |

| SURROGATE | METHOD | %REC | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|
| C25 | NWTPH-DX | **73.2** | 08/26/2011 | EBS |
| Terphenyl-d14 | EPA-8270 SIM | **113** | 08/31/2011 | LAP |

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



ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

## CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| CLIENT: | ECI<br>1912 - 64th Ave W.<br>Tacoma, WA 98466 | DATE:<br>ALS SDG#:<br>WDOE ACCREDITATION: | 9/2/2011<br>1108120<br>C601 |
| CLIENT CONTACT: | Jerry Sawetz | | |
| CLIENT PROJECT: | Acrowood | | |

## LABORATORY BLANK RESULTS

### MB-082411W - Batch 2048 - Water by NWTPH-DX

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|---|---|---|
| TPH-Diesel Range | NWTPH-DX | U | 130 | 1 | UG/L | 08/24/2011 | EBS |
| TPH-Oil Range | NWTPH-DX | U | 250 | 1 | UG/L | 08/24/2011 | EBS |

### MB-082411W - Batch 2049 - Water by EPA-8270 SIM

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|---|---|---|
| Naphthalene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| 2-Methylnaphthalene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| 1-Methylnaphthalene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Acenaphthylene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Acenaphthene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Fluorene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Phenanthrene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Anthracene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Fluoranthene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Pyrene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Benzo[A]Anthracene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Chrysene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Benzo[B]Fluoranthene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Benzo[K]Fluoranthene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Benzo[A]Pyrene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Indeno[1,2,3-Cd]Pyrene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Dibenz[A,H]Anthracene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |
| Benzo[G,H,I]Perylene | EPA-8270 SIM | U | 0.020 | 1 | UG/L | 08/26/2011 | LAP |



ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

## CERTIFICATE OF ANALYSIS

CLIENT: ECI
1912 - 64th Ave W.
Tacoma, WA 98466
CLIENT CONTACT: Jerry Sawetz
CLIENT PROJECT: Acrowood

DATE: 9/2/2011
ALS SDG#: 1108120
WDOE ACCREDITATION: C601

## LABORATORY CONTROL SAMPLE RESULTS

### ALS Test Batch ID: 2048 - Water by NWTPH-DX

| SPIKED COMPOUND | METHOD | %REC | RPD | QUAL | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|---|---|
| TPH-Diesel Range - BS | NWTPH-DX | **92.1** | | | 08/24/2011 | EBS |
| TPH-Diesel Range - BSD | NWTPH-DX | **87.7** | **5** | | 08/24/2011 | EBS |

### ALS Test Batch ID: 2049 - Water by EPA-8270 SIM

| SPIKED COMPOUND | METHOD | %REC | RPD | QUAL | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|---|---|
| Naphthalene - BS | EPA-8270 SIM | **63.4** | | | 08/25/2011 | LAP |
| Naphthalene - BSD | EPA-8270 SIM | **57.8** | **9** | | 08/25/2011 | LAP |
| Acenaphthene - BS | EPA-8270 SIM | **73.1** | | | 08/25/2011 | LAP |
| Acenaphthene - BSD | EPA-8270 SIM | **71.0** | **3** | | 08/25/2011 | LAP |
| Pyrene - BS | EPA-8270 SIM | **71.0** | | | 08/25/2011 | LAP |
| Pyrene - BSD | EPA-8270 SIM | **73.4** | **3** | | 08/25/2011 | LAP |
| Benzo[G,H,I]Perylene - BS | EPA-8270 SIM | **67.2** | | | 08/25/2011 | LAP |
| Benzo[G,H,I]Perylene - BSD | EPA-8270 SIM | **70.4** | **5** | | 08/25/2011 | LAP |

APPROVED BY

Laboratory Director



ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

**ALS Environmental**
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
(206) 292-9059 Seattle
(425) 356-2626 Fax
http://www.alsglobal.com

# Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only) 1108120

Date 8/25/11 Page 1 Of 1

PROJECT ID: Acrowood
REPORT TO COMPANY: ECI
PROJECT MANAGER: Jerry Sawetz
ADDRESS: 1912 64th Ave W Tacoma WA 98466
PHONE: 425-301-1227 FAX: 253-319-6228
PO. NUMBER: E-MAIL: jerrys@ecaconsultants.com
INVOICE TO COMPANY: SAME
ATTENTION: Steve Spencer
ADDRESS:

ANALYSIS REQUESTED

| SAMPLE I.D. | DATE | TIME | TYPE | LAB# | NWTPH-HCID | NWTPH-DX | NWTPH-GX | BTEX by EPA-8021 | MTBE by EPA-8021 | 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 / Pesticides by EPA 8081/8082 | Metals-MTCA-5 / RCRA-8 / Pri Pol / TAL | Metals Other (Specify) | TCLP-Metals / VOA / Semi-Vol / Pest / Herbs | OTHER (Specify) | NUMBER OF CONTAINERS | RECEIVED IN GOOD CONDITION? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. ECIMW-5 | 8/25/11 | 1330 | GW | 1 | | X | | | | | | | | | X | | | | | | 2 | |
| 2. MW-1 | | 1445 | GW | 2 | | X | | | | | | | | | X | | | | | | 2 | |
| 3. MW-4 | | 1630 | GW | 3 | | X | | | | | | | | | X | | | | | | 2 | |
| 4. | | | | | | | | | | | | | | | | | | | | | | |
| 5. | | | | | | | | | | | | | | | | | | | | | | |
| 6. | | | | | | | | | | | | | | | | | | | | | | |
| 7. | | | | | | | | | | | | | | | | | | | | | | |
| 8. | | | | | | | | | | | | | | | | | | | | | | |
| 9. | | | | | | | | | | | | | | | | | | | | | | |
| 10. | | | | | | | | | | | | | | | | | | | | | | |

LABORATORY COPY

SPECIAL INSTRUCTIONS

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: ECI
   Received By: ALS 8/25/11 5:45
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

## CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| CLIENT: | ECI<br>1912 - 64th Ave W.<br>Tacoma, WA 98466 | DATE:<br>ALS JOB#:<br>ALS SAMPLE#: | 8/29/2011<br>1108119<br>-01 |
| CLIENT CONTACT: | Jerry Sawetz | DATE RECEIVED: | 8/26/2011 |
| CLIENT PROJECT: | Acrowood | COLLECTION DATE: | 8/25/2011 12:00 |
| CLIENT SAMPLE ID | DC-1 | WDOE ACCREDITATION: | C601 |

## DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|---|---|---|
| HCID-Gas Range | NWTPH-HCID | U | 20 | 1 | MG/KG | 08/26/2011 | EBS |
| HCID-Diesel Range | NWTPH-HCID | U | 50 | 1 | MG/KG | 08/26/2011 | EBS |
| HCID-Oil Range | NWTPH-HCID | **>100** | 100 | 1 | MG/KG | 08/26/2011 | EBS |

| SURROGATE | METHOD | %REC | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|
| BCB | NWTPH-HCID | **85.0** | 08/26/2011 | EBS |
| C25 | NWTPH-HCID | **104** | 08/26/2011 | EBS |

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



ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

## CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| CLIENT: | ECI<br>1912 - 64th Ave W.<br>Tacoma, WA 98466 | DATE:<br>ALS JOB#:<br>ALS SAMPLE#: | 8/29/2011<br>1108119<br>-02 |
| CLIENT CONTACT: | Jerry Sawetz | DATE RECEIVED: | 8/26/2011 |
| CLIENT PROJECT: | Acrowood | COLLECTION DATE: | 8/25/2011 12:10 |
| CLIENT SAMPLE ID | DC-2 | WDOE ACCREDITATION: | C601 |

## DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|---|---|---|
| HCID-Gas Range | NWTPH-HCID | U | 20 | 1 | MG/KG | 08/26/2011 | EBS |
| HCID-Diesel Range | NWTPH-HCID | U | 50 | 1 | MG/KG | 08/26/2011 | EBS |
| HCID-Oil Range | NWTPH-HCID | **>100** | 100 | 1 | MG/KG | 08/26/2011 | EBS |

| SURROGATE | METHOD | %REC | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|
| BCB | NWTPH-HCID | **75.0** | 08/26/2011 | EBS |
| C25 | NWTPH-HCID | **84.4** | 08/26/2011 | EBS |

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



ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

## CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| CLIENT: | ECI<br>1912 - 64th Ave W.<br>Tacoma, WA 98466 | DATE:<br>ALS JOB#:<br>ALS SAMPLE#: | 8/29/2011<br>1108119<br>-03 |
| CLIENT CONTACT: | Jerry Sawetz | DATE RECEIVED: | 8/26/2011 |
| CLIENT PROJECT: | Acrowood | COLLECTION DATE: | 8/25/2011 13:00 |
| CLIENT SAMPLE ID | D-2S | WDOE ACCREDITATION: | C601 |

## DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|---|---|---|
| HCID-Gas Range | NWTPH-HCID | U | 20 | 1 | MG/KG | 08/26/2011 | EBS |
| HCID-Diesel Range | NWTPH-HCID | U | 50 | 1 | MG/KG | 08/26/2011 | EBS |
| HCID-Oil Range | NWTPH-HCID | **>100** | 100 | 1 | MG/KG | 08/26/2011 | EBS |

| SURROGATE | METHOD | %REC | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|
| BCB | NWTPH-HCID | **78.0** | 08/26/2011 | EBS |
| C25 | NWTPH-HCID | **84.7** | 08/26/2011 | EBS |

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



ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

## CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| CLIENT: | ECI<br>1912 - 64th Ave W.<br>Tacoma, WA 98466 | DATE:<br>ALS JOB#:<br>ALS SAMPLE#: | 8/29/2011<br>1108119<br>-04 |
| CLIENT CONTACT: | Jerry Sawetz | DATE RECEIVED: | 8/26/2011 |
| CLIENT PROJECT: | Acrowood | COLLECTION DATE: | 8/25/2011 13:20 |
| CLIENT SAMPLE ID | D-2W | WDOE ACCREDITATION: | C601 |

## DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|---|---|---|
| HCID-Gas Range | NWTPH-HCID | U | 130 | 1 | UG/L | 08/29/2011 | EBS |
| HCID-Diesel Range | NWTPH-HCID | U | 310 | 1 | UG/L | 08/29/2011 | EBS |
| HCID-Oil Range | NWTPH-HCID | U | 310 | 1 | UG/L | 08/29/2011 | EBS |

| SURROGATE | METHOD | %REC | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|
| BCB | NWTPH-HCID | **75.9** | 08/29/2011 | EBS |
| C25 | NWTPH-HCID | **69.8** | 08/29/2011 | EBS |
| C25 (conc) | NWTPH-HCID | **68.8** | 08/29/2011 | EBS |

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



ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company
www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

ALS Environmental

## CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| CLIENT: | ECI<br>1912 - 64th Ave W.<br>Tacoma, WA 98466 | DATE:<br>ALS JOB#:<br>ALS SAMPLE#: | 8/29/2011<br>1108119<br>-05 |
| CLIENT CONTACT: | Jerry Sawetz | DATE RECEIVED: | 8/26/2011 |
| CLIENT PROJECT: | Acrowood | COLLECTION DATE: | 8/25/2011 13:40 |
| CLIENT SAMPLE ID | D-8S | WDOE ACCREDITATION: | C601 |

## DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|---|---|---|
| HCID-Gas Range | NWTPH-HCID | U | 20 | 1 | MG/KG | 08/26/2011 | EBS |
| HCID-Diesel Range | NWTPH-HCID | U | 50 | 1 | MG/KG | 08/26/2011 | EBS |
| HCID-Oil Range | NWTPH-HCID | **>100** | 100 | 1 | MG/KG | 08/26/2011 | EBS |

| SURROGATE | METHOD | %REC | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|
| BCB | NWTPH-HCID | **76.6** | 08/26/2011 | EBS |
| C25 | NWTPH-HCID | **85.6** | 08/26/2011 | EBS |

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



ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

## CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| CLIENT: | ECI<br>1912 - 64th Ave W.<br>Tacoma, WA 98466 | DATE:<br>ALS JOB#:<br>ALS SAMPLE#: | 8/29/2011<br>1108119<br>-06 |
| CLIENT CONTACT: | Jerry Sawetz | DATE RECEIVED: | 8/26/2011 |
| CLIENT PROJECT: | Acrowood | COLLECTION DATE: | 8/25/2011 14:00 |
| CLIENT SAMPLE ID | D-8W | WDOE ACCREDITATION: | C601 |

## DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|---|---|---|
| HCID-Gas Range | NWTPH-HCID | U | 130 | 1 | UG/L | 08/29/2011 | EBS |
| HCID-Diesel Range | NWTPH-HCID | **>310** | 310 | 1 | UG/L | 08/29/2011 | EBS |
| HCID-Oil Range | NWTPH-HCID | **>310** | 310 | 1 | UG/L | 08/29/2011 | EBS |

| SURROGATE | METHOD | %REC | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|
| BCB | NWTPH-HCID | **103** | 08/29/2011 | EBS |
| C25 | NWTPH-HCID | **68.1** | 08/29/2011 | EBS |
| C25 (conc) | NWTPH-HCID | **65.7** | 08/29/2011 | EBS |

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



ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

ALS Environmental

## CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| CLIENT: | ECI<br>1912 - 64th Ave W.<br>Tacoma, WA 98466 | DATE:<br>ALS JOB#:<br>ALS SAMPLE#: | 8/29/2011<br>1108119<br>-07 |
| CLIENT CONTACT: | Jerry Sawetz | DATE RECEIVED: | 8/26/2011 |
| CLIENT PROJECT: | Acrowood | COLLECTION DATE: | 8/25/2011 14:30 |
| CLIENT SAMPLE ID | D-1W | WDOE ACCREDITATION: | C601 |

## DATA RESULTS

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|---|---|---|
| HCID-Gas Range | NWTPH-HCID | U | 130 | 1 | UG/L | 08/29/2011 | EBS |
| HCID-Diesel Range | NWTPH-HCID | U | 310 | 1 | UG/L | 08/29/2011 | EBS |
| HCID-Oil Range | NWTPH-HCID | U | 310 | 1 | UG/L | 08/29/2011 | EBS |

| SURROGATE | METHOD | %REC | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|
| BCB | NWTPH-HCID | **69.2** | 08/29/2011 | EBS |
| C25 | NWTPH-HCID | **87.5** | 08/29/2011 | EBS |
| C25 (conc) | NWTPH-HCID | **87.5** | 08/29/2011 | EBS |

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



ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company
www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

ALS Environmental

## CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| CLIENT: | ECI<br>1912 - 64th Ave W.<br>Tacoma, WA 98466 | DATE:<br>ALS SDG#:<br>WDOE ACCREDITATION: | 8/29/2011<br>1108119<br>C601 |
| CLIENT CONTACT: | Jerry Sawetz | | |
| CLIENT PROJECT: | Acrowood | | |

## LABORATORY BLANK RESULTS

### MB-082611S - Batch 2054 - Soil by NWTPH-HCID

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|---|---|---|
| HCID-Gas Range | NWTPH-HCID | U | 20 | 1 | MG/KG | 08/26/2011 | EBS |
| HCID-Diesel Range | NWTPH-HCID | U | 50 | 1 | MG/KG | 08/26/2011 | EBS |
| HCID-Oil Range | NWTPH-HCID | U | 100 | 1 | MG/KG | 08/26/2011 | EBS |

### MB-081911W - Batch 2034 - Water by NWTPH-HCID

| ANALYTE | METHOD | RESULTS | REPORTING LIMITS | DILUTION FACTOR | UNITS | ANALYSIS DATE | ANALYSIS BY |
|---|---|---|---|---|---|---|---|
| HCID-Gas Range | NWTPH-HCID | U | 130 | 1 | UG/L | 08/19/2011 | EBS |
| HCID-Diesel Range | NWTPH-HCID | U | 310 | 1 | UG/L | 08/19/2011 | EBS |
| HCID-Oil Range | NWTPH-HCID | U | 310 | 1 | UG/L | 08/19/2011 | EBS |

APPROVED BY

Laboratory Director



ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Laboratory Group A Campbell Brothers Limited Company

**ALS Environmental**
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
(206) 292-9059 Seattle
(425) 356-2626 Fax
http://www.alsglobal.com

# Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only) 1108119

Date 8/25/11 Page 1 Of 1

PROJECT ID: Acrowood
REPORT TO COMPANY: ECI
PROJECT MANAGER: Jerry
ADDRESS:
PHONE: FAX:
P.O. NUMBER: 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 | MTBE by EPA-8021 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 Pesticides by EPA 8081/8082 | 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. DC-1 | 8/25/11 | 1200 | Soil | 1 | X | | | | | | | | | | | | | | | 1 | |
| 2. DC-2 | | 1210 | Soil | 2 | X | | | | | | | | | | | | | | | 1 | |
| 3. D-2S | | 1300 | Soil | 3 | X | | | | | | | | | | | | | | | 1 | |
| 4. D-2W | | 1320 | Water | 4 | X | | | | | | | | | | | | | | | 5 | |
| 5. D-8S | | 1340 | Soil | 5 | X | | | | | | | | | | | | | | | 1 | |
| 6. D-8W | | 1400 | Water | 6 | X | | | | | | | | | | | | | | | 5 | |
| 7. D-1W | | 1430 | Water | 7 | X | | | | | | | | | | | | | | | 5 | |
| 8. | | | | | | | | | | | | | | | | | | | | | |
| 9. | | | | | | | | | | | | | | | | | | | | | |
| 10. | | | | | | | | | | | | | | | | | | | | | |

LABORATORY COPY

SPECIAL INSTRUCTIONS

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: ECI
   Received By: AGS 8/25/11 5:45
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