PHASE I ENVIRONMENTAL SITE ASSESSMENT

conducted on

Buse Timber & Sales, Inc.
3812 28th Place Northeast
Everett, Snohomish County, Washington 98201

Apex Project No. ALTERRA-064A

September 15, 2021

Prepared for:

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EXECUTIVE SUMMARY

Apex Companies, LLC (Apex) performed a Phase I Environmental Site Assessment (Phase I ESA) of the Buse Timber & Sales, Inc. property, located at 3812 28th Place Northeast in Everett, Snohomish County, Washington (Site). This project was performed in accordance with Apex Proposal No. 5461644158 dated June 5, 2021. SPE and IOS JV Holdings, LLC retained Apex to complete the Phase I ESA on their behalf as well as Morgan Stanley Bank all of whom may rely on this Phase I ESA as indicted in **Section 1.6** of this report. The scope of services was to perform a Phase I ESA in conformance with the scope and limitations of ASTM International (ASTM) Practice E1527-13, the U.S. Environmental Protection Agency's (USEPAs) Standards and Practices for All Appropriate Inquiries (AAI); 40 Code of Federal Regulations (CFR), Part 312; additional terms and conditions required by Apex's agreement with SPE and IOS JV Holdings, LLC; and, several non-scope considerations beyond ASTM E1527-13, which are discussed in **Section 12.0**.

The Site consists of two parcels of land (Parcel No. 29050400300600 and 29050900201500) comprising approximately 60.48 acres. The Site is currently operated as a sawmill facility and a log yard by Buse Timber & Sales Inc.. It is currently developed with 11 buildings consisting of office, storage sheds, and associated lumber use buildings. Log storage is located on the southern end of the property and processing activities and lumber storage are in the middle of the property. The north end of the property is unpaved and undeveloped. There is a drainage ditch encircling the Site that discharges any collected water to Union Slough through a tide gate at the north end of the Site. Surrounding properties generally consist of commercial or industrial properties.

In summary, the Site was originally used for agricultural purposes prior to at least 1943. The Site has operated as a lumber mill by Buse Timber & Sales Inc. since the mid 1940s, and underwent a significant expansion around 1968. Historically, the Site has operated in two configurations since the 1960s. The mill initially operated in the west part of the Site and included a large log pond and fire pond that was filled in late 1960s. The Site is has been operating within the current layout since the late 1960s. Surrounding properties were initially used for agricultural purposes since at least 1941. Commercial and industrial development occurred between the 1970 and 2000.

The Findings and Conclusions of our Phase I ESA are summarized below. Please refer to the entire report and appropriate report section for additional details regarding our findings.

We have performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-13 of the Buse Timber & Sales, Inc. located in Everett, Washington. Any exceptions to, or deletions from, this practice are described in Section 1.0. This assessment has revealed no evidence of RECs, HRECs, CRECs, BERs, or de minimis conditions in connection with the Site with the exception of the following:

Type of Concern	Finding
Recognized Environmental Condition (REC)	Apex identified the following RECs associated with the Site: • Multiple site assessments have been completed at the Site by Washington Department of Ecology, URS (For USEPA), URS (for Washington Department of Ecology), Exponent and Terracon. According to the findings, chemical of concerns including pentachlorophenol (PCP), polychlorinated biphenyls (PCB), metals, total petroleum hydrocarbon (TPH), dioxins and furans have been detected in soil, as well as in nearby drainages at the Site. • According to the underground storage tank (UST) database, the Site formerly utilized three USTs. One of the USTs listed is the former dip tank, which is exempt. The contents of the "East Tank" were not listed. The "West Tank" was reportedly a former a gasoline UST. These USTs were reportedly installed circa 1964 and removed in 1996. No releases or spills have been reported associated with these USTs. However, no tank removal documentation were available for review. • An ERTS incident (No. 697806) was reported based on the detected concentrations of arsenic in soil and groundwater at the Site during the 2018 Terracon limited Phase II ESA. • Terracon reported this apparent release to Ecology in a letter dated April 21, 2020. No cleanup actions have been performed or are planned related to this apparent release at the time of reporting. Based on the site assessment results. • Apex observed an area used to mix oil-water separator sludges with wood waste and to be sold for hog fuel[1]. This area is located at the southern portion of the Site. If these contaminated sludges were to contain PCBs, PCP, or dioxins, combustion of these materials will release these chemicals and byproducts to the atmosphere.
Controlled Recognized Environmental Conditions (CREC)	Apex did not identify CRECs associated with the Site.

1. "Hog fuel" is an unrefined mix of coarse chips of bark and wood fiber. Hog fuel is any type of wood byproduct or waste that can be burned for fuel but cannot be categorized as chips, shavings, bark, or sawdust.

Type of Concern	Finding
Historical Recognized Environmental Conditions (HREC)	Apex identified the following HRECs associated with the Site. • Washington Department of Ecology (Ecology) completed a Preliminary Assessment in 1990 for the Buse Mill site. Elevated concentrations of PCP and tetrachlorophenol were detected in drainage sediment samples near the former dip tank. Samples were not analyzed for dioxins. The PA concluded that there were no significant threats to human health and the environment. However it did recommend sampling of the drainages and ranking under Ecology's Washington Ranking Method guidelines. Follow-up sampling was completed in site drainages and PCP or TCP were not detected. No Further Action (NFA) status was granted by Ecology on August 30, 1992 through their site screening program. Based on the regulatory status, Apex considers this as a HREC. • USEPA completed a Site Inspection in 1994 to assess whether significant threats were present to human health and the environment and whether a the site should be included on the National Priorities List. While concentrations of PCP, PCBs, and 2-phenylphenol were detected in drainage sediments, the Site was placed on the No Further Remedial Action Planned (NFRAP) list in 1994. • A 1990 Consent Decree was enacted in response to a TSCA inspection for oil filled equipment with PCBs. Buse removed seven transformers as part of this consent decree and paid a fine. • A 2015 Consent Decree was enacted in response to Clean Water Act Violations. Consent Decree requirements included requirements for complying with the NPDES stormwater permit, update the site SWPPP, improve operations practices at the log float beach (including removal of woody debris), and other practices related to stormwater management.
De Minimis Conditions	Apex did not identify de minimis conditions associated with the Site.
Business Environmental Risk (BER)	Apex did not identify BERs associated with the Site.
Non-ASTM Considerations	Non-ASTM considerations were included in this assessment's scope of services (see **Section 12**).

Vapor Migration

In general, USEPA does not regulate indoor air quality except to the extent that indoor air impacts are caused by releases of hazardous substances into subsurface soil or groundwater (vapor intrusion). ASTM E1527-13 defines “migrate” and “migration” as referring to the movement of hazardous substances or petroleum products in any form, including solid and liquid at the surface or subsurface, and vapor in the subsurface. Vapor migration in the subsurface is described in Guide E2600 – Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transaction; however, nothing in ASTM E1527-13 should be construed to require application of the Guide E2600 standard to achieve compliance with all appropriate inquiries.

Subject to the above limitations, as part of Apex’s evaluation of the Site for the presence of RECs, the potential presence of hazardous substances or petroleum products in any form, including soil vapor, was evaluated. Based on all resources evaluated as part of this ESA, an obvious vapor migration concern was not identified.

Data Gaps

The ASTM Standard requires the ESA identify the following: 1) *obvious* uses of the Site since 1940 or first development, whichever is *earlier;* and 2) significant “data gaps” which affect the ability of the Environmental Professional to identify RECs. A data gap by itself is not inherently significant. The report is also to include information on the sources consulted to address the data gaps.

Per ASTM E1527-13, review of standard historical sources at less than approximately five year intervals are not required by this practice. If the specific use of the property appears unchanged over a period longer than five years, then it is not required to research the use during that period. Data gaps of greater than five years were identified as: pre-1941, 1943-1952, 1956-1968, and 1981-1990. None of these data gaps are considered significant.

None of these data gaps are considered significant. Further, based on information from other available sources, said gaps are not considered to pose a significant data gap and does not impair Apex's ability to identify RECs associated with the Site.

1.0 INTRODUCTION

1.1 Purpose

Apex Companies, LLC (Apex) performed a Phase I Environmental Site Assessment (Phase I ESA) of the Buse Timber & Sales, Inc. property, located at 3812 28th Place Northeast in Everett, Snohomish County, Washington (Site). This project was performed in accordance with Apex Proposal No. 5461644158 dated June 5, 2021. SPE and IOS JV Holdings, LLC retained Apex to complete the Phase I ESA on their behalf as well as Morgan Stanley Bank all of whom may rely on this Phase I ESA as indicted in **Section 1.6** of this report. The purpose of this Phase I ESA is to perform all appropriate inquiries into the previous ownership and uses of the Site consistent with good commercial or customary practice for a possible transaction involving the Site and to permit SPE and IOS JV Holdings, LLC (User) as well as Morgan Stanley Bank to qualify for one of the landowner liability protections as identified by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). The Phase I ESA also included several non-scope considerations beyond ASTM E1527-13, which are discussed in **Section 12.0**.

1.2 Scope of Services

This project was performed in accordance with Apex Proposal No. 5461644158 dated June 5, 2021. The scope of services was to perform a Phase I ESA in a manner consistent with the ASTM International (ASTM) Standard Designation: E1527-13 “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process,” and the U.S. Environmental Protection Agency’s Standards and Practices for All Appropriate Inquiries (AAI); 40 Code of Federal Regulations (CFR), Part 312; and, additional terms and conditions required by contract with SPE and IOS JV Holdings, LLC. A copy of the detailed scope of work for this project is provided in **Appendix A**. The Phase I ESA also included evaluation of several non-scope considerations beyond ASTM E1527-13, which are discussed in **Section 12.0**.

The scope of services comprising this Phase I ESA was conducted to provide investigation to identify recognized environmental conditions (RECs). As defined by ASTM standards, the term RECs means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or, (3) under conditions that pose a material threat of a future release to the environment. The term is not intended to include de minimis conditions that generally do not present a threat to human health or the environment, and that generally would not be the subject of an enforcement action if brought to the attention of the appropriate government agencies. Any historical RECs (HREC) or controlled RECs (CREC) as defined by ASTM E1527-13 that were identified during the assessment are discussed in this report, as applicable.

1.3 Significant Assumptions

Apex has performed the historical and environmental record searches in accordance with ASTM E1527-13 and current industry practice. The data, findings, and conclusions presented in this Phase I ESA are based upon a search, review, and analysis of documents and interviews as well as observations made during the Site reconnaissance.

Conclusions reached regarding the conditions of the Site do not represent a warranty that all areas within the Site are of a similar quality as may be inferred from observable site conditions and available Site history. As stated in the ASTM standard, no Phase I ESA can wholly eliminate uncertainty regarding the potential for environmental liability in connection with the Site. Apex's evaluation and analysis are intended to reduce, not eliminate, the potential for conditions that result in liability for the end user of this Phase I ESA.

1.4 Limitations and Exceptions

This report was prepared as a result of a contractual agreement that defined the approach and scope of services to be employed during the course of the investigation. The opinions and conclusions expressed in this study have been based strictly on the results of these contracted services. The scope of this Phase I ESA is intended to aid in the evaluation of RECs. Findings contained within this report are based on information collected from observations made on the day(s) of the site reconnaissance and from reasonably ascertainable information obtained from certain public agencies and other referenced sources. The services provided by Apex should not be construed as a warranty or guarantee that no RECs exist at the Site or that all RECs have been uncovered. No conclusions are stated or implied concerning the suitability of the Site for its eventual use. This document is not intended for purposes other than those expressly set forth herein or for use by parties other than for whom it has been prepared.

As provided by the ASTM Standard for Phase I ESAs, and Apex's scope of work, this project was non-intrusive in nature and did not include sampling or testing of soils, groundwater, surface water, building materials, or other materials. Additionally, unless specifically described in this report, Apex's scope of work explicitly excluded issues that are outside the scope of ASTM E1527-13 and may constitute a business environmental risk as defined by ASTM.

In general, USEPA does not regulate indoor air quality except to the extent that indoor air impacts are caused by releases of hazardous substances into subsurface soil or groundwater (vapor intrusion). ASTM E1527-13 defines "migrate" and "migration" as referring to the movement of hazardous substances or petroleum products in any form, including solid and liquid at the surface or subsurface, and vapor in the subsurface. Vapor migration in the subsurface is described in Guide E2600 – Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transaction; however, nothing in ASTM E1527-13 requires application of the Guide E2600 standard to achieve compliance with all appropriate inquiries.

A Phase I ESA meeting or exceeding this practice and completed less than 180 days prior to the date of acquisition of the property or (for transactions not involving an acquisition) the date of the intended transaction, is presumed to be valid. A Phase I ESA meeting or exceeding this practice and for which the information was collected or updated within one year prior to the date of the intended transaction may be used provided that the following components of the ESA were conducted or updated within 180 days of the date of purchase or the date of the intended transaction:

- interviews with owners, operators, and occupants;
- searches for recorded environmental cleanup liens;
- reviews of federal, tribal, state, and local government records;

- visual inspections of the property and of adjoining properties; and,
- the declaration by the Environmental Professional responsible for the assessment or update.

1.5 Special Terms and Condition

There are no other special terms or conditions concerning this project other than those specifically described herein.

1.6 User Reliance

This report documents the Phase I ESA of the Site performed by Apex at the explicit request and direction of SPE and IOS JV Holdings, LLC and in accordance with ASTM E1527-13 and the EPA Standards and Practices for All Appropriate Inquiries, 40 CFR 312.

This report was prepared for and may be relied upon by SPE and IOS JV Holdings, LLC, Morgan Stanley Bank, N.A., Morgan Stanley Mortgage Capital Holdings LLC, and their respective affiliates and successors and assigns (collectively, "Morgan Stanley") with respect to any loan(s) placed upon the property (or on direct or indirect ownership interests in the owner of the property) described in the report. Any rating agency, issuer, trustee, servicer or investor, participant in or purchaser of any security collateralized or otherwise backed by such loan(s) in whole or in part may further rely upon the report. We also consent to the inclusion of this report in any form, whether in paper or digital format in the Prospectus Supplement relating to any Morgan Stanley "Securitization" (defined as an offering of debt securities that, as applicable, are registered with the Securities Exchange Commission pursuant to the Securities Act of 1933, as amended (the "Act"), or are privately placed pursuant to an exemption from the Act, in which the property reported upon may be part of a pool of properties owned by various non-affiliated owners collateralizing such offering), and we consent to the reference to our firm under the caption "Experts" in such Prospectus Supplement.

Reliance on this report for any use or by parties other than specifically stated is prohibited without the expressed written consent of Apex, Morgan Stanley, and SPE and IOS JV Holdings, LLC, and such use is at the sole risk of the user.

2.0 SITE DESCRIPTION AND RECONNAISSANCE

2.1 Site Location and Adjoining Properties

A summary of the Site and surrounding properties is included in the following table. A Site Location Map is included as **Figure 1**, a Site Plan is included as **Figure 2**, and a Site Layout is included as **Figure 3**. Photographs of the Site and adjoining properties are included as **Appendix B**.

Site	
Site Name	Buse Timber & Sales, Inc.
Site Address	3812 28th Place Northeast, Everett, Snohomish County, Washington 98201
Current Use of Site	Industrial
Date of Site Visit	June 17, 2021
Apex Representative	Jie Xu
Weather Conditions	Clear, 78 Fahrenheit
Limiting Conditions During Site Inspection	None
Site Contacts	Tom Parks, President
Site Acreage	60.48
Tax ID / Parcel Number(s)	29050400300600 and 29050900201500
Current Owner	Tom Parks
Building Size (approximate)	59380
Utility Providers	**Electric:** Snohomish County PUD **Natural Gas:** Not provided at the Site. **Propane:** Not provided at the Site. **Domestic water / Sewer:** City of Everett/Septic system
Adjoining Properties	
North	The Union Slough followed by agricultural fields.

Northwest	Building Materials & Construction Solutions
South	Agricultural fields followed by Boat Country
Southwest	Granite Construction Company
East	Interstate-5 followed by agricultural fields
West	The Union Slough followed by agricultural fields and one structure (vacant building) on the north side of 28th PI NE.
Any RECs Identified at Adjoining Properties?	No, Apex's review of adjoining and surrounding property use did not identify uses of adjoining or surrounding properties that are considered to be a REC with respect to the Site.

3.0 USER PROVIDED INFORMATION

ASTM E1527-13 defines "User" as the party seeking to use Practice E1527 to complete a Phase I ESA of the Site. Apex understands that the client is the User as defined by ASTM E1527-13. ASTM E1527-13 specifies that certain tasks associated with identifying potential RECs at the Site should be performed by the User and provided to the Environmental Professional (i.e., User Responsibilities). Accordingly, Apex provided a Questionnaire to the client requesting the above information. The Questionnaire was completed by Charlie Totten of SPE and IOS JV Holdings, LLC and is included in **Appendix C**. Information provided is summarized below and elsewhere in this report.

USER PROVIDED INFORMATION	
Data Type	**Information Provided**
Environmental Liens, AUL, Title Records	Apex was not provided with environmental lien and AUL information; therefore, Apex assumes the user of this report is evaluating this requirement outside the scope of this ESA.
Specialized User Knowledge	SPE and IOS JV Holdings, LLC indicated they do not have any specialized knowledge of the Site.
Commonly Known or Reasonably Ascertainable Information	SPE and IOS JV Holdings, LLC indicated they do not have any commonly known or reasonably ascertainable information regarding the Site.
Valuation Reduction for Environmental Issues	SPE and IOS JV Holdings, LLC was not aware of any valuation reduction as a result of environmental issues.
Reason for Performing Phase I ESA	This Phase I ESA was performed at the request of the Client in anticipation of a possible real estate transaction involving the Site, and for the User to qualify for defenses to CERCLA liability.
Other User Provided Information	Apex was provided with multiple reports related to the Site, which is discussed below. The prior report is provided in the **Appendix D**.

3.1 Prior Reports

The following prior reports were reviewed as part of this Phase I ESA. In summary, multiple site assessments have been completed at the Site by Ecology, URS Corporation (for USEPA), Exponent, and Terracon. According to the findings, chemical of concerns including PCP, PCBs, metals, TPH, dioxins and furans may present in soil and groundwater, as well as in nearby drainages at the Site.

Report	Author	Date	Summary
Preliminary Assessment Report - Buse Timber & Sales, Inc., Everett, Washington	Washington State Department of Ecology	October, 1990	Washington Department of Ecology (Ecology) completed a Preliminary Assessment in 1990 for the Buse Mill site. Elevated concentrations of pentachlorophenol (PCP) and tetrachlorophenol were detected in drainage sediment samples near the former dip tank. Samples were not analyzed for dioxins. The PA concluded that there were no significant threats to human health and the environment. However it did recommend sampling of the drainages and ranking under Ecology's Washington Ranking Method guidelines. Followup sampling was completed in site drainages and PCP or TCP were not detected.
Consent Decree between USEPA and Buse Timber & Sales, Inc.	USEPA Region 10	1990	A 1990 Consent Decree was enacted in response to a TSCA inspection for oil filled equipment with PCBs. Buse removed seven transformers as part of this consent decree and paid a fine. Supporting information included testing results for remaining facility owned transformers indicating a maximum PCB concentration of 3.6 milligrams per kilogram (mg/kg).

Report	Author	Date	Summary
Ecology Screening Site Inspection Report	URS Consultants, Inc.	August 19, 1994	A Screening Site Inspection Report was prepared for the Site by URS on behalf of EPA (URS, 1994). In this report, URS performed limited surface and subsurface soil, storm drain sediment, and drainage sediment sampling at the Site on behalf of EPA (URS, 1994). Samples were tested for Polychlorinated biphenyls (PCBs), semi-volatile organic compounds (SVOCs), metals, chlorinated phenols and/or PCP. No exceedances of background concentrations were found for the surface or subsurface soils. Samples collected from catch basins and in the North ditch (near the storm drain outfall) exceeded background concentrations of PCBs, lead, and mercury, however, none of these concentrations were significantly above background or Ecology MTCA Method A cleanup levels. PCP was detected at concentration exceeding background levels in the main storm drain located approximately 100 feet east of the former dip tank. The cover letter states that EPA does not anticipate further investigation of the Site under Superfund program.

Report	Author	Date	Summary
Phase II Environmental Site Assessment (ESA) in 1998, report extracted from Phase I ESA by Terracon Consultants in June 2018	Exponent	August 21, 1998	Exponent conducted a Phase II ESA in August 1998 to address RECs identified in Exponent's April 1998 Phase I ESA. The investigation consisted of sampling sediments in the drainage ditches surrounding the Site, sampling the storm drain system, as well as assessing soil and groundwater impacts at the Site. Samples were tested for VOCs, TPH, and BTEX. Select soil and groundwater samples were tested for polychlorinated, chlorinated phenols and/or dioxins/furans. A total of 15 sediment samples were taken from the south, east, and west ditches and Union Slough: • North Ditch (NDM-1 through NDM-6); • East Ditch (EDM-1 and EDM-2); • South Ditch (SDM-1 and SDM-2); • West Ditch (WDM-1 through WDM-3); and • Union Slough (USG-1 and USG-2). Four (4) storm drains were evaluated for potential migration of contaminants: • Former Dip Tank (FDT-9 through FDT-11); and • Maintenance Shop Area (MSA-4). Subsurface soil samples were collected from 13 borings at depths ranging from 2-4 feet bgs: • Former Dip Tank (FDT-1 through FDT-6); • Former Underground Storage Tanks (UST-1 through UST-3); • Current Aboveground Storage Tanks (AST-1 and AST-2); • Fire Pond (FPD-1 through FPD-3), • Former Burn Area (FBA-1); and • Fire Pond Soil Stockpile (FPS-1).

Report	Author	Date	Summary
			Eight (8) groundwater samples were also collected from temporary well screens. The water table was encountered at 3-6 feet bgs: • Former Dip Tank (FDT-4 and FDT-5); • Fire Pond (FPD-1 through FPD-3); • North Storm Drain (NSD-1); and • Maintenance Shop Area (MSA-1 and MSA-2). The investigation results identified concentrations of diesel and oil range hydrocarbons above MTCA Method A cleanup levels at FPS-1. Groundwater impacts indicated concentrations of diesel range hydrocarbons were detected above MTCA Method A cleanup levels at FPD-1, FPD-2, FPD-3, MSA-1, and NSD-1. Oil-range TPH concentrations were identified above cleanup levels in several ditch and stormwater sediments. Concentrations of metals, VOCs, and SVOCs were also detected, but at concentrations below cleanup levels.

Report	Author	Date	Summary
Phase II Update in 2010, report extracted from Phase I ESA by Terracon Consultants in June 2018	Exponent	December 6, 2010	Exponent provided a 2010 Phase II Update on identified recommendations of the 1998 Exponent Phase II ESA report and 2004 site improvements including new lubricants storage facility, new oil/water separators, and new fueling facility. Major updates are summarized as below • The single-walled ASTs were replaced with new double-walled ASTs placed on a new concrete pad in 2003, a fueling pad draining to an oil-water separator was constructed in 2004. • Four oil-water separators were installed on the storm drain system that discharges to the north ditch in 2003. This discharge is permitted under a statewide, storm water NPDES permit (number WAR000097) issued by the Washington State Department of Ecology (Ecology). All the oil-water separators are inspected regularly and pumped yearly except for the separators located downgradient from the maintenance building that are pumped quarterly. • Sediments were removed from the southern portion of this ditch in 2003. West ditch was dredged and the dredge material appeared to be primarily sand with no physical evidence of soil contamination. • The Site has constructed a new Lube building to house and dispense lubricating or hydraulic oils in 2003. The building has a concrete floor with a sump. In 2010 update, drip pans are in use but the sump remained unlined. Exponent still

Report	Author	Date	Summary
			recommend lining the sump to facilitate cleanup of any spills that overwhelm the drip pans. In the Phase II update, Exponent provided recommendations for improved operations practices, but recommended no further investigation.
Consent Decree between Puget Soundkeeper Alliance and Buse Timber & Sales, Inc.	United State District Court Western District of Washington at Seattle	July 6, 2016	A 2015 Consent Decree was enacted in response to Clean Water Act Violations. Consent Decree requirements included requirements for complying with the NPDES stormwater permit, update the site SWPPP, improve operations practices at the log float beach (including removal of woody debris), and other practices related to stormwater management. The stormwater consent decree is considered an HREC.

Report	Author	Date	Summary
Phase I Environmental Site Assessment -3812 28th Place Northeast, Everett, WA	Terracon Consultants, Inc. (Terracon)	June 20, 2018	Multiple findings were identified in connection with the Site: • In a letter from City of Everett Fire Department to Buse Timer & Sales (Buse) in September 15, 1989, serious permit violations in the fuel storage and dispensing operations were revealed during the fire inspection. In conformance with the fire department regulation, an AST fuel tank and dispenser installation permit was obtained in 1993. RECs were identified in connection with the Site: • Given the duration of operation of vehicle maintenance at the Site and experience with similar facilities, there is the potential for undocumented releases to have occurred in the maintenance shed area. • The former UST area has not been assessed for groundwater impacts, however a groundwater sample approximately 100 feet up-gradient of the area identified impacts of diesel-range hydrocarbons above cleanup levels. Given the duration of the UST operations, there is a potential for undocumented subsurface releases to have occurred. • The historical washdown practices in the vehicle washdown area may have resulted in undocumented releases to the subsurface. • Given the documented impacts of diesel-range hydrocarbons to soil and groundwater in the former fire pond area, there is a potential for remaining subsurface impacts.

Report	Author	Date	Summary
			• Based on the previously documented impacts of dioxins and furans in sediment samples common to lumber mills in addition to the duration of approximately 70 years of site operation, there is potential for site-wide impact to groundwater, soil and sediments. Based on the findings of this assessment, Terracon recommends that a subsurface investigation be completed in an effort to assess the above-referenced RECs.
Limited Site Investigation-3812 28th Place Northeast, Everett, WA	Terracon Consultants, Inc.	September 17, 2018	To assess the RECs identified during the 2018 Phase I ESA, Terracon conducted a Limited Site Investigation (LSI) at the Site in 2018. This LSI includes advancing six (6) soil borings (B1 through B6) and collect soil and/or groundwater samples from each boring. The LSI results/findings are summarized as follows: • Concentrations of arsenic in soil samples collected from B1 and B2 exceeded MTCA Method A cleanup levels. Based on this discovery a release was reported to Ecology. • Concentrations of dioxins and furans were detected in soil samples. The maximum detected 2,3,7,8 tetrachlorodibenzo-p-dioxin TEQ, 12.8 ng/g, exceeds the background concentration (5.2 ng/g) but was just below the cleanup level of 12.6 ng/g.

Report	Author	Date	Summary
Stormwater Pollution Prevention Plan (SWPPP) -3812 28th Place Northeast, Everett, WA	Landau Associates	January 30, 2020	The Site has a SWPPP Permit #WAR000097 under the State of Washington's Industrial Stormwater General Permit (ISGP) issued on November 20, 2019 and effective on January 1, 2020.
Spill Prevention, Control, and Countermeasures (SPCC) Plan -38 12 28th Place Northeast, Everett, WA	Landau Associates	August 21, 2020	A SPCC Plan was prepared for the Site by Landau Associates in August 2020 in accordance with the Federal Oil Pollution Prevention regulations at 40 CFR Part 112. There are no known spills that reached navigable water. An unknown number of smaller spills from equipment have occurred on the pavement and were cleaned up before they reached the perimeter drainage ditch.

4.0 ENVIRONMENTAL RECORDS REVIEW

4.1 Standard Environmental Record Sources

Consistent with ASTM E1527-13, customary and usual practice, specific scope of work terms and conditions (see **Section 1.0**), and contractual terms and conditions, Apex obtained and reviewed environmental databases and records to characterize the obvious and apparent uses of the Site. Apex retained Environmental Risk Information Services (ERIS) to provide a database and records search report (see **Appendix E**). Apex has reviewed the listings provided by the database report and evaluated whether these listings should be considered RECs, and discusses listings pertaining to the Site, adjoining properties, or that are considered to be RECs in the **Findings and Conclusions** sections below.

Environmental record sources required by the ASTM Standard E1527-13, and included in Apex's review, are listed below. Other supplemental databases were included in the review as well.

Target Property Summary

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
CERCLIS	BUSE TIMBER & SALES INC	3812 28TH PLACE NE, EVERETT, WA, 98206	0.00/ NNW	0.0	
CERCLIS NFRAP	BUSE TIMBER & SALES INC	3812 28TH PLACE NE, EVERETT, WA, 98206	0.00/ NNW	0.0	
RCRA NON GEN	BUSE TIMBER & SALES INC	3812 28TH PL NE, EVERETT, WA, 98206	0.00/ NNW	0.0	
FINDS/ FRS	BUSE TIMBER & SALES INC	3812 28TH PL NE, EVERETT, WA, 98205-3209	0.00/ NNW	0.0	
CSCSL NFA	BUSE TIMBER & SALES INC	3812 28TH PL NE, EVERETT, WA, 98205	0.00/ NNW	0.0	
UST	BUSE TIMBER & SALES INC	3812 28TH PL NE PO BOX 5226, Everett, WA, 98206	0.00/ NNW	0.0	
ALL SITES	BUSE TIMBER & SALES INC	3812 28TH PL NE, EVERETT, WA, 98205-3209	0.00/ NNW	0.0	
ERNS		3812 28TH PLACE NE, EVERETT, WA,	0.00/ NNW	0.0	
FTTS ADMIN	BUSE TIMBER & SALES	3812 28TH PL NE, EVERETT, WA, 98206-	0.00/ NNW	0.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
FTTS INSP	BUSE TIMBER & SALES	3812 28TH PL NE, EVERETT, WA, 98206-	0.00/ NNW	0.0	
ICR	BUSE TIMBER & SALES INC	3812 28TH PL NE, EVERETT, WA, 98205-3209	0.00/ NNW	0.0	
ICIS	BUSE TIMBER & SALES INC	3812 28TH PL NE, EVERETT, WA, 98205-3209	0.00/ NNW	0.0	
SEMS ARCHIVE	BUSE TIMBER & SALES INC	3812 28TH PLACE NE, EVERETT, WA, 98206	0.00/ NNW	0.0	
VCP	BUSE TIMBER & SALES INC	3812 28TH PL NE, EVERETT, WA, 98205	0.00/ NNW	0.0	
SNO SWF/ LF	BUSE Timber (EPA Super Fund)	3812 28th Pl NE, Everett, WA, 98205	0.00/ NNW	0.0	
ERTS	Buse Timber & Sales	3812 28th Pl NE, Everett, WA, 98201	0.00/ NNW	0.0	
SPILLS		3812 28TH PL NE, EVERETT, WA,	0.00/ NNW	0.0	

Surrounding Properties Summary

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
FINDS/FRS	SOUTH PARCEL FILL	28TH PLACE SE, EVERETT, WA, 98201	0.01/WNW	0.0	
ALL SITES	I-5/NB Marine View Drive to SR 529	, , WA, 98205	0.04/ESE	0.0	
ALL SITES	South Parcel Fill	28th Place SE, Everett, WA, 98201	0.13/W	9.0	
ALL SITES	NORTHWEST GRANITE EVERETT SITE	2111 ROSS AVE, EVERETT, WA, 98205	0.14/SW	3.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
SNO SWF/LF	Granite Construction - Smith Island hot mix & recycle facility	2111 Ross Ave, Everett, WA, 98201	0.14/SW	3.0	
SNO SWF/LF	Granite Construction - Smith Island Asphalt Plant (RAS)	2111 Ross Ave, Everett, WA, 98205	0.14/SW	3.0	
SWF/LF	Granite Construction Company - Smith Island Plant	2111 Ross Ave NE, Everett, WA, 98205	0.15/SW	2.0	
ALL SITES	MCCLEAN IRON WORKS STEEL FAB FAC	2102 ROSS AVE, EVERETT, WA, 98201	0.15/SW	2.0	
SNO SWF/LF	McClean Iron Works	2102 Ross Ave, Everett, WA, 98201	0.15/SW	2.0	
ALL SITES	BMC West Truss & Components	3200 35TH AVE NE, EVERETT, WA, 98201	0.17/NW	12.0	
UST	HENRY BACON BUILDING MATERIALS INC	3200 35TH NE, Everett, WA, 98201	0.17/NW	12.0	
ALL SITES	HENRY BACON BLDG MATERIALS INC UST 9630	3200 35TH NE, EVERETT, WA, 98201	0.17/NW	12.0	
RCRA NON GEN	GLACIER NORTHWEST INC EVERETT	2222 ROSS AVE NE, EVERETT, WA, 98205	0.19/WSW	8.0	
CSCSL NFA	Glacier Northwest Inc Everett	2222 ROSS AVE NE, EVERETT, WA, 98205	0.19/WSW	8.0	
UST	LONE STAR NORTHWEST	2222 ROSS AVE NE, Marysville, WA, 98205	0.19/WSW	8.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
ALL SITES	Glacier Northwest Inc Everett	2222 ROSS AVE NE, EVERETT, WA, 98205	0.19/WSW	8.0	
ICR	Glacier Northwest Inc Everett	2222 ROSS AVE NE, EVERETT, WA, 98205	0.19/WSW	8.0	
VCP	Glacier Northwest Inc Everett	2222 ROSS AVE NE, EVERETT, WA, 98205	0.19/WSW	8.0	
LUST	Glacier Northwest Inc Everett	2222 ROSS AVE NE, EVERETT, WA, 98205	0.19/WSW	8.0	
RCRA NON GEN	MERCER MARINE AT DAGMARS	2010 ROSS AVE, MARYSVILLE, WA, 98270	0.19/SSW	2.0	
ALL SITES	Mercer Marine AT Dagmars	2010 ROSS AVE, MARYSVILLE, WA, 98270-9183	0.19/SSW	2.0	
SWF/LF	Heritage Environmental Services, LLC	2323 Ross Ave, Everett, WA, 98205	0.19/WSW	9.0	
SNO SWF/LF	CALPORTLAND CO	2323 Ross Ave, Everett, WA, 98205	0.19/WSW	9.0	
SWF/LF	Dagmars Marina	1871 Ross Ave, Everett, WA, 98801	0.22/SSW	2.0	
CSCSL	DAGMARS MARINA	1871 ROSS AVE, EVERETT, WA, 98205	0.22/SSW	2.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
ALL SITES	DAGMARS MARINA	1871 ROSS AVE, EVERETT, WA, 98205	0.22/SSW	2.0	
ICR	DAGMARS MARINA	1871 ROSS AVE, EVERETT, WA, 98205	0.22/SSW	2.0	
SNO SWF/LF	Dagmars Marina	1871 Ross Ave, Everett, WA, 98205	0.22/SSW	2.0	
SNO SWF/LF	Dagmars Marina Moderate Risk Waste	1871 Ross Ave, Everett, WA, 98201	0.22/SSW	2.0	
ALL SITES	GLACIER NW N & S PARCEL FILL	W OF SR 529 & N OF 28TH PL NE, EVERETT, WA, 98201-4044	0.24/W	13.0	
ALL SITES	SMITH ISLAND FACILITY CONST	36TH PL NE & SR 529, EVERETT, WA, 98205	0.33/NW	13.0	
ALL SITES	UNION SLOUGH LEVEE	, , WA,	0.37/E	-1.0	
SWF/LF	Pacific Topsoils Inc - Smith Island	3000 Frontage Road, Everett, WA, 98205	0.38/WNW	14.0	
ALL SITES	Tulalip Water Pipeline Segment 4	3000 34th Ave NE, Everett, WA, 98205	0.38/WNW	14.0	
SNO SWF/LF	PACIFIC TOPSOILS WASTE RECYCLING (formerly Weyerhaeuser Woodwaste)	3000 Frontage Rd, Everett, WA, 98205	0.38/WNW	14.0	
RECYCLERS	PACIFIC TOPSOILS - SMITH ISLAND	3000 FRONTAGE ROAD, EVERETT, WA, 98205	0.38/WNW	14.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
ALL SITES	CONCRETE NORWEST SMITH ISLAND	3210 36TH PL NE, EVERETT, WA, 98205	0.39/NW	13.0	
ALL SITES	IFF Holding LLC Hima Farms	, , WA,	0.41/SE	0.0	
ICR	CEDAR GROVE COMPOSTING INC EVERETT	3620 36TH PL NE, EVERETT, WA, 98201	0.44/NW	15.0	
SNO SWF/LF	CEDAR GROVE COMPOSTING - EVERETT	3620 36th Pl NE, Everett, WA, 982018641	0.44/NW	15.0	
ALL SITES	Blue Heron Slough	, , WA,	0.48/ENE	0.0	
ALL SITES	Riverside Business Park II	Riverside Rd, Everett, WA, 98201	0.49/SW	11.0	
CSCSL	Weyerhaeuser Everett East	101 E MARINE VIEW DR, EVERETT, WA, 98201	0.66/WSW	48.0	
HSL	Weyerhaeuser Everett East	101 E MARINE VIEW DR, EVERETT, WA, 98201	0.66/WSW	48.0	
CSCSL	Everett Smelter	SR 529 & E MARINE VIEW DR, EVERETT, WA, 98201	0.67/WSW	49.0	
HSL	Everett Smelter	SR 529 & E MARINE VIEW DR, EVERETT, WA, 98201	0.67/WSW	49.0	
MRDS	NE EVERETT	SNOHOMISH COUNTY, EVERETT, WA, 98201	0.67/SE	-1.0	

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
CSCSL	Benson Property	501 E MARINE VIEW DR, EVERETT, WA, 98201	0.76/SW	35.0	
CSCSL	Weyerhaeuser Paper Co Everett	515 E MARINE VIEW DR, EVERETT, WA, 98201-1252	0.76/SW	38.0	
CSCSL	Weyerhaeuser Everett Mill E	515 E MARINE VIEW DR, EVERETT, WA, 98201	0.76/SW	38.0	
HSL	Weyerhaeuser Everett Mill E	515 E MARINE VIEW DR, EVERETT, WA, 98201	0.76/SW	38.0	
CSCSL	Legion Memorial Golf Course	144 W Marine View Dr, Everett, WA, 98201	0.82/WSW	126.0	
DELISTED SHWS	Everett Smelter Cleanup Site VOA	722 N BROADWAY, EVERETT, WA, 98201	0.99/SW	112.0	

Site

The Site is listed on the Resource Conservation and Recovery Act (RCRA) Non-Generator (NON GEN), Facility Index/Facility Registry Service (FINDS/FRS), ALL SITES, CERCLIS, CERCLIS NFRAP, Confirmed and Suspected Contaminated Sites List (CSCSL) No Further Action (NFA), Underground Storage Tanks (UST), ERNS, FTTS ADMIN, FTTS INSP, ICR, ICIS, SEMS ARCHIVE, VCP, Snohomish Solid Waste Facility (SNO SWF/LF), and SPILL databases.

Buse Timber & Sales, Inc. is listed in the RCRA NON GEN, FINDS/FRS, and ALL SITES databases as Environmental Protection Agency (EPA) Handler #WAD009480542. The Site does not presently generate hazardous waste. The Site has inactive litings for USTs, hazardous waste generator and cleanup, and active listings for an industrial stormwater general permit. As of October 2020, there are no Compliance Monitoring and Enforcement (violation) records associated with this Site.

According to the SNO SWF/LF, CERCLIS, CERCLIS NFRAP, CSCSL NFA, ICR, ICIS, SEMS ARCHIVE, FTTS ADMIN, FTTS INSP, and VCP databases, the Site was listed on the Superfund Database in 1989. A Preliminary Assessment (PA) was prepared in 1990; however, a copy of the PA was not available for review. In 1994, an inspection was conducted, and the Site was selected for archiving. On August 31, 1994, the Site was placed on the No Further Remedial Action Planned (NFRAP) list. The VCP listings for the Site date from 1992. Apex notes it was commonplace in the early 1990s for EPA to designate investigation/ remediation/closure of Superfund listings to state agencies (such as Ecology). Details of the investigation/ remediation/closure were not readily available. No Further Action (NFA) status was granted by Ecology on August 30, 1992. Based on the regulatory status, Apex considers this as a HREC.

According to the UST database, the Site formerly utilized three USTs which were installed circa 1964 and removed in 1996. The contents of the "East Tank" is not listed. The second tank is listed as "Dip Tank" with hazardous substances. The third tank is listed as "West Tank" and was formerly a gasoline tank. No releases or spills have been reported associated with these USTs. However, no tank removal documentation were available for review. Based on the approximate 30-year UST operating history, Apex considers the former USTs as a REC. Based on the use of hazardous substances such as Pentachlorophenol, the former dip tank is considered an REC.

ERNS incident #1101782 was reported for a sunken boom boat in Union Slough resulting in a discharge of diesel fuel on 11/23/2014. Sorbents booms were deployed and the vessel has been salvaged.

ERNS incident #697806 was reported for the elevated arsenic concentrations detected during the Terracon investigation in 2018.

Surrounding Properties

- The east adjacent property at I-5/NB Marine View Drive to SR 529 is identified on the ALL SITES database. The property has an active construction stormwater general permit beginning 4/21/ 2020. No releases or spills have been reported for the facility. Based on the regulatory status of the facility, Apex does not consider this listing to represent a REC.
- **South Parcel Fill** (28th Place SE), located at the west adjoining property, is identified on the FINDS/FRS and ALLSITE database. The facility is subject to stormwater regulations and sampling requirements under a stormwater permit from 2011 to 2015. No violations were reported at the facility. Based on the regulatory status of the facility, Apex does not consider this listing to represent a REC.
- **Henry Bacon BLDG Materials Inc.** (3200 35th NE), located at the northwest adjoining property, is identified on the ALLSITE and UST databases. The facility formerly utilized four USTs, which were installed circa 1964. Two USTs were removed and the other two USTs were closed in place in 1996. No releases or spills have been reported for the facility. Based on the regulatory status of the facility, Apex does not consider this listing to represent a REC.
- **Glacier Northwest Inc.** (2222 Ross Ave NE), located approximately 990 feet southwest of the Site, is identified on the ALLSITE, CSCSL NFA, ICR, LUST, RCRA NON GEN, VCP and UST databases. The facility had a leaking 10,000-gallon diesel UST, which was installed in 1987 and removed in 1996. Petroleum-related soil and groundwater contamination were confirmed present at the facility, The facility was enrolled in the voluntary cleanup program (VCP#5247) and

implement cleanup actions. No further action was issued for this facility in 2006. Based on the regulatory status of the facility and distance from the Site, Apex does not consider this listing to represent a REC.

- **Dagmars Marina** (1871 Ross Ave), located approximately 1,200 feet south/southwest of the Site, is identified on the SNO SWF/LF, ALLSITE, CSCSL, ICR, and SWF/LF databases. The facility is listed as a moderate risk waste facility under Solid Waste Facility Database. Metal impacted groundwater contamination was confirmed present at the facility since 2008 and the facility is currently awaiting cleanup. No additional information is available for review. Based on the down-gradient location with respect to the groundwater flow and distance from the Site, Apex does not consider this listing to represent a REC.

Orphan Facilities

- A total of 51 facilities that could not be mapped due to incomplete or incorrect address/geocoding information (orphan facilities) were listed in the database report. Multiple spills were reported at east adjacent Interstate-5 or nearby roads. The spill reports were reviewed and determined to be non-significant or resolved. The rest of these facilities were reviewed and determined not be within the vicinity of the Site. Additional RECs were not identified.

4.2 Environmental Liens and Activity and Use Limitations Search

Environmental liens and Activity and Use Limitations (AULs) can commonly be found within recorded land title records (e.g., County Recorder/Registry of Deeds). The types of title reports that may disclose environmental liens and AULs include Preliminary Title Reports, Title Commitments, Condition of Title, and Title Abstracts. Chain-of-title reports will not normally disclose environmental liens or AULs. Environmental liens and AULs that are imposed by judicial authorities may be recorded or filed in judicial records only.

Federal Institutional Controls (IC) and Engineering Controls (EC) registries are standard environmental record sources required by ASTM E1527-13 and were searched by Environmental Risk Information Services. The Site was not identified on either registry.

An environmental lien and AUL search was not conducted for this assessment.

5.0 PHYSICAL RECORDS REVIEW

SmartTable

PHYSICAL SETTING SOURCES		
Data Type	**Data Source**	**Comments**
Topography / Slope / Groundwater Flow	U.S. Geological Survey 7.5 and 15-minute topographic map	The Site is situated on generally flat terrain at a surface elevation of approximately 1 foot above mean sea level (amsl). The nearest body of water is the Union Slough located north and west adjacent to the Site. According to previous site investigations at the Site, the groundwater is at approximately 3-6 feet below ground surface (bgs) at the Site.
Presumed Groundwater Flow Direction		The groundwater gradient is expect to be flat and in connection with tidal cycles. Groundwater flow direction is undetermined.
Floodplain	Federal Emergency Management Agency, Flood Insurance Rate Map.	AE, A1-A30: Areas subject to inundation by the 1-percent-annual-chance flood event determined by detailed methods. Base Flow Elevations (BFEs) are shown within these zones. (Zone AE is used on new and revised maps in place of Zones A1–A30.)
Wetlands	Fish and Wildlife Service (FWS) National Wetlands Inventory. (fws.gov/wetlands/data/mapper.HTML)	According to the FWS National Wetlands Inventory Map, there is a wetland located at the southern portion of the Site. Union Slough is north of the site and the Snohomish River is located south of the site.

PHYSICAL SETTING SOURCES		
Data Type	**Data Source**	**Comments**
Soils	United States Department of Agriculture (USDA) – Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS) (websoilsurvey.nrcs.usda.gov/app/)	According to the WSS, the predominant soils at the Site consist of two types of soil as follows: • The central portion of the Site has soil type Urban land, where soil survey data is not available; and • The northern and southern portion of the Site has Puget silty clay loam, poorly drained and comprised of silty clay loam.
Geology	Geology of the Conterminous U.S.	The Site is underlain by the geologic unit Qa: Holocene aged alluvium. This unit has mostly unconsolidated silt, sand, and gravel valley fill with some clay; includes low-level terrace, marsh, peat, artificial fill, and glacial deposits locally.

6.0 HISTORICAL RECORDS REVIEW

Apex obtained historical sources from ERIS including aerial photographs (Appendix G), topographic maps (Appendix H), Sanborn® Fire Insurance maps (Appendix I), and city directories (Appendix J) for the Site and vicinity. Copies of these historical sources are provided in above-identified appendices.

6.1 Historical Records Review

Historical Records Review

Historical Resource	Years Reviewed
Aerial Photographs	1941, 1952, 1956, 1975, 1981, 1990, 2005, 2009, 2011, 2013, 2015, 2017, and 2019
Topographic Maps	1941, 1943, 1956, 1968, 1973, and 2017
Sanborn® Fire Insurance Maps	No coverage for the Site and adjacent properties.
City Directories	1980, 1990, 1995, 2000-2001, 2006, 2012, 2016, and 2020

6.2 Historical Use Summary

Historical Use Summary

Dates	Site	Surrounding Properties
1940s	The Site is agricultural land with two structures at the western portion of the Site near the western entrance road (28th Pl NE) in the 1941 aerial image and 1941/ 1943 topo map. A drainage ditch is depicted running northwest to southeast through the central portion of the Site.	The surrounding properties are primarily agricultural fields with Union Slough depicted north and west adjacent to the Site. Several structures are depicted to the west adjacent properties across Union Slough in the 1941 aerial image and 1941/1943 topo map.

Dates	Site	Surrounding Properties
1950s	Lumber activities are visible on the western portion of the site with several large structures and a log pond at the southwestern portion of the Site. The remaining portions are agricultural fields in the 1952 aerial image. The log pond is expanded to the eastin the 1956 aerial image and 1956 topo map.	No significant changes. More structures are developed west of the site. Several commercial structures are developed to the south of the site in the 1952 and 1956 aerial image.
1960s	The log pond and one large structure are gone and the general configuration of the current facility has been developed with office/industrial buildings to the central of the Site and a pond south of the sawmill building in the 1968 aerial image and topo map.	No significant changes. Interstate 5 is developed to the east in the 1968 aerial image.
1970s	No significant changes.	No significant changes to the north, south or east. Commercial development to current configuration is visible at the northwest property. The southwest property is cleared for future development in the 1973 topo map and 1975 aerial image.
1980s	The pond area south of the sawmill building has been redeveloped with a small pond and storage area. 3812 28th Place Northeast: Buse Timber and Sales (1980) 3815 28th Place Northeast: Barbara Buse (1980)	No significant changes to the north, west or east. The south property is under development for boat storage lot in the 1981 aerial image. 3811 28th Place Northeast: Jon Buse and Forest Land Service (1980)

Dates	Site	Surrounding Properties
1990s	The former dip tank has been removed and current dip tank building has been developed south of the main office building in the 1990 aerial image. 3812 28th Place Northeast: Buse Timber and Sales (1990 and 1995)	No significant changes. 3807 28th Place Northeast: Ron Luellen (1990 and 1995) 1871 Ross Avenue: Custom Canvas, Dagmars Marina and Hawleys Boats &Motor (1990); Dagmars Marine, Hawleys Boats &Motor and Signal Trailer (1995) 2005 Ross Avenue: Carles Helmick (1990); Ron Kondrasuk (1995)
2000s	The small pond south of the sawmill building is gone and replaced with several buildings to current configuration in the 2005 and 2009 aerial image. 3812 28th Place Northeast: Buse Timber and Sales (2000-2001), Buse Timber and Sales Inc. and West Coast Lumber Inspection Bureau (2006)	No significant changes except for the southwest properties have been developed with commercial/industrial business to current configuration in the 2005 and 2009 aerial image. 1871 Ross Avenue: Boat Country, Dagmars Marina, and Signal Trailer (2000-2001); Boat Country and Dagmars Marina (2006)
2010s	Two residential structures at the northwestern portion of the Site have been demolished in the 2011 aerial image. No significant changes in the 2013, 2015, 2017 and 2019 aerial images. 3812 28th Place Northeast: Buse Timber and Sales Inc. (2012 and 2016)	No significant changes. 1871 Ross Avenue: Boat Country, Dagmars Marina, Signal Trailer, and North West Products Unlimited (2012); Boat Country, Dagmars Marina, Signal Trailer, and K E Enterprise Inc. (2016) 2111 Ross Avenue: Granite Construction Company and Wilder Construction (2012); Granite Construction Company (2016)

Dates	Site	Surrounding Properties
2020s	No significant changes. 3812 28th Place Northeast: Buse Timber and Sales Inc. (2020)	No significant changes. 1870 Ross Avenue: Boat Country (2020) 1871 Ross Avenue: Boat Country, Dagmars Marina, and Signal Trailer (2020) 2111 Ross Avenue: Granite Construction Company (2020)

In summary, the Site was originally used for agricultural uses prior to the early 1940s. The lumber mill originally operated on the western portion of the site until the late 1960s. By 1968 the mill was developed to it's current configuration. The Two residential structures were demolished in 2011. No significant changes to the Site were noted since 2011. Surrounding properties have been developed as agriculture fields beginning in at least 1941. Major commercial or industrial development occurred between the 1970s to 2000s at the northwest and south surrounding properties.

Agricultural activities can result in environmental impacts as a result of the application of pesticides and herbicides and sometimes involve storage of significant quantities of hazardous materials on-site as well as the maintenance, repair, and operation of farm equipment. No direct evidence of these activities was identified at the Site and there is no indication that the agricultural support structures were used for the chemical storage or mixing areas; however, it would be unusual if pesticides and herbicides have not been applied at the Site based on the historic agricultural use. Such applications are permissible under applicable regulations, but can result in a build-up of contaminants over time. Development of the Site likely resulted in redistribution of remaining near-surface soils, minimizing the potential for hot spots of contamination to remain. In the absence of evidence of a significant release of agricultural chemicals, Apex does not consider the historical agricultural use of the Site a REC.

Per ASTM E1527-13, review of standard historical sources at less than approximately five-year intervals are not required by this practice. If the specific use of the property appears unchanged over a period longer than five-years, then it is not required to research the use during that period. Data gaps of greater than five years were identified as: pre-1941, 1943-1952, 1956-1968, and 1981-1990. None of these data gaps are considered significant.

7.0 REGULATORY AGENCY FILE AND RECORDS REVIEW

Per ASTM E1527-13, if the Site or any of the adjoining properties are identified on one or more of the standard environmental record sources, pertinent regulatory files, and/or records associated with the listing should be reviewed in order to obtain sufficient information to assist in determining if a REC, CREC, or HREC exists in connection with the Site . If, in the Environmental Professional's opinion, such a review is not warranted, then the justification for not conducting the regulatory file review must be provided. As an alternative, information from other sources (for example, online regulatory databases, on-site records, User provided records, records from local government agencies, interviews with regulatory officials, or interviews with other individuals knowledgeable about the Site) may be reviewed. Copies of the regulatory file review documents are included in **Appendix K**.

Apex contacted the following agencies:

Agency	Summary
EPA	Apex search the Site in EPA website (https://enviro.epa.gov/facts/myproperty/), no records were found for the Site.
Department of Ecology (Ecology) Public Record Online Request	According to the files provided by Ecology, the Site is a cleanup site (ID: 4340) with a No Further Action received in August 30, 1992. UST ID: 11428 was formerly located onsite and was removed and backfilled prior to 1993. No tank closure documentation were available for review. Environmental Report Tracking System (ERTS) Incident No. 653218 relates to a November 2014 sunken boom boat Union Slough causing a discharge of diesel fuel of less than 1 gallon. The boat was removed from the water and sheens were collected with adsorbent booms. An ERTS incident (No. 697806) was reported based on the detected concentrations of arsenic in soil and groundwater at the Site during the 2018 Terracon limited Phase II ESA for an apparent release from routine operations of the facility to the environment (soil and groundwater) at the Site in 2020. According to the information provided by Ecology, a limited Site investigation was performed in 2018 by Terracon, the results indicate that arsenic was above the cleanup levels in the soil and groundwater at the Site. Terracon reported this apparent release to Ecology in a letter dated April 21, 2020. No cleanup actions have been performed or are planned.
City of Everett Fire Department Public Record Online Request	Records of past fire department inspections are provided in **Section 3.0**.

Agency	Summary
Snohomish County Public Record Online Request	Apex has not received a response from this agency. Should a response that significantly alters the findings of this report be received after the finalization of this report, Apex will notify the User.

8.0 INTERVIEWS

Apex performed an interview with individuals knowledgeable about the Site and adjoining property use, as listed below.

Interviews		
Title	**Name**	**Comments**
Owner	Tom Parks	According to Mr. Tom Parks, the president of the Buse Timber & Sales Inc., the Site had been in operation as a lumber saw mill since at least 1947 and underwent a significant expansion in 1965. Mr. Parks was interviewed and provided the following information: • Reports by Exponent and the recent Phase II by Terracon for information regarding contamination sources at the site. • USTs are not presently on site. A former UST system existed north of the main office and mill area. • Inorganic wood preservatives are currently used for wood brightening and end-grain sealing. Pentachlorophenol or similar preservatives are not in use at the site. • There are no cleanup actions underway at the site. • At the south end of the site, oil-water separator sludges are mixed with sawdust and sold for used as hog fuel. Air photos show this waste mixing system to be in place since at least 2011. Mr. Parks described the recent release report resulting from the Terracon Phase I ESA, and the consent decree's with for water quality and PCB management violations.

9.0 SITE RECONNAISSANCE

9.1 Site Reconnaissance Observations

Apex representatives Jie Xu and John Foxwell inspected the Site on June 17, 2021. Weather conditions at the time of the reconnaissance were Clear and approximately 78 Fahrenheit with no weather-related limitations on Site observations. Apex was accompanied by Tom Parks, site representative, during the site reconnaissance. The site reconnaissance consisted of a walk-through of the Site. Representative photographs are provided in the **Appendix B**.

SITE RECONNAISSANCE SUMMARY		
Observation	**Observed**	**Comments**
Aboveground Storage Tanks (ASTs)	Yes	Apex observed multiple ASTs on the Site as follows: -Three ASTs (one 10,000-gallon diesel, one 2,000-gallon diesel and one 1,000-gallon gasoline) near the northwest entrance; -Three 500-gallon ASTs (one motor oil, one hydraulic oil and one waste oil) near the vehicle maintenance building; - One 2,000-gallon and three 275-gallon lube oil ASTs inside the Lube building; and - One 2,000-gallon diesel AST near vehicle washdown area. All ASTs are double-walled with of secondary containment. Evidence of staining or release on or within the vicinity of the ASTs were not observed. A dip tank is located in the dip tank building at the central portion of the Site. The dip tank is used for coating lumber with a water-based anti-stain solution. The dip tank is surrounded with concrete secondary containment. A sump pump pumps the solution back into the tank and the drip pan that the lumber dries over which also drains back into the tank. The solution is located in an adjacent shed with concrete secondary containment.
Underground Storage Tanks (USTs)	No	
Drums or Other Containers	Yes	Apex observed numerous petroleum containing 55-gallon drums throughout the Site. Evidence of staining or release associated with the drums were not observed.

SITE RECONNAISSANCE SUMMARY		
Observation	**Observed**	**Comments**
Leaks, Spills, Or Releases Around AST's, UST's, and/ or Chemical Storage	No	
Stained or Corroded Floors, Walls, or Drains	No	
Hydraulic Equipment	Yes	Heavy equipment and forklifts with hydraulics are used throughout the site. Hydraulic equipment is also present in the mill.
Transformers	Yes	Apex observed several pad-mounted transformers south of the onsite Saw Mill building and pole-mounted transformers north of the onsite Lube building. The pad mounted transformers are reportedly owned by Snohomish County PUD (SPUD). The pole mounted transformers are owned by Buse. Labels indicating PCB content were not noted, however other information in the file indicates the transformers do not contain concentrations of PCBs above 5 mg/kg. The transformers were observed to be in good condition. Staining was not observed in the vicinity of the transformers. According to EPA, polychlorinated biphenyls (PCBs) were used in electrical transformers manufactured between 1929 and 1977, with the majority being installed in residential and commercial buildings and industrial facilities prior to 1978. A “PCB transformer” is a transformer that is known, or assumed under the Toxic Substances Control Act (TSCA), to contain PCBs at concentrations greater than 500 parts per million (ppm). “PCB-Contaminated Transformers” known, or assumed under TSCA, to contain between 50 and 499 ppm PCBs are also subject to EPA regulations.
Uncontained Debris, Refuse, or Unidentified Waste Materials	No	
Standing Water or Other Liquids	No	

SITE RECONNAISSANCE SUMMARY		
Observation	**Observed**	**Comments**
Catch Basins and Storm Water Drainage	Yes	Based on Site observations, storm water is directed via sheet flow into the catch basins located throughout the Site. Catch basins were connected to onsite oil/water separators and discharged to a single point stormwater outfall on the northern portion of the Site, which discharges to a bioswale and then discharges to the Union Slough through a tide gate at the northernmost point of the Site.
Pits, Ponds, or Lagoons	No	
Fill Material	No	
Hazardous Material	Yes	Apex observed multiple petroleum products on the Site during the assessment.
Waste Disposal Areas	Yes	Apex observed several solid waste dumpsters throughout the Site during the site assessment. Staining, noxious odors or hazardous waste disposal was not observed within or in the vicinity of the waste dumpster.
Polychlorinated Biphenyls (PCBs)	No	
Floor Drains or Sumps	Yes	There were curb drains observed along the surrounding roadways, as well as culverts located on the Subject Property. The drains and culverts appeared to be in good condition during the site reconnaissance, and no evidence of spills or releases associated with these drains was observed.
Wastewater and Septic Systems	Yes	According to Mr. Parks, two septic tanks are associated with the Site. One is located north of the main office building and blocked up separately from the OWS. The other one for the restrooms is located in the grassy area west of the sawmill. Both are clearly marked and blocked off from traffic with a yellow painted metal frame.
Wells	No	

SITE RECONNAISSANCE SUMMARY		
Observation	**Observed**	**Comments**
Other Physical Evidence of Contamination	Yes	Apex observed the "mixing donut" where sawdust is used to form the donut, and oil-water separator sludges are mixed with wood waste and sold as hog fuel. This area is located at the southern portion of the Site. Sheens and staining were not observed.

Based on the site reconnaissance, Apex identified an REC related to the waste mixing operations observed at the site.

10.0 FINDINGS AND CONCLUSIONS

Apex performed a Phase I ESA of the Buse Timber & Sales, Inc. property, located at 3812 28th Place Northeast in Everett, Snohomish County, Washington (Site). This project was performed in accordance with Apex Proposal No. 5461644158 dated June 5, 2021. SPE and IOS JV Holdings, LLC retained Apex to complete the Phase I ESA on their behalf as well as Morgan Stanley Bank all of whom may rely on this Phase I ESA as indicted in **Section 1.6** of this report. The scope of services was to perform a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-13, the USEPAs Standards and Practices for AAI; 40 CFR, Part 312; additional terms and conditions required by Apex's agreement with SPE and IOS JV Holdings, LLC; and, several non-scope considerations beyond ASTM E1527-13, which are discussed in **Section 12.0**.

The Site consists of two parcels of land (Parcel No. 29050400300600 and 29050900201500) comprising approximately 60.48 acres and is owned by Tom Parks. The Site is currently operated as a sawmill facility and a log yard by Buse Timber & Sales Inc.. It is currently developed with 11 buildings consisting of office, storage sheds, and associated lumber use buildings. Log storage is located on the southern end of the property and processing activities and lumber storage are in the middle of the property. The north end of the property is unpaved and undeveloped. There is a drainage ditch encircling the Site that discharges any collected water to Union Slough through a tide gate at the north end of the Site. Surrounding properties generally consist of commercial or industrial properties.

In summary, the Site was originally used for agricultural purposes prior to at least 1943. The Site has operated as a lumber mill by Buse Timber & Sales Inc. since the mid 1940s, and underwent a significant expansion around 1968. Historically, the Site has operated in two configurations since the 1960s. The mill initially operated in the west part of the Site and included a large log pond and fire pond that was filled in late 1960s. The Site is has been operating within the current layout since the late 1960s. Surrounding properties were initially used for agricultural purposes since at least 1941. Commercial and industrial development occurred between the 1970 and 2000.

The Findings and Conclusions of our Phase I ESA are summarized below. Please refer to the entire report and appropriate Report Section for additional details regarding our findings.

We have performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-13 of the Buse Timber & Sales, Inc. located in Everett, Washington. Any exceptions to, or deletions from, this practice are described in Section 1.0. This assessment has revealed no evidence of RECs, HRECs, CRECs, BERs, or de minimis conditions in connection with the Site with the exception of the following:

Type of Concern	Finding
Recognized Environmental Condition (REC)	Apex identified the following RECs associated with the Site: • Multiple site assessments have been completed at the Site by Washington Department of Ecology, URS (For USEPA), URS (for Washington Department of Ecology), Exponent and Terracon. According to the findings, chemical of concerns including pentachlorophenol (PCP), polychlorinated biphenyls (PCB), metals, total petroleum hydrocarbon (TPH), dioxins and furans have been detected in soil, as well as in nearby drainages at the Site. • According to the underground storage tank (UST) database, the Site formerly utilized three USTs. One of the USTs listed is the former dip tank, which is exempt. The contents of the "East Tank" were not listed. The "West Tank" was reportedly a former a gasoline UST. These USTs were reportedly installed circa 1964 and removed in 1996. No releases or spills have been reported associated with these USTs. However, no tank removal documentation were available for review. • An ERTS incident (No. 697806) was reported based on the detected concentrations of arsenic in soil and groundwater at the Site during the 2018 Terracon limited Phase II ESA. • Terracon reported this apparent release to Ecology in a letter dated April 21, 2020. No cleanup actions have been performed or are planned related to this apparent release at the time of reporting. Based on the site assessment results. • Apex observed an area used to mix oil-water separator sludges with wood waste and to be sold for hog fuel[2]. This area is located at the southern portion of the Site. If these contaminated sludges were to contain PCBs, PCP, or dioxins, combustion of these materials will release these chemicals and byproducts to the atmosphere.
Controlled Recognized Environmental Conditions (CREC)	Apex did not identify CRECs associated with the Site.

2. "Hog fuel" is an unrefined mix of coarse chips of bark and wood fiber. Hog fuel is any type of wood byproduct or waste that can be burned for fuel but cannot be categorized as chips, shavings, bark, or sawdust.

Type of Concern	Finding
Historical Recognized Environmental Conditions (HREC)	Apex identified the following HRECs associated with the Site. • Washington Department of Ecology (Ecology) completed a Preliminary Assessment in 1990 for the Buse Mill site. Elevated concentrations of PCP and tetrachlorophenol were detected in drainage sediment samples near the former dip tank. Samples were not analyzed for dioxins. The PA concluded that there were no significant threats to human health and the environment. However it did recommend sampling of the drainages and ranking under Ecology's Washington Ranking Method guidelines. Follow-up sampling was completed in site drainages and PCP or TCP were not detected. No Further Action (NFA) status was granted by Ecology on August 30, 1992 through their site screening program. Based on the regulatory status, Apex considers this as a HREC. • USEPA completed a Site Inspection in 1994 to assess whether significant threats were present to human health and the environment and whether a the site should be included on the National Priorities List. While concentrations of PCP, PCBs, and 2-phenylphenol were detected in drainage sediments, the Site was placed on the No Further Remedial Action Planned (NFRAP) list in 1994. • A 1990 Consent Decree was enacted in response to a TSCA inspection for oil filled equipment with PCBs. Buse removed seven transformers as part of this consent decree and paid a fine. • A 2015 Consent Decree was enacted in response to Clean Water Act Violations. Consent Decree requirements included requirements for complying with the NPDES stormwater permit, update the site SWPPP, improve operations practices at the log float beach (including removal of woody debris), and other practices related to stormwater management.
De Minimis Conditions	Apex did not identify de minimis conditions associated with the Site.
Business Environmental Risk (BER)	Apex did not identify BERs associated with the Site.
Non-ASTM Considerations	Non-ASTM considerations were included in this assessment's scope of services (see **Section 12**).

10.1 Vapor Migration

In general, USEPA does not regulate indoor air quality except to the extent that indoor air impacts are caused by releases of hazardous substances into subsurface soil or groundwater (vapor intrusion). ASTM E1527-13 defines “migrate” and “migration” as referring to the movement of hazardous substances or petroleum products in any form, including solid and liquid at the surface or subsurface, and vapor in the subsurface. Vapor migration in the subsurface is described in Guide E2600 – Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transaction; however, nothing in ASTM E1527-13 should be construed to require application of the Guide E2600 standard to achieve compliance with all appropriate inquiries.

Subject to the above limitations, as part of Apex’s evaluation of the property for the presence of RECs, the potential presence of hazardous substances or petroleum products in any form, including soil vapor, was evaluated. Based on all resources evaluated as part of this ESA, a vapor intrusion concern was not identified.

10.2 Data Gaps

The ASTM Standard requires that the report identify the following: 1) *obvious* uses of the Site since 1940 or first development, whichever is *earlier;* and 2) significant “data gaps” which affect the ability of the Environmental Professional to identify RECs. A data gap by itself is not inherently significant. The report is also to include information on the sources consulted to address the data gaps.

Available historical information enabled Apex to identify the first developed use of the property. Data gaps of greater than five years were identified as: pre-1941, 1943-1952, 1956-1968, and 1981-1990. None of these data gaps are considered significant.

Apex did not receive responses to all regulatory agency FOIA requests; however, based on information from other available sources, the absence of FOIA responses is not considered to pose a significant data gap.

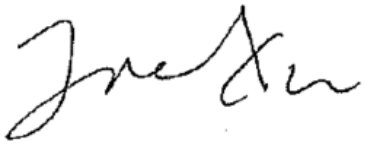
11.0 ENVIRONMENTAL PROFESSIONALS

11.1 Environmental Professional Statement

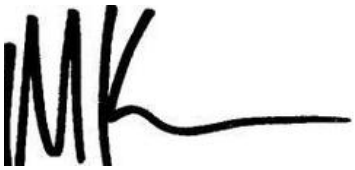
I, John Foxwell, declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in § 312.10 of 40 CFR Part 312, and I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Site. I have developed and performed All Appropriate Inquiries in conformance with the standards and practices set forth in 40 CFR Part 312. Any questions regarding the findings of this report should be directed to Matthew Otto, motto@apexcos.com, (224) 387-6008.

John Foxwell
Environmental Professional
Senior Reviewer

11.2 Signatures



Jie Xu
Project Manager



Matthew K. Otto
National Program Manager

11.3 Qualifications of Apex Professionals

Qualifications for Apex personnel responsible for the completion of this report are included in **Appendix L**.

12.0 NON-ASTM CONSIDERATIONS

An evaluation of the following "Non-ASTM" issues was included in the scope of services for this assessment:

12.1 Lead Based Paint (LBP)

Lead-based paint was common prior to its ban on December 31, 1978. Lead-based paint is defined by the Environmental Protection Agency (EPA) as paint with lead levels greater than or equal to 1.0 milligram per square centimeter (mg/cm^2), or more than 0.5% by weight.

The evaluation of lead paint is excluded from ASTM E1527-13, and sampling for lead paint was not part of the scope of work for this Phase I ESA. Based on the date of construction of the improvements (1960s), it is likely that lead-based paint was used in construction. Sampling was not part of the scope of work for this Phase I ESA.

12.2 Asbestos Containing Materials (ACM)

Based upon readily available information from the EPA regarding asbestos in building materials (e.g., drywall and joint compound, floor tiles, fireproofing, etc.) have been known to contain asbestos which may pose a health hazard to employees. Although legislation was passed in 1970s to limit use of asbestos containing building materials, asbestos use has not been banned in the United Stated. Property owners are advised to conduct a thorough asbestos survey prior to renovation and/or demolition activities which may disturb such materials.

Based on the reported date of construction of the on-site improvements (1960s), it is likely that ACM was used in construction. Sampling for ACM was not part of the scope of work for this Phase I ESA.

12.3 Visual Mold

During the reconnaissance, Apex visually evaluated building materials in numerous locations for indications of water damage or evidence of suspect mold growth. The evaluation included visual inspection of common areas, ceiling spaces, and restrooms that are accessible throughout the Site. No evidence of suspect mold growth or water damaged building materials or elevated moisture meter readings were noted throughout the Phase I ESA. Additionally, no moisture intrusion issues were reported by Site staff.

12.4 Radon

Radon is a naturally occurring colorless, odorless gas that is a by-product of the decay of radioactive materials potentially present in bedrock and soil. The EPA guidance action level for annual residential exposure to radon is 4.0 picoCuries per liter of air (pCi/L). The guidance action level is not a regulatory requirement, but is commonly used for comparison purposes to suggest whether further action at a building may be prudent.

Everett, Washington is located in Snohomish County and is identified as a Radon Zone 3 by the EPA. Zone 3 counties have a predicted average indoor radon screening levels of less than 2 pCi/L. Based on the low levels of radon concentrations reported in the vicinity of the Site, radon would not be expected to accumulate in the Site structure.

12.5 Lead in Drinking Water

The City of Everett municipal system supplies the area with drinking water. Apex reviewed the City of Everett's Annual Water Quality Report for 2016. According to the available information, the primary drinking water supply comes form Spaka Lake Reservoir, located about 30 miles east of Everett a the headwaters of the Sultan River. The drinking water provided by the City of Everett meets or exceeds all federal drinking water requirements and no violations associated with lead in drinking water were identified.

12.6 Wetlands

Based on wetlands data obtained online from the USFWS Wetlands Mapper website, there are wetlands located at the north end and south end of the Site. According to the FEMA Flood Map Service Center (https://msc.fema.gov/portal/home), the Site is located at a special flood hazard area.

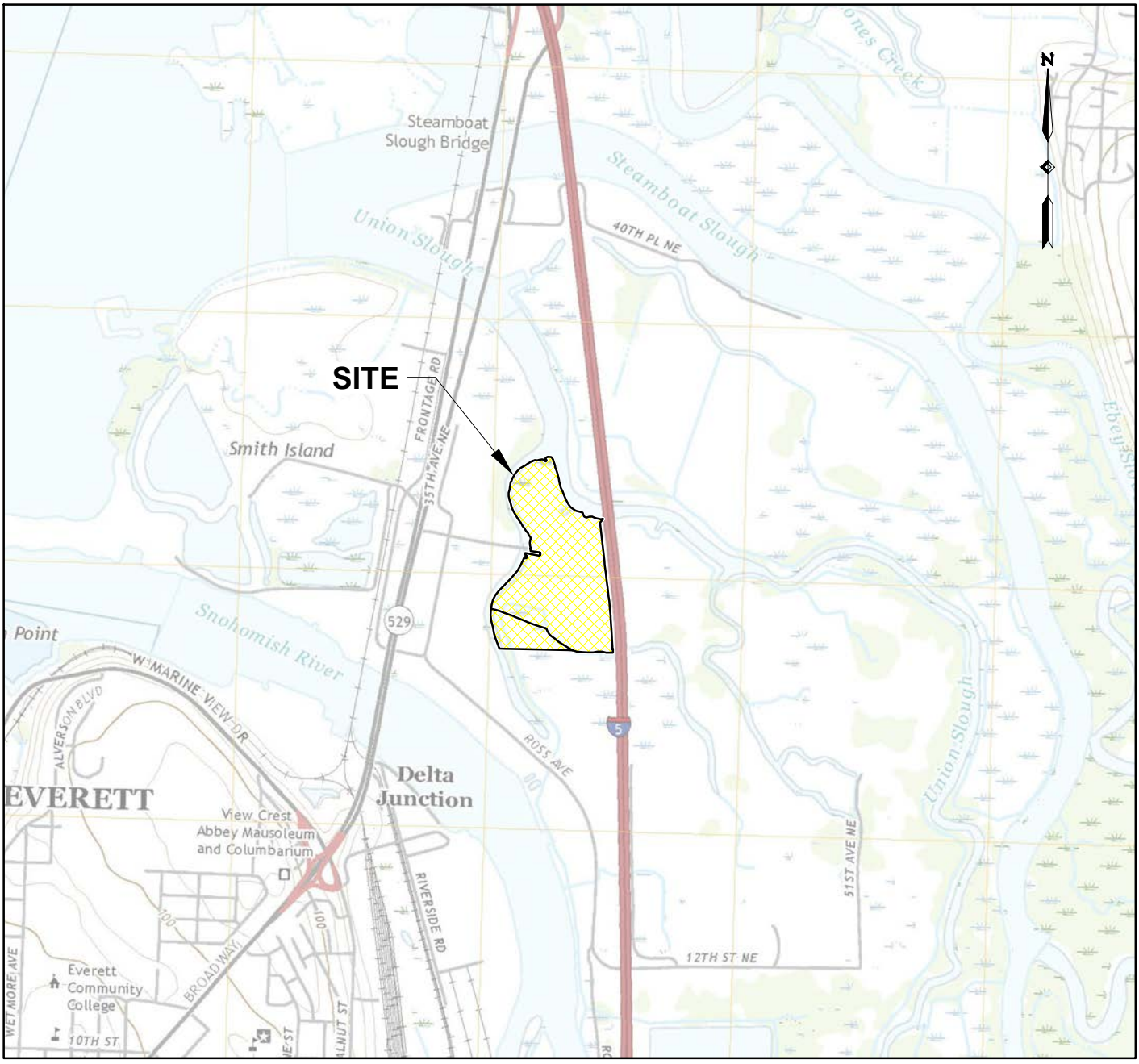
12.7 Endangered Species

Apex reviewed the USFWS endangered species database online (www.fws.gov) to determine the potential presence of federal and state endangered species located within Snohomish County, Washington. The database identified one (1) state endangered species, nine (9) state threatened species, two (2) state proposed threatened species, one (1) state recovery species and one (1) state candidate species. The identification of these species does not necessarily indicate their presence on the Site, only that they can possibly be found on the Site. The USFWS can be solicited by written request to perform a more detailed property-specific database search regarding the potential for Site disturbance to impact threatened or endangered species.

12.8 Historic Places

Apex reviewed the National Register of Historic Places database online for listings in Snohomish County, Washington(www.nationalregisterofhistoricplaces.com). Based on the available information, no properties were identified on or adjacent to the Site.

Figure 1: Site Location Map



Marysville, Washington
United States Geological Survey
7.5 Minute Series Topographic Map
Contour Interval: 20 feet
Scale: 1 inch = 24,000 feet
Date: 2020

0 2,000 4,000
Scale in Feet

WASHINGTON

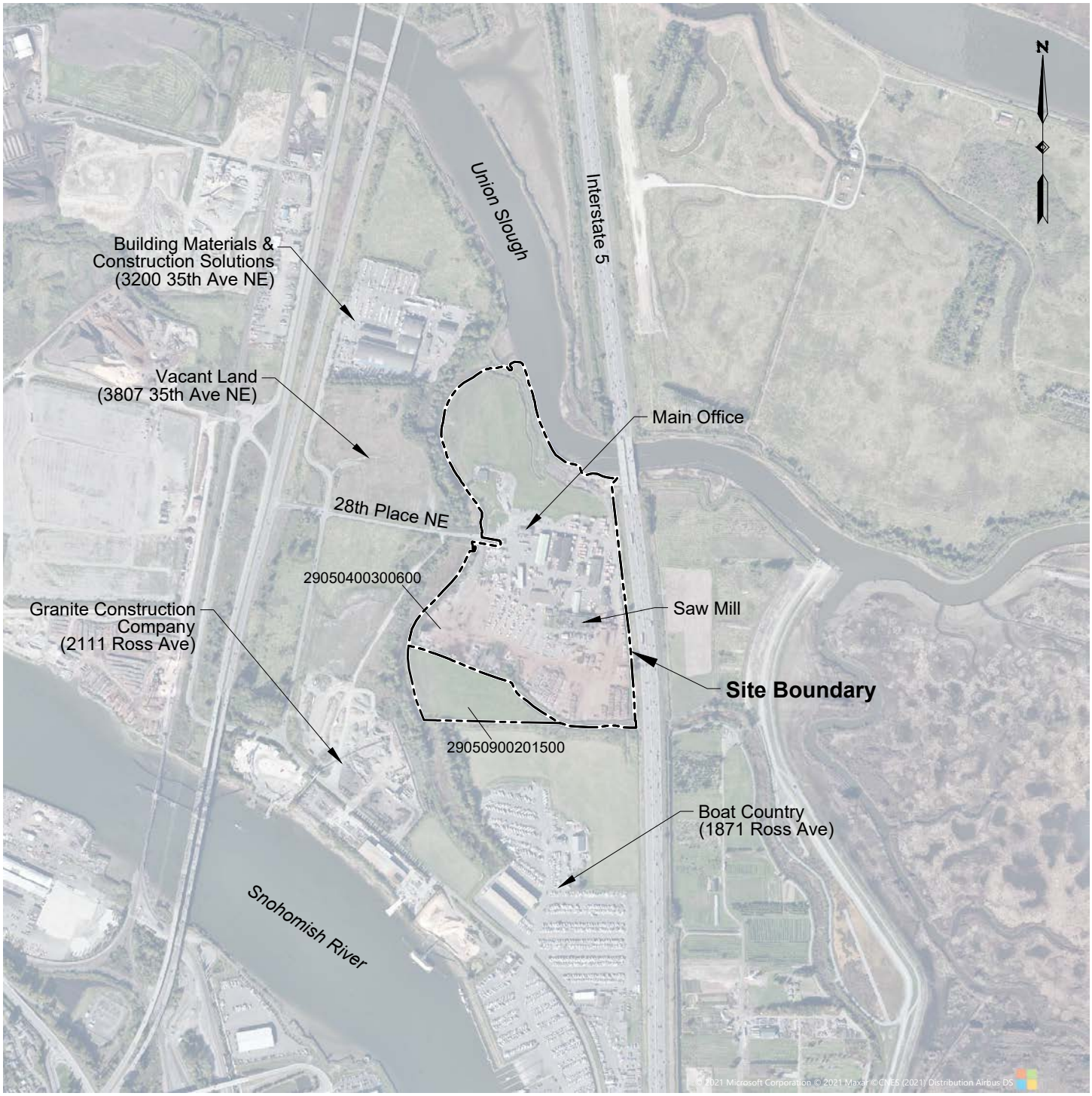
Site Location Map

Buse Timber & Sales
3812 28th Place NE
Everett, Washington

Apex Companies, LLC
600 Stewart Street, #400
Seattle, Washington 98101

Project Number:	Drawn:	Approved:	Figure
ALTERRA	JP	JX	1
June 2021			

Figure 2: Site Plan



NOTE: Base map prepared from Microsoft Bing imagery (2021).
Parcel information from Snohomish County
(ftp://ftp.snoco.org/assessor/shapefiles/)

0 1,000 2,000

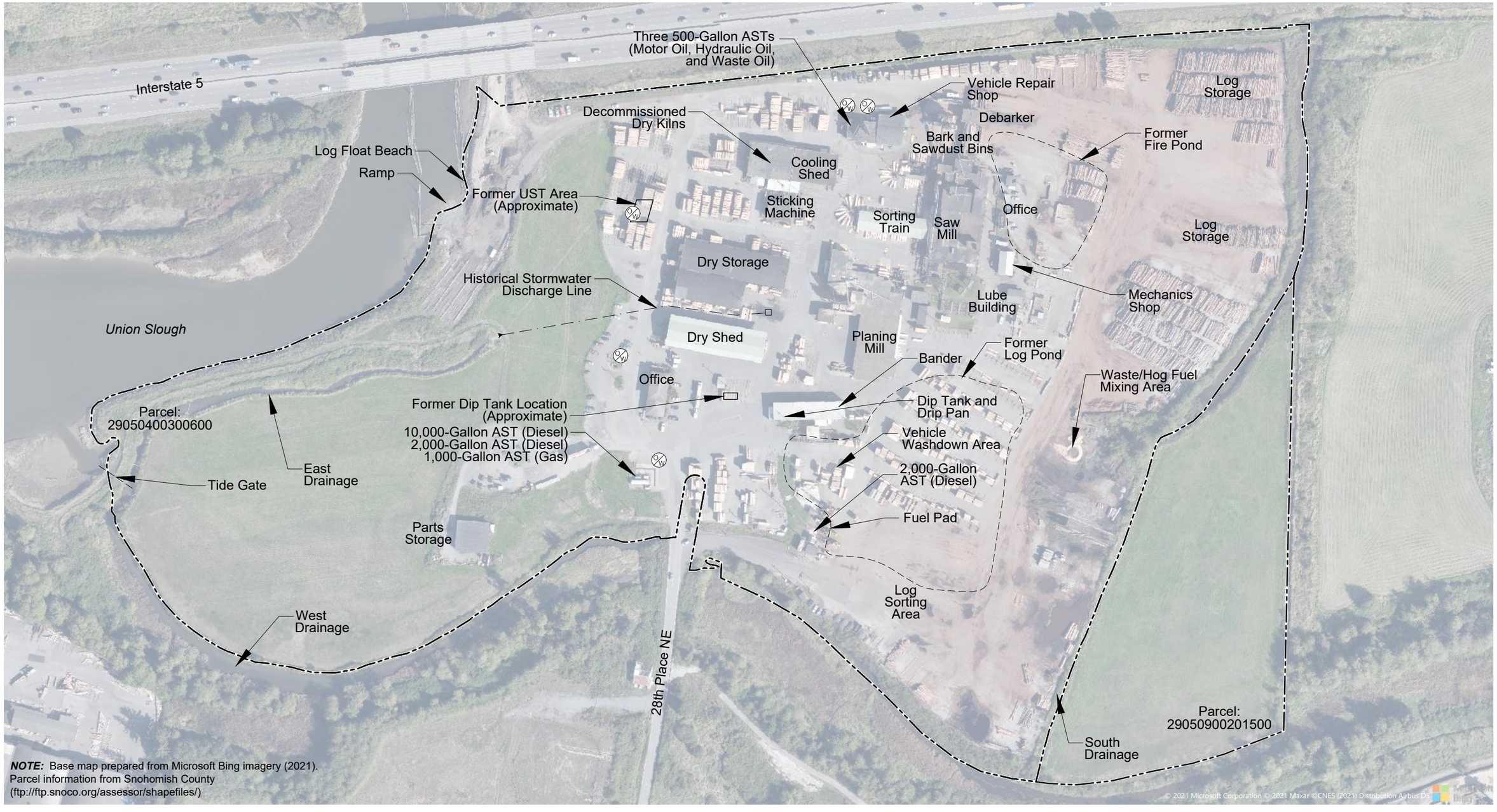
Scale in Feet

Site Vicinity Map

Buse Timber & Sales
3812 28th Place NE
Everett, Washington

Apex Companies, LLC 600 Stewart Street, #400 Seattle, Washington 98101	Project Number: ALTERRA-064	Drawn: JP	Approved: JX	Figure **2**
	August 2021			

Figure 3: Site Layout



Legend:

O/W Oil/Water Separator

N

0 200 400

Scale in Feet

Site Plan

Buse Timber & Sales
3812 28th Place NE
Everett, Washington

APEX Apex Companies, LLC 3015 SW First Avenue Portland, Oregon 97201	Project Number: ALTERRA-064	Drawn: JP	Approved: JX	Figure 3
	September 2021			

Appendix B: Site Photographs

Site Photographs - 06/18/2021
Apex Companies, LLC ,

Photograph: 1 Description: Three ASTs at the east entrance to the Site.	
Photograph: 2 Description: Looking north at the undeveloped field at the northern portion of the Site.	
Photograph: 3 Description: Looking north, area leased by Swanson bark, a parts storage building is at the northwest corner of this area.	

Site Photographs - 06/18/2021
Apex Companies, LLC ,

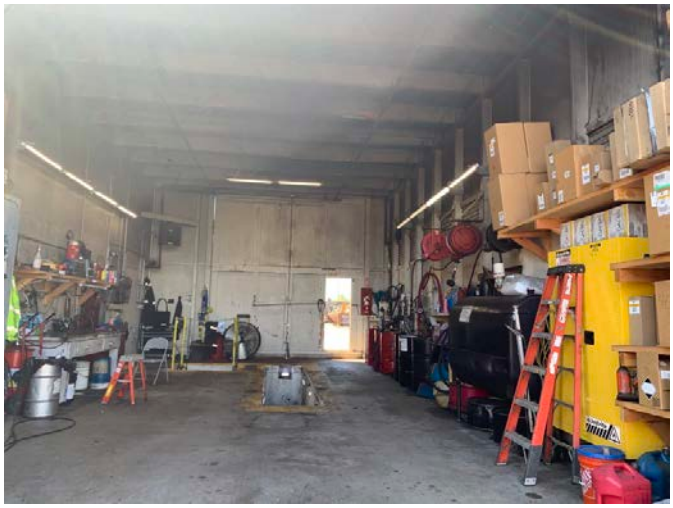
Photograph: 4 Description: Looking northwest at the part storage building.	
Photograph: 5 Description: Spare parts and multiples oil containers observed inside the bustling, no floor drain observed in the building.	
Photograph: 6 Description: Looking south at the north parking area, followed by office building and dry storage buildings.	

Photograph: 7 Description: Typical oil/water separator observed north of the office building.	
Photograph: 8 Description: Looking north at the northeast adjacent Union Slough.	
Photograph: 9 Description: Drainage ditch observed at the northeast portion of the Site.	

Photograph: 10 Description: Typical catch basins observed onsite.	
Photograph: 11 Description: Decommissioned dry kilns building, currently not in use.	
Photograph: 12 Description: Drums observed in the decommissioned dry kilns, most are empty, two full drums of petroleum products.	

Photograph: 13 Description: Former boiler for the former dry kilns, currently not in use.	
Photograph: 14 Description: ASTs at the north end of the vehicle maintenance building.	
Photograph: 15 Description: Waste oil storage area at the north end of the vehicle Maintainence building.	

Photograph: Description:	16 Overview of the vehicle maintenance area, no floor drain observed in this area.



Photograph: Description:	17 Multiple oil containers observed in the vehicle Maintanence building.

Photograph: Description:	18 Part washer observed in the vehicle maintenance building.

Site Photographs - 06/18/2021
Apex Companies, LLC ,

Photograph: 19 Description: Looking north at the saw mill.	
Photograph: 20 Description: Looking south at the southern log storage area.	
Photograph: 21 Description: Pad mounted transfers area.	

Site Photographs - 06/18/2021
Apex Companies, LLC ,

Photograph: Description:	22 Pole mounted transformers area near the saw mill building.

Photograph: Description:	23 Drums storage near the Lube building.

Photograph: Description:	24 AST observed inside the lube building.

Photograph: 25 Description: ASTs inside the lube building.	
Photograph: 26 Description: Transformer observed inside the saw mill building.	
Photograph: 27 Description: Vehicle washdown area at the southwestern portion of the Site.	

Site Photographs - 06/18/2021
Apex Companies, LLC ,

Photograph: 28 Description: AST observed near the washdown area.	
Photograph: 29 Description: South vehicle drive way and southern log storage area.	
Photograph: 30 Description: Donut area.	

Photograph: 31
Description: Antibacterial chemicals storage at the dip tank building.

Photograph: 32
Description: Current dip tank area.

Photograph: 33
Description: Chemicals for dip tank.

Appendix C: User Questionnaire and Title and Environmental Lien Searches

None Provided

Appendix D: Prior Reports

SCREENING SITE INSPECTION REPORT
FOR
BUSE TIMBER & SALES
EVERETT, WASHINGTON

CERCLIS NO. WAD009480542

Prepared for:

Work Assignment No. 54-17-0JZZ
Contract No. 68-W9-0054
United States Environmental Protection Agency
Region 10 ARCS
1200 Sixth Avenue
Seattle, Washington 98101

Prepared by:

URS Consultants, Inc.
1100 Olive Way, Suite 200
Seattle, Washington 98101

August 19, 1994

URS DOC 62760.17.20.654.27.b1

CONTENTS

CONTENTS (Continued)

FIGURES

TABLES

ABBREVIATIONS AND ACRONYMS

ARCS	Alternative Remedial Contract Strategy
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CFR	Code of Federal Regulations
CLP	Contract Laboratory Program
CRDL	contract-required detection limit (inorganics)
CRQL	contract-required quantitation limit (organics)
EPA	United States Environmental Protection Agency
HRS	Hazard Ranking System
IATA	International Air Transport Association
IDW	investigation-derived waste
NEIC	National Enforcement Investigations Center
NPL	National Priorities List
PA	preliminary assessment
PCB	polychlorinated biphenyl
PCP	pentachlorophenol
QMP	Quality Management Plan
RAS	routine analytical service
RSCC	Regional Sample Coordination Center
SARA	Superfund Amendments and Reauthorization Act of 1986
SAS	special analytical services
SDL	sample detection limit
SI	site inspection
SM	site manager (URS)
SQL	sample quantitation limit
SV	semivolatile
SVOC	semivolatile organic compound
TCP	tetrachlorophenol
TSCA	Toxic Substance Control Act
TSOP	technical standard operating procedures
URS	URS Consultants, Inc.

1.0 INTRODUCTION

Pursuant to United States Environmental Protection Agency (EPA) Contract No. 68-W9-0054 and Work Assignment No. 54-17-0JZZ, URS Consultants, Inc., (URS) conducted a site inspection (SI) of Buse Timber & Sales located at 3812 28th Place N.E. in Everett, Washington. This SI was conducted under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA). The SI process is intended to document a threat or potential threat to public health or the environment posed by a site, identify whether a potential emergency situation exists that may require an immediate response, document the presence or absence of uncontained or uncontrolled hazardous substances on a site, and confirm site characteristics and area receptor information collected during past studies. The SI is intended to collect sufficient data to enable evaluation of the site's potential for inclusion on the National Priorities List (NPL) and, for those sites determined to be NPL candidates, establish priorities for additional action. The SI process and this SI do not include extensive or complete site characterization, contaminant fate determination, or quantitative risk assessment.

This document presents the Buse Timber & Sales SI in the following manner:

- Section 1.0 Introduction—description of authority and purpose
- Section 2.0 Site Background—site-related information
- Section 3.0 Exposure Pathways and Potential Targets—evaluation of specific pathways and their possible targets
- Section 4.0 Sampling Program—synopsis of sampling conducted
- Section 5.0 Sampling Results—discussion of sampling results and those substances determined to be "significant"
- Section 6.0 Bibliography—list of references

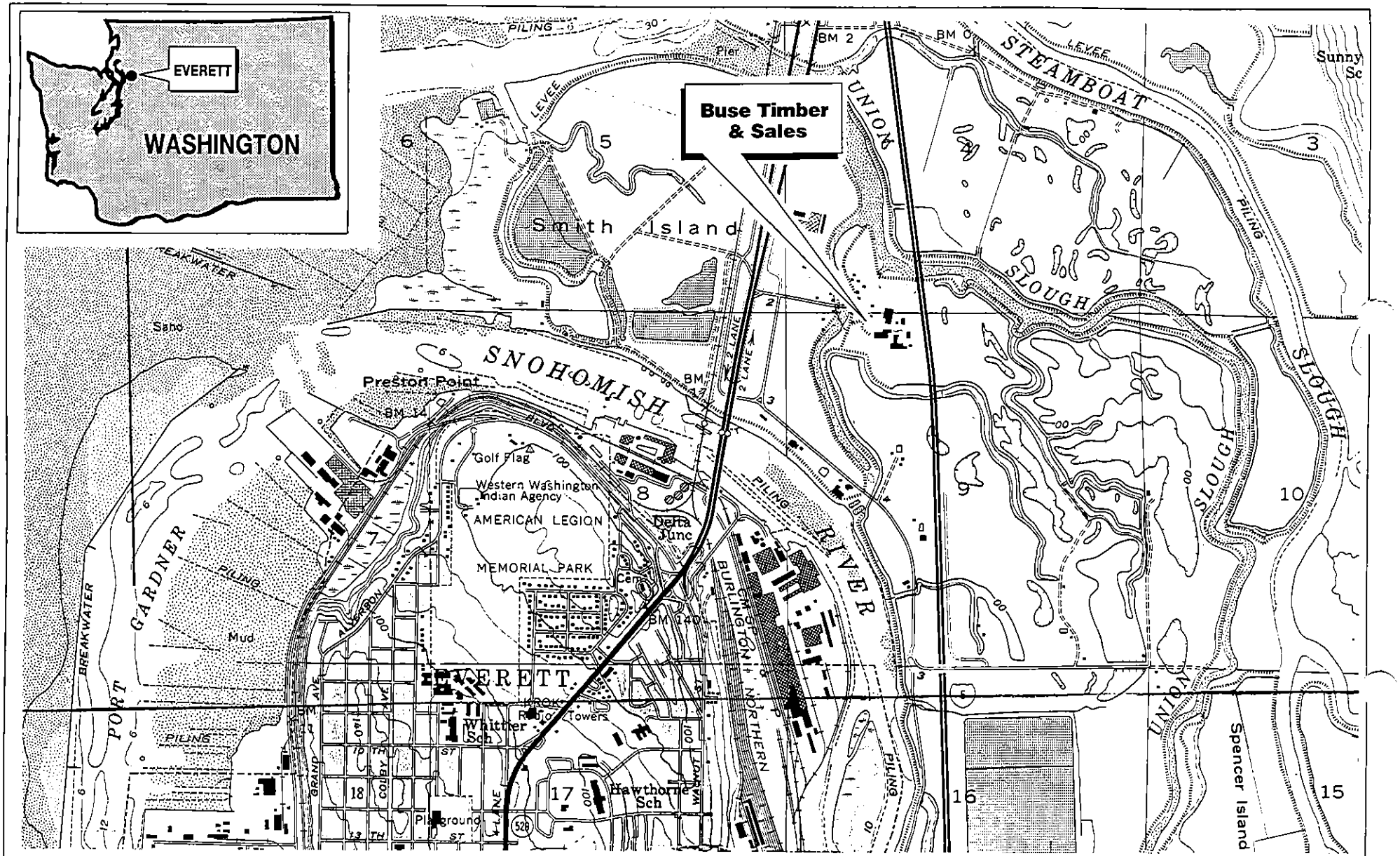
- Appendix A Photodocumentation of May 24 and 25, 1994, URS Sampling Event
- Appendix B Background sample location map
- Appendix C Laboratory Data Reports and Data Validation Reports for Samples Collected for Buse Timber & Sales
- Appendix D Data Quality Objectives

2.0 SITE BACKGROUND

2.1 SITE LOCATION AND DESCRIPTION

Site Name:	Buse Timber & Sales
CERCLIS No.:	WAD009480542
Location:	3812 28th Place N.E. Everett, Washington
Latitude:	48°1'17.2" North
Longitude:	122°10'32.5" West
Legal Description:	Section 4 and Section 9 Township 29, Range 5 East
Site Owner:	Norman and Delmar Buse 3812 28th Place NE Everett, Washington 98206
Site Operator:	Norman and Delmar Buse
Site Contact:	Steve Fogg (206) 258-2577

Buse Timber & Sales, located at 3812 28th Place N.E., is situated on Smith Island in the Snohomish River floodplain. The mill is 1 mile northeast of the city of Everett, in Snohomish County, Washington. The plant and log yard combined occupy approximately 25 acres of land in the southeast quarter of the southwest quarter of section 4, Township 29 North, Range 5 East, Willamette Meridian, and the northeast quarter of the northwest quarter of section 9, Township 29 North, Range 5 East, Willamette Meridian (USGS 1976). The coordinates of the site are 48°1'17.2" N. latitude 122°10'32.5" W. longitude. The site is surrounded by sloughs and agricultural lands. Directly to the east of the mill is Interstate 5. Figure 2-1 shows the general location of the Buse mill.



Source: USGS 7.5 Min. Topo Map, MARYSVILLE, WA 1973

URS CONSULTANTS

NORTH

0 1/2 1

Scale In Miles

Figure 2-1
Buse Timber & Sales Site Location Map

Buse Timber & Sales
Everett, Washington

The mill is adjacent to Union Slough and several backwater arms of the slough. Within ½ mile, the slough discharges into Possession Sound. Because of the proximity to tidally influenced waters, the sloughs surrounding the mill are affected by tidal flooding and ebbing. The water level in an unnamed slough that receives runoff from the northern portion of the mill is controlled by a tidal gate; this slough will be referred to as the tidal gate slough. Because the site is located in the Snohomish River delta, it is underlain by large quantities of alluvial deposits. Tidal influence and Snohomish River water levels have a large influence on groundwater levels in the area. The depth to groundwater is shallow in the area and generally follows the Snohomish River water levels (Ecology 1990).

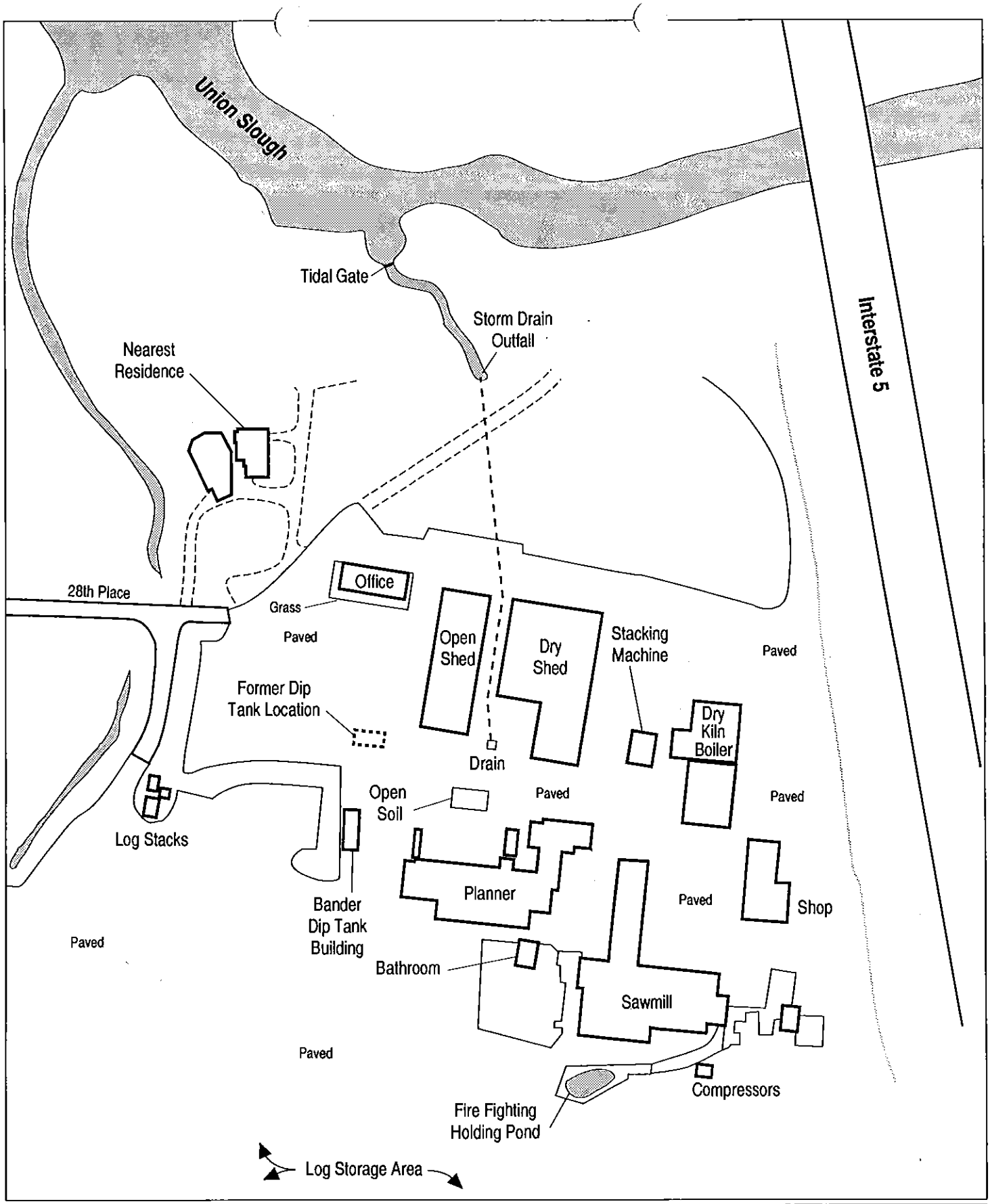
Twenty-eighth Place N.E., leading from State Route 593, provides access to the site via a land bridge which traverses Union Slough. Although the site is not secured by a fence, the property is physically separated from the surrounding areas by sloughs. The property owned by the Buses includes a large quantity of farmland and pasture on Smith Island. The Buses permit local farmers to produce hay to the south of the mill. The nearest residence, situated 300 feet from the mill offices in the northwest corner of the property, is owned by a member of the Buse family. A pasture to the north and west of the residence serves as a small golf course (URS 1994a).

The 20-acre facility comprises nine main buildings and several smaller ancillary structures (see the site map, Figure 2-2). A 5-acre log storage yard is situated south of the mill complex. Raw logs brought in by trucks and beauty bark from the debarking operation are deposited here.

The 20-acre facility has been in operation on this site since 1946. The Buses purchased the land in 1942 (Buse 1994). Originally, at an unknown point in time prior to the Buse's purchase of the land, the area was used as farmland (Buse 1994).

2.2 SITE OPERATIONS AND WASTE CHARACTERISTICS

Buse Timber & Sales produces approximately 60 million board feet per year of finished lumber products of various dimensions for domestic sale and export to Asia or Canada. Production activities include sizing, debarking, trimming, milling, planiug, treating, drying, banding, and shipping. The operations employ 120 persons on two 8-hour shifts at the sawmill and one 8-hour shift at the planer mill. Logs are sorted by size because the mill can handle only logs of a certain dimension. Logs that are too large or too small are



URS CONSULTANTS

NORTH

0 130 260

Scale In Feet

Figure 2-2
Buse Timber & Sales
Site Map

Buse Timber & Sales
Everett, Washington

sold to pulp mills (Buse 1994). Appropriately sized logs are sent to the debarking machine. Bark from this machine is then sold as mulch or beauty bark. Debarked logs are transferred to the sawmill where they are trimmed and cut to the required dimensions. Next, the rough-cut wood is sent to the planer for surfacing. Chips and sawdust from sawing and planing are retained and sold to Scott Paper Company in Everett. The lumber is then sorted by hand and sent off to be dipped, dried, or endsealed if necessary. Buse personnel manually spray a product called Light Green Endseal on the ends of the lumber. This water-based paint is a nonhazardous waste defined in RCRA 40 CFR 261. After the endseal has dried, the lumber is banded and wrapped for shipment.

Lumber that is being shipped long distances is sometimes treated in a dip tank with anti-stain chemicals called Britewood S or Britewood Q sapstain control. These are phenolate solutions that contain sodium ortho-phenylphenate. The bundled lumber is dipped into a 28 by 5 by 5-foot-deep steel tank (approximately 5,300 gallons) that contains one of the above products. After the wood is dipped, it rests over a drip pan, which drains back into the tank. The company adds 50 gallons per month to the tank. According to Mr. Buse, because the solution is constantly agitated by compressed air, sludge does not develop at the bottom of the tank. The company has not had to dispose of any sludges since tank installation (Buse 1994). Eighty percent of the tank is underground and is surrounded by a concrete-walled pit, which acts as a secondary containment system. At the bottom of the pit is a sump that pumps the Britewood solution back into the tank. Table 2-1 lists waste-related activities at Buse.

Occasionally, lumber must be kiln dried for special orders. The company has four gas-heated drying kilns for this purpose. Carts of lumber are rolled into the kiln on tracks and heated to 180 degrees under controlled humidity for 3 days (URS 1994a).

Until 1986, the company used pentachlorophenol (PCP) to treat lumber in a dip tank with no cover or secondary containment. On a complaint from EPA and on the advice of the company's chemical supplier, the mill switched to a product called PQ8. At the same time, the dip tank was moved into a shed in an area that is asphalted and bermed. The soils in the former diptank area were simply paved over (Ecology 1990).

In 1986, the EPA sponsored studies to determine whether wood treatment chemicals were entering the soil from lumber mills across the state of Washington. A sediment sample taken from a storm drain near the former dip tank revealed PCP and

Table 2-1
Hazardous-Waste-Related Activities On Site

Activity/Process	Dates	Waste(s) Produced	Storage/Disposal Method(s)	Containment Features	Hazardous Constituents
PCP wood treating	1946-86	PCP sludge	Landfilled	Tank without containment	PCP

Source: URS 1994a, Ecology 1990

trichlorophenol (TCP) at 240 mg/kg, and 47.5 mg/kg respectively. A sediment sample taken from Union Slough revealed 1.97 mg/kg PCP and 0.89 mg/kg TCP.

In 1989, Ecology recommended that Buse Timber & Sales be placed on the EPA CERCLIS list of potential hazardous waste sites. The detection of PCP and TCP in the sediments on and around the site prompted the Washington Department of Ecology to conduct a preliminary assessment (PA), which was completed in November 1990 (Ecology 1990). The Ecology PA recommended that the site be scored using the revised Hazard Ranking System (HRS) before further on-site investigations were conducted.

On June 13, 1990, a Toxic Substance Control Act (TSCA) inspection by Ecology revealed several polychlorinated biphenyl (PCB) violations at the mill. Buse was fined a total of $7,650 (Ecology 1992a).

In June 1992, Ecology again sampled sediments from the same locations as the 1986 EPA sampling effort. Although this round of sampling revealed no evidence of either PCP or TCP in the drain or slough, it revealed petroleum contamination in Union Slough. However, Ecology found no evidence linking the petroleum contamination in the slough with operations at Buse Timber & Sales (Ecology 1992a).

During the URS site visit on March 14, 1994, a rapid immunoassay field screening kit specific for PCP was used to test sediments from the tidal gate slough north of the mill. The results of this screening indicated that PCP was present at concentrations of at least 0.5 ppm in the slough sediments (URS 1994a) (see Table 2-1).

Buse Timber & Sales operates with coverage under the Storm Water Baseline General Permit SO3-000097 (Ecology 1992b).

3.0 EXPOSURE PATHWAYS AND POTENTIAL TARGETS

3.1 GROUNDWATER PATHWAY

3.1.1 Geology and Hydrogeology

Everett is located in the central part of the Puget Sound Lowland, which is a broad, rolling, glacial drift plain of low relief bordered by the Olympic and Cascade Mountains. The geologic features of the Puget Sound Lowland are primarily the result of the Fraser Glaciation, when the Puget glacial lobe made its last advance into the region. The sediments deposited during this time are collectively called "drift" and cover much of the lowland (Haase 1987).

In the Everett area, the glacial history is complicated by repeated advance and retreat episodes of glacial movement. This resulted in the deposition of several drift units, ranging from tills, sands, outwash gravels, silts, and clays to glaciomarine and terrace deposits.

The site is located in the delta region of the Snohomish River. The geology underlying the facility consists mainly of alluvial river deposits derived from glacial sediments and upstream surficial geologic materials. Washington State Department of Transportation boring logs from Interstate 5 bridges across the Snohomish River and the sloughs indicate silts, clays, and sands with small amounts of gravel, shell debris, and decomposing wood debris from the ground surface to more than 130 feet below ground surface (bgs)(DOH 1965).

There are three aquifer systems in the area: recent alluvial deposits associated with the Snohomish River and Union Slough, the Marysville sand member, and the Esperance sand member. The static water level at the site is probably within a range of 10 to 15 feet bgs (Ecology 1990). The depth to the water table varies due to tidal and river flow volume influences. The groundwater in this area is not used for domestic purposes, according to Ecology (Ecology 1990). However, two wells designated as domestic have been identified on Smith Island.

The average annual net precipitation in the Everett area is 18.5 inches (Ecology 1990).

3.1.2 Groundwater Targets

Only about 1 percent of the population within 4 miles of the site uses wells as the primary source of drinking water (Ecology 1990). Everett and the surrounding territory (including Marysville and the Tulalip Indian Reservation) are served by water collected from the 60-square-mile Sultan Basin. The water is stored 30 miles southeast of Everett in the Spada Reservoir, which has a capacity of 50 billion gallons (Wolcott 1994). Approximately 102 domestic and 54 community wells are located within a 4-mile radius of the site. An estimated 1,023 people use these wells for drinking water. However, only two of these wells are on Smith Island. All other wells within 4 miles are separated from the site by either the Snohomish River or the sloughs. Since the river and sloughs are groundwater divides, it is unlikely that contamination from the site could affect groundwater on the other side of these water bodies. A breakdown of groundwater drinking water populations within 4 miles of the site is shown in Table 3-1 (USDC 1990).

Table 3-1
Groundwater Drinking Populations Within 4 Miles of the Buse Timber & Sales Site

Distance from Site (miles)	Number of Domestic Wells	Estimated Domestic Population	Number of Community Wells	Community Well User Population	Total Population
On site	1	2	0	0	2
0 to 0.25	0	0	0	0	0
0.25 to 0.5	0	0	0	0	0
0.5 to 1	1	2	1	10	12
1 to 2	3	7	1	10	17
2 to 3	54	129	18	180	309
3 to 4	102	243	34	340	583
Total	161	383	54	540	923

Note: Domestic well population is based on an estimate of 2.38 people per household to obtain person/household/well except for wells on site. It is known that two persons reside on site (USDC 1990; U.S. EPA 1994a). Community well population assumes 10 persons per well.

3.2 SURFACE WATER PATHWAY

3.2.1 Surface Water Flow

The Buse Timber site is located adjacent to and south of Union Slough on Smith Island north of the Snohomish River. The site is relatively flat, with a general slope less than 5 degrees toward the northeast. The area has a relatively mild and wet climate and a 2-year, 24-hour precipitation of 2.3 inches (Ecology 1990). The site is located within the 100-year flood plain.

The Soil Conservation Service has mapped the soils in the area as Puget-Sultan Pilchuck. These soils are very deep and range from poorly drained to excessively drained, nearly level soils on the floodplain (USDA 1983).

Precipitation accumulating on site would tend to percolate into the ground or flow north; storm sewer drains are located on site to assist in surface water drainage. The on-site surface water flow would eventually reach Union Slough by either the storm sewer or overland flow. The storm sewer has a tidal gate to prevent saltwater from entering the storm sewer system. During the URS 1994 site visit, the stormwater system appeared to be in satisfactory condition.

The flow of Union Slough depends on tidal influences. Union Slough is 120 feet wide adjacent to the site and the Snohomish River is 850 feet wide. Average annual flow of the Union Slough is approximately 5,000 cubic feet per second (cfs). The average discharge in the Snohomish River for the past 29 years is 9,605 cfs (Miles 1992).

3.2.2 Surface Water Quality

As revealed by past sampling events, elevated concentrations of pentachlorophenol (PCP) and trichlorophenol (TCP) have been identified in sediments collected from the tidal gate slough which drains into the Union Slough. These elevated concentrations of contaminants have likely impacted the habitability of the slough for fisb and other aqueous species.

3.2.3 Surface Water Targets

There are no surface water intakes for drinking water use within 15 miles downstream of the site. At approximately 1.5 miles downstream from the site, both the Snomomish River and Union Slough empty into Possession Sound.

Two bodies of water in Possession Sound, at Port Gardner and Port Susan, are popular for non-Indian commercial fishing and Indian fishing and shellfish harvesting. The fish species observed in Port Gardner and Port Susan include chinook salmon (*Oncorhynchus tshawytscha*), chum salmon (*Oncorhynchus keta*), pink salmon (*Oncorhynchus gorbuscha*), and coho salmon (*Oncorhynchus kisutch*). The Snohomish River is an important migratory route for all of these anadromous fish species and is also home to the bull trout (*Salvelinus confluentis*) and the olympic mudminnow (*Novumbra hubbsi*), both of which are federal candidates for the endangered species list (WDW 1993). Port Gardner and Port Susan have an average annual harvest of 251,095 pounds of fish (WDF 1991) and an average annual harvest of 162,400 pounds of hardshell clams (WDF 1991).

Wetland frontage was calculated for the 1.5 miles downstream of Buse Timber to the point where both the Snohomish River and Union Slough enter the Pacific Ocean in Possession Sound. The frontage of wetlands in that span is 6 miles. National Wetlands Inventory maps classify this area as palustrine, estuarine, riverine, and forested wetlands. However, riverine and estuarine wetlands are also found in the areas downstream of the Buse site.

3.3 SOIL PATHWAY

3.3.1 Soil Description

The surface soils on site are classified as fill and alluvial soils deposited by the Snohomish River and extend 130 feet below the ground surface. These soils have low-to-moderate permeability estimated at 10^{-5} cm/second (Freeze and Cherry 1979) and often become waterlogged in the winter. The underlying sediments consist of alluvial and glacial deposits.

3.3.2 Soil Targets

The Buse Timber site is located within the city limits of Everett, which has a total population of 69,961 (USDC 1990). Residing within a 1-mile radius of the site are 154 people. Both Snohomish River and Union Slough, popular recreational areas, are located within 1 mile of the site. Although the Buse site is not fenced, it is physically separated from surrounding areas by sloughs and blackberries. There are no day cares or schools within 200 feet of the site. The closest resident lives within 200 feet west of the site. Residential populations identified within a 4-mile radius of the site are summarized in Table 3-2.

Table 3-2
Residential Populations Located Within 4 Miles of the Buse Timber & Sales Site

Distance From Site (miles)	Resident Population
0 to 0.25	7
0.25 to 0.5	10
0.5 to 1	137
1 to 2	7,743
2 to 3	22,792
3 to 4	19,801
Total Population	**50,490**

Source: U.S. EPA 1994a

3.3.3 On-Site Workers

Approximately 120 full-time employees work at the Buse facility.

3.4 AIR PATHWAY

3.4.1 Regional Characteristics

The Buse Timber site is located in the tideflats of the Snohomish River in a primarily industrial and agricultural mixed-use area. Possession Sound is located west of the site.

The area has a relatively mild and wet climate, with a normal annual rainfall of 36.51 inches (NOAA 1992).

3.4.2 Air Targets

The residential population within 4 miles of the site is detailed in Table 3-3. The closest residence (owned by Buse) is located within 200 feet of the Buse Timber & Sales office. Although access to the Buse Timber site is limited by the Snohomish River and the Union Slough, there is a road to the site and the east boundary of the site abuts the Interstate 5 right of way.

Table 3-3
Wetlands Within 4 Miles of the Buse Timber & Sales Site

Distance from Site (miles)	Wetland Acreage (estimated)
Onsite	3
0 - ¼	10
¼ - ½	40
½ - 1	150
1 - 2	560
2 - 3	1,000
3 - 4	580

Source: USDI 1987

There is one wetland of approximately 3 acres located on site. Approximately 200 acres of wetlands are located within 1 mile of the site. Table 3-3 gives a breakdown of wetlands within 4 miles of the site (USDI 1987).

3.4.3 Sensitive Areas

Washington State Department of Wildlife Sensitive Area maps were used to determine the presence of sensitive species within 4 miles of the site. The mouth of the Snohomish River, which is 1.5 miles from the site, is an estuary that supports bull trout and the

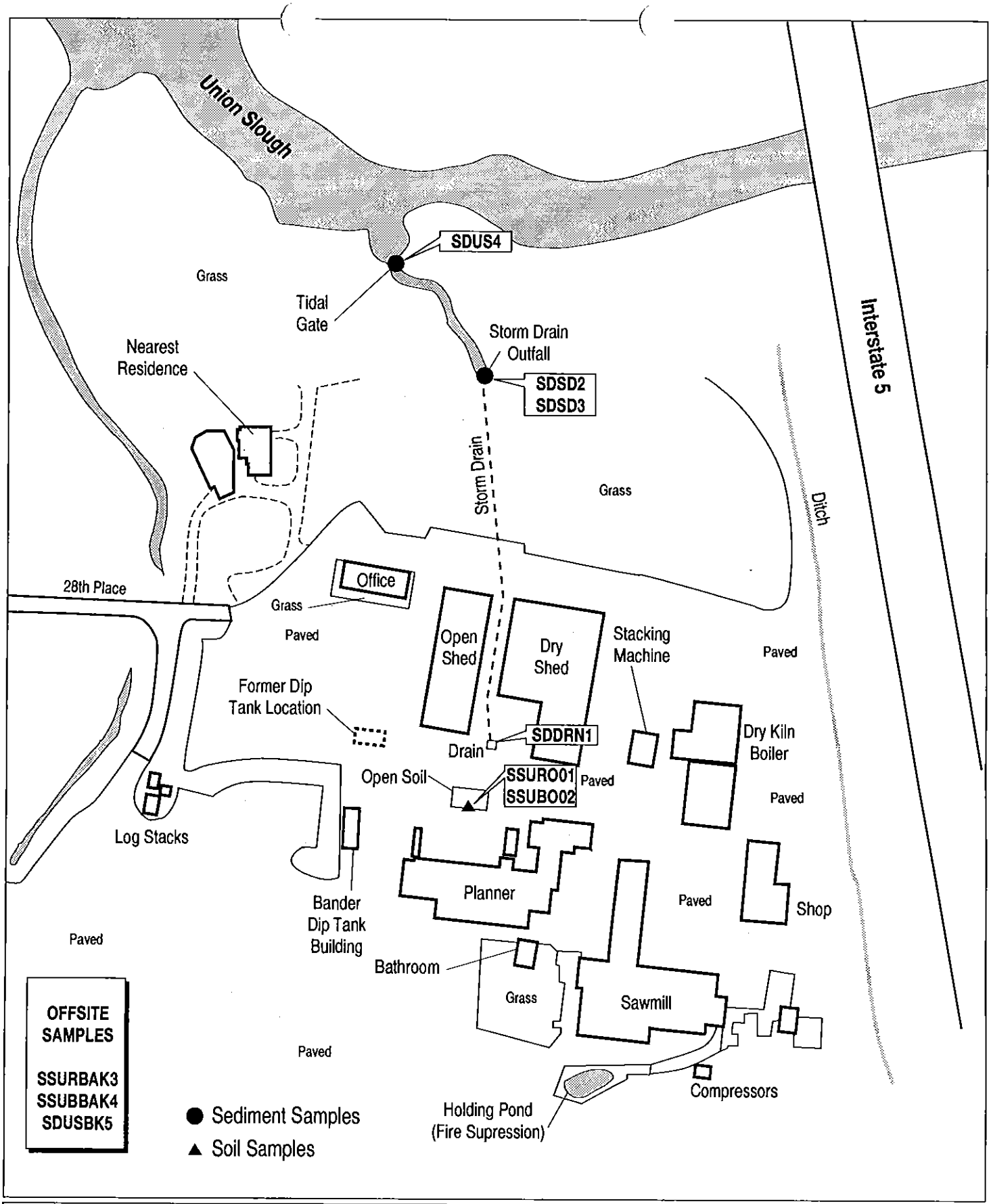
olympic mudminnow. There are three bald eagle nesting sites between 1 and 2 miles from the site, and one nesting site in both the 2- to 3-mile and 3- to 4-mile ranges.

4.0 SAMPLING PROGRAM

The media-specific sampling procedures were consistent with methodologies described in the field sampling plan (URS 1994b) and technical standard operating procedures (TSOP) (URS 1990b) for ARCS contract activity, as well as those described in EPA's *A Compendium of Superfund Field Operations Methods* (U.S. EPA 1987). All sampling equipment was decontaminated before and after use (TSOP 3.7). Four 8-ounce jars of sediment and soil (one each for SVs and PCBs, and two for inorganics and mercury) were collected from each sample station. All sample containers were clearly labeled with the EPA sample number, URS station number, replicate number (if applicable), date, time, type of sample, and sampling personnel (TSOP 2.4). Additionally, EPA sample tags were taped to the sample bottles, and the bottle lids were custody-label sealed. After sample collection, the containers were placed in a cooled ice chest maintained at approximately 4°C, as appropriate, for transport to an analytical laboratory (TSOP 2.3). The routine analytical service (RAS) samples (PCB and inorganics) were shipped to a different laboratory than the SAS samples (SVs). Additional preservation for water samples was conducted at the time of sampling. A chain-of-custody form was filled out and placed in the chest with the samples. The ice chests were sealed for shipment with duct tape and chain-of-custody seals. An accurate log of the sampling conducted and other information pertinent to the sampling were kept in the field logbook (TSOP 2.6). Photographs were taken during the sampling event and tracked in the field logbook (TSOP 2.5). Refer to Figure 4-1 and Table 4-1 for sample locations, rationale, and identifiers.

4.1 SEDIMENT SAMPLES (TSOP 5.5)

Sediments from the storm drain (sample SDDRN1) were characterized to assess the possible release of wood treating chemicals or their components. The sample locations were selected based on historical sampling results and best professional judgment. All sediment samples were collected as grab samples with a stainless steel spoon. The sediment was collected from the surface of the sediment where no water was present. Since no water was present in the catch basin, the catch basin sediment sample was collected from the bottom of the catch basin. The samples were transferred directly into the sample container. Sticks, rocks, and other large organic matter were removed. The on-site sediment sample was collected as close as possible to the area of sediment accumulation.



URS CONSULTANTS

NORTH

0 130 260

Scale In Feet

Figure 4-1
Buse Timber & Sales
Sample Locations

Buse Timber & Sales
Everett, Washington

Table 4-1
Sample Descriptions

Sample Number	Location	Rationale	Date:Time Collected
SSURO01	Treatment tank area surface soil	Characterize on-site surface soil	05/25/94:0820
SSUBO02	Treatment tank area subsurface soil	Characterize on-site subsurface soil	05/25/94:0844
SDDRN1	Storm drain catch basin	Characterize on-site sediments	05/25/94:0930
SDSD2	Storm drain outfall	Characterize outfall sediments	05/25/94:0957
SDSD3	Storm drain outfall	Characterize outfall sediments, quality control duplicate	05/25/94:1003
SDUS4	Tidal gate outfall to slough	Characterize on-site site slough sediments	05/25/94:1025
SSURBAK3	Off-site surface soil	Characterize background soil	05/25/94:1305
SSUBBAK4	Off-site subsurface soil	Characterize background subsurface soils	05/25/94:1310
ER01	Equipment rinsate	Quality assurance	05/25/94:1052
SBUSBK5	Union slough off-site sediment	Characterize background slough sediment	05/24/94:0940

4.2 SURFACE SOIL SAMPLES (TSOP 5.4)

To determine whether past practices have impacted on-site surface soil quality, one surface soil sample (SSURO01) was collected near the drain at the former dip tank location. Only one soil sample was collected because all other locations near the former dip tank location are paved. The sample was collected at a depth of 0 to 6 inches from the surface level at the location where it is suspected that wastes have been placed. An additional surface soil sample was collected off site to characterize background conditions (SSURBAK3). The background soil sampling location was collected from the residence of a home 2.9 miles southeast of the site. The background soils sampled are the alluvial soils in the valley of the Snohomish River. The map in Appendix B shows the exact location.

The surface soil sample was collected using a decontaminated stainless steel trowel. The sample was placed immediately into the sample containers.

4.3 SUBSURFACE SOIL SAMPLES (TSOP 5.4)

To determine whether past site practices have impacted subsurface soil quality, a subsurface soil sample was collected. One subsurface sample (SSUBO02) was collected from the unpaved area southwest of the former dip tank area. The sample was collected at an approximate depth of 2 feet below surface level. An additional subsurface soil sample was collected off site to characterize background conditions (SSUBBAK4). The location of this sample was 2.9 miles southeast of the site (for location of background surface soil sample, see Appendix B). The background soil sample was not collected in an industrial or agricultural area.

The soil was excavated to the predetermined sampling depth by using a decontaminated hand auger at a right angle to the surface. Once the desired depth was reached, the decontaminated hand auger was used to collect a sufficient soil volume. The soil was placed into a decontaminated stainless steel bowl, homogenized, and placed into the sample containers.

The borehole was refilled with the excavated material using a stainless steel trowel.

4.4 TIDAL GATE SLOUGH, UNION SLOUGH, AND SNOHOMISH RIVER SEDIMENT SAMPLING (TSOP 5.5)

One sediment sample and one field duplicate sample were collected from the outfall basin that drains the area near the former dip tank (SDSD2 and SDSD3) to characterize outfall sediments. The sampling event was conducted during a low tide when sediments are exposed and easily accessible. The sample material was placed into the bowl, debris removed, and homogenized. The sediment was then placed into the sample containers.

The sediment samples from Union Slough (SDUS4 and SDUSBK5) were not collected near piers, pilings, or any other obvious source of wood treatment chemicals. Sample SDUS4 was collected from the tidal gate outfall area to characterize sediments that have entered Union Slough. During the low tide, the sample locations were easily accessible from the boat or shore. The sediment samples were collected following the procedure

described for SDSD2. Because the area is located in the Snohomish River delta, a small boat was required for gathering background samples. Exact background sample locations were determined in the field and based on grain size comparison with site samples. The background Union Slough sample (SDUSBK5) was collected at the point where Union Slough joins the Snohomish River at its most upstream point. See the map in Appendix B for exact locations.

5.0 SAMPLING RESULTS

The conditions used to define an "observed release" of a particular substance to any of the matrices sampled during the data evaluation process are summarized in Table 5-1 (U.S. EPA 1990a, 1990b). Discussions of data results in this report use the term "significant" to classify concentrations of detected chemicals based on the criteria described in Table 5-1. The results discussed in the following sections are limited to those substances determined to be significant (as defined in Table 5-1). Based on EPA Region 10 policy, aluminum, calcium, iron, magnesium, potassium, sodium, and zinc (common earth crust metals) generally are employed only in water mass tracing, which is beyond the scope of this report. These elements will not be discussed further.

Table 5-1
Significance Criteria for Chemical Analysis

Sample Measurement < Sample Quantitation Limit[a]
No observed release is established; the result is not identified as "significant"
Sample Measurement ≥ Sample Quantitation Limit[a]
An observed release or "significant" result is established as follows:
If the background concentration is not detected (or is less than the detection limit), an observed release or significant result is established when the sample measurement equals or exceeds the sample quantitation limit.[a]
If the background concentration equals or exceeds the detectiou limit, an observed release or significant result is established when the sample measurement is three times or more above the background concentration.

Source: U.S. EPA 1994b

[a]If the SQL cannot be established, determine if there is an observed release as follows: If the sample analysis was performed under the EPA CLP, use the EPA CRQL in place of the SQL. If the sample analysis was not performed under the EPA CLP, use the detection limit in place of the SQL.

The tables provided in the following discussion include all reported concentrations of any metals, polychlorinated biphenyls (PCBs), semivolatiles (SVs), and chlorinated phenols detected in at least one sample collected on May 25, 1993. The laboratory data results and data validation reports are provided in Appendix C. A summary table of the target and actual data quality objectives of the Buse Timber field sampling are also presented in Appendix H. Only four chemicals were detected in significant concentrations and only in sediment samples collected from the storm drain catch basin and the storm drain outfall. It should be noted that detection limits varied considerably between and among samples. There were also a high number of qualified results. Only four organics results, three chlorinated phenols results, and one PCB result were unqualified among all SV, PCB, and chlorinated phenol detections.

5.1 ON-SITE SURFACE SOIL

None of the on-site surface soil results meet the criteria listed in Table 5-1 for significant concentrations. Results are summarized in Table 5-2. All samples collected during this investigation were analyzed for metals, PCBs, SVs, and chlorinated phenols as described in the field sampling plan (URS 1994b). No information was available in the data validation reports to assign a bias (high or low) to the qualified ("J") sample results identified in Table 5-2. Because the appropriate comparable sample for determining elevated concentrations in a surface soil sample is a background surface soil sample, SSURO01 was compared to SSURBAK3 (see Table 5-2).

5.1.1 Metals Analyses

Metals detected in the off-site background surface soil sample (SSURBK3) are summarized in Table 5-2. The metals detected represent concentrations for natural soils in the Snohomish River basin.

Metals detected in the on-site surface soil sample collected at the Buse site are summarized in Table 5-2. For the on-site soil sample location, see Figure 4-1.

5.1.2 PCB Analyses

PCBs were not detected in the off-site background surface soil sample or in the on-site surface soil samples.

Table 5-2
Surface Soil Sampling Results for Buse Timber and Sales, Inc.
May 25, 1994

	Off-site Background Soil	Treatment Tank Area Surface Soil	Treatment Tank Area Surface Soil Laboratory Duplicate
Substance Detected	SSURBAK3	SSURO01	SSURO01 DS
Total Metals (mg/kg)			
Aluminum	20900	18200	19700
Arsenic	22 J	20 J	17 J
Barium	108	50.5 J	52.9
Beryllium	0.49 J	0.34 J	0.37 J
Cadmium	0.35 J	0.24 J	0.2 U
Calcium	3010	2940	3280
Chromium	86.3	54.1	58.1
Cobalt	23.6	9.25	9.63
Copper	45.5	40.1	41.1
Iron	30300	30100	31300
Lead	52.3	12 J	14 J
Magnesium	8720	8840	9250
Manganese	417	298	311
Mercury	0.0575	0.0749	0.076
Nickel	64.1	36.2	39.3
Potassium	905	2410	2500
Selenium	6 U	15 J	15 J
Sodium	299	335	362
Thallium	6 J	5 U	8 J
Vanadium	66	68.6	70.3
Zinc	89.6	57.9	61.2
Semivolatiles (ug/kg)			
Di-n-butylphthalate	32 J	470 U	NAF

Notes:
J =value is an estimate
mg/kg = milligrams per kilograms
NAF = not analyzed for
U =sampe was undetected
ug = Microgram (1E-6 gram)

5.1.3 Semivolatile Organic Analyses

Di-n-butylphthalate was detected in the background sample (SSURBAK3) at an estimated concentration of 32 μg/kg. There were no detections of any SVs in the on-site surface soil sample.

5.1.4 Chlorinated Phenol Analyses

There were no significant detections of any chlorinated phenols in any of the surface soil samples.

5.2 SUBSURFACE SOIL

None of the subsurface soil results meet the criteria listed in Table 5-1 for significant concentrations. Results are summarized in Table 5-3. All samples collected during this investigation were analyzed for metals, PCBs, SVs, and chlorinated phenols as described in the field sampling plan (URS 1994b). No information was available in the data validation reports to assign a bias (high or low) to qualified ("J") sample results identified in Table 5-3. Because the appropriate comparable sample for determining elevated concentrations in a subsurface soil sample is a background subsurface soil sample, SSUBO02 was compared to SSUBBAK4 (see Table 5-3).

5.2.1 Metals Analyses

Metals detected in the off-site background subsurface soil sample (SSUBBK4) are summarized in Table 5-3. The metals detected represent concentrations for natural soils in the Snohomish River basin.

Metals detected in the on-site subsurface soil sample collected at the Buse site are summarized in Table 5-3. For the on-site soil sample location, see Figure 4-1.

5.2.2 PCB Analyses

PCBs were not detected in the off-site background subsurface soil sample or in the on-site subsurface soil samples.

Table 5-3
Subsurface Soil Sampling Results for Buse Timber and Sales, Inc.
May 25, 1994

	Offsite Background Subsurface Soil	Treatment Tank Area Subsurface Soil
Substance Detected	SSURBAK4	SSUBO02
Inorganics (mg/kg)		
Aluminum	18800	18200
Arsenic	17 J	25 J
Barium	70.9	46.4
Beryllium	0.28 J	0.3 J
Calcium	2530	2630
Chromium	61.5	79.4
Cobalt	13.2	9.92
Copper	34	41.4
Iron	28300	26500
Lead	12 J	9.8 J
Magnesium	7690	8630
Manganese	223	248
Mercury	0.0485	0.0668
Nickel	32.7	44.9
Potassium	985	2230
Selenium	6 J	13 J
Sodium	269	543
Thallium	7 J	6.2 J
Vanadium	63.3	69.6
Zinc	57.4	52.7
Semivolatiles (ug/kg)		
Di-n-butylphthalate	33 J	510 U

Notes:
J = value is an estimate
mg/kg = milligrams per kilogram
U = sample was undetected
ug = Microgram (1E-6 gram)

5.2.3 Semivolatile Organic Analyses

Di-n-butylphthalate was detected in the background sample (SSURBAK4) at an estimated concentration of 33 μg/kg. There were no detections of any SVs in any of the on-site subsurface soil samples.

5.2.4 Chlorinated Phenol Analyses

There were no significant detections of any chlorinated phenols in any of the subsurface soil samples.

5.3 STORM DRAIN SEDIMENT

Data results that satisfy the criteria listed in Table 5-1—described in this section to be significant—are highlighted in Table 5-4. All samples collected during this investigation were analyzed for metals, PCBs, SVs, and chlorinated phenols as described in the field sampling plan (URS 1994b). No information was available in the data validation reports to assign a bias (high or low) to qualified ("J") sample results identified in Table 5-3. Because the appropriate comparable sample for determining elevated concentrations in a sediment sample is a background sediment, sediment samples were compared to SDUSBK5 (see Table 5-4, Sediment Soil Sampling Results for Buse Timber & Sales, Inc., May 25, 1994).

5.3.1 Metals Analyses

Metals detected in the off-site background sediment sample represent concentrations expected for sediments in the Snohomish River estuary conditions. Results for all sediment samples are summarized in Table 5-4. For sample locations, see Figure 4-1.

There were several significant detections of metals in the on-site sediment samples. Lead and mercury were detected in the samples collected from the storm drain catch basin (SDDRN1) and the duplicate samples collected at the outfall for that storm drain (SDSD2 and SDSD3). Lead was detected in sample SDDRN1 at 57 mg/kg and in sample SDSD3 at 56.2 mg/kg, but the concentration of lead in duplicate sample SDSD2 was not significant. Mercury was detected in sample SDDRN1 at 1.84 mg/kg and in sample SDSD2 at 0.282 mg/kg, but the result for duplicate sample SDSD3 was not

Table 5-4
Sediment Sampling Results for Buse Timber and Sales, Inc.
May 25, 1994

	Union Slough Background Sediment	Storm Drain Catch Basin Sediment	Storm Drain Outfall Sediment	Storm Drain Outfall Sediment Duplicate	Union Slough Tidal Gate Sediment
Substance Detected	SDUSBK5	SDDRN1	SDSD2	SDSD3	SDUS4
Total Metals (mg/kg)					
Aluminum	17600	7410	3790	5030	14400
Antimony	3.2 J	3 UJ	3.4 J	5.6 J	3 UJ
Arsenic	15 J	8 J	6.7 J	7.7 J	10 J
Barium	61.2	51.2	63.9	69.3	45.6
Beryllium	0.41 J	0.15 J	0.13 J	0.15 J	0.33 J
Cadmium	0.29 J	0.56 J	1.9 J	2 J	0.23 J
Calcium	3770	3770	2770	2920	4540
Chromium	72.5	182	96.3	94.6	102
Cobalt	16.5	238	10.6	11.4	29.6
Copper	44.1	108	57.2	69.3	36.2
Iron	25900	13200	16700	18000	26900
Lead	11 J	57	39.9	56.2	13 J
Magnesium	9380	5300	2250	2880	8560
Manganese	385	188	144	153	263
Mercury	0.0694	1.84	0.282	0.159	0.103
Nickel	56.8	56.8	59	60.1	67.9
Potassium	1380	524	380 J	511	1380
Selenium	6.5 J	6 U	6 U	11 J	9.7 J
Sodium	440	378	797	952	3210
Thallium	5 U	5 U	5.2 J	5 U	7.4 J
Vanadium	53	32.3	18.1	22.7	45.4
Zinc	76.8	329	231	262	62.5
PCBs (ug/kg)					
Aroclor 1254	70 U	1000	460J	600 J	75 U

Notes:
Highlighted values indicate sample was detected at significant concentrations based on the criteria in Table 5-1.
J = Value is an estimate
U = Sample was undetected
ug = Microgram (1E-6 gram)
UJ = analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is an estimate

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

Northwest Regional Office, 3190 - 160th Ave S.E. • Bellevue, Washington 98008-5452 • (206) 649-7000

October 19, 1992

Mr. Steve Fogg
Buse Timber and Sales, Incorporated
P.O. Box 5226
Everett, WA 98206

Dear Mr. Fogg:

Enclosed are the two documents we sent to Dave Buse indicating the Site Hazard Ranking of No Further Action by the Department of Ecology. Sometime in the future, there could be other actions or data could reveal that a cleanup is necessary, but at present, we have no intentions of pursuing clean-up activities on-site.

If you have any questions, or want the laboratory results of the sampling we did on-site, please call. My phone number is (206) 649-7135.

Sincerely,

Judith M. Aitken
Pre-Remedial Analyst
Toxics Cleanup Program

JMA:rs
Enclosures

State of Washington Department of Ecology
Manchester Environmental Laboratory
7411 Beach Dr. East Port Orchard WA. 98366

Data Review
August 5, 1992

Project: **Buse Timber & Sales**

Samples: 258030 258031

Laboratory: Columbia Analytical Services 3922

By: Stuart Magoon

Case Summary

These samples were received at the Manchester Environmental Laboratory on June 18, 1992, and transported to Columbia Analytical Services on June 22, 1992 for semivolatile (BNA) analysis.

These analyses were reviewed for qualitative and quantitative accuracy, validity, and usefulness.

There is no need to assimilate the "dilution factor" or "sample wt/vol" into the final values reported; these calculations have already been figured into the reported values.

DATA QUALIFIER DEFINITIONS

ND - The analyte was not detected at or above the reported result. (MRL)

NDJ - The analyte was not detected at or above the reported estimated result.

J - The associated numerical result is an estimated quantity.

NJ - There is evidence that the analyte is present. The associated numerical result is an estimate.

NR- Not reported.

Semivolatile analyses (BNA)

Holding Times:

These samples were extracted and analyzed within the SW-846 recommended holding times.

Method Blanks:

No target analytes were detected in the method blank.

GC/MS Tuning and Calibration:

Calibration against Decaflourotriphenylphosphine (DFTPP) is acceptable for the initial calibration, continuing calibration and all associated sample analyses.

Initial Calibration:

The initial calibration met the minimum response criteria of greater than 0.05 for the average relative response, and the percent deviation (%D) of less than 30% between the five different concentrations.

Continuing Calibration:

The average relative response factor (RRF) for all the target analytes were all above the minimums; and the percent deviation (%D) between the initial and continuing calibration standards was within the maximum of 25% , with a few exceptions. No quantitations of detected analytes were affected as a result of these outliers. All non-detected results for the analytes that are above the 25% deviation criteria have been qualified with an "NDJ".

Surrogates:

surrogate recoveries for these samples, and the method blank are acceptable and within quality control limits.

Sample Data:

The results are acceptable for use, with the added qualifiers where appropriate.

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Washington State Dept. of Ecology	**Date Received:**	06/22/92
Project:	Buse Timber & Sales SHA	**Work Order No.:**	K923922
Sample Matrix:	Soil		

CASE NARRATIVE

All analyses were performed in accordance with the quality assurance program of Columbia Analytical Services, Inc. Samples 258030 and 258031 were received for BNA analysis on June 22, 1992. Both samples, received in good condition, were extracted on June 23, 1992. Due to the sample matrix, both were brought to a final volume of 5.0 mL. The samples were initially analyzed on June 25, 1992, at 1:10 dilutions. Based on these analyses, the samples were reanalyzed on July 13, 1992, using no dilution factor past the final volume. Results are reported from the analyses done on July 13, 1992 only. [Quantitation reports and chromatograms from the initial analyses are included in the raw data package.*] The TIC determinations were difficult in that the unknown peaks were coeluting with a chromatographic "hump". Most TIC determinations were done by hand vs. automated. All surrogate and laboratory control sample QC parameters were within acceptance criteria.

* NO They were not. SM

Approved by _____ Date 7-21-92

00001

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Washington State Dept. of Ecology	**Date Received:**	06/22/92
Project:	Buse Timber & Sales SHA	**Date Extracted:**	06/23/92
Sample Matrix:	Soil	**Date Analyzed:**	07/13/92
		Work Order No.:	K923922

Base Neutral/Acid Semivolatile Organic Compounds
EPA Methods 3550/8270
mg/Kg (ppm)
Dry Weight Basis

Sample Name: 258030
Lab Code: K3922-1

Base Neutral Analyte	MRL*	Result	Base Neutral Analyte	MRL*	Result
N-Nitrosodimethylamine	1.4	ND	2,6-Dinitrotoluene	1.4	ND
Aniline	1.4	ND	Diethyl Phthalate	1.4	ND
Bis(2-chloroethyl) Ether	1.4	ND	4-Chlorophenyl Phenyl Ether	1.4	ND
1,2-Dichlorobenzene	1.4	ND	Fluorene	1.4	ND
1,3-Dichlorobenzene	1.4	ND	4-Nitroaniline	10	ND
1,4-Dichlorobenzene	1.4	ND	N-Nitrosodiphenylamine	1.4	ND
Bis(2-chloroisopropyl) Ether	1.4	ND	4-Bromophenyl Phenyl Ether	1.4	ND
N-Nitrosodi-n-propylamine	1.4	ND	Hexachlorobenzene	1.4	ND
Hexachloroethane	1.4	ND	Phenanthrene	1.4	ND
Nitrobenzene	1.4	ND	Anthracene	1.4	ND
Isophorone	1.4	ND	Di-n-butyl Phthalate	1.4	ND
Bis(2-chloroethoxy)methane	1.4	ND	Fluoranthene	1.4	ND
1,2,4-Trichlorobenzene	1.4	ND	Pyrene	1.4	ND
Naphthalene	1.4	ND	Butylbenzyl Phthalate	1.4	ND
4-Chloroaniline	1.4	ND	3,3'-Dichlorobenzidine	1.4	ND J
Hexachlorobutadiene	1.4	ND	Benz(a)anthracene	1.4	ND
2-Methylnaphthalene	1.4	ND J	Bis(2-ethylhexyl) Phthalate	1.4	2.7 J
Hexachlorocyclopentadiene	1.4	ND J	Chrysene	1.4	ND
2-Chloronaphthalene	1.4	ND	Di-n-octyl Phthalate	1.4	ND
2-Nitroaniline	10	ND	Benzo(b)fluoranthene	1.4	ND
Dimethyl Phthalate	1.4	ND	Benzo(k)fluoranthene	1.4	ND
Acenaphthylene	1.4	ND	Benzo(a)pyrene	1.4	ND
3-Nitroaniline	10	ND J	Indeno(1,2,3-c,d)pyrene	1.4	ND
Acenaphthene	1.4	ND	Dibenz(a,h)anthracene	1.4	ND
Dibenzofuran	1.4	ND	Benzo(g,h,i)perylene	1.4	ND
2,4-Dinitrotoluene	1.4	ND			

Acid Analyte	MRL*	Result	Acid Analyte	MRL*	Result
Phenol	1.4	ND	2,4-Dichlorophenol	1.4	ND
2-Chlorophenol	1.4	ND J	4-Chloro-3-methylphenol	1.4	ND
Benzyl Alcohol	1.4	ND	2,4,6-Trichlorophenol	1.4	ND
2-Methylphenol	1.4	ND	2,4,5-Trichlorophenol	1.4	ND
3- and 4-Methylphenol♦	1.4	ND	2,4-Dinitrophenol	10	ND
2-Nitrophenol	1.4	ND	4-Nitrophenol	10	ND
2,4-Dimethylphenol	1.4	ND	2-Methyl-4,6-dinitrophenol	10	ND
Benzoic Acid	10	ND	Pentachlorophenol	10	~~ND~~ 1.6 M

MRL Method Reporting Limit
* MRLs are elevated because of matrix interferences, because the sample(s) required diluting, and because of the low percent solids in the sample as received.
ND None Detected at or above the method reporting limit
♦ Quantified as 4-methylphenol.

Approved by _____ Date 7-21-92

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Washington State Dept. of Ecology	**Date Received:**	06/22/92
Project:	Buse Timber & Sales SHA	**Date Extracted:**	06/23/92
Sample Matrix:	Soil	**Date Analyzed:**	07/13/92
		Work Order No.:	K923922

Base Neutral/Acid Semivolatile Organic Compounds
EPA Methods 3550/8270
mg/Kg (ppm)
Dry Weight Basis

Sample Name: 258031
Lab Code: K3922-2

Base Neutral Analyte	MRL*	Result	Base Neutral Analyte	MRL*	Result
N-Nitrosodimethylamine	1.6	ND	2,6-Dinitrotoluene	1.6	ND
Aniline	1.6	ND	Diethyl Phthalate	1.6	ND
Bis(2-chloroethyl) Ether	1.6	ND	4-Chlorophenyl Phenyl Ether	1.6	ND
1,2-Dichlorobenzene	1.6	ND	Fluorene	1.6	ND
1,3-Dichlorobenzene	1.6	ND	4-Nitroaniline	11	ND
1,4-Dichlorobenzene	1.6	ND	N-Nitrosodiphenylamine	1.6	ND
Bis(2-chloroisopropyl) Ether	1.6	ND	4-Bromophenyl Phenyl Ether	1.6	ND
N-Nitrosodi-n-propylamine	1.6	ND	Hexachlorobenzene	1.6	ND
Hexachloroethane	1.6	ND	Phenanthrene	1.6	ND
Nitrobenzene	1.6	ND	Anthracene	1.6	ND
Isophorone	1.6	ND	Di-n-butyl Phthalate	1.6	ND
Bis(2-chloroethoxy)methane	1.6	ND	Fluoranthene	1.6	ND
1,2,4-Trichlorobenzene	1.6	ND	Pyrene	1.6	1.6 J
Naphthalene	1.6	ND	Butylbenzyl Phthalate	1.6	ND
4-Chloroaniline	1.6	ND	3,3'-Dichlorobenzidine	1.6	ND J
Hexachlorobutadiene	1.6	ND	Benz(a)anthracene	1.6	ND
2-Methylnaphthalene	1.6	ND J	Bis(2-ethylhexyl) Phthalate	1.6	3.9 J
Hexachlorocyclopentadiene	1.6	ND J	Chrysene	1.6	ND
2-Chloronaphthalene	1.6	ND	Di-n-octyl Phthalate	1.6	ND
2-Nitroaniline	11	ND	Benzo(b)fluoranthene	1.6	ND
Dimethyl Phthalate	1.6	ND	Benzo(k)fluoranthene	1.6	ND
Acenaphthylene	1.6	ND	Benzo(a)pyrene	1.6	ND
3-Nitroaniline	11	ND J	Indeno(1,2,3-c,d)pyrene	1.6	ND
Acenaphthene	1.6	ND	Dibenz(a,h)anthracene	1.6	ND
Dibenzofuran	1.6	ND	Benzo(g,h,i)perylene	1.6	ND
2,4-Dinitrotoluene	1.6	ND			

Acid Analyte	MRL*	Result	Acid Analyte	MRL*	Result
Phenol	1.6	ND	2,4-Dichlorophenol	1.6	ND
2-Chlorophenol	1.6	ND J	4-Chloro-3-methylphenol	1.6	ND
Benzyl Alcohol	1.6	ND	2,4,6-Trichlorophenol	1.6	ND
2-Methylphenol	1.6	ND	2,4,5-Trichlorophenol	1.6	ND
3- and 4-Methylphenol♦	1.6	ND	2,4-Dinitrophenol	11	ND
2-Nitrophenol	1.6	ND	4-Nitrophenol	11	ND
2,4-Dimethylphenol	1.6	ND	2-Methyl-4,6-dinitrophenol	11	ND
Benzoic Acid	11	ND	Pentachlorophenol	11	~~ND~~ 4.1 N

MRL Method Reporting Limit
* MRLs are elevated because of matrix interferences, because the sample(s) required diluting, and because of the low percent solids in the sample as received.
ND None Detected at or above the method reporting limit
♦ Quantified as 4-methylphenol.

Approved by _____ Date 7-21-92

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Washington State Dept. of Ecology	**Date Received:**	06/22/92
Project:	Buse Timber & Sales SHA	**Date Extracted:**	06/23/92
Sample Matrix:	Soil	**Date Analyzed:**	07/13/92
		Work Order No.:	K923922

Tentatively Identified Compounds (TIC)

Base Neutral/Acid Semivolatile Organic Compounds
EPA Methods 3550/8270
mg/Kg (ppm)
Dry Weight Basis

Sample Name: 258030
Lab Code: K3922-1

CAS Number	TIC	Retention Time	Estimated Concentration
--	Unknown	9.93	2
--	Unknown	21.85	3
--	Unknown	23.21	4
--	Unknown	23.40	2
--	Unknown	24.77	10
--	Unknown	27.70	14
--	Unknown	29.84	17
--	Unknown	30.62	19
--	Unknown	31.20	33
--	Unknown	33.31	6
--	Unknown	33.58	28
--	Unknown	33.67	11
--	Unknown	34.25	5
--	Unknown	34.44	15
--	Unknown	34.69	22
--	Unknown	35.57	24
--	Unknown	36.80	14
--	Unknown	36.95	13
--	Unknown	37.85	13

Approved by _____ Date 7-21-92

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Washington State Dept. of Ecology	**Date Received:**	06/22/92
Project:	Buse Timber & Sales SHA	**Date Extracted:**	06/23/92
Sample Matrix:	Soil	**Date Analyzed:**	07/13/92
		Work Order No.:	K923922

Tentatively Identified Compounds (TIC)

Base Neutral/Acid Semivolatile Organic Compounds
EPA Methods 3550/8270
mg/Kg (ppm)
Dry Weight Basis

Sample Name: 258031
Lab Code: K3922-2

CAS Number	TIC	Retention Time	Estimated Concentration
4537115	(1-Butylhexyl)benzene	17.24	7
4537148	(1-Pentylhexyl)benzene	18.41	14
4537159	(1-Butylheptyl)benzene	18.45	11
4536861	(1-Propyloctyl)benzene	18.57	9
4536672	(1-Ethylnonyl)benzene	18.82	6
--	Unknown Hydrocarbon	19.15	3
4536883	(1-Methyldecyl)benzene	19.26	4
2719622	(1-Pentylheptyl)benzene	19.56	17
2719633	(1-Butyloctyl)benzene	19.62	10
2719644	(1-Propylnonyl)benzene	19.76	9
2719611	(1-Methylundecyl)benzene	20.43	4
--	Unknown Hydrocarbon	20.65	3
--	Unknown	21.92	4
--	Unknown	23.22	4
57114	Octadecanoic Acid	24.10	14
--	Unknown	34.45	17
--	Unknown	35.60	12
--	Unknown	36.82	6
--	Unknown	36.99	4
--	Unknown	38.13	24

Approved by _____ Date 7-21-92

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Washington State Dept. of Ecology	**Date Extracted:**	06/23/92
Project:	Buse Timber & Sales SHA	**Date Analyzed:**	07/01/92
Sample Matrix:	Soil	**Work Order No.:**	K923922

Base Neutral/Acid Semivolatile Organic Compounds
EPA Methods 3550/8270
mg/Kg (ppm)
Dry Weight Basis

Sample Name: Method Blank
Lab Code: K3922-MB

Base Neutral Analyte	MRL	Result	Base Neutral Analyte	MRL	Result
N-Nitrosodimethylamine	0.3	ND	2,6-Dinitrotoluene	0.3	ND
Aniline	0.3	ND	Diethyl Phthalate	0.3	ND
Bis(2-chloroethyl) Ether	0.3	ND	4-Chlorophenyl Phenyl Ether	0.3	ND
1,2-Dichlorobenzene	0.3	ND	Fluorene	0.3	ND
1,3-Dichlorobenzene	0.3	ND	4-Nitroaniline	2	ND
1,4-Dichlorobenzene	0.3	ND	N-Nitrosodiphenylamine	0.3	ND J
Bis(2-chloroisopropyl) Ether	0.3	ND	4-Bromophenyl Phenyl Ether	0.3	ND
N-Nitrosodi-n-propylamine	0.3	ND	Hexachlorobenzene	0.3	ND
Hexachloroethane	0.3	ND	Phenanthrene	0.3	ND
Nitrobenzene	0.3	ND	Anthracene	0.3	ND
Isophorone	0.3	ND	Di-n-butyl Phthalate	0.3	ND
Bis(2-chloroethoxy)methane	0.3	ND	Fluoranthene	0.3	ND
1,2,4-Trichlorobenzene	0.3	ND	Pyrene	0.3	ND
Naphthalene	0.3	ND	Butylbenzyl Phthalate	0.3	ND
4-Chloroaniline	0.3	ND	3,3'-Dichlorobenzidine	0.3	ND
Hexachlorobutadiene	0.3	ND	Benz(a)anthracene	0.3	ND
2-Methylnaphthalene	0.3	ND	Bis(2-ethylhexyl) Phthalate	0.3	ND
Hexachlorocyclopentadiene	0.3	ND	Chrysene	0.3	ND
2-Chloronaphthalene	0.3	ND	Di-n-octyl Phthalate	0.3	ND
2-Nitroaniline	2	ND	Benzo(b)fluoranthene	0.3	ND
Dimethyl Phthalate	0.3	ND	Benzo(k)fluoranthene	0.3	ND
Acenaphthylene	0.3	ND	Benzo(a)pyrene	0.3	ND
3-Nitroaniline	2	ND	Indeno(1,2,3-c,d)pyrene	0.3	ND
Acenaphthene	0.3	ND	Dibenz(a,h)anthracene	0.3	ND
Dibenzofuran	0.3	ND	Benzo(g,h,i)perylene	0.3	ND
2,4-Dinitrotoluene	0.3	ND			

Acid Analyte	MRL	Result	Acid Analyte	MRL	Result
Phenol	0.3	ND	2,4-Dichlorophenol	0.3	ND
2-Chlorophenol	0.3	ND	4-Chloro-3-methylphenol	0.3	ND
Benzyl Alcohol	0.3	ND	2,4,6-Trichlorophenol	0.3	ND
2-Methylphenol	0.3	ND	2,4,5-Trichlorophenol	0.3	ND
3- and 4-Methylphenol♦	0.3	ND	2,4-Dinitrophenol	2	ND
2-Nitrophenol	0.3	ND	4-Nitrophenol	2	ND
2,4-Dimethylphenol	0.3	ND	2-Methyl-4,6-dinitrophenol	2	ND
Benzoic Acid	2	ND	Pentachlorophenol	2	ND

MRL Method Reporting Limit
ND None Detected at or above the method reporting limit
♦ Quantified as 4-methylphenol.

Approved by _____ Date 7-21-92

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Washington State Dept. of Ecology	**Date Received:**	06/22/92
Project:	Buse Timber & Sales SHA	**Date Extracted:**	06/23/92
Sample Matrix:	Soil	**Date Analyzed:**	07/13/92
		Work Order No.:	K923922

Surrogate Recovery Summary
Base Neutral/Acid Semivolatile Organic Compounds
EPA Methods 3550/8270

Sample Name	Lab Code	Percent Recovery					
		2FP	PHL	TBP	NBZ	FBP	TPH
258030	K3922-1	93	102	94	78	87	127
258031	K3922-2	89	97	94	71	86	127
EPA Acceptance Criteria		25-121	24-113	19-122	23-120	30-115	18-137

2FP 2-Fluorophenol
PHL Phenol-D_6
TBP 2,4,6-Tribromophenol
NBZ Nitrobenzene-D_5
FBP 2-Fluorobiphenyl
TPH Terphenyl-D_{14}

Approved by _____ Date 7-21-92

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Washington State Dept. of Ecology	**Date Extracted:**	06/23/92
Project:	Buse Timber & Sales SHA	**Date Analyzed:**	07/01/92
Sample Matrix:	Soil	**Work Order No.:**	K923922

Surrogate Recovery Summary
Base Neutral/Acid Semivolatile Organic Compounds
EPA Methods 3550/8270

Sample Name	Lab Code	Percent Recovery					
		2FP	PHL	TBP	NBZ	FBP	TPH
Method Blank	K3922-MB	70	76	72	75	85	85
Laboratory Control Sample	K3922-LCS	69	71	72	73	83	88
EPA Acceptance Criteria		25-121	24-113	19-122	23-120	30-115	18-137

2FP 2-Fluorophenol
PHL Phenol-D_6
TBP 2,4,6-Tribromophenol
NBZ Nitrobenzene-D_5
FBP 2-Fluorobiphenyl
TPH Terphenyl-D_{14}

Approved by _____ Date 7-21-92

WORKSHEET 1
SUMMARY SCORE SHEET

Note: This document currently has no provision for sediment route scoring.

Site Name/Location (City, County, Section/Township/Range):
BUSE TIMBER AND SALES
Everett, Snohomish County

Section 9 of T29N, R5E.

Site Description (Include management areas, compounds of concern, and quantities):
Buse Timber and Sales has operated a saw mill on Smith Island since 1946. They used Pentachlorophenol to treat the lumber until 1986, then changed to "PQ8". Sampling, done in 1986 by consultants for EPA, indicated Pentachlorophenol and Tetrachlorophenol in the soils and sediments at quantities above MTCA Cleanup levels. The site was again sampled at the same points in June 1992 and there was no evidence that either compound or their breakdown compounds were still on the site or in the slough. We did find Pyrene and Bis(2-ethylhexyl)phthalate, but both were below MTCA Cleanup levels.

Pyrene on site = estimated 1.6 ppm Cleanup level = 2,400 ppm
Bis(2-ethylhexyl)phthalate on site = estimated 3.9 ppm and 2.7 ppm
Cleanup level = 71.4 ppm.

Special Considerations (Include limitations in site file data or data which cannot be accommodated in the model, but which are important in evaluating the risk associated with the site, or any other factor(s) over-riding a decision of no further action for the site):
Manchester Laboratory indicated that there are high amounts of petroleum products in Union Slough as evidenced the June 1992 sampling. Further study of the slough is merited. There is no evidence that the petroleum came from Buse and there are several other businesses abutting the slough.

ROUTE SCORES: NOT SCORED

Surface Water/Human Health: ND Surface Water/Environ.: ND

Air/Human Health: ND Air/Environmental: ND

Ground Water/Human Health: ND

OVERALL RANK: NFA

Rev. 4/3/92

Table 5-4 (Continued)
Sediment Sampling Results for Buse Timber and Sales, Inc.
May 25, 1994

	Union Slough Background Sediment	Storm Drain Catch Basin Sediment	Storm Drain Outfall Sediment	Storm Drain Outfall Sediment Duplicate	Union Slough Tidal Gate Sediment
Substanee Detected	SDUSBK5	SDDRN1	SDSD2	SDSD3	SDUS4
Semivolatile (ug/kg)					
2-Methylnaphthalene	610 U	4600 U	1900 U	3700 J	610 U
2-Methylphenol	610 U	4600 U	30000 U	2900 J	610 U
4-Methylphenol	140 J	4600 U	2100 J	2900 J	610 U
Benzo(g,h,i)perylene	610 U	380 J	30000 U	29000 U	610 U
Butylbenzylphthalate	610 U	650 J	30000 U	29000 U	610 U
Chrysene	610 U	320 J	30000 U	29000 U	610 U
Di-n-butylphthalate	42 J	4600 U	30000 U	1700 J	610 U
Di-n-octylphthalate	610 U	520 J	30000 U	29000 U	610 U
Diethylphthalate	34 J	4600 U	30000 U	29000 U	610 U
Fluoranthene	110 J	400 J	30000 U	29000 U	610 U
Pentachlorophenol	1500 U	460 J	73000 U	70000 U	1500 U
Phenanthrene	74 J	240 J	30000 U	1800 J	610 U
Pyrene	130 J	750 J	2200 J	1800 J	610 U
Chlorinated Phenols (ug/kg)					
2,4,5-Trichlorophenol	18 U	16 J	43 U	56 U	20 U
2,4,6-Trichlorophenol	18 U	16 U	43 U	56 U	10 J
2,4-Dichlorophenol	18 U	16 J	43 U	56 U	20 U
2,6-Dichlorophenol	18 J	16 J	109 J	56 U	40 J
2-Phenylphenol	18 U	32	43 J	56 U	20 J
4-Chloro-3-methylphenol	18 U	8 J	22 J	56 U	20 U
Pentachlorophenol	18 U	71	109	56 U	10 U

Notes:
Highlighted values indicate sample was detected at significant concentrations based on the criteria in Table 5-1.
J = Value is an estimate
U = Sample was undetected
ug = Microgram (1E-6 gram)

significant. There is no known source for mercury on the Buse site. The only known source of lead on the Buse site is leaded gasoline used in vehicles operated on the site.

5.3.2 PCB Analyses

No PCBs were detected in the off-site background sediment sample.

One PCB compound was detected in one on-site sample at a significant concentration. Aroclor 1254 was detected at 1,000 μg/kg in sample SDDRN1, the storm drain catch basin sample. Ecology noted several PCB violations in a 1990 TSCA inspection performed for the EPA (U.S. EPA 1991b). No other significant detections of PCBs were reported.

5.3.3 Semivolatile Analyses

Six SVs were detected at estimated concentrations in the off-site background sediment sample: 4-methylphenol, di-n-butylphthalate, diethylphthalate, fluoranthene, phenanthrene, and pyrene. See Table 5-4 for concentrations. No significant detections of SVs were reported for any of the on-site sediment samples.

5.3.4 Chlorinated Phenol Analyses

One chlorinated phenol (2,6-dichlorophenol) was detected at an estimated concentration of 18 mg/kg in the background sediment sample (SDUSBK5). All sample detections for chlorinated phenol analyses are reported in Table 5-4.

Pentachlorophenol was detected at significant concentrations in both the storm drain outfall sample (SDSD2) and in the storm drain catch basin sample (SDDRN1). Sample SDSD2 was reported to contain 109 μg/kg pentachlorophenol and sample SDDRN1 was reported to contain 71 μg/kg pentachlorophenol. The duplicate storm drain outfall sediment sample did not have any detections of chlorinated phenols. The detection limit for this duplicate sample was reported as 56 μg/kg for pentachlorophenol. The storm drain catch basin sample (SDDRN1) reported a significant concentration of 2-phenylphenol at 32 μg/kg.

5.4 QUALITY CONTROL SAMPLES

Duplicate samples were collected during this field sampling event to evaluate the environmental variability at a location and the consistency of sample collection. The results from the duplicates collected at the Buse site reported detections of similar compounds. However, none of the significant detections in either sample was confirmed by a significant detection in the other sample. Sample detections and detection limits varied widely. For example, sample SDSD3 has a reported concentration of di-n-butylphthalate of 1,700 (estimated) but the duplicate sample's (SDSD2) result is not detected at a detection limit of 30,000. Apparently, despite sample homogenization residual heterogeneity existed between the sample duplicates.

During the field sampling conducted at Buse Timber and Sales, an equipment rinsate sample (ERO01) was collected. The analytes detected in this sample are provided in Table 5-5. The equipment rinsate sample was collected after the stainless steel auger was decontaminated. None of the analytes detected in the rinsate sample were detected at significant concentrations in any of the environmental samples, indicating that cross contamination is not likely to have occurred.

5.5 SUMMARY

Significant quantities of lead, mercury, and pentachlorophenol were detected in the storm drain catch basin and storm drain outfall samples. One PCB (Aroclor 1254) and 2-phenylphenol were detected at significant quantities in the sediment sample collected from the storm drain catch basin. No other significant quantities of any other compound were detected in any sample.

Table 5-5
Rinsate Sample Results for Buse Timber & Sales
May 25, 1994

	Equipment Rinsate
Substance Detected	**ER01**
Inorganics ug/kg	
Aluminum	5.8 UJ
Iron	9.98 J
Magnesium	25 J
Manganese	0.21 UJ
Sodium	5.4 UJ
PCBs ug/kg	
	ND
Semivolatiles ug/kg	
1,4-Dichlorobenzene	1 J
Naphthalene	6 J
Chlorinated Phenols ug/kg	
4-Chloro-3-methylphenol	0.3 J
Phenol	0.3 J

Notes:
J =value is an estimate
mg/kg = milligrams per kilograms
ND = none detected
U =sampe was undetected
ug = Microgram (1E-6 gram)
UJ = analyte was not detected above the reported ample quantitation limit. However, the reported quantitation limit is an estimate.

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APPENDIX A

PHOTODOCUMENTATION OF MAY 24 AND 25, 1994, URS SAMPLING EVENT

URS Consultants	ARCS Photograph Log	DCL # 4162760.17.20.638.27.a	
Project Number: 4162760.17	Project/Site Name: Buse Marine Construction and Repair, Inc.	Photographer(s) Signatures(s): Thomas Mercer, Jeff Kesner	
Camera Type: Canon	Film Type/Speed: Kodak 200 ASA	Roll Number: 1	Date: 8/15/94

Frame	Date	Time	Orientation	Subject
1	5-24-94	0940	S	JMK and TAM at Union Slough background
2	5-24-94	0940	N	Sampling the Union Slough background sediment sample
3	5-24-94	0940	N	Sampling the Union Slough background sediment sample
4	5-25-94	0818	N	JMK at SSUR01 sample location
5	5-25-94	0920	SW	BUSE personnel attempting to remove catch basin cover
6	5-25-94	0922	SW	BUSE personnel attempting to remove catch basin cover
7	5-25-94	0926	NW	The catch basin where sample SDRN1 was collected
8	5-25-94	0930	Down	TAM collecting sample SDRN1
9	5-25-94	0946	W	Sample SDSD2 and SDSD3 location
10	5-25-94	0959	NW	JMK sampling SDSD2
11	5-25-94	1024	W	Panorama of tidal gate slough
12	5-25-94	1024	WSW	Panorama of tidal gate slough
13	5-25-94	1024	WSW	Panorama of tidal gate slough
14	5-25-94	1025	SW	Collecting subaqueous tidal gate sediment sample
15	5-25-94	1215	S	SSURBAK3 Abandoned location for background sample
16	5-25-94	1301	SE	JMK preparing to sample background samples SSURBAK3 and SSUBBAK4 at Barbara Lawson's home

Date Delivered to Processor	Date Received from Processor	Comments

1 | JMK and TAM at Union Slough background

2 | Sampling the Union Slough background sediment sample

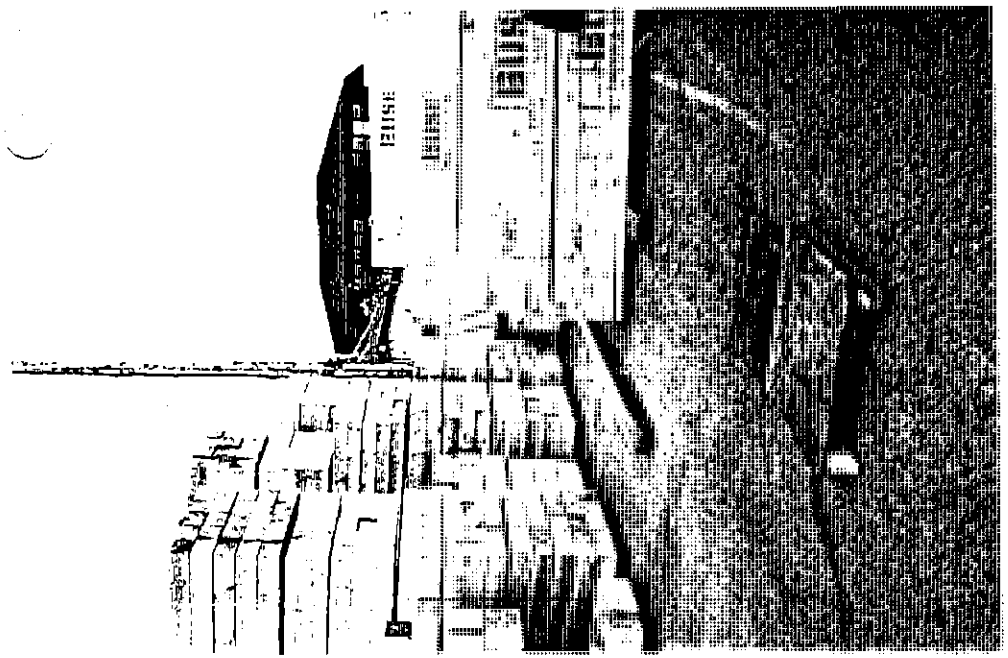
3 | Sampling the Union Slough background sediment sample

4 | JMK at SSUR01 sample location

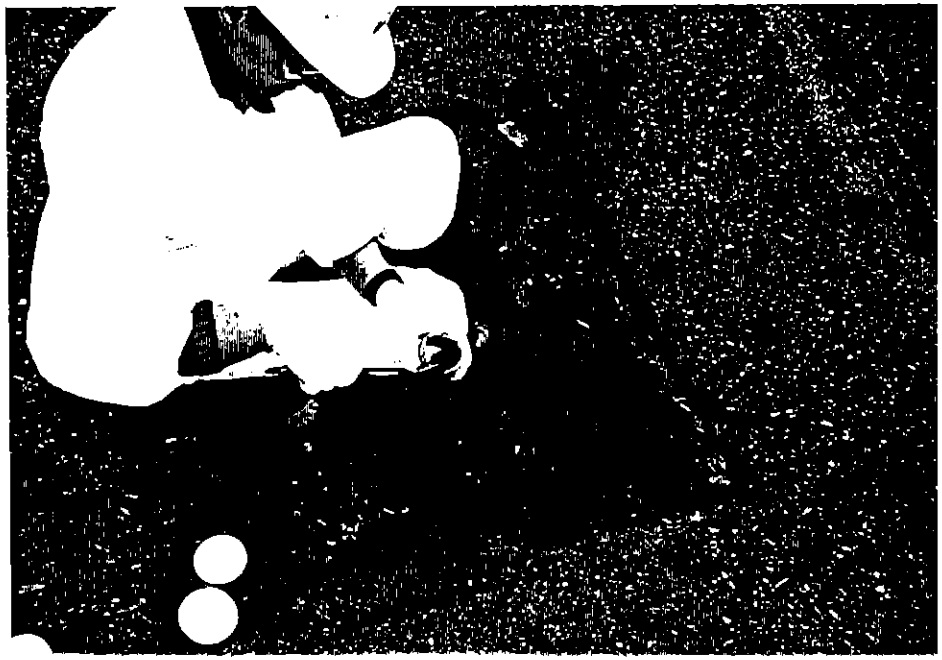
5 | BUSE personnel attempting to remove catch basin cover

6 | BUSE personnel attempting to remove catch basin cover

7 | The catch basin where sample SDRN1 was collected

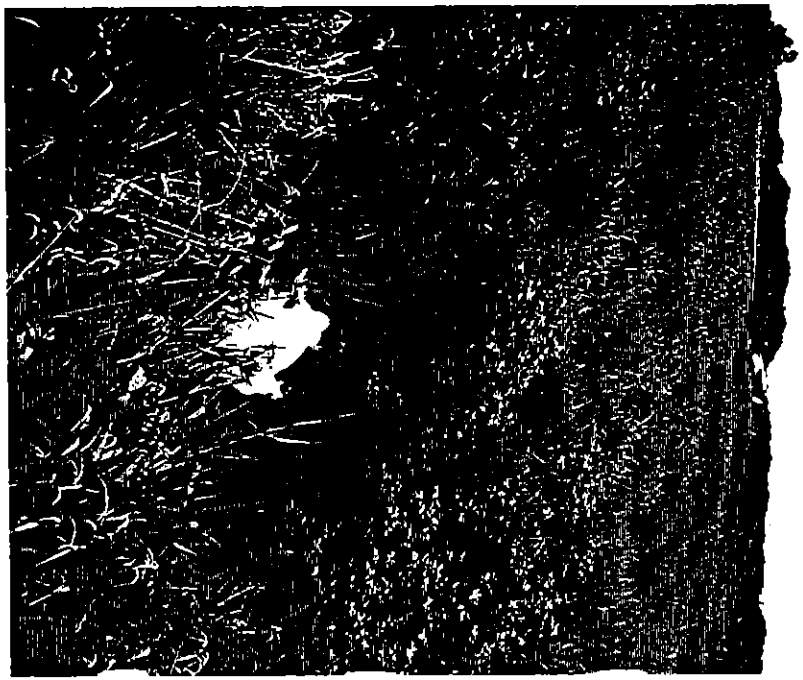


8 | TAM collecting sample SDRN1

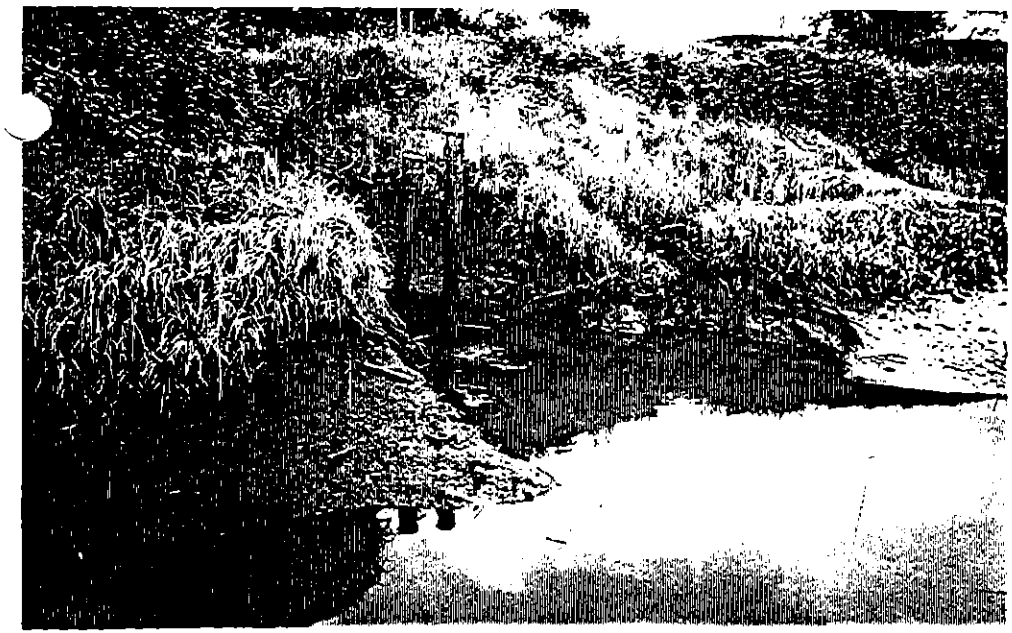


9 | Sample SDSD2 and SDSD3 location

10 | JMK sampling SDSD2

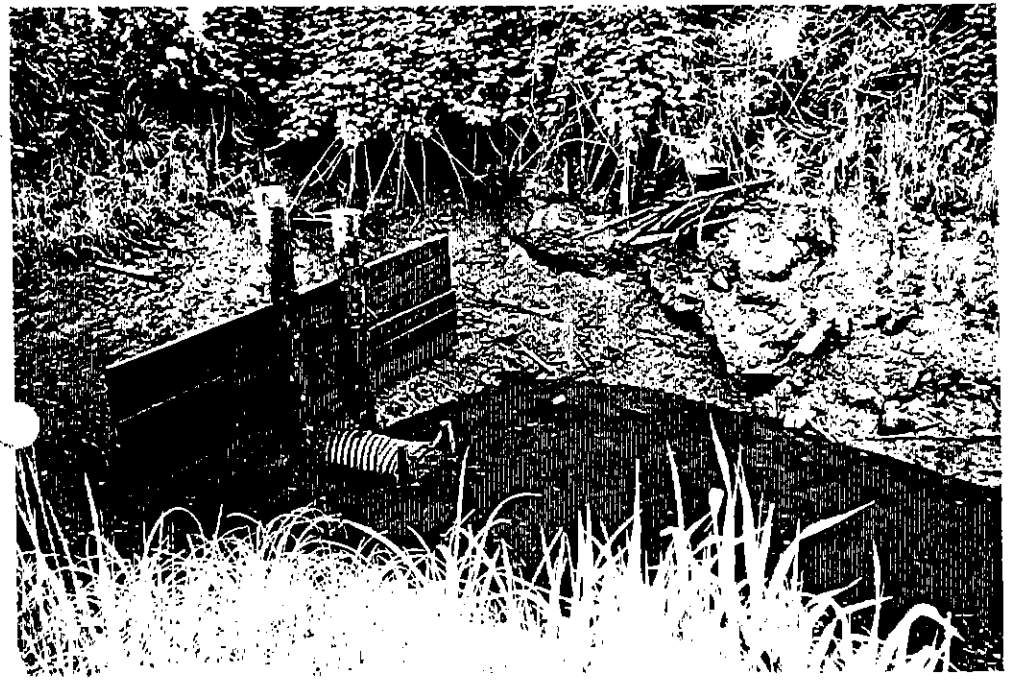


11 | Panorama of tidal gate slough

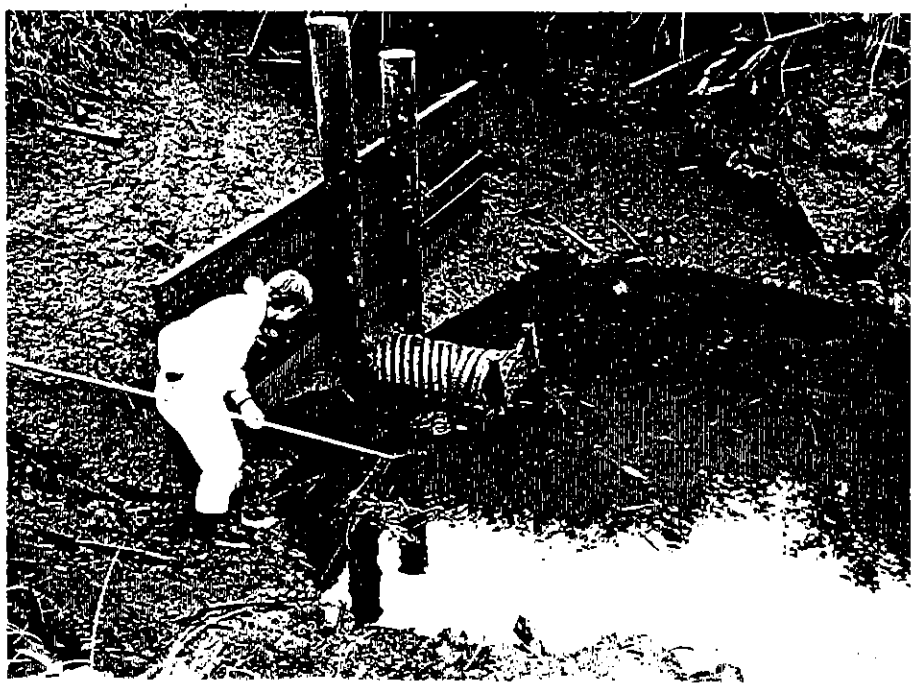


12 | Panorama of tidal gate slough

13 | Panorama of tidal gate slough



14 | Collecting subaqueous tidal gate sediment sample

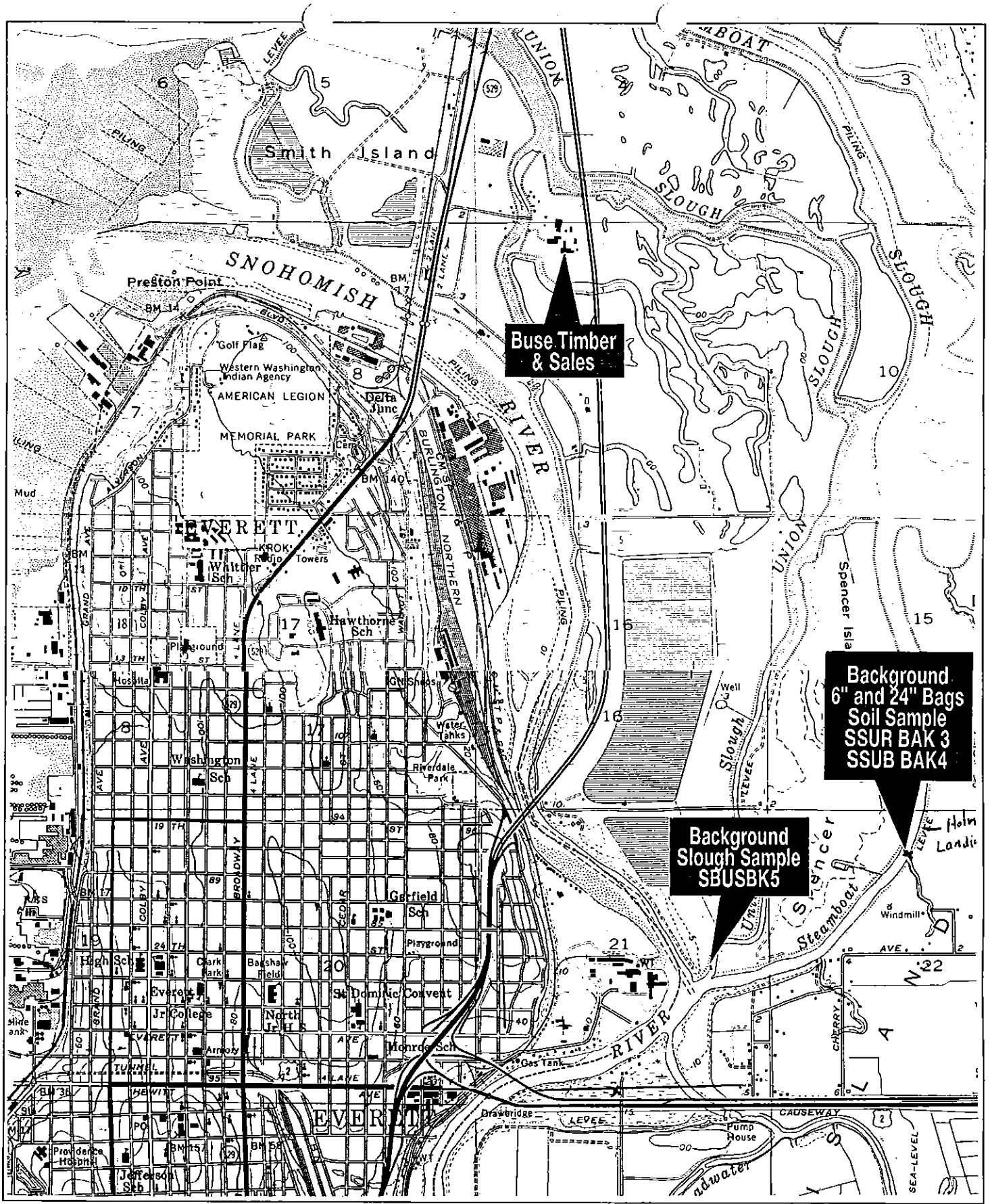


15 | SSURBAK3 Abandoned location for background sample

16 | JMK preparing to sample background samples SSURBAK3 and SSUBBAK4 at Barbara Lawson's home

APPENDIX B

BACKGROUND SAMPLE LOCATION MAP



URS CONSULTANTS

NORTH

0 1/2 1

Scale In Miles

Background Sample Location Map

Buse Timber & Sales
Everett, Washington

APPENDIX C

LABORATORY DATA REPORTS AND DATA VALIDATION REPORTS FOR SAMPLES COLLECTED FOR BUSE TIMBER & SALES

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10 LABORATORY
7411 Beach Dr. East
Port Orchard, Washington 98366
June 28, 1994

MEMORANDUM

SUBJECT: Buse Timber (SSI) Total Metals in Soil Analysis
Samples Nos: 94214115 - 94214124

FROM: Isabel Chamberlain, Task Monitor, USEPA, Region 10

TO: David Bennet, Project Manager, USEPA, Region 10

FULL DATA REVIEW

I have reviewed the attached data package and the corresponding raw data. Based on this review, I find that the Self Evaluation Report prepared by the ESAT contractor was conducted in accordance with the Functional Guidelines, and that the data qualifiers recommended in the ESAT contractor's evaluation are appropriate.

ENVIRONMENTAL SERVICE ASSISTANCE TEAMS - ZONE 2

ESAT Region 10
ICF Technology Inc.
7411 Beach Drive East
Port Orchard, WA 98366
Phone (206) 871-8760

ICF Technology Inc.
ManTech Environmental

MEMORANDUM

DATE: June 17, 1994

TO: Jerry Muth, Regional Project Officer, USEPA, Region 10
Isa Chamberlain, Task Monitor, USEPA, Region 10
David Bennett, Project Manager, USEPA, Region 10

THROUGH: Barry Pepich, Team Manager, ESAT, Region 10

FROM: John Alexander, Senior Chemist, ESAT, Region 10

SUBJECT: Quality Assurance Review of Buse Timber (SSI) Total Metals in Soil Analysis
Sample Nos: 94214115 - 94214124
Project Code: TEC-613A; Account Code: 4TFA10PUZZ

TID#: 10-9404-430
DOC#: ESAT-10A-7075
WUD#: 1420

CC: Bruce Woods, USEPA RQAMO, Region 10
Jeff Kesner, URS Consultants Inc., Seattle, WA

The following is a quality assurance review of the total metals analysis of nine soil samples and one field blank sample from the Buse Timber & Sales investigation, Everett, WA. The analysis was performed following CLP and laboratory guidelines by the ESAT Team at the USEPA Manchester Environmental Laboratory, Port Orchard, WA. This quality assurance review was conducted for the following samples:

94214115	94214116	94214117	94214118	94214119	94214120
94214121	94214122	94214123	94214124		

DATA QUALIFICATIONS

The following comments refer to the ESAT Team's performance in meeting quality control specifications outlined in the *CLP Statement of Work (CLP-SOW) for Inorganic Analysis, rev. ILM03.0*, the *Manchester Environmental Laboratory Quality Assurance Manual, revision 5/88*, and the *Buse Timber & Sales Field Sampling Plan, Rev. 2, 05/04/94*. The recommendations presented herein are based on the information provided for the review.

1.0 TIMELINESS - Acceptable

The suggested holding time from the date of collection for mercury in soil is 28 days and the holding time for remaining metals in soil is 180 days. The samples were collected on 05/24/94 and 05/25/94. Mercury analysis was completed by 06/02/94, nine days from collection. The remaining metals analyses were completed by 06/15/94, twenty-two days from collection. No qualification was recommended based on these holding time criteria.

2.0 SAMPLE PREPARATION - Acceptable

The samples were prepared using hot-plate digestion for total metals on 05/31/94 and for total mercury on 06/01/94. All procedures were in accordance with Manchester Laboratory and CLP protocols. Qualification was not recommended on this basis.

3.0 CALIBRATION - Acceptable

The samples were analyzed by ICP-AES (Inductively Coupled Plasma - Atomic Emission Spectroscopy) on 06/15/94. The instrument was standardized according to the analytical method using a blank and a series of calibration standards.

The samples were analyzed by CVAAS (Cold Vapor Atomic Absorption Spectroscopy) on 06/02/94 for mercury. Initial calibration included a blank and at least four standards, as required. The curve was linear with a correlation coefficient greater than 0.995.

All calibrations met acceptable criteria therefore no qualification was recommended on this basis.

4.0 REFERENCE CONTROL SAMPLES/CALIBRATION VERIFICATION - Acceptable

Laboratory reference control samples are required before and after sample analysis and after every 10 samples during analysis. All control samples met frequency and recovery criteria of 90 - 110% for ICP-AES and 80 - 120% for CVAAS (mercury) analysis except for aluminum in the final ICP-AES control sample (111%) on 06/15/94. However, a second control standard run for initial and final control verification was within limits and was deemed to be more representative of the aluminum concentrations found in the samples. On this basis, no qualification was recommended.

5.0 BLANKS

Procedural blanks were prepared with the samples to indicate potential contamination from the digestion or analysis procedure. If an analyte was found in the associated blank, the sample results were recommended for qualification if the analyte concentration was less than ten times the analytical value in the blank.

Calcium, iron, magnesium, manganese and sodium were detected in the ICP-AES procedural blank. The concentration of these analytes in the samples exceeded the minimum blank criterion except in the field blank sample 94214123. On this basis, (B) qualification was recommended for these analytes in sample 94214123.

6.0 ICP-AES INTERFERENCE CHECK SAMPLE - Acceptable

The interference check sample (ICS) is analyzed by ICP-AES to verify interelement and background correction factors. Analysis is required at the beginning and end of each sample analysis run. The acceptance criterion for the ICS is 80% - 120%. All results met frequency and recovery requirements on the day of analysis.

7.0 DUPLICATE ANALYSIS - Acceptable

Duplicate analysis was performed on samples 94214115 for ICP-AES and CVAAS analyses. All relative percent difference (RPD) were within 20%, as required by the laboratory. No qualification was recommended on this basis.

8.0 FIELD DUPLICATE ANALYSIS - Not Applicable

Field duplicate analysis was not indicated in the field collection documentation.

9.0 MATRIX SPIKE ANALYSIS

Matrix spike sample analyses are performed to provide information about the effect of the sample matrix on digestion and measurement methods. Manchester Laboratory and CLP guidelines specify that the matrix spike recovery must be within the limits of 75 - 125%. Matrix spike/matrix spike duplicate analyses were performed on sample 94214115. All recoveries were within acceptable limits except for antimony (0/0%) in ICP-AES analysis. Low recoveries for antimony are not uncommon in soil matrices, and subsequent post spike analysis demonstrated acceptable recoveries which indicate that matrix interference was not the likely cause of the low matrix spike results. Based on these results, the (N) qualifier was recommended for attachment to all antimony results to denote potential bias due to loss of the analyte during digestion or analysis.

10.0 GRAPHITE FURNACE ATOMIC ABSORPTION SPEC. (GFAAS) QC - Not Applicable

This analytical method was not used for these samples.

11.0 ICP-AES SERIAL DILUTION - Acceptable

Sample 94214115 was analyzed by serial dilution and compared to the original, undiluted analyses in the ICP-AES procedure. All percent differences of analytes above 50 times the detection level were within the required 10% criterion range. No qualification was recommended on this basis.

12.0 DETECTION LIMITS - Acceptable

Sample results which fall below the instrument detection limit (IDL) are assigned the value of the instrument detection limit and the (U) qualifier is recommended for attachment. Any sample result falling between the detection limit and the quantitation limit is recommended for qualification as an estimate (P). This notifies the data user that the

element was detected at the reported value, but below the minimum level of practicel quantitation determined to be within precision limits of 10% relative standard deviation.

13.0 OVERALL ASSESSMENT OF THE DATA

The quality assurance review of the data is based on the criteria outlined in the *Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses (7/88).*

The following is a summary of the recommended qualification for soil samples from the Buse Timber site, EPA sample numbers 94214115, 94214116, 94214117, 94214118, 94214119, 94214120, 94214121, 94214122, 94214123 and 94214124. The (U) qualifier was recommended for attachment to sample results below the minimum level of detection. The (P) qualifier was recommended for attachment to sample results less than the laboratory's quantitation limit.

The (N) qualifier was recommended for attachment to antimony results (4.3% of the reported sample data) due to low matrix spike recovery. The (B) qualifier was recommended for calcium, iron, magnesium, manganese and sodium results (2.2%) in the equipment rinsate blank sample.

Definitions of laboratory data qualifiers are attached.

USEPA Region 10 Laboratory

Below are the definitions for the qualifiers used in the metals area when qualifying data from metals analysis.

DATA QUALIFIERS

U	-	Element was analyzed but not detected. The associated numerical value is the instrument detection limit/method detection limit.
P	-	The analyte was detected above the Instrument Detection Limit, but not quantified within expected limits of precision. The laboratory has established minimum quantitation limits having a relative standard deviation of no more than 10%
H	-	The samples were analyzed after the suggested holding time limit.
E	-	The reported value is an estimate because of the presence of interference. An explanatory note will be included with the report.
B	-	Analyte is found in the analytical blank as well as the sample indicating possible/probable blank contamination. If analytes are found in any of the associated procedural blanks the concentration in the samples must be at least ten times the quantity observed in the blank. If the sample result fails these criteria the sample result is qualified (B).
N	-	Spiked sample recovery not within control limits.
NAR	-	There is no analysis result for this analyte.
NA	-	Not Applicable/Not Required.
S	-	Sample was analyzed by method of standard additions.
+	-	Sample was analyzed by method of standard additions and the correlation coefficient was less than 0.995.
*	-	The analyte was present in the sample.
W	-	Post spike out of specified range, and sample was less than 50% the spike added.

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid
SampleNumber : 94214115
Type : Reg sample
Station Description: SSURO01

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	0.0749	mg/kg					
ICP-RAS							
Aluminum	18200	mg/kg		Antimony	3.0	mg/kg	UN
Arsenic	20	mg/kg	P	Barium	50.5	mg/kg	
Beryllium	0.34	mg/kg	P	Cadmium	0.24	mg/kg	P
Calcium	2940	mg/kg		Chromium	54.1	mg/kg	
Cobalt	9.25	mg/kg		Copper	40.1	mg/kg	
Iron	30100	mg/kg		Lead	12	mg/kg	P
Magnesium	8840	mg/kg		Manganese	298	mg/kg	
Nickel	36.2	mg/kg		Potassium	2410	mg/kg	
Selenium	15	mg/kg	P	Silver	0.30	mg/kg	U
Sodium	335	mg/kg		Thallium	5.0	mg/kg	U
Vanadium	68.6	mg/kg		Zinc	57.9	mg/kg	

Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix : Solid
SampleNumber : 94214115
Type : Duplicate
Station Description:

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	0.0760	mg/kg					
ICP-RAS							
Aluminum	19700	mg/kg		Antimony	3.0	mg/kg	UN
Arsenic	17	mg/kg	P	Barium	52.9	mg/kg	
Beryllium	0.37	mg/kg	P	Cadmium	0.20	mg/kg	U
Calcium	3280	mg/kg		Chromium	58.1	mg/kg	
Cobalt	9.63	mg/kg		Copper	41.1	mg/kg	
Iron	31300	mg/kg		Lead	14	mg/kg	P
Magnesium	9250	mg/kg		Manganese	311	mg/kg	
Nickel	39.3	mg/kg		Potassium	2500	mg/kg	
Selenium	15	mg/kg	P	Silver	0.30	mg/kg	U
Sodium	362	mg/kg		Thallium	8.0	mg/kg	P
Vanadium	70.3	mg/kg		Zinc	61.2	mg/kg	

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix : Solid
SampleNumber : 94214115
Type : Matrix Spike
Station Description:

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	92	%R					
ICP-RAS							
Aluminum	NA			Antimony	0	%R	
Arsenic	91	%R		Barium	100	%R	
Beryllium	96	%R		Cadmium	89	%R	
Calcium	NA	%R		Chromium	97	%R	
Cobalt	94	%R		Copper	97	%R	
Iron	NA			Lead	91	%R	
Magnesium	NA	%R		Manganese	100	%R	
Nickel	95	%R		Potassium	NA	%R	
Selenium	101	%R		Silver	81	%R	
Sodium	NA	%R		Thallium	97	%R	
Vanadium	100	%R		Zinc	92	%R	

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix : Solid
SampleNumber : 94214115
Type : Matrix Spike Dupl
Station Description:

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	94	%R					
ICP-RAS							
Aluminum	NA			Antimony	0	%R	
Arsenic	89	%R		Barium	98	%R	
Beryllium	94	%R		Cadmium	90	%R	
Calcium	NA	%R		Chromium	99	%R	
Cobalt	93	%R		Copper	95	%R	
Iron	NA			Lead	90	%R	
Magnesium	NA	%R		Manganese	100	%R	
Nickel	93	%R		Potassium	NA	%R	
Selenium	99	%R		Silver	80	%R	
Sodium	NA	%R		Thallium	94	%R	
Vanadium	98	%R		Zinc	92	%R	

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid
SampleNumber : 94214116
Type : Reg sample
Station Description: SSUBO02

Analyte	Result	Units	Qlfr
MET			
Hg			
Mercury	0.0668	mg/kg	
ICP-RAS			
Aluminum	18200	mg/kg	
Arsenic	25	mg/kg	P
Beryllium	0.30	mg/kg	P
Calcium	2630	mg/kg	
Cobalt	9.92	mg/kg	
Iron	26500	mg/kg	
Magnesium	8630	mg/kg	
Nickel	44.9	mg/kg	
Selenium	13	mg/kg	P
Sodium	543	mg/kg	
Vanadium	69.6	mg/kg	
Antimony	3.0	mg/kg	UN
Barium	46.4	mg/kg	
Cadmium	0.20	mg/kg	U
Chromium	79.4	mg/kg	
Copper	41.4	mg/kg	
Lead	9.8	mg/kg	P
Manganese	248	mg/kg	
Potassium	2230	mg/kg	
Silver	0.30	mg/kg	U
Thallium	6.2	mg/kg	P
Zinc	52.7	mg/kg	

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid
SampleNumber : 94214117
Type : Reg sample
Station Description: SDDRN1

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	1.84	mg/kg					
ICP-RAS							
Aluminum	7410	mg/kg		Antimony	3.0	mg/kg	UN
Arsenic	8.0	mg/kg	P	Barium	51.2	mg/kg	
Beryllium	0.15	mg/kg	P	Cadmium	0.56	mg/kg	P
Calcium	3770	mg/kg		Chromium	182	mg/kg	
Cobalt	238	mg/kg		Copper	108	mg/kg	
Iron	13200	mg/kg		Lead	57.0	mg/kg	
Magnesium	5300	mg/kg		Manganese	188	mg/kg	
Nickel	56.8	mg/kg		Potassium	524	mg/kg	
Selenium	6.0	mg/kg	U	Silver	0.30	mg/kg	U
Sodium	378	mg/kg		Thallium	5.0	mg/kg	U
Vanadium	32.3	mg/kg		Zinc	329	mg/kg	

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid
SampleNumber : 94214118
Type : Reg sample
Station Description: SDSD3

Analyte	Result	Units	Qlfr
MET			
Hg			
Mercury	0.159	mg/kg	
ICP-RAS			
Aluminum	5030	mg/kg	
Arsenic	7.7	mg/kg	P
Beryllium	0.15	mg/kg	P
Calcium	2920	mg/kg	
Cobalt	11.4	mg/kg	
Iron	18000	mg/kg	
Magnesium	2880	mg/kg	
Nickel	60.1	mg/kg	
Selenium	11	mg/kg	P
Sodium	952	mg/kg	
Vanadium	22.7	mg/kg	
Antimony	5.6	mg/kg	PN
Barium	69.3	mg/kg	
Cadmium	2.0	mg/kg	P
Chromium	94.6	mg/kg	
Copper	69.3	mg/kg	
Lead	56.2	mg/kg	
Manganese	153	mg/kg	
Potassium	511	mg/kg	
Silver	0.30	mg/kg	U
Thallium	5.0	mg/kg	U
Zinc	262	mg/kg	

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid
SampleNumber : 94214119
Type : Reg sample
Station Description: SDSD2

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	0.282	mg/kg					
ICP-RAS							
Aluminum	3790	mg/kg		Antimony	3.4	mg/kg	PN
Arsenic	6.7	mg/kg	P	Barium	63.9	mg/kg	
Beryllium	0.13	mg/kg	P	Cadmium	1.9	mg/kg	P
Calcium	2770	mg/kg		Chromium	96.3	mg/kg	
Cobalt	10.6	mg/kg		Copper	57.2	mg/kg	
Iron	16700	mg/kg		Lead	39.9	mg/kg	
Magnesium	2250	mg/kg		Manganese	144	mg/kg	
Nickel	59.0	mg/kg		Potassium	380	mg/kg	P
Selenium	6.0	mg/kg	U	Silver	0.30	mg/kg	U
Sodium	797	mg/kg		Thallium	5.2	mg/kg	P
Vanadium	18.1	mg/kg		Zinc	231	mg/kg	

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid
SampleNumber : 94214120
Type : Reg sample
Station Description: SDUS4

Analyte	Result	Units	Qlfr
MET			
Hg			
Mercury	0.103	mg/kg	
ICP-RAS			
Aluminum	14400	mg/kg	
Arsenic	10	mg/kg	P
Beryllium	0.33	mg/kg	P
Calcium	4540	mg/kg	
Cobalt	29.6	mg/kg	
Iron	26900	mg/kg	
Magnesium	8560	mg/kg	
Nickel	67.9	mg/kg	
Selenium	9.7	mg/kg	P
Sodium	3210	mg/kg	
Vanadium	45.4	mg/kg	
Antimony	3.0	mg/kg	UN
Barium	45.6	mg/kg	
Cadmium	0.23	mg/kg	P
Chromium	102	mg/kg	
Copper	36.2	mg/kg	
Lead	13	mg/kg	P
Manganese	263	mg/kg	
Potassium	1380	mg/kg	
Silver	0.30	mg/kg	U
Thallium	7.4	mg/kg	P
Zinc	62.5	mg/kg	

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid
SampleNumber : 94214121
Type : Reg sample
Station Description: SSURBAK3

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	0.0575	mg/kg					
ICP-RAS							
Aluminum	20900	mg/kg		Antimony	3.0	mg/kg	UN
Arsenic	22	mg/kg	P	Barium	108	mg/kg	
Beryllium	0.49	mg/kg	P	Cadmium	0.35	mg/kg	P
Calcium	3010	mg/kg		Chromium	86.3	mg/kg	
Cobalt	23.6	mg/kg		Copper	45.5	mg/kg	
Iron	30300	mg/kg		Lead	52.3	mg/kg	
Magnesium	8720	mg/kg		Manganese	417	mg/kg	
Nickel	64.1	mg/kg		Potassium	905	mg/kg	
Selenium	6.0	mg/kg	U	Silver	0.30	mg/kg	U
Sodium	299	mg/kg		Thallium	6.0	mg/kg	P
Vanadium	66.0	mg/kg		Zinc	89.6	mg/kg	

Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid
SampleNumber : 94214122
Type : Reg sample
Station Description: SSURBAK4

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	0.0485	mg/kg					
ICP-RAS							
Aluminum	18800	mg/kg		Antimony	3.0	mg/kg	UN
Arsenic	17	mg/kg	P	Barium	70.9	mg/kg	
Beryllium	0.28	mg/kg	P	Cadmium	0.20	mg/kg	U
Calcium	2530	mg/kg		Chromium	61.5	mg/kg	
Cobalt	13.2	mg/kg		Copper	34.0	mg/kg	
Iron	28300	mg/kg		Lead	12	mg/kg	P
Magnesium	7690	mg/kg		Manganese	223	mg/kg	
Nickel	32.7	mg/kg		Potassium	985	mg/kg	
Selenium	6.0	mg/kg	U	Silver	0.30	mg/kg	U
Sodium	269	mg/kg		Thallium	7.0	mg/kg	P
Vanadium	63.3	mg/kg		Zinc	57.4	mg/kg	

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid
SampleNumber : 94214123
Type : Reg sample
Station Description: ER01

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	0.020	mg/kg	U				
ICP-RAS							
Aluminum	5.8	mg/kg	P	Antimony	3.0	mg/kg	UN
Arsenic	4.0	mg/kg	U	Barium	0.10	mg/kg	U
Beryllium	0.050	mg/kg	U	Cadmium	0.20	mg/kg	U
Calcium	18.5	mg/kg	B	Chromium	0.50	mg/kg	U
Cobalt	0.50	mg/kg	U	Copper	0.30	mg/kg	U
Iron	9.98	mg/kg	B	Lead	2.5	mg/kg	U
Magnesium	25.0	mg/kg	B	Manganese	0.21	mg/kg	PB
Nickel	1.0	mg/kg	U	Potassium	45	mg/kg	U
Selenium	6.0	mg/kg	U	Silver	0.30	mg/kg	U
Sodium	5.4	mg/kg	PB	Thallium	5.0	mg/kg	U
Vanadium	0.30	mg/kg	U	Zinc	0.40	mg/kg	U

Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/24/94
Matrix : Solid
SampleNumber : 94214124
Type : Reg sample
Station Description: SBUSBK5

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	0.0694	mg/kg					
ICP-RAS							
Aluminum	17600	mg/kg		Antimony	3.2	mg/kg	PN
Arsenic	15	mg/kg	P	Barium	61.2	mg/kg	
Beryllium	0.41	mg/kg	P	Cadmium	0.29	mg/kg	P
Calcium	3770	mg/kg		Chromium	72.5	mg/kg	
Cobalt	16.5	mg/kg		Copper	44.1	mg/kg	
Iron	25900	mg/kg		Lead	11	mg/kg	P
Magnesium	9380	mg/kg		Manganese	385	mg/kg	
Nickel	56.8	mg/kg		Potassium	1380	mg/kg	
Selenium	6.5	mg/kg	P	Silver	0.30	mg/kg	U
Sodium	440	mg/kg		Thallium	5.0	mg/kg	U
Vanadium	53.0	mg/kg		Zinc	76.8	mg/kg	

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix : Solid
SampleNumber : S940531B
Type : Blank
Station Description:

MET

ICP-RAS

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
Aluminum	2.0	mg/kg	U	Antimony	3.0	mg/kg	U
Arsenic	4.0	mg/kg	U	Barium	0.10	mg/kg	U
Beryllium	0.050	mg/kg	U	Cadmium	0.20	mg/kg	U
Calcium	18.7	mg/kg		Chromium	0.50	mg/kg	U
Cobalt	0.50	mg/kg	U	Copper	0.30	mg/kg	U
Iron	2.65	mg/kg		Lead	2.5	mg/kg	U
Magnesium	22.0	mg/kg		Manganese	0.15	mg/kg	P
Nickel	1.0	mg/kg	U	Potassium	45	mg/kg	U
Selenium	6.0	mg/kg	U	Silver	0.30	mg/kg	U
Sodium	2.9	mg/kg	P	Thallium	5.0	mg/kg	U
Vanadium	0.30	mg/kg	U	Zinc	0.40	mg/kg	U

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix : Solid
SampleNumber : S940601B
Type : Blank
Station Description:

Analyte	Result	Units	Qlfr
MET			
Hg			
Mercury	0.020	mg/kg	U

02760.47.60.605
27.b1 Kesner

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10 LABORATORY
7411 Beach Dr. East
Port Orchard, Washington 98366

July 15, 1994

RECEIVED
JUL 25 1994
URS CONSULTANTS

MEMORANDUM

SUBJECT: QA Review for PCBs from Buse Timber, Everett, WA

FROM: R. H. Rieck, Chemist R. H. Rieck

TO: Dave Bennett, Project Officer

LESS THAN FULL DATA REVIEW

I have reviewed the attached data package and spot-checked approximately 10 percent of the corresponding raw data, as requested by the Superfund Project Manager. Based on this review, I find that it appears that the Self Evaluation Report prepared by the ESAT contractor was conducted in accordance with the Functional Guidelines, and that data qualifiers recommended in the evaluation appear to be appropriate.

ENVIRONMENTAL SERVICE ASSISTANCE TEAMS - ZONE 2

ESAT Region 10
ICF Technology Inc.
7411 Beach Drive East
Port Orchard, WA 98366
Phone (206) 871-8760

ICF Technology Inc.
ManTech Environmental

MEMORANDUM

DATE: July 14, 1994

TO: Gerald Muth, RPO, USEPA, Region 10
Robert Rieck, GC Supervisor, USEPA, Region 10 accepted 7-15-94 R.W. Rieck
Dave Bennett, Project Officer, USEPA, Region 10

FROM: Linda Karsonovich, Data Reviewer, ESAT, Region 10

THROUGH: Barry Pepich, ESAT Team Manager, Region 10

SUBJECT: Quality Assurance Review of PCB Samples from the Buse Timber, Everett, WA site

TID#; 10-9404-430
DOC#: ESAT 10A-7156
WUD#: 1423

cc: Bruce Woods, USEPA RQAMO
Jeff Kesner, URS Consultants
Sheila Smith, Organic Technical Lead, ESAT, Region 10
John Finke, Chemist, ESAT, Region 10

The quality assurance (QA) review of one water and nine soil samples from the Buse Timber, Everett, WA site has been completed. These samples were analyzed for polychlorinated biphenyls (PCBs) using SW-846 Method 8080 by the USEPA Region 10 Laboratory ESAT Team located in Manchester, WA. This QA review was conducted for the following samples listed by EPA sample codes:

Water	94214123			
Soil	94214115	94214116	94214117	94214118
	94214119	94214120	94214121	94214122
	94214124			

DATA QUALIFICATIONS

The following comments refer to the laboratory performance in meeting the Quality Control Specifications outlined in the SW-846 Method 8080, the CLP Data Review Guidelines Draft 06/91, and the USEPA Region 10 Manchester Environmental Guidelines. The recommendations presented herein are based on the information provided for the review.

TIMELINESS - Acceptable

The technical holding time for the extraction and analysis of soil samples is 14 days and 40 days respectively. The technical holding time for the extraction and analysis of water samples is seven days and 40 days respectively.

All samples were extracted and analyzed within the technical holding times. No qualifiers were recommended on this basis.

INITIAL CALIBRATION

The relative standard deviation (RSD) of the calibration factors of compounds quantified using a linear equation must be $\leq$20% for target compounds and $\leq$30% for surrogates. Compounds which are quantified using a quadratic equation must contain a minimum of five calibration levels and have a correlation coefficient of not less than 0.995.

A Perkin Elmer GC with dual columns (a DB-5 on the M channel and a DB-1701 on the N channel) and dual ECD detectors was used for this analysis. Two initial calibration sequences were included with the data set.

The first initial calibration was analyzed on 06/17/94. The sequence included a five point curve for PCB 1260 and single point standards of PCBs 1016, 1221, 1232, 1242, 1248, and 1254. Only the soil samples were analyzed with this sequence.

The soil and water samples were included in the second sequence analyzed on 06/20/94. This initial calibration contained only standards for PCB 1254. The analyst chose to report the sample results using the chromatograms obtained with this sequence. However, in order to obtain quantitation limits for the remaining PCBs the analyst chose to compare the 06/20 analyses to the standards injected on 06/17. A comparison of the PCB 1254 standard analyzed on 06/17/94 with the PCB standard analyzed on 06/02/94 showed that the retention times had remained stable and that the average percent difference of the calibration factors of PCB 1254 ranged from 12.8-13.7 percent. Therefore, the reviewer felt that it was reasonable to assume that the response of the other PCBs had also remained stable, and no qualifiers were recommended on this basis.

CONTINUING CALIBRATION

The percent difference (%D) between the calculated and the true amount for each compound must not exceed $\pm$15%. The absolute retention time of the compounds must be within the windows determined from the initial calibration.

Retention times were within the windows set by the initial calibration. The %D increased over the length of the run to the positive, indicating an increase in sensitivity. However, there were no positive results reported during the affected part of the analytical sequence. No qualifiers were recommended on this basis.

BLANKS - Acceptable

No contamination should be present in the method blanks. Instrument blanks should not display signs of carryover or cross contamination.

No target compounds were detected in the method blanks at or above the practical quantitation limit (PQL). The instrument blanks showed no signs of carryover or cross contamination at or above one half the PQL. No qualifiers were recommended on this basis.

ANALYTICAL SEQUENCE - Acceptable

Samples must be run following an initial calibration. Continuing calibration checks and instrument blanks must be run at least every 12 hours.

The sequence met the criteria for frequency of initial and continuing calibration. No qualifiers were recommended on this basis.

SURROGATES

The acceptance criteria for surrogate recovery is 60% to 150%. Manchester Laboratory Guidelines allow for 50-150% recovery.

Surrogate recoveries for the water samples ranged from 45-96% for tetrachloro-m-xylene (TCMX) and from 84-140% for decachlorobiphenyl (DCB). No qualifiers were recommended on this basis as the DCB recovery was considered to be more indicative of the behavior of the target compounds.

Surrogate recoveries for the soil samples ranged from 55-120% for TCMX and from 48-120% for DCB. Sample 94214118 was recommended for qualification as J/UJ due to a DCB recovery of 48%. No other qualifiers were recommended on this basis.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE - Acceptable

Matrix spike recoveries for PCBs should be between 50% and 150%. Relative percent differences (RPD) should be within ±30%.

The water MS/MSD had recoveries of 96-100%. The RPD was 4.1%. No qualifiers were recommended on this basis.

The soil MS/MSD had recoveries of 120-130% and the RPD was 8%. No qualifiers were recommended on this basis.

COMPOUND IDENTIFICATION - Acceptable

Compound identification is done by retention time matching of sample chromatograms to the chromatograms of authentic standards on dual dissimilar columns. The retention times of surrogates, matrix spikes, and reported compounds in each sample must be within the retention time window determined from the initial calibration.

The retention times of the surrogates and PCBs appeared to be within the windows set by the initial calibration. No qualifiers were recommended on this basis.

COMPOUND QUANTITATION - Acceptable

Reported results must be calculated using the standard curve or average calibration factor. Compounds reported below the detection level must be within 10% of the lowest calibration standard. Detected results should agree within ±30% RPD.

Results were calculated using the standard curve and reported as an average of both channels. PCB 1254 in sample 94214119 was recommended for qualification as JN as it had an 45% RPD between the two channels. No other qualifiers were recommended on this basis.

OVERALL ASSESSMENT

The data was evaluated using the guidelines set out in the quality control specifications outlined in SW-846 Method 8080, the CLP Data Review Guidelines Draft 06/91, and the USEPA Region 10 Manchester Environmental Guidelines. Overall, two percent of the data was recommended for qualification due to the continuing calibration standard and compound quantitation. While no other qualifiers were recommended, the data would have been better presented if a more sound analytical sequence had been followed.

DATA QUALIFIER DEFINITIONS

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

REJ - The data are unusable for all purposes.

N - For organic analyses there is evidence that the analyte is present in the sample.

JN - For organic analyses there is evidence that the analyte is present in the sample. The associated numerical result is an estimate.

UJ - The analyte was not detected at or above the reported estimated result.

NAF - Not analyzed for.

* - The analyte was present in the sample.

EXP - The result is equal to the number before the EXP times 10 to the power of the number after the EXP.

Manchester Environmental Laboratory

Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid (Soil)
SampleNumber : 94214115
Type : Reg sample
Station Description: SSURO01
Depth 0-6 inches bgs

GC

PCB

Analyte	Result	Units	Qlfr
Decachlorobiphenyl	97	%R	
PCB-1221	110	ug/kg	U
PCB-1242	110	ug/kg	U
PCB-1254	55	ug/kg	U
Tetrachlorometaxylen	100	%R	
PCB-1016	110	ug/kg	U
PCB-1232	110	ug/kg	U
PCB-1248	110	ug/kg	U
PCB-1260	110	ug/kg	U

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix : Solid (Soil)
SampleNumber : 94214115
Type : Matrix Spike
Station Description: SSVK001

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
GC							
PCB							
Decachlorobiphenyl	120	%R		PCB-1260	130	%R	
Tetrachlorometaxylen	120	%R					

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix : Solid (Soil)
SampleNumber : 94214115
Type : Matrix Spike Dupl
Station Description: SSUR001

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
GC							
PCB							
Decachlorobiphenyl	105	%R		PCB-1260	120	%R	
Tetrachlorometaxylen	104	%R					

Manchester Environmental Laboratory

Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid Soil
SampleNumber : 94214116
Type : Reg sample
Station Description: SSUBO02
Sample depth 18-24" bgs

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
GC							
PCB							
Decachlorobiphenyl	98	%R		PCB-1016	120	ug/kg	U
PCB-1221	120	ug/kg	U	PCB-1232	120	ug/kg	U
PCB-1242	120	ug/kg	U	PCB-1248	120	ug/kg	U
PCB-1254	62	ug/kg	U	PCB-1260	120	ug/kg	U
Tetrachlorometaxylen	102	%R					

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid Sediment
SampleNumber : 94214117
Type : Reg sample
Station Description: SDDRN1 Storm Drain

GC

PCB

Analyte	Result	Units	Qlfr
Decachlorobiphenyl	110	%R	
PCB-1221	130	ug/kg	U
PCB-1242	130	ug/kg	U
PCB-1254	1000	ug/kg	
Tetrachlorometaxylen	88	%R	
PCB-1016	130	ug/kg	U
PCB-1232	130	ug/kg	U
PCB-1248	130	ug/kg	U
PCB-1260	130	ug/kg	U

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid Sediment
SampleNumber : 94214118
Type : Reg sample duplicate
Station Description: SDSD3 Storm drain outfall

Analyte	Result	Units	Qlfr
GC			
PCB			
Decachlorobiphenyl	48	%R	
PCB-1221	330	ug/kg	UJ
PCB-1242	330	ug/kg	UJ
PCB-1254	600	ug/kg	J
Tetrachlorometaxylen	55	%R	
PCB-1016	330	ug/kg	UJ
PCB-1232	330	ug/kg	UJ
PCB-1248	330	ug/kg	UJ
PCB-1260	330	ug/kg	UJ

Manchester Environmental Laboratory

Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid Sediment
SampleNumber : 94214119
Type : Reg sample
Station Description: SDSD2 Storm drain out fall

GC

PCB

Analyte	Result	Units	Qlfr
Decachlorobiphenyl	57	%R	
PCB-1221	400	ug/kg	U
PCB-1242	400	ug/kg	U
PCB-1254	460	ug/kg	JN
Tetrachlorometaxylen	65	%R	
PCB-1016	400	ug/kg	U
PCB-1232	400	ug/kg	U
PCB-1248	400	ug/kg	U
PCB-1260	400	ug/kg	U

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid Sediment
SampleNumber : 94214120
Type : Reg sample
Station Description: SDUS4 Union Slough

GC

PCB

Analyte	Result	Units	Qlfr
Decachlorobiphenyl	81	%R	
PCB-1221	140	ug/kg	U
PCB-1242	140	ug/kg	U
PCB-1254	75	ug/kg	U
Tetrachlorometaxylen	84	%R	
PCB-1016	140	ug/kg	U
PCB-1232	140	ug/kg	U
PCB-1248	140	ug/kg	U
PCB-1260	140	ug/kg	U

Manchester Environmental Laboratory

Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid Soil
SampleNumber : 94214121
Type : Reg sample Background
Station Description: SSURBAK3 offsite 0-6inch bgs

GC

PCB

Analyte	Result	Units	Qlfr
Decachlorobiphenyl	86	%R	
PCB-1221	120	ug/kg	U
PCB-1242	120	ug/kg	U
PCB-1254	62	ug/kg	U
Tetrachlorometaxylen	91	%R	
PCB-1016	120	ug/kg	U
PCB-1232	120	ug/kg	U
PCB-1248	120	ug/kg	U
PCB-1260	120	ug/kg	U

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid Soil
SampleNumber : 94214122
Type : Reg sample background
Station Description: SSURBAK4 offsite 18-24" bgs

Analyte	Result	Units	Qlfr
GC			
PCB			
Decachlorobiphenyl	95	%R	
PCB-1221	150	ug/kg	U
PCB-1242	150	ug/kg	U
PCB-1254	77	ug/kg	U
Tetrachlorometaxylen	100	%R	
PCB-1016	150	ug/kg	U
PCB-1232	150	ug/kg	U
PCB-1248	150	ug/kg	U
PCB-1260	150	ug/kg	U

Manchester Environmental Laboratory

Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Liquid-Total
SampleNumber : 94214123
Type : Reg sample Rinsate
Station Description: ER01

GC

PCB

Analyte	Result	Units	Qlfr
Decachlorobiphenyl	140	%R	
PCB-1221	0.20	ug/L	U
PCB-1242	0.20	ug/L	U
PCB-1254	0.11	ug/L	U
Tetrachlorometaxylen	96	%R	
PCB-1016	0.20	ug/L	U
PCB-1232	0.20	ug/L	U
PCB-1248	0.20	ug/L	U
PCB-1260	0.20	ug/L	U

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix : Liquid-Total
SampleNumber : 94214123
Type : Matrix Spike
Station Description:

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
GC							
PCB							
Decachlorobiphenyl	110	%R		PCB-1260	100	%R	
Tetrachlorometaxylen	51	%R					

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix : Liquid-Total
SampleNumber : 94214123
Type : Matrix Spike Dupl
Station Description:

GC

PCB

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
Decachlorobiphenyl	84	%R		PCB-1260	96	%R	
Tetrachlorometaxylen	45	%R					

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/24/94
Matrix : Solid Sediment
SampleNumber : 94214124
Type : Reg sample background
Station Description: SBUSBK5 Union Slough

GC

PCB

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
Decachlorobiphenyl	92	%R		PCB-1016	140	ug/kg	U
PCB-1221	140	ug/kg	U	PCB-1232	140	ug/kg	U
PCB-1242	140	ug/kg	U	PCB-1248	140	ug/kg	U
PCB-1254	70	ug/kg	U	PCB-1260	140	ug/kg	U
Tetrachlorometaxylen	95	%R					

Manchester Environmental Laboratory

Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix :
SampleNumber : BW4151
Type : Blank
Station Description:

GC

PCB

Analyte	Result	Units	Qlfr
Decachlorobiphenyl	102	%R	
PCB-1221	0.19	ug/L	U
PCB-1242	0.19	ug/L	U
PCB-1254	0.098	ug/L	U
Tetrachlorometaxylen	43	%R	

Analyte	Result	Units	Qlfr
PCB-1016	0.19	ug/L	U
PCB-1232	0.19	ug/L	U
PCB-1248	0.19	ug/L	U
PCB-1260	0.19	ug/L	U

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix :
SampleNumber : BW4151D
Type : Blank
Station Description:

GC

PCB

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
Decachlorobiphenyl	105	%R		PCB-1016	0.20	ug/L	U
PCB-1221	0.20	ug/L	U	PCB-1232	0.20	ug/L	U
PCB-1242	0.20	ug/L	U	PCB-1248	0.20	ug/L	U
PCB-1254	0.11	ug/L	U	PCB-1260	0.20	ug/L	U
Tetrachlorometaxylen	55	%R					

62760.17.60.606
27.61

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

REPLY TO
ATTN OF: ES-095

July 21, 19941

RECEIVED
JUL 25 1994
URS CONSULTANTS

MEMORANDUM

SUBJECT: Data Validation for Buse Timber SI, Case No. 22170, SDG No. JL511, Semi-Volatile Organic Analysis

FROM: Donald Matheny, Chemist DM
Quality Assurance Office, ESD

TO: Dave Bennett, Site Manager
Superfund Response & Investigations Branch, HWD

The QA Office has received and is transmitting the above ESAT data validation report.

CC: Porter Lombard, ESAT-RSCC
Jeff Kesner, Site Lead, URS
Bruce Woods, TPO, Region 10
Mike Hiatt, Data Audit Staff, EMSL-LV
QAO, AOB

ESAT Region 10
ICF Technology Inc.
1200 6th Avenue
Seattle, WA 98101
Phone (206) 224-4162

ICF Technology Inc.
ManTech Environmental

MEMORANDUM

DATE: July 19, 1994

TO: Jerry Muth, RPO, USEPA, Region 10

Donald Matheny, Task Monitor, USEPA, Region 10

THROUGH: Barry Pepich, ESAT Team Manager, Region 10

FROM: David J. Lindquist, ESAT Data Reviewer

SUBJECT: Data Validation Report of Semi-Volatile Organic Analyses of Samples from Buse Timber Site Investigation
Case: 22170 SDG: JL511

TID #: 10-9404-430
DOCUMENT #: ESAT-10B-7479
WUD #: 2347

The quality assurance (QA) review of nine (9) low level soil samples and one water sample (rinseate) collected from the above referenced site has been completed. These samples were analyzed for semi-volatile organic compounds in accordance with the USEPA Contract Laboratory Program Statement of Work. The analyses were performed by Southwest Laboratory of Oklahoma located in Broken Arrow, OK. The samples were numbered:

JL511	JL512	JL513	JL514	JL515
JL516	JL517	JL518	JL519	JL520

DATA QUALIFICATIONS

The following comments refer to the laboratory performance in meeting the Quality Control Specifications outlined in the "Contract Laboratory Program Statement of Work for Organics Analysis, 3/90" and the "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, (2/94)".

The conclusions presented herein are based on the information provided for the review.

1. Timeliness - Acceptable

The samples were extracted and analyzed within the contract required and technical (40 CFR 136 water criteria) holding times. The Chain of Custody Form indicates that the rinseate was not preserved with HCl.

Listed below are pertinent collection and analysis dates:

Sample Number	Collection Date	Rec'd. Date	Extraction Date	Analysis Date
JL511	052594	052794	052994	060394
JL512	052594	052794	052994	060394
JL513	052594	052794	052994	062094
JL514	052594	052794	052994	062094
JL515	052594	052794	052994	062094
JL516	052594	052794	052994	060394
JL517	052594	052794	052994	060394
JL518	052594	052794	052994	060394
JL519(r)	052594	052794	052894	060194
JL520	052494	052794	052994	060794

(r) = rinseate

2. GC/MS Tuning - Acceptable

Instrument tuning and system performance criteria were met for all dates of analysis.

Two GC/MS systems were used in the analysis of the samples. All samples were analyzed within the acceptable 12 hour window of decafluorotriphenylphosphine (DFTPP) tunings.

The data presented on each GC/MS Tuning and Mass Calibration Form (Form 5B) was compared with each mass listing and the raw data. Calculations and transcriptions were correct.

3. Initial Calibration - Acceptable

The initial calibrations were performed in accordance with the method. The percent relative standard deviation criterion (%RSD $\leq$ 30%) and the minimum average relative response factor requirements were met for all compounds.

The raw data was compared with the reported values. Calculations were correct and no transcription errors were noted.

4. Continuing Calibration

The continuing calibration standards met the criteria for minimum RRFs and percent difference (%D) relative to the initial calibration, for all target compounds with the following exceptions:

Analysis Date: 06/03/94

	%D	Sensitivity
2,2'-oxybis(1-chloropropane)	-31.4	increase@
hexachlorocyclopenatadiene	41.2	decrease
di-n-octylphthalate	-33.5	increase@

Hexachlorocyclopentadiene results are qualified "UJ" (estimated at the detection limit) for the samples listed below:

JL511 JL512 JL516 JL517 JL518

Analysis Date: 06/07/94

	%D	Sensitivity
4,6-dinitro-2-methylphenol	29.9+	decrease
hexachlorocyclopenatadiene	37.0	decrease
2,4-dinitrophenol	32.9+	decrease

Hexachlorocyclopenatadiene results are qualified "UJ" (estimated at the detection limit) for sample JL520.

Analysis Date: 06/13/94

	%D	Sensitivity
2,4-dimethylphenol	27.8+	decrease
4-chloroaniline	35.7	decrease
hexachlorocyclopenatadiene	56.0	decrease
4-nitrophenol	-31.9	increase@
3,3'-dichlorobenzidine	29.4+	decrease
2,4,6-tribromophenol	-27.0	increase@

Hexachlorocyclopenatadiene and 4-chloroaniline results are qualified "UJ" (estimated at the detection limit) for the samples listed below:

JL513 JL514 JL515

@ - Results do not warrant qualification on the basis of increased instrument sensitivity relative to the initial calibration and the associated results were non-detected.

+ - Results do not warrant qualification on the basis that the associated results were non-detected and the %D < 35%.

The raw data was compared with the reported values. Calculations were correct and no transcription errors were noted.

5. Blanks

Background levels for all target compounds in the method blanks were below the contract required quantitation limits.

Bis(2-ethylhexyl)phthalate was detected in VBLK02. All associated bis(2-ethylhexyl)phthalate results less than 10X the concentration reported in the blank are qualified "U", non-detected. Associated results that were detected at levels less than the CRQL, are raised to the CRQL on the Form 1. Bis(2-ethylhexyl)phthalate is qualified, "U" for the samples listed below:

JL511	JL512	JL513	JL514	JL515
JL516	JL517	JL518	JL520	

Tentatively identified compound (TIC) results reported for the method blanks were deleted from the associated sample Form 1s.

6. Surrogate Recovery - Acceptable

Surrogate recovery criteria were met for all samples, blanks and QC samples.

Listed below are the range of surrogate recoveries:

Surrogate	Recovery Range
nitrobenzene-d5	46-72%
2-fluorobiphenyl	55-85%
terphenyl-d14	58-120%
phenol-d5	39-68%
2-fluorophenol	38-65%
2,4,6-tribromophenol	42-96%
2-chlorophenol-d4	39-68%
1,2-dichlorobenzene-d4	40-71%

The raw data was compared with the data presented in the surrogate recovery forms. Calculations were correct and no transcription errors were noted.

7. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD analysis was performed on sample JL511. The MS/MSD compound recoveries and relative percent differences (%RPD) between values were within the required control limits with one exception noted below.

Compound	MS %R	MSD %R	RPD
acenaphthene	58	75	26*

* QC limit = 19

The data was not qualified on the basis of the MS/MSD results.

8. Internal Standards Performance - Acceptable

The data reported on the Internal Standard Area Summary (Form 8B) was verified with the raw data. Chromatograms, quantitation lists, and transcriptions were examined.

All analyses met the technical acceptance criteria for internal standard area counts (+100% to -50% of the associated continuing calibration internal standard area) and retention time shift (± 0.50 minutes of the associated continuing calibration internal standard RT).

9. Compound Identification - Acceptable

The chromatograms and quantitation lists were inspected. Sample and laboratory generated standard spectra were scrutinized. Calculations were checked with the raw data.

Positive sample results were within relative retention time (RRT) windows and provided spectra meeting USEPA spectral matching criteria.

10. Compound Quantitation and Detection Limits - Acceptable

The raw data was examined to verify the calculations of sample results and the reported detection limits. The sample results were quantitated using an updated continuing calibration standard. The method specified detection limits were achieved. The quantitation ions used were in accordance with the method.

11. Tentatively Identified Compounds (TICs)

The raw data and chromatograms were inspected for tentatively identified compounds. Several hydrocarbon TICs were detected in all of the samples.

12. System Performance - Acceptable

All blanks, samples and QC samples were analyzed on a GC/MS system meeting the technical acceptance criteria.

13. Laboratory Contact

The laboratory was not contacted for this review.

14. Overall Assessment

Approximately five percent of the reported sample results were qualified as non-detects or estimates due to blank contamination and/or continuing calibration criteria.

DATA QUALIFIER DEFINITIONS

U- The analyte was analyzed for and is not present above the level of the associated value. The associated numerical value indicates the approximate concentration necessary to detect the analyte in this sample.

If a decision requires quantitation of the analyte below the associated numerical level, reanalysis or alternative analytical methods should be considered. The technical staff is available to discuss available options.

J- The analyte was analyzed for and was positively identified, but the associated numerical value may not be consistent with the amount actually present in the environmental sample. The data should be seriously considered for decision making and are usable for many purposes.

A subscript may be appended to the "J" that indicates which of the following quality control criteria were not met:

1 Blank contamination: indicates possible high bias and/or false positives.

2 Calibration range exceeded: indicates possible low bias.

3 Holding times not met: indicates low bias for most analytes with the exception of common laboratory contaminants and chlorinated ethenes (i.e.: trichloroethene, 1,1-dichloroethene, vinyl chloride).

4 Other QC outside control limits: bias not readily determined.

R- The data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified.

Resampling and reanalysis are necessary to confirm or deny the presence of the analyte.

UJ - A combination of the "U" and "J" qualifier. The analyte was analyzed for and was not present above the level of the associated value. The associated numerical value may not accurately or precisely represent the concentration necessary to detect the analyte in this sample.

If a decision requires quantitation of the analyte close to the associated numerical level, reanalysis or alternative analytical methods should be considered.

N- The analysis indicates that an analyte is present, and there are strong indications that the identity is correct.

Confirmation of the analyte requires further analysis.

NJ- A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

A subscript may be appended to the "NJ" that indicates which of the following situations applies:

1 DDT/Endrin breakdown evident.

2 Interference from other sample components.

3 Non-Target Compound List (TCL) compounds (Confirmation is necessary using specific target compound methodology to accurately determine the concentration and identity of the detected compound).

4 A confirmation analysis was missing or quality control criteria were not met for the confirmation analysis.

NOTE: Data users are encouraged to contact their Regional representative within ESD to clarify or obtain further information on the appropriate use of analytical data.

DPO: [ ] ACTION [X] FYI

Region 10

ORGANIC REGIONAL DATA ASSESSMENT SUMMARY

CASE NO. 22170 LABORATORY Southwest Laboratory

SDG NO. JL511 DATA USER SUPERFUND

SOW 3/90 REVIEW COMPLETION DATE 7-19-94

NO. OF SAMPLES 1 WATER 9 SOIL ____ OTHER ____

REVIEWER [ ] ESD [X] ESAT [ ] OTHER, CONTRACT/CONTRACTOR ____

	~~VOA~~	BNA	PEST	OTHER
1. HOLDING TIMES		O		
2. GC-MS TUNE/ GC PERFORMANCE		O		
3. INITIAL CALIBRATIONS		O		
4. CONTINUING CALIBRATIONS		X		
5. FIELD BLANKS ("F" = not applicable)		F		
6. LABORATORY BLANKS		X		
7. SURROGATES		O		
8. MATRIX SPIKE/DUPLICATES		O		
9. REGIONAL QC ("F" = not applicable)		F		
10. INTERNAL STANDARDS		O		
11. COMPOUND IDENTIFICATION		O		
12. COMPOUND QUANTITATION		O		
13. SYSTEM PERFORMANCE		O		
14. OVERALL ASSESSMENT		X		

O = No problems or minor problems that do not affect data usability.
X = No more than *about* 5% of the data points are qualified as either estimated or unusable.
M = More than *about* 5% of the data points are qualified as estimated.
Z = More than *about* 5% of the data points are qualified as unusable.

DPO ACTION ITEMS: ____

AREAS OF CONCERN: ____

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
Surface Soil
JL511

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.01

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0211.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 30 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	470	U
111-44-4	bis(2-Chloroethyl)Ether	470	U
95-57-8	2-Chlorophenol	470	U
541-73-1	1,3-Dichlorobenzene	470	U
106-46-7	1,4-Dichlorobenzene	470	U
95-50-1	1,2-Dichlorobenzene	470	U
95-48-7	2-Methylphenol	470	U
108-60-1	2,2'-oxybis(1-Chloropropane)	470	U
106-44-5	4-Methylphenol	470	U
621-64-7	N-Nitroso-di-n-propylamine	470	U
67-72-1	Hexachloroethane	470	U
98-95-3	Nitrobenzene	470	U
78-59-1	Isophorone	470	U
88-75-5	2-Nitrophenol	470	U
105-67-9	2,4-Dimethylphenol	470	U
111-91-1	bis(2-Chloroethoxy)methane	470	U
120-83-2	2,4-Dichlorophenol	470	U
120-82-1	1,2,4-Trichlorobenzene	470	U
91-20-3	Naphthalene	470	U
106-47-8	4-Chloroaniline	470	U
87-68-3	Hexachlorobutadiene	470	U
59-50-7	4-Chloro-3-Methylphenol	470	U
91-57-6	2-Methylnaphthalene	470	U
77-47-4	Hexachlorocyclopentadiene	470	J U
88-06-2	2,4,6-Trichlorophenol	470	U
95-95-4	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	470	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	470	U
208-96-8	Acenaphthylene	470	U
606-20-2	2,6-Dinitrotoluene	470	U
99-09-2	3-Nitroaniline	1100	U
83-32-9	Acenaphthene	470	U

7-19-94

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET SSUK04

EPA SAMPLE NO.

JL511

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.01

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0211.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 30 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1100	U
100-02-7	4-Nitrophenol	1100	U
132-64-9	Dibenzofuran	470	U
121-14-2	2,4-Dinitrotoluene	470	U
84-66-2	Diethylphthalate	470	U
7005-72-3	4-Chlorophenyl-phenylether	470	U
86-73-7	Fluorene	470	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	N-Nitrosodiphenylamine (1)	470	U
101-55-3	4-Bromophenyl-phenylether	470	U
118-74-1	Hexachlorobenzene	470	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	470	U
120-12-7	Anthracene	470	U
86-74-8	Carbazole	470	U
84-74-2	Di-n-butylphthalate	470	U
206-44-0	Fluoranthene	470	U
129-00-0	Pyrene	470	U
85-68-7	Butylbenzylphthalate	470	U
91-94-1	3,3'-Dichlorobenzidine	470	U
56-55-3	Benzo(a)anthracene	470	U
218-01-9	Chrysene	470	U
117-81-7	bis(2-Ethylhexyl)phthalate	470 98	U JB
117-84-0	Di-n-octylphthalate	470	U
205-99-2	Benzo(b)fluoranthene	470	U
207-08-9	Benzo(k)fluoranthene	470	U
50-32-8	Benzo(a)pyrene	470	U
193-39-5	Indeno(1,2,3-cd)pyrene	470	U
53-70-3	Dibenz(a,h)anthracene	470	U
191-24-2	Benzo(g,h,i)perylene	470	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Surrogate
EPA SAMPLE NO.

JL511

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.01

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0211.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 30 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.1

Number TICs found: 25

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
~~1.~~	~~123-42-2~~	~~2-Pentanone, 4-hydroxy-4-met~~	~~3.463~~	~~17000~~	~~NJAB~~
2.		UNKNOWN HYDROCARBON	12.741	580	NJ
3.		UNKNOWN ORGANIC ACID	13.441	750	J
4.		UNKNOWN ORGANIC ACID	13.554	950	J
5.		UNKNOWN ALKANE	15.715	370	J
~~6.~~		~~UNKNOWN AMIDE~~	~~16.181~~	~~740~~	~~JB~~
7.		UNKNOWN HYDROCARBON	16.863	1100	J
8.		UNKNOWN CYCLOALKANE	17.945	2800	J
9.		UNKNOWN HYDROCARBON	18.127	1100	J
10.		UNKNOWN HYDROCARBON	18.321	390	J
~~11.~~		~~UNKNOWN AMIDE~~	~~18.435~~	~~1400~~	~~JB~~
12.		UNKNOWN	18.630	500	J
13.		UNKNKOWN ALKANE	18.915	1800	J
14.		Phosphonic acid, ester	18.961	1800	J
15.		UNKNOWN	19.041	480	J
16.		UNKNOWN ALKANE	19.865	1800	J
17.		UNKNOWN	20.014	500	J
18.		UNKNOWN ALKANE	20.918	450	J
19.		UNKNOWN	21.033	510	J
20.		UNKNOWN	21.113	460	J
21.		UNKNOWN	21.354	590	J
22.	83-47-6	.gamma.-Sitosterol	21.595	890	NJ
23.		UNKNOWN	21.698	590	J
24.		UNKNOWN	22.409	410	J
25.	1058-61-3	Stigmast-4-en-3-one	22.489	440	NJ
26.					
27.					
28.					
29.					
30.					

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SSUB002

EPA SAMPLE NO.

Subsurface Soil

JL512

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.02

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0214.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 35 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.8

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	510	U
111-44-4	bis(2-Chloroethyl)Ether	510	U
95-57-8	2-Chlorophenol	510	U
541-73-1	1,3-Dichlorobenzene	510	U
106-46-7	1,4-Dichlorobenzene	510	U
95-50-1	1,2-Dichlorobenzene	510	U
95-48-7	2-Methylphenol	510	U
108-60-1	2,2'-oxybis(1-Chloropropane)	510	U
106-44-5	4-Methylphenol	510	U
621-64-7	N-Nitroso-di-n-propylamine	510	U
67-72-1	Hexachloroethane	510	U
98-95-3	Nitrobenzene	510	U
78-59-1	Isophorone	510	U
88-75-5	2-Nitrophenol	510	U
105-67-9	2,4-Dimethylphenol	510	U
111-91-1	bis(2-Chloroethoxy)methane	510	U
120-83-2	2,4-Dichlorophenol	510	U
120-82-1	1,2,4-Trichlorobenzene	510	U
91-20-3	Naphthalene	510	U
106-47-8	4-Chloroaniline	510	U
87-68-3	Hexachlorobutadiene	510	U J U
59-50-7	4-Chloro-3-Methylphenol	510	U
91-57-6	2-Methylnaphthalene	510	U
77-47-4	Hexachlorocyclopentadiene	510	J U
88-06-2	2,4,6-Trichlorophenol	510	U
95-95-4	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	510	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	510	U
208-96-8	Acenaphthylene	510	U
606-20-2	2,6-Dinitrotoluene	510	U
99-09-2	3-Nitroaniline	1200	U
83-32-9	Acenaphthene	510	U

DL 7-19-94

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.: JL512

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.02

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0214.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 35 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500 (UL) Date Analyzed: 06/03/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.8

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1200	U
100-02-7	4-Nitrophenol	1200	U
132-64-9	Dibenzofuran	510	U
121-14-2	2,4-Dinitrotoluene	510	U
84-66-2	Diethylphthalate	510	U
7005-72-3	4-Chlorophenyl-phenylether	510	U
86-73-7	Fluorene	510	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	N-Nitrosodiphenylamine (1)	510	U
101-55-3	4-Bromophenyl-phenylether	510	U
118-74-1	Hexachlorobenzene	510	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	510	U
120-12-7	Anthracene	510	U
86-74-8	Carbazole	510	U
84-74-2	Di-n-butylphthalate	510	U
206-44-0	Fluoranthene	510	U
129-00-0	Pyrene	510	U
85-68-7	Butylbenzylphthalate	510	U
91-94-1	3,3'-Dichlorobenzidine	510	U
56-55-3	Benzo(a)anthracene	510	U
218-01-9	Chrysene	510	U
117-81-7	bis(2-Ethylhexyl)phthalate	510	U
117-84-0	Di-n-octylphthalate	510	U
205-99-2	Benzo(b)fluoranthene	510	U
207-08-9	Benzo(k)fluoranthene	510	U
50-32-8	Benzo(a)pyrene	510	U
193-39-5	Indeno(1,2,3-cd)pyrene	510	U
53-70-3	Dibenz(a,h)anthracene	510	U
191-24-2	Benzo(g,h,i)perylene	510	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE N: JL512

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.02

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0214.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 35 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.8

Number TICs found: 25 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123-42-2	2-Pentanone, 4-hydroxy-4-met	3.475	13000	NJ
2.		UNKNOWN ALKANE	15.712	450	NJ
3.		UNKNOWN AMIDE	16.189	2800	J
4.		UNKNOWN ALKANE	16.303	370	J
5.		UNKNOWN ALDEHYDE	16.508	510	J
6.		UNKNOWN ALCOHOL	16.872	1200	J
7.		UNKNOWN	16.975	680	J
8.		UNKNOWN ALKANE	17.408	330	J
9.		UNKNOWN ALKANE	17.933	1500	J
10.		UNKNOWN	18.447	860	J
11.		UNKNOWN ALKANE	18.924	1000	J
12.		UNKNOWN	18.970	580	J
13.		UNKNOWN	19.050	340	J
14.		UNKNOWN	19.680	360	J
15.		UNKNOWN ALKANE	19.864	1500	J
16.		UNKNOWN	19.944	720	J
17.		UNKNOWN	20.013	580	J
18.		UNKNOWN	20.150	370	J
19.		UNKNOWN ALKANE	20.242	330	J
20.		UNKNOWN ALKANE	20.918	340	J
21.		UNKNOWN	21.124	370	J
22.		UNKNOWN	21.365	470	J
23.	83-47-6	.gamma.-Sitosterol	21.606	370	NJ
24.		UNKNOWN	21.721	500	J
25.		UNKNOWN	22.409	260	J
26.					
27.					
28.					
29.					
30.					

DL 7-19-94 60

1B

SDDKN1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
Storm Drain Sediment
JL513

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.03

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0448.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 29 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/20/94

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 5.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	4600	U
111-44-4	bis(2-Chloroethyl)Ether	4600	U
95-57-8	2-Chlorophenol	4600	U
541-73-1	1,3-Dichlorobenzene	4600	U
106-46-7	1,4-Dichlorobenzene	4600	U
95-50-1	1,2-Dichlorobenzene	4600	U
95-48-7	2-Methylphenol	4600	U
108-60-1	2,2'-oxybis(1-Chloropropane)	4600	U
106-44-5	4-Methylphenol	4600	U
621-64-7	N-Nitroso-di-n-propylamine	4600	U
67-72-1	Hexachloroethane	4600	U
98-95-3	Nitrobenzene	4600	U
78-59-1	Isophorone	4600	U
88-75-5	2-Nitrophenol	4600	U
105-67-9	2,4-Dimethylphenol	4600	U
111-91-1	bis(2-Chloroethoxy)methane	4600	U
120-83-2	2,4-Dichlorophenol	4600	U
120-82-1	1,2,4-Trichlorobenzene	4600	U
91-20-3	Naphthalene	4600	U
106-47-8	4-Chloroaniline	4600	J U
87-68-3	Hexachlorobutadiene	4600	U
59-50-7	4-Chloro-3-Methylphenol	4600	U
91-57-6	2-Methylnaphthalene	4600	U
77-47-4	Hexachlorocyclopentadiene	4600	J U
88-06-2	2,4,6-Trichlorophenol	4600	U
95-95-4	2,4,5-Trichlorophenol	11000	U
91-58-7	2-Chloronaphthalene	4600	U
88-74-4	2-Nitroaniline	11000	U
131-11-3	Dimethylphthalate	4600	U
208-96-8	Acenaphthylene	4600	U
606-20-2	2,6-Dinitrotoluene	4600	U
99-09-2	3-Nitroaniline	11000	U
83-32-9	Acenaphthene	4600	U

7-19-94

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET SDDRNT EPA SAMPLE NO.

JL513

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.03

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0448.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 29 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/20/94

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 5.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	11000	U
100-02-7	4-Nitrophenol	11000	U
132-64-9	Dibenzofuran	4600	U
121-14-2	2,4-Dinitrotoluene	4600	U
84-66-2	Diethylphthalate	4600	U
7005-72-3	4-Chlorophenyl-phenylether	4600	U
86-73-7	Fluorene	4600	U
100-01-6	4-Nitroaniline	11000	U
534-52-1	4,6-Dinitro-2-methylphenol	11000	U
86-30-6	N-Nitrosodiphenylamine (1)	4600	U
101-55-3	4-Bromophenyl-phenylether	4600	U
118-74-1	Hexachlorobenzene	4600	U
87-86-5	Pentachlorophenol	460	J
85-01-8	Phenanthrene	240	J
120-12-7	Anthracene	4600	U
86-74-8	Carbazole	4600	U
84-74-2	Di-n-butylphthalate	4600	U
206-44-0	Fluoranthene	400	J
129-00-0	Pyrene	750	J
85-68-7	Butylbenzylphthalate	650	J
91-94-1	3,3'-Dichlorobenzidine	4600	U
56-55-3	Benzo(a)anthracene	4600	U
218-01-9	Chrysene	320	J
117-81-7	bis(2-Ethylhexyl)phthalate	~~4600~~ 2200	U JB
117-84-0	Di-n-octylphthalate	520	J
205-99-2	Benzo(b)fluoranthene	4600	U
207-08-9	Benzo(k)fluoranthene	4600	U
50-32-8	Benzo(a)pyrene	4600	U
193-39-5	Indeno(1,2,3-cd)pyrene	4600	U
53-70-3	Dibenz(a,h)anthracene	4600	U
191-24-2	Benzo(g,h,i)perylene	380	J

7-19-94

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
JL513

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.03

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0448.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 29 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/20/94

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 5.3

Number TICs found: 25

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123-42-2	2-Pentanone, 4-hydroxy-4-met	3.133	28000	NJA
2.		UNKNOWN ALKANE	16.421	12000	NJ
3.		UNKNOWN ALKANE	16.986	5000	J
4.		UNKNOWN ALKANE	17.274	6000	J
5.		UNKNOWN HYDROCARBON	17.494	3800	J
6.		UNKNOWN ALKANE	17.679	5800	J
7.		UNKNOWN HYDROCARBON	18.350	2300	J
8.		UNKNOWN HYDROCARBON	18.558	6400	J
9.		UNKNOWN	18.662	2100	J
10.		UNKNOWN	18.767	1800	J
11.		UNKNOWN ALKANE	18.836	5400	J
12.		UNKNOWN	19.021	2600	J
13.		UNKNOWN	19.091	2400	J
14.		UNKNOWN	19.207	3800	J
15.		UNKNOWN	19.300	5900	J
16.		UNKNOWN	19.392	1300	J
17.		UNKNOWN	19.427	1600	J
18.		UNKNOWN	19.508	3000	J
19.		UNKNOWN	19.636	2600	J
20.		UNKNOWN	19.682	1800	J
21.		UNKNOWN	20.065	2900	J
22.		UNKNOWN ALKANE	20.285	1400	J
23.		UNKNOWN	20.598	1800	J
24.		UNKNOWN ALKANE	20.865	2500	J
25.		UNKNOWN	21.039	2000	J
26.					
27.					
28.					
29.					
30.					

DL 1-19-94

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SVSV3 EPA SAMPLE NO.

JL514

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.04

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0449.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 77 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 1000(UL) Date Analyzed: 06/20/94

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 6.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	29000	U
111-44-4	bis(2-Chloroethyl)Ether	29000	U
95-57-8	2-Chlorophenol	29000	U
541-73-1	1,3-Dichlorobenzene	29000	U
106-46-7	1,4-Dichlorobenzene	29000	U
95-50-1	1,2-Dichlorobenzene	29000	U
95-48-7	2-Methylphenol	29000	U
108-60-1	2,2'-oxybis(1-Chloropropane)	2900	J
106-44-5	4-Methylphenol	29000	U
621-64-7	N-Nitroso-di-n-propylamine	29000	U
67-72-1	Hexachloroethane	29000	U
98-95-3	Nitrobenzene	29000	U
78-59-1	Isophorone	29000	U
88-75-5	2-Nitrophenol	29000	U
105-67-9	2,4-Dimethylphenol	29000	U
111-91-1	bis(2-Chloroethoxy)methane	29000	U
120-83-2	2,4-Dichlorophenol	29000	U
120-82-1	1,2,4-Trichlorobenzene	29000	U
91-20-3	Naphthalene	29000	J U
106-47-8	4-Chloroaniline	29000	U
87-68-3	Hexachlorobutadiene	29000	U
59-50-7	4-Chloro-3-Methylphenol	3700	J
91-57-6	2-Methylnaphthalene	29000	J U
77-47-4	Hexachlorocyclopentadiene	29000	U
88-06-2	2,4,6-Trichlorophenol	70000	U
95-95-4	2,4,5-Trichlorophenol	29000	U
91-58-7	2-Chloronaphthalene	70000	U
88-74-4	2-Nitroaniline	29000	U
131-11-3	Dimethylphthalate	29000	U
208-96-8	Acenaphthylene	29000	U
606-20-2	2,6-Dinitrotoluene	70000	U
99-09-2	3-Nitroaniline	29000	U
83-32-9	Acenaphthene		

DV 7-19-94

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1C

SEMIVOLATILE(RGANICS ANALYSIS DATA SHE(SDSDS EPA SAMPLE NO.

JL514

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.04

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0449.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 77 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 1000(UL) Date Analyzed: 06/20/94

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 6.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG		Q
51-28-5	2,4-Dinitrophenol		70000	U
100-02-7	4-Nitrophenol		70000	U
132-64-9	Dibenzofuran		29000	U
121-14-2	2,4-Dinitrotoluene		29000	U
84-66-2	Diethylphthalate		29000	U
7005-72-3	4-Chlorophenyl-phenylether		29000	U
86-73-7	Fluorene		29000	U
100-01-6	4-Nitroaniline		70000	U
534-52-1	4,6-Dinitro-2-methylphenol		70000	U
86-30-6	N-Nitrosodiphenylamine (1)		29000	U
101-55-3	4-Bromophenyl-phenylether		29000	U
118-74-1	Hexachlorobenzene		29000	U
87-86-5	Pentachlorophenol		70000	U
85-01-8	Phenanthrene		1800	J
120-12-7	Anthracene		29000	U
86-74-8	Carbazole		29000	U
84-74-2	Di-n-butylphthalate		1700	J
206-44-0	Fluoranthene		29000	U
129-00-0	Pyrene		1800	J
85-68-7	Butylbenzylphthalate		29000	U
91-94-1	3,3'-Dichlorobenzidine		29000	U
56-55-3	Benzo(a)anthracene		29000	U
218-01-9	Chrysene		29000	U
117-81-7	bis(2-Ethylhexyl)phthalate	29000	~~17000~~	U ~~JB~~
117-84-0	Di-n-octylphthalate		29000	U
205-99-2	Benzo(b)fluoranthene		29000	U
207-08-9	Benzo(k)fluoranthene		29000	U
50-32-8	Benzo(a)pyrene		29000	U
193-39-5	Indeno(1,2,3-cd)pyrene		29000	U
53-70-3	Dibenz(a,h)anthracene		29000	U
191-24-2	Benzo(g,h,i)perylene		29000	U

DL 7-19-94

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL514

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.04

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0449.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 77 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/20/94

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 6.5

Number TICs found: 25

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN ALKANE	8.664	66000	NJ
2.		UNKNOWN ALKANE	9.546	69000	J
3.		UNKNOWN ALKANE	13.371	57000	J
4.		UNKNOWN ALKANE	14.033	54000	J
5.		UNKNOWN	15.637	25000	J
6.		UNKNOWN	15.845	25000	J
7.		UNKNOWN ALCOHOL	16.202	19000	J
8.		UNKNOWN HYDROCARBON	16.363	18000	J
9.		UNKNOWN ALKANE	16.432	42000	J
10.		UNKNOWN	16.767	50000	J
11.		UNKNOWN ALKANE	16.986	27000	J
12.		UNKNOWN	17.148	30000	J
13.		UNKNOWN ALKANE	17.275	56000	J
14.		UNKNOWN	17.507	23000	J
15.		UNKNOWN	17.831	75000	J
16.		UNKNOWN ALKANE	18.352	120000	J
17.		UNKNOWN	18.561	120000	J
18.		UNKNOWN ALKANE	18.839	91000	J
19.		UNKNOWN ALKANE	19.210	81000	J
20.		UNKNOWN	19.303	98000	J
21.		UNKNOWN ALKANE	20.023	73000	J
22.	36728-72-0	28-Nor-17.beta.(H)-hopane	20.069	89000	NJ
23.		UNKNOWN ALKANE	20.290	130000	J
24.		UNKNOWN ALKANE	20:870	120000	J
25.	1058-61-3	Stigmast-4-en-3-one	21.854	75000	NJ
26.					
27.					
28.					
29.					
30.					

DL 1-19-94

1B

SDSD2

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

JL515

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.05

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0450.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 78 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 1000(UL) Date Analyzed: 06/20/94

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 6.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	30000	U
111-44-4	bis(2-Chloroethyl)Ether	30000	U
95-57-8	2-Chlorophenol	30000	U
541-73-1	1,3-Dichlorobenzene	30000	U
106-46-7	1,4-Dichlorobenzene	30000	U
95-50-1	1,2-Dichlorobenzene	30000	U
95-48-7	2-Methylphenol	30000	U
108-60-1	2,2'-oxybis(1-Chloropropane)	30000	U
106-44-5	4-Methylphenol	2100	J
621-64-7	N-Nitroso-di-n-propylamine	30000	U
67-72-1	Hexachloroethane	30000	U
98-95-3	Nitrobenzene	30000	U
78-59-1	Isophorone	30000	U
88-75-5	2-Nitrophenol	30000	U
105-67-9	2,4-Dimethylphenol	30000	U
111-91-1	bis(2-Chloroethoxy)methane	30000	U
120-83-2	2,4-Dichlorophenol	30000	U
120-82-1	1,2,4-Trichlorobenzene	30000	U
91-20-3	Naphthalene	30000	U
106-47-8	4-Chloroaniline	30000	U
87-68-3	Hexachlorobutadiene	30000	U
59-50-7	4-Chloro-3-Methylphenol	30000	U
91-57-6	2-Methylnaphthalene	1900	J
77-47-4	Hexachlorocyclopentadiene	30000	U
88-06-2	2,4,6-Trichlorophenol	30000	U
95-95-4	2,4,5-Trichlorophenol	73000	U
91-58-7	2-Chloronaphthalene	30000	U
88-74-4	2-Nitroaniline	73000	U
131-11-3	Dimethylphthalate	30000	U
208-96-8	Acenaphthylene	30000	U
606-20-2	2,6-Dinitrotoluene	30000	U
99-09-2	3-Nitroaniline	73000	U
83-32-9	Acenaphthene	30000	U

JL 1-19-94

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SDS02 EPA SAMPLE NO.

JL515

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.05

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0450.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 78 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 1000(UL) Date Analyzed: 06/20/94

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 6.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	73000	U
100-02-7	4-Nitrophenol	73000	U
132-64-9	Dibenzofuran	30000	U
121-14-2	2,4-Dinitrotoluene	30000	U
84-66-2	Diethylphthalate	30000	U
7005-72-3	4-Chlorophenyl-phenylether	30000	U
86-73-7	Fluorene	30000	U
100-01-6	4-Nitroaniline	73000	U
534-52-1	4,6-Dinitro-2-methylphenol	73000	U
86-30-6	N-Nitrosodiphenylamine (1)	30000	U
101-55-3	4-Bromophenyl-phenylether	30000	U
118-74-1	Hexachlorobenzene	30000	U
87-86-5	Pentachlorophenol	73000	U
85-01-8	Phenanthrene	30000	U
120-12-7	Anthracene	30000	U
86-74-8	Carbazole	30000	U
84-74-2	Di-n-butylphthalate	30000	U
206-44-0	Fluoranthene	30000	U
129-00-0	Pyrene	2200	J
85-68-7	Butylbenzylphthalate	30000	U
91-94-1	3,3'-Dichlorobenzidine	30000	U
56-55-3	Benzo(a)anthracene	30000	U
218-01-9	Chrysene	30000	U
117-81-7	bis(2-Ethylhexyl)phthalate	30000 ~~15000~~	U ~~JB~~
117-84-0	Di-n-octylphthalate	30000	U
205-99-2	Benzo(b)fluoranthene	30000	U
207-08-9	Benzo(k)fluoranthene	30000	U
50-32-8	Benzo(a)pyrene	30000	U
193-39-5	Indeno(1,2,3-cd)pyrene	30000	U
53-70-3	Dibenz(a,h)anthracene	30000	U
191-24-2	Benzo(g,h,i)perylene	30000	U

JV 7-19-94

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: JL515

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.05

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0450.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 78 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/20/94

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 6.4

Number TICs found: 25 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123-42-2	2-Pentanone, 4-hydroxy-4-met	3.124	110000	NJA
2.		UNKNOWN ALKANE	8.669	60000	NJ
3.		UNKNOWN ALKANE	9.552	53000	J
4.		UNKNOWN ALKANE	13.374	51000	J
5.		UNKNOWN ALKANE	14.037	55000	J
6.		UNKNOWN	15.645	26000	J
7.		UNKNOWN HYDROCARBON	15.853	40000	J
8.		UNKNOWN	16.210	30000	J
9.		UNKNOWN	16.383	26000	J
10.		UNKNOWN	16.441	39000	J
11.		UNKNOWN ALKANE	16.776	63000	J
12.		UNKNOWN ALKANE	17.007	35000	J
13.		UNKNOWN ALKANE	17.157	37000	J
14.		UNKNOWN	17.285	59000	J
15.		UNKNOWN ALKANE	17.516	32000	J
16.		UNKNOWN ALKANE	17.701	62000	J
17.		UNKNOWN ALKANE	18.165	89000	J
18.		UNKNOWN	18.362	100000	J
19.		UNKNOWN ALKANE	18.583	96000	J
20.		UNKNOWN	19.221	92000	J
21.		UNKNOWN	19.326	100000	J
22.		UNKNOWN ALKANE	20.082	82000	J
23.		UNKNOWN ALKANE	20.303	110000	J
24.		Stigmast-4-en-3-one	20.885	130000	J
25.	1058-61-3		21.873	81000	NJ
26.					
27.					
28.					
29.					
30.					

SDUS4

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
Unizen Slough

JL516

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.06

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0218.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 46 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	610	U
111-44-4	bis(2-Chloroethyl)Ether	610	U
95-57-8	2-Chlorophenol	610	U
541-73-1	1,3-Dichlorobenzene	610	U
106-46-7	1,4-Dichlorobenzene	610	U
95-50-1	1,2-Dichlorobenzene	610	U
95-48-7	2-Methylphenol	610	U
108-60-1	2,2'-oxybis(1-Chloropropane)	610	U
106-44-5	4-Methylphenol	610	U
621-64-7	N-Nitroso-di-n-propylamine	610	U
67-72-1	Hexachloroethane	610	U
98-95-3	Nitrobenzene	610	U
78-59-1	Isophorone	610	U
88-75-5	2-Nitrophenol	610	U
105-67-9	2,4-Dimethylphenol	610	U
111-91-1	bis(2-Chloroethoxy)methane	610	U
120-83-2	2,4-Dichlorophenol	610	U
120-82-1	1,2,4-Trichlorobenzene	610	U
91-20-3	Naphthalene	610	U
106-47-8	4-Chloroaniline	610	U
87-68-3	Hexachlorobutadiene	610	U
59-50-7	4-Chloro-3-Methylphenol	610	U
91-57-6	2-Methylnaphthalene	610	U
77-47-4	Hexachlorocyclopentadiene	610	J U
88-06-2	2,4,6-Trichlorophenol	610	U
95-95-4	2,4,5-Trichlorophenol	1500	U
91-58-7	2-Chloronaphthalene	610	U
88-74-4	2-Nitroaniline	1500	U
131-11-3	Dimethylphthalate	610	U
208-96-8	Acenaphthylene	610	U
606-20-2	2,6-Dinitrotoluene	610	U
99-09-2	3-Nitroaniline	1500	U
83-32-9	Acenaphthene	610	U

DL
7-19-94

1C

SEMIVOLATILE(RGANICS ANALYSIS DATA SHE(SDG54

EPA SAMPLE NO.

JL516

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.06

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0218.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 46 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1500	U
100-02-7	4-Nitrophenol	1500	U
132-64-9	Dibenzofuran	610	U
121-14-2	2,4-Dinitrotoluene	610	U
84-66-2	Diethylphthalate	610	U
7005-72-3	4-Chlorophenyl-phenylether	610	U
86-73-7	Fluorene	610	U
100-01-6	4-Nitroaniline	1500	U
534-52-1	4,6-Dinitro-2-methylphenol	1500	U
86-30-6	N-Nitrosodiphenylamine (1)	610	U
101-55-3	4-Bromophenyl-phenylether	610	U
118-74-1	Hexachlorobenzene	610	U
87-86-5	Pentachlorophenol	1500	U
85-01-8	Phenanthrene	610	U
120-12-7	Anthracene	610	U
86-74-8	Carbazole	610	U
84-74-2	Di-n-butylphthalate	610	U
206-44-0	Fluoranthene	610	U
129-00-0	Pyrene	610	U
85-68-7	Butylbenzylphthalate	610	U
91-94-1	3,3'-Dichlorobenzidine	610	U
56-55-3	Benzo(a)anthracene	610	U
218-01-9	Chrysene	610	U
117-81-7	bis(2-Ethylhexyl)phthalate	610 ~~400~~	U ~~JB~~
117-84-0	Di-n-octylphthalate	610	U
205-99-2	Benzo(b)fluoranthene	610	U
207-08-9	Benzo(k)fluoranthene	610	U
50-32-8	Benzo(a)pyrene	610	U
193-39-5	Indeno(1,2,3-cd)pyrene	610	U
53-70-3	Dibenz(a,h)anthracene	610	U
191-24-2	Benzo(g,h,i)perylene	610	U

1-19-9

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1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL516

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.06

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0218.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 46 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

Number TICs found: 19

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
~~1.~~	~~123-42-2~~	~~2-Pentanone, 4-hydroxy-4-met~~	~~3.548~~	~~97000~~	~~NJAB~~
2.		UNKNOWN ORGANIC ACID	12.256	770	NJ
3.		UNKNOWN ORGANIC ACID	12.728	720	J
4.		UNKNOWN	12.786	1600	J
5.		UNKNOWN HYDROCARBON	13.616	1700	J
6.		UNKNOWN ORGANIC ACID	13.731	2700	J
7.		UNKNOWN	13.917	880	J
8.		UNKNOWN	14.114	800	J
9.		UNKNOWN	14.357	560	J
10.		UNKNOWN	14.613	1300	J
11.		UNKNOWN	14.846	530	J
12.		UNKNOWN AMIDE	15.232	550	J
13.		UNKNOWN ALKANE	15.852	520	J
14.		UNKNOWN	16.062	1500	J
15.		UNKNOWN	16.203	610	J
~~16.~~		~~UNKNOWN AMIDE~~	~~16.367~~	~~1600~~	~~JB~~
17.		UNKNOWN	16.648	590	J
18.		UNKNOWN	17.035	1300	J
19.		UNKNOWN ALKANE	18.069	500	J
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

DL 7-19-94

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SSURDTK3

EPA SAMPLE NO.

surface background soil

JL517

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.07

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0219.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 24 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 4.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	430	U
111-44-4	bis(2-Chloroethyl)Ether	430	U
95-57-8	2-Chlorophenol	430	U
541-73-1	1,3-Dichlorobenzene	430	U
106-46-7	1,4-Dichlorobenzene	430	U
95-50-1	1,2-Dichlorobenzene	430	U
95-48-7	2-Methylphenol	430	U
108-60-1	2,2'-oxybis(1-Chloropropane)	430	U
106-44-5	4-Methylphenol	430	U
621-64-7	N-Nitroso-di-n-propylamine	430	U
67-72-1	Hexachloroethane	430	U
98-95-3	Nitrobenzene	430	U
78-59-1	Isophorone	430	U
88-75-5	2-Nitrophenol	430	U
105-67-9	2,4-Dimethylphenol	430	U
111-91-1	bis(2-Chloroethoxy)methane	430	U
120-83-2	2,4-Dichlorophenol	430	U
120-82-1	1,2,4-Trichlorobenzene	430	U
91-20-3	Naphthalene	430	U
106-47-8	4-Chloroaniline	430	U
87-68-3	Hexachlorobutadiene	430	U
59-50-7	4-Chloro-3-Methylphenol	430	U
91-57-6	2-Methylnaphthalene	430	U
77-47-4	Hexachlorocyclopentadiene	430	J U
88-06-2	2,4,6-Trichlorophenol	430	U
95-95-4	2,4,5-Trichlorophenol	1000	U
91-58-7	2-Chloronaphthalene	430	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	430	U
208-96-8	Acenaphthylene	430	U
606-20-2	2,6-Dinitrotoluene	430	U
99-09-2	3-Nitroaniline	1000	U
83-32-9	Acenaphthene	430	U

DL 11-7-94

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1C

SEMIVOLATILE (.GANICS ANALYSIS DATA SHE(

SSURFACE background surface soil) EPA SAMPLE NO.

JL517

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.07

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0219.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 24 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 4.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol	1000	U
132-64-9	Dibenzofuran	430	U
121-14-2	2,4-Dinitrotoluene	430	U
84-66-2	Diethylphthalate	430	U
7005-72-3	4-Chlorophenyl-phenylether	430	U
86-73-7	Fluorene	430	U
100-01-6	4-Nitroaniline	1000	U
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	N-Nitrosodiphenylamine (1)	430	U
101-55-3	4-Bromophenyl-phenylether	430	U
118-74-1	Hexachlorobenzene	430	U
87-86-5	Pentachlorophenol	1000	U
85-01-8	Phenanthrene	430	U
120-12-7	Anthracene	430	U
86-74-8	Carbazole	430	U
84-74-2	Di-n-butylphthalate	32	J
206-44-0	Fluoranthene	430	U
129-00-0	Pyrene	430	U
85-68-7	Butylbenzylphthalate	430	U
91-94-1	3,3'-Dichlorobenzidine	430	U
56-55-3	Benzo(a)anthracene	430	U
218-01-9	Chrysene	430	U
117-81-7	bis(2-Ethylhexyl)phthalate	430 ~~160~~	U ~~JB~~
117-84-0	Di-n-octylphthalate	430	U
205-99-2	Benzo(b)fluoranthene	430	U
207-08-9	Benzo(k)fluoranthene	430	U
50-32-8	Benzo(a)pyrene	430	U
193-39-5	Indeno(1,2,3-cd)pyrene	430	U
53-70-3	Dibenz(a,h)anthracene	430	U
191-24-2	Benzo(g,h,i)perylene	430	U

DL
7-19-94

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL517

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.07

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0219.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 24 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 4.4

Number TICs found: 21

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	2.079	1200	J
2.	123-42-2	2-Pentanone, 4-hydroxy-4-met	3.536	12000	NJAB
3.		UNKNOWN CYCLOALKANE	11.656	980	NJ
4.		UNKNOWN AMIDE	15.198	420	J
5.		UNKNOWN	15.742	1200	J
6.		UNKNONW ALKANE	15.823	670	J
7.		UNKNOWN	16.032	420	J
8.		UNKNOWN	16.333	2000	J
9.		UNKNOWN	16.624	480	J
10.		UNKNOWN	16.822	460	J
11.		UNKNOWN ALKANE	16.974	610	J
12.		UNKNOWN	17.020	920	J
13.		UNKNOWN	17.079	550	J
14.		UNKNOWN ALKANE	18.038	920	J
15.		UNKNOWN	18.460	670	J
16.		UNKNOWN AMIDE	18.601	1900	J
17.		UNKNOWN ALKANE	19.036	2100	J
18.		UNKNOWN	19.177	730	J
19.		UNKNOWN	20.000	4400	J
20.		UNKNOWN	21.294	410	J
21.		UNKNOWN	21.976	1200	J
22.					
23.					
24.					
25.					
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SSWD1AK4 Background Sub soil

EPA SAMPLE NO.

JL518

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.08

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0220.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 46 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 4.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	610	U
111-44-4	bis(2-Chloroethyl)Ether	610	U
95-57-8	2-Chlorophenol	610	U
541-73-1	1,3-Dichlorobenzene	610	U
106-46-7	1,4-Dichlorobenzene	610	U
95-50-1	1,2-Dichlorobenzene	610	U
95-48-7	2-Methylphenol	610	U
108-60-1	2,2'-oxybis(1-Chloropropane)	610	U
106-44-5	4-Methylphenol	610	U
621-64-7	N-Nitroso-di-n-propylamine	610	U
67-72-1	Hexachloroethane	610	U
98-95-3	Nitrobenzene	610	U
78-59-1	Isophorone	610	U
88-75-5	2-Nitrophenol	610	U
105-67-9	2,4-Dimethylphenol	610	U
111-91-1	bis(2-Chloroethoxy)methane	610	U
120-83-2	2,4-Dichlorophenol	610	U
120-82-1	1,2,4-Trichlorobenzene	610	U
91-20-3	Naphthalene	610	U
106-47-8	4-Chloroaniline	610	U
87-68-3	Hexachlorobutadiene	610	U
59-50-7	4-Chloro-3-Methylphenol	610	U
91-57-6	2-Methylnaphthalene	610	U
77-47-4	Hexachlorocyclopentadiene	610	UJ
88-06-2	2,4,6-Trichlorophenol	610	U
95-95-4	2,4,5-Trichlorophenol	1500	U
91-58-7	2-Chloronaphthalene	610	U
88-74-4	2-Nitroaniline	1500	U
131-11-3	Dimethylphthalate	610	U
208-96-8	Acenaphthylene	610	U
606-20-2	2,6-Dinitrotoluene	610	U
99-09-2	3-Nitroaniline	1500	U
83-32-9	Acenaphthene	610	U

DL 1-19-94

1C

SEMIVOLATILE (GANICS ANALYSIS DATA SHEE

BJSUBBAK EPA SAMPLE NO.

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.08

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0220.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 46 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 4.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1500	U
100-02-7	4-Nitrophenol	1500	U
132-64-9	Dibenzofuran	610	U
121-14-2	2,4-Dinitrotoluene	610	U
84-66-2	Diethylphthalate	610	U
7005-72-3	4-Chlorophenyl-phenylether	610	U
86-73-7	Fluorene	610	U
100-01-6	4-Nitroaniline	1500	U
534-52-1	4,6-Dinitro-2-methylphenol	1500	U
86-30-6	N-Nitrosodiphenylamine (1)	610	U
101-55-3	4-Bromophenyl-phenylether	610	U
118-74-1	Hexachlorobenzene	610	U
87-86-5	Pentachlorophenol	1500	U
85-01-8	Phenanthrene	610	U
120-12-7	Anthracene	610	U
86-74-8	Carbazole	610	U
84-74-2	Di-n-butylphthalate	33	J
206-44-0	Fluoranthene	610	U
129-00-0	Pyrene	610	U
85-68-7	Butylbenzylphthalate	610	U
91-94-1	3,3'-Dichlorobenzidine	610	U
56-55-3	Benzo(a)anthracene	610	U
218-01-9	Chrysene	610	U
117-81-7	bis(2-Ethylhexyl)phthalate	610 ~~140~~	U ~~JB~~
117-84-0	Di-n-octylphthalate	610	U
205-99-2	Benzo(b)fluoranthene	610	U
207-08-9	Benzo(k)fluoranthene	610	U
50-32-8	Benzo(a)pyrene	610	U
193-39-5	Indeno(1,2,3-cd)pyrene	610	U
53-70-3	Dibenz(a,h)anthracene	610	U
191-24-2	Benzo(g,h,i)perylene	610	U

DL 7-17-94

1F

EPA SAMPLE NO.

JL518

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.08

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0220.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 46 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 4.5

Number TICs found: 22

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123-42-2	2-Pentanone, 4-hydroxy-4-met	3.615	78000	NJA
2.		UNKNOWN	5.252	860	NJ
3.		UNKNOWN	11.640	1200	J
4.		UNKNOWN ALKANE	14.552	450	J
5.		UNKNOWN CYCLOALKANE	14.908	190	J
6.		UNKNOWN ALKANE	15.806	180	J
7.		UNKNOWN HYDROCARBON	16.025	270	J
8.		UNKNOWN	16.152	440	J
9.		UNKNOWN AMIDE	16.314	570	JB
10.		UNKNOWN ALDEHYDE	16.615	230	J
11.		UNKNOWN	16.870	200	J
12.		UNKNOWN ALKANE	18.031	340	J
13.		UNKNOWN ALKANE	19.035	1100	J
14.		UNKNOWN	19.163	430	J
15.		UNKNOWN ALKANE	19.984	380	J
16.		UNKNOWN	20.148	210	J
17.		UNKNOWN	20.324	270	J
18.		UNKNOWN ALKANE	21.087	220	J
19.		UNKNOWN	21.533	190	J
20.		UNKNOWN	21.873	180	J
21.		UNKNOWN	22.236	360	J
22.		UNKNOWN	22.482	400	J
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

7-19-94

270

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET (ERO1)

EPA SAMPLE NO.

JL519

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) WATER Lab Sample ID: 18854.09

Sample wt/vol: 1000 (g/mL) ML Lab File ID: HH3658.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: _____ decanted: (Y/N)___ Date Extracted:05/28/94

Concentrated Extract Volume: 1000(UL) Date Analyzed: 06/01/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	1	J
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	6	J
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U DL
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	25	U
95-95-4	2,4,5-Trichlorophenol	10	U
91-58-7	2-Chloronaphthalene	25	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	25	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene		

DL 7-19-94

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET (4.21)

EPA SAMPLE NO.: JL519

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) WATER Lab Sample ID: 18854.09

Sample wt/vol: 1000 (g/mL) ML Lab File ID: HH3658.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 05/28/94

Concentrated Extract Volume: 1000(UL) Date Analyzed: 06/01/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

ER01

EPA SAMPLE NO.

JL519

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) WATER Lab Sample ID: 18854.09

Sample wt/vol: 1000 (g/mL) ML Lab File ID: HH3658.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 05/28/94

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/01/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.4

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	2.042	6	JB
2.		UNKNOWN	2.084	4	JB
3.		UNKNOWN	2.198	2	JB
4.		UNKNOWN	2.229	3	JB
5.		UNKNOWN	2.322	3	JB
6.		UNKNOWN	4.116	8	JB
7.		UNKNOWN	10.326	2	NJ
8.					
9.					
10.					
11.					
12.					
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30.					

7-19-94

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET DUSBK5

EPA SAMPLE NO.: JL520

Lab Name: SWL-TULSA   Contract: 68-D2-0013

Lab Code: SWOK   Case No.: 22170   SAS No.:   SDG No.: JL511

Matrix: (soil/water) SOIL   Lab Sample ID: 18854.10

Sample wt/vol: 30.0 (g/mL) G   Lab File ID: M0241.D

Level: (low/med) LOW   Date Received: 05/27/94

% Moisture: 46   decanted: (Y/N) N   Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL)   Date Analyzed: 06/07/94

Injection Volume: 2.0(uL)   Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y   pH: 6.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	610	U
111-44-4	bis(2-Chloroethyl)Ether	610	U
95-57-8	2-Chlorophenol	610	U
541-73-1	1,3-Dichlorobenzene	610	U
106-46-7	1,4-Dichlorobenzene	610	U
95-50-1	1,2-Dichlorobenzene	610	U
95-48-7	2-Methylphenol	610	U
108-60-1	2,2'-oxybis(1-Chloropropane)	610	U
106-44-5	4-Methylphenol	140	J
621-64-7	N-Nitroso-di-n-propylamine	610	U
67-72-1	Hexachloroethane	610	U
98-95-3	Nitrobenzene	610	U
78-59-1	Isophorone	610	U
88-75-5	2-Nitrophenol	610	U
105-67-9	2,4-Dimethylphenol	610	U
111-91-1	bis(2-Chloroethoxy)methane	610	U
120-83-2	2,4-Dichlorophenol	610	U
120-82-1	1,2,4-Trichlorobenzene	610	U
91-20-3	Naphthalene	610	U
106-47-8	4-Chloroaniline	610	U
87-68-3	Hexachlorobutadiene	610	U
59-50-7	4-Chloro-3-Methylphenol	610	U
91-57-6	2-Methylnaphthalene	610	U
77-47-4	Hexachlorocyclopentadiene	610	J U
88-06-2	2,4,6-Trichlorophenol	610	U
95-95-4	2,4,5-Trichlorophenol	1500	U
91-58-7	2-Chloronaphthalene	610	U
88-74-4	2-Nitroaniline	1500	U
131-11-3	Dimethylphthalate	610	U
208-96-8	Acenaphthylene	610	U
606-20-2	2,6-Dinitrotoluene	610	U
99-09-2	3-Nitroaniline	1500	U
83-32-9	Acenaphthene	610	U

FORM I SV-1   3/90

7-19-94

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SBU, BKS

EPA SAMPLE NO.: JL520

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.10

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0241.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 46 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/07/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1500	U
100-02-7	4-Nitrophenol	1500	U
132-64-9	Dibenzofuran	610	U
121-14-2	2,4-Dinitrotoluene	610	U
84-66-2	Diethylphthalate	34	J
7005-72-3	4-Chlorophenyl-phenylether	610	U
86-73-7	Fluorene	610	U
100-01-6	4-Nitroaniline	1500	U
534-52-1	4,6-Dinitro-2-methylphenol	1500	U
86-30-6	N-Nitrosodiphenylamine (1)	610	U
101-55-3	4-Bromophenyl-phenylether	610	U
118-74-1	Hexachlorobenzene	610	U
87-86-5	Pentachlorophenol	1500	U
85-01-8	Phenanthrene	74	J
120-12-7	Anthracene	610	U
86-74-8	Carbazole	610	U
84-74-2	Di-n-butylphthalate	42	J
206-44-0	Fluoranthene	110	J
129-00-0	Pyrene	130	J
85-68-7	Butylbenzylphthalate	610	U
91-94-1	3,3'-Dichlorobenzidine	610	U
56-55-3	Benzo(a)anthracene	610	U
218-01-9	Chrysene	610	U
117-81-7	bis(2-Ethylhexyl)phthalate	610 ~~540~~	U ~~JB~~
117-84-0	Di-n-octylphthalate	610	U
205-99-2	Benzo(b)fluoranthene	610	U
207-08-9	Benzo(k)fluoranthene	610	U
50-32-8	Benzo(a)pyrene	610	U
193-39-5	Indeno(1,2,3-cd)pyrene	610	U
53-70-3	Dibenz(a,h)anthracene	610	U
191-24-2	Benzo(g,h,i)perylene	610	U

7-19-94

1F

EPA SAMPLE NO.

JL520

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.10

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0241.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 46 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 25

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
~~1.~~	~~123-42-2~~	~~2-Pentanone, 4-hydroxy-4-met~~	~~3.745~~	~~18000~~	~~NJA~~
2.		UNKNOWN	13.084	1100	NJ
3.		UNKNOWN	13.402	1100	J
4.		UNKNOWN ORGANIC ACID	13.846	1300	J
5.		UNKNOWN ORGANIC ACID	13.960	2000	J
6.		UNKNOWN	15.203	1400	J
7.		2-Phenanthrenol, -octa	16.542	1200	J
8.		UNKNOWN	17.954	3200	J
9.		UNKNOWN ALKANE	18.345	4900	J
10.		UNKNOWN AMIDE	18.874	1000	J
11.		UNKNOWN ALDEHYDE	19.081	1700	J
12.		UNKNOWN ALKANE	19.334	1700	J
13.		UNKNOWN ALCOHOL	19.381	1100	J
14.		UNKNOWN ALDEHYDE	20.072	1000	J
15.		UNKNOWN	20.233	680	J
16.		UNKNOWN	20.325	680	J
17.		UNKNOWN	20.394	1400	J
18.		UNKNOWN	20.728	980	J
19.		UNKNOWN	20.982	1200	J
20.		UNKNOWN	21.074	820	J
21.		UNKNOWN	21.269	910	J
22.		UNKNOWN	21.695	1100	J
23.		UNKNOWN	21.891	1100	J
24.		UNKNOWN	22.294	4600	J
25.		UNKNOWN	22.386	1100	J
26.					
27.					
28.					
29.					
30.					

DL 7-19-94

06/100.11.60.027
27.a

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

RECEIVED
AUG - 5 1994
URS CONSULTANTS

REPLY TO
ATTN OF: ES-095

August 4, 1994

MEMORANDUM

SUBJECT: Data Validation for Buse Timber SI, SAS No. 8404J-01, SDG No. 94214115, Chlorinated Phenols Analysis

FROM: Donald Matheny, Chemist
Quality Assurance Office, ESD

TO: Dave Bennett, Site Manager
Superfund Response & Investigations Branch, HWD

The QA Office has received and is transmitting the above ESAT data validation report.

CC: Porter Lombard, ESAT-RSCC
Jeff Kesner, Site Lead, URS
Bruce Woods, TPO, Region 10

ENVIRONMENTAL SERVICE ASSISTANCE TEAMS - ZONE 2

ICF Technology Inc.
ManTech Environmental

ESAT Region 10
ICF Technology Inc.
Suite 1510
1200 6th Avenue
Seattle, WA 98101
Phone (206) 224-4161

MEMORANDUM

DATE: July 28, 1994

TO: Jerry Muth, RPO, USEPA, Region 10

Donald Matheny, Task Monitor, USEPA, Region 10

THROUGH: Barry Pepich, ESAT Team Manager, Region 10

FROM: David J. Lindquist, ESAT Data Reviewer

SUBJECT: Data Validation Report of Chlorinated Phenols Analyses of Samples from Buse Timber Site Investigation
SAS: 8404J-01 SDG: 94214115

TID#: 10-9404-430
DOC#: ESAT-10B-7502
WUD#: 2351

The quality assurance (QA) review of nine (9) soil samples and one water sample collected from the above referenced site has been completed. These samples were analyzed for phenol, 2-chlorophenol, 2,6-dichlorophenol, 4-chloro-3-methylphenol, 2,4-dichlorophenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, o-phenylphenol and pentachlorophenol via Method 8040A, "Phenols by Gas Chromatography" by Pacific Analytical, Inc. of Carlsbad, California. The samples were numbered as follows:

94214115	94214116	94214117	94214118	94214119
94214120	94214121	94214122	94214123	94214124

DATA QUALIFICATIONS

The following comments refer to the laboratory performance in meeting the Quality Control Specifications outlined in Method 8040A, "Phenols by Gas Chromatography" found in "Test Methods for Evaluating Solid Waste (SW-846)", the technical instructions specified in Special Analytical Services (SAS) Request 8404J-01 and the "National Functional Guidelines for Organic Data Review, 2/94".

The conclusions presented herein are based on the information provided for the review.

1. Timeliness - Acceptable

All of the samples were extracted and analyzed within the SAS specified holding times. In addition, the water sample met the technical (40 CFR 136 water criteria) holding time criteria.

The Extraction Logs indicate that the samples underwent extraction, acid/base cleanup, pentafluorobenzylbromide derivatization, GPC and silica gel cleanup as specified by the SAS request.

Listed below are pertinent sample collection, extraction and analysis dates.

Sample Number	Collection Date	Rec'd. Date	Extraction Date	Preparation* Date	Sample Analysis
94214115	052594	052794	060694	062794	070794
94214116	052594	052794	060694	062794	070794
94214117	052594	052794	060694	062794	070794
94214118	052594	052794	060694	062794	070794
94214119	052594	052794	060694	062794	070794
94214120	052594	052794	060694	062794	070794
94214121	052594	052794	060694	062794	070794
94214122	052594	052794	060694	062794	070794
94214123	052594	052794	060194	062794	070894
94214124	052594	052794	060694	062794	070794

* Silica gel cleanup. Acid/base partition and derivatization were performed on 062194 and 062394.

2. Initial Calibration

The SAS specified QC criteria were met for the initial calibration.

A five point initial calibration curve was analyzed for all target compounds and surrogates in accordance with the SAS request. The percent relative standard deviations (%RSDs) were within the SAS specified level (<30%) and ranged from 6.7 - 24.8% for all target compounds and surrogates for both of the columns used.

The %RSDs between the retention times of the different standards ranged from 0.05 - 0.12%.

For the surrogate, 2,4,6-tribromophenol, the low standard response factor associated with the DB-608 Megabore column was not used. Therefore, the 2,4,6-tribromophenol quantitation limit warrants elevation for this column.

2,6-Dichlorophenol and 4-chloro-3-methylphenol co-eluted on the DB-608 column (see section 7 for qualifications).

3. Continuing Calibration

The SAS specified the analysis of a continuing calibration verification (CCV) standard every ten samples at a concentration approximately equal to half the instrument calibration range. The relative percent difference (RPD) between the CCV response factors (RFs) and the mean RF associated with the initial calibration was required to be less than 25%.

Two CCVs were performed meeting the above continuing calibration criteria. However, the RPDs were calculated using the mid-range standard (.01 ppm) RF from the initial calibration rather than the mean RF. The data was not qualified on this basis.

2,6-Dichlorophenol and 4-chloro-3-methylphenol co-eluted on the DB-608 column (see section 7 for qualifications) .

The RPDs for all compounds ranged from 3 - 23% on the DB-608 column and 1 - 24% on the DB-5 column.

4. Blanks

The method blank frequency of analysis criterion was met. The target compounds were not detected in the method blanks at levels greater than the detection limits with the following exceptions:

Soil Sample

Method Blank	Compound
5394PB	pentachlorophenol

Water Sample

Method Blanks	Compound
5370PB	2,6-dichlorophenol
5371PB	

Detected pentachlorophenol and 2,6-dichlorophenol results were qualified as non-detected, "U", if the sample result area integration was below five times that of the associated method blank. The following detected target compound results are qualified as non-detected, "U", based on the associated method blank results:

pentachlorophenol - 94214115 94214116 94214120

2,6-dichlorophenol - 94214123

5. Surrogate Recovery

The raw data was compared with the data presented in the surrogate recovery form. All of the surrogate recoveries were within the control limits (50-150%) with the following exceptions:

Sample	2-fluorophenol %R	2,4,6-tribromophenol %R
94214116	210	160
94214120	240	170
94214123		46

The high surrogate recoveries indicate the possibility of high bias. Therefore, the following compounds detected in samples 94214116 and 94214120 are qualified estimated (J):

Sample	
94214116	2,6-dichlorophenol
94214120	2,6-dichlorophenol, 2,4,6-trichlorophenol, o-phenylphenol

The reviewer deemed not to qualify compounds associated with the low surrogate recovery of 2,4,6-tribromophenol on the basis that the percent recovery was just slightly lower than the control limit and the 2-fluorophenol percent recovery was within the control limits.

For the remaining samples the 2-fluorophenol recoveries ranged from 70 - 130% and the 2,4,6-tribromophenol recoveries ranged from 60 - 90%.

6. Matrix Spike/Matrix Spike Duplicate (MS/MSD) - Acceptable

The frequency and percent recovery criteria for MS/MSD analysis were met. The values reported on the matrix spike/matrix spike duplicate recovery form were verified with the raw data. The MS and MSD analyses yielded recovery results that were within the SAS specified control limits for all target compounds. The recoveries ranged from 70% to 130% and the RPDs between matrix spike duplicate results ranged 0% to 55%.

7. Compound Identification

The chromatograms and quantitation lists were inspected.

2,6-Dichlorophenol and 4-chloro-3-methylphenol co-eluted on the DB-608 column. Positive results for these compounds cannot be confirmed due to co-elution on the confirmation column. Therefore, the following sample results are qualified, "JN" (tentatively identified at an estimated concentration):

2,6-dichlorophenol -	94214115	94214116	94214117	94214119
	94214120	94214121	94214122	94214124
p-chloro-m-cresol -	94214117	94214119	94214123	

Calculations were checked with the raw data. Calculations were correct. There were no transcription errors observed between the raw data and the reported results.

8. Compound Quantitation and Detection Limits

The response factor from the mid-range initial calibration was used for quantitation. Both columns were used for quantitation and confirmation of the compounds.

A method detection limit (MDL) study prior to sample analysis indicated that the SAS specified detection limits were achievable.

The raw data was examined to verify the calculations of sample results and the reported detection limits. The calculations were correct and conformed with the SAS and method required detection limits.

9. Laboratory Contact

The laboratory was contacted on 07/28/94 requesting that the Form 1s be re-submitted with the sample results reported on a dry weight basis.

The Form 1s were received on 08/02/94 and included with the CSF (purge file).

10. Overall Assessment

Approximately fifteen percent of the total data points were qualified as estimated due to high surrogate recoveries and/or identification problems. All of the standards, samples and QC samples were analyzed in accordance with the SAS specified method with exceptions previously noted.

DATA QUALIFIER DEFINITIONS

U- The analyte was analyzed for and is not present above the level of the associated value. The associated numerical value indicates the approximate concentration necessary to detect the analyte in this sample.

If a decision requires quantitation of the analyte below the associated numerical level, reanalysis or alternative analytical methods should be considered. The technical staff is available to discuss available options.

J- The analyte was analyzed for and was positively identified, but the associated numerical value may not be consistent with the amount actually present in the environmental sample. The data should be seriously considered for decision making and are usable for many purposes.

A subscript may be appended to the "J" that indicates which of the following quality control criteria were not met:

1 Blank contamination: indicates possible high bias and/or false positives.

2 Calibration range exceeded: indicates possible low bias.

3 Holding times not met: indicates low bias for most analytes with the exception of common laboratory contaminants and chlorinated ethenes (i.e.: trichloroethene, 1,1-dichloroethene, vinyl chloride).

4 Other QC outside control limits: bias not readily determined.

R- The data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified.

Resampling and reanalysis are necessary to confirm or deny the presence of the analyte.

UJ - A combination of the "U" and "J" qualifier. The analyte was analyzed for and was not present above the level of the associated value. The associated numerical value may not accurately or precisely represent the concentration necessary to detect the analyte in this sample.

If a decision requires quantitation of the analyte close to the associated numerical level, reanalysis or alternative analytical methods should be considered.

N- The analysis indicates that an analyte is present, and there are strong indications that the identity is correct.

Confirmation of the analyte requires further analysis.

NJ- A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

A subscript may be appended to the "NJ" that indicates which of the following situations applies:

1 DDT/Endrin breakdown evident.

2 Interference from other sample components.

3 Non-Target Compound List (TCL) compounds (Confirmation is necessary using specific target compound methodology to accurately determine the concentration and identity of the detected compound).

4 A confirmation analysis was missing or quality control criteria were not met for the confirmation analysis.

NOTE: Data users are encouraged to contact their Regional representative within ESD to clarify or obtain further information on the appropriate use of analytical data.

FORM 1

METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

94214115

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF Case No.: __ SAS No.: 8404J01 SDG No.: 94214115

SSURO01 on site duplicate soil

Matrix Type: SOIL Lab Sample ID: 89401

Sample weight: 50.0 (G/mL) Grams Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/06/94

Injection Volume: 2 (uL) Date Analyzed: 07/07/94

% Moisture: 26

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/kG	Q
367-12-4	2-Fluorophenol	74	
108-95-2	Phenol	14	U
95-57-8	2-Chlorophenol	14	U
87-65-0	2,6-Dichlorophenol	27	J N
59-50-7	p-Chloro-m-Cresol	14	U
120-83-2	2,4-Dichlorophenol	14	U
88-06-2	2,4,6-Trichlorophenol	14	U
95-95-4	2,4,5-Trichlorophenol	14	U
90-43-7	o-Phenylphenol	14	U
96-11-7	2,4,6-Tribromophenol	61	
87-86-5	Pentachlorophenol	7	X U

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

FORM 1

METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

94214116

SSUB

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF Case No.: _____ SAS No.: 8404J01 SDG No.: 94214115

Matrix Type: SOIL Lab Sample ID: 89402

Sample weight: 50.0 (G/mL) Grams Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/06/94

Injection Volume: 2 (uL) Date Analyzed: 07/07/94

% Moisture: 35

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/kG	Q
367-12-4	2-Fluorophenol	162	
108-95-2	Phenol	15	U
95-57-8	2-Chlorophenol	15	U
87-65-0	2,6-Dichlorophenol	~~8/15~~	NJ ~~U~~
59-50-7	p-Chloro-m-Cresol	15	U
120-83-2	2,4-Dichlorophenol	15	U
88-06-2	2,4,6-Trichlorophenol	15	U
95-95-4	2,4,5-Trichlorophenol	15	U
90-43-7	o-Phenylphenol	15	U
96-11-7	2,4,6-Tribromophenol	123	
87-86-5	Pentachlorophenol	8	~~U~~ U

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

FORM 1

METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

94214117

SDPRNT

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF Case No.: _____ SAS No.: 8404J01 SDG No.: 94214115

Matrix Type: SOIL Lab Sample ID: 89403

Sample weight: 50.0 (G/mL) Grams Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/06/94

Injection Volume: 2 (uL) Date Analyzed: 07/07/94

% Moisture: 37

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/kG	Q
367-12-4	2-Fluorophenol	79	
108-95-2	Phenol	16	U
95-57-8	2-Chlorophenol	16	U
87-65-0	2,6-Dichlorophenol	16	J N
59-50-7	p-Chloro-m-Cresol	8	J N
120-83-2	2,4-Dichlorophenol	16	J
88-06-2	2,4,6-Trichlorophenol	16	U
95-95-4	2,4,5-Trichlorophenol	16	J
90-43-7	o-Phenylphenol	32	
96-11-7	2,4,6-Tribromophenol	63	
87-86-5	Pentachlorophenol	71	

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

8-4-94

FORM 1

METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

94214118

SD503

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF Case No.: _____ SAS No.: 8404J01 SDG No.: 94214115

Matrix Type: SOIL Lab Sample ID: 89404

Sample weight: 50.0 (G/mL) Grams Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/06/94

Injection Volume: 2 (uL) Date Analyzed: 07/07/94

% Moisture: 82

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/kG	Q
367-12-4	2-Fluorophenol	194	
108-95-2	Phenol	56	U
95-57-8	2-Chlorophenol	56	U
87-65-0	2,6-Dichlorophenol	56	U
59-50-7	p-Chloro-m-Cresol	56	U
120-83-2	2,4-Dichlorophenol	56	U
88-06-2	2,4,6-Trichlorophenol	56	U
95-95-4	2,4,5-Trichlorophenol	56	U
90-43-7	o-Phenylphenol	56	U
96-11-7	2,4,6-Tribromophenol	167	
87-86-5	Pentachlorophenol	56	U

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

FORM 1

METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

94214119

SDSD2

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF Case No.: .... SAS No.: 8404J01 SDG No.: 94214115

Matrix Type: SOIL Lab Sample ID: 89405

Sample weight: 50.0 (G/mL) Grams Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/06/94

Injection Volume: 2 (uL) Date Analyzed: 07/07/94

% Moisture: 77

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/kG	Q
367-12-4	2-Fluorophenol	217	
108-95-2	Phenol	43	U
95-57-8	2-Chlorophenol	43	U
87-65-0	2,6-Dichlorophenol	109	J N
59-50-7	p-Chloro-m-Cresol	22	J N
120-83-2	2,4-Dichlorophenol	43	U
88-06-2	2,4,6-Trichlorophenol	43	U
95-95-4	2,4,5-Trichlorophenol	43	U
90-43-7	o-Phenylphenol	43	J
96-11-7	2,4,6-Tribromophenol	130	
87-86-5	Pentachlorophenol	109	

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

FORM 1

METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

4120
9421~~420~~ R

SDG54

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF Case No.: _____ SAS No.: 8404J01 SDG No.: 94214115

Matrix Type: SOIL Lab Sample ID: 89406

Sample weight: 50.0 (G/mL) Grams Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/06/94

Injection Volume: 2 (uL) Date Analyzed: 07/07/94

% Moisture: 50

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/kG	Q
367-12-4	2-Fluorophenol	240	
108-95-2	Phenol	20	U
95-57-8	2-Chlorophenol	20	U
87-65-0	2,6-Dichlorophenol	40	J N
59-50-7	p-Chloro-m-Cresol	20	U
120-83-2	2,4-Dichlorophenol	20	U
88-06-2	2,4,6-Trichlorophenol	10	J
95-95-4	2,4,5-Trichlorophenol	20	U
90-43-7	o-Phenylphenol	20	J
96-11-7	2,4,6-Tribromophenol	170	
87-86-5	Pentachlorophenol	10	~~J~~ U

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

8-4-9

000040

FORM 1

METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

9421 4121 DL

SURBAK3

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF Case No.: _____ SAS No.: 8404J01 SDG No.: 94214115

Matrix Type: SOIL Lab Sample ID: 89407

Sample weight: 50.0 (G/mL) Grams Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/06/94

Injection Volume: 2 (uL) Date Analyzed: 07/07/94

% Moisture: 25

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/kG	Q
367-12-4	2-Fluorophenol	73	
108-95-2	Phenol	13	U
95-57-8	2-Chlorophenol	13	U
87-65-0	2,6-Dichlorophenol	27	J N
59-50-7	p-Chloro-m-Cresol	13	U
120-83-2	2,4-Dichlorophenol	13	U
88-06-2	2,4,6-Trichlorophenol	13	U
95-95-4	2,4,5-Trichlorophenol	13	U
90-43-7	o-Phenylphenol	13	U
96-11-7	2,4,6-Tribromophenol	60	
87-86-5	Pentachlorophenol	13	U

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

FORM 1

METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

4122
9421~~422~~

SuBBAK4

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF Case No.: _____ SAS No.: 8404J01 SDG No.: 94214115

Matrix Type: SOIL Lab Sample ID: 89408

Sample weight: 50.0 (G/mL) Grams Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/06/94

Injection Volume: 2 (uL) Date Analyzed: 07/07/94

% Moisture: 65

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/kG	Q
367-12-4	2-Fluorophenol	129	
108-95-2	Phenol	29	U
95-57-8	2-Chlorophenol	29	U
87-65-0	2,6-Dichlorophenol	14	J N
59-50-7	p-Chloro-m-Cresol	29	U
120-83-2	2,4-Dichlorophenol	29	U
88-06-2	2,4,6-Trichlorophenol	29	U
95-95-4	2,4,5-Trichlorophenol	29	U
90-43-7	o-Phenylphenol	29	U
96-11-7	2,4,6-Tribromophenol	100	
87-86-5	Pentachlorophenol	29	U

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

000053

FORM 1

METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

4123
9421~~423~~ pr

ERØ1

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF ~~Case~~ No.: _____ SAS No.: 8404J01 SDG No.: 94214115

Matrix Type: WATER Lab Sample ID: 89409

Sample weight: ~~1000~~.0 (G/mL) mL Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/01/94

Injection Volume: 2 (uL) Date Analyzed: 07/0~~8~~/94 csf

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/L	Q
367-12-4	2-Fluorophenol	4.0	
108-95-2	Phenol	0.3	J
95-57-8	2-Chlorophenol	0.5	U
87-65-0	2,6-Dichlorophenol	0.3 ug/L	U
59-50-7	p-Chloro-m-Cresol	0.3	J N
120-83-2	2,4-Dichlorophenol	0.5	U
88-06-2	2,4,6-Trichlorophenol	0.5	U
95-95-4	2,4,5-Trichlorophenol	0.5	U
90-43-7	o-Phenylphenol	0.5	U
36-11-7	2,4,6-Tribromophenol	~~2.3~~	
87-86-5	Pentachlorophenol	0.5	U

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

8-4-94

FORM 1

METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

94214124

5 BUS BKS

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF Case No.: _____ SAS No.: 8404J01 SDG No.: 94214115

Matrix Type: SOIL Lab Sample ID: 89410

Sample weight: 50.0 (G/mL) Grams Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/06/94

Injection Volume: 2 (uL) Date Analyzed: 07/07/94

% Moisture: 44

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/kG	Q
367-12-4	2-Fluorophenol	89	
108-95-2	Phenol	18	U
95-57-8	2-Chlorophenol	18	U
87-65-0	2,6-Dichlorophenol	18	J N
59-50-7	p-Chloro-m-Cresol	18	U
120-83-2	2,4-Dichlorophenol	18	U
88-06-2	2,4,6-Trichlorophenol	18	U
95-95-4	2,4,5-Trichlorophenol	18	U
90-43-7	o-Phenylphenol	18	U
96-11-7	2,4,6-Tribromophenol	45	
87-86-5	Pentachlorophenol	18	U

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

APPENDIX D

DATA QUALITY OBJECTIVES

Appendix D
Table D-1
Data Quality Objectives for RAS Soil Samples

Analysis	Method[a]	Targeted Detection Limit[b]	Actual Detection Limits	Units[c]	Target Accuracy[d]	Actual Accuracy	Target Precision[e]	Actual Precision	Target Completeness[f]	Actual Completeness
SVs	CLP-RAS	330-800	430-73,000	µg/kg	11-142%	38-120%	50%	26%[i]	90%	90%
PCBs	CLP-RAS	1.7-170	55-150	µg/kg	23-139%	48-170%	50%	8%	90%	90%
Inorganics	CLP-RAS	0.6-100	0.05-6	mg/kg	75-125%	75-125%	20%	20%	90%	90%
Mercury[g]	CLP-RAS	0.10	0.02	mg/kg	75-125%	75-125%	20%	20%	90%	90%

[a]Methods for analyses as defined in U.S. EPA 1990a, 1990b.
[b]Calculated from laboratory reporting limits.
[c]Units reported in mass/mass unless otherwise indicated.
[d]Calculated from laboratory attainable control limits through analytical surrogate or matrix spike recovery and laboratory QC.
[e]Calculated from laboratory relative percent difference between results of field replicate samples or through matrix duplicates.
[f]Calculated from comparing planned and actual analytical results, including analyte rejections and work plan deviations.
[g]Mercury listed separately due to specific target detection limit.
[h]Antimony recovery was 0 percent in both quality assurance samples. Data were qualified appropriately.
[i]Data were not qualified on this basis.

RAS soil sample data quality objectives were met or exceeded for all inorganics and mercury analyses. RAS soil sample data quality objectives for SVs and PCBs were met for completeness and exceeded for precision. Target detection limits were not met by the laboratory for either SVs or PCBs. The detection limits also had high variability within and among samples. Higher than expected detection limits make comparison of relatively low detections with sample results for which analytes were not detected at higher detection limits difficult. PCB accuracy targets were not met for RAS soil samples. Surrogate recoveries were high for some of the samples; however, data quality is not believed to have been affected.

Appendix D
Table D-2
Data Quality Objectives for RAS Water Samples

Analysis	Method[a]	Targeted Detection Limit[b]	Actual Detection Limit	Units[c]	Target Accuracy[d]	Actual Accuracy	Target Precision[e]	Actual Precision	Target Completeness[f]	Actual Completeness
SVs	CLP-RAS	10-25	10-25	µg/L	9-145%	No data quality information provided by laboratory	50%	No data quality information provided by laboratory	90%	No data quality information provided by laboratory
PCBs	CLP-RAS	0.05-1.0	0.11-0.20	µg/L	38-127%	96-100%	30%	4.1%	90%	100%
Inorganics	CLP-RAS	0.003-5.0	0.05-6.0	mg/L	75-125%	75-125%[h]	20%	20%	90%	100%
Mercury[g]	CLP-RAS	0.0002	0.02	mg/L	75-125%	75-125%	20%	20%	90%	100%

[a]Methods for analyses as defined in U.S. EPA 1990a, 1990b.
[b]Calculated from laboratory reporting limits.
[c]Units reported in mass/mass unless otherwise indicated.
[d]Calculated from laboratory attainable control limits through analytical surrogate or matrix spike recovery and laboratory quality control (QC).
[e]Calculated from laboratory relative percent difference between results of field replicate samples or through matrix duplicates.
[f]Calculated from comparing planned and actual analytical results, including analyte rejections and work plan deviations.
[g]Mercury listed separately due to specific target detection limit.
[h]Antimony recovery was 0 percent in both quality assurance samples. Data were qualified appropriately.
Data quality objectives were met for RAS water samples with the exception of the inorganics and mercury detection limits. The laboratory reported all inorganics detection limits within targets except for selenium. The mercury detection limit was reported by the laboratory at 0.020 mg/L, 100 times the target detection limit. Data quality was not apparently affected.

Appendix D
Table D-3
Data Quality Objectives for SAS Soil and Water Samples

Matrix	Analysis	Method	Target Detection Limit[a]	Actual Detection Limit	Target Precision[b]	Actual Precision	Target Accuracy[c]	Actual Accuracy	Target Completion[d]	Actual Completeness
Soil	SV	CLP-SAS	4.0-600 µg/kg	13-56 µg/kg	60%	0-55%	20-140%	46-240%[e]	90%	90%
Water	SV	CLP-SAS	0.6-10 µg/L	0.5 µg/L	60%	No data quality information provided by laboratory	20-140%	No data quality information provided by laboratory	90%	100%

[a]Calculated from laboratory reporting limits.
[b]Calculated from laboratory relative percent difference between results of field duplicate samples or through matrix duplicates.
[c]Calculated from laboratory attainable control limits through analytical surrogate or MS recovery and laboratory QC.
[d]Calculated from comparing planned and actual analytical results, including analyte rejections and work plan deviations.
[e]Data outside laboratory control limits were qualified appropriately.
Data quality objectives were met or exceeded for all soil targets. Water sample data quality objectives were met for detection limit, but information concerning the other aspects of data quality was not provided by the laboratory. Target completeness is exceeded.

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

Northwest Regional Office, 3190 - 160th Ave S.E. • Bellevue, Washington 98008-5452 • (206) 649-7000

March 13, 1992

Mr. Dave Buse
Buse Timber & Sales, Inc.
P.O. Box 5226
Everett, WA 98206

Re: EARLY NOTICE LETTER
Buse Timber & Sales #N-31-5065-000

Dear Mr. Buse:

I am writing to send you information the Department of Ecology has gathered regarding the above referenced property. Under the Model Toxics Control Act (Chapter 70.105D RCW) Ecology maintains a database of known or suspected contaminated sites. Based on available information, we have added the above referenced property to our database.

Enclosed is a computer print-out summarizing information which we believe reflects the current status of this site. We are making every effort to ensure that we have accurate information. I encourage you to carefully review this report. If you have any corrections, please send them and any supporting material to me at the above address. A legend has also been enclosed to help you interpret this report.

Please note that inclusion in the database **does not** mean that Ecology has determined you are a potentially liable person under the Model Toxics Control Act or that immediate action is needed. We will be conducting a more detailed inspection of this property, including testing for possible contamination, at a future time. After that, we will be better able to assess whether action will be needed and to establish a priority for this work.

It is Ecology's policy to work cooperatively with persons to accomplish prompt and effective site cleanups. However, due to limited resources and requirements in state law, we are not always able to provide requested assistance in a timely manner. Cooperating with the department in planning or conducting a remedial cleanup action is not admission of guilt or liablity. If you decide to proceed with an independent cleanup, please be aware to adhere to requirements in state law.

Please contact me for a copy of Chapter 70.105D RCW (The Model Toxics Control Act) and the implementing regulations, Chapter 173-340 WAC, which detail these requirements.

If you have any questions regarding this letter, you may call me at (206)649-7209. Thank you in advance for your cooperation.

Sincerely,

Louise Bardy

Louise Bardy
Site Information Coordinator
Toxics Cleanup Program

Enclosures

LB:lb

cc: Mike Gallagher, Supervisor, NWRO/TCP

DEPARTMENT OF ECOLOGY
ERT SYSTEM -- INITIAL REPORT/FOLLOWUP

COORDINATOR: LOUISE BARDY UNIQUE RECORD #: N8010 REGION: N

DATE/TIME REC'D: 03/09/92 12:03:12 REPORT TYPE: INITIAL

REPORTER'S NAME: EPA BUSINESS NAME:

ADDRESS: BEST TIME TO CALL:

OR ANONYMOUS:

WORK PHONE: EXT. HOME PHONE:

DETAILS ON INCIDENT:

COUNTY: SNOHOMISH NEAREST CITY: EVERETT
WATERWAY: UNION SLOUGH WRIA #:
LOCATION: SMITH ISLAND

WEATHER: UNKNOWN TIDE:

DETAILS ON ALLEGED VIOLATOR:

CONTACT'S NAME:

NAME & ADDRESS:
BUSE TIMBER & SALES, INC.
3812 28TH PLACE NE
EVERETT WA

PHONE NUMBER AND EXT:

VEHICLE INFORMATION:

DESCRIPTION OF CONTAMINANT: (PROVIDED BY REPORTER)

MEDIUM: SOIL
MATERIAL: OIL/PETROLEUM OTHER: PETOL & PENTACHLORO
QUANTITY: UNKNOWN
SOURCE: COMMERCIAL

COMMENTS: THIS IS A HISTORIC WOOD PRESERVING SITE. EPA DID A PRELIMINARY ASSESSMENT IN 1990 AND RECOMMENDED THAT THE STATE PURSUE CLEANUP, AS SOIL AND SURFACE WATER CONTAMINATION EXCEED MTCA STANDARDS. THE PA COUNTS AS AN I.I. SITE WILL GO ON SMIS.

REFERRED TO PROGRAM: HWICP SECTION HEAD: GALLAGHER

EXTERNAL REFERRAL? (Y/N): N

IF EXTERNAL, WHAT AGENCY: _____

INVESTIGATION COMPLETED? (Y/N): N
IF YES, COMPLETE SECOND PAGE OF FORM.

CONTINUED ON PAGE 2

INTERNAL REFERRAL INFORMATION:

NAME OF STAFF PERSON: EPA

DATE RECEIVED:
DATE INVESTIGATED:
ACTION TAKEN: PA
DATE COMPLETED:
CAUSE OF INCIDENT:
IMPACT:
LUST:

NONPOINT: (UNK, GW, SW) POINT: (UNK, SW, PRETMT)

ACTUAL VIOLATOR INFORMATION:

NAME: CONTACT:
ADDRESS:
CITY: same
HOME:
WORK:

ACTUAL CONTAMINANT:

MEDIUM:
MATERIAL: same OTHER:
QUANTITY:
SOURCE:

ENFORCEMENT SENSITIVE? (Y/N): N

CROSS-REFERENCES TO OTHER SYSTEMS: SMIS # N-31-5065-000

OTHER RELEVANT INFORMATION: Ecology did prelim. assess. for EPA. This ~~[illegible]~~ serves as initial investigation. Smis referal C1 petroleum & phenols. Source removed but contamination remains in soil.

WRITE ANY ADDITIONAL INFORMATION ON BACK OF FORM:

DEPARTMENT OF ECOLOGY ENVIRONMENTAL REPORT TRACKING FORM
INITIAL REPORT AND FOLLOW-UP PAGE 1 OF 2

****

RECORDER : _____ REPORT TYPE: _____ REPORT #: ____

DATE & TIME RECEIVED: _________ ___ : ___

****

REPORTER'S NAME: EPA OR ANONYMOUS: ___(A

ADDRESS _____

_____ PHONE WK(___) ___- ___

BUSINESS NAME: _____ HM(___) ___- ___

BEST TIME TO CALL _____

****

DETAILS ON INCIDENT:

COUNTY: Snohomish NEAREST CITY: _____

WATERWAY: Union Slough WRIA #: _____

DESCRIPTION OF LOCATION: Smith Island

_____

****

DETAILS ON ALLEDGED VIOLATOR:

NAME: BUCE TIMBER & SALES, INC. PHONE: (___) ___- ___

ADDRESS: 3812 28th Place N.E. (___) ___ - ___

Everett, WA 98206

VEHICLE INFORMATION: _____

****

DESCRIPTION OF CONTAMINANT:

MEDIA: Soil, SW, Sed. QUANTITY: _____

MATERIAL: petroleum & pentachlorophenol

SOURCE: _____ _____

****

COMMENTS: This is a historic wood preserving site. EPA did a Preliminary Assessment in 1990 and recommended that the State pursue cleanup, as soil & surface water contamination exceed MTCA Stds. The PA counts as an I.I. Site will go on SMIS

Buse Timber & Sales

1. Introduction

The Washington State Department of Ecology (Ecology) Preliminary Assessment/Site Inspection (PA/SI) Unit conducted a PA of Buse Timber & Sales in Everett, Snohomish County, Washington (Figure 1). This is one of the sites for which PA's are scheduled to be performed by Ecology under a Cooperative Agreement with the U.S. Environmental Protection Agency, signed July 31, 1989.

A PA represents the second of a three-step pre-remedial assessment process which begins with Site Discovery and concludes, if necessary, with a Screening Site Inspection. The assessment process, in general, is intended to identify, compare, and rank the potential hazards associated with a particular site relative to other sites across the nation for the purpose of identifying priority sites requiring remedial response. It does not include extensive or complete site characterization, containment fate determination or quantitative risk assessment.

The Buse Timber & Sales PA was conducted to identify potential public health and/or environmental hazards related to the site and, if present, then evaluate the need for additional investigations. The PA is based on data derived from available files, literature pertaining to the site, and a drive-by reconnaissance, as observed by the Ecology PA/SI Unit on December 18, 1989.[1]

Buse Timber & Sales is located on Smith Island in the Snohomish River flood plain. It is in the southeast quarter of the southwest quarter of Section 4, Township 29 North, Range 5 East, Willamette Meridian, and the northeast quarter of the northwest quarter of Section 9, Township 29 North, Range 5 East, Willamette Meudian. Buse Timber is at a latitude of 48° 1" 17" North and a longitude of 122° 10' 00" West. The site is adjacent to Union Slough and near the mouth of the Snohomish River, Port Gardner Bay and Possession Sound.

2. Background/Operating History

In 1986 EPA sponsored studies to determine whether wood treatment chemicals were entering the soil in certain lumber mills in Washington. Buse Timber & Sales in Everett was chosen as a likely place where wood treatment chemicals might be found. Sediment samples collected in the lumber yard indicated elevated levels of pentachlorophenol (PCP) and tetrachlorophenol (TCP). A sample taken at the storm drain near the dip tank at Buse Timber showed concentrations of 240.0 mg/kg PCP and 47.5 mg/kg TCP. Another sample near Union Slough had 1.970 mg/kg PCP and 0.890 mg/kg TCP.[2]

PRELIMINARY ASSESSMENT REPORT

BUSE TIMBER & SALES, INC.
EVERETT, SNOHOMISH COUNTY, WASHINGTON

WAD009480542

OCTOBER, 1990

REPORT PREPARED BY:

JUDITH M. AITKEN
WASHINGTON STATE DEPARTMENT OF ECOLOGY
PRELIMINARY ASSESSMENT/SITE INSPECTION UNIT
TOXICS CLEANUP PROGRAM

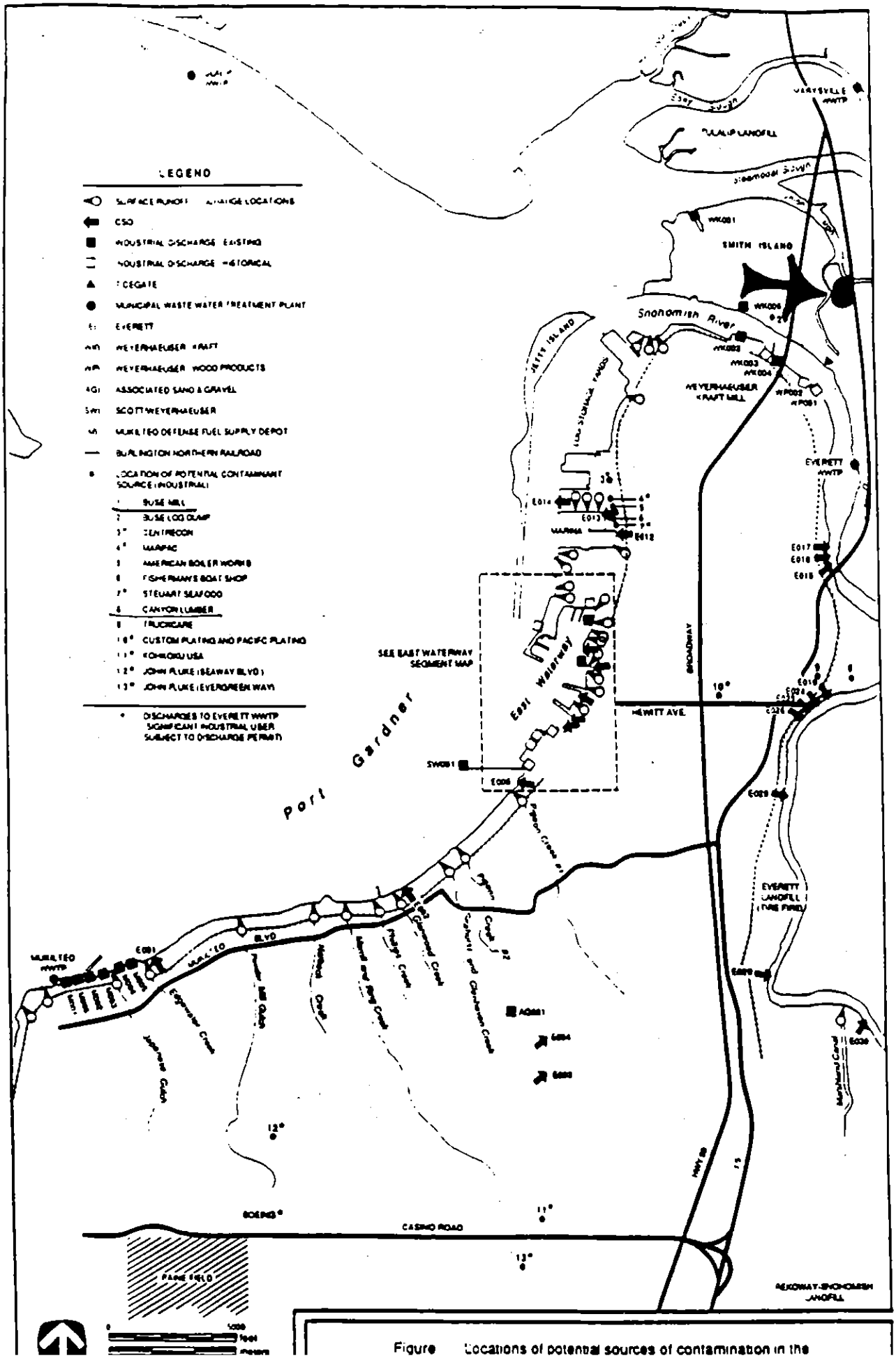

Figure Locations of potential sources of contamination in the

Buse Timber & Sales has operated a saw mill on Smith Island since 1946. They used PCP or pentachlorophenol to treat the lumber. In 1986, on a complaint from EPA and on the advice of their chemical supplier, Chapman Chemical Company, they changed to "PQ8". At the same time, they moved the dip tank into a shed in an area that is asphalted and bermed. Although the dip tank was moved the contaminated soils were not treated or removed.[3]

Historically, the site was not used by the timber industry until the Buse family purchased the land. Smith Island was originally utilized as an agricultural area. In the early part of the century the island was diked to help prevent the effects of the Snohomish Rivers flooding. A large mansion or estate was built northwest of the property. The railroad then built the rail system across the island; this still crosses the island. A spur was built across the Buse site. Destination of the spur and its use are not mentioned in Everett Library records.[4]

In 1936, the railroad spur had disappeared and the area was platted and a community was planned. There is no record that this development ever actually took place.

The lumber company is partially fenced but it is not a secured fence. The lumber yard is partially paved or asphalted.

The company is owned by a family: Delmar Buse is President and Norm Buse, his brother, is Secretary/Treasurer.

3. Waste Containment/Hazardous Substance Identification

Sediment samples collected at Buse Timber & Sales indicated elevated levels of pentachlorophenol and tetrachlorophenol.

Pentachlorophenol (Penta or PCP) is a needle-like crystalline solid that has a boiling point of 309°-310°F (with decomposition). It has a very pungent odor when hot and is almost insoluble in water (8 mg. in 100 ml.).[5] As a wood preservative it is usually dissolved in heavy petroleum oil or light petroleum solvents. When heavy petroleum oil is used as a carrier, little evaporation takes place; most of the oil remains in the wood permanently. If light petroleum solvents are used as the carrier, most of the solvent evaporates from the wood. When water is used as a carrier, PCP is dispersed in water to form an emulsion.[6]

Generally, PCP is applied as a five (5) percent solution in petroleum oils. Although PCP is normally contaminated with chlorodibenzodioxins (CDDs) and chlorodibenzofurans (CDFs), the presence of dioxin (2,3,7,8-TCDD) in PCP and wood treating mixtures containing PCP has not been reported.

Health risks involving PCP's include severe toxicity by ingestion and inhalation. Ingestion causes increase then decrease of respiration, blood pressure and urinary output; fever; increased bowel action; motor weakness; collapse with convulsions and death. Inhalation causes lung, liver and kidney damage. Contact dermatitis can also occur and PCP's can be absorbed through the skin. PCPs are more toxic in organic or petroleum solvents when heated to decompose, it emits highly toxic fumes of Cl2.[7]

Tetrachlorophenol (TCP) was also found in the soil and water samples taken adjacent to the lumber company. It is a brown solid with a pungent phenol odor. It is found in commercial and purified grades of pentachlorophenol. It is also severely toxic when ingested or absorbed through the skin. When heated to decomposition, TCPs also emit toxic fumes of Cl_2. Tetrachlorophenol is soluble in a sodium hydroxide solution and most organic solvents. It is insolvent in water.[8]

Wood treating processes may be sub-divided into two principal steps: conditioning and impregnation. Conditioning the wood reduces the wood's moisture content and improves the transport of preservatives into the wood cells. If wood is not properly seasoned or is not porous enough, wood conditioning is required. The following processes are usually used for wood conditioning: 1)The Boulton Process (using hot creosote or PCP solution and a vacuum), 2) steaming (open and closed containers), 3) vapor conditioning, 4) natural drying in yards, 5) kiln drying, and 6) incising.

Wood treating consists of drying and impregnating the wood with a preservative by one of the following methods: 1) Brushing and Spraying; 2) Dipping and Steeping; 3) A Thermal Process; and 4) Vacuum-Pressure Methods including the Full Cell Process, the Empty Cell Process, and the Modified Full Cell Process. Buse uses the Dipping and Steeping method.

There are three main types of wastes associated with wood treating: waste water, sludges, and spilled preservatives. Waste water is generated during wood conditioning. Sludges produced in the retort are designated as a hazardous waste.

Waste water can be treated by several different treatment methods. Oil/water separation is the most common primary treatment used by the wood treating industry. Oil/water separators with long detention can also be used for secondary treatment.

Sludges produced in the retort from PCP preservatives are classified as a hazardous waste. Sludges are frequently by-products of wastewater treatment. They contain hazardous components from the preservatives and its by-products. Buse

states that the sludges they produce are not toxic and fall within EPA's range of acceptable wastes. They state that there is very little sludge produced and it is disposed off-site.[9]

Preservatives can be spilled on site during normal operations. When freshly treated wood is removed,excess treating solution can be spilled outside of the retort. If excess treating solution is present on the wood when it is placed in the storage area, the solution can be washed off onto the ground. In some old treating plants, waste oil was sprayed across the entire site. Cracked sumps may also be a potential source of contamination. It is not known if any of these practices took place at Buse Lumber.

4. Pathway Characteristics

A. Air:

No qualitative or quantitative information exists to indicate an observed release to the air at this time. The major complaint was elevated levels of pentachlorophenol (PCP) and tetrachlorophenol (TCP) at the lumber company. Investigations and sampling were done in U.S. EPA sponsored studies in 1986. [10]

B. Ground Water:

Buse Timber is located on the east side of Smith Island in deltaic area at the mouth of the Snohomish River.

There are three aquifer systems of concern in the area: recent alluvial deposits associated with the Snohomish River (10-75 feet depth), the Marysville sand member (100-180 feet depth), and the Esperance sand member (greater than 225 feet).

Ground water levels at the project site are relatively high and are influenced by, and generally follow, the water levels of the river. The ground water in this area is not used for domestic or other water supply.

Ground water is of great importance as a contributor to streamflow, particularly during late summer when rainfall is usually less than at other times.

The Snohomish River estuary is also tidally influenced with salt or marine water intruding as far up the river as the south end of Ebey Island. Salt water or tidal water and fresh water are usually vertically distributed and homogeneous or well mixed.

The closest National Weather Service meteorological station is in Everett, within five miles of the site. Net precipitation, calculated from monthly precipitation and actual evapotranspiration data, is 18.5 inches. [11]

C. Surface Water:

There is no information to document an observed release to the surface water pathway from the site. Staining around the storm drain, on-site, indicates that some of the product has been released to surface water and soils.

Runoff is determined by evaluating three parameters: rainfall, a runoff curve number, and the drainage area. The 2-year, 24-hour rainfall value is 2.3 inches.

The runoff curve number reflects the ability of soils, and the nature of the land surface to retard runoff. The Soil Conservation Service has mapped soils in the project area. General soils in the area are mapped as Puget-Sultan-Pilchuck. These soils are very deep, poorly drained, moderately well drained to somewhat excessively drained, nearly level soils found on flood plains. More specific mapping indicates the site is located on alluvial soils deposited by the Snohomish River.[12]

The flow of surface water runoff is to the east - northeast. The closest surface water is that direction is Union Slough, a branch of the Snohomish River. It is adjacent to Buse Timber. A drainage ditch also runs along the east border of the site. The storm drain drains to the drainage ditch which then drains to Union Slough. The site lies in the 100 year flood plain.

The Snohomish River near Buse Timber is 850 feet wide and Union Slough which is adjacent the site is approximately 120 feet wide. The average mean flow of water is 9,951 ft/sec. Historic flow records are kept at Monroe, Washington, approximately 16 miles upstream.[13]

D. On-Site Pathway:

Samples taken on site indicate contamination of soils. A sample taken near a storm drain that was close to the dip tank showed concentrations of 240.0 mg/kg PCP and 47.5 mg/kg TCP. A sample near Union Slough had 1.970 mg/kg PCP and 0.890 mg/kg TCP.

5. Targets

A. Air Pathway:

As stated, there is no documentation of any release of hazardous constituents to the environment via the air pathway, relative to any off-site control (background). There is a remote potential for release since most PCP that is used as a wood preservative is mixed with petroleum solvents as the carrier. The solvents readily evaporate and could introduce PCP's into the air pathway. It should also be noted that when PCP is heated to decomposition temperature, Cl_2 is released and this product is highly toxic. However, the product, in its normal form would not release to the air pathway.

If a potential release is possible, the following targets could be affected: 1) population - both the maximally exposed and those within a four mile radius; 2) land use; and 3) sensitive environments also within four miles from the site.

It is assumed that the maximally exposed individuals would be the employees of Buse Timber & Supply. It is estimated that 120 people work at this facility.

The population of the surrounding area, within a four mile radius of the site has been calculated by using the 1990 Decennial Census which is a pre-census local review of the preliminary housing unit and special place counts done by the City of Everett Planning Department. [14] For those areas outside the Everett City limits, the most recent USGS 7.5 Minute topographic maps and the latest U.S. Census factor for the number of people per residence for Snohomish County, which is 2.6, were used to calculate the population. For each distance category the population is estimated to be:

Distance (miles)	Population
On-Site	120
0-¼	13
¼-½	10
½-1	702
1-2	4,242
2-3	9,586
3-4	8,753
TOTAL	23,426

Land within four miles of Canyon Lumber is used for a variety of purposes. Land use has been divided into the following categories along with the distance of the

closest occurrence to the site of concern. Land use was determined by studying the City of Everett Planning Department's maps and confirmed drive-by. The categories are:

1. Manufacturing, Industrial/Commercial:

Buse Timber is one of several businesses located on Smith Island. It is adjacent to Dagmar's Landing, a marine equipment and boat sales organization.

2. Single Family Residential:

To the west-northwest of Buse Timber and less than 1/8 mile away there's a single family residence.

3. Multiple Family Residential:

Both duplexes and apartment houses can be found within a one to two miles radius of the site. Most of these housing units are to the south-southwest of Buse Timber.

4. Parks:

Langus Park and The American Legion Memorial Park are within 2 miles of Buse Timber. Langus is a river park and is up stream (to the south), across the river and adjacent to I-5 (Interstate 5). The American Legion Memorial Park is southwest of the site, on top of the bluff. There are at least three other parks within the four mile radius.

5. Prime Agriculture:

There are some prime agricultural lands across the river and/or the interstate. Diking has been used in the area since the 1800's to provide flood protection. This has enhanced the use of these low-lying areas for agricultural grazing and crop production. These lands are 1/2 to four miles from Buse Lumber.

6. Non-Prime Agriculture:

These activities are found within one-half mile of the site. Hobby farms and tree farms are found on this land.

B. Ground Water Pathway:

The population living in Everett and its vicinity are served by public surface water systems that bring water from outside the area and not by ground water wells. Most of the wells are across the river; many are used for irrigation. The nearest well is 0.4 miles north of the site, on Smith Island.

Ground water within four miles of the site is predominately used for irrigation/agriculture and/or commercial industrial purposes.

Distance to nearest drinking well is 0.74 miles from the site. Population rings for "potential" contamination using Department of Health Public Water Supply Listing Information and well logs from the Department of Ecology are estimated as follows for three different aquifers:

Distance (miles)	Well Depth (feet)		
	10-75	100-200	>225
0-¼	0	0	0
¼-½	0	0	0
½-1	5	2	0
1-2	9	0	0
2-3	7	98	0
3-4	66	105	10

These figures account for only about 1% of the population within four (4) miles of the site.[15]

No well head protection areas have been defined in the State of Washington at this time.

C. Surface Water Pathway:

Surface water from the site drains off the paving into storm drains. The water than drains into drainage ditches on the east and south of the site and eventually into Union Slough, a branch of the Snohomish River that is adjacent to the property.

There is a population of 23,326 that might be affected. It is difficult to estimate the population affected beyond this point - distribution of PCP would be influenced by tides which run north and south depending

on whether they are incoming or out-going tides. (see figures 2 and 3) If you take into account populations within 125 miles of the site you have over 1.5 million people. But you must also account for PCP's insolubility in water and the fact that the petroleum products that would transport it, would evaporate or sink, depositing the PCP in the sediments.

The Snohomish River is a major migratory route for salmon and other sport fisheries and annually produces approximately 1,071,00 pounds of fish. The wetlands at the mouth of the river also serve as nurseries for such commercially valuable fisheries as shrimp, dungeness crab, and hake.[16]

Recreational use of the surface water pathway includes water sports such as boating, kayaking and canoeing. Other uses include fishing and wildlife viewing. There are public boat launches within one mile of the site and kayak launching areas are within two miles. The University of Washington's Women's Crew uses the area of the river for practice.

Wetland ecosystems are found 1/2 mile to the south, adjacent to the site, and throughout the Snohomish River Basin. There are wetland habitats on Smith Island, Jetty Island, and along Steamboat, Union and Ebey Sloughs which are all part of the Snohomish River estuary system and within a four mile radius. No known rare and endangered species breed in the area but Bald Eagles have been seen hunting along the river, the East Waterway, and Port Gardner Bay.

D. On-site Pathway:

On-site pathways include the storm drains that receive runoff from the paved areas. The area surrounding the storm drain by the dip tank was stained and soils in that area indicated contamination. The amount and extent of contamination in the drainage ditches on and adjacent to the site is unkown.

6. Regulatory Involvement

In 1986, the U.S. EPA sponsored studies to determine whether wood treatment chemicals were entering the soils and water surrounding certain lumber mills in Washington. Sediment and water samples were collected and results of the analysis indicated elevated levels of pentachlorophenol and tetrachlorophenol. The results of the analyses were mentioned in the Everett harbor Action Program: Evaluation of Potential Contaminant Sources. [15] In 1989 Ecology recommended that Buse Lumber be placed on the CERCLIS list.

According to Buse, EPA suggested that they move the dip tank and provide more protection for the dipping and steeping process. The tank was moved into a shed with an asphalted floor and a berm to help prevent contamination. Buse did not, however clean up the contaminated soil and did not determine the extent of contamination.

7. Conclusions and Recommendation's

Information gathered through this PA process indicates that, although hazardous contamination had been determined to have occurred on-site through past activities involving wood preservatives, the Buse Timber & Sales site presents no significant threats to nearby human populations and/or the environment, following scoring guidance for the proposed revised federal hazard ranking system (HRS). It is therefore recommended at this time that the Ecology PA/SI Unit pursue no further federally funded action at this site.

Elevated levels of pentachlorophenol and tetrachlorophenol were observed in sediment samples collected from a storm drain near an on-site dip tank and nearby adjacent offsite slough. Although the company changed to a non-hazardous preservative in 1986, it is not known that the soil contaminated from past activities has been cleaned up, nor has there been followup sampling to determine the extent of this contamination. It is thus further recommended that Ecology score this site under the Washington Ranking Method guidelines (WAC 173-340), following a site hazard assessment with appropriate on-site sampling.

Buse Timber

Bibliography

1. Department of Ecology PA/SI Drive-By, December 18, 1989 - Memo to the file.

2. Tetra Tech, Inc. Everett Harbor Action Plan: Evaluation of Potential Contaminated Sources. September 1988.

3. Philips, Merle, Buse Timber & Sales. Personal Communication, July 11, 1990.

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5. Sax, M. Irving. Dangerous Properties of Industrial Materials, 6th Edition, 1984. Van Noshand Reinhold Company; Inc. New York, New York.

6. Ecology and Environment, Inc. Wood Treating Technology Notebook prepared for EPA. July 1989.

7. Winaholz, Martha, Editor. The Merck Index 10th Edition Merck and Company, Inc. Rahway, New Jersey 1983.

8. Ibid.

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11. Washington State University, Cooperative Extension Service. Washington Climate for Snohomish County.

12. U.S. Department of Agriculture, Soil Conservation Service. Soil Survey of Snohomish County Area Washington. 1983.

13. Luis Stuste. U.S. Geological Survey, Personal Communication, August 1990.

14. Kos, Art. City of Everett Planning Department City of Everett 1989 Population Estimate April 1989.

15. Washington State Department of Health. Public Water Supply System Listing.

16. Washington State Department of Fisheries Fisheries Lab. Mount Vernon, Washington Personal Communication, August 24, 1990.

EPA V

DATA ENTRY (ENTERED)

File	Date	Init.
STMASTER	3/10/92	JS
STDESC	3/10/92	JS
STADDRES		
STMILE		
EPA # ✓		
Letter file	3/13/92	JS

OWNER/OPERATOR SITE INFORMATION — WASHINGTON

Date of Last Update:

I. SITE ID

Region N NORTHWEST
County
Site No
Sub-Site No

HWICP ID N-31-5065-000
EPA ID #WAD009480542

Site Name BUSE TIMBER & Sales, Inc.
Alias Name(s)

II. SITE STATUS (STATE)

Site Status C
State Ranking

P1=HWICP Program Plan P2=Other Program P

Site Category:
A = Federal Lead NPL
B = State Lead NPL
C1= Confirmed Haz.Wst.Site
C2= Potential Haz.Wst.Site
L = Long Term Monitoring
N = No Haz.Wst. found
Y = Cleanup (Remediation) Comple

III. LOCATION DESCRIPTION X

Site Location Address: 3812 28th Place N.E. Everett WA 98206 (Smith Island)
Legislative District: 39 Congressional District: 2

Legal Description T/R-
Latitude Longitude

Geographic Location: PS Union Slough

Codes: CBN = Comm Bay Nearshore
CBS = Comm Bay So Tacoma Chnl
EB = Elliot Bay
HA = Hanford
HI = Harbor Island
PS = Other Puget Sound

IV. SITE STATUS (FEDERAL)

EPA HRS Score:
NPL Dates: Nomination ____ Final ____ Deletion ____
CERCLIS Status: (A = Active, N = No Further Action)

VI. SITE DESCRIPTION

Facility Active? A

Codes: A = Active M = Mixture
I = Inactive U = Unknown

Ownership Type 1 Operator Type 1

Codes:
1= Private
2= Municipal
3= County
4= Federal
5= State
6= Tribal
7= Multiple Sites/Ownership
8= Other
9= Unknown
10= Public Ownership due to bankruptcy
11= Fincial Inst. owned due to bankruptcy

Standard Industrial Classification (SIC) Code(s):
1. 2491 Lumber treatment + retail Sales
2. 5211 Lumber dealers
3.

Preliminary Assessment Ratings:
H = High M = None
M = Medium P = Pending Investigation
L = Low

Site Inspection Recommendation:
Codes:
1=No Further Action
2=Referred to EPA for HRS Score
3=Referred to Ecology
4=Follow-up SI

VII. WASTE DESCRIPTION

Waste Management Practice(s):
1. Handling
2. Spills
3. Tank

Categories:
Landfill
Impoundment
Drum
Tank
Spill
Drug Lab
Pesticide Application
Pesticide Disposal
Land Application (proper)
Improper Handling
Storm Drain

General Waste Categories: (S = Suspected, C = Confirmed)

Halogenated Organic Compounds	
Metals-Priority Pollutants	
Metals-Other	
Polychlorinated Bi-Phenyls (PCB)	
Pesticides (incl. herbicides)	
Petroleum Products	C
Phenolic Compounds	
Non-Chlorinated Solvents	
Dioxin	
Polynuclear Aromatic Hydrocarbons	
Reactive Wastes	
Corrosive Wastes	
Radioactive Wastes	
Conventional Contaminants-Organic	
Conventional Contaminants-Inorganic	

no creosote >

MTJG 3/9/92

Contaminated Environments:

Ground Water	P
Surface Water	P
Air	U
Soil	T
Sediment	T
Drinking Water	U

Codes:
T = True
P = Potential
F = False
U = Unknown

Drinking Water Type:

Codes:
1 = Single-Family Residence
2 = Community Water Supply

JD 3/8/92

VIII. AUTHORITY

Legal Authority 1

Codes:
1=RCW 70.105B (Toxics Act)
2=RCW 70.105 (Haz. Wst. Mgmt.)
3=RCW 70.94 (WA Clean Air Act)
4=RCW 70.95 (Solid Wst. Mgmt.)
5=RCW 90.48 (Water Poll. Ctrl.)
6=RCRA
7=CERCLA
8=LUST
9=NPDES
10=TSCA

NW Regional Contact Person (first & last initial) JA

Other Ecology Contacts (initials) _____

VIV. SITE ADDRESSES

Address Type OW
Codes: OW=Owner OP=Operator GE=Generator TR=Transporter

Former/Current (F/C) C

Site Ownership
Begin __/__/__
End __/__/__

Site Responsibility
Owner/Operator Responsible _____
Codes: Y=Yes N=No U=Unknown

Organization _____
Contact Dave Buse
Address P.O. Box 5226
Everett WA 98206
Phone 206/258-2577

Address Type _____
Codes: OW=Owner OP=Operator GE=Generator TR=Transporter

Former/Current (F/C) _____

Site Ownership
Begin __/__/__
End __/__/__

Site Responsibility
Owner/Operator Responsible _____
Codes: Y=Yes N=No U=Unknown

Organization _____
Contact _____
Address _____
_____
Phone _____

Address Type _____
Codes: OW=Owner OP=Operator GE=Generator TR=Transporter

Former/Current (F/C) _____

Site Ownership
Begin __/__/__
End __/__/__

Site Responsibility
Owner/Operator Responsible _____
Codes: Y=Yes N=No U=Unknown

Organization _____
Contact _____
Address _____
_____
Phone _____

OWNER/OPERATOR SITE INFORMATION — WASHINGTON DEPARTMENT OF ECOLOGY

Date of Last Update: — Page 1 of 1

I. SITE ID

Region	N	NORTHWEST
County	31	Snohomish
Site No	5065	
Sub-Site No	000	

HWICP ID: N-31-5065-000 EPA ID: WAD009480542

Site Name: Buse Timber & Sales, Inc.
Alternate Name(s): _____

II. SITE STATUS (STATE)

Site Status: __ _____ (P1=HWICP Program Plan)

Site Category: C1
A = Federal Lead NPL — C2= Potential Haz Wst Site — M = No Haz Wst Found
B = State Lead NPL — D = RA Complete (70.105B/MTCA) — N = RA Complete (Other Statutes)
C1= Confirmed State Site — L = Long Term Monitoring

III. LOCATION DESCRIPTION

Site Location Address: 3812 28th Place N.E.
Everett WA 98206
Legislative District: 38 Congressional District: 02

Township/Range/Section: T/R-
Latitude _____ Longitude _____

Geographic Location: PS OTHER PUGET SOUND

Codes: CBN = Comm Bay Nearshore; CBS = Comm Bay So Tacoma Chnl; EB = Elliot Bay; HA = Hanford; HI = Harbor Island; PS = Other Puget Sound

IV. SITE STATUS (FEDERAL)

EPA HRS Score: ____
NPL Dates: Nomination _____ Final _____ Deletion _____
CERCLIS Status: ___ (A = Active, N = No Further Action)

VI. SITE DESCRIPTION

Facility Active? A

Codes: A = Active; I = Inactive; M = Mixture; U = Unknown

Ownership Type 1 Operator Type 1

Codes :
1= Private; 2= Municipal; 3= County; 4= Federal; 5= State; 6= Tribal; 7= Multiple Sites/Ownership; 8= Other; 9= Unknown; 10= Public Ownership due to bankruptcy; 11= Fincial Inst. owned due to bankruptcy

Standard Industrial Classification (SIC) Code(s):
1. 2491 WOOD PRESERVING
2. 5211 Lumber Dealers
3. ____ _____

Preliminary Assessment Rating: ___ N/A
H = High; M = Medium; L = Low; N = None; P = Pending Investigation

Site Inspection Recommendation: ___
Codes:
1=No Further Action; 2=Referred to EPA for HRS Score; 3=Referred to Ecology; 4=Follow-up SI

VII. WASTE DESCRIPTION

Waste Management Practice(s):
1. IMPROPER HANDLING
2. SPILL
3. TANK

Categories: Drug Lab; Drum; Impoundment; Improper Handling; Land Application (proper); Landfill; Pesticide Application; Pesticide Disposal; Spill; Storm Drain; Tank

General Waste Categories: (S = Suspected, C = Confirmed, R = Remediated)

Halogenated Organic Compounds	___
Metals-Priority Pollutants	___
Metals-Other	___
Polychlorinated Bi-Phenyls (PCB)	___
Pesticides (incl. herbicides)	___
Petroleum Products	C
Phenolic Compounds	C
Non-Chlorinated Solvents	___
Dioxin	___
Polynuclear Aromatic Hydrocarbons (PAH)	___
Reactive Wastes	___
Corrosive Wastes	___
Radioactive Wastes	___
Conventional Contaminants-Organic	___
Conventional Contaminants-Inorganic	___
Base/Neutral Organics	___

Contaminated Media:

Ground Water	P	Codes: T = True; P = Potential; F = False; R = Remediated; U = Unknown
Surface Water	T	
Air	___	
Soil	T	
Sediment	T	
Drinking Water	___	

Drinking Water Type: ___
Codes: 1 = Single-Family Residence; 2 = Community Water Supply

ROFORM1.DFR

Stormwater Pollution Prevention Plan
Buse Timber and Sales, Inc.
3812 28th Place NE
Everett, Washington

January 30, 2020

Prepared for

Buse Timber Sales, Inc.
Everett, Washington

LANDAU ASSOCIATES
130 2nd Avenue South
Edmonds, WA 98020
(425) 778-0907

Stormwater Pollution Prevention Plan
Buse Timber and Sales, Inc.
3812 28th Place NE
Everett, Washington

This document was prepared by, or under the direct supervision of, the technical professionals noted below.

Document prepared by: Adria Lau — Adria S. Lau
Staff Scientist

Document reviewed by: Rosemary W. Trimmer — Rosemary W. Trimmer
Senior Project Scientist/Project Manager

Document reviewed by: Joseph Kalmar — Joseph A. Kalmar, PE
Principal Engineer/Quality Reviewer

Date: January 30, 2020
Project No.: 0776010.030.033
File path: P:\776\010\030 2020\R\2020 SWPPP\LAI_2020 Buse SWPPP-013020.docx
Project Coordinator: tam

LANDAU ASSOCIATES

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STORMWATER POLLUTION PREVENTION PLAN CERTIFICATION FORM
BUSE TIMBER AND SALES, INC.
EVERETT, WASHINGTON

The Permittee shall use this form to sign and certify that the Stormwater Pollution Prevention Plan (SWPPP) is complete, accurate and in compliance with Conditions S3 and S8 of the Industrial Stormwater General Permit.

- A SWPPP certification form needs to be completed and attached to all SWPPPs.
- Each time a Level 1, 2, or 3 Corrective Action is required, this form needs to be re-signed and re-certified by the Permittee, and attached to the SWPPP.

Is this SWPPP certification in response to a Level 1, 2 or 3 Corrective Action? ☐ **Yes** ☒ **No**

If Yes: Type of Corrective Action?: ☐ Level 1 ☐ Level 2 ☐ Level 3*

Date SWPPP update/revision completed: January 30, 2020

Briefly describe SWPPP Update (use backside, if necessary):

Update SWPPP to comply with 2019 Industrial Stormwater General Permit

***Note:** For Level 3 Corrective Actions, a *Qualified Industrial Stormwater Professional* must review the revised SWPPP, and sign and certify below, in accordance with Condition S8.D.2.:

"The Permittee has made appropriate revisions to the SWPPP to include additional Treatment BMPs with the goal of achieving the applicable benchmark value(s) in future discharges. Based on my review of the SWPPP, discharges from the facility are reasonably expected to meet the ISGP benchmarks upon implementation."

Qualified Industrial Stormwater Professional's Printed Name _____ Title _____

Qualified Industrial Stormwater Professional's Signature _____ Date _____

"I certify under penalty of law that this SWPPP and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate information to determine compliance with the Industrial Stormwater General Permit. Based on my inquiry of the person or persons who are responsible for stormwater management at my facility, this SWPPP is, to the best of my knowledge and belief, true, accurate, and complete, and in full compliance with Permit Conditions S3 and S8, including the correct Best Management Practices from the applicable Stormwater Management Manual. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Will Miller — Operator's Printed Name * — Coordinator — Title

Will Miller — Operator's Signature * — 2-11-2020 — Date

* Federal regulations require this document to be signed in accordance with Condition G2.

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TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

NOTE: Quarterly Reports are maintained in a separate stormwater management binder onsite.

LIST OF ABBREVIATIONS AND ACRONYMS

API	American Petroleum Institute
AKART	all known, available, and reasonable methods of prevention, control, and treatment
AST	aboveground storage tank
BMPs	best management practices
Buse	Buse Timber and Sales, Inc.
BOD	biological oxygen demand
CFR	Code of Federal Regulations
COC	chain of custody
COD	chemical oxygen demand
CP	coalescing plate
°C	degrees Celsius
DMR	discharge monitoring report
Ecology	Washington State Department of Ecology
EPA	US Environmental Protection Agency
Facility	Buse Facility
IFC	International Fire Code
ISGP	Industrial Stormwater General Permit
2019 Manual	2019 Stormwater Management Manual for Western Washington
µg/L	micrograms per liter
mg/L	milligrams per liter
mL	milliliter
N/A	not applicable
NAICS	North American Industry Classification System
NPDES	National Pollutant Discharge Elimination System
NTU	nephelometric turbidity unit
O&M	operation and maintenance
Permit	ISGP WAR-000097
SPCC	Spill Prevention, Control, and Countermeasures
SPECP	Spill Prevention and Emergency Cleanup Plan
SU	standard unit
SWPPP	Stormwater Pollution Prevention Plan
TCMTB	2-(thiocyanomethylthio)-benzothiazole
TSS	total suspended solids
UFC	Unified Fire Code
UL	Underwriters Laboratories
WAC	Washington Administrative Code
WSDOT	Washington State Department of Transportation

Summary of Submittals, Onsite Documentation and Required Activities

Summary of Industrial Stormwater General Permit Reports and Submittals

Permit Section	Submittal	Frequency	Due Date
S1.F	Conditional "No Exposure" Certification Form	As necessary	As necessary, with renewals every 5 years
S2.A	Application for Permit Coverage	As necessary	As necessary
S2.B	Request Modification of Permit Coverage	As necessary	As necessary
S2.D	Request Transfer of Coverage	As necessary	As necessary
S8.D	Level 3 Engineering Report	As necessary	May 15, prior to Level 3 deadline
S8.D	Level 3 O&M Manual	As necessary	30 days after Level 3 installation
S9.B	DMRs	1/quarter	February 15; May 15; August 15; November 15
S9.C	Annual Report	1/year	May 15
S9.D	SWPPP, if requested by Ecology	Per Ecology request	Within 14 days of request
S9.F	Noncompliance Notification	As necessary	Within 30 days of noncompliance event
G8	Duty to Reapply	1/permit cycle	July 3, 2024

DMR = Discharge Monitoring Report
O&M = operations and maintenance
SWPPP = Stormwater Pollution Prevention Plan
Ecology = Washington State Department of Ecology

Summary of Required On-Site Documentation

The Permittee shall make all plans, documents, and records required by this permit immediately available to the Washington State Department of Ecology (Ecology) or the local jurisdiction upon request; or within 14 days of a written request from Ecology.

Per the Industrial Stormwater General Permit (Permit) Condition S9.D.1, Permittee shall retain the following documents onsite for a minimum of 5 years:

a. A copy of the Permit.
b. A copy of the Permit coverage letter.
c. Records of all sampling information specified in Permit Condition S4.B.4.
d. Inspection reports including documentation specified in Permit Condition S7.
e. Any other documentation of compliance with Permit requirements.
f. All equipment calibration records.
g. All Best Management Practice (BMP) maintenance records.
h. All original recordings for continuous sampling instrumentation.
i. Copies of all laboratory reports as described in Permit Condition S3.B.4.
j. Copies of all reports required by the Permit.
k. Records of all data used to complete the application for the Permit.

Summary of Selected Permit-Required Activities

Permit Condition	Activity Description	Frequency
S7	Monthly Inspections	Qualified personnel conduct and document visual inspections of the site monthly on the monthly inspection form.
S3.B.4.b.i&ii	Apply BMPs by Industrial Activity	As needed
S3.B.4.b.i.5	Employee Training	At least once per year for employees who have duties in areas of industrial activities subject to this permit. At a minimum, the training plan shall include: a) The content of the training, an overview of what is in the SWPPP, how employees make a difference in complying with the SWPPP and preventing contamination of stormwater, spill response procedures, good housekeeping, maintenance requirements, and material management practices. b) How the Permittee will conduct training. c) The frequency/schedule of training. The Permittee shall train employees annually, at a minimum. d) A log of the dates on which specific employees received training.
S7.B.6	BMP Inspections	At least once per month during monthly inspections.
S3.B.4.b.i.2.a	Vacuum Sweeping	Vacuum paved surfaces with a vacuum sweeper (or a sweeper with a vacuum attachment) to remove accumulated pollutants a minimum of once per quarter.
S3.B.4.b.i.3.a	Catch Basin Cleaning	As needed, when depth of debris reaches 60 percent of the sump depth and when the depth of debris reaches 6 inches below outlet pipe.
S3.B.4.b.i.2.d	Cover Solid Waste Storage Containers	Keep all dumpsters under cover or fit with a storm resistant lid that must remain closed when not in use. (Tarps are not considered storm resistant).
S7	Stormwater Observations	At least once per quarter during qualifying storm events (check for oil sheen) and also during monthly inspections, if conducted during a storm event.
S4	Sampling	Sampling at applicable stormwater discharge locations shall be conducted within the first 12 hours of a storm event at least once per quarter: 1st Quarter = January, February, and March 2nd Quarter = April, May, and June 3rd Quarter = July, August, and September 4th Quarter = October, November, and December* *Permittees shall sample stormwater discharge within the first 12 hours from the **first** fall storm event each year. "First fall storm event" means the first time on or after September 1st of each year that precipitation occurs and results in a stormwater discharge from a facility.
S9.B	DMR Submittal	Submit to Ecology by the DMR due date for the quarter.
S8	Corrective Actions	Implement: Level 1 Corrective Actions within 14 days of receipt of sampling results, or the end of quarter, whichever is later; sign/certify and fully implement the revised SWPPP no later than the DMR due date for quarter the benchmark was exceeded Level 2 Corrective Actions by August 31 of the following year Level 3 Corrective Actions by September 30 of the following year.
S9.C	Submit Annual Report	Submit to Ecology by May 15 of each year starting in 2019.

1.0 INTRODUCTION

This document presents a Stormwater Pollution Prevention Plan (SWPPP) for the Buse Timber and Sales, Inc. (Buse) facility (the "Facility"), located in Everett, Washington, in accordance with the requirements of Permit #WAR000097 under the State of Washington's Industrial Stormwater General Permit (ISGP) issued on November 20, 2019 and effective on January 1, 2020 (Permit). A copy of the ISGP, along with a copy of the Facility's Permit coverage letter, is provided in Appendix A.

This SWPPP is, as defined in the Permit, a "documented plan to implement measures to identify, prevent, and control the contamination of point source discharges of stormwater." In accordance with the Permit, this SWPPP contains five required SWPPP components [Facility map, Facility assessment, Best Management Practices (BMPs), Spill Prevention and Emergency Cleanup Plan (SPECP), and a sampling plan] and is divided into the following three main sections:

- **Facility Assessment (Section 2.0)**: Presents a general Facility description, Facility map, inventory of industrial activities, and inventory of materials.
- **Best Management Practices (Section 3.0)**: Describes BMPs in use or planned for use at the Facility including a listing of the Buse pollution prevention team, and a description of monthly site inspection activities.
- **Stormwater Sampling Plan (Section 4.0)**: Presents a plan for conducting quarterly stormwater sampling at the Facility.

Where applicable, the Permit Condition reference is included in parentheses throughout the text of this SWPPP for major headings and select subheadings. This document will be updated, as needed, to reflect changes to the Buse stormwater management program, including changes in BMPs and the addition of new industrial activities or potential pollutant sources, or in response to Permit modifications. Each update will be accompanied by a newly signed SWPPP Certification Form (first page of SWPPP). A copy of this SWPPP will be maintained at the Buse administrative offices. A list of the major revisions to previous versions of the SWPPP is presented below, and will be updated when revisions to the SWPPP are made.

Date	Revision
July 2003	Update SWPPP to comply with 2003 Industrial Stormwater General Permit
January 2010	Update SWPPP to comply with 2010 Industrial Stormwater General Permit
January 2015	Update SWPPP to comply with 2015 Industrial Stormwater General Permit
June 2016	Update SWPPP per requirements of Settlement Agreement
January 2020	Update SWPPP to comply with 2019 Industrial Stormwater General Permit

2.0 FACILITY ASSESSMENT (S3.B.2)

As stated in the Permit, the Facility assessment includes: "a description of the facility; an inventory of facility activities and equipment that contribute to or have the potential to contribute any pollutants to stormwater; and, an inventory of materials that contribute to or have the potential to contribute pollutants to stormwater."

2.1 FACILITY DESCRIPTION (S3.B.2.A)

Buse operates a log yard and sawmill Facility on Smith Island at 3812 28th Place NE in Everett, Washington. Figure 1 shows the general vicinity of the Facility. The Facility has regular business hours of 6:30 a.m. to 3:00 p.m., Monday through Friday, with little or no seasonal variation in operations. The Facility's stormwater discharge locations (and associated sampling identification numbers) and storm drain system piping are described in Section 2.2 below and shown on Figure 2. Site features are also shown on Figure 2.

The Facility covers approximately 60 acres. The operating area of the Facility is paved with asphalt or concrete except as noted specifically below and covers approximately 40 acres. Log storage is located on the southern end of the property and processing activities and lumber storage are in the middle of the property. The north end of the property is unpaved and undeveloped. A parts storage building is located within the north end of the property. The road leading to the parts storage building and the area immediately around the building is paved with asphalt. The slough access ramp, the temporary log storage area, and a small area in the southern half of the log storage area are surfaced with quarry spalls (Figure 2).

The surrounding topography is flat except for the manmade elevation for the freeway to the east. The Facility is bounded on the east by Interstate 5 and on the northeast by Union Slough. The remaining adjacent land includes a lumber distributor and agricultural or undeveloped land. A marina is located to the south, although it is not adjacent to the Facility. There is a ditch/channel (referred to as ditch for the rest of this document) encircling the Facility that discharges any collected water to Union Slough through a tide gate at the north end of the Facility.

Operations and activities at the Facility are centered around Buse's primary business occupation of lumber and wood products. The Facility's primary North American Industry Classification System (NAICS) code is 321113, which is an industrial category requiring a stormwater permit. Industrial activities currently performed at this Facility include:

- Log retrieval from Union Slough
- Milled lumber storage
- Log yard debris storage
- Debarking
- Planer surfacing
- Sapstain treatment
- Log storage
- Sawdust and bark storage
- Oil and fuel storage
- Sawmill operation
- Lumber sorting
- Banding and end painting
- Vehicle washing
- Vehicle maintenance
- Vehicle fueling
- Vehicle parking
- Dust control

Some of these activities are limited to inside buildings or under cover, and are not conducted within the stormwater drainage area. Areas of the Facility and the industrial activities conducted in these areas are listed below.

The majority of the logs are delivered to the Buse facility by truck. A small portion of the logs processed at Buse are delivered by rafts via Union Slough. The raft log bundles are removed from Union Slough with Log Stacker equipment at a man-made dike and transported by log truck to the log storage area. The dike is vegetated with grass or low shrubs whereas the slough access ramp is surfaced with quarry spalls. Runoff from the northeast side of the dike enters the slough directly. The land-ward side of the dike consists of an access road that is paved with asphalt and crushed rock. Infrequently, raft log bundles are temporarily stored on a rocked area adjacent to the slough access ramp. These areas slope toward the interior of the property, where runoff drains to a grassy area. Heavy mobile log handling equipment, bark, soil, and other debris from logs are exposed to stormwater.

Logs are stored in the log storage yard along the south end of the Facility property. The logs are moved by rubber-tired log handling machines. The storage area is paved with asphalt. Dirt, bark, and debris from the logs as well as the log handling machines are exposed to stormwater. A vegetated berm composed of soil and wood debris is located between the southern half of the log storage area and the perimeter ditch. Stormwater from the southern half of the log storage area ponds against the berm and then either ponds high enough to flow back into the Buse storm drain piping, or it eventually evaporates. Stormwater from the northern half of the log storage area flows to a catch basin with oil/floating debris separator near the mechanics shop that drains into the Facility storm drain system. A water truck is used to control dust in traffic areas associated with the log storage area. Water is sprayed during dry periods to prevent dust from being generated. Water use is limited to the minimum necessary amount to provide dust control, and there is no runoff of dirt and debris into the storm drain system due to spraying.

Milled lumber is stored on asphalt paving throughout the Facility near the various mill operations. There are three roofed storage sheds, one of which has no sides, located west of the decommissioned dry kilns that are used for dry storage of lumber. In the remaining storage areas, lumber is exposed to stormwater which either drains onto unpaved ground or into the stormwater collection system. Roof drains connect into the Facility storm drain system.

Sawdust from the sawmill and planer, and bark dust from the debarker, are conveyed to elevated covered storage silos located on the east side of the property adjacent to the debarker. These areas are paved with asphalt and stormwater flows into the Facility storm drain system. The silos are emptied regularly and the sawdust and bark is hauled offsite for fuel or use in beauty bark. Bark and sawdust falling off the conveyor and outside the storage bins are exposed to stormwater.

Debris collected from the log storage yard is placed in an exposed pile on asphalt located between the sawmill and the debarker. It is periodically placed on a conveyor and transported to the Hog, where it is ground up and sent to the bark and sawdust storage bins. Stormwater from this area flows into the

Facility storm drain system. The log yard debris is exposed to stormwater before it is transferred to the Hog and the bark storage bin.

Lubricating oils are stored in the Lube Building in 275-gallon tanks and 55-gallon drums. Some drums (with lid covers) are stored outside the building, and are exposed to stormwater. Stormwater, including roof runoff, flows into the Facility storm drain system.

Logs are debarked in the debarking area located near the eastern border of the Facility. The debarker is under roof but the loading area is not covered. Log debris spilled outside the debarker is exposed to stormwater. The area is paved with asphalt. Stormwater, including roof runoff, flows into the Facility storm drain system. A water truck is used to control dust in traffic areas associated with the debarker. Water is sprayed during dry periods to prevent dust from being generated. Water use is limited to the minimum necessary amount to provide dust control, and there is no runoff of dirt and debris into the storm drain system due to spraying.

The sawmill is enclosed inside a building and the sorting area is under a roof with no walls. Sawdust generated in the mill is transported by conveyor belt to the sawdust storage bin. Fugitive sawdust falls outside the building and is exposed to stormwater. The area around the sawmill is paved with asphalt. Stormwater, including roof runoff, flows into the Facility storm drain system.

The planer mill is located within a building. Sawdust and shavings are transported to the sawdust storage bin. Fugitive sawdust is exposed to stormwater. Anti-stain chemicals are sprayed on the wood after planing while inside the building. Excess chemical that drips off the wood before it dries is collected and recycled. The area around the planer mill is paved with asphalt. Stormwater, including roof runoff, flows into the Facility storm drain system.

Previously, a dry kiln heated by steam from an adjoining boiler was used to process lumber, but both the kiln and the boiler have been decommissioned. Stormwater from this area, including roof runoff, flows into the Facility storm drain system. A 2,000-gallon aboveground storage tank that was located outside the boiler building and adjacent to the dry kiln building has been removed.

Approximately 15 percent of the milled lumber is treated to prevent staining by submerging it into a concrete dip tank containing a sapstain chemical. After dipping, the treated lumber is allowed to dry on a drip rack adjacent to the dip tank. A concrete drip pan is located under the drip rack to collect the sapstain chemical that drips off the treated lumber. The dip tank and drip rack are located under cover with two sides open for movement of product into and out of the sapstain operation. The manufacturer of the sapstain chemical reports that the chemical bonds to the wood fibers within 15 minutes and the observed leachate concentration after that time is 200 to 500 parts per billion. After drying, the treated lumber is stored outside on the asphalt pavement elevated off the pavement by wood strips. Stormwater, including roof runoff, flows into the Facility storm drain system.

Before shipment, milled lumber is banded into bundles and end painted to prevent checking. The end painting is done inside the south end of the building that also houses the antistaining operation. The area is enclosed on three sides. The paint used for end painting is stored in totes inside a small three-sided room within the primary building. Stormwater, including roof runoff, flows into the Facility storm drain system.

Vehicle maintenance is done at a building along the east side of the Facility known as the vehicle repair shop. Three 500-gallon tanks with secondary containment hold motor oil, hydraulic oil, and waste oil, are located outside on the north side of the building under an overhanging roof. The area around the building is paved with asphalt. Stormwater, including roof runoff, flows into the Facility storm drain system. Vehicles are steam cleaned at the wash area by the log yard fueling area, which is described below.

There are two vehicle fueling areas, one near the main entrance and one in the log storage yard. The main entrance fueling area consists of a 1,000-gallon gasoline storage tank, a 10,000-gallon diesel storage tank (never containing more than 2,000 gallons), and a 2,000-gallon storage tank, all with secondary containment. The fueling area consists of a concrete containment area with 8-inch curbing and a fueling pad with a sump to collect stormwater from the pad. Uncontaminated stormwater from this sump is discharged into the storm drain system after passing through a series of two oil/water separator vaults. The log yard fueling area has a 2,000-gallon diesel storage tank with concrete secondary containment. The tank is covered with a roof. The log yard fueling area consists of a 4-foot walled containment area and a 5-inch curbed fueling pad. Uncontaminated stormwater from this pad is discharged into the storm drain system after passing through a series of two oil/water separator vaults. Emergency shut-off valves are located in both fueling areas.

Vehicles driven by employees and customers are parked along the north edge of the asphalt-paved area near the office and along the west and south side of the office. Stormwater in these areas flows onto unpaved ground along the north edge of the pavement and into the Facility storm drain system. Trucks are also parked in the northeast corner of the property on gravel. Stormwater from this area percolates into the ground.

2.1.1 Inventory of Materials (S3.B.2.c)

The following materials present at the Facility may potentially be exposed to precipitation or runoff, and could result in stormwater pollution of a significant amount:

- **Logs and log debris:** logs and associated debris are present in large amounts in the log storage area, the debarker area, and the river retrieval area. Both the debris and materials leached from the logs will be present in the stormwater. Log debris is removed on a regular basis.
- **Lumber and sawdust:** lumber and sawdust is exposed to stormwater throughout the milling areas of the plant. The sawdust is periodically removed and placed in the sawdust bins for removal offsite.

- **Petroleum (gasoline, diesel, lubricating oils, and hydraulic oils):** Potential stormwater pollutants are leaking oil or hydraulic fluid from the log handling equipment in the northeast and central portions of the Facility. Based on interviews with Buse personnel, no petroleum spills have occurred in the past that have drained to surface water.
- **Sapstain control chemical (46.5% didecyl dimethyl ammonium chloride and 4.9% propiconazole):** after the sapstain chemical dries on the wood, it binds to the wood fibers and does not leach off in significant amounts, per manufacturer's information. The sprayed sapstain chemical from the planer operation is not exposed to precipitation until after it dries. The sapstain dip tank and drying area are covered. After dipping, the treated lumber is allowed to dry on a drip rack adjacent to the dip tank. A concrete drip pan is located under the drip rack to collect the sapstain chemical that drips off the treated lumber. The drip pan outside edge may be exposed to some precipitation, but that precipitation would be contained within the drip pan and not runoff to the storm drain.
- **End paint (latex paint containing isopropanol)**: the end paint is applied inside and dries quickly. It is unlikely that significant amounts of end paint will enter the stormwater unless end paint is spilled from a tote outside onto the asphalt pavement, where it could enter the storm drain system.
- **Water-base degreaser (2-butoxyethanol, sodium metasilicate, and sodium hydroxide):** a drum of water-based degreaser is stored in the planer building and in the small room inside the banding and end painting area.
- **Spilled materials and onsite disposal:** periodic spills of hydraulic oil from the end stackers and the log machines have occurred. These spills were cleaned up without significant amounts of oil contaminating exposed ground. Limited staining is present on soil in the log yard fueling area but no past fuel spills have discharged to surface water. No onsite disposal of wastes or other materials has been reported or observed.

In accordance with Permit condition S3.b.2.c.iii, this SWPPP also addresses potential stormwater pollutants from past activities, by noting that no known potential sources of pollutants from past activities, materials, and spills were previously handled, treated, stored, or disposed of in a manner to allow ongoing exposure to stormwater. There have been no known or recorded significant spills or leaks of toxic or hazardous pollutants at the Facility that migrated off-property within the last 5 years. Minor spills may have occurred inside and outside of the Facility structures, but were contained and promptly cleaned up.

To prevent potential pollutants associated with these potential sources from reaching stormwater, the Facility employs the BMPs described in Section 3.0 of this SWPPP.

2.2 STORMWATER DRAINAGE (S3.B.1.C.)

The Facility is surrounded by a perimeter ditch that flows clockwise from the I-5 bridge (located over Union Slough) to a tide gate at the north end of the property (Figure 1). Water in the shorter segment of the perimeter ditch located east of the tide gate flows north and west to the tide gate. Stormwater from the unpaved areas of the Facility infiltrates to the ground. Stormwater from the paved areas of the Facility discharges to the northeast perimeter ditch, via the storm drain system and discharge location

SW-1 (shown on Figure 1), except for stormwater from a small area at the south end of the facility that sheet flows to a containment berm. Stormwater from I-5 discharges to the east segment of the perimeter ditch at the boundary between the Facility and the I-5 right-of-way. Stormwater and groundwater collected in the perimeter ditch discharges to Union Slough through the tide gate located at the north side of the property. Water in the perimeter ditch frequently backs up behind the tide gate, which only allows discharge to Union Slough at a tide of +0.5 ft or less.

The Facility can be divided into the following four areas with differing uses, potential for impacts to stormwater, and collection/discharge of stormwater:

- The northern portion of the Facility consists of open meadow with a parts storage building. Stormwater in this area primarily infiltrates to the ground.
- The northeast portion of the Facility consists of the log float beach and ramp areas. Stormwater in this area primarily infiltrates to the ground or drains east to the slough directly.
- The central manufacturing area of the Facility is the most active portion of the Facility and includes operations with the greatest potential to pollute stormwater, including the debarker, sawmill, bark and sawdust bins, planing mill, dip tank, vehicle repair shop, vehicle washdown area, several petroleum refueling or lube areas, various hydraulic machinery, and mechanics shop. Forklifts and other vehicles also operate in this area. This area is paved and stormwater collected by a network of catch basins is treated by six inline oil/water separators prior to discharging to the ditch at SW-1 (except for the vehicle washdown area, which is a closed system).
- The southern portion of the Facility consists of a paved log storage area. Potential stormwater pollutants in this portion of the Facility are wood dust and incidental oil leaks from log trucks and log yard equipment. Stormwater from the northern portion of the log storage area drains north to catch basins in the manufacturing area. The stormwater that falls on the southern half of the log storage area moves as sheet flow to the containment berm along the southern boundary and then infiltrates to the ground.

3.0 BEST MANAGEMENT PRACTICES (S3.B.4.)

The Permit identifies the following five categories of BMPs that may be needed at a facility to control stormwater discharge:

- **Operational Source Control BMPs (Section 3.1; S3.B.4.b.i.)**: These BMPs are required at all facilities covered under the Permit and are managerial-type measures that are implemented to prevent or reduce pollution of stormwater; they specifically exclude construction of pollution control measures. Examples include general housekeeping activities, formation of a pollution prevention team, and employee training.
- **Structural Source Control BMPs (Section 3.2; S3.B.4.b.ii.)**: These BMPs require construction or use of a physical structure to control pollution of stormwater. Examples include construction of a roof over a drum storage area or a containment berm around an aboveground storage tank.
- **Treatment BMPs (Section 3.3; S3.B.4.b.iii.)**: These BMPs consist of actual stormwater treatment systems designed to treat polluted stormwater. Examples include catch basin insert filters, enhanced sedimentation vault devices, and use of activated carbon to remove petroleum hydrocarbons.
- **Stormwater Peak Runoff Rate and Volume Control BMPs (Section 3.4; S3.B.4.b.iv)**: These BMPs provide stormwater detention or retention to reduce the peak rate of stormwater runoff, where necessary to minimize streambank erosion within receiving waters.
- **Erosion and Sediment Control BMPs (Section 3.5; S3.B.4.b.v)**: These BMPs are designed to limit soil erosion and to control eroded soil, and are most commonly used during site construction. Examples include seeding and covering exposed soil, and the use of silt fencing.

The following section provides a general description of the BMPs (in italics) that are required by the Permit and then describes in greater detail the specific application of these BMPs at the Facility. The BMPs contained in this SWPPP are consistent with the BMPs contained in the Washington State Department of Ecology (Ecology) 2019 *Stormwater Management Manual for Western Washington* (2019 Manual)[1]. Therefore, demonstration of BMP equivalency is not provided in this SWPPP. In addition, the 2019 Manual contains BMPs that provide all known, available, and reasonable methods of prevention, control, and treatment (AKART) of stormwater pollution to ensure that discharges do not cause or contribute to a violation of water quality standards, and comply with federal technology-based treatment requirements under 40 CFR 125.3.

The Permit lists specific operational and structural source control BMPs that must be implemented at all permitted facilities and requires permittees to implement all operational source control BMPs, structural source control BMPs, and treatment BMPs listed as "applicable" in Ecology's 2019 Manual. For Buse, these "applicable" BMPs are found in Volume IV of the 2019 Manual, available online at: http://www.ecy.wa.gov/programs/wq/stormwater/manual.html. This list, along with each BMP's potential applicability to the Facility, is provided in Table 1. Additional descriptions of the applicable

[1] Ecology. 2019. *2019 Stormwater Management Manual for Western Washington*. Publication No. 19-10-021. Washington State Department of Ecology. July.

BMPs for the Facility are provided in the following sections. BMPs detailed in this SWPPP are also applied to the unpaved areas that discharge to groundwater via infiltration.

3.1 OPERATIONAL SOURCE CONTROL BEST MANAGEMENT PRACTICES (S3.B.4.B.I)

This section describes operational source control BMPs that are required by the Permit for all industrial activities and operations covered under the Permit. Recommended BMPs are also listed where applicable. Additional operational BMPs are listed in Section 3.2 for specific industrial activities and operations, where required by the Permit.

3.1.1 POLLUTION PREVENTION TEAM (S3.B.3)

The following pollution prevention team BMP is considered applicable in the 2019 Manual and is adhered to at the Facility, unless noted otherwise:

- *The SWPPP shall identify specific individuals by name or by title within the organization (pollution prevention team) whose responsibilities include: SWPPP development, implementation, maintenance, and modification.*
    - **Pollution Prevention Team**: The Pollution Prevention Team for the Facility consists of the Responsible Official, the SWPPP Coordinator, and the SWPPP Implementation Leads. The Responsible Official is the person with overall responsibility for Permit compliance, has delegated authority to sign discharge monitoring reports (DMRs) and inspection forms, and is to ensure that adequate resources are made available to the SWPPP Coordinator in order to implement the BMPs and monitoring requirements in the SWPPP. The SWPPP Coordinator has overall responsibility for developing, implementing, maintaining, and revising the SWPPP. The SWPPP Implementation Leads oversee personnel directly implementing BMPs from the SWPPP. Other Facility employees will assist the Pollution Prevention Team, as necessary. Names and titles of the current Pollution Prevention Team members are provided below. Landau Associates (425-778-0907), other environmental consulting firms, or other designated contracted personnel, may assist the Facility in SWPPP preparation, employee training, stormwater sampling, and BMP assessment services.

Pollution Prevention Team Role	Name / Title
Responsible Official	Tom Parks / President
SWPPP Coordinator	Will Miller / Timber Manager
SWPPP Implementation Leads	Various / Operation Manager

3.1.2 GOOD HOUSEKEEPING (S3.B.4.B.I.2)

The following good housekeeping BMPs are considered applicable in the 2019 Manual and are adhered to at the Facility, unless noted otherwise.

- *Promptly contain and clean up solid and liquid pollutant leaks and spills, including oils, solvents, fuels, and dust, from manufacturing operations on any exposed soil, vegetation, or paved area.*
    - **Spills**: See Section 3.1.4 on spill prevention and cleanup.

- *Sweep all appropriate surfaces with vacuum sweepers quarterly or more frequently as needed for the collection and disposal of dust and debris that could contaminate stormwater.*
    - **Vacuum Sweeping**: Sweeping of the paved areas at the Facility is required by the Permit to be conducted quarterly, at a minimum, using a vacuum sweeper. Frequency may be increased due to Facility conditions. Sweeping the dirt and associated pollutants from paved areas of the Facility can be one of the most effective stormwater pollutant source control measures, so increasing the frequency of sweeping will be considered at any time that stormwater benchmarks are found to have been exceeded. To the extent practicable, the Facility will employ sweepers with vacuum filter equipment to minimize dust generation.
- *Do not hose down pollutants from any area to the ground, storm drains, conveyance ditches, or receiving water unless necessary for dust control purposes to meet air quality regulations. Convey pollutants before discharge to a treatment system approved by the local jurisdiction.*

- *Clean oil, debris, sludge, etc., from all BMP systems regularly, including catch basins, settling/detention basins, oil/water separators, boomed areas, and conveyance systems, to prevent the contamination of stormwater. Refer to the Washington State Department of Ecology's (Ecology) regional offices to assist in determining if a waste must be handled as hazardous waste.*
    - **Catch Basins**: See Section 3.2.6 on Maintenance of Stormwater Drainage and Treatment Systems.
- *Promptly repair or replace substantially cracked or otherwise damaged paved secondary containment, high-intensity parking, and any other drainage areas, which are subjected to pollutant material leaks or spills.*
- *Promptly repair or replace all leaking connections, pipes, hoses, valves, etc., that can contaminate stormwater.*
    - *Do not connect floor drains in potential pollutant source areas to storm drains, surface water, or to the ground.*
        - **Collection of Debris**: To minimize exposure of potential pollutants to precipitation and runoff, Buse personnel regularly sweep and clean log yard debris, bark, sawdust, and bark dust from the log yard and mill process areas, using scrapers, brow logs, scoops, and mobile sweepers. Floating bark and other debris contained by pocket boom sticks at the Union Slough access ramp and log float beach will be regularly cleaned and disposed of using Buse's mill bark system. Also, sunken bark accumulations will be regularly monitored, removed, and disposed of in the same manner (Per the Department of Natural Resources Aquatic Lease 20-A12625; included as Appendix B). Sections of the Aquatic Lease referenced in the Settlement Agreement include the following: Section 2.2 Restrictions on Use; Section 8.2 Use of Hazardous Substances; and Section 8.6 Cleanup.

In addition to these BMPs from the 2019 Manual, the Permit also specifically requires the following Good Housekeeping BMPs:

- *Identify and control all onsite sources of dust to minimize stormwater contamination from the deposition of dust on areas exposed to precipitation.*

- *Inspect and maintain bag houses monthly to prevent the escape of dust from the system. Immediately remove any accumulated dust at the base of exterior baghouses.*
    - Baghouses: there are no baghouses located at the Facility.
- *Keep all dumpsters under cover or fit with a storm-resistant that must remain closed when not in use. (Tarps are not considered storm resistant.)*

The following good housekeeping BMP from the 2019 Manual is not required but recommended**:**

- *Recycle materials, such as oils, solvents, and wood waste, to the maximum extent possible.*
    - **Recycling**: All bark, sawdust, wood, and other recyclable debris are recycled offsite at appropriate facilities. ‘
- *Clean up pollutant liquid leaks and spills in impervious uncovered containment areas at the end of each working day.*
- *Use solid absorbents, e.g., clay and peat absorbents and rags for cleanup and liquid spills/leaks, where practicable.*
- *Promptly repair/replace/reseal damaged paved areas at industrial facilities.*

3.1.3 PREVENTIVE MAINTENANCE (S3.B.4.B.I.3)

The following preventive maintenance BMPs are considered applicable in the 2019 Manual and are adhered to at the Facility, unless noted otherwise.

- *Prevent discharge of unpermitted liquid or solid wastes, process wastewater, and sewage to ground or surface water, or to storm drains that discharge to surface water, or to the ground.*
    - **Non-Stormwater Discharges**: In 2010, a urinal in the sawmill building was removed due to uncertainty regarding its discharge. Since then, portable toilets have been provided for Buse personnel.
- *Conduct all oily parts cleaning, steam cleaning, or pressure washing of equipment or containers inside a building, or on an impervious contained area, such as a concrete pad. Direct rinse water and contaminated stormwater from such an area to a sanitary sewer where allowed by the local sewer authority, or to other approved treatment.*
    - **Washing**: Parts cleaning (if needed) is conducted indoors. See Section 3.2.11 for washing of vehicles and equipment.
- *Do not pave over contaminated soil unless it has been determined that groundwater has not been and will not be contaminated by the soil. Call Ecology for assistance.*
- *Construct impervious areas that are compatible with the materials handled. Portland cement concrete, asphalt, or equivalent material may be considered.*
- *Use drip pans to collect leaks and spills from industrial/commercial equipment such as cranes at ship/boat building and repair facilities, log stackers, industrial parts, trucks and other vehicles stored outside.*
    - **Spills/Leaks**: See Section 3.1.4 on spill prevention and cleanup.
- *At industrial and commercial facilities, drain oil and fuel filters before disposal. Discard empty oil and fuel filters, oily rags, and other oily solid waste into appropriately closed and properly labeled containers, and in compliance with the Uniform Fire Code (UFC) or International Building Code .*

- *For the storage of liquids use containers, such as steel and plastic drums, that are rigid and durable, corrosion-resistant to the weather and fluid content, non-absorbent, watertight, rodent-proof, and equipped with a close fitting cover.*
- *For the temporary storage of solid wastes contaminated with liquids or other potential pollutant materials use dumpsters, garbage cans, drums, and comparable containers, which are durable, corrosion-resistant, non-absorbent, non-leaking, and equipped with either a solid cover or screen cover to prevent littering. If covered with a screen, the container must be stored under a lean-to or equivalent structure.*
    - **Dumpsters**: Dumpsters and containers used to store solid waste, liquid waste, or garbage that can contaminate stormwater are made of steel or plastic, are in sound shape, and are kept under cover or fit with a storm-resistant lid that remains closed when not in use. (Tarps are not considered storm resistant.).
- *Where exposed to stormwater, use containers, piping, tubing, pumps, fittings, and valves that are appropriate for their intended use and for the contained liquid.*

In addition to these BMPs from the 2019 Manual, the Permit also specifically requires the following Preventive Maintenance BMPs:

- *Clean catch basins when the depth of debris reaches 60% of the sump depth. In addition, the Permittee must keep the debris surface at least 6 inches below the outlet pipe.*
    - **Catch Basins**: See BMPs for the Maintenance of Storm Drain Systems (Section 3.2.6).
- *Maintain ponds, tanks/vaults, catch basins, swales, filters, oil/water separators, drains, and other stormwater drainage/treatment facilities in accordance with the maintenance standards set forth in the applicable Stormwater Management Manual (2019 Manual), other guidance documents or manuals approved in accordance with S3.A.2.c., demonstrably equivalent BMPs per S3.A.2.d., or an O&M Manual submitted to Ecology in accordance with S8.D.*
    - **Annual Inspection for Accumulated Solids:** Beyond the general Facility stormwater inspections that are conducted monthly, a thorough inspection for accumulated solids in the storm drain conveyance structures (i.e., catch basins, manholes/vaults, conveyance pipes, conveyances ditches) is performed at least once per year during one of the dry summer months. Observations from this annual inspection will be recorded (the comments section of the monthly inspection form can be used). Removal and proper disposal of accumulated solids will be performed by a qualified contractor, as determined to be necessary to ensure full and proper function of the stormwater features (which include allowing for continued settling of suspended solids and avoiding unnecessary re-entrainment of accumulated solids during larger storm events).
- *Inspect all equipment and vehicles during monthly site inspections for leaking fluids such as oil, antifreeze, etc. Take leaking equipment and vehicles out of service or prevent leaks from spilling on the ground until repaired.*
    - **Monthly Inspections**: Qualified personnel conduct and document visual inspections of the site monthly on the monthly inspection form. A blank monthly inspection form, as well as other blank forms, is provided at the beginning of Appendix C of this SWPPP. Monthly inspections may occur during either storm or non-storm events. For monitoring during non-storm events, observation for floating debris, discoloration, etc., associated with stormwater would not apply, but would, instead, include the observation for any illicit discharges.

- *Clean up spills and leaks immediately (e.g., using absorbents, vacuuming, etc.) to prevent the discharge of pollutants.*
  - **Spills**: See Spill Prevention and Emergency Cleanup (Section 3.1.4).

The following preventive maintenance BMP from the 2019 Manual is not required but recommended.

- *Where feasible, store potential stormwater pollutant materials inside a building or under a cover and/or containment.*
- *Minimize use of toxic cleaning solvents, such as chlorinated solvents, and other toxic chemicals.*
- *Use environmentally safe raw materials, products, additives, etc., such as substitutes for zinc used in rubber production.*
- *Recycle waste materials such as solvents, coolants, oils, degreasers, and batteries to the maximum extent feasible.*
- *Empty drip pans immediately after a spill or leak is collected in an uncovered area.*
- *Stencil warning signs at stormwater catch basins and drains, e.g., "Dump no waste – Drains to waterbody."*

3.1.4 Spill Prevention and Cleanup (S3.B.4.B.I.4)

The following spill prevention and cleanup BMPs are considered applicable in the 2019 Manual and are adhered to at the Facility, unless noted otherwise. The Facility also has a Spill Prevention, Control, and Countermeasures (SPCC) Plan and the appropriate spill prevention, containment, and response details are provided in that document.

- *Immediately upon discovery, stop, contain, and clean up all spills*.
  - **Spill Prevention**: See Spill Prevention and Emergency Cleanup BMPs below.
- *If pollutant materials are stored on site, have spill containment and cleanup kits readily accessible. Place and maintain emergency spill containment and cleanup kit(s) at outside areas where there is a potential for fluid spills. These kits should be appropriate for the materials being handled and the size of the potential spill.*
  - **Onsite Spill Response Supplies**: Spill kits are located in various locations at the site. Ecology recommends that the kit(s) include: salvage drums or containers (such as high density polyethylene, polypropylene, or polyethylene sheet-line steel), polyethylene or equivalent disposal bags, an emergency response guidebook, safety gloves/clothes/equipment, shovels or other soil removal equipment, and oil containment booms and absorbent pads, all stored in an impervious container. The Facility has oil absorbents capable of absorbing the minimum anticipated spill amount or potential discharge volume identified in the Facility's SPCC plan.
  - **Additional Spill Cleanup Assistance**: If a spill cannot be contained on site with available resources, then the Facility will contact a spill response contractor. One such spill response contractor is NRC Environmental Services (1-800-337-7455).
- *If the spill has reached or may reach a storm sewer, groundwater, or surface water, notify local jurisdiction, Ecology, and the local sewer authority immediately. Notification must comply with federal spill reporting requirements.*

  - **Reporting Spills:** To report a spill or to determine if a spill is a substance of a reportable quantity, call the Ecology regional office and ask for an oil spill operations or hazardous waste specialist: Ecology Northwest Region (425-649-7000).
  - **Reporting Spills:** Ecology requires that oil spills be reported to the National Response Center (1-800-424-8802) and Washington State Emergency Management Division (1-800-258-5990 or 1-800-OILS-911). If the spill has reached or may reach the site stormwater discharge pipe, notify Ecology immediately.

- *Do not flush absorbent materials or other spill cleanup materials to a storm drain. Collect the contaminated absorbent material as a solid and place in appropriate disposal containers.*

3.1.4.1 Spill Prevention and Emergency Cleanup Plan

In addition to these BMPs from the 2019 Manual, the Permit also specifically requires the SWPPP to include a Spill Prevention and Emergency Cleanup Plan (SPECP). The SPECP is presented below and consists of the following required BMPs to prevent spills that can pollute stormwater.

- *Store all chemical liquids, fluids, and petroleum products on an impervious surface that is surrounded with a containment berm or dike that is capable of containing 10% of the total enclosed tank volume or 110% of the volume contained in the largest tank, whichever is greater.*
  - **Spill Containment**: All fuel storage tanks are either double-walled or have secondary containment of the required capacity. Small stationary tanks (such as the 275-gallon lube oil and kerosene tanks) are either inside a building or roofed structure, and have secondary containment of the required capacity.
- *Prevent precipitation from accumulating in containment areas with a roof or equivalent structure or include a plan on how it will manage and dispose of accumulated water if a containment area cover is not practical.*
- *Locate spill kits within 25 feet of all stationary fueling stations, fuel transfer stations, and mobile fueling units. At a minimum, spill kits shall include: i) Oil absorbents capable of absorbing 15 gallons of fuel. ii) A storm drain plug or cover kit. iii) A non-water containment boom, a minimum of 10 feet in length with a 12-gallon absorbent capacity. iv) A non-metallic shovel. v) Two 5-gallon buckets with lids.*
  - **Spill Kits**: Spill kits containing absorbent pads and booms, shovels, and a storm drain cover in a 55-gallon drum are located at the river log retrieval area, in the sawmill, the vehicle repair shop, the planer mill, and in the anti-stain dip tank building.
- *Do not lock shut-off fueling nozzles in the open position. Do not "top off" tanks being refueled. Block, plug, or cover storm drains that receive runoff from areas where fueling, during fueling.*
- *Use drip pans or equivalent containment measures during all petroleum transfer operations.*
- *Locate materials, equipment, and activities so that leaks are contained in existing containment and diversion systems (confine the storage of leaky or leak-prone vehicles and equipment awaiting maintenance to protected areas).*
- *Use drip pans and absorbents under or around leaky vehicles and equipment or store indoors where feasible. Drain fluids from equipment and vehicles prior to onsite storage or disposal.*
  - **Leaks**: Where significant leaks are found in Facility equipment, the leaks are promptly repaired, and absorbent material is used to contain any spills.

- *Maintain a spill log that includes the following information for chemical and petroleum spills: date, time, amount, location, and reason for spill; date/time clean-up completed, notifications made and staff involved.*
  - **Spill Log**: See Spill Log Form included in Appendix C.

3.1.5 EMPLOYEE TRAINING (S3.B.4.B.I.5)

The following employee training BMP is considered applicable in the 2019 Manual and is adhered to at the Facility, unless noted otherwise.

- *Train all employees who have duties in areas of industrial activities subject to the Permit. At a minimum, the training plan should include: an overview of what is in the SWPPP; how employees make a difference in complying with the SWPPP and prevent contamination of stormwater; spill response procedures; good housekeeping; maintenance requirements; and material management practices; how the Permittee will conduct training; the frequency/schedule of training (the Permittee shall train employees annually, at a minimum); and a log of dates on which specific employees received training*
  - **Employee Training**: Employees who have regular duties in areas of industrial activity that potentially contribute to stormwater pollution are trained annually by qualified Facility personnel on the SWPPP, including spill response, good housekeeping, preventative maintenance, and proper material handling practices. Training sessions are documented, recording the date of training, the personnel attending the training, the training content, and the person(s) providing the training. A log of the dates on which specific employees received training is kept at the Facility.

3.1.6 INSPECTIONS AND RECORDKEEPING (S3.B.4.B.I.6)

The following inspection and recordkeeping BMPs are considered applicable in the 2019 Manual and are adhered to at the Facility, unless noted otherwise. The first four items listed below are to be completed during the monthly inspections each year:

- *Verify the accuracy of the pollutant sources descriptions in the SWPPPs*
  - **Pollutant Source Inspections**: As an active Facility, near-daily observations will be made by the pollution prevention team regarding the status of potential pollutant sources at the Facility. This SWPPP will be updated if new potential sources are identified and if existing potential sources are eliminated.
- *Assess all BMPs that have been implemented for effectiveness and needed maintenance, and locate areas where additional BMPs are needed.*
  - **BMP Inspections**: This verification will be made by comparing stormwater sampling results to benchmark values (see Section 4.1.1) and through near-daily observations of Facility BMPs by the pollution prevention team and other Facility personnel. In addition, BMPs will be visually inspected monthly (see Section 3.1.6.1).
  -
- *Update the site map to reflect current conditions.*
  - The Site Plan (Figure 2) will be updated, as appropriate, to show changes to the Facility that may impact stormwater discharges.

- *Include written observations of the presence of floating materials, suspended solids, oil and grease, discoloration, turbidity, and odor in the stormwater discharges; in outside vehicle maintenance/repair areas; and liquid handling and storage areas. In areas where acid or alkaline materials are handled or stored, use a simple litmus or pH paper to identify those types of stormwater contaminants where needed. See procedures presented in Section 4.0 for conducting this inspection.*
    - **Stormwater Observations**: These observations will be made during monthly visual inspections (see Section 4.1.2).
    - **Illicit Discharges**: If any illicit discharges (process wastewater, domestic wastewater, noncontact cooling water) are observed during the quarterly sampling events or monthly inspections, Buse will immediately address the discharge through identification of the source of the discharge and implement steps to terminate the discharge.
- *Eliminate or obtain a permit for unpermitted non-stormwater discharges to storm drain or receiving water such as process wastewater and vehicle/equipment washwater.*
- *Identify actions to address inspection deficiencies.*

Recordkeeping BMPs require that the following reports be retained for 5 years:

- *Visual inspection reports (as described in Section 4.1.1), which should include time and date of the inspection, locations inspected, statement on status of compliance with the Permit, summary report of any remediation activities required, and name/title/signature of person conducting the inspection.*
    - **Recordkeeping**: Forms required as part of this SWPPP, including quarterly stormwater sampling forms and monthly inspection forms, will be maintained in a separate stormwater management binder onsite. Blank forms are also provided at the beginning of Appendix C.
- *Reports on spills of oil or hazardous substances in greater than reportable quantities (CFR Title 40 Parts 302.4 and 117), including the following: antifreeze, oil, gasoline, or diesel fuel that causes a violation of the State of Washington's Water Quality Standards, a film or sheen upon or discoloration of the waters of the state or adjoining shorelines, or a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.*
    - **Spill Event Recordkeeping:** Buse will record any spill event greater than the reportable quantity in the Facility internal spill incident form in Appendix C. All Facility spill events will be recorded and evaluated on this form, and will be maintained in the site's stormwater management binder for at least 5 years.

Additional records that are recommended to be kept by the pollution prevention team include the following:

- Stormwater monitoring records (see Section 4.2)
- Employee training logs (see Section 3.1.5).

3.2 STRUCTURAL SOURCE CONTROL AND OPERATIONAL BEST MANAGEMENT PRACTICES BY INDUSTRIAL ACTIVITY (S3.B.4.B.II)

This section describes structural source control BMPs and operational BMPs considered applicable in the 2014 Manual and used by the Facility for specific industrial activities within the Facility (treatment BMPs are also included for specific industrial activities where applicable). In addition, the specific industrial activities listed below are also required by the Permit to include the following structural source control BMPs to minimize the exposure of manufacturing, processing, and material storage areas to precipitation and runoff:

- *Use grading, berming, or curbing to prevent runoff of contaminated flows and divert runon away from manufacturing, processing, and material storage areas.*
- *Perform all cleaning operations indoors, under cover, or in bermed areas that prevent stormwater runoff and runon and capture any overspray. Drain washwater to a collection system for further treatment of storage.*

3.2.1 BMPs FOR DUST CONTROL AT MANUFACTURING AREAS

This section describes the applicable BMPs for dust control at manufacturing areas.

- ***General Description of Potential Pollutant Sources**: Industrial material handling activities can generate considerable amounts of dust that is typically removed using exhaust systems. Mixing cement and concrete products and handling powdered materials can also generate dust. . Particulate materials that can cause air pollution include grain dust, sawdust, coal, gravel, crushed rock, cement, and boiler fly ash. The objective of this BMP is to reduce the stormwater pollutants caused by dust generation and control.*
- ***Pollutant Control Approach:** Prevent dust generation and emissions where feasible, regularly clean-up dust that can contaminate stormwater and convey dust-contaminated stormwater to proper treatment.*
    - **Applicability at Facility**: Sawdust is generated at the sawmill and planer area, and bark dust is generated at the debarker. Also, dust can be generated during dry periods in traffic areas associated with the log storage area and the debarker.

3.2.1.1 Operational BMPs:

The following BMPs are required by the Permit and are adhered to at the Facility, unless noted otherwise:

- *Clean, as needed, powder material handling equipment and vehicles that can be sources of stormwater pollutants, to remove accumulated dust and residue.*
    - **Sawdust and Bark Dust Removal**: Sawdust and bark dust are periodically removed from the sawmill, planer area, and debarker area, and placed in sawdust bins for removal offsite.
- *Regularly sweep dust accumulation areas that can contaminate stormwater. Conduct sweeping using vacuum filter equipment to minimize dust generation and to ensure optimal dust removal.*
    - **Dust Control in Traffic Areas**: See Section 3.1.2 on sweeping at the Facility. Also, water is sprayed during dry periods in traffic areas to prevent dust from being generated. Water use is limited to the minimum necessary amount to provide dust control, and there is no runoff of dirt and debris into the storm drain system due to spraying.

- *Use dust filtration/collection systems such as baghouse filters, cyclone separators, etc. to control vented dust emissions that could contaminate stormwater. Control of zinc dusts in rubber production is one example.*
- *Maintain on-site controls to prevent vehicle track-out.*
- *Maintain dust collection devices on a regular basis.*

3.2.1.2 Recommended BMPs:

- *In manufacturing operations, train employees to handle powders carefully to prevent generation of dust.*
- *Use water spray to flush dust accumulations to sanitary sewers where allowed by the local sewer authority or to other appropriate treatment system.*
- *Use approved dust suppressants such as those listed in Methods for Dust Control (Ecology, 2016b). Application of some products may not be appropriate in close proximity to receiving waters or conveyances close to receiving waters. For more information check with Ecology or the local jurisdiction.*
- *Recommended treatment BMPs include installation of sedimentation basins, wet ponds, wet vaults, catch basin filter, vegetated filter strips, or equivalent sediment removal BMPs.*

3.2.2 BMPs for Fueling at Dedicated Stations

This section describes the applicable BMPs for fueling at dedicated stations.

- ***General Description of Potential Pollutant Sources**: A fueling station is a facility dedicated to the transfer of fuels from a stationary pumping station to mobile vehicles or equipment. It includes above or underground fuel storage facilities. I Fueling may occur at general service gas stations, 24-hour convenience stores, construction sites, maintenance yards, warehouses, car washes, manufacturing establishments, port facilities, marinas, boatyards, and businesses with fleet vehicles. Typically, stormwater contamination at fueling stations is caused by leaks/spills of fuels, lubrication oils, radiator coolants, and vehicle washwater.*
- ***Pollutant Control Approach:** New or substantially remodeled[2] fueling stations must be constructed on an impervious concrete pad under a roof to keep out rainfall and stormwater run-on. The facility must use a treatment BMP for contaminated stormwater and wastewaters in the fueling containment area.*
    - **Applicability at Facility**: There are fueling stations at the main entrance and in the log yard. The main entrance fueling station has a 10,000-gallon diesel tank, a 2,000-gallon diesel tank and a 1,000-gallon gasoline tank. The log yard fueling station has a 2,000-gallon diesel tank. Fuel pads and containment at the two fueling stations are described below.

3.2.2.1 Operational BMPs:

The following BMPs are required by the Permit and are adhered to at the Facility, unless noted otherwise:

[2] *Substantial remodeling includes (but is not limited to) replacing the canopy, or relocating or adding one or more fuel dispensers in such a way that modifies the Portland cement concrete (or equivalent) paving in the fueling area.*

- *Prepare an emergency spill response and cleanup plan per S426 BMPs for Spills of Oil and Hazardous Substances.*
    - **Spill Prevention and Cleanup**: See Section 3.1.4 for spill prevention and cleanup BMPs as part of the SPECP.
- *Train employees on the proper use of fuel dispensers and on proper use of fuel dispensers, and on the spill plan.*
    - If the fueling station is unattended by a trained person during operating hours, the spill plan must be visible to all customers and untrained employees using the station, and the spill kit must also be accessible and fully stocked at all times.
- *The person conducting the fuel transfer must be present at the fueling pump during fuel transfer, particularly at unattended or self-serve stations.*
- *Keep suitable cleanup materials, such as dry adsorbent materials, on site to allow prompt cleanup of a spill.*
- *Do not use dispersants to clean up spills or sheens unless properly removed for disposal following application. Dispersants are not allowed to enter storm drains, surface waters, treatment systems, or sanitary sewers.*
- *Post signs in accordance with the requirements in the Uniform Fire Code (UFC) or International Fire Code (IFC). For example, post "No Topping Off" signs (topping off gas tanks causes spillage and vents gas fumes to the air).*
- *Make sure that the automatic shut-off on the fuel nozzle is functioning properly.*
- *Refer to S439 BMPs for In-Water and Over-Water Fueling for BMPs for in-water or over-water fueling operations.*

3.2.2.2 Structural Source Control BMPs:

The following BMPs are required by the Permit and are adhered to at the Facility, unless noted otherwise:

- *Design the fueling island to: minimize stormwater contamination, control spills (dead-end sump or spill control separator in compliance with the UFC or IFC), and collect stormwater and/or wastewater and direct it to an appropriate treatment system.*
- *Slope the concrete containment pad around the fueling island toward drains; either trench drains, catch basins, and/or a dead-end sump. The slope of the drains shall not be less than 1 percent (Section 7901.8 of the UFC, Section 5703.6.8 of the IFC).*
- *Drains from containment pads must have a normally closed shutoff valve. The valve may be opened to convey contaminated stormwater to oil removal treatment such as an API or CP oil/water separator (see V-13 Oil and Water Separator BMPs), catch basin insert, or equivalent treatment, and then to a basic treatment BMP (as described in III-1.2 Choosing Your Runoff Treatment BMPs) or to a sanitary sewer, if approved by the sewer authority. Discharges from treatment systems to storm sewer or surface water or to the ground must not display ongoing or recurring visible sheen and must not contain a significant amount of oil and grease.*
- *The spill control capacity must be sized in compliance with Section 7901.8 of the UFC. The spill control capacity may be acquired by either an underground system including a sump, or an aboveground containment area consisting of a containment pad with berms. The fueling island*

may be designed as a spill containment pad with a sill or berm raised to a minimum of four inches (per Section 7901.8 of the UFC) to prevent the runoff of spilled liquids and to prevent run-on of stormwater from the surrounding area. All stormwater collected on the containment pad must discharge to treatment with a normally closed valve downstream of the treatment.

- **Fueling Pads**: The main entrance fueling area consists of a concrete containment area with 8-inch curbing and a fueling pad with a sump to collect stormwater from the pad. Uncontaminated stormwater from this sump is discharged into the storm drain system after passing through a series of two oil/water separator vaults. The log yard fueling area consists of a 4-foot walled containment area and a 5-inch curbed fueling pad. Uncontaminated stormwater from this pad is discharged into the storm drain system after passing through a series of two oil/water separator vaults. Emergency shut-off valves are located in both fueling areas.

- *The fueling pad must be paved with Portland cement concrete, or equivalent. Asphalt is not considered an equivalent material.*
- *The fueling island must have a roof or canopy to prevent the direct entry of precipitation onto the spill containment pad. The roof or canopy should, at a minimum, cover the spill containment pad (within the grade break or fuel dispensing area) and preferably extend 3 feet on each side for roofs and canopies 10 feet or less in height and 5 feet on each side for roofs and canopies greater than 10 feet in height. Overhangs reduce the introduction of windblown rain. Measure the overhang relative to the berm or other hydraulic grade break for the spill containment pad.*
- *Convey all roof drains to storm drains outside the fueling containment area.*
- *Convey stormwater collected on the fuel island containment pad to a sanitary sewer system, if approved by the sanitary authority, or to an approved treatment system such as an oil/water separator and a basic treatment BMP. (Basic treatment BMPs are listed in III-1.2 Choosing Your Runoff Treatment BMPs). Discharges from treatment systems to storm drains or surface water or to the ground must not display ongoing or recurring visible sheen and must not contain oil and grease.*
- *Alternatively, collect stormwater from the fuel island containment pad and hold for proper off-site disposal.*
- *Approval from the local sewer authority is required for conveyance of any fuel-contaminated stormwater to a sanitary sewer. The discharged stormwater must comply with pretreatment regulations (WAC 173-216-060). These regulations prohibit discharges that could "cause fire or explosion." State and federal pretreatment regulations define an explosive or flammable mixture, based on a flash point determination of the mixture. Stormwater could be conveyed to a sanitary sewer system if it is determined not to be explosive.*
- *Transfer the fuel from the delivery tank trucks to the fuel storage tank in impervious contained areas and ensure that appropriate overflow protection is used. Alternatively, cover nearby storm drains during the filling process and use drip pans under all hose connections.*
- *Additional BMPs for Vehicles 10 feet in height or greater:*
    - *A roof or canopy may not be feasible at fueling stations that regularly fuel vehicles that are 10 feet in height or greater, particularly at industrial or WSDOT sites. At those types of fueling facilities, the following BMPs apply, as well as the applicable BMPs and fire prevention (UFC requirements) of this BMP for fueling stations:*

- *If a roof or canopy is impractical, the concrete fueling pad must be equipped with emergency spill control including a shutoff valve for drainage from the fueling area. Maintain the valve in the closed position in the event of a spill. Clean up spills and dispose of materials off-site in accordance with S426 BMPs for Spills of Oil and Hazardous Substances.*
- *The valve may be opened to convey contaminated stormwater to a sanitary sewer, if approved by the sewer authority, or to oil removal treatment such as an API or CP oil/water separator (see V-13 Oil and Water Separator BMPs), catch basin insert, or equivalent treatment, and then to a basic treatment BMP (as described in III-1.2 Choosing Your Runoff Treatment BMPs). Discharges from treatment systems to storm sewer or surface water or to the ground must not display ongoing or recurring visible sheen and must not contain a significant amount of oil and grease.*

3.2.3 BMPs for Loading and Unloading Areas for Liquid or Solid Material

This section describes the applicable BMPs for loading and unloading areas for liquid or solid material.

- ***General Description of Potential Pollutant Sources**: Operators typically conduct loading/unloading of liquid and solid materials at industrial and commercial facilities at shipping and receiving, outside storage, fueling areas, etc. Materials can include products, raw materials, intermediate products, waste materials, fuels, scrap metals, etc. Leaks and spills of fuels, oils, powders, organics, heavy metals, salts, acids, alkalis, etc. during transfer may cause stormwater contamination. Spills from hydraulic line breaks are a common problem at loading docks.*
- ***Pollutant Control Approach:** Cover and contain the loading/unloading area where necessary to prevent run-on of stormwater and runoff of contaminated stormwater.*
  - **Applicability at Facility**: The Buse Facility loads and unloads liquid and solid materials. Logs and lumber products are loaded/unloaded throughout the Facility. Fuel and lubricant deliveries are provided by WSDOT-compliant suppliers holding all required current certifications. A 10,000-gallon diesel tank, a 2,000-gallon diesel tank, and a 1,000-gallon gasoline tank are located at the main entrance, and a 2,000-gallon diesel tank is located in the log yard. There are multiple tanks of motor oil, hydraulic oil, and waste oil located outside the vehicle repair shop.

3.2.3.1 Operational BMPs:

The following BMPs are required by the Permit and are adhered to at the Facility, unless noted otherwise:

- *A significant amount of debris can accumulate at outside, uncovered loading/unloading areas. Sweep these surfaces frequently to remove material that could otherwise be washed away by stormwater. Sweep areas temporarily covered after removal of the containers, logs, or other material covering the ground.*
  - **Sweeping**: See Section 3.1.2.
- *Place drip pans, or other appropriate temporary containment device, at locations where leaks or spills may occur such as hose connections, hose reels, and filler nozzles. Always use drip pans when making and breaking connections. Check loading/unloading equipment such as valves, pumps, flanges, and connections regularly for leaks and repair as needed.*

- *To minimize the risk of accidental spillage, prepare an Operations Plan that describes procedures for loading/unloading. Train employees, in its execution and post it or otherwise have it readily available to all employees.*
- *Report spills of reportable quantities to Ecology.*
- *Prepare and implement an Emergency Spill Cleanup Plan for the facility (See S426 BMP Spills of Oil and Hazardous Substances), which includes the following BMPs:*
    - *Ensure the cleanup of liquid/solid spills in the loading/unloading area immediately, if a significant spill occurs, and, upon completion of the loading/unloading activity, or, at the end of the working day.*
    - *Retain and maintain an appropriate oil spill cleanup kit on-site for rapid cleanup of material spills. (See S426 BMPs for Spills of Oil and Hazardous Substances).*
    - *Ensure that an employee trained in spill containment and cleanup is present during loading/unloading.*

3.2.3.2 Source Control BMPs:

The following BMPs are required by the Permit and are adhered to at the Facility, unless noted otherwise:

- *Consistent with Uniform Fire Code requirements (Appendix IV-D R.2) and to the extent practicable, conduct unloading or loading of solids and liquids in a manufacturing building, under a roof, or lean-to, or other appropriate cover.*
    - **Loading/Unloading**: Due to the considerable area of log and lumber storage, and the height of roof that would be needed to allow adequate equipment access, it is impracticable to completely cover the log and lumber storage areas. When possible, finished lumber is stored under cover.
- *Berm, dike, and/or slope the loading/unloading area to prevent runon of stormwater and to prevent the runoff or loss of any spilled material from the area.*
- *Place curbs along the edge of the shoreline, or slope the edge such that the stormwater can flow to an internal storm sewer system that leads to an approved treatment BMP. Avoid draining directly to the surface water from loading areas.*
- *Pave and slope loading/unloading areas to prevent the pooling of water. Minimize the use of catch basins and drain lines within the interior of the paved area or place catch basins in designated "alleyways" that are not covered by material, containers, or equipment.*
- *Retain on-site the necessary materials for rapid cleanup of spills.*

3.2.4 BMPs FOR LOG SORTING AND HANDLING

This section describes the operational BMPs for log sorting and handling.

- ***General Description of Pollutant Sources***: *Log yards are paved or unpaved areas where logs are transferred, sorted, debarked, cut, and stored to prepare them for shipment or for the production of dimensional lumber, plywood, chips, poles, or other products. Log yards are generally maintained at sawmills, shipping ports, and pulp mills. Typical pollutants include oil and grease, BOD, settleable solids, total suspended solids (including soil), high and low pH, heavy metals, pesticides, wood-based debris, and leachate.*

- ***The Following are pollutant sources:*** *log storage, rollout, sorting, scaling, and cutting areas; log and liquid loading areas; log sprinkling debarking, bark bin, and conveyor areas; bark, ash, sawdust, and wood debris piles, and solid wastes; metal salvage areas; truck, rail, ship, stacker, and loader access areas; log trucks, stackers, loaders, forklifts, and other heavy equipment; maintenance shops and parking area; cleaning areas for vehicles, parts, and equipment; storage and handling areas for hydraulic oils, lubricants, fuels, paints, liquid wastes, and other liquid materials; pesticide usage for log preservation and surface protection; application of herbicides for weed control; contaminated soil resulting from leaks or spills of fluids.*

    - **Applicability at Facility:** Buse Maintains a log yard.

- ***Ecology's Baseline General Permit Requirements:*** *Industries with log yards or areas where logs are sorted or loaded are required to obtain coverage under the Industrial Stormwater General Permit for discharges of stormwater associated with industrial activities. The permit requires preparation and on-site retention of an Industrial Stormwater Pollution Prevention Plan (SWPPP). Required and recommended operational, structural source control, and treatment BMPs are presented in detail in Industrial Stormwater General Permit Implementation Manual for Log Yards (Ecology, 2016c). Ecology recommends that all log yard facilities obtain a copy of this document.*

3.2.5 BMPs for Maintenance and Repair of Vehicles and Equipment

This section describes the operational BMPs for maintenance and repair of vehicles and equipment.

- ***General Description of Pollutant Sources***: *Pollutant sources include parts/vehicle cleaning, spills/leaks of fuel and other liquids, replacement of liquids, outdoor storage of batteries/liquids/parts, and vehicle parking.*

    - **Applicability at Facility**: Buse conducts vehicle maintenance indoors at the vehicle repair building.

3.2.5.1 Operational BMPs

The following operational BMPs for maintenance and repair of vehicles and equipment are required by the Permit and are adhered to at the Facility, unless noted otherwise.

- *Inspect for leaks all incoming vehicles, parts, and equipment stored temporarily outside.*
- *Use drip pans or containers under parts or vehicles that drip or that are likely to drip liquids, such as during dismantling of liquid containing parts or removal or transfer of liquids. Inspect drip pans regularly to prevent accumulation of stormwater or other liquids and dispose of any accumulate liquid appropriately.*

    - **Drip Pans**: When vehicle and equipment leaks are found and drip pans are not readily accessible, other means are used to keep the leaks from entering the storm drain system. Sawdust and bark dust are readily available throughout the Facility, and are used to contain spills quickly.

- *Remove batteries and liquids from vehicles and equipment in designated areas designed to prevent stormwater contamination. Store cracked batteries in a covered non-leaking secondary containment system.*
- *Empty oil and fuel filters before disposal. Provide for proper disposal of waste oil and fuel.*

- *Do not pour/convey washwater, liquid waste, or other pollutant into storm drains or to surface water. Check with the local sanitary sewer authority for approval to convey to a sanitary sewer.*
- *Do not connect maintenance and repair shop floor drains to storm drains or to surface water. To allow for snowmelt during the winter a drainage trench with a sump for particulate collection can be installed and used only for draining the snowmelt and not for discharging any vehicular or shop pollutants.*

3.2.5.2 Structural Source Control BMPs

The following structural source control BMPs are required by the Permit and are adhered to at the Facility, unless noted otherwise:

- *Conduct all maintenance and repair of vehicles and equipment in a building, or other covered impervious containment area that is sloped to prevent runon of uncontaminated stormwater and run off of contaminated stormwater.*
  - **Vehicles Awaiting Repair**: Vehicles that are parked temporarily outside waiting repair are inspected for oil, antifreeze, and other fluid leaks.
- *The maintenance of refrigeration engines in refrigerated trailers may be conducted in the parking area with due caution to avoid the release of engine or refrigeration fluids to storm drains or surface water.*
- *Park large mobile equipment, such as log stackers, in a designated contained area.*

3.2.5.3 Treatment BMP

The following treatment BMP for maintenance and repair of vehicles and equipment is required and is adhered to at the Facility, unless noted otherwise:

- *Convey contaminated stormwater runoff from vehicle staging and maintenance areas to a sanitary sewer, if allowed by the local sewer authority, or to an API or CP oil/water separator followed by a basic treatment BMP (see Volume V of the 2019 Manual), applicable filter, or other equivalent oil treatment system.*
  - **Vehicle Repair**: See Section 3.2.6.2.

3.2.6 BMPs for Maintenance of Stormwater Drainage and Treatment Systems

This section describes the operational BMPs for maintenance of stormwater drainage and treatment systems.

- ***General Description of Pollutant Sources***: *Facilities include roadside catch basins on arterials and within residential areas, conveyance systems, detention facilities such as ponds and vaults, oil and water separators, biofilters, settling basins, infiltration systems, and all other types of stormwater treatment systems presented in Volume V [of the Stormwater Management Manual]. Roadside catch basins can remove from 5 to 15 percent of the pollutants present in stormwater. When catch basins are about 60 percent full of sediment, they cease removing sediments. Oil and grease, hydrocarbons, debris, heavy metals, sediments and contaminated water are found in catch basins, oil and water separators, settling basins, etc.*

- ***Pollutant Control Approach:*** *Provide maintenance and cleaning of debris, sediments, and oil from stormwater collection, conveyance, and treatment systems to obtain proper operation.*
  - **Applicability at Facility**: The Facility maintains catch basins, stormwater conveyance piping, and oil/water separators.

3.2.6.1 Operational BMPs

The following operational BMPs for stormwater drainage and treatment systems are required by the Permit and are adhered to at the Facility, unless noted otherwise.

- *Inspect and clean treatment BMPs, conveyance systems, and catch basins as needed, and determine whether improvements in operations and maintenance (O&M) are needed.*
  - **Catch Basins**: The Facility catch basins are inspected monthly and are cleaned as needed to maintain sediment levels below 60 percent of the available sediment storage capacity and also to ensure that the debris surface is at least 6 inches below the outlet pipe in order to prevent overflow of accumulated solids out of the catch basin. Notes are to be recorded on the monthly inspection form if operations and maintenance (O&M) improvements are needed.
  - **Annual Inspection for Accumulated Solids:** Beyond the general Facility stormwater inspections that are conducted monthly, a thorough inspection for accumulated solids in the storm drain conveyance structures (i.e., catch basins, manholes/vaults, conveyance pipes, conveyances ditches) will be performed once per year during one of the dry summer months. Observations from this annual inspection are to be recorded (the comments section of the monthly inspection form can be used). Removal and proper disposal of accumulated solids will be performed as determined to be necessary to ensure full and proper function of the stormwater features (which include allowing for continued settling of suspended solids and avoiding unnecessary re-entrainment of accumulated solids during larger storm events).
- *Promptly repair any deterioration threatening the structural integrity of the facilities. These include replacement of cleanout gates, catch basin lids, and rock in emergency spillways.*
- *Ensure that storm sewer capacities are not exceeded and that heavy sediment discharges to the sewer system are prevented.*
- *Regularly remove debris and sludge from structural BMPs used for peak-rate control, treatment, etc., and discharge to a sanitary sewer, if approved by the sewer authority, or truck to a local or state government-approved disposal site.*
  - **Annual Inspection for Accumulated Solids:** (see above descriptions).
- *Clean catch basins when the depth of deposits reaches 60 percent of the sump depth as measured from the bottom of the basin to the invert of the lowest pipe into or out of the basin. However, in no case should there be less than 6 inches clearance from the debris surface to the invert of the lowest pipe. Some catch basins (for example, Washington State Department of Transportation Type 1L basins) may have as little as 12 inches sediment storage below the invert. These catch basins will need more frequent inspection and cleaning to prevent scouring. Where these catch basins are part of a stormwater collection and treatment system, the system owner/operator may choose to concentrate maintenance efforts on downstream control devices as part of a systems approach.*
  - **Annual Inspection for Accumulated Solids:** (see above descriptions).

- *Clean woody debris in a catch basin as frequently as needed to ensure proper operation of the catch basin.*
- *Post warning signs; "Dump No Waste – Drains to Groundwater," "Streams," "Lakes," or emboss on or adjacent to all storm drain inlets where practical.*
- *Disposal of sediments and liquids from the catch basins must comply with "Recommendations for Management of Street Wastes" from Appendix IV-G of the Stormwater Management Manual for Western Washington, available online at https://fortress.wa.gov/ecy/ezshare/wq/Permits/Flare/2019SWMMWW/Content/Resources/DocsForDownload/2019SWMMWW.pdf*

3.2.7 BMPs for Roof/Building Drains at Manufacturing and Commercial Buildings

This section describes the operational BMPs for roof/building drains at manufacturing and commercial buildings.

- ***General Description of Pollutant Sources:*** *Stormwater runoff from roofs and sides of manufacturing and commercial buildings can be sources of pollutants caused by leaching of roofing materials, building vents, and other air emission sources. Research has identified vapors and entrained liquid and solid droplets/particles as potential pollutants in roof/building runoff. Metals, solvents, acidic/alkaline pH, BOD, and organics, are some of the pollutant constituents identified.*
  - **Applicability at the Facility**: Sawdust is generated at the sawmill and planing mill buildings. Buse maintains air outlets at these locations that employ cyclone air pollution control devices to remove sawdust from the air exhaust. Roof runoff is not identified as a significant contributor of stormwater pollutants at the Facility.

3.2.7.1 Operational Source Control BMPs:

The following BMPs are required by the Permit and are adhered to at the Facility, unless noted otherwise:

- *If leachate and/or emissions from buildings are suspected sources of stormwater pollutants, then sample and analyze the stormwater draining from the building.*
- *Sweep the area routinely to remove any residual pollutants.*
- If a roof/building stormwater pollutant source is identified, implement appropriate source control measures such as air pollution control equipment, selection of materials, operational changes, material recycle, process changes, etc.

3.2.7.2 Structural Source Control BMPs

The following BMP is required by the permit and is adhered to at the Facility, unless noted otherwise:

- *Paint/coat the galvanized surfaces as described in Suggested Practices to Reduce Zinc Concentrations in Industrial Stormwater Discharges (Ecology, 2008).*

3.2.7.3 Treatment BMPS

The following BMP is required by the permit and is adhered to at the Facility, unless noted otherwise:

- *Treat runoff from roofs to the appropriate level. The facility may use Enhanced Treatment BMPs as described in III-1.2 Choosing Your Runoff Treatment BMPs. Some facilities regulated by the*

Industrial Stormwater General Permit, or local jurisdiction, may have requirements than cannot be achieved with Enhanced Treatment BMPs. In these cases, additional treatment measures may be required. A treatment method for meeting stringent requirements such as Chitosan-Enhanced Sand Filtration may be appropriate.

3.2.8 BMPs for Storage of Liquids in Permanent Aboveground Storage Tanks (ASTs)

This section describes the operational, structural, and treatment BMPs for the storage of liquids in permanent aboveground storage tanks.

- ***General Description of Pollutant Sources:*** *Above-ground tanks containing liquids (excluding uncontaminated water) may be equipped with a valved drain, vent, pump, and bottom hose connection. Aboveground tansk may be heated with steam heat exchangers equipped with steam traps, if required. Leaks and spills can occur at connections and during liquid transfer. Oil and grease, organics, acids, alkalis, and heavy metals in tank water and condensate drainage can also cause stormwater contamination at storage tanks.*
- ***Pollutant Control Approach:*** *Install secondary containment or a double-walled tank. Slope the containment area to a drain with a sump. Operators may need to discharge stormwater collected in the containment area to a Runoff Treatment BMP such as BMP T11.10: API (Baffle type) Separator or BMP T11.11: Coalescing Plate (CP) Separator, or an equivalent BMP. Add safeguards against accidental releases including protective guards around tanks to protect against vehicle or forklift damage, and tagging valves to reduce human error. Tank water and condensate discharges are process wastewater that may need an NPDES Permit.*
  - **Applicability at the Facility**: There are several aboveground storage tanks (ASTs) at the Facility. In addition to the ASTs at the two fueling stations (see Section 3.2.2), there are three 500-gallon ASTs containing motor oil, hydraulic oil, and waste oil, located outside the vehicle repair shop, under an overhanging roof.

3.2.8.1 Operational BMPs:

The following BMPs are required by the Permit and are adhered to at the Facility, unless noted otherwise:

- *Inspect the tank containment areas regularly to identify problem components such as fittings, pipe connections, and valves, for leaks/spills, cracks, corrosion, etc.to identify problem components such as fittings, pipe connections, and valves.*
- *Place adequately sized drip pans beneath all mounted taps and drip/spill locations during filling/unloading of tanks. Operators may need valved drain tubing in mounted drip pans.*
- *Vacuum sweep and clean the tank storage area regularly, if paved.*
- *Replace or repair tanks that are leaking, corroded, or otherwise deteriorating.*
- *Storage of flammable, ignitable, and reactive chemicals and materials must comply with the stricter of local zoning codes, local fire codes, the Uniform Fire Code (UFC), UFC standards, or the National Electric Code.*

3.2.8.2 Structural BMPs

The following BMPs are required by the Permit and are adhered to at the Facility, unless noted otherwise:

- *Locate permanent tanks in impervious (Portland cement concrete or equivalent) secondary containment areas surrounded by dikes or UL-approved double-walled tanks. The dike must be of sufficient height to provide a containment volume of either 10 percent of the total enclosed tank volume or 110 percent of the volume contained in the largest tank, whichever is greater.*
    - **Secondary Containment**: All ASTs on site consist of double-wall steel construction to provide secondary containment.
- *Slope the secondary containment to drain to a dead-end sump (optional), or equivalent, for the collection of small spills.*
- *Include a tank overfill protection system to minimize the risk of spillage during loading.*

3.2.8.3 Treatment BMPs

The following BMPs are required by the Permit and are adhered to at the Facility, unless noted otherwise:

- *Depending on the kind of liquid being stored, the potential and type of stormwater contamination will vary and may require specialized treatment.*
- *For an uncovered tank containment area, equip the outlet from the spill-containment sump with a normally closed shutoff valve. Operators may open this valve manually or automatically, only to convey contaminated stormwater to approved treatment or disposal, or to convey uncontaminated stormwater to a storm sewer. Evidence of contamination can include the presence of visible sheen, color, or turbidity in the runoff, or existing or historical operational problems at the facility. Use simple pH tests with litmus or pH paper for areas subject to acid or alkaline contamination.*
- *At petroleum tank farms, convey stormwater contaminated with floating oil or debris in the contained area to a sanitary sewer with the sewer authority's approval or through BMP T11.10: API (Baffle type) Separator or BMP T11.11: Coalescing Plate (CP) Separator, or other approved treatment prior to discharge to the storm drain or surface water.*

3.2.9 BMPs for Storage or Transfer (Outside) of Solid Raw Materials, By-Products, or Finished Products

This section describes the operation, structural, and treatment BMPs for outdoor storage or transfer of solid raw materials, by-products, or finished products.

- ***General Description of Pollutant Sources**: Some pollutant sources stored outside in large piles, stacks, etc. at commercial or industrial establishments include: solid raw materials, byproducts, gravel, sand, salts, topsoil, compost, logs, sawdust, wood chips, lumber, concrete, metal products. Contact between outside bulk materials and stormwater can cause leachate, and erosion of the stored materials. Contaminants may include TSS, BOD, organics, and dissolved salts (sodium, calcium, and magnesium chloride, etc.).*
- ***Pollutant Control Approach:** Provide impervious containment with berms, dikes, etc. and/or cover to prevent run-on and discharge of leachate pollutant(s) and TSS.*
    - **Applicability at the Facility**: Logs and lumber are stored outdoors at the Facility.

3.2.9.1 Operational BMPs:

The following BMPs are required by the Permit and are adhered to at the Facility, unless noted otherwise:

- *Do not hose down the contained stockpile area to a storm drain or a conveyance to a storm drain or to a receiving water.*
- Maint*ain drainage areas in and around storage of solid materials with a minimum slope of 1.5 percent to prevent pooling and minimize leachate formation. Areas should be sloped to drain stormwater to the perimeter for collection or to internal drainage "alleyways" where no stockpiled material exists.*
- *Sweep paved storage areas regularly for collection and disposal of loose solid materials.*
- *If and when feasible, collect and recycle water-soluble materials (leachates).*
- *Stock cleanup materials, such as brooms, dustpans, and vacuum sweepers near the storage area.*

3.2.9.2 Structural BMPs

The following BMPs are required by the Permit and are adhered to at the Facility, unless noted otherwise:

- *Store in a building or paved and bermed covered area,*
- *Place temporary plastic sheeting (polyethylene, polypropylene, hypalon, or equivalent) over the material, or;*
- *Pave the area and install a drainage system. Place curbs or berms along the perimeter of the area to prevent the run-on of uncontaminated stormwater and to collect and convey runoff to treatment. Slope the paved area in a manner that minimizes the contact between stormwater (e.g., pooling) and leachable materials in compost, logs, bark, wood chips, etc.For large uncovered stockpiles, implement containment practices at the perimeter of the site and at any catch basins, as needed, to prevent erosion and discharge of the stockpiled material off-site or to a storm drain. Ensure that no direct discharge of contaminated stormwater to catch basins exists without conveying runoff through an appropriate treatment BMP.*

3.2.9.3 Treatment BMPs

Convey contaminated stormwater from the stockpile area to:

- *BMP T10.10: Wetponds - Basic and Large,*
- *BMP T10.20: Wetvaults,*
- *BMP T6.10: Presettling Basin,*
- *Manufactured Treatment Device (see V-10 Manufactured Treatment Devices as BMPs, or*
- *Other appropriate treatment system depending on the contamination.*

3.2.10 BMPs for Washing and Steam Cleaning Vehicles/Equipment/Building Structures

This section describes the structural BMPs for washing and steam cleaning vehicles/equipment/building structures.

- ***General Description of Pollutant Sources****: commercial cleaning of vehicles, aircraft, vessels, and transportation, restaurant kitchens , carpets, and industrial equipment, and large buildings with low or high pressure water or steam. This includes frequent "charity" car washes at gas stations and commercial parking lots. The cleaning can include hand washing, scrubbing, sanding, etc. Washwater from cleaning activities can contain oil and grease, suspended solids, heavy metals, soluble organics, soaps, and detergents that can contaminate stormwater.*
  - **Applicability at the Facility**: Vehicles are steam cleaned on a concrete wash pad by the log yard fueling area (Figure 2). Vehicle washing anywhere other than the concrete wash pad is prohibited.
- ***Permitting Requirements:*** *Obtain all necessary permits for installing, altering, or repairing onsite drainage and side sewers. Restrictions on certain types of discharges may require pretreatment before they enter the sanitary sewer.*
- ***Pollutant Control Approach:*** *The preferred approach is to cover and/or contain the cleaning activity, or conduct the activity inside a building, to separate the uncontaminated stormwater from the washwater sources. Convey washwater to a sanitary sewer after approval by the local sewer authority. Provide temporary storage before proper disposal, or recycling. Under this preferred approach, no discharge to the ground, to a storm drain, or to surface water should occur.*
- *The Industrial Stormwater General Permit prohibits the discharge of process wastewater (e.g., vehicle washing wastewater) to ground water or surface water. Stormwater that commingles with process wastewater is considered process wastewater.*
- *Facilities not covered under the Industrial Stormwater General Permit that are unable to follow one of the preferred approaches listed above may discharge washwater to the ground only after proper treatment in accordance with Vehicle and Equipment Washwater Discharges Best Management Practices Manual (Ecology, 2012).*
- *The quality of any discharge to the ground after proper treatment must comply with Ecology's Ground Water Quality Standards, Chapter 173-200 WAC.*
- *Facilities not covered under the Industrial Stormwater General Permit that are unable to comply with one of the preferred approaches and want to discharge to storm sewer, must meet their local stormwater requirements. Local authorities may require treatment prior to discharge.*
- *Contact the local Ecology Regional Office to* discuss permitting options for discharge of washwater to surface water or to a storm drain after on-site treatment.

3.2.10.1 Structural Source Control BMPs:

The following BMPs are required by the Permit and are adhered to at the Facility, unless noted otherwise:

Conduct vehicle/equipment washing in one of the following locations:

- *At a commercial washing facility in which the washing occurs in an enclosure and drains to the sanitary sewer, or*
- *In a building constructed specifically for washing of vehicles and equipment, which drains to a sanitary sewer.*
  - **Indoor or Offsite Washing**: The size of the vehicles in use at the Facility make indoor washing not feasible, and there is no commercial washing Facility in proximity to the Facility.

Conduct outside washing operation in a designated wash area with the following features:

- *In a paved area, constructed as a spill containment pad to prevent the runon of stormwater from adjacent areas. Slope the spill containment area so that washwater is collected in a containment pad drain system with perimeter drains, trench drains or catchment drains. Size the containment pad to extend out a minimum of four feet on all sides of the washed vehicles and/or equipment being washed.*
    - **Vehicle Washing Area**: Buse conducts vehicle washing on a concrete wash pad by the log yard fueling area (Figure 2). Vehicle washing anywhere other than the concrete wash pad is prohibited. The wash pad slopes to a 2-foot curb with two drains, as follows: a storm drain catch basin that is routed to a series of two oil/water separator vaults; and a washwater drain that is routed to a closed vault. Both drains have an emergency shut-off valve.
- *Convey the washwater to a sump (like a grit separator) and then to a sanitary sewer (if allowed by the local Sewer Authority), or other appropriate wastewater treatment or recycle system. The containment sump must have a positive control outlet valve for spill control with live containment volume, and oil/water separation. Size the minimum live storage volume to contain the maximum expected daily washwater flow plus the sludge storage volume below the outlet pipe. Shut the outlet valve during the washing cycle to collect the washwater in the sump. The valve should remain shut for at least two hours following the washing operation to allow the oil and solids to separate before discharge to a sanitary sewer.*
    - **Washwater Treatment**: The Buse Facility is not connected to a municipal sanitary sewer system, but Buse has its own septic system with drainfield that could be utilized if necessary. Washwater is periodically pumped and disposed properly offsite.
- *Use a two way valve for discharges from the containment pad. This valve should be normally switched to direct water to treatment, but may be switched to the drainage system after that pad is clean to handle stormwater runoff. The stormwater can then drain into the conveyance/discharge system outside of the wash pad (essentially bypassing the sanitary sewer or recycle system). Post signs to inform people of the operation and purpose of the valve. Clean the concrete pad thoroughly until there is no foam or visible sheen in the washwater prior to closing the inlet valve and allowing uncontaminated stormwater to overflow and drain off the pad.*

  Note that the purpose of the valve is to convey only washwater and contaminated stormwater to a treatment system.
- *Collect the washwater from building structures and convey it to appropriate treatment such as a sanitary sewer system if it contains oils, soaps, or detergents. If the washwater does not contain oils, soaps, or detergents (in this case only a low pressure, clean, cold water rinse is allowed) then it could drain to soils that have sufficient natural attenuation capacity for dust and sediment.*
- *Sweep surfaces prior to cleaning/washing to remove excess sediment and other pollutants.*
- *If roof equipment or hood vents are cleaned, ensure that no washwater or process water is discharged to the roof drains or drainage systems.*
- *Label all mobile cleaning equipment as follows: "Properly dispose of all wastewater. Do not discharge to an inlet/catch basin, ditch, stream, or on the ground."*

The following BMPs are recommended, but not required, and could potentially help reduce turbidity and other pollutants from entering the Facility storm drain system.

- *Mark the wash area at gas stations, multifamily residences, and any other business where non-employees wash vehicles.*
- *Operators may use a manually operated positive control valve for uncovered wash pads, but a pneumatic or electric valve system is preferable. The valve may be on a timer circuit and opened upon completion of a wash cycle. After draining the sump or separator, the timer would then close the valve.*
- *Minimize the use of water and detergents in washing operations when practicable.*
- *Use phosphate-free biodegradable detergents when practicable.*
- *Use the least hazardous cleaning products available.*
- *Consider recycling the washwater.*
- *Operators may use soluble/emulsifiable detergents in the wash medium and should use it with care and the appropriate treatment. Carefully consider the selection of soaps and detergents and treatment BMPs. Oil/water separators are ineffective in removing emulsified or water soluble detergents. Another treatment appropriate for emulsified and water soluble detergents may be required.*

Exceptions:

- *At gas stations (for charity car washes) or commercial parking lots, where it is not possible to discharge the washwater to a sanitary sewer, a temporary plug or a temporary sump pump can be used at the storm drain to collect the washwater for off-site disposal such as to a nearby sanitary sewer.*
- *New and used car dealerships may wash vehicles in the parking stalls as long as employees use a temporary plug system to collect the washwater for disposal as stated above, or an approved treatment system for the washwater is in place.*
- *At industrial sites, contact Ecology for NPDES Permit requirements even when not using soaps, detergents, and/or other chemical cleaners in washing trucks.*

3.2.11 BMPs FOR WOOD TREATMENT AREAS

This section describes the operational and structural BMPs for wood treatment areas.

- ***General Description of Pollutant Sources**: Wood treatment includes both antistaining and wood preserving using pressure processes or by dipping or spraying. Wood preservatives include creosote, creosote/coal tar, pentachlorophenol, copper naphthenate, arsenic trioxide, malathion, or inorganic arsenicals such as chromated copper arsenate, acid copper chromate, chromate zinc chloride, and fluor-chrome-arsenate-phenol. Antistaining chemical additives include iodo-prophenyl-butyl carbamate, dimethyl sulfoxide, didecyl dimethyl ammonium chloride, sodium azide, 8-quinolinol; copper (II) chelate, sodium ortho-phenylphenate, 2-(thiocyanomethylthio)-benzothiazole (TCMTB) and methylene bis- (thiocyanate), and zinc naphthenate. Pollutant sources include drips of condensate or preservative after pressurized treatment; product washwater (in the treatment or storage areas), spills and leaks from process equipment and preservative tanks, fugitive emissions from vapors in the process, blowouts and emergency pressure releases, and kick-back from lumber (phenomenon where preservative leaks as it*

returns to normal pressure). Potential pollutants typically include the wood treating chemicals, BOD, suspended solids, oil and grease, benzene, toluene, ethylbenzene, phenol, chlorophenols, nitrophenols, heavy metals, and PAH depending on the chemical additive used.

- **Applicability at the Facility**: Approximately 15 percent of lumber at the Buse Facility is treated at the sapstain treatment area with a product called "Britewood S," which contains sodium ortho-phenylphenate.

- ***Pollutant Control Approach****: Cover and contain all wood treating facilities and prevent all leaching of and stormwater contamination by wood treating chemicals. Wood treating facilities may be covered by the Industrial Stormwater General Permit or by an individual permit. Individual permits covering wood treatment areas include applicable source control BMPs or require the development of BMPs or a SWPPP. Facilities covered under the Industrial Stormwater General Permit must prepare and implement a SWPPP. When developing a SWPPP or BMPs, wood treating facilities should include the applicable operational and structural source control BMPs listed below.*

3.2.11.1 Operational BMPs

The following BMPs from the 2019 Manual are considered applicable to wood treating activities conducted at the Facility, and are adhered to unless noted otherwise:

- *Use dedicated equipment that for treatment activities to prevent the tracking of treatment chemicals to other areas on the site.*
- *Eliminate non-process traffic on the drip pad. Scrub down non-dedicated lift trucks on the drip pad.*
- *Immediately remove and properly dispose of soils with visible surface contamination (green soil) to prevent the spread of chemicals to groundwater and/or surface water via stormwater runoff.*
- *If incidental drippage is discovered in the storage yard, relocate the wood to a concrete chemical containment structure until it is drip free.*
- *Recommended Operational BMP: Consider using preservative chemicals that do not adversely affect receiving surface water and groundwater.*

3.2.11.2 Structural Source Control BMPs:

The following BMPs from the 2019 Manual are considered applicable to the wood treating activities conducted at the Facility, and are adhered to unless noted otherwise:

- *Cover and/or enclose, and contain with impervious surfaces, all wood treatment areas. Slope and drain areas around dip tanks, spray booths, retorts, and any other process equipment in a manner that allows return of treatment chemicals to the wood treatment process.*
- *Cover storage areas for freshly treated wood to prevent contact of treated wood products with stormwater. Segregate clean stormwater from process water. Convey all process water to an approved treatment system.*

  - **Treated Lumber Storage**: The treated lumber is allowed to dry for 15 minutes on the drip rack and it is drip-free and surface-dry prior to storage. Treated lumber is stored under cover when space is available, but when this is not possible, it is elevated from the ground surface on wood strips to prevent contact with runoff. According to the sapstain chemical manufacturer, the chemical completely bonds to wood fibers within

15 minutes, and Buse does not anticipate significant chemical leaching after that time. There has not been any visible leaching of sapstain chemicals to stormwater.

- *Seal any holes or cracks in the asphalt areas that are subject to wood treatment chemical contamination.*
- *Elevate stored, treated wood products to prevent contact with stormwater runon and runoff. Place dipped lumber over the dip tank, or on an inclined ramp for a minimum of 30 minutes to allow excess chemical to drip back to the dip tank.*
- *Freshly treated lumber from dip tanks or retorts must be placed on a containment area until drippage has ceased prior to placement in outside storage areas.*

3.2.12 BMPs for the Berm on the Southern Border of the Facility

As described in Section 2.1, a vegetated berm composed of soil and wood debris is located between the southern half of the log storage area and the perimeter ditch. The perimeter berm has been observed by Joe Kalmar, P.E. and deemed to be appropriate for general stormwater containment and stormwater rerouting. The berm is maintained to be adequately stable to limit erosion and turbidity. The following berm-specific BMPs are implemented at the Facility to the extent applicable:

- *Closely inspect the south log yard and berm monthly for signs of deterioration and/or seepage to ensure the berm is maintained and vegetated/stabilized.*
- *Keep equipment and facility operations a safe distance away from the berm to prevent impacting or damaging the berm.*
- *Repair the berm immediately if damaged or inspections reveal signs of deterioration.*
- *Maintain full vegetative coverage or other form of stabilization of the berm and buffer area. Replant vegetation as needed in the event of damage or die-off.*
- *Maintain the berm at a sufficient height to prevent overflow and seepage.*

3.2.13 BMPs for Labeling Storm Drain Inlets

This section describes the BMPs required for labeling storm drain inlets.

- ***General Description of Pollutant Sources**: Waste materials dumped into storm drain inlets can have severe impacts on receiving waters. Posting notices regarding discharge prohibitions at storm drain inlets can prevent waste dumping. Storm drain signs and stencils are highly visible source controls that are typically placed directly adjacent to storm drain inlets.*
- ***Pollutant Control Approach**: The stencil, affixed sign, or metal grate contains a brief statement that prohibits dumping of improper materials into the urban runoff conveyance system. Storm drain messages have become a popular method of alerting the public about the effects of and the prohibitions against waste disposal.*
    - **Applicability at the Facility**: The Facility has limited storm drain inlets with open grates and will be labeling, or otherwise marking, the inlets during the second quarter of 2020 to adhere to this operational BMP.

3.2.13.1 Operational BMPs

The following operational BMPs for labeling storm drain inlets are required and adhered to at the Facility, unless noted otherwise:

- *Label storm drain inlets in residential, commercial, industrial areas, and any other areas where contributions or dumping to storm drains is likely.*
- *Stencil or apply storm drain markers adjacent to storm drain inlets to help prevent the improper disposal of pollutants. Or, use a storm drain grate stamped with warnings against polluting.*
- *Place the marker in clear sight facing toward anyone approaching the inlet from either side.*
- *Use a brief statement and/or graphical icons to discourage illegal dumping. Examples include:*
    - *"No Dumping – Drains to Stream"*
    - *"No Pollutants – Drains to Puget Sound"*
    - *"Dump No Waste – Drains to Lake"*
    - *"No Dumping – Puget Sound Starts Here"*
- *Check with your local government agency to find out if they have approved specific signage and/or storm drain message placards for use. Consult the local agency stormwater staff to determine specific requirements for placard types and methods of application.*
- *Maintain the legibility of markers and signs. Signage on top of curbs tends to weather and fade. Signage on face of curbs tends to be worn by contact with vehicle tires and sweeper brooms.*
- *When painting stencils or installing markers, temporarily block the storm drain inlet so that no pollutants are discharged from the labeling activities.*

3.3 TREATMENT BEST MANAGEMENT PRACTICES (S3.B.4.B.III)

Treatment BMPs that may be considered for facilities that conduct log sorting and handling are presented in detail in Ecology's April 2013 Guidance Document "Draft Industrial Stormwater General Permit Implementation Manual for Log Yards," included in this SWPPP as Appendix D and implemented at the Buse Facility to the extent applicable.

No treatment BMPs are required if operational and source control BMPs are adequate to reduce pollutants below benchmarks. However, additional treatment BMPs are evaluated, and implemented if needed, based on exceeding benchmarks.

Buse employs the following treatment BMPs at the Facility:

- Five oil/water separators are placed in the Facility storm drain system to allow settling of suspended solids and to trap spilled fuel, oil sheen, and any floating debris.
- Booms have been placed on the surface of the water in the perimeter ditches around the Facility in the following locations: in the bio-swale (east perimeter ditch) approximately 50 feet downstream from Facility outfall SW-1; and in the west perimeter ditch approximately 5 feet west of DP-1. The booms are replaced at least once per year and the soiled booms are properly disposed as municipal solid waste.
- Silt curtains have been installed in the stormwater conveyance ditch, at the locations shown on Figure 2, to reduce turbidity by filtering suspended solids from stormwater runoff. By removing suspended solids, the silt curtains can also reduce biological oxygen demand (BOD) and chemical oxygen demand (COD) and help to stop bio-growth algal blooms from flowing to the discharge point of DP-1. The silt curtains will be inspected quarterly, generally during the quarterly stormwater sampling event. Inspection of the silt curtains at the time of quarterly sampling will help to determine if there is any damage to the silt curtains or other problem with the silt

curtains that is causing inadequate reduction of suspended solids. Based on the inspection, the silt curtains may be cleaned or they may be replaced, as needed. If replaced, the used silt curtains will be properly disposed as municipal solid waste. If the silt curtains need to be cleaned, they will be cleaned on the concrete vehicle wash pad area (described in Section 3.2.11).

3.4 STORMWATER PEAK RUNOFF AND VOLUME CONTROL BEST MANAGEMENT PRACTICES (S3.B.4.B.IV)

The Buse Facility is believed to have been constructed in accordance with stormwater drainage rules in effect at the time of construction or Facility expansions. The receiving water for stormwater runoff from the Facility is Union Slough, which is not subject to flow control limitations. Buse does not maintain peak runoff and volume control BMPs beyond the existing stormwater drainage system and the tide gate.

3.5 EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (S3.B.4.B.V)

The following BMPs are required by the Permit:

- *Implement and maintain sediment control BMPs such as detention or retention ponds or traps, vegetated filter strips, bioswales, or other permanent sediment control BMPs to minimize sediment loads in stormwater discharges.*
- *Implement and maintain filtration BMPs to remove solids from catch basins, sumps, or other stormwater collection and conveyance system components (filter socks, modular canisters, sand filtration, centrifugal separators, etc.).*
    - **Soil Erosion and Sediment Control**: The Facility is located on level ground and all unpaved surface areas are vegetated or rocked. Erosion is not identified as a stormwater pollution problem at the Facility.

4.0 STORMWATER SAMPLING PLAN (S3.B.5)

The Permit requires each facility to sample and test representative stormwater discharges at least once per quarter for at least eight consecutive quarters. Specific stormwater sampling requirements are presented below.

4.1 SAMPLING LOCATIONS, REQUIREMENTS, AND METHODS

The Permit requires that stormwater samples be collected and tested quarterly from location(s) that are representative of stormwater being discharged from the Facility. Stormwater samples at Buse are collected from location DP-1, as this location is downstream of the Facility bioswale silt curtains. All Facility stormwater is directed from DP-1 through the tide gate into Union Slough. Previous samples have been taken from location SW-1, which receives stormwater from the central area of the Facility where most industrial activity occurs, however, this location is upstream of the permeable silt curtains. Both DP-1 and SW-1 can be seen on Figure 2. Sampling of stormwater must be performed according to the following Permit criteria:

- Sampling of the stormwater discharge is to be conducted at least once per quarter:

  1st Quarter = January, February, and March
  2nd Quarter = April, May, and June
  3rd Quarter = July, August, and September
  4th Quarter = October, November, and December.

- Sample the stormwater discharge from the first fall storm event each year. "First fall storm event" means the first time after September 1st of each year that precipitation occurs and results in a stormwater discharge from a facility. The first fall storm event sample will complete the requirement to take a 4th Quarter sample. Because the tide needs to be low enough for discharge from the stormwater ditch to occur, the first flush discharge may occur hours or days after the first fall storm event.

- Collect samples within the first 12 hours of stormwater discharge events. If it is not possible to collect a sample within the first 12 hours of a stormwater discharge event, Facility personnel must collect the sample as soon as practicable after the first 12 hours and keep documentation with the sampling records explaining why sampling could not occur within the first 12 hours.

- Sampling need not be performed outside of regular business hours, during unsafe conditions (e.g., during thunderstorms), or during quarters where there is no discharge.

To efficiently comply with these criteria (especially the first fall sampling event), attention must be paid to weather forecasts in order to anticipate when stormwater discharge will first occur at the designated discharge location.

4.1.1 METHODS FOR STORMWATER SAMPLING

Stormwater samples will be collected from perimeter ditch at location DP-1. Sampling bottles affixed to an approximately 10-foot sampling pole will be used to retrieve the samples. The sampler will use the sampling pole to retrieve sample from the perimeter ditch to the east of the tide gate, to avoid

comingling of sample with discharge from the swirling confluence at the tide gate that contains effluent from the perimeter ditch to the west of the tide gate. In the event that highly-turbid stormwater from offsite sources in the west perimeter ditch is negatively influencing stormwater quality at the tide gate (at a distance greater than the reach of the 10-foot sampling pole length up the east perimeter ditch), then a contingency measure will be to move farther upstream in the east perimeter ditch (toward point SW-1 on Figure 2), until a representative Buse facility stormwater sample can be collected. If the stormwater sample collection point is adjusted because of offsite impacts, then the location of the stormwater sample is to be noted in the comments section of the DMR submitted to Ecology. Additional sampling protocols are listed on pages 9 and 10 of the Ecology guidance on sampling, accessible through the following link: (http://www.ecy.wa.gov/pubs/0210071.pdf).

According to the Permit requirements for this type of industrial facility, stormwater will be sampled once per quarter for the parameters listed below.

Parameter	Units	Container	Preservative	Analytical Method (Holding time)	Benchmark Value	Laboratory Quantification Level
Turbidity	NTU	500mL polyethylene bottle	None if field meter, or cool to 4°C if not brought directly to lab	Field meter or meter in lab. EPA 180.1 (48 hours)	25 NTU	0.5
pH	SU	Disposable cup	None, measure immediately	Meter or pH paper in field. pH paper within +/– 0.5 SU or less. Measure immediately	5-9 SU	+/- 0.5
Oil Sheen	Yes/No	N/A	N/A	N/A	No visible oil sheen	N/A
Total Copper	µg/L	500 mL polyethylene bottle with acid preservative	Acid, cool to 4°C if not brought directly to lab	EPA Method 200.8 in lab (6 months)	14 µg/L	2.0
Total Zinc	µg/L	500 mL polyethylene bottle with acid preservative	Acid, cool to 4°C if not brought directly to lab	EPA Method 200.8 in lab (6 months)	117 µg/L	2.5
Total Chemical Oxygen Demand (COD)	mg/L	500 mL polyethylene bottle with acid preservative	Acid, cool to 4°C if not brought directly to lab	SM5220-D (28 days)	120 mg/L	10
Total Suspended Solids (TSS)	mg/L	500 mL polyethylene bottle	None, cool to 4°C if not brought directly to lab	SM2540-D (7 days)	100 mg/L	5

Notes:
4°C = degrees Celsius
EPA = U.S. Environmental Protection Agency
N/A = not applicable
NTU = nephelometric turbidity unit
mL = milliliter
mg/L = milligrams per liter
µg/L = microgram per liter
SU = standard unit

Sampling requires filling appropriate containers as described above. The laboratory can provide a cooler with all the necessary sample collection jars upon request. It is recommended that a cooler with collection jars be kept on site ahead of time in preparation for qualifying rain events. The Permittee has

the option of measuring turbidity in the field or having the analysis performed by the laboratory. The pH must be measured onsite and can be measured using a pH meter or by inserting a strip of pH paper (provided by the laboratory) into a disposable cup for 2 to 10 minutes and comparing the strip to the color chart. Record the result on the sampling form.

After filling the sample bottles with stormwater from the sample location, put the bottles into the cooler supplied by the laboratory and add ice (in a ziplock bag) to cool the samples if the samples are not brought directly to laboratory. Samples will be labeled with the sampling location name and sampling date. For example, a sample collected from DP-1 on May 21, 2010 would be labeled DP1-5/21/10. Have the samples delivered to the lab within 24 hours of sample collection.

4.1.2 VISUAL STORMWATER MONITORING

Visual monitoring is performed by qualified personnel. Visual monitoring includes assessments of BMPs and observations for the presence of non-permitted stormwater discharges, floating materials, visible sheen, discoloration, turbidity, or odor in the stormwater discharge at all of the drainage structures onsite and where stormwater associated with industrial activity is discharged offsite, and at the sampling points.

Visual monitoring results will be recorded on the monthly inspection form provided in Appendix C. These completed forms, referred to in the Permit as visual monitoring reports, must be signed by the person making the observations, as well as by a duly authorized representative of the Facility (as described in Condition G2.A of the Permit). The monthly inspection form includes a certification that the Facility is in compliance or non-compliance with the SWPPP and the Permit. If the Facility inspection indicates that the requirements of the SWPPP or the Permit are not being met, the visual monitoring report must include a summary of the actions that will be taken to meet these requirements. See Section S9.F of the Permit for instructions on reporting incidents of non-compliance.

4.2 RECORDKEEPING

Records required to be retained include the information recorded in the field during stormwater sampling and the laboratory reports provided by the laboratory. All of the information to be recorded in the field is summarized on the Quarterly Stormwater Sampling form located in Appendix C. This completed form, along with the laboratory data, will be maintained in a separate stormwater management binder onsite. Older copies of Discharge Monitoring Reports (DMRs), explained in Section 4.5, and Annual Reports will also be maintained in the separate onsite binder. Starting in 2015, all DMRs and Annual Reports are submitted online through Ecology's Water Quality Permitting Portal website, and those records are retained online. Field forms and laboratory reports must be retained for at least 5 years, according to the Permit. Blank forms for quarterly stormwater sampling are provided at the beginning of Appendix C.

4.3 SUBMITTAL OF SAMPLES TO THE LABORATORY

Stormwater samples should be submitted to an accredited laboratory. Buse currently uses ALS Laboratory Group, which is located at:

ALS Laboratory Group
8620 Holly Drive, Suite 100
Everett, Washington 98208
(425-356-2600)

The sample bottles must be labeled and the chain-of-custody (COC) form must be completed. The COC form lists the analyses required and documents sample handling. The stormwater sample bottles should be packed in the cooler on ice (in a ziplock bag) if not brought directly to the laboratory. If the cooler will leave the sampler's possession before arriving at the laboratory, place the completed COC form inside a ziplock bag and inside the cooler, then seal the cooler and bring the cooler to the laboratory. If the turbidity is not measured with a field meter, the sample must be brought to the laboratory as soon as possible because the sample's turbidity level needs to be analyzed by the laboratory within 48 hours of sample collection.

4.4 EVALUATION OF SAMPLING RESULTS

Two main things need to happen with the stormwater sampling data. First, the stormwater sampling results must be submitted to Ecology on a quarterly basis (see Section 4.1). Second, the stormwater sampling results must be compared to the benchmark values shown in Section 4.1.1 to assess the effectiveness of the current BMPs in preventing pollutants from entering stormwater and to determine if corrective action is needed. Values at or below benchmark values are considered unlikely to cause a water quality violation. Consistent attainment of benchmark values over eight consecutive quarters reduces monitoring to a fourth quarter "annual sample" for that parameter (unless significant process changes take place at the Facility). Therefore, no additional action is needed if monitoring results are below benchmark values, with the exception that quarterly monitoring (visual inspections and oil sheen check) must continue and DMRs still need to be submitted indicating that consistent attainment has been achieved.

Eight consecutive quarters of meeting the benchmark value for a parameter is required to achieve consistent attainment. The annual sample must be taken during the 4th quarter. The annual sample does not need to be collected during the first fall storm event. If Buse's annual sampling exceeds a benchmark during consistent attainment, Buse can no longer claim consistent attainment for the parameters that exceeded the benchmark and must resume quarterly sampling for that parameter. After achieving consistent attainment for a parameter, sampling for that parameter can be reduced to a fourth quarter "annual sample" for that parameter.

Unlike exceedances of effluent limits, exceedance of benchmark values does not constitute a violation of the Permit because benchmark values are not water quality standards and are not Permit limits.

However, it is an indicator that additional measures should be taken to reduce the entry of pollutants into stormwater at the Facility. These response measures range from implementing additional operational BMPs (Level One Corrective Action) to implementing stormwater treatment BMPs (Level Three Corrective Action). These Permit-required corrective actions and the criteria that trigger them are presented below.

4.4.1 Level One Corrective Actions – Operational Source Control BMPs

Permittees that exceed any applicable benchmark value(s) shall complete a Level 1 Corrective Action for each parameter exceeded in accordance with the following:

1) Within 14 days of receipt of sampling results that indicate a benchmark exceedance for a given quarter[3], or, for parameters other than pH or visible oil sheen, the end of the quarter, whichever is later:
    a. Conduct an inspection to investigate the cause.
    b. Review the SWPPP and ensure that it fully complies with Permit Condition S3 and contains the correct BMPs from the 2019 Manual.
    c. Make appropriate revisions to the SWPPP to include additional operational source control BMPs with the goal of achieving the applicable benchmark value(s) in future discharges.
2) Summarize the Level 1 Corrective Actions in the Annual Report (Permit Condition S9.C).
3) Level 1 Corrective Action Deadline: The Permittee shall sign/certify and fully implement the revised SWPPP according to Permit Condition S3 and the 2019 Manual as soon as possible, but no later than the DMR due date for the quarter in which the benchmark was exceeded.

4.4.2 Level Two Corrective Actions – Structural Source Control BMPs

Permittees that exceed an applicable benchmark value (for a single parameter) for any two quarters during a calendar year shall complete a Level 2 Corrective Action in accordance with Permit Condition S8.C. Alternatively, the Permittee may skip Level 2 Corrective Action and complete a Level 3 Corrective Action in accordance with Permit Condition S8.D. The Level Two Corrective action shall be implemented as follows:

1) Review the SWPPP and ensure that it fully complies with Permit Condition S3.
2) Make appropriate revisions to the SWPPP to include additional structural source control BMPs with the goal of achieving the applicable benchmark value(s) in future discharges.
3) Summarize the Level 2 Corrective Actions (planned or taken) in the Annual Report (Permit Condition S9.C).

[3] Based on quarterly average per Permit Conditions S5.A.3, S5.B2 and/or S6.C.2.c. For pH and visible oil sheen, quarterly averaging is not allowed, so the 14 days begins upon receipt of a single benchmark exceedance.

4) Level 2 Corrective Action Deadline: The Permittee shall sign/certify and fully implement the revised SWPPP according to Permit Condition S3 and the 2019 Manual as soon as possible, but no later than August 31 the following year.

    a. If installation of necessary structural source control BMPs is not feasible by August 31 of the following year, Ecology may approve a Modification of Permit Coverage for a time extension.

    b. If installation of structural source control BMPs is not feasible or not necessary to prevent discharges that may cause or contribute to a violation of a water quality standard, Ecology may waive the requirement for additional structural source control BMPs by approving a Modification of Permit Coverage.

    c. To request a time extension or waiver, a Permittee shall submit a detailed explanation of why it is making the request (technical basis), and a Modification of Permit Coverage form, to Ecology in accordance with Permit Condition S2.B, by June 1 prior to the Level 2 Corrective Action deadline. Ecology will approve or deny the request within 60 days of receipt of a complete Modification of Permit Coverage request.

    d. While a time extension is in effect, benchmark exceedances (for the same parameter) do not count toward additional Level 2 or 3 Corrective Actions.

    e. For the year following the calendar year in which the Permittee triggered a Level 2 Corrective Action, benchmark exceedances (for the same parameter) do not count toward additional Level 2 or 3 Corrective Actions.

4.4.3 LEVEL THREE CORRECTIVE ACTIONS – TREATMENT BMPS

Permittees that exceed an applicable benchmark value (for a single parameter) for any three quarters during a calendar year shall complete at Level 3 Corrective Action in accordance with the following:

1) Review the SWPPP and ensure that it fully complies with Permit Condition S3.

2) Make appropriate revisions to the SWPPP to include additional treatment BMPs with the goal of achieving the applicable benchmark value(s) in future discharges.

3) A Qualified Industrial Stormwater Professional shall review the revised SWPPP, sign the SWPPP Certification Form, and certify that it is reasonably expected to meet the Permit benchmarks upon implementation. Upon written request, Ecology may waive this requirement one time during the permit cycle on a case-by-case basis, if a Permittee demonstrates to Ecology's satisfaction that the proposed Level 3 treatment BMPs are reasonably expected to meet Permit benchmarks upon implementation.

4) Summarize the Level 3 Corrective Actions (planned or taken) in the Annual Report (Permit Condition S9.C).

5) Level 3 Corrective Action Deadline: The Permittee shall fully implement the revised SWPPP according to Permit Condition S3 and the 2019 Manual as soon as possible, but no later than September 30 the following year.

    a. If installation of necessary treatment BMPs is not feasible by the Level 3 Corrective Action deadline, Ecology may approve additional time by approving a Modification of Permit Coverage.

b. If installation of treatment BMPs is not feasible or not necessary to prevent discharges that may cause or contribute to violation of a water quality standard, Ecology may waive the requirement for treatment BMPs by approving a Modification of Permit Coverage.

c. To request a time extension or waiver, a Permittee shall submit a detailed explanation of why it is making the request (technical basis), and a Modification of Coverage form, to Ecology in accordance with Permit Condition S2.B, by May 15 prior to the Level 3 Corrective Action deadline. Ecology will approve or deny the request within 60 days of receipt of a complete Modification of Coverage request.

d. Facilities that continue to exceed benchmarks after a Level 2 (or Level 3) Corrective Action is triggered, but prior to the Level 2 (or Level 3) Corrective Action deadline, are not required to complete another Level 2 or 3 Corrective Action the following year for the same parameter. However, a Level 1 Corrective Action is required each time a benchmark is exceeded.

e. Finally, the results of all visual monitoring data should be used to determine if action is needed to respond to the observation of visible pollutants. Response actions may include cleanup of the observed condition and/or investigation of the source of the condition. These response actions must be documented in the visual monitoring report as described in Section 4.3.1.

The laboratory results from stormwater sampling are reviewed to track BMP effectiveness, whether benchmark concentrations are exceeded, and whether the required corrective actions in the Permit are triggered.

The results of any visual inspection data conducted during monthly inspections should be used in conjunction with sampling results to determine the most appropriate additional BMP(s) to implement as part of the corrective action. Facilities that continue to exceed benchmarks after a Level 2 (or Level 3) Corrective Action is triggered, but prior to the Level 2 (or Level 3) Deadline, are not required to complete another Level 2 or 3 Corrective Action the following year for the same parameter. However, a Level 1 Corrective Action is required each time a benchmark is exceeded.

The laboratory results from stormwater sampling data are maintained in a spreadsheet table for comparison to benchmarks. The data are reviewed to track BMP effectiveness, whether benchmark concentrations are exceeded, and whether the required corrective actions in the Permit are triggered.

4.5 SUBMITTING THE SAMPLING RESULTS TO ECOLOGY

Monitoring results must be submitted quarterly to Ecology electronically using Ecology's Water Quality Permitting Portal – DMR application (also called WebDMR). DMRs may be submitted any time after completing the required monitoring each quarter but must be filed electronically with Ecology as follows:

First Quarter:	Not later than May 15	Third Quarter:	Not later than November 15
Second Quarter:	Not later than August 15	Fourth Quarter:	Not later than February 15

DMR forms must be submitted quarterly whether or not the Facility was discharging storm water. If there was no discharge during a given monitoring period, the DMR must still be submitted by marking the "no sample/no discharge" check box, along with a written explanation as to why there was no sample taken. If sampling has been suspended for a parameter due to consistent attainment, note on the DMR submittal that Consistent Attainment has been achieved for that parameter(s).

In addition, a complete and accurate Annual Report is to be submitted to Ecology electronically no later than May 15 of each year using Ecology's Water Quality Permitting Portal – Permit Submittals application. The Annual Report shall include corrective action documentation as required in S8.B – S8.D. If corrective action is not yet completed at the time of submission of the Annual Report, the Permittee must describe the status of any outstanding corrective action(s). Permittees shall retain a copy of all Annual Reports on site for Ecology review and shall include the following information with each Annual Report:

- Identify the condition triggering the need for corrective action review.
- Describe the problem(s) and identify the dates they were discovered.
- Summarize any Level 1, 2, or 3 corrective actions completed during the previous calendar year and include the dates it completed the corrective actions.
- Describe the status of any Level 2 or 3 corrective actions triggered during the previous calendar year, and identify the date it expects to complete corrective actions.

For questions about the Industrial Stormwater General Permit, please contact Travis Porter of Ecology (travis.porter@ecy.wa.gov). Joe Kalmar and Rosemary Trimmer at Landau Associates (425-778-0907) are also available to answer questions.

5.0 USE OF THIS REPORT

This Stormwater Pollution Prevention Plan has been prepared for the exclusive use of Buse Timber and Sales, Inc. No other party is entitled to rely on the information, conclusions, and recommendations included in this document without the express written consent of Landau Associates. Further, the reuse of information, conclusions, and recommendations provided herein for extensions of the project or for any other project, without review and authorization by Landau Associates, shall be at the user's sole risk. Landau Associates warrants that within the limitations of scope, schedule, and budget, our services have been provided in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions as this project. We make no other warranty, either express or implied.

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Data Source: ESRI 2008

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LANDAU ASSOCIATES

Buse Timber Everett, Washington	**Vicinity Map**	Figure 1

Legend

- Approximate Facility Boundary
- Stormdrain Line
- Paved Area
- Quarry Spalls
- Stormwater Monitoring Point
- Catch Basin
- Oil/Water Separator
- Stormwater Ditch/Bioswale
- Culvert
- Ditch/Channel Flow Direction
- Silt Curtain
- Surface Flow Direction
- Run-on from adjacent properties that may contain pollutants
- Drainage Areas
- Containment Berm

Interstate 5
Run-on from I-5
Covered 3-500 gal ASTs (Motor Oil) (Hydraulic Oil) (Waste Oil)
Run-on from I-5
Run-on from IFF Holdings / Hima Farms (through culvert under I-5)
Run-on from Dagmar Marina
Log Float Beach
Ramp
Stormwater Infiltration to Ground
Temporary Log Storage Area
Union Slough
SW-1
Covered Storage Area
Stormwater Outfall to Bioswale
Tide Gate
DP-1
Tide Gate
10,000 gal AST(Diesel)
2,000 gal AST(Diesel)
1,000 gal AST (Gasoline)
Fuel Pad
Parts Storage
Run-on from BMC West
Stormwater Infiltration to Ground
BMC West Lumber Distributer & Truss Manufacturer
Glacier Northwest
Run-on from Glacier NW
Decommissioned Dry Kilns
Sticking Machine
Cooling Shed
Vehicle Repair Shop
Bark & Sawdust Bins
Debarker
Log Storage
Compressor
Sorting Train
Saw Mill
Office
Mechanics Shop
Lube Building
Dry Storage
Dry Shed
Planing Mill
Office
Dip Tank & Drip Pan
Bander
Drains to Storm Drain System
Vehicle Washdown Area
2,000 gal AST (Diesel)
Fuel Pad
Log Sorting Area
Stormwater Runoff Held by Containment Berm Infiltrates to Ground
Run-on from Dagmar Marina
Run-on from Dagmar Marina

Notes

1. Facility is approximately 60 acres total.
2. Stormwater drain locations are approximate.
3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

N

0 200 400
Scale in Feet

Source: Microsoft Corporation, Bing Aerial Imagery, 2015

LANDAU ASSOCIATES

Buse Timber
Everett, Washington

Site Map

Figure 2

Table 1
2019 Stormwater Management Manual for Western Washington (SMMWW Volume IV)
Best Management Practices (BMPs) for Industrial Activities in Washington State and Applicability to Buse Timber
Everett, Washington

Best Management Practices (BMPs)	Applicability to this Facility	Comments
Operational Source Control BMPs		
Applicable Operational Source Control BMPs	Applies to this Facility	See Stormwater Pollution Prevention Plan (SWPPP) Section 3.1.
Structural Source Control BMPs		
BMPs for the Building, Repair, and Maintenance of Boats and Ships	Does not apply	The Facility does not build, repair, or maintain boats and/or ships.
BMPs for Commercial Animal Handling Areas	Does not apply	The Facility does not handle any animals.
BMPs for Commercial Composting	Does not apply	The Facility does not perform any commercial composting activities.
BMPs for Commercial Printing Operations	Does not apply	The Facility does not perform any commercial printing operations.
BMPs for De-icing and Anti-Icing Operations – Airports	Does not apply	The Facility does not perform any de-icing or anti-icing operations.
BMPs for De-icing and Anti-Icing Operations – Streets/Highways	Does not apply	The Facility does not perform any de-icing or anti-icing operations.
BMPs for Dust Control at Disturbed Land Areas and Unpaved Roadways and Parking Lots	Does not apply	The Facility does not perform any activities for dust control or have any disturbed land areas or unpaved roadways and parking lots.
BMPs for Dust Control at Manufacturing Areas	Applies to this Facility	See SWPPP Section 3.2.1
BMPs for Fueling at Dedicated Stations	Applies to this Facility	See SWPPP Section 3.2.2
BMPs for Illicit Connections to Storm Drains	Does not apply	The Facility has no known illicit connections to storm drains.
BMPs for Landscaping and Lawn/Vegetation Management	Does not apply	The Facility does not perform any landscaping or lawn/vegetation management activities.
BMPs for Loading and Unloading Areas for Liquid or Solid Material	Applies to this Facility	See SWPPP Section 3.2.3
BMPs for Log Sorting and Handling	Applies to this Facility	See SWPPP Section 3.2.4
BMPs for Maintenance and Repair of Vehicles and Equipment	Applies to this Facility	See SWPPP Section 3.2.5
BMPs for Maintenance of Public and Private Utility Corridors and Facilities	Does not apply	The Facility does not perform maintenance of public and private utility corridors and facilities.
BMPs for Maintenance of Roadside Ditches	Does not apply	The Facility does not perform any maintenance of roadside ditches.
BMPs for Maintenance of Drainage Systems and Runoff Treatment BMPs	Applies to this Facility	See SWPPP Section 3.2.6

Table 1
2019 Stormwater Management Manual for Western Washington (SMMWW Volume IV)
Best Management Practices (BMPs) for Industrial Activities in Washington State and Applicability to Buse Timber
Everett, Washington

Best Management Practices (BMPs)	Applicability to this Facility	Comments
BMPs for Manufacturing Activities – Outside	Does not apply	The Facility does not perform any outdoor manufacturing activities.
BMPs for Mobile Fueling of Vehicles and Heavy Equipment	Does not apply	The Facility does not perform any mobile fueling of vehicles or heavy equipment.
BMPs for Painting/Finishing/Coating of Vehicles/Boats/Buildings/Equipment	Does not apply	The Facility does not perform any painting, finishing, or coating of vehicles, boats, buildings or equipment.
BMPs for Parking and Storage of Vehicles and Equipment	Does not apply	The Facility does not perform any parking or storage of vehicles and equipment.
BMPs for Railroad Yards	Does not apply	The Facility does not have any railroad yards.
BMPs for Recyclers and Scrap Yards	Does not apply	The Facility does not recycle or have any scrap yards.
BMPs for Roof/Building Drains at Manufacturing and Commercial Buildings	Applies to this Facility	See SWPPP Section 3.2.7
BMPs for Spills of Oil and Hazardous Substances	Does not apply	The Facility does not deal with spills of oils or hazardous substances.
BMPs for Storage of Liquid, Food Waste, or Dangerous Waste Containers	Does not apply	The Facility does not store any liquid, food waste, or dangerous waste containers.
BMPs for Storage of Liquids in Permanent Aboveground Tanks	Applies to this Facility	See SWPPP Section 3.2.8
BMPs for Storage or Transfer (Outside) of Solid Raw Materials, By-products, or Finished Products	Applies to this Facility	See SWPPP Section 3.2.9
BMPs for Urban Streets	Does not apply	The Facility does not have any urban streets to maintain.
BMPs for Washing and Steam Cleaning Vehicles/Equipment/Building Structures	Applies to this Facility	See SWPPP Section 3.2.10
BMPs for Wood Treatment Areas	Applies to this Facility	See SWPPP Section 3.2.11
BMPs for Pools, Spas, Hot Tubs, and Fountains	Does not apply	The Facility does not have any pools, spas, hot tubs or fountains onsite.
BMPs for Dock Washing	Does not apply	The Facility does not have any docks.
BMPs for Pesticides and an Integrated Pest Management Program	Does not apply	The Facility does not use any pesticides or integrated pest management
BMPs for Color Events	Does not apply	The Facility does not have any color events.
BMPs for Construction Demolition	Does not apply	The Facility does not perform any construction demolition.

Table 1
2019 Stormwater Management Manual for Western Washington (SMMWW Volume IV)
Best Management Practices (BMPs) for Industrial Activities in Washington State and Applicability to Buse Timber
Everett, Washington

Best Management Practices (BMPs)	Applicability to this Facility	Comments
BMPs for In-Water and Over-Water Fueling	Does not apply	The Facility does not perform any in-water or over-water fueling activities.
BMPs for Pet Waste	Does not apply	The Facility does not generate any pet waste.
BMPs for Potable Water Line Flushing, Water Tank Maintenance, and Hydrant Testing	Does not apply	The Facility does not perform any potable water line flushing, water tank maintenance, or hydrant testing activities.
BMPs for Labeling Storm Drain Inlets on Your Property	Applies to this Facility	See SWPPP Section 3.2.13
BMPs for Fertilizer Application	Does not apply	The Facility does not apply fertilizer.
BMPs for the Storage of Dry Pesticides and Fertilizers	Does not apply	The Facility does not store any dry pesticides or fertilizers.
BMPs for Temporary Fruit Storage	Does not apply	The Facility does not store any fruit.
BMPs for Well, Utility, Directional, and Geotechnical Drilling	Does not apply	The Facility does not perform any well, utility, directional, or geotechnical drilling.
BMPs for Roof Vents	Does not apply	The Facility does not have any roof vents.
BMPs for Nurseries and Greenhouses	Does not apply	The Facility does not have any nurseries and greenhouses.
BMPs for Irrigation	Does not apply	The Facility does not perform any irrigation activities.
BMPs for Building, Repair, Remodeling, Painting and Construction	Does not apply	The Facility does not perform any building, repair, remodeling, and painting or construction activities.
BMPs for Goose Waste	Does not apply	The Facility does not generate goose waste.
Treatment BMPs		
Various	Applies to this Facility	Additional treatment BMPs beyond those described in this SWPPP will be implemented, if needed (see SWPPP Section 3.3).
Stormwater Peak Runoff Rate and Volume Control BMPs		
Various BMPs	Applies to this Facility	See SWPPP Section 3.4
Erosion and Sediment Control BMPs		
BMPs for Soil Erosion and Sediment Control at Industrial Sites	Applies to this Facility	Additional erosion and sediment control BMPs beyond those described in this SWPPP will be implemented, if needed (see SWPPP Section 3.5).

APPENDIX A

Industrial Stormwater General Permit and 2019 Permit Coverage Letter

Issuance Date:	November 20, 2019
Effective Date:	January 1, 2020
Expiration Date:	December 31, 2024

INDUSTRIAL STORMWATER GENERAL PERMIT

A National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit for Stormwater Discharges Associated With Industrial Activities

State of Washington
Department of Ecology
Olympia, Washington 98504-7600

In compliance with the provisions of
The State of Washington Water Pollution Control Law
Chapter 90.48 Revised Code of Washington
and
The Federal Water Pollution Control Act
(The Clean Water Act)
Title 33 United States Code, Section 1251 et seq.

Until this permit expires, is modified or revoked, Permittees that have properly obtained coverage under this general permit are authorized to discharge in accordance with the special and general conditions which follow.

Heather R. Bartlett
Water Quality Program Manager
Washington State Department of Ecology

TABLE OF CONTENTS

LIST OF TABLES

SUMMARY OF PERMIT REPORTS & SUBMITTALS

Permit Section	Submittal	Frequency	Due Date(s)
S1.F	Conditional "No Exposure" Certification (CNE) Form	As necessary	As necessary, with renewals every 5 years
S2.A	Application for Permit Coverage	As necessary	As necessary
S2.B	Request Modification of Permit Coverage	As necessary	As necessary
S2.D	Request Transfer of Coverage	As necessary	As necessary
S8.D	Level 3 Engineering Report	As necessary	May 15th, prior to Level 3 deadline[1]
S8.D	Level 3 O&M Manual	As necessary	30 days after Level 3 installation
S9.B	Discharge Monitoring Reports (DMRs)	1/quarter	February 15th May 15th August 15th November 15th
S9.C	Annual Report	1/year	May 15th
S9.D	SWPPP, if requested by Ecology	Per Ecology request	Within 14 days of request
S9.F	Noncompliance Notification	As necessary	Within 30 days of noncompliance event
G8	Duty to Reapply	1/permit cycle	July 3, 2024

The text of this permit contains words or phrases in ***bold and italics***. These words or phrases are the first usage in the permit and are defined in Appendix 2.

[1] Unless an alternate due date is specified in an order

SUMMARY OF REQUIRED ONSITE DOCUMENTATION[2]

Permit Condition(s)	Document Title
S3	Stormwater Pollution Prevention Plan (SWPPP)[3]
S9.C	Copies of Annual Reports
S9.D.1.a	Copy of Permit
S9.D.1.b	Copy of Permit Coverage Letter
S9.D.1.c	Original Sampling Records (Field Notes and Laboratory Reports)
S7.C & S9.D.1.d	Site Inspection Reports
S9.D.1.j	Copies of Discharge Monitoring Reports (DMRs)

[2] A complete list is contained in Condition S9.D. The Permittee shall make all plans, documents and records required by this permit immediately available to Ecology or the local jurisdiction upon request.

[3] With signed and completed SWPPP Certification Form(s) – see Appendix 3

SPECIAL CONDITIONS

S1. PERMIT COVERAGE

A. Facilities Required to Seek Coverage Under This General Permit

This statewide permit applies to ***facilities*** conducting ***industrial activities*** that discharge ***stormwater*** to a surface waterbody or to a ***storm sewer*** system that drains to a surface waterbody. Beginning on the effective date of this permit and lasting through its expiration date, the Permittee is authorized to discharge stormwater and conditionally approved non-stormwater ***discharges*** to ***waters of the State***. All discharges and activities authorized by this permit shall be consistent with the terms and conditions of this permit.

The permit requires coverage for private entities, state, and ***local government*** facilities, and includes ***existing facilities*** and ***new facilities***. Facilities conducting industrial activities listed in Table 1 or referenced in S1.A.3 shall apply for coverage under this permit or apply for a Conditional No Exposure exemption, if eligible (Condition S1.F). The ***Department of Ecology (Ecology)*** may also require permit coverage for any facility on a case-by-case basis in order to protect waters of the State (Condition S1.B).

1. Facilities engaged in any industrial activities in Table 1 shall apply for coverage if stormwater from the facility discharges to a surface waterbody, or to a storm sewer system that discharges to a surface waterbody. The ***North American Industry Classification System (NAICS)*** groups generally, but not always, associated with these activities are listed in Table 1.

Table 1: Activities Requiring Permit Coverage and the Associated NAICS Groups

Industrial Activities	NAICS Groups
Metal Ore Mining	2122xx
Coal Mining	2121xx
Oil and Gas Extraction	2111xx
Nonmetallic Mineral Mining and Quarrying, except Fuels (except facilities covered under the Sand and Gravel General Permit)	2123xx
Food, Beverage, and Tobacco Manufacturing	311xxx-312xxx
Textile and Textile Products Mills	313xxx-314xxx
Apparel Manufacturing	315xxx
Wood Products Manufacturing	321xxx, 113310 [a]
Furniture and Related Product Manufacturing	337xxx
Paper Manufacturing	322xxx
Printing and Related Support Activities	323xxx, 5111xx

Industrial Activities	NAICS Groups
Chemicals Manufacturing (including Compost Facilities)	325xxx
Petroleum and Coal Products Manufacturing (except facilities covered under the Sand and Gravel General Permit)	324xxx
Plastics and Rubber Products Manufacturing	326xxx
Leather and Allied Product Manufacturing	316xxx
Nonmetallic Mineral Product Manufacturing (except covered under the Sand and Gravel General Permit)	327xxx
Primary Metal Manufacturing	331xxx
Fabricated Metal Product Manufacturing	332xxx
Machinery Manufacturing	333xxx
Computer and Electronic Product Manufacturing	334xxx
Electrical Equipment, Appliance, and Component Manufacturing	335xxx
Transportation Equipment Manufacturing (except NPDES regulated boatyards)	336xxx
Miscellaneous Manufacturing	339xxx
Warehousing and Storage	493xxx, 531130
Recycling facilities involved in the recycling of materials, including but not limited to, metal scrap yards, battery reclaimers, salvage yards, auto recyclers, and automobile junkyards.	42314x and 42393x
Steam Electric Power Generation (Not covered under *40 CFR §* 423)	N/A
Waste Management and Remediation Services, including, but not limited to, landfills, transfer stations, open dumps, and land application sites, except as described in S1.C.6 or C.7.	562xxx
Hazardous waste treatment, storage, and disposal (TSD) facilities, and recycling facilities regulated under Chapter 173-303 WAC.	562211
Treatment works treating domestic sewage, or any other sewage sludge, or wastewater treatment device or system, used in the storage, recycling, and reclamation of municipal or domestic sewage (including land dedicated to the disposal of sewage sludge that are located within the confines of the facility) with the design flow capacity of 1 million gallons per day (MGD) or more, or required to have a pretreatment program under 40 CFR §403.	22132x
Transportation facilities which have *vehicle maintenance* activity, equipment cleaning operations, or airport deicing operations:	
• Railroad Transportation	482xxx, 488210
• Transit and Ground Passenger Transportation	485xxx, 488490, 487110
• Truck Transportation	484xxx
• Postal Service	491xxx

Industrial Activities	NAICS Groups
• Water Transportation	483xxx, 487210, 4883xx, 532411
• Air Transportation	481xxx, 487990
• Petroleum Bulk Stations and Terminals	4247xx
Construction, Transportation, Mining, and Forestry Machinery and Equipment Rental and Leasing	53241x
Marine Construction	ECY003

[a.] Facilities in this category that are rock crusing, gravel washing, log sorting, or log storage facilities operated in connection with silvicultural activitees defined in 40 CFR 122.27(b)(2)-(3) are considered industrial activity. This does not include the actual harvesting of timber.

2. Any facility that has an existing ***National Pollutant Discharge Elimination System (NPDES)*** permit which does not address all stormwater discharges associated with industrial activity [40 CFR §122.26(b)(14)] shall obtain permit coverage.
3. Any ***inactive facility*** which is listed under ***40 CFR*** §122.26(b)(14) where ***significant materials*** remain onsite and are exposed to stormwater shall obtain permit coverage.

B. Significant Contributors of Pollutants

Ecology may require a facility to obtain coverage under this permit if Ecology determines the facility:

1. Is a ***significant contributor of pollutants*** to waters of the State, including ***groundwater***;
2. May reasonably be expected to cause a violation of any ***water quality standard***; or
3. Conducts industrial activity, or has a NAICS code, with stormwater characteristics similar to any industrial activity or NAICS code listed in Table 1 in S1.A.1.

C. Facilities Not Required to Obtain Coverage

Ecology does not require the types of facilities listed below to obtain coverage under this permit, unless determined to be a significant contributor of pollutants.

1. Industrial facilities that submit an ***application*** and qualify for a Conditional "No Exposure" Exemption. (Condition S1.F)
2. Industrial facilities that discharge stormwater only to a municipal ***combined sewer*** or ***sanitary sewer***. Discharge of stormwater to sanitary or combined sewers shall only occur as authorized by the municipal sewage authority.
3. Industrial facilities that discharge stormwater only to groundwater (e.g., on-site infiltration) with no discharge to ***surface waters of the State*** under any condition, provided the facility doesn't meet the requirements of S1.B.1.
4. Office buildings and/or administrative parking lots from which stormwater does not commingle with stormwater from areas associated with industrial activity.

5. Any discharge that is in compliance with the instructions of an on-scene-coordinator pursuant to 40 CFR § 300 (The National Oil and Hazardous Substances Pollution Contingency Plan) or *33 CFR* § 153.10(e) (Pollution by Oil and Hazardous Substances), in accordance with 40 CFR § 122.3(d).
6. Any ***land application site*** used for the beneficial use of industrial or municipal wastewater for agricultural activities or when applied for landscaping purposes at agronomic rates.
7. Any farmland, domestic garden, or land used for sludge management where domestic sewage sludge (biosolids) is beneficially reused (nutrient builder or soil conditioner) and which is not physically located in the confines of domestic sewage treatment works, or areas that are in compliance with Section 405 (Disposal of Sewage Sludge) of the ***Clean Water Act (CWA)***.
8. Any inactive coal mining operation if:
    a. The performance bond issued to the facility by the appropriate Surface Mining Control and Reclamation Act (SMCRA) authority has been released from applicable state or federal reclamation requirements after December 17, 1990.
    b. The mine does not have a discharge of stormwater that comes in contact with any overburden, raw material, intermediate products, finished products, byproducts, or waste products located on the site of the facility.
9. Closed ***landfills*** that are capped and stabilized, in compliance with Chapter 173-304 WAC, and in which no significant materials or industrial ***pollutants*** remain exposed to stormwater. Permittee's with existing coverage may submit a ***Notice of Termination*** in accordance with Special Condition S13.A.1.

D. Facilities Excluded from Coverage

Ecology will not cover the following facilities or activities under this permit:

1. If any part of a facility, in the categories listed below, has a stormwater discharge subject to stormwater Effluent Limitations Guidelines, New Source Performance Standards (NSPS) Under 40 CFR subchapter N, or Toxic Pollutant Effluent Standards under 40 CFR subchapter D §129; the operator of the facility must apply for an individual NPDES permit or seek coverage under an industry-specific ***general permit*** for those stormwater discharges.

    Below is a list of categories of industries specified in 40 CFR subchapter N for which at least one subpart includes stormwater effluent limitations guidelines or NSPS. Industries included in this list should review the subchapter N guidelines to determine if they are subject to a stormwater effluent limitation guideline for activities which they perform at their site.

40 CFR 411 Cement manufacturing	40 CFR 423 Steam electric power generating
40 CFR 412 Feedlots	40 CFR 434 Coal mining
40 CFR 418 Fertilizer manufacturing	40 CFR 436 Mineral mining and processing
40 CFR 419 Petroleum refining	40 CFR 440 Ore mining and dressing
40 CFR 422 Phosphate manufacturing	40 CFR 443 Paving and roofing materials (tars & asphalt)
40 CFR 449.11(a) Airports with more than 10,000 annual jet departures	

Facilities, which are subject to effluent standards in 40 CFR subchapter D §129: Aldrin/Dieldrin; DDT; Endrin; Toxaphene; Benzidine; or Polychlorinated Biphenyls (PCBs), shall apply for an individual NPDES permit.

2. Nonpoint source silvicultural activities with natural ***runoff*** that are excluded in 40 CFR §122.27.
3. Industrial activities operated by any department, agency, or instrumentality of the executive, legislative, and judicial branches of the Federal Government of the United States, or another entity, such as a private contractor, performing industrial activity for any such department, agency, or instrumentality.
4. Facilities located on "Indian Country" as defined in 18 USC §1151, except portions of the Puyallup Reservation as noted below.

   Indian Country includes:

   a. All land within any Indian Reservation notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation. This includes all federal, tribal, and Indian and non-Indian privately owned land within the reservation.
   b. All off-reservation Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.
   c. All off-reservation federal trust lands held for Native American Tribes.

   Puyallup Exception: Following the "Puyallup Tribes of Indians Land Settlement Act of 1989," 25 USC §1773; the permit does apply to land within the Puyallup Reservation except for discharges to surface water on land held in trust by the federal government.
5. Any facility authorized to discharge stormwater associated with industrial activity under an existing NPDES individual or other general permit.
6. All ***construction activities***. Operators of these construction activities shall seek coverage under the Construction Stormwater General Permit or an individual NPDES permit for stormwater associated with construction activity.
7. Facilities that discharge to a waterbody with a ***control plan***, unless this general permit adequately provides the level of protection required by the control plan.
8. ***New dischargers*** to a waterbody listed pursuant to Section 303(d) of the CWA, unless the Permittee meets the requirements of Condition S6.B.
9. Hazardous waste landfills subject to 40 CFR §445, subpart A.

E. Discharges to Ground

1. For sites with a ***discharge point*** to groundwater the terms and conditions of this permit shall apply. However, permittees are not required to sample on-site discharges to ground (e.g., infiltration), unless specifically required by Ecology (Condition G12).

2. Facilities with a discharge point to groundwater through an ***Underground Injection Control well*** shall comply with any applicable requirements of the Underground Injection Control (UIC) regulations, Chapter 173-218 WAC.

F. Conditional "No Exposure" Exemption

1. A facility engaged in industrial activity may qualify for a Conditional “No Exposure” Exemption (CNE) if there is no exposure of industrial materials and activities to rain, snow, snow melt, and/or runoff.

   Industrial materials and activities include, but are not limited to, ***material handling*** equipment or activities, industrial machinery, raw materials, intermediate products, by-products, and final products, or waste products.

   Material handling activities include storage, loading and unloading, transport, or conveyance of any raw materials, intermediate product, by-product, final products, or waste products.

2. To determine if you qualify for a CNE, eleven questions must be answered and certified that none of the following materials or activities are, or will be in foreseeable future, exposed to precipitationIndustrial Stormwater General Permit webpage:

   A. Is anyone using, storing or cleaning industrial machinery or equipment in an area that is exposed to stormwater, or are there areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed to stormwater?

   B. Are there materials or residuals on the ground or in stormwater inlets from spills/leaks?

   C. Are materials or products from past industrial activity exposed to precipitation?

   D. Is material handling equipment used/stored (except adequately maintained vehicles)?

   E. Are materials or products exposed to precipitation during loading/unloading or transporting activities?

   F. Are materials or products stored outdoors (except final products intended for outside use, e.g., new cars, where exposure to storm water does not result in the discharge of pollutants)?

   G. Are materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers?

   H. Are materials or products handled/stored on roads or railways owned or maintained by the discharger?

   I. Is waste material exposed to precipitation (except waste in covered, non-leaking containers, e.g., dumpsters)?

   J. Does the application or disposal of process wastewater occur (unless otherwise permitted)?

   K. Is there particulate matter or visible deposits of residuals from roof stacks/vents not otherwise regulated, i.e., under an air quality control permit, and evident in the storm water outflow?

3. To apply for an exemption, an electronic application must be submitted to Ecology's Water Quality Permitting Portal (WQWebPortal). The WQWebPortal can accessed at https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-quality-permits-guidance/WQWebPortal-guidance.

    a. A Permittee is automatically granted a No Exposure exemption 90 days from Ecology's receipt of a complete and accurate No Exposure Certification Form, unless Ecology informs the applicant in writing or electronically within 90 days that it has denied or approved the request.

    b. Ecology will automatically terminate permit coverage when it grants the No Exposure exemption to a permitted facility.

    c. Facilities which are granted a No Exposure exemption must submit a No Exposure Certification Form to Ecology once every five years.

    d. No Exposure exemptions are conditional. If there is a change at the facility that results in the exposure of industrial activities or materials to stormwater, the facility is required to immediately apply for and obtain a permit.

S2. APPLICATION FOR COVERAGE

A. Obtaining Permit Coverage

1. Unpermitted facilities that require coverage under this permit shall submit to Ecology, a complete and accurate ***Notice of Intent (NOI)*** using Ecology's Water Quality Permitting Portal – Permit Coverage Notice of Intent form as follows:

    a. Existing Facilities

        i. Unpermitted existing facilities that require coverage under this permit shall submit a complete and accurate permit application to Ecology.

        ii. Existing facilities are facilities in operation prior to the effective date of this permit, January 1, 2020.

    b. New Facilities

        New facilities are facilities that begin operation on or after the effective date of this permit, January 1, 2020. All unpermitted new facilities shall*:*

        i. Submit a complete and accurate permit application to Ecology at least 60 days before the commencement of stormwater discharge from the facility.

        ii. The application shall include certification that the facility has met the applicable public notice and ***State Environmental Policy Act (SEPA)*** requirements in WAC 173-226-200(f).

    c. Electronic Submittal

        Use the Water Quality Permitting Portal (WQWebPortal) to submit a complete application for coverage to Ecology.

        For more information about the WQWebPortal, visit: https://secureaccess.wa.gov/ecy/wqwebportal/.

To access the WQWebPortal, you must first register for Secure Access Washington (SAW). For additional information about SAW, visit: https://support.secureaccess.wa.gov/.

B. Modification of Permit Coverage

A Permittee anticipating a significant process change, or otherwise requesting a modification of permit coverage, shall submit a complete Modification of Coverage Form to Ecology. The Permittee shall:

1. Apply for modification of coverage at least 60 days before implementing a significant process change; or by May15th prior to a Corrective Action deadline, if requesting a Level 2 or 3 time extension or waiver request per Condition S8.B-D.
2. Complete the public notice requirements in WAC 173-226-130(5) as part of a complete application for modification of coverage.
3. Comply with SEPA as part of a complete application for modification of coverage if undergoing a significant process change.

C. Permit Coverage Timeline

1. If the applicant does not receive notification from Ecology, permit coverage automatically commences on whichever of the following dates occurs **last**:
   a. The 31st day following receipt by Ecology of a completed application for coverage.
   b. The 31st day following the end of a 30-day public comment period.
   c. The effective date of the general permit.
2. Ecology may need additional time to review the application:
   a. If the application is incomplete.
   b. If it requires additional site-specific information.
   c. If the public requests a public hearing.
   d. If members of the public file comments.
   e. When more information is necessary to determine whether coverage under the general permit is appropriate.
3. When Ecology needs additional time:
   a. Ecology will notify the applicant in writing within 30 days and identify the issues that the applicant must resolve before a decision can be reached.
   b. Ecology will submit the final decision to the applicant in writing. If Ecology approves the application for coverage, coverage begins the 31st day following approval, or the date the approval letter is issued, whichever is later.

D. Transfer of Permit Coverage

Coverage under this general permit shall automatically transfer to a new discharger, if **all** of the following conditions are met:

1. The Permittee (existing discharger) and new discharger submit to Ecology a complete, written, signed agreement (Transfer of Coverage Form) containing a specific date for transfer of permit responsibility, coverage, and liability.
2. The type of industrial activities and practices remain substantially unchanged.
3. Ecology does not notify the Permittee of the need to submit a new application for coverage under the general permit or for an individual permit pursuant to Chapters 173-216, 173-220, and 173-226 WAC.
4. Ecology does not notify the existing discharger and new discharger of its intent to revoke coverage under the general permit. The transfer is effective on the date specified in the written agreement unless Ecology gives notice of revocation.

S3. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

A. General Requirements

All Permittees and applicants for coverage under this permit shall implement a ***Stormwater Pollution Prevention Plan (SWPPP)*** developed by ***qualified personnel*** as follows:

1. The SWPPP shall specify the ***Best Management Practices (BMPs)*** necessary to:
    a. Provide ***All Known, Available, and Reasonable methods of prevention, control, and Treatment (AKART)*** of *stormwater pollution*.
    b. Ensure the discharge does not cause or contribute to a violation of the Water Quality Standards.
    c. Comply with applicable federal technology-based treatment requirements under 40 CFR § 125.3.
2. Proper selection and use of ***Stormwater Management Manuals (SWMM).***

    BMPs shall be consistent with:

    a. *2019 Stormwater Management Manual for Western Washington*, for sites west of the crest of the Cascade Mountains; **or**
    b. *2019 Stormwater Management Manual for Eastern Washington*, for sites east of the crest of the Cascade Mountains; **or**
    c. Revisions to the manuals in S3.A.3. a & b, or other stormwater management guidance documents or manuals which provide an equivalent level of ***pollution*** prevention, that are approved by Ecology and incorporated into this permit in accordance with the permit modification requirements of WAC 173-226-230. For purposes of this section, the documents listed in Appendix 10 of the August 1, *2019 Phase I Municipal Stormwater Permit* are hereby incorporated into this permit; **or**
    d. Documentation in the SWPPP that the BMPs selected are ***demonstrably equivalent*** to practices contained in stormwater technical manuals approved by Ecology, including the proper selection, implementation, and maintenance of all applicable and appropriate best management practices for on-site pollution control.

3. Update of the SWPPP

    a. The Permittee shall modify the SWPPP if the owner/operator or the applicable local or state regulatory authority determines during inspections or investigations that the SWPPP is, or would be, ineffective in eliminating or significantly minimizing pollutants in stormwater discharges from the site. The Permittee shall modify the SWPPP:

        i. As necessary to include additional or modified BMPs designed to correct problems identified.

        ii. To correct the deficiencies identified in writing from Ecology within 30 days of notice.

    b. The Permittee shall modify the SWPPP whenever there is a change in design, construction, operation, or maintenance at the facility that significantly changes the nature of pollutants discharged in stormwater from the facility, or significantly increases the quantity of pollutants discharged.

    c. If a Permittee covered under the 2015 ISGP needs to update their SWPPP to be consistent with the 2020 ISGP, the update shall be completed by January 30, 2020.

4. Other Pollution Control Plans

    The Permittee may incorporate by reference applicable portions of plans prepared for other purposes at their facility. Plans or portions of plans incorporated by reference into a SWPPP become enforceable requirements of this permit and must be available along with the SWPPP, as required in S9.F. A Pollution Prevention Plan prepared under the Hazardous Waste Reduction Act, Chapter 70.95C RCW, is an example of such a plan.

5. Signatory Requirements

    The Permittee shall sign and certify all SWPPPs in accordance with General Condition G2, each time they revise or modify a SWPPP to comply with Conditions S3.A.4 (Update of the SWPPP), S7 (Inspections) or S8 (Corrective Actions). The SWPPP Certification Form is contained in Appendix 3 of this permit and on Ecology's industrial stormwater website.

B. Specific SWPPP Requirements

The SWPPP shall contain a site map, a detailed assessment of the facility, a detailed description of the BMPs, Spill Prevention and Emergency Cleanup Plan, and a sampling plan. The Permittee shall identify any parts of the SWPPP which the facility wants to claim as confidential business information.

1. The site map shall identify(site map may be multiple pages if needed):

    a. The scale or include relative distances between significant structures and drainage systems.

    b. The size of the property in acres.

    c. The location and extent of all buildings, structures and all impervious surfaces.

    d. Direction of stormwater flow (use arrows).

    e. Locations of all structural source control BMPs.

    f. Locations of all receiving water (including wetlands and drainage ditches) in the immediate vicinity of the facility.

g. Conditionally approved non-stormwater discharges.

h. Areas of existing and potential soil ***erosion*** that could result in the discharge of a ***significant amount*** of turbidity, sediment, or other pollutants.

i. Locations of all stormwater conveyances including ditches, pipes, catch basins, vaults, ponds, swales, etc.

j. Locations of actual and potential pollutant sources.

k. Locations of all stormwater monitoring points.

l. The stormwater drainage areas for each stormwater discharge point off site (including discharges to groundwater).

m. Locations of stormwater inlets and outfalls with a unique identification number for each sampling point and discharge point, indicating any that are identified as substantially identical, and identify, by name, any other party other than the Permittee that owns any stormwater drainage or discharge structures.

n. Combined sewers or MS4s and where stormwater discharges to them.

o. Locations of fueling and ***vehicle*** maintenance areas.

p. Locations and sources of run-on to your site from adjacent properties that may contain pollutants.

2. The facility assessment shall include a description of the facility; an inventory of facility activities and equipment that contribute to or have the potential to contribute any pollutants to stormwater; and, an inventory of materials that contribute to or have the potential to contribute pollutants to stormwater.

   a. The facility description shall describe:

      i. The industrial activities conducted at the site.

      ii. Regular business hours and seasonal variations in business hours or industrial activities.

      iii. The general layout of the facility including buildings and storage of raw materials, and the flow of goods and materials through the facility.

   b. The inventory of industrial activities shall identify all areas associated with industrial activities (see Table 1) that have been or may potentially be sources of pollutants, including, but not limited to, the following:

      i. Loading and unloading of dry bulk materials or liquids.

      ii. Outdoor storage of materials or products.

      iii. Outdoor manufacturing and processing.

      iv. On-site dust or particulate generating processes.

      v. On-site waste treatment, storage, or disposal.

      vi. Vehicle and equipment fueling, maintenance, and/or cleaning (includes washing).

      vii. Roofs or other surfaces exposed to ***air emissions*** from a manufacturing building or a process area.

viii. Roofs or other surfaces composed of materials that may be mobilized by stormwater (e.g., galvanized roofs, galvanized fences).

c. The inventory of materials shall list:

i. The types of materials handled at the site that potentially may be exposed to precipitation or runoff and could result in stormwater pollution.

ii. A short narrative for each material describing the potential of the pollutant to be present in stormwater discharges. The Permittee shall update this narrative when data become available to verify the presence or absence of these pollutants.

iii. A narrative description of any potential sources of pollutants from past activities, materials and spills that were previously handled, treated, stored, or disposed of in a manner to allow ongoing exposure to stormwater. Include the method and location of on-site storage or disposal. List significant spills and significant leaks of toxic or hazardous pollutants.

3. The SWPPP shall identify specific individuals by name or by title within the organization (pollution prevention team) whose responsibilities include: SWPPP development, implementation, maintenance, and modification.

4. Best Management Practices (BMPs)

a. General BMP Requirements

The Permittee shall describe each BMP selected to eliminate or reduce the potential to contaminate stormwater and prevent violations of water quality standards. The SWPPP must explain in detail how and where the selected BMPs will be implemented.

b. The Permittee shall include each of the following mandatory BMPs in the SWPPP and implement the BMPs. The Permittee may omit individual BMPs if site conditions render the BMP unnecessary or infeasible and the Permittee provides alternative and equally effective BMPs. The Permittee must justify each BMP omission in the SWPPP.

i. ***Operational Source Control BMPs***

1) The SWPPP shall include the Operational ***Source Control BMPs*** listed as "applicable" in Ecology's SWMMs, or other guidance documents or manuals approved in accordance with S3.A.3.c.

2) **Good Housekeeping:** The SWPPP shall include BMPs that define ongoing maintenance and cleanup, as appropriate, of areas which may contribute pollutants to stormwater discharges. The SWPPP shall include the schedule/frequency for completing each housekeeping task, based upon industrial activity, sampling results and observations made during inspections. The Permittee shall:

a) Vacuum paved surfaces with a vacuum sweeper (or a sweeper with a vacuum attachment) to remove accumulated pollutants a minimum of once per quarter.

b) Identify and control all on-site sources of dust to minimize stormwater contamination from the deposition of dust on areas exposed to precipitation.

c) Inspect and maintain bag houses monthly to prevent the escape of dust from the system. Immediately remove any accumulated dust at the base of exterior bag houses.

d) Keep all dumpsters under cover or fit with a storm resistant lid that must remain closed when not in use. (Tarps are not considered storm resistant.)

3) **Preventive Maintenance:** The SWPPP shall include BMPs to inspect and maintain the stormwater drainage, source controls, treatment systems (if any), and plant equipment and systems that could fail and result in contamination of stormwater. The SWPPP shall include the schedule/frequency for completing each maintenance task. The Permittee must:

a) Clean catch basins when the depth of debris reaches 60% of the sump depth. In addition, the Permittee must keep the debris surface at least 6 inches below the outlet pipe.

b) Maintain ponds, tanks/vaults, catch basins, swales, filters, oil/water separators, drains, and other stormwater drainage/treatment facilities in accordance with the maintenance standards set forth in the applicable Stormwater Management Manual, other guidance documents or manuals approved in accordance with S3.A.3.c, demonstrably ***equivalent BMPs*** per S3.A.3.d, or an O&M Manual submitted to Ecology in accordance with S8.D.

c) Inspect all equipment and vehicles during monthly site inspections for leaking fluids such as oil, antifreeze, etc. Take leaking equipment and vehicles out of service or prevent leaks from spilling on the ground until repaired.

d) Clean up spills and leaks immediately (e.g., using absorbents, vacuuming, etc.) to prevent the discharge of pollutants.

4) **Spill Prevention and Emergency Cleanup Plan (SPECP):** The SWPPP shall include a SPECP that includes BMPs to prevent spills that can contaminate stormwater. The SPECP shall specify BMPs for material handling procedures, storage requirements, cleanup equipment and procedures, and spill logs, as appropriate. The Permittee shall:

a) Store all hazardous substances, petroleum/oil liquids, and other chemical solid or liquid materials that have potential to contaminate stormwater on an impervious surface that is surrounded with a containment berm or dike that is capable of containing 10% of the total enclosed tank volume or 110% of the volume contained in the largest tank, whichever is greater, or use double-walled tanks.

b) Prevent precipitation from accumulating in containment areas with a roof or equivalent structure or include a plan on how it will manage and dispose of accumulated water if a containment area cover is not practical.

c) Locate spill kits within 25 feet of all stationary fueling stations, fuel transfer stations, mobile fueling units, and used oil storage/transfer stations. At a minimum, spill kits shall include:

   i) Oil absorbents capable of absorbing 15 gallons of fuel. Facilities with a Spill Prevention, Control, and Countermeasures Plan (SPCCP) must have enough oil absorbents capable of absorbing the minimum anticipated spill amount or potential discharge volume identified in that plan if more than 15 gallons.

   ii) A storm drain plug or cover kit.

   iii) A non-water containment boom, a minimum of 10 feet in length with a 12-gallon absorbent capacity.

   iv) A non-metallic shovel.

   v) Two 5-gallon buckets with lids.

d) Not lock shut-off fueling nozzles in the open position. Do not "top-off" tanks being refueled.

e) Block, plug or cover storm drains that receive runoff from areas where fueling, during fueling.

f) Use drip pans or equivalent containment measures during all petroleum transfer operations.

g) Locate materials, equipment, and activities so that leaks are contained in existing containment and diversion systems (confine the storage of leaky or leak-prone vehicles and equipment awaiting maintenance to protected areas).

h) Use drip pans and absorbents under or around leaky vehicles and equipment or store indoors where feasible. Drain fluids from equipment and vehicles prior to on-site storage or disposal.

i) Maintain a spill log that includes the following information for chemical and petroleum spills: date, time, amount, location, and reason for spill; date/time cleanup completed, notifications made and staff involved.

5) **Employee Training:** The SWPPP shall include BMPs to provide SWPPP training for employees who have duties in areas of industrial activities subject to this permit. At a minimum, the training plan shall include:

   a) The content of the training.

      i) An overview of what is in the SWPPP.

      ii) How employees make a difference in complying with the SWPPP and preventing contamination of stormwater.

      iii) Spill response procedures, good housekeeping, maintenance requirements, and material management practices.

b) How the Permittee will conduct training.

c) The frequency/schedule of training. The Permittee shall train employees annually, at a minimum.

d) A log of the dates on which specific employees received training.

6) **Inspections and Recordkeeping:** The SWPPP shall include documentation of procedures to ensure compliance with permit requirements for inspections and recordkeeping. At a minimum, the SWPPP shall:

a) Identify facility personnel who will inspect designated equipment and facility areas as required in Condition S7.

b) Contain a visual inspection report or check list that includes all items required by Condition S7.C.

c) Provide a tracking or follow-up procedure to ensure that a report is prepared and any appropriate action taken in response to visual inspections.

d) Define how the Permittee will comply with signature requirements and records retention identified in Special Condition S9, Reporting and Recordkeeping Requirements.

e) Include a certification of compliance with the SWPPP and permit for each inspection using the language in S7.C.1.c.

f) Include all inspection reports completed by the Permittee (S7.C).

7) ***Illicit Discharges***: The SWPPP shall include measures to identify and eliminate the discharge of ***process wastewater***, ***domestic wastewater***, ***noncontact cooling water***, and other illicit discharges, to stormwater sewers, or to surface waters and groundwaters of the State. The Permittee can find BMPs to identify and eliminate illicit discharges in Volume IV of Ecology's SWMM for Western Washington and Chapter 8 of the SWMM for Eastern Washington.

Water from washing vehicles or equipment, buildings, pavement, steam cleaning and/or pressure washing is considered process wastewater. The Permittee must not allow this process wastewater to comingle with stormwater or enter storm drains; and must collect in a tank for off-site disposal, or discharge it to a sanitary sewer, with written approval from the local sewage authority.

ii. ***Structural Source Control BMPs***

1) The SWPPP shall include the structural source control BMPs listed as "applicable" in Ecology's SWMMs, or other guidance documents or manuals approved in accordance with S3.A.3.c.

2) The SWPPP shall include BMPs to minimize the exposure of manufacturing, processing, and material storage areas (including loading and unloading, storage, disposal, cleaning, maintenance, and fueling operations) to rain, snow,

snowmelt, and *runoff* by either locating these industrial materials and activities inside or protecting them with storm resistant coverings.

Permittees shall:

a) Use grading, berming, or curbing to prevent runoff of contaminated flows and divert run-on away from these areas.

b) Perform all cleaning operations indoors, under cover, or in bermed areas that prevent stormwater runoff and run-on, also that capture any overspray.

c) Ensure that all washwater drains to a collection system that directs the washwater to further treatment or storage and not to the ***stormwater drainage system***.

iii. ***Treatment BMPs***

The Permittee shall:

1) Use treatment BMPs consistent with the applicable documents referenced in Condition S3.A.3.

2) Employ oil/water separators, booms, skimmers or other methods to eliminate or minimize oil and grease contamination of stormwater discharges.

3) Obtain Ecology approval before beginning construction/installation of all treatment BMPs that include the addition of chemicals to provide treatment.

iv. Stormwater Peak Runoff Rate and Volume Control BMPs

Facilities with ***new development*** or redevelopment shall evaluate whether flow control BMPs are necessary to satisfy the state's AKART requirements, and prevent violations of water quality standards. If flow control BMPs are required, they shall be selected according to S3.A.3.

v. ***Erosion and Sediment Control BMPs***

The SWPPP shall include BMPs necessary to prevent the erosion of soils and other earthen materials (crushed rock/gravel, etc.), control off-site sedimentation, and prevent violations of water quality standards. The Permittee shall implement and maintain:

1) Sediment control BMPs such as ***detention*** or retention ponds or traps, vegetated filter strips, bioswales, or other permanent sediment control BMPs to minimize ***sediment*** loads in stormwater discharges.

2) Filtration BMPs to remove solids from catch basins, sumps or other stormwater collection and conveyance system components (catch basin filter inserts, filter socks, modular canisters, sand filtration, centrifugal separators, etc.).

5. Sampling Plan

   The SWPPP shall include a sampling plan. The plan shall:

   a. Identify points of discharge to surface water, storm sewers, or discrete groundwater infiltration locations, such as dry wells or detention ponds.

   b. Include documentation of why applicable parameters are not sampled at each discharge point per S4.B.3 (if applicable). The required documentation includes:

      i. Location of which discharge points the Permittee does not sample applicable parameters because the pollutant concentrations are substantially identical to a discharge point being sampled.

      ii. General industrial activities conducted in the drainage area of each discharge point.

      iii. Best Management Practices conducted in the drainage area of each discharge point.

      iv. Exposed materials located in the drainage area of each discharge point that are likely to be significant contributors of pollutants to stormwater discharges.

      v. Impervious surfaces in the drainage area that could affect the percolation of stormwater runoff into the ground (e.g., asphalt, crushed rock, grass).

      vi. Reasons why the Permittee expects the discharge points to discharge substantially identical effluents.

   c. Identify each sampling location by its unique identifying number such as A1, A2.

   d. Identify staff responsible for conducting stormwater sampling.

   e. Specify procedures for sample collection and handling.

   f. Specify procedures for sending samples to a laboratory.

   g. Identify parameters for analysis, holding times and preservatives, laboratory ***quantitation levels***, and analytical methods.

   h. Specify the procedure for submitting results to Ecology.

S4. GENERAL SAMPLING REQUIREMENTS

A. General Requirements

The Permittee shall conduct sampling of stormwater in accordance with this permit and the SWPPP.

B. Sampling Requirements

1. Sample Timing and Frequency

   a. The Permittee shall sample the discharge from each designated location at least once per quarter:

      1st Quarter = January, February, and March

      2nd Quarter = April, May, and June

3rd Quarter = July, August, and September

4th Quarter = October, November, and December

b. Permittees shall sample the stormwater discharge from the ***first fall storm event*** each year. First fall storm event means the first time on or after September 1st of each year that precipitation occurs and results in a stormwater discharge from a facility.

c. Permittees shall collect samples within the first 12 hours of stormwater discharge events. If it is not possible to collect a sample within the first 12 hours of a stormwater discharge event, the Permittee must collect the sample as soon as practicable after the first 12 hours, and keep documentation with the sampling records (Condition S4.B.3) explaining why they could not collect samples within the first 12 hours; or if it is unknown (e.g., discharge was occurring during start of regular business hours).

d. The Permittee shall obtain ***representative samples***, which may be a single grab sample, a time-proportional sample, or a flow-proportional sample.

e. Permittees need not sample outside of ***regular business hours***, during ***unsafe conditions***, or during quarters where there is no discharge, but shall submit a Discharge Monitoring Report each reporting period (Condition S9.A).

f. Permittees monitoring more than once per quarter shall ***average*** all of the monitoring results for each parameter (except pH and visible oil sheen) and compare the average value to the ***benchmark*** value. However, if Permittees collect more than one sample during a 24-hour period, they must first calculate the ***daily average*** of the individual grab sample results collected during that 24-hour period; then use the daily average to calculate a quarterly average.

2. Sample Location(s)

a. The Permittee shall designate sampling location(s) at the point(s) where it discharges stormwater associated with industrial activity off-site.

b. The Permittee is not required to sample on-site discharges to ground (e.g., infiltration) or sanitary sewer discharges, unless specifically required by Ecology (Condition G12).

c. Ecology may require sampling points located in areas where unsafe conditions prevent regular sampling be moved to areas where regular sampling can occur.

d. The Permittee shall notify Ecology of any changes or updates to sample locations, discharge points, and/or outfalls by submitting an "Industrial Stormwater General Permit Discharge/Sample Point Update Form" to Ecology. The Permittee may be required to provide additional information to Ecology prior to changing sampling locations.

3. Substantially Identical Discharge Points

a. The Permittee shall sample each distinct point of discharge off-site except as otherwise exempt from monitoring as a ***substantially identical discharge point*** per S3.B.5.b. If applicable, the Permittee is only required to monitor applicable parameters at one of the substantially identical discharge points.

The Permittee shall notify Ecology of any changes or updates to sample locations, discharge points, and/or outfalls by submitting an "Industrial Stormwater General Permit Discharge/Sample Point Update Form" to Ecology.

4. Sample Documentation

   For each stormwater sample taken, the Permittee shall record the following information and retain it on-site for Ecology review:

   a. Sample date

   b. Sample time

   c. A notation describing if the Permittee collected the sample within the first 12 hours of stormwater discharge events; or, if it is unknown (e.g., discharge was occurring during start of regular business hours).

   d. An explanation of why the permittee could not collect a sample within the first 12 hours of a stormwater discharge event, if it was not possible. Or, if it is unknown, an explanation of why it is unknown if a sample was collected within or outside the first 12 hours of stormwater discharge.

   e. Sample location (using SWPPP identifying number)

   f. Method of sampling, and method of sample preservation, if applicable.

   g. Individual who performed the sampling

5. Laboratory Documentation

   The Permittee shall retain laboratory reports on-site for Ecology review and shall ensure that all laboratory reports providing data for all parameters include the following information:

   a. Date of analysis

   b. Parameter name

   c. CAS number, if applicable

   d. Analytical method(s)

   e. Individual who performed the analysis

   f. Method detection limit (MDL)

   g. Laboratory quantitation level (QL) achieved by the laboratory

   h. Reporting units

   i. Sample result

   j. Quality assurance/quality control data

6. The Permittee shall maintain the original records onsite and make them available to Ecology upon request.

7. The Permittee can reduce monitoring to once a year for a period of three years (12 quarters) based on consistent attainment of benchmark values when:

   a. Eight consecutive quarterly samples demonstrate a reported value equal to or less than the benchmark value; or for pH, within the range of 5.0 – 9.0.

b. For purposes of tallying consecutive quarterly samples:

   i. Do not include any quarters in which the Permittee did not collect a sample, but should have (e.g., discharge(s) occurred during normal working hours, and during safe conditions; but no sample was collected during the entire quarter). If this occurs, the tally of consecutive quarterly samples is reset to zero.

   ii. Do not include any quarters in which the Permittee did not collect a sample because there was no discharge during the quarter (or the discharges during the quarter occurred outside normal working hours or during unsafe conditions). These quarters are not included in the calculation of eight consecutive quarters, but do not cause the tally to be reset; i.e., they are skipped over.

c. The annual sample must be taken during the 4th quarter. A facility may average the annual sample with any other samples taken over the course of the 4th quarter. The annual sample does not include the first fall storm event.

d. A Permittee whose annual sample exceeds the benchmark during consistent attainment is no longer allowed to claim consistent attainment. The Permittee must begin sampling in accordance with S4.B.

8. A Permittee who has a ***significant process change*** shall not use previous sampling results to demonstrate consistent attainment.

9. Suspension of sampling based on consistent attainment does not apply to pollutant parameters subject to "report only" requirements, oil sheen, or numeric effluent limits based on federal Effluent Limitation Guidelines (Condition S5) or Section 303(d) of the Clean Water Act (Condition S6).

C. Analytical Procedures for Sampling Requirements

The Permittee shall ensure that analytical methods used to meet the sampling requirements in this permit conform to the latest revision of the Guidelines Establishing Test Procedures for the Analysis of Pollutants contained in 40 CFR § 136, unless specified otherwise in this permit.

D. Laboratory Accreditation

1. The Permittee shall ensure that all analytical data required by Ecology is prepared by a laboratory registered or accredited under the provisions of, Accreditation of Environmental Laboratories, Chapter 173-50 WAC.

2. ***Turbidity*** and pH are exempt from this requirement, unless the laboratory must be registered or accredited for any other parameter.

S5. BENCHMARKS, EFFLUENT LIMITATIONS AND SPECIFIC SAMPLING REQUIREMENTS

A. Benchmarks and Sampling Requirements

1. Permittees shall sample their stormwater discharges as specified in Condition S4 and as specified in Table 2.

2. Additional requirements apply to specific industrial categories (S5.B), facilities subject to effluent limitation guidelines (S5.C), and certain discharges to impaired waterbodies (S6).

   If a Permittee's discharge exceeds a benchmark listed in Table 2, the Permittee shall take the actions specified in Condition S8.

Table 2: Benchmarks and Sampling Requirements Applicable to All Facilities

Parameter	Units	Benchmark Value	Analytical Method	Laboratory Quantitation Level [a]	Minimum Sampling Frequency [b]
Turbidity	NTU	25	EPA 180.1 Meter	0.5	1/quarter
pH	Standard Units	Between 5.0 and 9.0	Meter/Paper [c]	±0.5	1/quarter
Oil Sheen	Yes/No	No Visible Oil Sheen	N/A	N/A	1/quarter
Copper, Total	µg/L	Western WA: 14 Eastern WA: 32	EPA 200.8	2.0	1/quarter
Zinc, Total	µg/L	117	EPA 200.8	2.5	1/quarter

[a] The Permittee shall ensure laboratory results comply with the quantitation level (QL) specified in the table. However, if an alternate method from 40 CFR Part 136 is sufficient to produce measurable results in the sample, the Permittee may use that method for analysis. If the Permittee uses an alternative method it must report the test method and QL on the discharge monitoring report. The permittee must also upload the QA/QC documentation from the lab on the QL development.

[b] 1/quarter means at least one sample taken each quarter, year-round.

[c] Permittees shall use either a calibrated pH meter or narrow-range pH indicator paper with a resolution of ± 0.5 SU or better.

B. Additional Sampling Requirements for Specific Industrial Groups

1. In addition to the requirements in Table 2, all Permittees identified by an industrial activity in Table 3 shall sample stormwater discharges as specified in Condition S4 and in Table 3.
2. If a discharge exceeds a benchmark listed in Table 3, the Permittee shall take the actions specified in Condition S8.

Table 3: Additional Benchmarks and Sampling Requirements Applicable to Specific Industries

Parameter	Units	Benchmark Value	Analytical Method	Laboratory Quantitation Level [a]	Minimum Sampling Frequency [b]
1. Chemical and Allied Products (325xxx), Food and Kindred Products (311xxx-312xxx)					
BOD_5	mg/L	30	SM 5210B	2	1/quarter
Nitrate + Nitrite Nitrogen, as N	mg/L	0.68	SM4500 NO3-E/F/H	0.10	1/quarter
Phosphorus, Total	mg/L	2.0	EPA 365.1	0.01	1/quarter
2. Primary Metals(331xxx), Metals Mining (2122xx), Automobile Salvage and Scrap Recycling (42314x and 42393x), Metals Fabricating (332xxx), Machinery Manufacturing (333xxx)					
Lead, Total	µg/L	64.6	EPA 200.8	0.5	1/quarter
Petroleum Hydrocarbons (Diesel Fraction)	mg/L	10	NWTPH-Dx	0.25	1/quarter
3. Hazardous Waste Treatment, Storage and Disposal Facilities and Dangerous Waste Recyclers subject to the provisions of Resource Conservation and Recovery Act (RCRA) Subtitle C					
Chemical Oxygen Demand (COD)	mg/L	120	SM5220-D	10	1/quarter
Total Ammonia (as N)	mg/L	2.1	SM4500-NH3- GH	0.02	1/quarter
TSS	mg/L	100	SM2540-D	5	1/quarter
Arsenic, Total	µg/L	150	EPA 200.8	0.5	1/quarter
Cadmium, Total	µg/L	2.1	EPA 200.8	0.25	1/quarter
Cyanide, Total	µg/L	22	EPA 335.4	10	1/quarter
Lead, Total	µg/L	64.6	EPA 200.8	0.5	1/quarter
Mercury, Total	µg/L	1.4	EPA 1631E	0.0005	1/quarter
Selenium, Total	µg/L	5.0	EPA 200.8	1.0	1/quarter
Silver, Total	µg/L	3.4	EPA 200.8	0.2	1/quarter
Petroleum Hydrocarbons (Diesel Fraction)	mg/L	10	NWTPH-Dx	0.25	1/quarter
4. Air Transportation[c] (481xxx)					
Total Ammonia (as N)	mg/L	2.1	SM4500-NH3- GH	0.02	1/quarter
BOD_5	mg/L	30	SM 5210B	2	1/quarter
COD	mg/L	120	SM5220-D	10	1/quarter

Parameter	Units	Benchmark Value	Analytical Method	Laboratory Quantitation Level [a]	Minimum Sampling Frequency [b]
Nitrate + Nitrite Nitrogen, as N	mg/L	0.68	SM 4500-NO3-E/F/H	0.10	1/quarter
Petroleum Hydrocarbons (Diesel Fraction)	mg/L	10	NWTPH-Dx	0.25	1/quarter
5. Timber Product Industry (321xxx), Paper and Allied Products (322xxx), Wood Product Manufacturing (321xxx)					
COD	mg/L	120	SM5220-D	10	1/quarter
TSS	mg/L	100	SM2540-D	5	1/quarter
6. Transportation (482xxx-485xxx), Petroleum Bulk Stations and Terminals (4247xx), Transportation Equipment Manufacturing (336xxx), Construction, Transportation, Mining, and Forestry Machinery and Equipment Rental and Leasing (53421)					
Petroleum Hydrocarbons (Diesel Fraction)	mg/L	10	NWTPH-Dx	0.25	1/quarter
7. Coal Mining (2121xx), Oil and Gas Extraction (2111xx), Nonmetallic Mining and Quarrying, except Fuels (2123xx), Petroleum and Coal Products Manufacturing (324xxx), Nonmetallic Mineral Product Manufacturing (327xxx), Steam Electric Power Generation					
TSS	mg/L	100	SM2540-D	5	1/quarter
Petroleum Hydrocarbons (Diesel Fraction)	mg/L	10	NWTPH-Dx	0.25	1/quarter
8. Marine Industrial Construction (ECY003)					
Arsenic	µg/L	Report Only[d]	EPA 200.8	0.5	1/quarter
PAH compounds[e]	µg/L	Report Only[d]	EPA 610	10	1/quarter
p-cresol	µg/L	Report Only[d]	EPA 8270D	10	1/quarter
Phenol	µg/L	Report Only[d]	EPA 625.1	4.5	1/quarter
TSS	mg/L	100	SM2540-D	5	1/quarter
Petroleum Hydrocarbons (Diesel Fraction)	mg/L	10	NWTPH-Dx	0.25	1/quarter

[a] The Permittee shall ensure laboratory results comply with the quantitation level (QL) specified in the table. However, if an alternate method from 40 CFR Part 136 is sufficient to produce measurable results in the sample, the Permittee may use that method for analysis. If the Permittee uses an alternative method it must report the test method and QL on the discharge monitoring report. If the Permittee is unable to obtain the required QL due to matrix effects, the Permittee must report the matrix-specific method detection level (MDL) and QL on the DMR. The permittee must also upload the QA/QC documentation from the lab on the QL development.

[b.] 1/quarter means at least one sample taken each quarter, year-round.

[c.] For airports where a single Permittee, or a combination of permitted facilities use more than 100,000 gallons of glycol-based deicing chemicals and/or 100 tons or more of urea on an average annual basis, monitor these additional five parameters in those discharge points that collect runoff from areas where deicing activities occur.

[d] A benchmark does not apply, but permittees must report the sampling result. "Report only" reporting may not be applied to consistent attainment. Ecology will use the data collected during this permit term to determine if the pollutants listed will need to be included in the next permit, and if so, develop benchmarks based on the data received and water quality criteria.

[e] PAH Comounds include: acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(ghi)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, and pyrene.

C. Landfills and Airports Subject to Effluent Limitation Guidelines

1. Permittees with discharges from the following activities shall comply with the effluent limits and monitor as specified in Condition S4 and Tables 4 and 5.
2. The discharge of the pollutants at a level more than that identified and authorized by this permit for these activities shall constitute a violation of the terms and conditions of this permit.
3. Permittees operating non-hazardous waste landfills subject to the provisions of 40 CFR §445 Subpart B shall not exceed the effluent limits[4] listed in Table 4.

[4] As set forth in 40 CFR §445 Subpart B, these numeric effluent limits apply to contaminated stormwater discharges from Municipal Solid Waste Landfills that have not been closed in accordance with 40 CFR §258.60, and to contaminated stormwater discharges from those landfills that are subject to the provisions of 40 CFR §257 except for discharges from any of the following facilities: (a) landfills operated in conjunction with other industrial or commercial operations, when the landfill receives only wastes generated by the industrial or commercial operation directly associated with the landfill; (b) landfills operated in conjunction with other industrial or commercial operations, when the landfill receives wastes generated by the industrial or commercial operation directly associated with the landfill and also receives other wastes, provided that the other wastes received for disposal are generated by a facility that is subject to the same provisions in 40 CFR Subchapter N as the industrial or commercial operation, or that the other wastes received are of similar nature to the wastes generated by the industrial or commercial operation; (c) landfills operated in conjunction with CWT facilities subject to 40 CFR §437, so long as the CWT facility commingles the landfill wastewater with other non-landfill wastewater for discharge. A landfill directly associated with a CWT facility is subject to this part if the CWT facility discharges landfill wastewater separately from other CWT wastewater or commingles the wastewater from its landfill only with wastewater from other landfills; or (d) landfills operated in conjunction with other industrial or commercial operations when the landfill receives wastes from public service activities, so long as the company owning the landfill does not receive a fee or other remuneration for the disposal service.

Table 4: Effluent Limits Applicable to Non-Hazardous Waste Landfills Subject to 40 CFR Part 445 Subpart B

Parameter	Units	Average Monthly [a]	Maximum Daily [b]	Analytical Method [c]	Laboratory Quantitation Level [d]	Minimum Sampling Frequency [e]
BOD_5	mg/L	37	140	EPA 405.1 or SM 5210B	2	1/quarter
TSS	mg/L	27	88	SM2540-D	5	1/quarter
Total Ammonia (as N)	mg/L	4.9	10	SM4500-NH3-GH	0.02	1/quarter
Alpha Terpineol	µg/L	16	33	EPA 625.1	N/A [f]	1/quarter
Benzoic Acid	µg/L	71	120	EPA 625.1	N/A [f]	1/quarter
p-Cresol (4-methylphenol)	µg/L	14	25	EPA 8270D	10	1/quarter
Phenol	µg/L	15	26	EPA 625.1	4.5	1/quarter
Zinc, Total	µg/L	110	200	EPA 200.8	2.5	1/quarter
pH	SU	Between 6.0 and 9.0		Meter	±0.1	1/quarter

a. Average monthly effluent limit means the highest allowable average of daily discharges over a calendar month. To calculate the discharge value to compare to the limit, you add the value of each daily discharge measured during a calendar month and divide this sum by the total number of daily discharges measured. If only one sample is taken during the calendar month, the average monthly effluent limitation applies to that sample. If only one sample is taken during the reporting period, the average monthly effluent limitation applies to that sample.

b. Maximum daily effluent limit means the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day. The daily discharge is the average measurement of the pollutant over the day; this does not apply to pH.

c. Or other equivalent EPA-approved method with the same or lower quantitation level.

d. The Permittee shall ensure laboratory results comply with the quantitation level (QL) specified in the table. However, if an alternate method from 40 CFR §136 is sufficient to produce measurable results in the sample, the Permittee may use that method for analysis. If the Permittee uses an alternative method it must report the test method and QL on the discharge monitoring report. The permittee must also upload the QA/QC documentation from the lab on the QL development.

e 1/quarter means at least one sample taken each quarter, year-round.

f EPA method 625.1 does not list quantitation levels for this pollutant. Reporting limits will be performance based and laboratory reporting levels must be included on the DMR.

4. Permittees operating airlines and airports subject to provisions of 40 CFR §449 shall comply with the following:

   a. ***Airfield Pavement*** Deicing. Existing and new primary airports with 1,000 or more annual jet departures (***annual non-propeller aircraft departures***) that discharge wastewater associated with airfield pavement ***deicing*** commingled with stormwater must either use non-urea-containing deicers[5], or meet the effluent limit in Table 5 at every discharge point, prior to any dilution or any commingling with any non-deicing discharge.

Table 5: Effluent Limit Applicable to Airports Subject to 40 CFR Part 449

Parameter	Units	Maximum Daily [a]	Analytical Method [b]	Laboratory Quantitation Level [c]	Minimum Sampling Frequency [d]
Total Ammonia (as N)	mg/L	14.7	SM4500-NH3-GH	0.02	1/quarter

a. Maximum daily effluent limit means the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day. The daily discharge is the average measurement of the pollutant over the day.

b. Or other equivalent *EPA*-approved method with the same or lower quantitation level.

c. The Permittee shall ensure laboratory results comply with the quantitation level (QL) specified in the table. However, if an alternate method from 40 CFR Part 136 is sufficient to produce measurable results in the sample, the Permittee may use that method for analysis. If the Permittee uses an alternative method it must report the test method and QL on the discharge monitoring report. If the Permittee is unable to obtain the required QL due to matrix effects, the Permittee must report the matrix-specific method detection level (MDL) and QL on the DMR. The permittee must also upload the QA/QC documentation from the lab on the QL development.

d. 1/quarter means at least one sample taken each quarter, year-round.

D. Conditionally Authorized Non-Stormwater Discharges

1. The categories and sources of non-stormwater discharges identified in Condition S5.D.2, below, are conditionally authorized, provided:

   a. The discharge is otherwise consistent with the terms and conditions of this permit, including Condition S5, S6, and S10.

   b. The Permittee conducts the following assessment for each non-stormwater discharge (except for S5.D.2.a & f) and documents the assessment in the SWPPP, consistent with Condition S3.B.2. The Permittee shall:

      i. Identify each source.

      ii. Identify the location of the discharge into the stormwater collection system.

      iii. Characterize the discharge including estimated flows or flow volume, and likely pollutants which may be present.

[5] Affected Permittees must certify in its annual report that it does not use airfield deicing products that contain urea, or meet the numeric limit in Table 5 (Condition S9.B.4).

iv. Evaluate and implement available and reasonable source control BMPs to reduce or eliminate the discharge.

v. Evaluate compliance of the discharge with the state water quality standards.

vi. Identify appropriate BMPs for each discharge to control pollutants and or flow volumes.

2. Conditionally authorized non-stormwater discharges include:

   a. Discharges from emergency firefighting activities.

   b. Fire protection system flushing, testing, and maintenance.

   c. Discharges of potable water including water line flushing, provided that water line flushing must be de-chlorinated prior to discharge.

   d. Uncontaminated air conditioning or compressor condensate.

   e. Landscape watering and irrigation drainage.

   f. Uncontaminated groundwater or spring water.

   g. Discharges associated with dewatering of foundations, footing drains, or utility vaults where flows are not contaminated with process materials such as solvents.

   h. Incidental windblown mist from cooling towers that collects on rooftops or areas adjacent to the cooling tower. This does not include intentional discharges from cooling towers such as piped cooling tower blow down or drains.

E. Prohibited Discharges

Unless authorized by a separate NPDES or state waste discharge permit, the following discharges are prohibited:

1. The discharge of process wastewater is not authorized. Stormwater that commingles with process wastewater is considered process wastewater.

2. Illicit discharges are not authorized by this permit. Conditionally authorized non-stormwater discharges in compliance with Condition S5.D are not illicit discharges.

F. General Prohibitions

Permittees shall manage stormwater to prevent the discharge of:

1. Synthetic, natural, or processed oil or oil-containing products as identified by an oil sheen, and

2. Trash and floating debris.

S6. DISCHARGES TO IMPAIRED WATERS

A. General Requirements for Discharges to Impaired Waters

Permittees that discharge to an impaired waterbody, either directly or indirectly through a stormwater drainage system, shall conduct sampling and inspections in accordance with Conditions S4, S5, S6, and S7.

B. Eligibility for Coverage of New Discharges to Impaired Waters

Facilities that meet the definition of new discharger and discharge to a ***303(d)-listed waterbody*** (Category 5), or an impaired waterbody with an ***applicable TMDL*** (Category 4A), or a pollution control program for sediment cleanup (i.e., a Category 4B sediment-impaired waterbody) are not eligible for coverage under this permit unless the facility:

1. Prevents all exposure to stormwater of the pollutant(s) for which the waterbody is impaired, and retains documentation of procedures taken to prevent exposure onsite with its SWPPP; **or**
2. Documents that the pollutant(s) for which the waterbody is impaired is not present at the facility, and retains documentation of this finding with the SWPPP; **or**
3. Provides Ecology with data showing that the discharge is not expected to cause or contribute to an exceedance of a water quality standard, and retain such data onsite with its SWPPP. The facility must provide data and other technical information to Ecology sufficient to demonstrate:
    a. For discharges to waters without an EPA approved or established TMDL, that the discharge of the pollutant for which the water is impaired will meet instream water quality criteria at the point of discharge to the waterbody; or
    b. For discharges to waters with an EPA approved or established TMDL, that there are sufficient remaining ***wasteload allocations*** in an EPA approved or established TMDL to allow industrial stormwater discharge and that existing dischargers to the waterbody are subject to compliance schedules designed to bring the waterbody into attainment with water quality standards.

Facilities are eligible for coverage under this permit if Ecology issues permit coverage based upon an affirmative determination that the discharge will not cause or contribute to the existing impairment.

C. Additional Sampling Requirements and Effluent Limits for Discharges to Certain Impaired Waters and Puget Sound Sediment Cleanup Sites

1. Permittees discharging to a 303(d)-listed waterbody (Category 5), either directly or indirectly through a stormwater drainage system, shall comply with the applicable sampling requirements and numeric effluent limits in Table 6. If a discharge point is subject to an impaired waterbody effluent limit (Condition S6.C) for a parameter that also has a benchmark, the effluent limit supersedes the benchmark. Permittees discharging to a 303(d) – listed waterbody (Category 5) that was not 303(d)-listed at the time of 2015 permit coverage shall comply with the applicable sampling requirements and numeric effluent limits in Table 6 as soon as possible, but no later than January 1, 2022.

a. Facilities subject to these limits include, but may not be limited to, facilities listed in Appendix 4.

b. For purposes of this condition, "applicable sampling requirements and effluent limits" means the sampling and effluent limits in Table 6 that correspond to the specific parameter(s) the receiving water is 303(d)-listed for at the time of permit coverage, or total suspended solids (TSS) if the waterbody is 303(d)-listed (Category 5) for sediment quality at the time of permit coverage.

Table 6: Sampling and Effluent Limits Applicable to Discharges to 303(d)-listed Waters

Parameter	Units	Maximum Daily[a]		Analytical Method [b]	Laboratory Quantitation Level [c]	Sampling Frequency[d]
		Freshwater	Marine			
Turbidity	NTUs	25	25	EPA 180.1 Meter	0.5	1/quarter
pH	SU	[i]	Between 7.0 and 8.5	Meter	±0.1	1/quarter
Fecal Coliform Bacteria	# colonies/ 100 mL	Report Only[h]	Report Only[h]	SM 9222D	20 CFU/ 100 mL	1/quarter
E. coli	# colonies/ 100 mL	Report Only[h]	N/A	EPA 1603	20 CFU/ 100 mL	1/quarter
Enterococci	# colonies/ 100 mL	N/A	Report Only[h]	EPA 1600	20 CFU/ 100 mL	1/quarter
TSS [f]	mg/L	30	30	SM2540-D	5	1/quarter
Phosphorus, Total	mg/L	[g]	[g]	EPA 365.1	0.01	1/quarter
Total Ammonia (as N)	mg/L	[g]	[g]	SM 4500 NH_3-GH	0.02	1/quarter
Copper, Total	µg/L	[g]	[g]	EPA 200.8	2.0	1/quarter
Lead, Total	µg/L	[g]	[g]	EPA 200.8	0.5	1/quarter
Mercury, Total	µg/L	2.1	1.8	EPA1631E	0.0005	1/quarter
Zinc, Total	µg/L	[g]	[g]	EPA 200.8	2.5	1/quarter
Pentachlorophenol	µg/L	[g]	[g]	EPA 625.1	10.8	1/quarter

[a] Maximum daily effluent limit means the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day. The daily discharge is the average measurement of the pollutant over the day; this does not apply to pH.

[b.] Or other equivalent method with the same reporting level.

[c] The Permittee shall ensure laboratory results comply with the quantitation level (QL) specified in the table. However, if an alternate method from 40 CFR Part 136 is sufficient to produce measurable results in the sample, the Permittee may use that method for analysis. If the Permittee uses an alternative method it must report the test method and QL on the discharge monitoring report. If the Permittee is unable to obtain the required QL due to matrix effects, the Permittee must report the matrix-specific method detection level (MDL) and QL on the DMR. The permittee must also upload the QA/QC documentation from the lab on the QL development.

[d.] 1/quarter means at least one sample taken each quarter, e.g., Q1 = Jan 1 – March 31st, Q2 = April 1 – June 30th

e Permittees shall use either a calibrated pH meter consistent with EPA 9040 or an approved state method.

f. Permittees who discharge to a 303(d)-listed waterbody (Category 5) for sediment quality shall sample discharge for TSS.

g. Site-specific effluent limitation will be assigned at the time of permit coverage.

h. A numeric effluent limit does not apply, but Permittees must sample according to Table 6. In addition, the following mandatory BMPs shall be incorporated into the SWPPP and implemented; the Permittee must:

1) Use all known, available and reasonable methods to prevent rodents, birds, and other animals from feeding/nesting/roosting at the facility. Nothing in this section shall be construed as allowing violations of any applicable federal, state or local statutes, ordinances, or regulations including the Migratory Bird Treaty Act.

2) Perform at least one annual dry weather inspection of the stormwater system to identify and eliminate sanitary sewer cross-connections;

3) Install structural source control BMPs to address on-site activities and sources that could cause bacterial contamination (e.g., dumpsters, compost piles, food waste, animal products):

4) Implement operational source control BMPs to prevent bacterial contamination from any known sources of fecal coliform bacteria (e.g., animal waste);

5) Conduct additional bacteria-related sampling and/or BMPs, if ordered by Ecology on a case-by-case basis.

i The effluent limit for a Permittee who discharges to a freshwater body 303(d)-listed for pH is: Between 6.0 and 8.5, if the 303(d)-listing is for high pH only; Between 6.5 and 9.0, if the 303(d)-listing is for low pH only; and Between 6.5 and 8.5 if the 303(d)-listing is for both low and high pH. All pH effluent limits are applied end-of-pipe.

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2. Permittees discharging to a ***Puget Sound Sediment Cleanup Site***[6] ,either directly or indirectly through a stormwater drainage system, shall comply with this section:

   a. Permittees shall sample the discharge for total suspended solids (TSS) in accordance with Table 7.

   b. If the waterbody is listed within Category 5 (sediment medium) where the ***outfall*** discharges to the waterbody, the discharge is subject to the TSS numeric effluent limit in Table 6.

   c. If the waterbody is not listed within Category 5 (sediment medium) where the outfall discharges to the waterbody, the discharge is subject to the TSS benchmark in Table 7. If a discharge exceeds the TSS benchmark, the Permittee shall comply with Condition S8.

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[6] *Puget Sound Sediment Cleanup Site* means: Category 4B (Sediment) portions of Budd Inlet (Inner), Commencement Bay (Inner), Commencement Bay (Outer), Dalco Passage and East Passage, Duwamish Waterway (including East and West Waterway), Eagle Harbor, Elliot Bay, Hood Canal (North), Liberty Bay, Rosario Strait, Sinclair Inlet, and Thea Foss Waterway; Category 5 (Sediment) portions of the Duwamish Waterway; Category 4A (Sediment) portions of Bellingham Bay (Inner); and the Everett/Port Gardener and Port Angeles Harbor sediment cleanup areas, as mapped on Ecology's ISGP website. All references to Category 4A, 4B and 5 pertain to the 2012 EPA-approved Water Quality Assessment.

Table 7: Benchmarks and Sampling Requirements Applicable to Discharges to Puget Sound Sediment Cleanup Sites that are not Category 5 for Sediment Quality

Parameter	Units	Benchmark Value [a]	Analytical Method	Laboratory Quantitation Level [b]	Minimum Sampling Frequency [c]
TSS	mg/L	30	SM2540-D	5	1/quarter

[a] Permittees sampling more than once per quarter shall average the sample results and compare the average value to the benchmark to determine if it the discharge has exceeded the benchmark value. However, if Permittees collect more than one sample during a 24-hour period, they must first calculate the daily average of the individual grab sample results collected during that 24-hour period; then use the daily average to calculate a quarterly average.

[b] The Permittee shall ensure laboratory results comply with the quantitation level (QL) specified in the table. However, if an alternate method from 40 CFR Part 136 is sufficient to produce measurable results in the sample, the Permittee may use that method for analysis. If the Permittee uses an alternative method it must report the test method and QL on the discharge monitoring report. The permittee must also upload the QA/QC documentation from the lab on the QL development.

[c.] 1/quarter means at least one sample taken each quarter, year-round.

d. Permittees shall remove accumulated solids from storm drain lines (including inlets, catch basins, sumps, conveyances lines, and oil/water separators) on or beneath your facility at least once in the term of the permit.

   Permittees shall conduct line cleaning operations (e.g., jetting, vacuuming, removal, loading, storage, and/or transport) using BMPs to prevent discharges of storm drain solids to surface waters of the State.

   Removed storm drain solids and liquids shall be disposed of in accordance with applicable laws and regulations and documented in the SWPPP.

   i. If a Permittee can demonstrate, based on video inspection, in-line storm drain solids sampling, or other documentation, that storm drain line cleaning is not necessary to prevent downstream sediment contamination or recontamination, Ecology may waive this requirement by approving a modification of permit coverage.

   ii. Requests for line cleaning waivers must be accompanied by a modification of coverage form, and a detailed technical basis to support the request. The due date for line cleaning waiver requests is May 15, 2024.

e. Permittees shall sample and analyze storm drain solids in accordance with Table 8 at least once in the term of the permit. Storm drain solids must be collected/sampled from a representative catch basin, sump, pipe or other feature within the storm drain system that corresponds to the discharge point where total suspended solids samples are collected per Condition S6.C. Samples may be either a single grab sample or a composite sample. Samples must be representative of the storm drain solids generated and accumulated in the facility's drainage system. To the extent possible, sample locations must exclude portions of the drainage system affected by water from off-site sources (e.g., run-on from off-site properties, tidal influence, backflow, etc.).

   i. If a Permittee can demonstrate that storm drain solids sampling and analysis is not feasible or not necessary, Ecology may waive this requirement by approving a modification of permit coverage.

ii. Requests for storm drain solids sampling and analysis waivers must be accompanied by a modification of coverage form, and a detailed technical basis to support the request. The due date for solids sampling and analysis waiver requests is May 15, 2021.

f. All storm drain solids sampling data shall be reported to Ecology on a Solids Monitoring Report (SMR) no later than the DMR due date for the reporting period in which the solids were sampled, in accordance with Condition S9.A. A copy of the lab report shall be submitted to Ecology with the SMR.

Table 8: Sampling and Analytical Procedures for Storm Drain Solids

Analyte	Method in Sediment	Quantitation Level [a]
Conventional Parameters		
Percent total solids	SM 2540G, or ASTM Method D 2216	NA
Total organic carbon	Puget Sound Estuary Protocols (PSEP 1997), or EPA 9060	0.1%
Grain size	Ecology Method Sieve and Pipette (ASTM 1997), ASTMD422, or PSEP 1986/2003	NA
Metals		
Antimony, Total	EPA Method 200.8 (ICP/MS) , EPA Method 6010 or EPA Method 6020	0.2 mg/kg dw [b]
Arsenic, Total	EPA Method 200.8 (ICP/MS) , EPA Method 6010 or EPA Method 6020	0.1 mg/kg dw
Beryllium, Total	EPA Method 200.8 (ICP/MS) , EPA Method 6010 or EPA Method 6020	0.2 mg/kg dw
Cadmium, Total	EPA Method 200.8 (ICP/MS) , EPA Method 6010 or EPA Method 6020	0.2 mg/kg dw
Chromium, Total	EPA Method 200.8 (ICP/MS) , EPA Method 6010 or EPA Method 6020	0.5 mg/kg dw
Copper, Total	EPA Method 200.8 (ICP/MS) , EPA Method 6010 or EPA Method 6020	0.2 mg/kg dw
Lead, Total	EPA Method 200.8 (ICP/MS) , EPA Method 6010 or EPA Method 6020	0.2 mg/kg dw
Mercury, Total	EPA Method 1631E, or EPA Method 7471B	0.005 mg/kg dw
Nickel, Total	EPA Method 200.8 (ICP/MS) , EPA Method 6010 or EPA Method 6020	0.1 mg/kg dw
Selenium, Total	EPA Method 200.8 (ICP/MS) , EPA Method 6010 or EPA Method 6020	0.5 mg/kg dw
Silver, Total	EPA Method 200.8 (ICP/MS) , EPA Method 6010 or EPA Method 6020	0.1 mg/kg dw
Thallium, Total	EPA Method 200.8 (ICP/MS) , EPA Method 6010 or EPA Method 6020	0.2 mg/kg dw
Zinc, Total	EPA Method 200.8 (ICP/MS) , EPA Method 6010 or EPA Method 6020	5.0 mg/kg dw

Analyte	Method in Sediment	Quantitation Level [a]
Organics		
PAH compounds [c]	EPA Method 8270 D	70 µg/kg dw
PCBs (aroclors), Total [d]	EPA Method 8082A	10 µg/kg dw
Petroleum Hydrocarbons		
NWTPH-Dx	NWTPH-Dx	25.0-100.0 mg/ kg dw

[a] The Permittee shall ensure laboratory results comply with the quantitation level (QL) specified in the table. However, if an alternate method is sufficient to produce measurable results in the sample, the Permittee may use that method for analysis. If the Permittee uses an alternative method it must report the test method and QL on the sediment monitoring report. The permittee must also upload the QA/QC documentation from the lab on the QL development. All results shall be reported. For values below the QL, or where a QL is not specified, report results at the method detection limit from the lab and the qualifier of "U" for undetected at that concentration. All results shall be reported. For values below the reporting limit, report results at the method detection limit from the lab and the qualifier of "U" for undetected at that concentration.

[b] dw = dry weight

[c] PAH compounds include: 1-methylnaphthalene, 2-methylnaphthalene, 2-chloronaphthalene, acenaphthylene, acenaphthene anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b, k)fluoranthene, benzo(ghi)perylene, dibenzo(a,h)anthracene, dibenzofuran, carbazole, chrysene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, and pyrene.

[d] Total = sum of PCB aroclors 1016+1221+1232+1242+1248+1254+1260

D. Requirements for Discharges to Waters with Applicable TMDLs

1. The Permittee shall comply with applicable TMDL determinations. Applicable TMDLs or TMDL determinations are TMDLs which have been completed by the issuance date of this permit, or which have been completed prior to the date that the Permittee's application is received by Ecology, whichever is later. Ecology will list the Permittee's requirements to comply with this condition on the letter of permit coverage.
2. TMDL requirements associated with TMDLs completed after the issuance date of this permit only become effective if they are imposed through an administrative order issued by Ecology.
3. Where Ecology has established a TMDL wasteload allocation and sampling requirements for the Permittee's discharge, the Permittee shall comply with all requirements of the TMDL as listed in Appendix 5.
    a. If a discharge point is subject to a TMDL-related effluent limit (Condition S6.D) for a parameter that also has a benchmark (Condition S5), the effluent limit supersedes the benchmark.
4. Where Ecology has established a TMDL general wasteload allocation for industrial stormwater discharges for a parameter present in the Permittee's discharge, but has not identified specific requirements, Ecology will assume the Permittee's compliance with the terms and conditions of the permit complies with the approved TMDL.
5. Where Ecology has not established a TMDL wasteload allocation for industrial stormwater discharges for a parameter present in the Permittee's discharge, but has not excluded these discharges, Ecology will assume the Permittee's compliance with the terms and conditions of this permit complies with the approved TMDL.

6. Where a TMDL for a parameter present in the Permittee's discharge specifically precludes or prohibits discharges of stormwater associated with industrial activity, the Permittee is not eligible for coverage under this permit.

S7. INSPECTIONS

A. Inspection Frequency and Personnel

1. The Permittee shall conduct and document visual inspections of the site each month.
2. The Permittee shall ensure that inspections are conducted by qualified personnel.

B. Inspection Components

Each inspection shall include:

1. Observations made at stormwater sampling locations and areas where stormwater associated with industrial activity is discharged off-site; or discharged to waters of the State, or to a storm sewer system that drains to waters of the State.
2. Observations for the presence of floating materials, visible oil sheen, discoloration, turbidity, odor, etc. in the stormwater discharge(s).
3. Observations for the presence of illicit discharges such as domestic wastewater, noncontact cooling water, or process wastewater (including leachate).
    a. If an illicit discharge is discovered, the Permittee shall notify Ecology within seven days.
    b. The Permittee shall eliminate the illicit discharge within 30 days.
4. A verification that the descriptions of potential pollutant sources required under this permit are accurate.
5. A verification that the site map in the SWPPP reflects current conditions.
6. An assessment of all BMPs that have been implemented, noting all of the following:
    a. Effectiveness of BMPs inspected.
    b. Locations of BMPs that need maintenance.
    c. Reason maintenance is needed and a schedule for maintenance.
    d. Locations where additional or different BMPs are needed and the rationale for the additional or different BMPs.

C. Inspection Results

1. The Permittee shall record the results of each inspection in an inspection report or checklist and keep the records on-site, as part of the SWPPP, for Ecology review.
   The Permittee shall ensure each inspection report documents the observations, verifications and assessments required in S7.B and includes:
    a. Time and date of the inspection
    b. Locations inspected

c. Statements that, in the judgment of 1) the person conducting the site inspection, and 2) the person described in Condition G2, the site is either in compliance or out of compliance with the terms and conditions of the SWPPP and this permit.

d. A summary report and a schedule of implementation of the remedial actions that the Permittee plans to take if the site inspection indicates that the site is out of compliance. The remedial actions taken must meet the requirements of the SWPPP and the permit.

e. Name, title, and signature of the person conducting site inspection; and the following statement: "I certify that this report is true, accurate, and complete, to the best of my knowledge and belief."

f. Certification and signature of the person described in Condition G2.A, or a duly authorized representative of the facility, in accordance with Condition G2.B and D.

D. Reports of Non-Compliance

The Permittee shall prepare reports of non-compliance identified during an inspection in accordance with the requirements of Condition S9.E.

S8. CORRECTIVE ACTIONS

A. Implementation of Source Control and Treatment BMPs from Previous Permit

In addition to the Corrective Action Requirements of S8.B-D, Permittees shall implement any applicable Level 1, 2 or 3 Responses required by the previous Industrial Stormwater General Permit(s). Permittees shall continue to operate and/or maintain any source control or treatment BMPs related to Level 1, 2 or 3 Responses implemented prior to the effective date of this permit.

B. Level One Corrective Actions – Operational Source Control BMPs

Permittees that exceed any applicable benchmark value(s) in Table 2, Table 3, and/or Table 7 for any quarter during a calendar year shall complete a Level 1 Corrective Action for each parameter exceeded in accordance with the following:

1. Within 14 days of receipt of sampling results that indicate a benchmark exceedance during a given quarter[7]; or, for parameters other than pH or visible oil sheen, the end of the quarter, whichever is later:

   a. Conduct an inspection to investigate the cause.

   b. Review the SWPPP and ensure that it fully complies with Permit Condition S3, and contains the applicable BMPs from the appropriate Stormwater Management Manual.

[7] Based on quarterly average per Condition S5.A.3, S5.B.2 and/or S6.C.2.c. For pH, and visible oil sheen, quarterly averaging is not allowed, so the 14 days begin upon receipt of a single benchmark exceedance.

c. Make appropriate revisions to the SWPPP to include additional operational source control BMPs with the goal of achieving the applicable benchmark value(s) in future discharges.

2. Summarize the Level 1 Corrective Actions in the Annual Report (Condition S9.B)

3. Level One Deadline: The Permittee shall sign/certify and fully implement the revised SWPPP according to Permit Condition S3 and the applicable Stormwater Management Manual as soon as possible, but no later than the DMR due date for the quarter the benchmark was exceeded.

C. Level Two Corrective Actions – Structural Source Control BMPs

Permittees that exceed an applicable benchmark value in Table 2, Table 3 and/or Table 7 (for a single parameter) for any two quarters during a calendar year shall complete a Level 2 Corrective Action in accordance with S8.C. Alternatively, the Permittee may skip Level 2 and complete a Level 3 Corrective Action in accordance with Condition S8.D.

1. Review the SWPPP and ensure that it fully complies with Permit Condition S3.

2. Make appropriate revisions to the SWPPP to include additional structural source control BMPs with the goal of achieving the applicable benchmark value(s) in future discharges.

3. Summarize the Level 2 Corrective Actions (planned or taken) in the Annual Report (Condition S9.B).

4. **Level 2 Deadline:** The Permittee shall sign/certify the SWPPP using the SWPPP Certification Form found on page 63 of this permit, and fully implement the revised SWPPP according to Permit Condition S3 and the applicable Stormwater Management Manual as soon as possible, but no later than August 31st of the following year.

   a. If installation of necessary structural source control BMPs is not feasible by August 31st of the following year, Ecology may approve additional time, by approving a Modification of Permit Coverage.

   b. If installation of structural source control BMPs is not feasible or not necessary to prevent discharges that may cause or contribute to a violation of a water quality standard, Ecology may waive the requirement for additional structural source control BMPs by approving a Modification of Permit Coverage.

   c. To request a time extension or waiver, a Permittee shall submit a detailed explanation of why it is making the request (technical basis), and a Modification of Coverage form to Ecology in accordance with Condition S2.B, by May 15th prior to Level 2 Deadline. Ecology will approve or deny the request within 60 days of receipt of a complete Modification of Coverage request.

   d. While a time extension is in effect, benchmark exceedances (for the same parameter) do not count towards additional Level 2 or 3 Corrective Actions.

   e. For the year following the calendar year the Permittee triggered a Level 2 corrective action, benchmark exceedances (for the same parameter) do not count towards additional Level 2 or 3 Corrective Actions.

D. Level Three Corrective Actions – Treatment BMPs

Permittees that exceed an applicable benchmark value in Table 2, Table 3, and/or Table 7 (for a single parameter) for any three quarters during a calendar year shall complete a Level 3 Corrective Action in accordance with S8.D. A Level 2 Corrective Action is not required.

1. Review the SWPPP and ensure that it fully complies with Permit Condition S3.
2. Make appropriate revisions to the SWPPP to include additional treatment BMPs with the goal of achieving the applicable benchmark value(s) in future discharges. Revisions shall include additional operational and/or structural source control BMPs if necessary for proper performance and maintenance of treatment BMPs.

   A ***qualified industrial stormwater professional*** shall review the revised SWPPP, sign the SWPPP Certification Form, and certify that it is reasonably expected to meet the ISGP benchmarks upon implementation. Upon written request Ecology may, one time during the permit cycle, waive this requirement on a case-by-case basis if a Permittee demonstrates to Ecology's satisfaction that the proposed Level 3 treatment BMPs are reasonably expected to meet ISGP benchmarks upon implementation.
3. Before installing treatment BMPs that require the site-specific design or sizing of structures, equipment, or processes to collect, convey, treat, reclaim, or dispose of industrial stormwater, the Permittee shall submit an engineering report to Ecology for review.

   a. The engineering report must include:

      i. Brief summary of the treatment alternatives considered and why the proposed option was selected. Include cost estimates of ongoing operation and maintenance, including disposal of any spent media;

      ii. The basic design data, including characterization of stormwater influent, and sizing calculations of the treatment units;

      iii. A description of the treatment process and operation, including a flow diagram;

      iv. The amount and kind of chemicals used in the treatment process, if any. **Note:** Use of stormwater treatment chemicals requires submittal of Request for Chemical Treatment Form;

      v. Results to be expected from the treatment process including the predicted stormwater discharge characteristics;

      vi. A statement, expressing sound engineering justification through the use of pilot plant data, results from similar installations, and/or scientific evidence that the proposed treatment is reasonably expected to meet the permit benchmarks; **and**

      vii. Certification by a licensed professional engineer.

   b. The engineering report shall be submitted no later than the May 15th prior to the Level 3 deadline, unless an alternate due date is specified in an order.

   c. An Operation and Maintenance Manual (O&M Manual) shall be submitted to Ecology no later than 30 days after construction/installation is complete; unless an alternate due date is specified in an order.

4. Summarize the Level 3 Corrective Actions (planned or taken) in the Annual Report (Condition S9.B). Include information on how monitoring, assessment or evaluation information was (or will be) used to determine whether existing treatment BMPs will be modified/enhanced, or if new/additional treatment BMPs will be installed.
5. **Level 3 Deadline:** The Permittee shall sign/certify and fully implement the revised SWPPP according to Permit Condition S3 and the applicable Stormwater Management Manual as soon as possible, but no later than September 30th of the following year.
    a. If installation of necessary treatment BMPs is not feasible by the Level 3 Deadline; Ecology may approve additional time by approving a Modification of Permit Coverage.
    b. If installation of treatment BMPs is not feasible or not necessary to prevent discharges that may cause or contribute to violation of a water quality standard, Ecology may waive the requirement for treatment BMPs by approving a Modification of Permit Coverage.
    c. To request a time extension or waiver, a Permittee shall submit a detailed explanation of why it is making the request (technical basis), and a Modification of Coverage form to Ecology in accordance with Condition S2.B, by May 15th prior to the Level 3 Deadline. Ecology will approve or deny the request within 60 days of receipt of a complete Modification of Coverage request.
    d. While a time extension is in effect, benchmark exceedances (for the same parameter) do not count towards additional Level 2 or 3 Corrective Actions.
    e. For the year following the calendar year the Permittee triggered a Level 3 corrective action, benchmark exceedances (for the same parameter) do not count towards additional Level 2 or 3 Corrective Actions.

S9. REPORTING AND RECORDKEEPING

A. Electronic Reporting Requirements

The Permittee shall submit all NOIs, NOTs, Noncompliance Reports, Annual Reports, DMRs, and other reporting information as required electronically, unless you have a received a waiver from Ecology. All information required to be submitted shall be submitted through Ecology's Water Quality Permitting Portal.

If you are unable to submit electronically (for example, you do **not** have access to the internet), you must contact Ecology to request an Electronic Reporting Waiver form and submit the completed form to Ecology.

B. Discharge Monitoring Reports

1. The Permittee shall submit sampling data obtained during each reporting period on a Discharge Monitoring Report (DMR) or a Solids Monitoring Form (SMR)[8] form provided, or otherwise approved, by Ecology.
2. Upon permit coverage, the Permittee shall ensure that DMRs are submitted to Ecology by the DMR due dates below:

Table 9: Reporting Dates and DMR Due Dates

Reporting Period	Months	DMR Due Date
1st	January-March	May 15
2nd	April-June	August 15
3rd	July-Sept	November 15
4th	October-December	February 15

3. DMRs and SMRs shall be submitted electronically using Ecology's Water Quality Permitting Portal – Discharge Monitoring Report (DMR) application, unless a waiver from electronic reporting has been granted (e.g., if a Permittee does not have broadband internet access). SMR forms, identified as a single sample DMR type, are included with the quarterly DMR forms on the Portal. If a waiver has been granted, reports must be postmarked or delivered to the following address by the due date:

   Department of Ecology
   Water Quality Program – Industrial Stormwater
   PO Box 47696
   Olympia, Washington 98504-7696

4. The first full quarter following permit coverage, the Permittee shall submit a DMR each reporting period, whether or not the facility discharged stormwater from the site.
   a. If no stormwater sample was obtained from the site during a given reporting period, the Permittee shall submit the DMR form indicating "no sample obtained," or "no discharge during the quarter," with a written explanation as to why there was no sample taken or no discharge.
   b. If a Permittee has suspended sampling for a parameter due to consistent attainment, the Permittee shall submit a DMR and indicate that it has achieved consistent attainment for that parameter(s).
5. The Permittee must use the Water Quality Permitting Portal – Permit Submittals application (unless otherwise specified in the permit) to submit all other written permit-required reports by the date specified in the permit unless a waiver has been granted under S9.B. If a

[8] SMR required if Condition S6.C.2 applies.

waiver has been granted, DMRs must be postmarked or delivered to the address listed in S9.B.3 by the due date.

C. Annual Reports

1. The Permittee shall submit a complete and accurate Annual Report to the Department of Ecology no later than May 15th of each year using Ecology's Water Quality Permitting Portal – Permit Submittals application, unless a waiver from electronic reporting has been granted according to S9.B.3. Annual Reports are not required if the Permittee didn't have permit coverage during the previous calendar year.
2. The annual report shall include corrective action documentation as required in S8.B-D. If corrective action is not yet completed at the time of submission of this annual report, the Permittee must describe the status of any outstanding corrective action(s).
3. Permittees shall include the following information with each annual report. The Permittee shall:
    a. Identify the condition triggering the need for corrective action review.
    b. Describe the problem(s) and identify the dates they were discovered.
    c. Summarize any Level 1, 2 or 3 corrective actions completed during the previous calendar year and include the dates it completed the corrective actions.
    d. Describe the status of any Level 2 or 3 corrective actions triggered during the previous calendar year, and identify the date it expects to complete corrective actions.
    e. Primary airport Permittees with at least 1,000 annual jet departures shall include a certification statement in each annual report that it does not use airfield deicing products that contain urea. Alternatively, Permittees shall meet the numeric effluent limit for ammonia in Condition S5.C, Table 5.
4. Permittees shall retain a copy of all annual reports onsite for Ecology review.

D. Records Retention

1. The Permittee shall retain the following documents onsite for a minimum of five years:
    a. A copy of this permit.
    b. A copy of the permit coverage letter.
    c. Records of all sampling information specified in Condition S4.B.3.
    d. Inspection reports including documentation specified in Condition S7.
    e. Any other documentation of compliance with permit requirements.
    f. All equipment calibration records.
    g. All BMP maintenance records.
    h. All original recordings for continuous sampling instrumentation.
    i. Copies of all laboratory reports as described in Condition S3.B.4.
    j. Copies of all reports required by this permit.

k. Records of all data used to complete the application for this permit.

2. The Permittee shall extend the period of records retention during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee, or when requested by Ecology.

3. The Permittee shall make all plans, documents, and records required by this permit immediately available to Ecology or the local jurisdiction upon request; or within 14 days of a written request from Ecology.

E. Additional Sampling by the Permittee

If the Permittee samples any pollutant at a designated sampling point more frequently than required by this permit, then the Permittee shall include the results in the calculation and reporting of the data submitted in the Permittee's DMR.

If Permittees collect more than one sample during a 24-hour period, they must first calculate the daily average of the individual grab sample results collected during that 24-hour period; then use the daily average to calculate a quarterly average.

F. Reporting Permit Violations

1. In the event the Permittee is unable to comply with any of the terms and conditions of this permit which may endanger human health or the environment, or exceed any numeric effluent limitation in the permit, the Permittee shall, upon becoming aware of the circumstances:

   a. Immediately take action to minimize potential pollution or otherwise stop the noncompliance and correct the problem.

   b. Immediately notify the local jurisdiction and appropriate Ecology regional office of the failure to comply:

      • **Central Region** at (509) 575-2490 for Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, or Yakima County

      • **Eastern Region** at (509) 329-3400 for Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, or Whitman County

      • **Northwest Region** at (425) 649-7000 for Island, King, Kitsap, San Juan, Skagit, Snohomish, or Whatcom County

      • **Southwest Region** at (360) 407-6300 for Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Lewis, Mason, Pacific, Pierce, Skamania, Thurston, or Wahkiakum County

   c. Submit a detailed written report to Ecology within 5 days of the time the Permittee becomes aware of the circumstances, unless Ecology requests an earlier submission. The report shall be submitted using Ecology's Water Quality Permitting Portal – Permit Submittals application, unless a waiver from electronic reporting has been granted according to S9.B.3. The Permittee's report shall contain:

      i. A description of the noncompliance, including exact dates and times.

ii. Whether the noncompliance has been corrected and, if not, when the noncompliance will be corrected.

iii. The steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

d. Upon request of the Permittee, Ecology may waive the requirements for a written report on a case-by-case basis, if the immediate notification (S9.F.1.b) is received by Ecology within 24 hours.

2. Compliance with the requirements of this section does not relieve the Permittee from responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply.

G. Public Access to SWPPP

The Permittee shall provide access to, or a copy of, the SWPPP to the public when requested in writing. Upon receiving a written request from the public for the SWPPP, the Permittee shall:

1. Provide a copy of the SWPPP to the requestor within 14 days of receipt of the written request; ***or***
2. Notify the requestor within ten days of receipt of the written request of the location and times within normal business hours when the requestor may view the SWPPP, and provide access to the SWPPP within 14 days of receipt of the written request; ***or***
3. If you provide a URL in your NOI where your SWPPP can be found, and maintain your current SWPPP at this URL, you will have complied with the public availability requirements for the SWPPP. To remain current, you must post any SWPPP modifications, records, and other reporting elements required for the permit term at the same URL as the main body of the SWPPP.

S10. COMPLIANCE WITH STANDARDS

A. Discharges shall not cause or contribute to a violation of Surface Water Quality Standards (Chapter 173-201A WAC), Groundwater Quality Standards (Chapter 173-200 WAC), Sediment Management Standards (Chapter 173-204 WAC), and federal human health-based criteria for Washington (40 CFR 131.45). Discharges that are not in compliance with these standards are prohibited.

B. Ecology will presume compliance with water quality standards, unless discharge monitoring data or other site specific information demonstrates that a discharge causes or contributes to violation of water quality standards, when the Permittee is:

1. In full compliance with all permit conditions, including planning, sampling, monitoring, reporting, and recordkeeping conditions.
2. Fully implementing stormwater best management practices contained in stormwater technical manuals approved by the department, or practices that are demonstrably equivalent to practices contained in stormwater technical manuals approved by Ecology,

including the proper selection, implementation, and maintenance of all applicable and appropriate best management practices for on-site pollution control.

C. Prior to the discharge of stormwater and non-stormwater to waters of the State, the Permittee shall apply all known and reasonable methods of prevention, control, and treatment (AKART). To comply with this condition, the Permittee shall prepare and implement an adequate SWPPP, with all applicable and appropriate BMPs, including the BMPs necessary to meet the standards identified in Condition S10.A, and shall install and maintain the BMPs in accordance with the SWPPP, applicable SWMMs, and the terms and conditions of this permit.

S11. PERMIT FEES

A. The Permittee shall pay permit fees assessed by Ecology and established in Chapter 173-224 WAC.

B. Ecology will continue to assess permit fees until it terminates a permit in accordance with Special Condition S13 or revoked in accordance with General Condition G5.

S12. SOLID AND LIQUID WASTE MANAGEMENT

The Permittee shall not allow solid waste material or ***leachate*** to cause violations of the State Surface Water Quality Standards (Chapter 173-201A WAC), the Groundwater Quality Standards (Chapter 173-200 WAC) or the Sediment Management Standards (Chapter 173-204 WAC).

S13. NOTICE OF TERMINATION (NOT)

A. Conditions for a NOT

Ecology may approve a Notice of Termination (NOT) request when the Permittee meets one or more of the following conditions and Ecology determines that the discharges from the facility are no longer required to be covered under this permit:

1. All permitted stormwater discharges associated with industrial activity that are authorized by this permit cease because the industrial activity has ceased, and no significant materials or industrial pollutants remain exposed to stormwater.
2. The party that is responsible for permit coverage (signatory to application) sells or otherwise legally transfers responsibility for the industrial activity.
3. All stormwater discharges associated with industrial activity are prevented because the stormwater is redirected to a sanitary sewer, or discharged to ground (e.g., infiltration).

B. Procedure for Obtaining Termination

1. The Permittee shall apply for a NOT on a form specified by Ecology (NOT Form).
2. The Permittee seeking permit coverage termination shall sign the NOT in accordance with Condition G2 of this permit.
3. The Permittee shall submit the completed NOT form to Ecology through the WQWebPortal.

GENERAL CONDITIONS

G1. DISCHARGE VIOLATIONS

All discharges and activities authorized by this general permit shall be consistent with the terms and conditions of this general permit. Any discharge of any pollutant more frequently than, or at a level in excess of that identified and authorized by the general permit, shall constitute a violation of the terms and conditions of this permit.

G2. SIGNATORY REQUIREMENTS

A. All permit applications shall be signed:

1. In the case of corporations, by a ***responsible corporate officer***.
2. In the case of a partnership, by a general partner of a partnership.
3. In the case of sole proprietorship, by the proprietor.
4. In the case of a municipal, state, or other public facility, by either a principal executive officer or ranking elected official.

B. All reports required by this permit and other information requested by Ecology shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1. The authorization is made in writing by a person described above and submitted to the Ecology.
2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters.

C. Changes to authorization. If an authorization under paragraph G2.B.2 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph G2.B.2 above shall be submitted to Ecology prior to, or together with, any reports, information, or applications to be signed by an authorized representative.

D. Certification. Any person signing a document under this section shall make the following certification:

> "I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

G3. RIGHT OF INSPECTION AND ENTRY

The Permittee shall allow an authorized representative of Ecology, upon the presentation of credentials and such other documents as may be required by law:

A. To enter upon the premises where a discharge is located or where any records shall be kept under the terms and conditions of this permit.

B. To have access to and copy, at reasonable times and at reasonable cost, any records required to be kept under the terms and conditions of this permit.

C. To inspect, at reasonable times, any facilities, equipment (including sampling and control equipment), practices, methods, or operations regulated or required under this permit.

D. To sample or monitor, at reasonable times, any substances or parameters at any location for purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act.

G4. GENERAL PERMIT MODIFICATION AND REVOCATION

This permit may be modified, revoked and reissued, or terminated in accordance with the provisions of Chapter 173-226 WAC. Grounds for modification, revocation and reissuance, or termination include, but are not limited to, the following:

A. When a change which occurs in the technology or practices for control or abatement of pollutants applicable to the category of dischargers covered under this permit.

B. When effluent limitation guidelines or standards are promulgated pursuant to the CWA or Chapter 90.48 RCW, for the category of dischargers covered under this permit.

C. When a water quality management plan containing requirements applicable to the category of dischargers covered under this permit is approved.

D. When information is obtained which indicates that cumulative effects on the environment from dischargers covered under this permit are unacceptable.

G5. REVOCATION OF COVERAGE UNDER THE PERMIT

A. Pursuant with Chapter 43.21B RCW and Chapter 173-226 WAC, Ecology may terminate coverage for any discharger under this permit for cause. Cases where coverage may be terminated include, but are not limited to, the following:

1. Violation of any term or condition of this permit.

2. Obtaining coverage under this permit by misrepresentation or failure to disclose fully all relevant facts.

3. A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

4. Failure or refusal of the Permittee to allow entry as required in RCW 90.48.090.

5. A determination that the permitted activity endangers human health or the environment, or contributes to water quality standards violations.

6. Nonpayment of permit fees or penalties assessed pursuant to RCW 90.48.465 and Chapter 173-224 WAC.

7. Failure of the Permittee to satisfy the public notice requirements of WAC 173-226-130(5), when applicable.

B. Ecology may require any discharger under this permit to apply for and obtain coverage under an individual permit or another more specific general permit.

C. Permittees who have their coverage revoked for cause according to WAC 173-226-240 may request temporary coverage under this permit during the time an individual permit is being developed, provided the request is made within 90 days from the time of revocation and is submitted along with a complete individual permit application form.

G6. REPORTING A CAUSE FOR MODIFICATION

The Permittee shall submit a new application, or a supplement to the previous application, whenever a material change to the industrial activity or in the quantity or type of discharge is anticipated which is not specifically authorized by this permit. This application shall be submitted at least 60 days prior to any proposed changes. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not relieve the Permittee of the duty to comply with the existing permit until it is modified or reissued.

G7. COMPLIANCE WITH OTHER LAWS AND STATUTES

Nothing in this permit shall be construed as excusing the Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

G8. DUTY TO REAPPLY

The Permittee shall apply for permit renewal at least 180 days prior to the expiration date of this permit.

G9. REMOVED SUBSTANCES

Collected screenings, grit, solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of stormwater shall not be resuspended or reintroduced to the final effluent stream for discharge to state waters.

G10. DUTY TO PROVIDE INFORMATION

The Permittee shall submit to Ecology, within a reasonable time, all information which Ecology may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee shall also submit to Ecology, upon request, copies of records required to be kept by this permit [40 CFR 122.41(h)].

G11. OTHER REQUIREMENTS OF 40 CFR

All other requirements of 40 CFR 122.41 and 122.42 are incorporated in this permit by reference.

G12. ADDITIONAL SAMPLING

Ecology may establish specific sampling requirements in addition to those contained in this permit by administrative order or permit modification.

G13. PENALTIES FOR VIOLATING PERMIT CONDITIONS

Any person who is found guilty of willfully violating the terms and conditions of this permit shall be deemed guilty of a crime, and upon conviction thereof shall be punished by a fine of up to $10,000 and costs of prosecution, or by imprisonment at the discretion of the court. Each day upon which a willful violation occurs may be deemed a separate and additional violation.

Any person who violates the terms and conditions of this permit shall incur, in addition to any other penalty as provided by law, a civil penalty in the amount of up to $10,000 for every such violation. Each and every such violation shall be a separate and distinct offense, and in case of a continuing violation, every day's continuance shall be deemed to be a separate and distinct violation.

G14. UPSET

Definition – "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of the following paragraph are met.

A Permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that: 1) an upset occurred and that the Permittee can identify the cause(s) of the upset; 2) the permitted facility was being properly operated at the time of the upset; 3) the Permittee submitted notice of the upset as required in condition S9.E; **and** 4) the Permittee complied with any remedial measures required under this permit.

In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof.

G15. PROPERTY RIGHTS

This permit does not convey any property rights of any sort, or any exclusive privilege.

G16. DUTY TO COMPLY

The Permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

G17. TOXIC POLLUTANTS

The Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if this permit has not yet been modified to incorporate the requirement.

G18. PENALTIES FOR TAMPERING

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any sampling device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this Condition, punishment shall be a fine of not more than $20,000 per day of violation, or imprisonment of not more than four years, or both.

G19. REPORTING PLANNED CHANGES

The Permittee shall, as soon as possible, give notice to Ecology of planned physical alterations, modifications, or additions to the permitted industrial activity, which will result in:

A. The permitted facility being determined to be a new source pursuant to 40 CFR 122.29(b).

B. A significant process change, as defined in the glossary of this permit.

C. A change in the location of industrial activity that affects the Permittee's sampling requirements in Conditions S3, S4, S5, and S6.

Following such notice, permit coverage may be modified, or revoked and reissued pursuant to 40 CFR 122.62(a) to specify and limit any pollutants not previously limited. Until such modification is effective, any new or increased discharge in excess of permit limits or not specifically authorized by this permit constitutes a violation.

G20. REPORTING OTHER INFORMATION

Where the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to Ecology, it shall promptly submit such facts or information.

G21. REPORTING ANTICIPATED NON-COMPLIANCE

The Permittee shall give advance notice to Ecology by submission of a new application, or supplement to the existing application, at least 45 days prior to commencement of such discharges, of any facility expansions, production increases, or other planned changes, such as process modifications, in the permitted facility or activity which may result in noncompliance with permit limits or conditions. Any maintenance of facilities, which might necessitate unavoidable interruption of operation and degradation of effluent quality, shall be scheduled during non-critical water quality periods and carried out in a manner approved by Ecology.

G22. REQUESTS TO BE EXCLUDED FROM COVERAGE UNDER THE PERMIT

A. Any discharger authorized by this permit may request to be excluded from coverage under the general permit by applying for an individual permit.

B. The discharger shall submit to Ecology an application as described in WAC 173-220-040 or WAC 173-216-070, whichever is applicable, with reasons supporting the request. These reasons shall fully document how an individual permit will apply to the applicant in a way that the general permit cannot.

C. Ecology may make specific requests for information to support the request. Ecology shall either issue an individual permit or deny the request with a statement explaining the reason for the denial.

D. When an individual permit is issued to a discharger otherwise subject to the industrial stormwater general permit, the applicability of the industrial stormwater general permit to that Permittee is automatically terminated on the effective date of the individual permit.

G23. APPEALS

A. The terms and conditions of this general permit, as they apply to the appropriate class of dischargers, are subject to appeal by any person within 30 days of issuance of this general permit, in accordance with Chapter 43.21B RCW and Chapter 173-226 WAC.

B. The terms and conditions of this general permit, as they apply to an individual discharger, are appealable in accordance with Chapter 43.21B RCW within 30 days of the effective date of coverage of that discharger. Consideration of an appeal of general permit coverage of an individual discharger is limited to the general permit's applicability or nonapplicability to that individual discharger.

C. The appeal of general permit coverage of an individual discharger does not affect any other dischargers covered under this general permit. If the terms and conditions of this general permit are found to be inapplicable to any individual discharger(s), the matter shall be remanded to Ecology for consideration of issuance of an individual permit or permits.

G24. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

G25. BYPASS PROHIBITED

Bypass, which is the intentional diversion of waste streams from any portion of a treatment facility, is prohibited, and Ecology may take enforcement action against a Permittee for bypass unless one of the following circumstances (A, B, or C) is applicable.

A. Bypass for Essential Maintenance without the Potential to Cause Violation of Permit Limits or Conditions

Bypass is authorized if it is for essential maintenance and does not have the potential to cause violations of limitations or other conditions of this permit, or adversely impact public health as determined by Ecology prior to the bypass. The Permittee must submit prior notice, if possible, at least ten days before the date of the bypass.

B. Bypass Which is Unavoidable, Unanticipated, and Results in Noncompliance of this Permit

This bypass is permitted only if:

1. Bypass is unavoidable to prevent loss of life, personal injury, or ***severe property damage***. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass.

2. There are no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, stopping production, maintenance during normal periods of equipment downtime (but not if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance), or transport of untreated wastes to another treatment facility.
3. Ecology is properly notified of the bypass as required in condition S9E of this permit.

C. Bypass which is anticipated and has the Potential to Result in Noncompliance of this Permit

The Permittee must notify Ecology at least thirty days before the planned date of bypass. The notice must contain (1) a description of the bypass and its cause; (2) an analysis of all known alternatives which would eliminate, reduce, or mitigate the need for bypassing; (3) a cost-effectiveness analysis of alternatives including comparative resource damage assessment; (4) the minimum and maximum duration of bypass under each alternative; (5) a recommendation as to the preferred alternative for conducting the bypass; (6) the projected date of bypass initiation; (7) a statement of compliance with SEPA; (8) a request for modification of water quality standards as provided for in WAC 173-201A-410, if an exceedance of any water quality standard is anticipated; and (9) steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass.

For probable construction bypasses, the need to bypass is to be identified as early in the planning process as possible. The analysis required above must be considered during preparation of the engineering report or facilities plan and plans and specifications and must be included to the extent practical. In cases where the probable need to bypass is determined early, continued analysis is necessary up to and including the construction period in an effort to minimize or eliminate the bypass.

Ecology will consider the following prior to issuing an administrative order for this type bypass:

1. If the bypass is necessary to perform construction or maintenance-related activities essential to meet the requirements of this permit.
2. If there are feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, stopping production, maintenance during normal periods of equipment down time, or transport of untreated wastes to another treatment facility.
3. If the bypass is planned and scheduled to minimize adverse effects on the public and the environment.

After consideration of the above and the adverse effects of the proposed bypass and any other relevant factors, Ecology will approve or deny the request. The public must be notified and given an opportunity to comment on bypass incidents of significant duration, to the extent feasible. Approval of a request to bypass will be by administrative order issued by Ecology under RCW 90.48.120.

APPENDIX 1 – ACRONYMS

AKART	All Known, Available and Reasonable methods of prevention, control and Treatment
BMP	Best Management Practice
CAS	Chemical Abstract Service
CERCLA	Comprehensive Environmental Response Compensation & Liability Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
CWT	Centralized Waste Treatment
EPA	Environmental Protection Agency
ESC	Erosion and Sediment Control
FAA	Federal Aviation Administration
FWPCA	Federal Water Pollution Control Act
NAICS	North American Industry Classification System
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
RCRA	Resource Conservation and Recovery Act
RCW	Revised Code of Washington
SARA	Superfund Amendment and Reauthorization Act
SEPA	State Environmental Policy Act
SIC	Standard Industrial Classification
SMCRA	Surface Mining Control and Reclamation Act
SWMM	Stormwater Management Manual
SWPPP	Stormwater Pollution Prevention Plan

TMDL Total Maximum Daily Load

TSS Total Suspended Solids

USC United States Code

WAC Washington Administrative Code

WQ Water Quality

APPENDIX 2 – DEFINITIONS

40 CFR means Title 40 of the Code of Federal Regulations, which is the codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the federal government.

303(d)-Listed water body means waterbodies as listed as Category 5 on Washington State's Water Quality Assessment.

Air Emission means a release of air contaminants into the ambient air.

Airfield Pavement means all paved surfaces on the airside of an airport.

AKART is an acronym for "all known, available, and reasonable methods of prevention, control, and treatment." AKART represents the most current methodology that can be reasonably required for preventing, controlling, or abating the pollutants and controlling pollution associated with a discharge.

Annual Non-Propeller Aircraft Departures means the average number of commercial turbine-engine aircraft that are propelled by jet, i.e., turbojet or turbofan, that take off from an airport on an annual basis, as tabulated by the Federal Aviation Administration (FAA).

Applicable TMDL means a TMDL which has been completed either before the issuance date of this permit or the date the Permittee first obtains coverage under this permit, whichever is later.

Application means a request for coverage under this general permit pursuant to WAC 173-226-200. Also called a Notice of Intent (NOI).

Average means arithmetic mean, which is equal to the sum of the measurements divided by the number of measurements.

Benchmark means a pollutant concentration used as a permit threshold, below which a pollutant is considered unlikely to cause a water quality violation, and above which it may. When pollutant concentrations exceed benchmarks, corrective action requirements take effect. Benchmark values are not water quality standards and are not numeric effluent limitations; they are indicator values.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. In this permit BMPs are further categorized as operational source control, structural source control, erosion and sediment control, and treatment BMPs.

Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

Clean Water Act (CWA) means the Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, and 97-117; USC 1251 et seq.

Combined Sewer means a sewer which has been designed to serve as a sanitary sewer and a storm sewer, and into which inflow is allowed by local ordinance.

Construction Activity means clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, industrial buildings, and demolition activity.

Control Plan means a total maximum daily load (TMDL) determination, restrictions for the protection of state or federal threatened or endangered species, a groundwater management plan, or other limitations that regulate or set limits on discharges to a specific waterbody or ground water recharge area.

Daily Average means the average measurement of the pollutant throughout a period of 24 consecutive hours starting at 12:01 A.M. and ending at the following 12:00 P.M. (midnight).

Deicing means procedures and practices to remove or prevent any accumulation of snow or ice on: 1) an aircraft; or 2) airfield pavement.

Demonstrably Equivalent means that the technical basis for the selection of all stormwater best management practices are documented within a stormwater pollution prevention plan. The stormwater pollution prevention plan must document: 1) The method and reasons for choosing the stormwater best management practices selected; 2) The pollutant removal performance expected from the practices selected; 3) The technical basis supporting the performance claims for the practices selected, including any available existing data concerning field performance of the practices selected; 4) An assessment of how the selected practices will comply with state water quality standards; and 5) An assessment of how the selected practices will satisfy both applicable federal technology-based treatment requirements and state requirements to use all known, available, and reasonable methods of prevention, control, and treatment.

Detention means the temporary storage of stormwater to improve quality and/or to reduce the mass flow rate of discharge.

Discharge [of a pollutant] means any addition of any pollutant or combination of pollutants to surface waters of the State of Washington from any point source. This definition includes additions of pollutants into surface waters of the State of Washington from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works.

Discharge Point means the location where a discharge leaves the Permittee's facility. Discharge point also includes the location where a discharge enters the ground on-site (e.g., infiltration BMP).

Discharger means an owner or operator of any facility or activity subject to regulation under Chapter 90.48 RCW or the Federal Clean Water Act.

Domestic Wastewater means water carrying human wastes, including kitchen, bath, and laundry wastes from residences, buildings, industrial establishments, or other places, together with such groundwater infiltration or surface waters as may be present.

Ecology means the Washington State Department of Ecology.

EPA means the United States Environmental Protection Agency.

Equivalent BMPs means operational, source control, treatment, or innovative BMPs which result in equal or better quality of stormwater discharge to surface water or to groundwater than BMPs selected from the SWMM.

Erosion means the wearing away of the land surface by running water, wind, ice, or other geological agents, including such processes as gravitational creep.

Erosion and Sediment Control BMPs means BMPs that are intended to prevent erosion and sedimentation, such as preserving natural vegetation, seeding, mulching and matting, plastic covering, filter fences, and sediment traps and ponds.

Existing Facility means a facility that was in operation prior to the effective date of this permit. It also includes any facility that is not categorically included for coverage but is in operation when identified by Ecology as a significant contributor of pollutants.

Facility means any establishment (including land or appurtenances thereto) that is subject to regulation under this permit. See Special Condition S1.

First Fall Storm Event means the first time on or after September 1st of each year that precipitation occurs and results in a stormwater discharge from a facility. This storm event tends to wash off and discharge pollutants that accumulate during the preceding dry months.

General Permit means a permit which covers multiple dischargers of a point source category within a designated geographical area, in lieu of individual permits being issued to each discharger.

Groundwater means water in a saturated zone or stratum beneath the land surface or a surface waterbody.

Hazardous Substance means any liquid, solid, gas, or sludge, including any material, substanct, product, commodigy, or waste, regardless of quantity, that exhibits any of the physical, chemical, or biological properties described in WAC 173-303-090 or 173-303-100.

Illicit Discharge means any discharge that is not composed entirely of stormwater except (1) discharges authorized pursuant to a separate NPDES permit, or (2) conditionally authorized non-stormwater discharges identified in Condition S5.D.

Inactive Facility means a facility that no longer engages in business, production, providing services, or any auxiliary operation.

Industrial Activity means (1) the 11 categories of industrial activities identified in 40 CFR 122.26(b)(14)(i-xi) that must apply for either coverage under this permit or no exposure certification, (2) any facility conducting any activities described in Table 1, and (3) the activities occurring at any facility identified by Ecology as a significant contributor of pollutants. Table 1 lists the 11 categories of industrial activities identified in 40 CFR 122.26(b)(14)(i-xi) in a different format.

Land Application Site means an area where wastes are applied onto or incorporated into the soil surface (excluding manure spreading operations) for treatment or disposal.

Landfill means an area of land or an excavation in which wastes are placed for permanent disposal, and which is not a land application site, surface impoundment, injection well, or waste pile.

Leachate means water or other liquid that has percolated through raw material, product or waste and contains substances in solution or suspension as a result of the contact with these materials.

Local Government means any county, city, or town having its own government for local affairs.

Material Handling means storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product, by-product or waste product.

Municipality means a political unit such as a city, town or county; incorporated for local self-government.

National Pollutant Discharge Elimination System (NPDES) means the national program for issuing, modifying, revoking, and reissuing, terminating, and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of the Federal Clean Water Act, for the discharge of pollutants to surface waters of the State from point sources. These permits are referred to as NPDES permits and, in Washington State, are administered by the Washington Department of Ecology.

New Development means land disturbing activities, including Class IV -general forest practices that are conversions from timber land to other uses; structural development, including construction or installation of a building or other structure; creation of impervious surfaces; and subdivision, short subdivision and binding site plans, as defined and applied in Chapter 58.17 RCW. Projects meeting the definition of redevelopment shall not be considered new development.

New Discharge(r) means a facility from which there is a discharge, that did not commence the discharge at a particular site prior to August 13, 1979, which is not a new source, and which has never received a finally effective NPDES permit for discharges at that site. See 40 CFR 122.2.

New Facility means a facility that begins activities that result in a discharge or a potential discharge to waters of the State on or after the effective date of this general permit.

Noncontact Cooling Water means water used for cooling which does not come into direct contact with any raw material, intermediate product, waste product, or finished product.

North American Industry Classification System (NAICS) means the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy. NAICS was developed under the auspices of the Office of Management and Budget (OMB), and adopted in 1997 to replace the Standard Industrial Classification (SIC) system. It was developed jointly by the U.S. Economic Classification Policy Committee (ECPC), Statistics Canada, and Mexico's Instituto Nacional de Estadistica y Geografia to allow for a high level of comparability in business statistics among the North American countries.

Notice of Intent (NOI) – *See "*Application*"*

Notice of Termination (NOT) means a request for termination of coverage under this general permit as specified by Special Condition S13 of this permit.

Operational Source Control BMPs means schedule of activities, prohibition of practices, maintenance procedures, employee training, good housekeeping, and other managerial practices to prevent or reduce the pollution of waters of the State. Not included are BMPs that require construction of pollution control devices.

Operator means any entity with a stormwater discharge associated with industrial activity.

Outfall means the point where a discharge from a facility enters a receiving waterbody or receiving waters.

Pollutant means the discharge of any of the following to waters of the State: dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, domestic sewage sludge (biosolids), munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste. This term does not include sewage from vessels within the meaning of section 312 of the FWPCA nor does it include dredged or fill material discharged in accordance with a permit issued under section 404 of the FWPCA.

Pollution means contamination or other alteration of the physical, chemical, or biological properties of waters of the State; including change in temperature, taste, color, turbidity, or odor of the waters; or such discharge of any liquid, gaseous, solid, radioactive or other substance into any waters of the State as will or is likely to create a nuisance or render such waters harmful, detrimental or injurious to the public health, safety or welfare; or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses; or to livestock, wild animals, birds, fish, or other aquatic life.

Process Wastewater means any non-stormwater which, during manufacturing or processing, comes into direct contact or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product. If stormwater commingles with process wastewater, the commingled water is considered process wastewater.

Puget Sound Sediment Cleanup Site means Category 4B (Sediment) portions of Budd Inlet (Inner), Commencement Bay (Inner), Commencement Bay (Outer), Dalco Passage and East Passage, Duwamish Waterway (including East and West Waterway), Eagle Harbor, Elliot Bay, Hood Canal (North), Liberty Bay, Rosario Strait, Sinclair Inlet, and Thea Foss Waterway; Category 5 (Sediment) portions of the Duwamish Waterway; Category 4A (Sediment) portions of Bellingham Bay (Inner); and the Everett/Port Gardener and Port Angeles Harbor sediment cleanup areas, as mapped on Ecology's ISGP website. All references to Category 4A, 4B and 5 pertain to the 2012 EPA-approved Water Quality Assessment.

Qualified Industrial Stormwater Professional means a licensed professional engineer, geologist, hydrogeologist; Certified Professional in Stormwater Quality, Certified Professional in Erosion and Sediment Control; or qualified environmental professional with education and experience in stormwater management and licensed to do business in the State of Washington.

Qualified Personnel means those who (1) possesses the knowledge and skills to assess conditions and activities at the facility that could impact stormwater quality; (2) can evaluate the effectiveness of best management practices required by this permit for this specific facility and its unique operations

and; (3) is familiar with site operations and practices with sufficient authority to commit the organization to the BMPs and actions detailed in the SWPPP..

Quantitation Level (QL) *also known as Minimum Level of Quantitation (ML)* means the lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration point for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

Reasonable Potential means the likely probability for pollutants in the discharge to exceed the applicable water quality criteria in the receiving waterbody.

Redevelopment means on a site that is already substantially developed (i.e., has 35% or more of existing impervious surface coverage), the creation or addition of impervious surfaces; the expansion of a building footprint or addition or replacement of a structure; structural development including construction, installation or expansion of a building or other structure; replacement of impervious surface that is not part of a routine maintenance activity; and land disturbing activities.

Regular Business Hours means those time frames when the facility is engaged in its primary production process, but does not include additional shifts or weekends when partial staffing is at the site primarily for maintenance and incidental production activities. Regular business hours do not include periods of time that the facility is inactive and unstaffed.

Representative [sample] means a sample of the discharge that accurately characterizes stormwater runoff generated in the designated drainage area of the facility.

Responsible Corporate Officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

Runoff means that portion of rainfall or snowmelt water not absorbed into the ground that becomes surface flow.

Sanitary Sewer means a sewer which is designed to convey domestic wastewater.

Sediment means the fragmented material that originates from the weathering and erosion of rocks, unconsolidated deposits, or unpaved yards, and is transported by, suspended in, or deposited by water.

Severe Property Damage means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

Significant Amount means an amount of a pollutant in a discharge that is amenable to available and reasonable methods of prevention, control, or treatment; or an amount of a pollutant that has a reasonable potential to cause a violation of surface or ground water quality standards or sediment management standards.

Significant Contributor of Pollutant(s) means a facility determined by Ecology to be a contributor of a significant amount(s) of a pollutant(s) to waters of the State.

Significant Materials includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with stormwater discharges.

Significant Process Change means any modification of the facility that would result in any of the following:

1. Add different pollutants in a significant amount to the discharge.
2. Increase the pollutants in the stormwater discharge by a significant amount.
3. Add a new industrial activity (SIC) that was not previously covered.
4. Add additional impervious surface or acreage such that stormwater discharge would be increased by 25% or more.

Source Control BMPs means structures or operations that are intended to prevent pollutants from coming into contact with stormwater through physical separation of areas or careful management of activities that are sources of pollutants. This permit separates source control into two types: structural source control BMPs and operational source control BMPs.

Standard Industrial Classification (SIC) is the statistical classification standard underlying all establishment-based federal economic statistics classified by industry as reported in the 1987 SIC Manual by the Office of Management and Budget.

State Environmental Policy Act (SEPA) means the Washington State Law, RCW 43.21C.020, intended to prevent or eliminate damage to the environment.

Storm Sewer means a sewer that is specifically designed to carry stormwater. Also called a storm drain.

Stormwater means that portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a stormwater drainage system into a defined surface waterbody, or a constructed infiltration facility.

Stormwater Drainage System means constructed and natural features which function together as a system to collect, convey, channel, hold, inhibit, retain, detain, infiltrate or divert stormwater.

Stormwater Management Manual (SWMM) or ***Manual*** means the technical manuals prepared by Ecology for stormwater management in western and eastern Washington.

Stormwater Pollution Prevention Plan (SWPPP) means a documented plan to implement measures to identify, prevent, and control the contamination of point source discharges of stormwater.

Structural Source Control BMPs means physical, structural, or mechanical devices or facilities that are intended to prevent pollutants from entering stormwater.

Substantially Identical Discharge Point means a discharge point that shares the following characteristics with another discharge point: 1) the same general industrial activities conducted in the drainage area of the discharge point, 2) the same Best Management Practices conducted in the drainage area of the discharge point, 3) the same type of exposed materials located in the drainage area of the discharge point that are likely to be significant contributors of pollutants to stormwater discharges, and 4) the same type of impervious surfaces in the drainage area that could affect the percolation of stormwater runoff into the ground (e.g., asphalt, crushed rock, grass).

Surface Waters of the State includes lakes, rivers, ponds, streams, inland waters, salt waters, and all other surface waters and water courses within the jurisdiction of the state.

Total Maximum Daily Load (TMDL) means a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet state water quality standards. Percentages of the total maximum daily load are allocated to the various pollutant sources. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The TMDL calculations include a "margin of safety" to ensure that the waterbody can be protected in case there are unforeseen events or unknown sources of the pollutant. The calculation also accounts for seasonable variation in water quality.

Treatment BMPs means BMPs that are intended to remove pollutants from stormwater.

Turbidity means the clarity of water expressed as nephelometric turbidity units (NTU) and measured with a calibrated turbidimeter.

Underground Injection Control Well means a well that is used to discharge fluids into the subsurface. An underground injection control well is one of the following:

1. A bored, drilled, or driven shaft,
2. An improved sinkhole, or
3. A subsurface fluid distribution system. (WAC 173-218-030)

Unsafe Conditions means those that are dangerous or create inaccessibility for personnel, such as local flooding, high winds, or electrical storms, or situations that otherwise make sampling impractical, such as drought or extended frozen conditions.

Unstaffed means the facility has no assigned staff. A site may be “unstaffed” even when security personnel are present, provided that pollutant generating activities are not included in their duties.

Vehicle means a motor-driven conveyance that transports people or freight, such as an automobile, truck, train, or airplane.

Vehicle Maintenance means the rehabilitation, mechanical repairing, painting, fueling, and/or lubricating of a motor-driven conveyance that transports people or freight, such as an automobile, truck, train, or airplane.

Wasteload Allocation (WLA) means the portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution. WLAs constitute a type of water quality based effluent limitation (40 CFR 130.2(h)).

Water Quality Standards means the Water Quality Standards for Surface Waters of the State of Washington, Chapter 173-201A WAC, Ground Water Quality Standards (Chapter 173-200 WAC), Sediment Management Standards (Chapter 173-204 WAC), and the federal human health-based criteria for Washington (40 CFR 131.45).

Waters of the State includes those waters defined as "waters of the United States" in 40 CFR Subpart 122.2 within the geographic boundaries of Washington State. State statute defines "waters of the State" to include lakes, rivers, ponds, streams, wetlands, inland waters, underground waters, salt waters, and all other surface waters and water courses within the jurisdiction of the state of Washington (Chapter 90.48 RCW).

APPENDIX 3 - SWPPP CERTIFICATION FORM

The Permittee shall use this form to sign and certify that the Stormwater Pollution Prevention Plan (SWPPP) is complete, accurate and in compliance with Conditions S3 and S8 of the Industrial Stormwater General Permit.

- A SWPPP certification form needs to be completed and attached to all SWPPPs.
- Each time a Level 1, 2 or 3 Corrective Action is required, this form needs to be re-signed and re-certified by the Permittee, and attached to the SWPPP.

Is this SWPPP certification in response to a Level 1, 2 or 3 Corrective Action? ☐Yes ☐No

If Yes, Type of Corrective Action: ☐Level 1 ☐Level 2 ☐Level 3*****

Date SWPPP update/revision completed:

Briefly describe SWPPP Update (use back side, if necessary):

***Note:** For Level 3 Corrective Actions, a qualified industrial stormwater professional must review the revised SWPPP, and sign and certify below, in accordance with Condition S8.D.2:

"The Permittee has made appropriate revisions to the SWPPP to include additional Treatment BMPs with the goal of achieving the applicable benchmark value(s) in future discharges. Based on my review of the SWPPP, discharges from the facility are reasonably expected to meet the ISGP benchmarks upon implementation."

Qualified Industrial Stormwater Professional's Printed Name	Title
Qualified Industrial Stormwater Professional's Signature	Date

(cont'd next page)

"I certify under penalty of law that this SWPPP and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate information to determine compliance with the Industrial Stormwater General Permit. Based on my inquiry of the person or persons who are responsible for stormwater management at my facility, this SWPPP is, to the best of my knowledge and belief, true, accurate, and complete, and in full compliance with Permit Conditions S3 and S8, including the correct Best Management Practices from the applicable Stormwater Management Manual. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Operator's Printed Name *	Title
Operator's Signature *	Date

* Federal regulations require this document to be signed in accordance with Condition G2.

APPENDIX 4 - EXISTING DISCHARGERS TO IMPAIRED WATER BODIES

This appendix has a link below to a website list of existing Permittees that discharge pollutants of concern, either directly or indirectly through a stormwater drainage system, to impaired water bodies based on the 2012 EPA-approved water quality assessment and to Puget Sound Sediment Cleanup Sites. https://apps.ecology.wa.gov/paris/ImpairedWaterBodyLimits.aspxh.

Appendix 4 was originally published on Ecology's website on 11/19/2014, and is linked to Ecology's PARIS database. As such, it is subject to revision based upon new information including but not limited to: new facilities, discharge points, and/or outfalls; updates or corrections to ISGP facility locations, stormwater sample points, discharge points, and/or outfall locations.

Appendix 4 is a technical assistance tool intended to support ISGP facilities with permit compliance. Appendix 4 may contain errors or omissions for various reasons, but this does not relieve ISGP facilities of applicable permit requirements If an inconsistency exists between Appendix 4 and ISGP Condition S6, the ISGP takes precedence. Permittees aware of errors or omissions with the information contained in Appendix 4 shall contact Ecology so that an update/correction can be made. If changes or updates are made, based on new or more accurate information, Ecology will notify the affected Permittees directly. Such changes or updates will not become effective until 30 days after the affected dischargers are notified.

APPENDIX 5 - DISCHARGERS SUBJECT TO TMDL REQUIREMENTS

The list of dischargers identified as discharging to water bodies which have completed water quality cleanup plans or TMDLs and associated monitoring requirements can be viewed on Ecology's website at:

https://ecology.wa.gov/DOE/files/14/14a209fd-4090-4d4a-9d5a-debfc3628fa9.pdf.

The most current list can also be obtained by contacting Ecology at:

Industrial Stormwater General Permit
Washington State Department of Ecology
PO Box 47696
Olympia, WA 98504-7696

This list is based on the best information available to Ecology. There will be changes and updates to this list based on new, more accurate information. If changes or updates are made, Ecology will notify the affected Permittees directly. Such changes or updates will not become effective until 30 days after the affected dischargers are notified.

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

December 30, 2019

WAR000097

Will Miller
Buse Timber And Sales Inc
3812 28th Pl NE
Everett, WA 98201-8602

BUSE TIMBER & SALES INC
3812 28TH PL NE
EVERETT, WA 98205-3209

RE: Reissuance of the Industrial Stormwater General Permit

Dear Will Miller:

On November 20, 2019, the Department of Ecology (Ecology) reissued the Industrial Stormwater National Pollutant Discharge Elimination System and State Waste Discharge General Permit (permit). The permit becomes effective on January 1, 2020, and expires on December 31, 2024. A mobile friendly copy of the permit, permit forms, and information related to your permit can be viewed and downloaded at www.ecology.wa.gov/ISGPeCoverage-packet. **Retain this letter with your permit and Stormwater Pollution Prevention Plan. It is the official record of permit coverage for your facility.**

Permit Overview: The new permit has a number of changes. The changes are summarized in the fact sheet. You can find more information on Ecology's website at: https://ecology.wa.gov/industrialstormwaterpermit. Please contact Ecology if you have any questions.

Site Specific Monitoring Requirements: Your monitoring requirements may be viewed by logging in to WebDMR and viewing your first DMR. If you believe there is a discrepancy between what the permit requires and the DMR, please contact Ecology immediately. In the case of a difference between the permit as applied to your facility and the DMR, the permit requirements take precedence.

Copies of the Permit: You may download copies of the final permit, Fact Sheet, Response to Comments, and other supporting documents online at https://ecology.wa.gov/industrialstormwaterpermit.You may also request copies from Dena Jaskar at (360) 407-6401 or by email at dena.jaskar@ecy.wa.gov.

Appeal of Permit Coverage

You have a right to appeal coverage under the general permit to the Pollution Control Hearings Board (PCHB). Appeals must be filed within 30 days of the date of receipt of this letter. Any appeal is limited to the general permit's applicability or non-applicability to a specific discharge. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

Included is a Focus Sheet describing where and how to appeal this permit coverage. The Focus Sheet may also be accessed at https://fortress.wa.gov/ecy/publications/SummaryPages/1710007.html.

For Additional Information or Assistance

Ecology is committed to providing assistance to you. Please review our web page at https://ecology.wa.gov/industrialstormwaterpermit. For questions about transfers, terminations, and other administrative issues, please contact Miya Spratt at MSPR461@ecy.wa.gov or (360) 407-6442.

If you have questions regarding stormwater management issues at your site, please contact Evan Dobrowski at edob461@ecy.wa.gov or (425) 649-7276.

Questions

If you have questions regarding the permit, please contact Travis Porter at (360) 407-6127, or Travis.Porter@ecy.wa.gov.

Sincerely,

Vincent McGowan, P.E. , Manager

Program Development Services Section
Water Quality Program

APPENDIX B

Department of Natural Resources Aquatic Lease 20-A12625

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES
DOUG SUTHERLAND, Commissioner of Public Lands

AQUATIC LANDS COMMERCIAL LEASE

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STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES
DOUG SUTHERLAND, Commissioner of Public Lands

AQUATIC LANDS LEASE
(Commercial)

AQUATIC LANDS LEASE NO. 20-A12625

THIS LEASE is made by and between the STATE OF WASHINGTON, acting through the Department of Natural Resources ("State"), and BUSE TIMBER & SALES, INC., a Washington Corporation ("Tenant").

BACKGROUND

Tenant desires to lease the aquatic lands commonly known as Union Slough, which Bedlands located in Snohomish County, Washington, from State, and State desires to lease the property to Tenant pursuant to the terms and conditions of this Lease.

THEREFORE, the parties agree as follows:

SECTION 1 PROPERTY

1.1 Property Defined. State leases to Tenant and Tenant leases from State the real property described in Exhibit A together with all the rights of State, if any, to improvements on and easements benefiting the Property, but subject to the exceptions and restrictions set forth in this Lease (collectively the "Property"). This Lease is subject to all valid interests of third parties noted in the records of Snohomish County, or on file in the office of the Commissioner of Public Lands, Olympia, Washington; rights of the public under the Public Trust Doctrine or federal navigation servitude; and treaty rights of Indian Tribes. Not included in this Lease are any right to harvest, collect or damage any natural resource, including aquatic life or living plants, any water rights, or any mineral rights, including any right to excavate or withdraw sand, gravel, or other valuable materials. State reserves the right to grant easements and other land uses on the Property to others when the easement or other land uses will not unreasonably interfere with Tenant's Permitted Use.

1.2 Survey, Maps, and Plans. In executing this Lease, State is relying on the surveys, plats, diagrams, and/or legal descriptions provided by Tenant. Tenant is not relying upon and State is not making any representations about any survey, plat, diagram, and/or legal description provided by State.

1.3 Inspection. State makes no representation regarding the condition of the Property, improvements located on the Property, the suitability of the Property for Tenant's Permitted Use, compliance with governmental laws and regulations, availability

of utility rights, access to the Property or the existence of hazardous substances on the Property. Tenant has inspected the Property and accepts it "AS IS."

SECTION 2 USE

2.1 Permitted Use. Tenant shall use the Property for log booming (the "Permitted Use"), and for no other purpose. The Permitted Use is described or shown in greater detail in Exhibit B, the terms and conditions of which are incorporated by reference and made a part of this Lease The parties agree that this is a water-dependent use.

2.2 Restrictions on Use. Tenant shall not cause or permit any damage to natural resources on the Property. Tenant shall also not cause or permit any filling activity to occur on the Property. This prohibition includes any deposit of rock, earth, ballast, refuse, garbage, waste matter (including chemical, biological or toxic wastes), hydrocarbons, any other pollutants, or other matter in or on the Property, except as approved in writing by State. Tenant shall neither commit nor allow waste to be committed to or on the Property. If Tenant fails to comply with all or any of the restrictions on the use of the Property set out in this Subsection 2.2, State shall notify Tenant and provide Tenant a reasonable time to take all steps necessary to remedy the failure. If Tenant fails to do so in a timely manner, then State may take any steps reasonably necessary to remedy this failure. Upon demand by State, Tenant shall pay all costs of such remedial action, including but not limited to the costs of removing and disposing of any material deposited improperly on the Property. This section shall not in any way limit Tenant's liability under Section 8, below.

2.3 Conformance with Laws. Tenant shall, at all times, keep current and comply with all conditions and terms of any permits, licenses, certificates, regulations, ordinances, statutes, and other government rules and regulations regarding its use or occupancy of the Property.

2.4 Liens and Encumbrances. Tenant shall keep the Property free and clear of any liens and encumbrances arising out of or relating to its use or occupancy of the Property.

SECTION 3 TERM

3.1 Term Defined. The term of this Lease is Ten (10) years (the "Term"), beginning on the1st day of January, 2004 (the "Commencement Date"), and ending on the 31st day of December, 2014 (the "Termination Date"), unless terminated sooner under the terms of this Lease.

3.2 Renewal of the Lease. Tenant shall have the option to renew this Lease for Zero (0) additional terms of Zero (0) years each. The initial Term of this Lease, and all renewal terms, shall not exceed Ten (10) years in the aggregate. Tenant shall exercise this option by providing written notice of its election to renew at least ninety (90) days prior to the Termination Date of the initial Term or any renewal term of this Lease.

Tenant shall not be entitled to renew if it is in default under the terms of this Lease at the time the option to renew is exercised. The terms and conditions of any renewal term shall be the same as set forth in this Lease, except that rent shall be recalculated, the required amounts of financial security may be revised, and provisions dealing with hazardous waste or impacts to natural resources may be changed at the time of the renewal.

3.3 Delay in Delivery of Possession. If State, for any reason whatsoever, cannot deliver possession of the Property to Tenant on the Commencement Date, this Lease shall not be void or voidable, nor shall State be liable to Tenant for any loss or damage resulting from the delay in delivery of possession. In such event, the date of delivery of possession shall be the Commencement Date for all purposes, including the payment of rent. In the event Tenant takes possession before the Commencement Date, the date of possession shall be the Commencement Date for all purposes, including the payment of rent. If the Lease Term commences earlier or later than the scheduled Commencement Date, the Termination Date shall be adjusted accordingly.

3.4 End of Term. Upon the expiration or termination of the Term or extended term, as applicable, Tenant shall surrender the Property to State in the same or better condition as on the Commencement Date, reasonable wear and tear excepted.

3.5 Hold Over. If Tenant remains in possession of the Property after the Termination Date, the occupancy shall not be an extension or renewal of the Term. The occupancy shall be a month-to-month tenancy, on terms identical to the terms of this Lease, which may be terminated by either party on thirty (30) days written notice. The monthly rent during the holdover shall be the same rent which would be due if the Lease were still in effect and all adjustments in rent were made in accordance with its terms. If State provides a notice to vacate the Property in anticipation of the termination of this Lease or at any time after the Termination Date and Tenant fails to do so within the time set forth in the notice, then Tenant shall be a trespasser and shall owe the State all amounts due under RCW 79.01.760 or other applicable law.

SECTION 4 RENT

4.1 Annual Rent. Until adjusted as set forth below, Tenant shall pay to State an annual rent of Two Hundred Twenty Five and 94/100 Dollars ($225.94). The annual rent, as it currently exists or as adjusted or modified (the "Annual Rent"), shall be due and payable in full on or before the Commencement Date and on or before the same date of each year thereafter.

4.2 Payment Place. Payment is to be made to Financial Management Division, 1111 Washington St SE, PO Box 47041, Olympia, WA 98504-7041.

4.3 Adjustment Based on Use. Annual Rent is based on Tenant's Permitted Use of the Property, as described in Section 2 above. If Tenant's Permitted Use changes, the Annual Rent shall be adjusted as appropriate for the changed use.

4.4 Rent Adjustments for Water-Dependent Uses.

(a) Inflation Adjustment. State shall adjust water-dependent rent annually pursuant to RCW 79.90.450 -902, except in those years in which the rent is revalued under Subsection 4.4(b) below. This adjustment shall be effective on the anniversary of the Commencement Date.

(b) Revaluation of Rent. State shall, at the end of the first four-year period of the Term, and at the end of each subsequent four-year period, revalue the water-dependent Annual Rent in accordance with RCW 79.90.450-.902.

(c) Rent Cap. After the initial year's rent is determined under Subsection 4.1, rent may increase by operation of Subsection 4.4(a) or 4.4(b). If application of the statutory rent formula for water-dependent uses would result in an increase in the rent attributable to such uses of more than fifty percent (50%) in any one year, the actual increase implemented in such year shall be limited to fifty percent (50%) of the then-existing rent, in accordance with RCW 79.90.490. The balance of the increase determined by the formula shall be deferred to subsequent years and added to the next and subsequent years' rental increases until the full amount of the increase is lawfully implemented.

SECTION 5 OTHER EXPENSES

During the Term, Tenant shall pay the following additional expenses:

5.1 Utilities. Tenant shall pay all fees charged for utilities in connection with the use and occupancy of the Property, including but not limited to electricity, water, gas, and telephone service.

5.2 Taxes and Assessments. Tenant shall pay all taxes (including leasehold excise taxes), assessments, and other governmental charges, of any kind whatsoever, applicable or attributable to the Property, Tenant's leasehold interest, the improvements, or Tenant's use and enjoyment of the Property.

5.3 Right to Contest. Tenant may, in good faith, contest any tax or assessment at its sole cost and expense. At the request of State, Tenant shall furnish reasonable protection in the form of a bond or other security, satisfactory to State, against any loss or liability by reason of such contest.

5.4 Proof of Payment. Tenant shall, if required by State, furnish to State receipts or other appropriate evidence establishing the payment of any amounts required to be paid under the terms of this Lease.

5.5 Failure to Pay. If Tenant fails to pay any of the amounts due under this Lease, State may pay the amount due, and recover its cost in accordance with the provisions of Section 6.

SECTION 6 LATE PAYMENTS AND OTHER CHARGES

6.1 Late Charge. If any rental payment is not received by State within ten (10) days of the date due, Tenant shall pay to State a late charge equal to four percent (4%) of the amount of the payment or Fifty Dollars ($50), whichever is greater, to defray the overhead expenses of State incident to the delay.

6.2 Interest Penalty for Past Due Rent and Other Sums Owed. If rent is not paid within thirty (30) days of the date due, then Tenant shall, in addition to paying the late charges determined under Subsection 6.1, above, pay interest on the amount outstanding at the rate of one percent (1%) per month until paid. If State pays or advances any amounts for or on behalf of Tenant, including but not limited to leasehold taxes, taxes, assessments, insurance premiums, costs of removal and disposal of unauthorized materials pursuant to Section 2 above, costs of removal and disposal of improvements pursuant to Section 7 below, or other amounts not paid when due, Tenant shall reimburse State for the amount paid or advanced and shall pay interest on that amount at the rate of one percent (1%) per month from the date State notifies Tenant of the payment or advance.

6.3 No Accord and Satisfaction. If Tenant pays, or State otherwise receives, an amount less than the full amount then due, State may apply such payment as it elects. In the absence of an election, the payment or receipt shall be applied first to accrued taxes which State has advanced or may be obligated to pay, then to other amounts advanced by State, then to late charges and accrued interest, and then to the earliest rent due. State may accept any payment in any amount without prejudice to State's right to recover the balance of the rent or pursue any other right or remedy. No endorsement or statement on any check, any payment, or any letter accompanying any check or payment shall constitute or be construed as accord and satisfaction.

6.4 No Counterclaim, Setoff, or Abatement of Rent. Except as expressly set forth elsewhere in this Lease, rent and all other sums payable by Tenant pursuant to this Lease shall be paid without the requirement that State provide prior notice or demand, and shall not be subject to any counterclaim, setoff, deduction, defense or abatement.

SECTION 7 IMPROVEMENTS

7.1 Existing Improvements. On the Commencement Date, the following improvements are located on the Property: 17 pilings. The improvements are not owned by State "Existing Improvements."

7.2 Tenant-Owned Improvements. So long as this Lease remains in effect, Tenant shall retain ownership of all authorized improvements and trade fixtures it may place on the Property (collectively "Tenant-Owned Improvements"). Tenant-Owned

Improvements shall not include any construction, reconstruction, alteration, or addition to any Unauthorized Improvements as defined in Subsection 7.5 below. No Tenant-Owned Improvements shall be placed on the Property without State's prior written consent.

7.3 Construction. Prior to any construction, alteration, replacement, removal or major repair of any improvements (whether State-Owned or Tenant-Owned), Tenant shall submit to State plans and specifications which describe the proposed activity. Construction shall not commence until State has approved those plans and specifications in writing and Tenant has obtained a performance and payment bond in an amount equal to 125% of the estimated cost of construction. The performance and payment bond shall be maintained until the costs of construction, including all laborers and material persons, have been paid in full. State shall have sixty (60) days in which to review the proposed plans and specifications. The plans and specifications shall be deemed approved and the requirement for State's written consent shall be treated as waived, unless State notifies Tenant otherwise within the sixty (60) days. Upon completion of construction, Tenant shall promptly provide State with as-built plans and specifications. State's consent and approval shall not be required for any routine maintenance or repair of improvements made by the Tenant pursuant to its obligation to maintain the Property in good order and repair that does not result in the construction, alteration, replacement, removal, or major repair of any improvements on the Property.

7.4 Removal. Tenant-Owned Improvements shall be removed by Tenant by the Termination Date unless State notifies Tenant that the Tenant-Owned Improvements may remain. If the State elects for the Tenant-Owned Improvements to remain on the Property after the Termination Date, they shall become the property of State without payment by State (if the provisions of RCW 79.94.320 or RCW 79.95.040 apply, Tenant shall be entitled to the rights provided in the statute). To the extent that Tenant-Owned Improvements include items of personal property which may be removed from the leasehold premises without harming the Property, or diminishing the value of the Property or the improvements, the State asserts no ownership interest in these improvements unless the parties agree otherwise in writing upon termination of this Lease. Any Tenant-Owned Improvements specifically identified as personal property in Exhibit A or B shall be treated in accordance with this provision. Tenant shall notify State at least one hundred eighty (180) days before the Termination Date if it intends to leave the Tenant-Owned Improvements on the Property. State shall then have ninety (90) days in which to notify Tenant that it wishes to have the Tenant-Owned Improvements removed or elects to have them remain. Failure to notify Tenant shall be deemed an election by State that the Tenant-Owned Improvements will remain on the Property. If the Tenant-Owned Improvements remain on the Property after the Termination Date without State's actual or deemed consent, they still will become the property of the State but the State may remove them and Tenant shall pay the costs of removal and disposal upon State's demand.

7.5 Unauthorized Improvements. Improvements made on the Property without State's prior consent pursuant to Subsection 7.3 or which are not in conformance with the plans submitted to and approved by State ("Unauthorized Improvements") shall

immediately become the property of State, unless State elects otherwise. Regardless of ownership of Unauthorized Improvements, State may, at its option, require Tenant to sever, remove, and dispose of them, charge Tenant rent for the use of them, or both. If Tenant fails to remove an Unauthorized Improvement upon request, State may remove it and charge Tenant for the cost of removal and disposal.

SECTION 8 ENVIRONMENTAL LIABILITY/RISK ALLOCATION

8.1 Definition. "Hazardous Substance" means any substance which now or in the future becomes regulated or defined under any federal, state, or local statute, ordinance, rule, regulation, or other law relating to human health, environmental protection, contamination or cleanup, including, but not limited to, the Comprehensive Environmental Response, Compensation and Liability Act of 1980 ("CERCLA"), 42 U.S.C. 9601 *et seq.*, and Washington's Model Toxics Control Act ("MTCA"), RCW 70.105D.010 *et seq.*

8.2 Use of Hazardous Substances. Tenant covenants and agrees that Hazardous Substances will not be used, stored, generated, processed, transported, handled, released, or disposed of in, on, under, or above the Property, except in accordance with all applicable laws.

8.3 Current Conditions, Duty of Utmost Care, and Duty to Investigate.

(a) With regard to any Hazardous Substances that may exist in, on, under, or above the Property, State disclaims any and all responsibility to conduct investigations, to review any State records, documents or files, or to obtain or supply any information to Tenant.

(b) Tenant shall exercise the utmost care with respect to both Hazardous Substances in, on, under, or above the Property as of the Commencement Date, and any Hazardous Substances that come to be located in, on, under, or above the Property during the Term of this agreement, along with the foreseeable acts or omissions of third parties affecting those Hazardous Substances, and the foreseeable consequences of those acts or omissions. The obligation to exercise utmost care under this Subsection 8.3 includes, but is not limited to, the following requirements:

(1) Tenant shall not undertake activities that will cause, contribute to, or exacerbate contamination of the Property;

(2) Tenant shall not undertake activities that damage or interfere with the operation of remedial or restoration activities on the Property or undertake activities that result in human or environmental exposure to contaminated sediments on the Property;

(3) Tenant shall not undertake any activities that result in the mechanical or chemical disturbance of on-site habitat mitigation;

(4) If requested, Tenant shall allow reasonable access to the Property by employees and authorized agents of the Environmental Protection Agency, the Washington State Department of Ecology, or other similar environmental agencies; and

(5) If requested, Tenant shall allow reasonable access to potentially liable or responsible parties who are the subject of an order or consent decree which requires access to the Property. Tenant's obligation to provide access to potentially liable or responsible parties may be conditioned upon the negotiation of an access agreement with such parties, provided that such agreement shall not be unreasonably withheld.

(c) It shall be Tenant's obligation to gather sufficient information concerning the Property and the existence, scope, and location of any Hazardous Substances on the Property, or adjoining the Property, that allows Tenant to effectively meet its obligations under this lease.

8.4 Notification and Reporting.

(a) Tenant shall immediately notify State if Tenant becomes aware of any of the following:

(1) A release or threatened release of Hazardous Substances in, on, under, or above the Property, any adjoining property, or any other property subject to use by Tenant in conjunction with its use of the Property;

(2) Any problem or liability related to, or derived from, the presence of any Hazardous Substance in, on, under, or above the Property, any adjoining property, or any other property subject to use by Tenant in conjunction with its use of the Property;

(3) Any actual or alleged violation of any federal, state, or local statute, ordinance, rule, regulation, or other law pertaining to Hazardous Substances with respect to the Property, any adjoining property, or any other property subject to use by Tenant in conjunction with its use of the Property;

(4) Any lien or action with respect to any of the foregoing; or,

5) Any notification from the US Environmental Protection Agency (EPA) or the Washington State Department of Ecology (DOE) that

remediation or removal of Hazardous Substances is or may be required at the Property.

(b) Upon request, Tenant shall provide State with copies of any and all reports, studies, or audits which pertain to environmental issues or concerns associated with the Property, and which were prepared for Tenant and submitted to any federal, state or local authorities pursuant to any federal, state or local permit, license or law. These permits include, but are not limited to, any National Pollution Discharge and Elimination System Permit, any Army Corps of Engineers permit, any State Hydraulics permit, any State Water Quality certification, or any Substantial Development permit.

8.5 Indemnification.

(a) Tenant shall fully indemnify, defend, and hold State harmless from and against any and all claims, demands, damages, natural resource damages, response costs, remedial costs, cleanup costs, losses, liens, liabilities, penalties, fines, lawsuits, other proceedings, costs, and expenses (including attorneys' fees and disbursements), that arise out of, or are in any way related to:

(1) The use, storage, generation, processing, transportation, handling, or disposal of any Hazardous Substance by Tenant, its subtenants, contractors, agents, employees, guests, invitees, or affiliates in, on, under, or above the Property, any adjoining property, or any other property subject to use by Tenant in conjunction with its use of the Property, during the Term of this Lease or during any time when Tenant occupies or occupied the Property or any such other property;

(2) The release or threatened release of any Hazardous Substance, or the exacerbation of any Hazardous Substance contamination, in, on, under, or above the Property, any adjoining property, or any other property subject to use by Tenant in conjunction with its use of the Property, which release, threatened release, or exacerbation occurs or occurred during the Term of this Lease or during any time when Tenant occupies or occupied the Property or any such other property, and as a result of:

(i) Any act or omission of Tenant, its subtenants, contractors, agents, employees, guests, invitees, or affiliates; or,

(ii) Any foreseeable act or omission of a third party unless Tenant exercised the utmost care with respect to the

foreseeable acts or omissions of the third party and the foreseeable consequences of those acts or omissions.

(b) In addition to the indemnifications provided in Subsection 8.5(a), Tenant shall fully indemnify State for any and all damages, liabilities, costs or expenses (including attorneys' fees and disbursements) that arise out of or are in any way related to Tenant's breach of the obligations of Subsection 8.3(b). This obligation is not intended to duplicate the indemnity provided in Subsection 8.5(a) and applies only to damages, liabilities, costs, or expenses that are associated with a breach of Subsection 8.3(b) and which are not characterized as a release, threatened release, or exacerbation of Hazardous Substances.

8.6 Cleanup. If a release of Hazardous Substances occurs in, on, under, or above the Property, or other State-owned property, arising out of any action, inaction, or event described or referred to in Subsection 8.5, above, Tenant shall, at its sole expense, promptly take all actions necessary or advisable to clean up the Hazardous Substances. Cleanup actions shall include, without limitation, removal, containment and remedial actions and shall be performed in accordance with all applicable laws, rules, ordinances, and permits. Tenant's obligation to undertake a cleanup under this Subsection 8.6 shall be limited to those instances where the Hazardous Substances exist in amounts that exceed the threshold limits of any applicable regulatory cleanup standards. Tenant shall also be solely responsible for all cleanup, administrative, and enforcement costs of governmental agencies, including natural resource damage claims, arising out of any action, inaction, or event described or referred to in Subsection 8.5, above. Tenant may undertake a cleanup pursuant to the Washington State Department of Ecology's Voluntary Cleanup Program, provided that: (1) Any cleanup plans shall be submitted to State (DNR) for review and comment at least thirty (30) days prior to implementation (except in emergency situations), and (2) Tenant must not be in breach of this lease. Nothing in the operation of this provision shall be construed as an agreement by State that the voluntary cleanup complies with any laws or with the provisions of this Lease.

8.7 Sampling by State, Reimbursement, and Split Samples.

(a) State may conduct sampling, tests, audits, surveys, or investigations ("Tests") of the Property at any time to determine the existence, scope, or effects of Hazardous Substances on the Property, any adjoining property, any other property subject to use by Tenant in conjunction with its use of the Property, or any natural resources. If such Tests, along with any other information, demonstrates the existence, release, or threatened release of Hazardous Substances arising out of any action, inaction, or event described or referred to in Subsection 8.5, above, Tenant shall promptly reimburse State for all costs associated with such Tests.

(b) State's ability to seek reimbursement for any Tests under this Subsection shall be conditioned upon State providing Tenant written notice of its

intent to conduct any Tests at least thirty (30) calendar days prior to undertaking such Tests, unless such Tests are performed in response to an emergency situation in which case State shall only be required to give such notice as is reasonably practical.

(c) Tenant shall be entitled to obtain split samples of any Test samples obtained by State, but only if Tenant provides State with written notice requesting such samples within twenty (20) calendar days of the date Tenant is deemed to have received notice of State's intent to conduct any non-emergency Tests. The additional cost, if any, of split samples shall be borne solely by Tenant. Any additional costs State incurs by virtue of Tenant's split sampling shall be reimbursed to State within thirty (30) calendar days after a bill with documentation for such costs is sent to Tenant.

Within thirty (30) calendar days of a written request (unless otherwise required pursuant to Subsection 8.4(b), above), either party to this Lease shall provide the other party with validated final data, quality assurance/quality control information, and chain of custody information, associated with any Tests of the Property performed by or on behalf of State or Tenant. There is no obligation to provide any analytical summaries or expert opinion work product.

8.8 Reservation of Rights. The parties have agreed to allocate certain environmental risks, liabilities, and responsibilities by the terms of Section 8. With respect to those environmental liabilities covered by the indemnification provisions of Subsection 8.5, that subsection shall exclusively govern the allocation of those liabilities. With respect to any environmental risks, liabilities, or responsibilities not covered by Subsection 8.5, the parties expressly reserve and do not waive or relinquish any rights, claims, immunities, causes of action, or defenses relating to the presence, release, or threatened release of Hazardous Substances in, on, under, or above the Property, any adjoining property, or any other property subject to use by Tenant in conjunction with its use of the Property, that either party may have against the other under federal, state, or local laws, including but not limited to, CERCLA, MTCA, and the common law. No right, claim, immunity, or defense either party may have against third parties is affected by this Lease and the parties expressly reserve all such rights, claims, immunities, and defenses. The allocations of risks, liabilities, and responsibilities set forth above do not release either party from, or affect either party's liability for, claims or actions by federal, state, or local regulatory agencies concerning Hazardous Substances.

SECTION 9 ASSIGNMENT AND SUBLETTING

9.1 State Consent Required. Tenant shall not sell, convey, mortgage, assign, pledge, sublet, or otherwise transfer or encumber all or any part of Tenant's interest in this Lease or the Property without State's prior written consent, which shall not be unreasonably conditioned or withheld.

(a) In determining whether to consent, State may consider, among other items, the proposed transferee's financial condition, business reputation and experience, the nature of the proposed transferee's business, the then-current value of the Property, and such other factors as may reasonably bear upon the suitability of the transferee as a tenant of the Property. Tenant shall submit information regarding any proposed transferee to State at least thirty (30) days prior to the date of the proposed transfer.

(b) State reserves the right to condition its consent upon: (1) changes in the terms and conditions of this Lease, including the Annual Rent and other terms; and/or (2) the agreement of Tenant or transferee to conduct Tests for Hazardous Substances on the Property or on other property owned or occupied by Tenant or the transferee.

(c) Each permitted transferee shall assume all obligations under this Lease, including the payment of rent. No assignment, sublet, or transfer shall release, discharge, or otherwise affect the liability of Tenant.

9.2 Event of Assignment. If Tenant is a corporation, a dissolution of the corporation or a transfer (by one or more transactions) of a majority of the voting stock of Tenant shall be deemed to be an assignment of this Lease. If Tenant is a partnership, a dissolution of the partnership or a transfer (by one or more transactions) of the controlling interest in Tenant shall be deemed an assignment of this Lease.

9.3 Rent Payments Following Assignment. The acceptance by State of the payment of rent following an assignment or other transfer shall not constitute consent to any assignment or transfer.

9.4 Terms of Subleases. All subleases shall be submitted to State for approval and shall meet the following requirements:

(a) The sublease shall be consistent with and subject to all the terms and conditions of this Lease;

(b) The sublease shall confirm that if the terms of the sublease conflict with the terms of this Lease, this Lease shall control;

(c) The term of the sublease (including any period of time covered by a renewal option) shall end before the Termination Date of the initial Term or any renewal term;

(d) The sublease shall terminate if this Lease terminates, whether upon expiration of the Term, failure to exercise an option to renew, cancellation by State, surrender or for any other reason;

(e) The subtenant shall receive and acknowledge receipt of a copy of this Lease;

(f) The sublease shall prohibit the prepayment to Tenant by the subtenant of more than one month's rent;

(g) The sublease shall identify the rental amount to be paid to Tenant by the subtenant;

(h) The sublease shall confirm that there is no privity of contract between the subtenant and State;

(i) The sublease shall require removal of the subtenant's improvements and trade fixtures upon termination of the sublease; and,

(j) The subtenant's permitted use shall be within the Permitted Use authorized by this Lease.

9.5. Routine Subleasing of Moorage Slips. In the case of routine subleasing of moorage slips to recreational and commercial vessel owners for a term of one year or less, Tenant shall not be required to obtain State's written consent or approval pursuant to Subsection 9.1 or Subsection 9.4. Tenant shall be obligated to ensure that these moorage agreements conform to the sublease requirements in Subsection 9.4.

SECTION 10 INDEMNITY, FINANCIAL SECURITY, INSURANCE

10.1 Indemnity. Tenant shall indemnify, defend, and hold harmless State, its employees, officers, and agents from any and all liability, damages (including bodily injury, personal injury and damages to land, aquatic life, and other natural resources), expenses, causes of action, suits, claims, costs, fees (including attorneys' fees), penalties, or judgments, of any nature whatsoever, arising out of the use, occupation, or control of the Property by Tenant, its subtenants, invitees, agents, employees, licensees, or permittees, except as may arise solely out of the willful or negligent act of State or State's elected officials, employees, or agents. To the extent that RCW 4.24.115 applies, Tenant shall not be required to indemnify, defend, and hold State harmless from State's sole or concurrent negligence. Tenant's liability to State for hazardous substances, and its obligation to indemnify, defend, and hold the State harmless for hazardous substances, shall be governed exclusively by Section 8.

10.2 Financial Security.

(a) At its own expense, Tenant shall procure and maintain a corporate surety bond or provide other financial security satisfactory to State (the "Bond") in an amount equal to Five Thousand and 00/100 Dollars ($5,000.), which shall secure Tenant's full performance of its obligations under this Lease, with the exception of the obligations under Section 8 (Environmental

Liability/Risk Allocation) above. The Bond shall be in a form and issued by a surety company acceptable to State. State may require an adjustment in the amount of the Bond:

(1) At the same time as revaluation of the Annual Rent;

(2) As a condition of approval of assignment or sublease of this Lease;

(3) Upon a material change in the condition of any improvements; or,

(4) Upon a change in the Permitted Use.

A new or modified Bond shall be delivered to State within thirty (30) days after adjustment of the amount of the Bond has been required by State.

(b) Upon any default by Tenant in its obligations under this Lease, State may collect on the Bond to offset the liability of Tenant to State. Collection on the Bond shall not relieve Tenant of liability, shall not limit any of State's other remedies, and shall not reinstate or cure the default or prevent termination of the Lease because of the default.

10.3 Insurance. At its own expense, Tenant shall procure and maintain during the Term of this Lease, the insurance coverages and limits described in Subsections 10.3(a) and (b) below. This insurance shall be issued by an insurance company or companies admitted and licensed by the Insurance Commissioner to do business in the State of Washington. Insurers must have a rating of B+ or better by "Best's Insurance Reports," or a comparable rating by another rating company acceptable to State. If non-admitted or non-rated carriers are used, the policies must comply with Chapter 48.15 RCW.

(a) Types of Required Insurance.

(1) Commercial General Liability Insurance. Tenant shall procure and maintain Commercial General Liability insurance and, if applicable, Marina Operators Legal Liability insurance covering claims for bodily injury, personal injury, or property damage arising on the Property and/or arising out of Tenant's operations. If necessary, commercial umbrella insurance covering claims for these risks shall be procured and maintained. Insurance must include liability coverage with limits not less than those specified below:

Description	
Each Occurrence	$1,000,000
General Aggregate Limit	$2,000,000

State may impose changes in the limits of liability:

(i) As a condition of approval of assignment or sublease of this Lease;

(ii) Upon any breach of Section 8, above;

(iii) Upon a material change in the condition of the Property or any improvements; or,

(iv) Upon a change in the Permitted Use.

New or modified insurance coverage shall be in place within thirty (30) days after changes in the limits of liability are required by State.

(2) Property Insurance. Tenant shall procure and maintain property insurance covering all real property located on or constituting a part of the Property in an amount equal to the replacement value of all improvements on the Property. Such insurance may have commercially reasonable deductibles.

(3) Worker's Compensation/Employer's Liability Insurance. Tenant shall procure and maintain:

(i) State of Washington Worker's Compensation coverage, as applicable, with respect to any work by Tenant's employees on or about the Property and on any improvements;

Employers Liability or "Stop Gap" insurance coverage with limits not less than those specified below. Insurance must include bodily injury coverage with limits not less than those specified below:

Each Employee		Policy Limit
By Accident	By Disease	By Disease
$1,000,000	$1,000,000	$1,000,000

Longshore and Harbor Worker's Act and Jones Act coverage, as applicable, with respect to any work by Tenant's employees on or about the Property and on any improvements.

(4) Builder's Risk Insurance. As applicable, Tenant shall procure and maintain builder's risk insurance in an amount reasonably satisfactory to State during construction, replacement, or material alteration of the Property or improvements on the Property. Coverage shall be in place until such work is completed and evidence of completion is provided to State.

(5) Business Auto Policy Insurance. As applicable, Tenant shall procure and maintain a business auto policy. The insurance must include liability coverage with limits not less than those specified below:

Description	Each Accident
Bodily Injury and Property Damage	$1,000,000

(b) Terms of Insurance. The policies required under Subsection 10.3 shall name the State of Washington, Department of Natural Resources as an additional insured (except for State of Washington Worker's Compensation coverage, and Federal Jones' Act and Longshore and Harbor Worker's Act coverages). Furthermore, all policies of insurance described in Subsection10.3 shall meet the following requirements:

(1) Policies shall be written as primary policies not contributing with and not in excess of coverage that State may carry;

(2) Policies shall expressly provide that such insurance may not be canceled or nonrenewed with respect to State except upon forty-five (45) days prior written notice from the insurance company to State;

(3) To the extent of State's insurable interest, property coverage shall expressly provide that all proceeds shall be paid jointly to State and Tenant;

(4) All liability policies must provide coverage on an occurrence basis; and

(5) Liability policies shall not include exclusions for cross liability.

Proof of Insurance. Tenant shall furnish evidence of insurance in the form of a Certificate of Insurance satisfactory to the State accompanied by a checklist of coverages provided by State, executed by a duly authorized representative of each insurer showing compliance with the insurance requirements described in section 10, and, if requested, copies of policies to State. The Certificate of Insurance shall reference the State of Washington, Department of Natural Resources and the lease number. Receipt of such certificates or policies by State does not constitute approval by State of the terms of such policies. Tenant acknowledges that the coverage requirements set forth herein are the minimum limits of insurance the Tenant must purchase to enter into this agreement. These limits may not be sufficient to cover all liability losses and related claim settlement expenses. Purchase of these limits of coverage does not relieve the Tenant from liability for losses and settlement expenses greater than these amounts.

10.4 State's Acquisition of Insurance. If Tenant fails to procure and maintain the insurance described above within fifteen (15) days after Tenant receives a notice to comply from State, State shall have the right to procure and maintain comparable substitute insurance and to pay the premiums. Tenant shall pay to State upon demand the full amount paid by State, together with interest at the rate provided in Subsection 6.2 from the date of State's notice of the expenditure until Tenant's repayment.

SECTION 11 MAINTENANCE AND REPAIR

11.1 State's Repairs. State shall not be required to make any alterations, maintenance, replacements, or repairs in, on, or about the Property, or any part thereof, during the Term.

11.2 Tenant's Repairs, Alteration, Maintenance and Replacement.

(a) Tenant shall, at its sole cost and expense, keep and maintain the Property and all improvements (regardless of ownership) in good order and repair, in a clean, attractive, and safe condition.

(b) Tenant shall, at its sole cost and expense, make any and all additions, repairs, alterations, maintenance, replacements, or changes to the Property or to any improvements on the Property which may be required by any public authority.

(c) All additions, repairs, alterations, replacements or changes to the Property and to any improvements on the Property shall be made in accordance with, and ownership shall be governed by, Section 7, above.

SECTION 12 DAMAGE OR DESTRUCTION

(a) In the event of any damage to or destruction of the Property or any improvements, Tenant shall promptly give written notice to State. Unless otherwise agreed in writing, Tenant shall promptly reconstruct, repair, or replace the Property and any improvements as nearly as possible to its condition immediately prior to the damage or destruction.

(b) Tenant's duty to reconstruct, repair, or replace any damage or destruction of the Property or any improvements on the Property shall not be conditioned upon the availability of any insurance proceeds to Tenant from which the cost of repairs may be paid.

(c) Unless this Lease is terminated by mutual agreement, there shall be no abatement or reduction in rent during such reconstruction, repair, and replacement.

(d) Any insurance proceeds payable by reason of damage or destruction shall be first used to restore the real property covered by this Lease, then to pay the cost of the reconstruction, then to pay the State any sums in arrears, and then to Tenant.

(e) In the event Tenant is in default under the terms of this Lease at the time damage or destruction occurs, State may elect to terminate the Lease and State shall then have the right to retain any and all insurance proceeds payable as a result of the damage or destruction.

SECTION 13 CONDEMNATION

13.1 Definitions.

(a) Taking. The term "taking," as used in this Lease, means the taking of all or any portion of the Property and any improvements thereon under the power of eminent domain, either by judgment or settlement in lieu of judgment. Taking also means the taking of all or a portion of the Property and any improvements thereon to the extent that the Permitted Use is prevented or, in the judgment of State, the Property is rendered impractical for the Permitted Use. A total taking occurs when the entire Property is taken. A partial taking occurs when the taking does not constitute a total taking as defined above.

(b) Voluntary Conveyance. The terms "total taking" and "partial taking" shall include a voluntary conveyance, in lieu of formal court proceedings, to any agency, authority, public utility, person, or corporate entity empowered to condemn property.

(c) Date of Taking. The term "date of taking" shall mean the date upon which title to the Property or a portion of the Property passes to and vests in the condemnor or the effective date of any order for possession if issued prior to the date title vests in the condemnor.

13.2 Effect of Taking. If during the Term there shall be a total taking, the leasehold estate of Tenant in the Property shall terminate as of the date of taking. If this Lease is terminated, in whole or in part, all rentals and other charges payable by Tenant to State and attributable to the Property taken shall be paid by Tenant up to the date of taking. If Tenant has pre-paid rent, Tenant will be entitled to a refund of the pro rata share of the pre-paid rent attributable to the period after the date of taking. In the event of a partial taking, there shall be a partial abatement of rent from the date of taking in a percentage equal to the percentage of Property taken.

13.3 Allocation of Award. State and Tenant agree that in the event of any condemnation, the award shall be allocated between State and Tenant based upon the ratio of the fair market value of Tenant's leasehold estate and Tenant-Owned

Improvements on the Property and State's interest (a) in the Property, (b) in the reversionary interest in Tenant-Owned Improvements, and (c) in State-Owned Improvements. In the event of a partial taking, this ratio will be computed on the basis of the portion of Property or improvements taken. If Tenant and State are unable to agree on the allocation, it shall be submitted to binding arbitration in accordance with the rules of the American Arbitration Association.

SECTION 14 DEFAULT AND REMEDIES

(a) Tenant shall be in default of this Lease on the occurrence of any of the following:

(1) Failure to pay Annual Rent or other expenses when due;

(2) Failure to comply with any law, regulation, policy, or order of any lawful governmental authority;

(3) Failure to comply with any other provision of this Lease;

(4) Two or more defaults over a period of time, or a single serious default, that demonstrates a reasonable likelihood of future defaults in the absence of corrective action by Tenant; or

(5) Proceedings are commenced by or against Tenant under any bankruptcy act or for the appointment of a trustee or receiver of Tenants' property.

(b) A default shall become an event of default ("Event of Default") if Tenant fails to cure the default within 60 after State provides Tenant with written notice of default, which specifies the nature of the default.

(c) Upon an Event of Default, State may terminate this Lease and remove Tenant by summary proceedings or otherwise. State may also, without terminating this Lease, relet the Property on any terms and conditions as State in its sole discretion may decide are appropriate. If State elects to relet, rent received by it shall be applied: (1) to the payment of any indebtedness other than rent due from Tenant to State; (2) to the payment of any cost of such reletting; (3) to the payment of the cost of any alterations and repairs to the Property; and, (4) to the payment of rent and leasehold excise tax due and unpaid under this Lease. Any balance shall be held by State and applied to Tenant's future rent as it becomes due. Tenant shall be responsible for any deficiency created by the reletting during any month and shall pay the deficiency monthly. State's reentry or repossession of the Property under this subsection shall not be construed as an election to terminate this Lease or cause a forfeiture of rents or other charges to be paid during the balance of the Term, unless State gives a

written notice of termination to Tenant or termination is decreed by legal proceedings. State may at any time after reletting elect to terminate this Lease for the previous Event of Default.

SECTION 15 ENTRY BY STATE

State shall have the right to enter the Property at any reasonable hour to inspect for compliance with the terms of this Lease.

SECTION 16 DISCLAIMER OF QUIET ENJOYMENT

As indicated in Section 1.1, this Lease is subject to all valid recorded interests of third parties, as well as rights of the public under the Public Trust Doctrine or federal navigation servitude, and treaty rights of Indian Tribes. State believes that its grant of the Lease is consistent with the Public Trust Doctrine and that none of the identified interests of third parties will materially and adversely affect Tenant's right of possession and use of the Property as set forth herein, but makes no guaranty or warranty to that effect. Tenant and State expressly agree that Tenant shall be responsible for determining the extent of its right to possession and for defending its leasehold interest. Consequently, State expressly disclaims and Tenant expressly releases State from any claim for breach of any implied covenant of quiet enjoyment with respect to the possession of the Property. This disclaimer includes, but is not limited to, interference arising from or in connection with access or other use rights of adjacent property owners or the public over the water surface or in or under the water column, including rights under the Public Trust Doctrine; rights held by Indian Tribes; and the general power and authority of State and the United States with respect to aquatic lands, navigable waters, bedlands, tidelands, and shorelands. In the event Tenant is evicted from the Property by reason of successful assertion of any of these rights, this Lease shall terminate as of the date of the eviction. In the event of a partial eviction, Tenant's rent obligations shall abate as of the date of the partial eviction, in direct proportion to the extent of the eviction, but in all other respects, this Lease shall remain in full force and effect.

SECTION 17 NOTICE

Any notices required or permitted under this Lease may be personally delivered, delivered by facsimile machine, or mailed by certified mail, return receipt requested, to the following addresses or to such other places as the parties may direct in writing from time to time:

State: DEPARTMENT OF NATURAL RESOURCES
919 N. Township Street
Sedro-Woolley, WA 98284

Tenant: BUSE TIMBER & SALES, INC.
3812 28th Place N.E.
Everett, WA 98205-3209

A notice shall be deemed given and delivered upon personal delivery, upon receipt of a confirmation report if delivered by facsimile machine, or three (3) days after being mailed as set forth above, whichever is applicable.

SECTION 18 MISCELLANEOUS

18.1 Authority. Tenant and the person or persons executing this Lease on behalf of Tenant represent that Tenant is qualified to do business in the State of Washington, that Tenant has full right and authority to enter into this Lease, and that each and every person signing on behalf of Tenant is authorized to do so. Upon State's request, Tenant will provide evidence satisfactory to State confirming these representations. This Lease is entered into by State pursuant to the authority granted it in Chapters 79.90 to 79.96 RCW and the Constitution of the State of Washington.

18.2 Successors and Assigns. This Lease shall be binding upon and inure to the benefit of the parties, their successors and assigns.

18.3 Headings. The headings used in this Lease are for convenience only and in no way define, limit, or extend the scope of this Lease or the intent of any provision.

18.4 Entire Agreement. This Lease, including the exhibits and addenda, if any, contains the entire agreement of the parties. All prior and contemporaneous agreements, promises, representations, and statements relating to this transaction or to the Property, if any, are merged into this Lease.

18.5 Waiver. The waiver by State of any breach or default of any term, covenant, or condition of this Lease shall not be deemed to be a waiver of such term, covenant, or condition; of any subsequent breach or default of the same; or of any other term, covenant, or condition of this Lease. State's acceptance of a rental payment shall not be construed to be a waiver of any preceding or existing breach other than the failure to pay the particular rental payment that was accepted.

18.6 Cumulative Remedies. The rights and remedies of State under this Lease are cumulative and in addition to all other rights and remedies afforded to State by law or equity or otherwise.

18.7 Time is of the Essence. TIME IS OF THE ESSENCE as to each and every provision of this Lease.

18.8 Language. The word "Tenant" as used in this Lease shall be applicable to one or more persons, as the case may be. The singular shall include the plural, and the neuter shall include the masculine and feminine. If there is more than one Tenant, their obligations shall be joint and several. The word "persons," whenever used, shall include individuals, firms, associations, and corporations.

18.9 Invalidity. If any provision of this Lease shall prove to be invalid, void, or illegal, it shall in no way affect, impair, or invalidate any other provision of this Lease.

18.10 Applicable Law and Venue. This Lease shall be interpreted and construed in accordance with the laws of the State of Washington. Any reference to a statute shall mean that statute as presently enacted or hereafter amended or superseded. Venue for any action arising out of or in connection with this Lease shall be in the Superior Court for Thurston County, Washington.

18.11 Recordation. Tenant shall record this Lease or a memorandum documenting the existence of this Lease in the county in which the Property is located, at Tenant's sole expense. The memorandum shall, at a minimum, contain the Property description, the names of the parties to the Lease, the State's lease number, and the duration of the Lease. Tenant shall provide State with recording information, including the date of recordation and file number. Tenant shall have thirty (30) days from the date of delivery of the final executed agreement to comply with the requirements of this subsection. If Tenant fails to record this Lease, State may record it and Tenant shall pay the costs of recording upon State's demand.

18.12 Modification. Any modification of this Lease must be in writing and signed by the parties. State shall not be bound by any oral representations or statements.

THIS AGREEMENT requires the signature of all parties and is executed as of the date of the last signature below.

BUSE TIMBER & SALES, INC.,
A Washington Corporation

Dated: 3/15, 2004

By: _____
RON SMITH
Title: CEO
Address: 3812 28th Place N.E.
Everett, WA 98205-3209

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

Dated: 3/30, 2004

By: _____
DAVID ROBERTS
Title: Aquatic Lands Assistant Region Manager
Address: 919 N. Township Street
Sedro-Woolley, WA 98284

Standard Commercial Lease
Approved as to Form in July, 2003
by Mike Grossmann
Assistant Attorney General
State of Washington

STATE ACKNOWLEDGMENT

STATE OF WASHINGTON)
)ss
County of Skagit)

On this 30th day of March, 2004, personally appeared before me DAVID ROBERTS, to me known to be the Aquatic Lands Assistant Region Manager of the Department of Natural Resources, State of Washington, who executed the within and foregoing instrument on behalf of the State of Washington, and acknowledged said instrument to be the free and voluntary act and deed of the State of Washington for the uses and purposes therein mentioned, and on oath stated that he was authorized to execute said instrument and that the seal affixed is the official seal of the Commissioner of Public Lands for the State of Washington.

IN WITNESS WHEREOF, I have hereunto set my hand and seal the day and year first above written.

BRENDA L. WERDEN NOTARY PUBLIC COMMISSION EXPIRES 3-27-06 STATE OF WASHINGTON

DATED: March 30, 2004

Brenda L. Werden

Notary Public in and for the State of Washington, residing at Sedro Woolley.
My appointment expires Mar 27, 2006.

CORPORATE ACKNOWLEDGMENT

STATE OF Washington)
) ss
COUNTY OF Snohomish)

On this 15 day of March, 2004, before me personally appeared RON SMITH to me known to be the CEO of the corporation that executed the within and foregoing instrument, and acknowledged said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that he was authorized to execute said instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

LOREN W. MEADE COMMISSION EXPIRES NOTARY PUBLIC 5-23-2004 STATE OF WASHINGTON

DATED: 3/15/04

Loren W. Meade

Notary Public in and for the State of Washington, residing at Marysville WA.
My appointment expires 5/23/04.

Aquatic Lands Lease 20-A12625
EXHIBIT "A"

PLAT OF AQUATIC LANDS LEASE NUMBER 20-A12625

IN SECTION 4, TOWNSHIP 29 NORTH, RANGE 5 EAST, W.M., SNOHOMISH COUNTY, WASHINGTON

LEGAL DESCRIPTION

THAT PORTION OF THE TIDELANDS OF THE SECOND CLASS AND THE BED OF UNION SLOUGH OWNED BY THE STATE OF WASHINGTON, LOCATED IN SECTION 4, TOWNSHIP 29 NORTH, RANGE 5 EAST, W.M., MORE PARTICULARLY DESCRIBED AS FOLLOWS:
COMMENCING AT THE SOUTH 1/4 CORNER OF SAID SECTION 4; THENCE S88°22'50"E 171.69 FEET; THENCE N01°36'10"E 691.48 FEET TO THE TRUE POINT OF BEGINNING; THENCE N73°03'12"W 228.32 FEET; THENCE S67°17'34"W 856.45 FEET; THENCE S48°35'07"W 99.36 FEET TO THE LINE OF MEAN HIGH TIDE; THENCE SOUTHEASTERLY ALONG SAID LINE TO A POINT WHICH BEARS S16°38'57"E 2560.00 FEET FROM THE POINT OF BEGINNING; THENCE N46°38'39"E 61.06 FEET; THENCE N30°05'39"W 241.16 FEET TO THE TRUE POINT OF BEGINNING.
EXCEPT THAT PORTION UNDER INTERSTATE 5 LEASE APPLICATION NUMBER 966, DATED MAY 4, 1962.

BASIS OF MERIDIAN:
THE WASHINGTON STATE PLANE COORDINATE SYSTEM-NORTH ZONE, BASED ON TIES TO THE SOUTHWEST SECTION CORNER TO SECTION 4, TOWNSHIP 29 NORTH, RANGE 5 EAST, W.M., AND "VIEW CREST", A NATIONAL GEODETIC SURVEY MONUMENT, AS DEPICTED HEREON. THE DISTANCES (OTHER THAN THAT BETWEEN THE TWO MONUMENTS ABOVE NOTED) ARE ALL GROUND DISTANCES. TO OBTAIN STATE PLANE GRID EQUIVALENTS MULTIPLY BY .99994364B.
VERTICAL DATUM: THE LINES OF MEAN HIGH TIDE AND EXTREME LOW TIDE WERE DETERMINED BY SUBTRACTING 2.25 FEET FROM TIDAL DATUM ELEVATIONS FOR THE ABOVE NOTED TIDE LEVELS AS NOTED THE ARMY CORPS OF ENGINEER'S TIDAL DATUM SHEET FOR "99-EVERETT", IN THE WHIDBEY ISLAND REGION. THIS CONVERTED THOSE TIDAL DATUM ELEVATIONS TO NAVD88 ELEVATIONS USED IN THIS SURVEY. THE CORPS OF ENGINEERS WEB SITE ADDRESS IS: WWW.NWD-WC.USACE.ARMY.MIL/NWS/HH/TIDES/VI/VI99.HTM

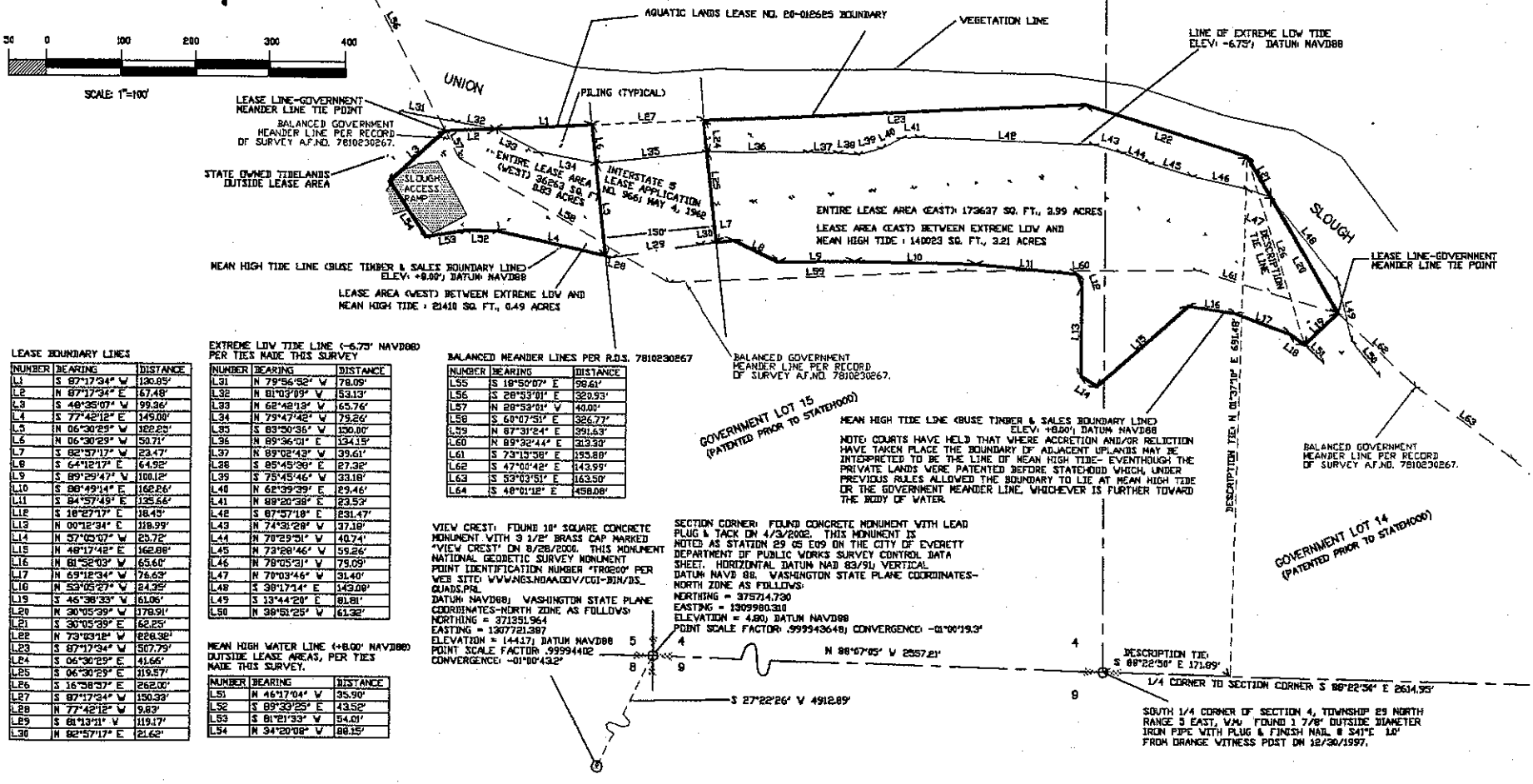
Legend

INDICATES G.L.O. MONUMENT FOUND THIS SURVEY.

METHOD OF SURVEY: CLOSED RANDOM TRAVERSE USING GEODIMETER 600 3" ROBOTIC INSTRUMENT
THIS SURVEY MEETS OR EXCEEDS THE REQUIREMENTS OF W.A.C. 332-130-090 AND THE STATE SURVEY RECORDING ACT.

ROBERT B. HUEY — STATE OF WASHINGTON — 15655 REGISTERED — PROFESSIONAL LAND SURVEYOR
EXPIRES: JULY 14, 2004
DATE:

SCALE: 1"=100'



LEASE BOUNDARY LINES

NUMBER	BEARING	DISTANCE
L1	S 87°17'34" W	130.95'
L2	N 87°17'34" E	67.48'
L3	S 48°35'07" W	99.36'
L4	S 77°42'12" E	149.00'
L5	N 06°30'29" W	122.85'
L6	N 06°30'29" W	50.71'
L7	S 82°57'17" W	23.47'
L8	S 64°12'17" E	64.92'
L9	S 89°29'47" W	100.12'
L10	S 88°49'14" E	162.26'
L11	S 84°57'49" E	135.66'
L12	S 18°27'17" E	18.45'
L13	N 00°12'34" E	118.99'
L14	N 57°00'07" W	25.72'
L15	N 48°17'48" E	162.88'
L16	N 61°52'03" W	65.60'
L17	N 69°18'34" W	76.63'
L18	N 53°05'27" W	84.35'
L19	S 46°38'33" W	61.06'
L20	N 30°05'39" W	178.91'
L21	S 30°05'39" E	62.25'
L22	N 73°03'18" W	828.32'
L23	S 87°17'34" W	507.79'
L24	S 06°30'29" E	41.66'
L25	S 06°30'29" E	319.57'
L26	S 16°38'57" E	262.00'
L27	S 87°17'34" W	150.33'
L28	N 77°42'12" W	9.83'
L29	S 61°13'11" W	119.17'
L30	N 82°57'17" E	21.62'

EXTREME LOW TIDE LINE (-6.75' NAVD88) PER TIES MADE THIS SURVEY

NUMBER	BEARING	DISTANCE
L31	N 79°56'52" W	78.09'
L32	N 81°03'09" W	53.13'
L33	N 62°48'13" W	65.76'
L34	N 79°47'42" W	79.26'
L35	S 83°50'35" W	150.00'
L36	N 89°36'01" E	134.15'
L37	N 89°02'43" W	39.61'
L38	S 85°45'39" E	27.32'
L39	S 75°45'46" W	33.18'
L40	N 62°39'39" E	29.46'
L41	N 89°20'38" E	23.53'
L42	S 87°57'18" E	231.47'
L43	N 74°31'28" W	37.19'
L44	N 70°29'51" W	40.74'
L45	N 73°28'46" W	59.26'
L46	N 78°05'31" W	79.09'
L47	N 70°03'46" W	31.40'
L48	S 38°17'14" E	149.09'
L49	S 13°44'20" E	81.81'
L50	N 38°51'25" W	61.32'

MEAN HIGH WATER LINE (+8.00' NAVD88) OUTSIDE LEASE AREAS, PER TIES MADE THIS SURVEY.

NUMBER	BEARING	DISTANCE
L51	N 46°17'04" W	35.90'
L52	S 89°33'25" E	43.52'
L53	S 81°21'33" W	54.01'
L54	N 34°20'08" W	88.15'

BALANCED MEANDER LINES PER R.O.S. 7810230267

NUMBER	BEARING	DISTANCE
L55	S 18°50'07" E	99.61'
L56	S 28°53'01" E	320.93'
L57	N 28°53'01" W	40.00'
L58	S 60°07'51" E	326.77'
L59	N 87°31'24" E	391.63'
L60	N 89°32'44" E	313.30'
L61	S 73°15'56" E	195.89'
L62	S 47°00'42" E	143.95'
L63	S 53°03'51" E	163.50'
L64	S 48°01'12" E	458.08'

Survey for: BUSE TIMBER AND SALES, INC.

In Gov't lots 14 (SW1/4, SE1/4) & 15 (SE1/4, SW1/4) of Section 4, Township 29 North, Range 5 East, W.M.; Snohomish County, Washington.

Huey Surveying & Land Consulting, Inc.
23407 135th Avenue Northeast
Arlington, Washington 98223
Telephone: (360) 435-4566; Fax: (360) 435-5599

DONE

Surveyor's Certificate:

This map correctly represents a survey made by me or under my direction in conformance with the requirements of the Washington State Survey Recording Act, at the request of BUSE TIMBER AND SALES, INC. this 2ND day of DECEMBER 2002

Robert B. Huey — L.S. 15655

Recording Certificate:

Filed for record this _____ day of _____ 20____, A.D., at _____ minutes past _____ o'clock _____ M.; and recorded in Volume _____ of Surveys, on page(s) _____, records of SNOHOMISH County, Washington.

County Auditor — Deputy Auditor

Map Scale: 1"= 100'
Date: DECEMBER 2, 2002
Drawn by: R. HUEY
Checked by: R. HUEY
Field Book: 158 ,pgs 37
Data Disc File: 1240SURV

Sheet: 1 of 1 sheets.
Job Number: 1240

EXHIBIT "B"
AQUATIC LEASE 20-A12625

Operations: Buse Timber & Sales operates a log dewatering facility at the subject lease site and on adjacent upland property near the Buse Mill on Union Slough. This facility has been in continuous operation since the late 1950's.

The facility consists of a blacktopped access road, a rocked slough access ramp, pilings, a standing boom and pocket boomsticks. A log bronc (pond boat) is the only equipment on site. The access road, ramp and some of the pilings and boomsticks are located on patented property (see Exhibit "C") owned by the Buse family.

Log rafts are delivered to the site by tugboat via Steam Boat Slough to Union Slough and then down to the lease area just east of I-5. A typical log raft is 70'X 430', has 65 bundles (log truck loads) and has a scribner scale of 275 mbf. At high tide the head boomstick (west end of the raft) is released, swung north and tied off to the north pocket boomstick. The bundles are free to float with the out going tide between the pocket boomsticks to the slough access ramp. The bundles are then removed from the slough with the 988B CAT, loaded on off-highway trucks and delivered to the log yard south of the mill. The total operation takes less than three hours. Normally the rafts spend less than 24 hours in the lease area. While this facility is used for dewatering logs, it could be used to make log rafts by reversing the above noted procedure.

Development: Buse Timber & Sales has no plans to expand or change the use of the lease area. It is agreed that all pilings and log rafts will remain inside the lease area.

Maintenance: Piling and boomsticks on the lease area are in fair to good shape; there are no plans to replace pilings for the next 5 years. If pilings do need to be replaced it is agreed that only non-treated or steel pilings will be used. The work will be done outside of the fish closure window and all regulatory permits will be obtained prior to work.

Environmental: The following list of concerns have been identified and addressed:

While dewatering, the boom pocket is a contained area, except for a small opening to the North West corner between the bank and the standing boom.

1. Oil & Fuel Spill Prevention: Only the pond boat and the 988B CAT pose any oil or fuel hazard. Both machines receive regular maintenance and inspection. Steam cleaning the 988B CAT is part of this maintenance. A spill response kit has been on site since the early 1990's. This kit is located within 30 feet of the ramp to the standing boom, which is next to the opening noted above. Should a spill occur an absorbent boom could be tied between the standing boom and the shoreline to contain the spill. The spill kit will be checked before each dewatering.

EXHIBIT "B"
AQUATIC LEASE 20-A12625

2. Floating Bark and other Debris: Provisions will be made to securely retain all logs, chunks, and trimmings and other wood or bark particles of significant size within the leased area. The lessee will be responsible for regular cleanup and upland disposal sufficient to prevent excessive accumulation of any debris on the leased are by using the pocket boomsticks to collect river debris as it moves down stream. Log rafts contain bark and other floating debris. The dewatering operation removes small amounts of bark from the logs. Some of this material escapes through the opening noted above on the out going tide. A bark/trash containment screen that can be cleaned will be installed by November 1, 2003. The lessee will also prevent free rolling and tumbling of logs in the lease area.

3. Sunken Bark: Over the years a small amount of sunken bark has been observed on the beach between the north standing boom and the south pocket boomsticks. On September 8, 2003 during a -.9' tide this bark was manually picked up and mixed with our mill bark system. Sunken bark accumulations will be regularly monitored and disposed of in the same manner during the term of this lease.

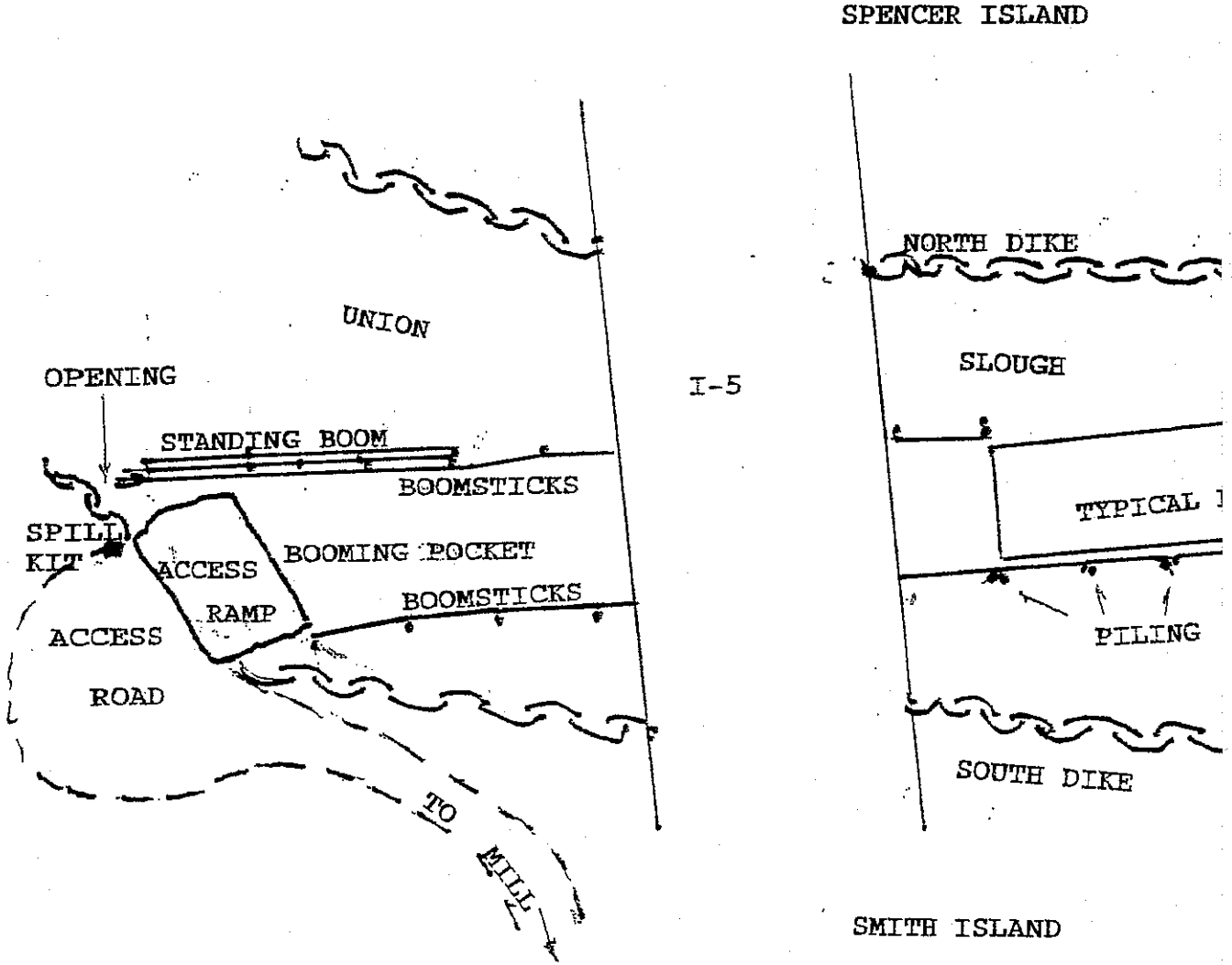


EXHIBIT "C" BUSE TIMBER & SALES / DNR LEASE #20-A12625

LOG DEWATERING / BOOMING OPERATION

9/6/03

APPENDIX C

Forms

(Monthly Inspection, Quarterly Sampling, Spill Log, and Training Log)

MONTHLY INSPECTION FORM

BUSE TIMBER AND SALES INC, EVERETT, WASHINGTON

Month: _____ Date: _____ Time: _____ Weather Conditions: _____

MONTHLY INSPECTION: In accordance with Permit Condition S7, qualified personnel shall conduct and document visual inspections of the site each month. Each inspection shall include: observations made at stormwater sampling locations and areas where stormwater associated with industrial activity is discharged off site; or discharged to waters of the state, or to a storm sewer system that drains to waters of the state. Record the results of each inspection on this form and keep the form on site for Ecology review.

If conducted during a storm event, inspect stormwater discharge at tide gate (DP-1) for evidence of pollutants entering the drainage system. Check for oil sheen, floating debris, discoloration, turbidity, and odor. Record observations here:

Or, if conducted during a non-storm event, check for the presence of illicit discharges such as domestic wastewater, noncontact cooling water, or process wastewater. Groundwater is not considered an illicit discharge. If an illicit discharge is discovered, the Permittee shall notify Ecology within seven days and eliminate the illicit discharge within 30 days. Annually during dry season, inspect full storm drainage system for accumulated solids; remove solids as needed. Record observations here:

Assess all BMPs that have been implemented paying special attention to the following (check BMPs inspected):

☐ Liquids stored outdoors are covered or have secondary containment.

☐ Covers placed over waste dumpsters and storage containers. ☐ Full inventory of materials in spill kits

☐ Paved areas vacuum swept (minimum quarterly). ☐ Vehicles and Equipment (no major leaks).

☐ No sign of wood treatment chemicals, oils, or other pollutants entering storm drains.

☐ Clean or replace silt curtains immediately if damage found or poor curtain function caused benchmark exceedance.

☐ Closely inspect the south log yard and berm for signs of deterioration and/or seepage to verify adequately stabilized/vegetated. ☐ Repair berm immediately if signs of damage or deterioration.

☐ Are equipment and facility operations kept an adequate distance from the berm to prevent damage to berm?

☐ Maintain full vegetative cover or other form of stabilization of berm and buffer area. Replant vegetation as needed in case of damage or die off. ☐ Maintain berm at sufficient height to prevent overflow and seepage.

List comments or status of other BMPs here:

1. Do the BMPs listed above appear to be effective and functioning adequately and with no observable deviations from the BMP descriptions as described in the SWPPP (Yes / No)?
2. Do the site conditions including potential pollutant sources appear to be consistent with the facility assessment and site map contained in the SWPPP (Yes / No)?

[If the answer to questions 1 or 2 were no, explain here. Include, if applicable, the locations of BMPs that need maintenance, the reason maintenance is needed and a schedule for maintenance, as well as the locations where additional or different BMPs are needed and the rationale for the additional or different BMPs.]

COMPLIANCE STATEMENT: In the judgment of the person identified below as Inspector, the Buse Timber Facility is in ☐ **COMPLIANCE OR** ☐ **NON-COMPLIANCE*** (check one) with the terms and conditions of the SWPPP and the Permit. In the judgment of the person identified below as Facility Representative, the Facility is in ☐ **COMPLIANCE OR** ☐ **NON-COMPLIANCE*** (check one) with the terms & conditions of the SWPPP and the Permit.

*If non-compliance, the Permittee shall prepare reports of non-compliance in accordance with the requirements of Condition S9.E of the Permit; and in addition, include as part of this inspection, a summary report and a schedule of implementation of the remedial actions that the Permittee plans to take if the site inspection indicates that the site is out of compliance. The remedial actions taken must meet the requirements of the SWPPP and the permit.

CERTIFICATION: I certify that this report is true, accurate, and complete, to the best of my knowledge and belief.

Name of inspector (1): _____ Title_____

Signature of inspector (1): _____ Date_____

Name of Facility Representative (2): _____ Title _____

Signature of Facility Representative (2) _____ Date_____

(1): As acknowledged by Ecology's Detailed Response to Comments Fact Sheet, APPENDIX C Addendum Part TWO, the certification and signature of the site inspector "may be limited by several factors including incomplete information (e.g., DMR compliance, etc…)". Therefore, by implication, certification and signature by the site inspector does not guarantee site compliance, nor does it imply site inspector liability if non compliance is later determined for the site.

(2) In lieu of Certification and signature of the person described in Condition G2.A of the Permit, a duly authorized representative of the facility, in accordance with Condition G.2.B, may also certify and sign this inspection form.

QUARTERLY SAMPLING AND INSPECTION FORM
BUSE TIMBER, EVERETT, WASHINGTON

Quarter: _____ **Date:** _____

Sampling Location(s): _____

Weather Conditions: _____

_____

STORMWATER SAMPLING: According to the Industrial Stormwater General Permit condition S4.B, a permittee is required to collect a sample within the first 12 hours of stormwater discharge. "First fall storm event" sampling must occur during the first storm event on or after September 1st of each year that produces discharge from the site during regular business hours and under safe conditions. For the other sampling events, sampling does not need to be conducted during the first storm event of that quarter. Permittees need not sample outside of regular business hours, during unsafe conditions, or during quarters where there is no discharge, but must still submit a Discharge Monitoring Report each reporting period.

1. Time of sampling (should be within 12 hours after discharge begins):	
2. Did sampling occur within the first 12 hours of discharge?	☐Yes ☐No ☐Unknown
3. **If the answer to question 2 is no**, explain why a sample was not collected within the first 12 hours.	
4. For the "first fall storm event" sampling, did the sampling occur during the first storm event on or after September 1st that produced discharge from the site during regular business hours?	☐Yes ☐No ☐N/A
5. Sampling method (e.g., "from catch basin by hand"):	
6. Sampling parameters: Turbidity, pH, Total Copper, Total Zinc, COD, TSS	
7. Oil Sheen Present?	☐Yes ☐No
8. Result of field measurements (pH/Turbidity):	pH: _____ Turbidity:_____
9. Field meter calibration record: Field meter calibrated successfully according to meter calibration standards prior to sampling?	☐Yes ☐No ☐N/A
10. **Observations, Sample Description, and Comments.** Note any sheen, floating debris or trash, discoloration, turbidity, and/or odor. Note flow conditions. Record observations here:	

Name and Title of sampler: _____

Signature of sampler: _____ Date: _____

VISUAL MONITORING REMINDER If monthly visual monitoring has not already been conducted, record the results of visual monitoring on the separate required Monthly Inspection form.

SPILL LOG FORM
BUSE TIMBER AND SALES INC, EVERETT, WASHINGTON

Date of Spill: _____ **Time of Spill:** _____
SPILL LOG: In accordance with Permit Condition S3.B.4.b.i.4)i), the permittee shall maintain a spill log that includes the following information for chemical and petroleum spills: date, time, amount, location, and reason for spill; date/time clean-up completed, notifications made and staff involved. Record information for each discrete spill on this form and maintain a log of all spill log forms on site.
Location of Spill:
Staff Involved:
Type of material spilled:
Quantity and duration of spill:
Did spill reach ground, surface water or storm drains?
Description/Reason for Incident:
Date/Time Cleanup Completed:
Corrective Action:
Notifications made:

EMPLOYEE TRAINING LOG

(Complete New Log for Each Training Session)

Instructor: _____

Location: _____

Topics: Good housekeeping practices, spill prevention and response, material management practices

_____

_____

_____

Date	Attendee's Name (Please Print)	Attendee's Signature

APPENDIX D

Ecology Industrial Stormwater General Permit Implementation Manual for Log Yards

DEPARTMENT OF
ECOLOGY
State of Washington

Industrial Stormwater General Permit

Implementation Manual for Log Yards

Revised December 2016
Publication no. 04-10-031

Publication and Contact Information

This report is available on the Department of Ecology's website at
https://fortress.wa.gov/ecy/publications/SummaryPages/0410031.html

For more information contact:

Water Quality Program
P.O. Box 47600
Olympia, WA 98504-7600
Phone: 360-407-6600

Washington State Department of Ecology - www.ecy.wa.gov

- Headquarters, Olympia 360-407-6000
- Northwest Regional Office, Bellevue 425-649-7000
- Southwest Regional Office, Olympia 360-407-6300
- Central Regional Office, Yakima 509-575-2490
- Eastern Regional Office, Spokane 509-329-3400

Accommodation Requests: *To request ADA accommodation including materials in a format for the visually impaired, call Ecology at 360-407-6600. Persons with impaired hearing may call Washington Relay Service at 711. Persons with speech disability may call TTY at 877-833-6341.*

Industrial Stormwater General Permit Implementation Manual for Log Yards

Water Quality Program
Washington State Department of Ecology
Water Quality Program

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Table of Contents

Acknowledgements

The 2004 version of this document was prepared with considerable assistance from a technical advisory committee. The document could not have been prepared without the hands-on experience of the industrial, local government, and Ecology representatives who served on this committee. Ecology wishes to thank the committee for its time and effort.

The advisory committee consisted of the following members:

Name	Affiliation
Susan Bauer	Port of Port Angeles
Dana DeLeon	City of Tacoma
Bob Dick	Northwest Forestry Association, Olympia
Phelps Freeborn	Ecology Central Regional Office
Ying Fu	Ecology Eastern Regional Office
Steve Harrison	Skookum Lumber Co.
Ken Johnson	Weyerhaeuser Company, Federal Way
Keith Johnson	Ecology Headquarters Office
Jason Kent	Columbia Vista Co.
Bob Penhale	Ecology Northwest Regional Office
Marilou Pivirotto	Ecology Southwest Regional Office

Ecology completed the 2016 Update through the efforts of the following Ecology employees:

Douglas C. Howie, HQ, Technical Lead	Bob Wright, NWRO
Jeff Killelea, HQ	Greg Stegman, NWRO
Dan Gariepy, HQ	John Diamant, SWRO
Ray Latham, CRO	Steve Eberl, SWRO
Ed Abbasi, NWRO	Mike Hepp, ERO
Micah Corey, HQ	

Where to Obtain Copies of this Guidance Manual

Either download from Ecology's stormwater web site at the following internet address: https://fortress.wa.gov/ecy/publications/publications/0410031.pdf or contact Ecology's Publications Office at PO Box 47600, Olympia, WA 98504-7600, (360) 407-7472.

Ecology Regional Office Telephone Numbers

Eastern Regional Office.....(509) 329-3400
Central Regional Office.....(509) 575-2490
Northwest Regional Office.....(425) 649-7000
Southwest Regional Office.....(360) 407-6300
Headquarters/Stormwater Unit.....(360) 407-6000

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1. Background

Purpose

The purpose of this manual is to provide guidance to operators and/or owners of log yards for complying with Ecology's Industrial Stormwater General Permit (ISGP) requirements. It will be useful if combined with a thorough understanding of the ISGP requirements. It has no independent regulatory authority and does not establish new regulatory requirements or standards. Recommended references are as follows. Additional references are included in Appendix A:

- *Industrial Stormwater General Permit* (http://www.ecy.wa.gov/programs/wq/stormwater/industrial/ISGPFinal2015.pdf)
- *How to Do Stormwater Sampling; A Guide for Industrial Facilities* (https://fortress.wa.gov/ecy/publications/summarypages/0210071.html)
- *ISGP Stormwater Pollution Prevention Plan Template* (http://www.ecy.wa.gov/programs/wq/stormwater/industrial/index.html Lower right hand side of page)
- *Stormwater Management Manual for Western Washington* (http://www.ecy.wa.gov/programs/wq/stormwater/manual.html)
- *Stormwater Management Manual for Eastern Washington* (http://www.ecy.wa.gov/programs/wq/stormwater/easternmanual/manual.html)
- *WPPA Washington State Marine Terminal AKART and ISGP Corrective Action Guidance Manual* (http://www.ecy.wa.gov/programs/wq/stormwater/industrial/2014Dec.WAStateMarineTerminalCorrectiveActionGuideManual.WPPA.pdf)
- Various jurisdictions have produced their own Stormwater Guidance Manual. These may be appropriate for use in specific jurisdictions instead of the Ecology Manuals

Required Industrial Stormwater General Permit Coverage based on Standard Industrial Classification (SIC)

The best management practices (BMPs) specified in this document apply to log yards at facilities for which permit coverage is required. Classifications for these facilities are:

- SIC 2411 – Logging (Industrial uses limited to rock crushing, gravel washing, log sorting, and log storage)
- SIC 2421 – Sawmills and Planning Mills, General
- SIC 2426 – Hardwood Dimension and Flooring Mills
- SIC 2429 – Special Product Sawmills, Not Elsewhere Classified
- SIC 243l – Millwork
- SIC 2435 – Hardwood Veneer and Plywood
- SIC 2436 – Softwood Veneer and Plywood
- SIC 2439 – Structural Wood Members, Not Elsewhere Classified

- SIC 2499 – Wood Products, Not Elsewhere Classified
- SIC 2611 – Pulp Mills

Pollutant Generating Sources

Stormwater pollutant generating areas at log yards can include:

Figure lA - Bark Debris at Log Deck

- Log storage
- Rollout
- Sorting
- Scaling and cutting
- Log and liquid loading and unloading
- Truck, rail, ship, stacker and loader access areas
- Debarker
- Bark bin and conveyor
- Bark, ash, sawdust, and wood debris piles and other solid wastes
- Log trucks, stackers, loaders, forklifts, and other equipment
- Maintenance shop and parking
- Cleaning of vehicles, parts, and equipment
- Storage and handling of hydraulic oils, lubricants, fuels, paints, liquid wastes, and other liquid materials
- Metal salvage areas
- Wood preservation and surface protection with chemicals
- Contaminated soil (Figures 1A, 1B)

Figure lB - Trash and Ponding

Stormwater pollutants can include:

- Particulates generated by sawdust
- Wood/bark debris
- Log yard soil erosion, and dirt from logging trucks
- Leachate from wood, bark, and ash wastes
- Lead from discarded batteries
- Wastewater and equipment/vehicle wash water spillage to storm drains
- Pesticides used for weed, insect and fungal control
- Leaks or spills of liquids such as fuels and hydraulic fluids

- Pollutant constituents include Chemical Oxygen Demand (COD), total suspended solids (TSS), turbidity, low/high pH, oil sheen, zinc, and copper.

2. Choosing Best Management Practices

The ISGP Requirement for Choosing BMPs

The ISGP requires the implementation of BMPs to comply with state water quality standards, state all known, available, and reasonable methods of treatment (AKART[1]) requirements, and federal technology-based treatment requirements. Washington State adopted these standards and technology-based requirements. Permittees must demonstrate that their BMPs meet the standards and requirements described in the Washington State rules using one of the following options:

Option 1 – The Presumptive Approach:

Ecology presumes that project proponents who choose to follow the stormwater management approaches listed in Ecology-approved stormwater manuals have satisfied the requirement to document the technical basis for the design criteria used to design their stormwater management BMPs. Those proponents do not need to provide technical justification to support the selection of BMPs for their projects. Following the stormwater management practices in this and other Ecology-approved manuals means adhering to the guidance provided for proper selection, design, construction, implementation, operation, and maintenance of BMPs. This approach will generally be more cost effective for typical development and redevelopment projects.

Permittees who use the presumptive approach do not need to include within the Stormwater Pollution Prevention Plan (SWPPP) the technical basis, which supports the performance claims for the BMPs used.

Note that the BMPs included in the Stormwater Management Manual for Western Washington (SWMMWW) and Stormwater Management Manual for Eastern Washington (SWMMEW) were developed based on a percent removal of a given pollutant. Ecology based the requirements in the ISGP on the concentration of pollutants in stormwater discharged from the site. It is possible that the stormwater pollutant influent concentration is so high that removal of a given percentage of a pollutant will not provide a sufficiently low concentration in the effluent to meet the required benchmark concentration. The permittee is not relieved of the requirement strive to attain benchmark concentration goals by just using a BMP identified in an Ecology-approved Stormwater Management Manual. You may need to apply additional source control measures or additional BMPs if subsequent sampling shows you are exceeding the benchmark.

Option 2 – The Demonstration Approach:

Permittees must document the technical basis for the selection of all stormwater BMPs within the SWPPP. The SWPPP must document the selection of stormwater BMPs; the pollutant removal performance expected; the technical basis that support the performance claims for the selected BMPs; and an assessment of how the selected BMPs will comply with state water quality standards, the state AKART requirements, and the federal technology-based treatment requirements under 40 CFR part 125.3. Ecology expects the Permittee to base the demonstration documentation on good science and sound engineering. An example of an acceptable assessment protocol for technologies not in Ecology manuals is the Technology Assessment Protocol-

[1] AKART means "all known, available, and reasonable methods of prevention, control, and treatment."

Ecology (TAPE) for emerging stormwater treatment technologies, which is available for download at http://www.ecy.wa.gov/programs/wq/stormwater/newtech/.

BMP Selection Process and Implementation Schedule

The first step in selecting BMPs is to identify pollutant sources and any existing BMPs. Then assess whether additional operational source control, structural source control, and erosion and sediment control BMPs are necessary, as specified in this guidance. If after applying additional BMPs the stormwater still contains pollutants greater than the benchmark value, it will trigger further corrective action levels that may require implementing additional BMPs, including treatment BMPs.

Benchmark Values and Significant Amounts

Ecology defines a significant amount of a pollutant as a pollutant that is amenable to AKART, or an amount that has the reasonable potential to cause or contribute to a violation of surface or groundwater quality standards or sediment management standards.

Ecology uses the benchmark values specified in the ISGP (see the following table) as permit thresholds, below which Ecology considers a pollutant as unlikely to cause a water quality violation, and above which it may. When pollutant concentrations exceed benchmarks, corrective action requirements take effect. Benchmark values are not water quality standards and are not numeric effluent limitations; there are indicator values.

The parameters listed in the table apply to all the Standard Industrial Classification (SIC) codes listed in Section 1. Consider actions needed to reduce pollutants below benchmark values and record those actions in the SWPPP. Use benchmark values as a guide for level of acceptable pollutant concentrations.

Parameter	Benchmark Value
Turbidity	25 NTU
pH	5 - 9 pH units
Chemical Oxygen Demand (COD)	120 mg/L
Total Suspended Solids (TSS)	100 mg/l
Total Zinc	117 µg/L
Total Copper*	14 µg/L Western WA 32 µg/L Eastern WA
Visible Oil Sheen	No Visible Sheen

3. Stormwater Pollution Prevention Plan (SWPPP)

All permittees under the ISGP shall develop and implement a SWPPP. The permittee shall keep the SWPPP on-site and update the document as required.

SWPPP Contents:

- A site map that shows:
  - The scale or include relative distances between significant structures and drainage systems.
  - Significant features.
  - The stormwater drainage and discharge structures and identify, by name, any other party other than the Permittee that owns any stormwater drainage or discharge structures.
  - The stormwater drainage areas for each stormwater discharge point off-site (including discharges to ground water) and assigns a unique identifying number for each discharge point.
  - Each sampling location by unique identifying number.
  - Paved areas and buildings.
  - Areas of pollutant contact (actual or potential) associated with specific industrial activities.
  - Conditionally approved non-stormwater discharges.
  - Surface water locations (including wetlands and drainage ditches).
  - Areas of existing and potential soil erosion (in a significant amount).
  - Vehicle maintenance areas.
  - Lands and waters adjacent to the site that may be helpful in identifying discharge points or drainage routes.
- A Facility Assessment that:
  - Describes facility activities and equipment that may contribute pollutants to stormwater.
  - Describes industrial activities conducted at the site.
  - Provides an inventory of materials stored on the site.
  - Describes BMPs used on the site and the procedures for implementing the BMPs. The description should provide any site operator with the knowledge for implementing and maintaining each BMP.
- Identified people responsible for SWPPP development, implementation, maintenance, and modification (Pollution Prevention Team).
- A schedule/frequency for completing each housekeeping BMP.

4. Operational BMPs for All Areas of Log Yard Activity

Implementing the following operational BMPs will meet the ISGP requirements:

Good Housekeeping

These are good housekeeping practices for cleanup or preventing the generation of pollutants. The ISGP lists the following good housekeeping Operational Source Control BMPs as being mandatory. The Permittee may omit individual BMPs if site conditions render the BMP unnecessary, infeasible, or the Permittee provides alternative or equally effective BMPs. The Permittee must clearly justify each BMP omission in the SWPPP.

- Vacuum paved surfaces with a vacuum sweeper (or a sweeper with a vacuum attachment) to remove accumulated pollutants a minimum of once per quarter. For log yards, quarterly sweeping is probably not adequate to provide adequate pollutant removal.
- Identify and control all on-site sources of dust to minimize stormwater contamination from the deposition of dust on areas exposed to precipitation.
- Inspect and maintain bag houses monthly to prevent the escape of dust from the system. Immediately remove any accumulated dust at the base of exterior bag houses.
- Keep all dumpsters under cover or fit with a lid that must remain closed when not in use.

Ecology recommends the following good housekeeping Operational Source Control BMPs.

- Manage the handling and storage of bark and other wood-waste materials consistent with good industry practices. Provide source controls to prevent stormwater from coming into contact with potential pollutants.
- Establish procedures and maintenance frequencies to clean up the bark, wood waste, and any other pollutant debris accumulations. Stormwater runoff could carry pollutants away and discharge them into surface waters. Cleanup procedures can include use of mobile vacuum sweepers, scrapers, brow logs, and/or scoops.
- Conduct maintenance and cleanup at the following frequencies:
  - Daily, or as needed to reduce stormwater pollutants below a significant amount, and where accessible, at log sorting, scaling, and rollout areas; rail, truck, ship, log loader and stacker access and high traffic areas; bark, log, and waste loading and unloading areas; trailer hoists; outside wood material bins and conveyors; and debarkers.
  - After every log deck turnover (i.e., before a load of logs is added to the log deck) at log decks and interbays, if weather and soil/log conditions allow. Conduct maintenance/clean-up as soon as possible after log deck turnover.
  - Annually for the entire log yard, before the rainy season begins.

- Regularly, as needed, remove accumulated oil from oil/water separators, boomed areas, and other oil removal or oil containment systems to ensure their intended operating efficiency.
- At least once per year, or more frequently based on the inspections, remove and properly dispose of debris and sludge from all conveyance, collection, and treatment BMP systems such as catch basins, settling/detention basins, and oil/water separators.

- Clean up all catch basins when the depth of the sediment accumulation is greater than 60-percent of the distance from the bottom of the catch basin to the invert of the lowest pipe into or out of the catch basin. In addition, Permittees must keep the debris surface at least 6 inches below the outlet pipe.
- Do not discharge unpermitted liquid wastes, process wastewater, or sewage to the ground, storm drains, or surface water. Eliminate all illicit non-stormwater discharges within 30 days of discovery, or obtain an NPDES Permit for such discharge.

Preventive Maintenance

These practices at a facility minimize or eliminate the contamination of stormwater. The ISGP lists the following preventative maintenance Operational Source Control BMPs as mandatory. The Permittee may omit individual BMPs if site conditions render the BMP unnecessary, infeasible, or the Permittee provides alternative or equally effective BMPs. The Permittee must clearly justify each BMP omission in the SWPPP.

- Clean catch basins when the depth of debris reaches 60 percent of the sump depth. In addition, the Permittee must keep the debris surface at least 6 inches below the outlet pipe.
- Maintain ponds, tanks/vaults, catch basins, swales, filters, oil/water separators, drains, and other stormwater drainage/treatment facilities in accordance with the Maintenance Standards set forth in the applicable Stormwater Management Manual (SWMM), other guidance documents, or manuals approved in accordance with S3.A.3.c, demonstrably equivalent BMPs per S3.A.3.d, or an O&M Manual submitted to Ecology in accordance with S8.D.
- Inspect all equipment and vehicles during monthly site inspections for leaking fluids such as oil, antifreeze, etc. Take leaking equipment and vehicles out of service or prevent leaks from spilling on the ground until repaired.
- Immediately clean up spills and leaks (e.g., using absorbents, vacuuming, etc.) to prevent the discharge of pollutants.

Ecology recommends the following preventative maintenance Operational Source Control BMPs.

- Inspect and properly maintain stormwater drainage and treatment systems, and log yard equipment and systems that could fail and result in contamination of stormwater.
- At rock and soil yard areas:
  - Repair and/or stabilize soft spots, ponding, wheel ruts, and erodible soil areas where the potential for stormwater contamination exists. Use rock replacement/addition or paving as needed to control pollutants. Give a high priority to high activity areas.

- Repair entire rock and soil yard, as needed, to ensure proper containment, collection, and conveyance of stormwater, and the stabilization of erodible soil.

- At paved yard areas:
  - Repair major cracks or any other damage as needed to prevent impairment of ground water.
  - Construct impervious areas subject to frequent spills/leaks of fuels or organic solvents with Portland cement concrete or equivalent. Permittees can use asphalt if it is treated or formulated to be resistant to spilled or leaked fluids on the paved area. Normal asphalt is incompatible with fuels and most solvents and oils.

- For log loaders and stackers, trucks, fork lifts, chain saws, and other yard equipment:
  - Follow manufacturer's maintenance instructions, including a frequency-based maintenance checklist for all fluid containing components (particularly the hydraulic oil system hoses, pump, valves, O-rings, gaskets, fittings, and the engine fluids) to prevent leaks and spills.
  - Provide a shift maintenance checklist to the operators of the log stackers/loaders that includes checking for fluid leaks and levels and instrument readings for all hydraulic and power train fluids before and after starting the engine, and testing the high pressure hydraulic oil system before operating in the yard.
  - Use high quality hydraulic oil hoses and fittings with high working and bursting pressure capability such as four-ply spiral steel hoses or equivalent, in the log loaders and stackers and replace as needed to prevent hose breaks.
  - Consider a hydraulic oil indicator or alarm system for the log stackers and loaders that can sense a hydraulic oil pressure loss.
  - Replace log stacker/loader hydraulic oils over an impervious contained area. Use drip pans to collect leaks from mobile equipment and vehicles when they are not in operation. (Figure 2)
  - Park log stackers and loaders, trucks, and forklifts in designated areas where you maintain proper control of oil leaks/ spills.

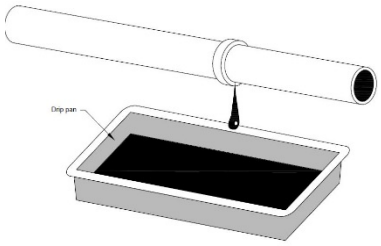

Figure 2: Use of drip pan for leaky equipment

- For the storage and handling of waste containers:
  - Place drums, buckets, and containers of fluids in a containment area with an impervious base or on secondary containment pallets.
  - Use appropriate containers for storing liquid wastes, such as steel or plastic drums that are rigid and durable, corrosion resistant, nonabsorbent, watertight, and equipped with a close fitting cover.
  - Use dumpsters, garbage cans, and comparable containers that are durable, corrosion resistant, nonabsorbent, nonleaking, and equipped with a solid cover for storing solid

wastes contaminated with liquids or other pollutant materials that can contaminate stormwater.

- For the control of weeds and other vegetation:
  - Consider alternative approaches to herbicides, such as covering, harvesting, substituting vegetative growth, and manual weed control. Use an herbicide as a last resort and select the herbicide that is the least toxic to humans and aquatic life.
  - Apply herbicides in accordance with label directions or use herbicide products applied by a licensed applicator.
  - Do not apply restricted herbicides within 100 feet of open waters including wetlands, ponds, streams, sloughs, and within close proximity of any drainage ditch or channel that leads to open water. Prior to spraying, visually mark all sensitive areas such as wells, creeks, and wetlands with appropriate signs/flags, so you do not conduct spraying within 100 feet of the sensitive area.
  - If required by label, permit, and/or the local government post public warnings indicating the area sprayed.
- For dust control sweep and/or apply water or materials that will not cause the pollution of ground water or surface water.
- Where practicable stencil warning signs at stormwater catch basins and drains, e.g., "Dump No Waste".
- Post pollution prevention instructions for yard employees at log sort and access bay areas, vehicle/equipment maintenance areas, and any other potentially high pollution areas. (See example sign in Appendix B.)

Spill Prevention and Cleanup

The ISGP lists the following applicable spill prevention and cleanup Operational Source Control BMPs as being mandatory.

- Store all chemical liquids, fluids, and petroleum products on an impervious surface that is surrounded with a containment berm or dike that is capable of containing 10-percent of the total enclosed tank volume or 110-percent of the volume contained in the largest tank, whichever is greater. The Permittee may omit individual BMPs if site conditions render the BMP unnecessary, infeasible, or the Permittee provides alternative or equally effective BMPs. The Permittee must clearly justify each BMP omission in the SWPPP.
- Prevent precipitation from accumulating in containment areas with a roof or equivalent structure, or include a plan on how it will manage and dispose of accumulated water if a containment area cover is not practical.
- Locate spill kits within 25 feet of all stationary fueling stations, fuel transfer stations, and mobile fueling units. At a minimum, spill kits shall include:
  - Oil absorbents capable of absorbing 15 gallons of fuel.
  - A storm drain plug or cover kit.

  - A non-water containment boom, a minimum of 10 feet in length with a 12 gallon absorbent capacity.
  - A non-metallic shovel.
  - Two five-gallon buckets with lids.
- Do not lock shut-off fueling nozzles in the open position. Do not "topoff" tanks while refueling.
- Block, plug, or cover storm drains that receive runoff from areas during fueling.
- Use drip pans or equivalent containment measures during all petroleum transfer operations.
- Locate materials, equipment, and activities so that leaks are contained in existing containment and diversion systems (confine the storage of leaky or leak-prone vehicles and equipment awaiting maintenance to protected areas).
- Use drip pans and absorbents under or around leaky vehicles and equipment, or store indoors where feasible. Drain fluids from equipment and vehicles prior to on-site storage or disposal.
- Maintain a spill log that includes the following information for chemical and petroleum spills: date, time, amount, location, and reason for spill; date/time clean-up completed, notifications made and staff involved.

Ecology recommends the following spill prevention and cleanup Operational Source Control BMPs.

- Prevention should be foremost, especially in vehicle/equipment fueling and maintenance areas.
- Identify areas where potential spills can contaminate stormwater.
- Stop, contain, and clean up all spills immediately upon discovery.
- Deploy a storm drain plug or cover kit over nearby drains.
- Collect oil-contaminated absorbent as a solid and place it in appropriate disposal containers. Do not flush absorbent material to a storm drain.
- Promptly report any spills or releases of materials, which may contaminate stormwater to the appropriate person or persons identified in the SWPPP. Notify Ecology and the local Sewer Authority immediately if the spill may reach sanitary or storm sewers, ground, or surface water. (Chapter 173-303-145 WAC and Ch. 90.48 RCW).
- In addition to Washington's, spill control requirements also comply with the U.S. Environmental Protection Agency (EPA) Oil Spill Prevention Control and Countermeasure Plan (Section 311 of Clean Water Act) requirements which apply to aboveground storage facilities of 1,320 gallons or more.
- Place a small oil spill containment and cleanup kit on each hydraulic log stacker and log loader for immediate spill response and temporary control by the operator. Place these kits in chemically resistant containers or plastic bags, properly labeled, and readily accessible to the operator.

Employee Training

The ISGP lists the following employee training Operational Source Control BMPs.

The SWPPP must contain documentation of how you will conduct training. You must train all employees that work near a pollutant source, BMP, and stormwater conveyance areas, at least annually to understand:

- An overview of the SWPPP.
- How employees make a difference in complying with the SWPP.
- Spill response procedures.
- Good housekeeping.
- Preventive Maintenance requirements.
- Environmentally acceptable material handling practices (bark, wood waste, log stacker/loader hydraulic oils, etc.) described in the SWPPP.

Maintain a log of dates on which specific employees received training.

Visual Inspections

The ISGP lists the following visual inspection Operational Source Control BMPs. At a minimum, the SWPPP must:

- Identify the qualified personnel who will conduct the inspections.
- Contain an inspection report or checklist that contains all items required by ISGP Condition S7 (Inspections)
- Provide a tracking procedure or follow-up procedure to ensure preparation of a report that lists any appropriate action taken in response to the inspection.
- Keep all completed inspection reports with the SWPPP.

Conduct and document all visual inspections at the facility **monthly**. Each inspection must include:

- Observations made at stormwater sampling locations and areas where stormwater associated with industrial activity is discharged off-site; or discharged to waters of the state (including groundwater), or to a storm sewer system that drains to waters of the state.
- Observation for the presence of floating materials, visible sheen, discoloration, turbidity, odor, etc., in the stormwater discharge(s).
- Observations for the presence of illicit discharges such as domestic wastewater, noncontact cooling water, or process wastewater (including leachate).
    - If the Permittee observes an illicit discharge, they must notify Ecology within 7-days
    - The Permittee must eliminate the illicit discharge within 30 days.

- A verification that the descriptions of potential pollutant sources required under the permit are accurate.
- A verification that the SWPPP reflects current conditions.
- An assessment of all implemented BMPs noting all of the following:
  - Effectiveness of BMPs inspected.
  - Locations of BMPs that need maintenance.
  - Reason maintenance is needed and a schedule for maintenance.
  - Locations where you need additional of different BMPs and the rationale for the additional or different BMPs.
- While in operation, inspect the yard daily for debris and leaks and spills of pollutant liquids at:
  - Log sort, scaling, and rollout yards.
  - Log deck and access bays.
  - Log stackers, loaders, and trucks.
  - Rail, and ship access areas.
  - Timber material bins.
  - Debarkers.
- Inspect weekly or as needed for rock and soil area soft spots, soil erosion, and proper grading and drainage at:
  - Log sort.
  - Scaling, and rollout yards.
  - Log deck and access bays.
  - Log loader.
  - Log stacker.
  - Truck, rail, and ship access areas.
- The Permittee must record the results of each inspection in an inspection report or checklist and keep the records on-site, as part of the SWPPP, for Ecology review. The Permittee must ensure each inspection report documents the observations, verifications, and assessments required in S7.B and the following:
  - Time and location of the inspection.
  - Locations inspected.
  - Statements that, in the judgement of 1) the person conducting the site inspection, and 2) the person described in Condition G2., the site is either in compliance or out of compliance with the terms and conditions of the SWPPP and the ISGP.

- A summary report and a schedule of implementation of the remedial actions that the Permittee plans to take if the site inspection indicates that the site is out of compliance. The remedial actions taken must meet the requirements of the SWPPP and the permit.
- Name, title, and signature of the person conducting site inspection, and the following statement: "I certify that this report is true, accurate, and complete, to the best of my knowledge and belief."
- Certification and signature of the person described in Condition G2.A, or a duly authorized representative of the facility, in accordance with Conditions G2.B and D. Reports of Non-Compliance

The Permittee shall prepare reports of non-compliance identified during an inspection in accordance with the requirements of ISGP Condition S9.E.

Reporting and Recordkeeping

Include with the SWPPP the following records and reports as required by the ISGP:

- Annual Reports
- The Monitoring Plan for stormwater discharges at your facility
- Copies of notifications to Ecology regional offices of any noncompliance
- Quarterly sampling data, including field notes (date, location, time, weather, and name of the individual(s) conducting sampling), lab sheets showing analytical methods and results, and summaries of visual inspection reports with tracking procedures on action steps taken.
  - Report quarterly sampling results to Ecology Headquarters electronically using WQWebCMR (unless Ecology granted an electronic reporting waiver). To sign up electronically, follow the step-by-step registration instructions, with screen shots, provided at http://www.ecy.wa.gov/programs/wq/permits/paris/webdmr.html. Monitoring reports must include information on:
    - Analytical results
    - Absence of discharges at designated sampling points
    - When you did not conduct sampling due to consistent attainment of benchmark values
    - Include any stormwater pollutant monitoring data not required by the ISGP
  - Submit quarterly discharge monitoring reports (DMRs) no later than May 15, August 15, November 15, and February 15.
  - Keep laboratory analytical reports on-site and they must include:
    - Sampling date
    - Sample location
    - Date of analysis
    - Parameter name
    - Chemical Abstract Service number
    - Analytical method/number

    - Method detection limit
    - Lab Practical Quantitation Limit
    - Reporting units
    - Concentration detected
- Retain all DMRs, inspection reports, monitoring instrument calibration and maintenance, all permit application records of data, reports required by the ISGP, and all compliance records for a minimum of 5 years.

5. Source-Specific BMPs

Implementing the following Source-Specific BMPs for pollutant sources will help a Permittee meet the ISGP benchmarks:

BMPs at High Activity Areas

To prevent or reduce the erosion of soil and the generation of wood waste, bark debris, and contaminated stormwater:

- Pave the high activity area where practicable and reasonable to facilitate cleaning. Do not pave over soil known to be contaminated with pollutants unless it has been determined that ground water has not been, and will not be, contaminated by the soil or the work is otherwise approved in a MTCA or other "clean-up" plan.
- Slope all high activity paved and rock areas to minimize the erosion of soil and wood/bark materials, and the formation of contaminated stormwater. Minimize or eliminate ponding under piles, and contact between bark or wood materials and stormwater wherever practicable.
- Optimize stormwater segregation in high activity areas as follows:
    - Provide slopes sufficient to prevent run-on of uncontaminated stormwater into pollutant source areas.
    - Convey contaminated stormwater to appropriate pollution control system(s).
    - Apply curbing or berming where needed for segregation and use curb/berm materials that will not leach or erode.

BMPs for Wood Waste Debris and Bark Piles (Figure 3)

Implement BMPs for solid wastes that are stored in piles and not intended for recycling, pursuant to the most recent update of Chapter 173-304 WAC, or Chapter 173-350 WAC, Solid Waste Handling Standards as it applies. You should also contact the local jurisdictional health department on applicability and implementation issues.

Figure 3 Bark Pile on Paved Surface

WAC 173-350 does not apply to wood waste used for ornamental, animal bedding, mulch, and plant bedding, or road building purposes. Wood wastes designated for recycle under some conditions may also be exempt from the solid waste rule requirements. Recyclable wood wastes include beauty bark, compost destined for sale, hog fuel piles for use as fuel, or raw materials stored temporarily in piles actively used or recycled within the above time-periods and conditions.

BMPs for the prevention of Erosion and Stormwater Contamination from Material Storage Pile Areas

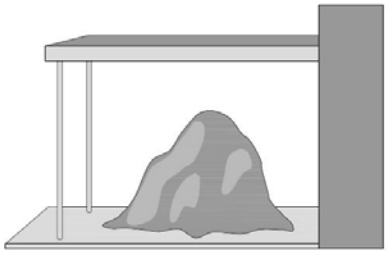

Figure 4A Covered Storage Area

- If feasible, cover the piles (using roofs, buildings, canopies, silos, van trailers, sheds, tarps, etc.) to prevent contact with rainfall. (Figs. 4A and 4B)
- Pave the area, if practicable, to increase sweeping and cleaning effectiveness.
- Provide slopes, berms, and/or curbs sufficient to prevent run-on of uncontaminated stormwater and to convey contaminated stormwater to appropriate pollution control system(s).
- Limit sloping to prevent erosion of soil, bark, and woodwaste.
- Slope the material storage pile areas to prevent ponding under the piles and to convey stormwater to treatment. (see Section 6)
- Avoid contamination of the piles by oils, solvents, chemically treated wood, etc.
- Limit storage time, surface areas, and volumes of bark and woodwaste piles exposed to precipitation to minimize the generation of contaminated stormwater.

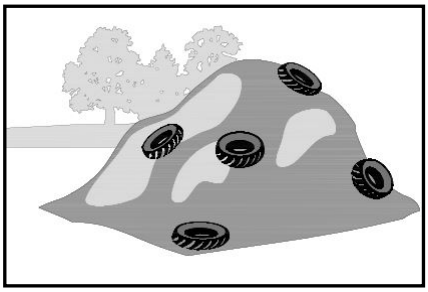

Figure 4B Pile Covered with Plastic Sheer

BMPs at Storage and Handling Areas of Other Solid and Hazardous Wastes

Dispose of all other solid wastes in accordance with Chapter 173-350 Solid Waste Handling Standards as it applies, and dispose of dangerous wastes in accordance with Chapter 173-303 WAC, Dangerous Waste Regulations.

BMPs at Vehicle, Parts Washing, or Cleaning Areas

Implement one of the following BMP options:

Preferred Option – Conduct the washing/cleaning in an enclosed building, or under a roof or canopy, with an impervious floor, such as concrete with no floor drainage to the outside other than connections to sanitary sewers or treatment facilities authorized by local jurisdiction and/or an appropriate Ecology permit.

Minimum Option – If you cannot implement the preferred option, you can install an uncovered Portland cement concrete pad that is impervious and contained (Figure 5). Implement the following additional BMPs for the two options:

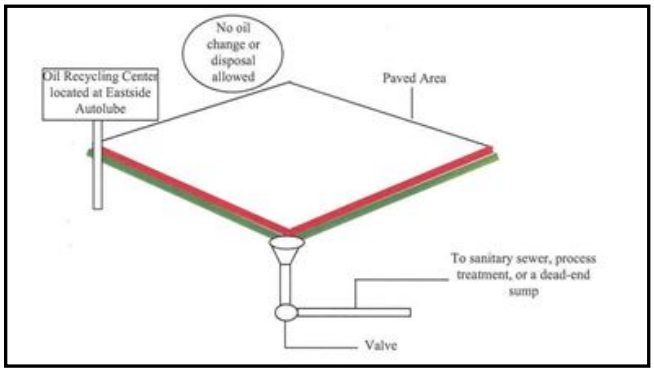

Figure 5. Sketch of a Wash Pad

- Design the pad to contain spills using one of the following methods: inward sloping berms or dikes around the perimeter, or a dead-end sump and/or a perimeter drain. Permittees can use the perimeter drain (trench, catchment drain) and/or the dead-end sump for collecting stormwater if the discharge outlet from the spill-collecting device has a locked valve that normally is in a closed position to prevent the release of pollutant fluids.
- Convey contaminated stormwater (commingled with wash water) collected on the pad to a sanitary sewer, if allowed by the local sewer authority after acceptable pretreatment. You may also convey contaminated stormwater to a total recycle system.
- Vehicle wash or rinse water may be discharged to:
    - A sanitary sewer (if allowed by the sewer authority).
    - Appropriate wastewater treatment.
    - Totally recycled (zero discharge).
- Any discharge to ground requires a high level of treatment and a State Waste Discharge Permit. Permittees must not discharge wash water to a storm drain that discharges to ground or to surface water.

BMPs for Fueling at Dedicated Stations (BMP S409)

Description of Pollutant Sources: A fueling station is a facility dedicated to the transfer of fuels from a stationary pumping station to mobile vehicles or equipment. It includes above or under-ground fuel storage facilities. In addition to general service gas stations, fueling may also occur at 24-hour convenience stores, construction sites, warehouses, car washes, manufacturing establishments, port facilities, and businesses with fleet vehicles. Typical causes of stormwater contamination at fueling stations include leaks/spills of fuels, lube oils, radiator coolants, and vehicle washwater.

Pollutant Control Approach: The facility must use a treatment BMP for contaminated stormwater and wastewaters in the fueling containment area.

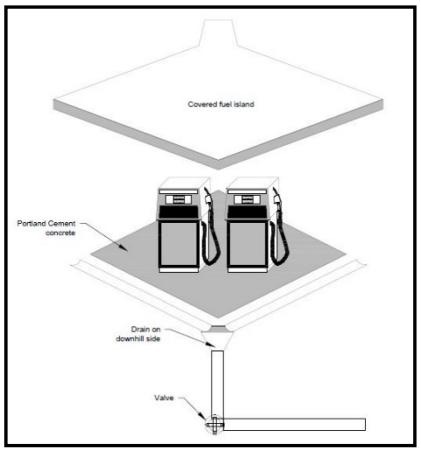

Figure 6

Applicable Operational BMPs:

- Prepare an emergency spill response and cleanup plan (per S426 BMPs for Spills of Oil and Hazardous Substances) and have designated trained person(s) available either on site or on call at all times to promptly and properly implement that plan and immediately cleanup all spills. Keep suitable cleanup materials, such as dry adsorbent materials, on site to allow prompt cleanup of a spill.
- Train employees on the proper use of fuel dispensers. Post signs in accordance with the Uniform Fire Code (UFC) or International Fire Code (IFC). Post "No Topping Off" signs (topping off gas tanks causes spillage and vents gas fumes to the air). Make sure that the automatic shutoff on the fuel nozzle is functioning properly.
- The person conducting the fuel transfer must be present at the fueling pump during fuel transfer, particularly at unattended or self-serve stations.
- Keep drained oil filters in a suitable container or drum.

Applicable Structural Source Control BMPs:

- Design the fueling island to control spills (dead-end sump or spill control separator in compliance with the UFC or IFC), and to treat collected stormwater and/or wastewater to required levels. Slope the concrete containment pad around the fueling island toward drains, either trench drains, catch basins, and/or a dead-end sump. The slope of the drains shall not be less than 1 percent (Section 7901.8 of the UFC, Section 5703.6.8 of the IFC).
- Drains to treatment facilities must have a normally closed shutoff valve. The spill control sump must be sized in compliance with Section 7901.8 of the UFC; or
- Design the fueling island as a spill containment pad with a sill or berm raised to a minimum of four inches (Section 7901.8 of the UFC) to prevent the runoff of spilled liquids and to prevent run-on of stormwater from the surrounding area. Raised sills are not required at the open-grate trenches that connect to an approved drainage-control system.
- The fueling pad must be paved with Portland cement concrete, or equivalent. Ecology does not consider asphalt an equivalent material.

- The fueling island must have a roof or canopy to prevent the direct entry of precipitation onto the spill containment pad (see Figure 6). The roof or canopy should cover the spill containment pad (within the grade break or fuel dispensing area) at a minimum, and preferably extending several additional feet to reduce the introduction of windblown rain. Convey all roof drains to storm drains outside the fueling containment area. When not feasible to install a roof or canopy for the large equipment (log stackers/loaders) an uncovered impervious contained pad is acceptable.
- Convey stormwater collected on the fuel island containment pad to a sanitary sewer system, if approved by the sanitary authority, or to an approved treatment system such as an oil/water separator and a basic treatment BMP. (Volume V of the SWMMWW lists basic treatment BMPs and includes media filters and biofilters). Discharges from treatment systems to storm drains or surface water or to the ground must not display ongoing or recurring visible sheen and must not contain oil and grease.
- Alternatively, collect stormwater from the fuel island containment pad and hold for proper off-site disposal.
- Approval from the local sewer authority is required for conveyance of any fuel-contaminated stormwater to a sanitary sewer. The discharged stormwater must comply with pretreatment regulations (WAC 173-216-060). These regulations prohibit discharges that could "cause fire or explosion." State and federal pretreatment regulations define an explosive or flammable mixture, based on a flash point determination of the mixture. You can convey stormwater to a sanitary sewer system if it is determined not to be explosive.
- Transfer the fuel from the delivery tank trucks to the fuel storage tank in impervious contained areas and ensure that appropriate overflow protection is used. Alternatively, cover nearby storm drains during the filling process and use drip pans under all hose connections.

Additional BMP for Vehicles 10 feet in height or greater

A roof or canopy may not be feasible at fueling stations that regularly fuel vehicles that are 10 feet in height or greater, particularly at industrial or WSDOT sites. At those types of fueling facilities, the following BMPs apply, as well as the applicable BMPs and fire prevention (UFC requirements) of this BMP for fueling stations:

- If a roof or canopy is impractical, the concrete fueling pad must be equipped with emergency spill control including a shutoff valve for drainage from the fueling area. Maintain the valve in the closed position in the event of a spill. An electronically actuated valve is preferred to minimize the time lapse between spill and containment. Clean up spills and dispose of materials off-site in accordance with S406 BMPs for Spills of Oil and Hazardous Substances.
- The valve may be opened to convey contaminated stormwater to a sanitary sewer, if approved by the sewer authority, or to oil removal treatment such as an API or CP oil/water separator, catchbasin insert, or equivalent treatment, and then to a basic treatment BMP. Discharges from treatment systems to storm sewer or surface water or to the ground must not display ongoing or recurring visible sheen and must not contain greater than a significant amount of oil and grease.

BMPs for Mobile Fueling of Vehicles and Heavy Equipment (BMP S419)

Description of Pollutant Sources: Mobile fueling, also known as fleet fueling, wet fueling, or wet hosing, is the practice of filling fuel tanks of vehicles by tank trucks that are driven to the yards or sites where the vehicles to be fueled are located. Regulators categorize diesel fuel as a Class II Combustible Liquid, whereas they categorize gasoline as a Flammable Liquid.

Historically organizations conducted mobile fueling for off-road vehicles operated for extended periods in remote areas. This includes construction sites, logging operations, and farms. Some organizations conduct mobile fueling of on-road vehicles commercially in the state of Washington.

Pollutant Control Approach: Operators typically need proper training for the fueling operators, and the use of spill/drip control and reliable fuel transfer equipment with backup shutoff valving.

Applicable Operational BMPs:

Organizations and individuals conducting mobile fueling operations must implement the following bulleted BMPs. The operating procedures for the driver/operator should be simple, clear, effective, and their implementation verified by the organization liable for environmental and third party damage.

- Ensure that the local fire department approves all mobile fueling operations. Comply with local and Washington State fire codes.
- In fueling locations that are in close proximity to sensitive aquifers, designated wetlands, wetland buffers, or other waters of the state, approval by local jurisdictions is necessary to ensure compliance with additional local requirements.
- Ensure compliance with all 49 CFR 178 requirements for DOT 406 cargo tanker. Documentation from a Department of Transportation (DOT) Registered Inspector provides proof of compliance.
- Ensure the presence and the constant observation/monitoring of the driver/operator at the fuel transfer location at all times during fuel transfer and ensure implementation of the following procedures at the fuel transfer locations:
  - Locate the point of fueling at least 25 feet from the nearest storm sewer or inside an impervious containment with a volumetric holding capacity equal to or greater than 110 percent of the fueling tank volume, or covering the storm sewer to ensure no inflow of spilled or leaked fuel. Covers are not required for storm sewers that convey the inflow to a spill control separator approved by the local jurisdiction and the fire department. Potential spill/leak conveyance surfaces must be impervious and in good repair.
  - Place a drip pan or an absorbent pad under each fueling location prior to and during all dispensing operations. The pan (must be liquid tight) and the absorbent pad must have a capacity of at least 5 gallons. There is no need to report spills retained in the drip pan or the pad.

- Manage the handling and operation of fuel transfer hoses and nozzle, drip pan(s), and absorbent pads as needed to prevent spills/leaks of fuel from reaching the ground, storm sewer, and receiving waters.
- Avoid extending the fueling hoses across a traffic lane without fluorescent traffic cones, or equivalent devices, conspicuously placed to block all traffic from crossing the fuel hose.
- Remove the fill nozzle and cease filling the tank when the automatic shut-off valve engages. Do not lock automatic shutoff fueling nozzles in the open position.
- Do not "top off" the fuel receiving equipment.

- Provide the driver/operator of the fueling vehicle with:
  - Adequate flashlights or other mobile lighting to view fuel fill openings with poor accessibility. Consult with local fire department for additional lighting requirements.
  - Two-way communication with his/her home base.
- Train the driver/operator annually in spill prevention, cleanup measures, and emergency procedures. Make all employees aware of the significant liability associated with fuel spills.
- The responsible manager shall properly sign and date the fueling operating procedures. Distribute procedures to the operators, retain them in the organization files, and make them available in the event an authorized government agency requests a review.
- In the event of any spill of oil or other hazardous substance onto the ground or to surface or ground waters, you must call the following two numbers:
  - National Response Center: 1-800-424-8802, AND
  - Washington Emergency Management Division: 1-800-258-5990 –OR- 1-800-OILS-911

You must also call the Ecology regional office for the county where the spill is located:

- Southwest Regional Office – 1-360-407-6300
  (Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Mason, Lewis, Pacific, Pierce, Skamania, Thurston, and Wahkiakum counties)
- Northwest Regional Office – 1-425-649-7000
  (Island, King, Kitsap, San Juan, Skagit, Snohomish, and Whatcom counties)
- Central Regional Office – 1-509-575-2490
  (Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, and Yakima counties)
- Eastern Regional Office – 1-509-329-3400
  (Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, and Whitman counties)

- Establish a Spill "call down list" to ensure the rapid and proper notification of management and government officials. Keep the list in a protected but readily accessible location in the mobile fueling truck. The "call down list" should also pre-identify spill

response contractors available in the area to ensure the rapid removal of significant product spillage into the environment.

- Maintain a minimum of the following spill clean-up materials in all fueling vehicles, that are readily available for use:
  - Non-water absorbents capable of absorbing at least15 gallons of diesel fuel.
  - A storm drain plug or cover kit.
  - A non-water absorbent containment boom of a minimum 10 feet in length with a 12-gallon minimum absorbent capacity.
  - A non-spark generating shovel (a steel shovel could generate a spark and cause an explosion in the right environment around a spill).
  - Two, five-gallon buckets with lids.
- Use automatic shutoff nozzles for dispensing the fuel. Replace automatic shut-off nozzles as recommended by the manufacturer.
- Maintain and replace equipment on fueling vehicles, particularly hoses and nozzles, at established intervals to prevent failures.

Applicable Structural Source Control BMPs:

Include the following fuel transfer site components:

- Automatic fuel transfer shut-off nozzles.
- An adequate lighting system at the filling point.

BMPs for Storage of Liquids in Permanent Aboveground Tanks (S428)

Description of Pollutant Sources: Aboveground tanks containing liquids (excluding uncontaminated water) may be equipped with a valved drain, vent, pump, and bottom hose connection. You may heat aboveground tanks with steam heat exchangers equipped with steam traps, if required. Leaks and spills can occur at connections and during liquid transfer. Oil and grease, organics, acids, alkalis, and heavy metals in tank water and condensate drainage can also cause stormwater contamination at storage tanks.

Pollutant Control Approach: Install secondary containment or a double-walled tank. Slope the containment area to a drain with a sump. Operators may need to discharge stormwater collected in the containment area to treatment such as an API or CP oil/water separator, or equivalent BMP. Add safeguards against accidental releases including protective guards around tanks to protect against vehicle or forklift damage, and tagging valves to reduce human error. Tank water and condensate discharges are process wastewater that may need an NPDES Permit.

Applicable Operational BMPs:

- Inspect the tank containment areas regularly for leaks/spills, cracks, corrosion, etc. to identify problem components such as fittings, pipe connections, and valves.
- Place adequately sized drip pans beneath all mounted taps and drip/spill locations during filling/unloading of tanks. Operators may need valved drain tubing in mounted drip pans.
- Vacuum sweep and clean the tank storage area regularly, if paved.
- Replace or repair tanks that are leaking, corroded, or otherwise deteriorating.
- All installations shall comply with the Uniform Fire Code and the National Electric Code.

Applicable Structural Source Control BMPs:
Locate permanent tanks in impervious (Portland cement concrete or equivalent) secondary containment surrounded by dikes as illustrated in Figure 7, or use UL Approved double-walled tanks. The dike must be of sufficient height to provide a containment volume of either 10 percent of the total enclosed tank volume or 110 percent of the volume contained in the largest tank, whichever is greater.

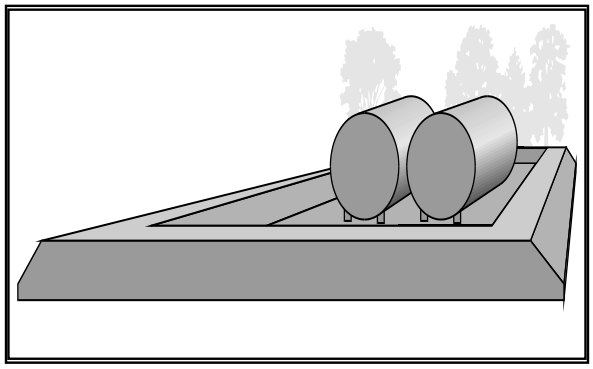

Figure 7 – Above-ground Tank Storage

- Slope the secondary containment to drain to a dead-end sump or equivalent, for the collection of small spills.
- Include a tank overfill protection system to minimize the risk of spillage during loading.

Applicable Treatment BMPs:
For an uncovered tank containment area, equip the outlet from the spill-containment sump with a normally closed shutoff valve. Operators may open this valve manually or automatically, only to convey contaminated stormwater to approved treatment or disposal, or to convey uncontaminated stormwater to a storm sewer. Evidence of contamination can include the presence of visible sheen, color, or turbidity in the runoff, or existing or historical operational problems at the facility. Use simple pH tests with litmus or pH paper for areas subject to acid or alkaline contamination.

At petroleum tank farms, convey stormwater contaminated with floating oil or debris in the contained area through an API or CP-type oil/water separator, or other approved treatment prior to discharge to storm drain or surface water.

BMPs for Storage of Liquid, Food Waste, or Dangerous Waste Containers (BMP S427) (typically ≤ 55 gal)

Description of Pollutant Sources: Steel and plastic drums with volumetric capacities of 55 gallons or less are typically used at industrial facilities for container storage of liquids and powders. The following BMPs apply to container(s) located outside a building.

Use these BMPs when temporarily storing accumulated:

- Food wastes
- Vegetable or animal grease
- Used oil
- Liquid feedstock
- Cleaning chemicals
- Other Dangerous Wastes (liquid or solid).

These BMPs do not apply when Ecology has permitted the business to store the wastes (Appendix IV-D R.4). Leaks and spills of pollutant materials during handling and storage are the primary sources of pollutants. Oil and grease, acid/alkali pH, BOD, COD are potential pollutant constituents.

Pollutant Control Approach: Store containers in impervious containment under a roof, or other appropriate cover, or in a building. When collection trucks directly pick up roll-containers, ensure a filet is on both sides of the curb to facilitate moving the dumpster. For storage areas on-site for less than 30 days, consider using a portable temporary secondary system like that shown in Figure 8 in lieu of a permanent system as described previously.

Applicable Operational BMPs:

- Place tight-fitting lids on all containers.
- Place drip pans beneath all mounted container taps and at all potential drip and spill locations during filling and unloading of containers**.**

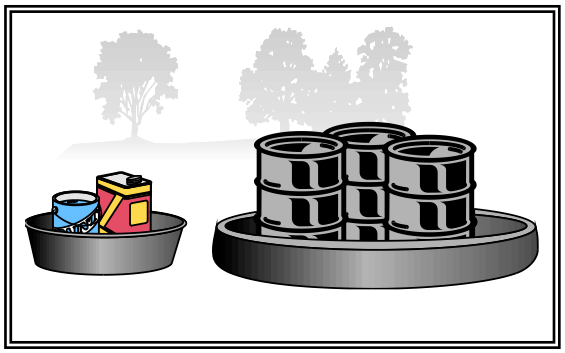

Figure 8 – Secondary Containment System

- Inspect container storage areas regularly for corrosion, structural failure, spills, leaks, overfills, and failure of piping systems. Check containers daily for leaks/spills. Replace containers, and replace and tighten bungs in drums as needed.
- Businesses accumulating Dangerous Wastes that do not contain free liquids need only to store these wastes in a sloped designated area with the containers elevated or otherwise protected from storm water run-on.
- Secure drums when stored in an area where unauthorized persons may gain access in a manner that prevents accidental spillage, pilferage, or any unauthorized use (see Figure 9).
- If the material is a Dangerous Waste, the business owner must comply with any additional Ecology requirements as specified in Appendix IV-D R.3.
- Storage of reactive, ignitable, or flammable liquids must comply with the Uniform Fire Code (Appendix IV-D R.2).
- Cover dumpsters, or keep them under cover such as a lean-to, to prevent the entry of stormwater. Replace or repair leaking garbage dumpsters.

- Drain dumpsters and/or dumpster pads to sanitary sewer. Keep dumpster lids closed.
- Install waterproof liners.

Applicable Structural Source Control BMPs:

- Keep containers with Dangerous Waste, food waste, or other potential pollutant liquids inside a building unless this is not feasible due to site constraints or Uniform/International Fire Code requirements.
- Store containers in a designated area, which is covered, bermed or diked, paved and impervious in order to contain leaks and spills (see Figure 10). Slope the secondary containment to drain into a dead-end sump for the collection of leaks and small spills.

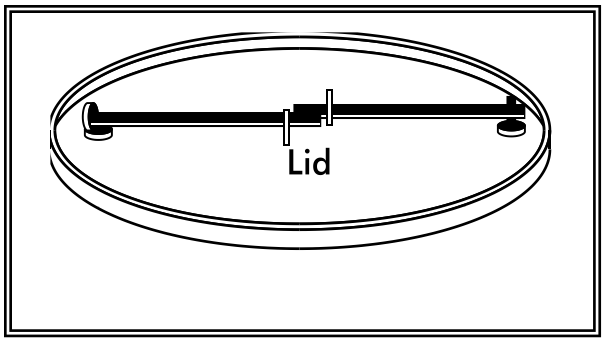

Figure 9 – Locking System for Drum lid

- For liquid wastes, surround the containers with a dike as illustrated in Figure 10. The dike must be of sufficient height to provide a volume of either 10 percent of the total enclosed container volume or 110 percent of the volume contained in the largest container, whichever is greater.
- Where material is temporarily stored in drums, use a containment system as illustrated, in lieu of the system in Figure 10 (see Figure 8).
- Place containers mounted for direct removal of a liquid chemical for use by employees inside a containment area as described previously. Use a drip pan during liquid transfer (see Figure 11).

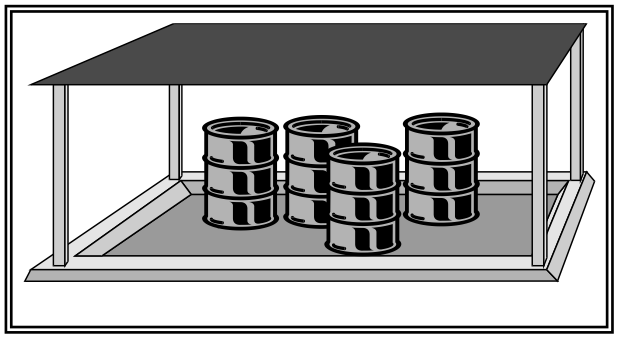

Figure 10 – Covered and Bermed Containment

Applicable Treatment BMP:

- For contaminated stormwater in the containment area, connect the sump outlet to a sanitary sewer, if approved by the local Sewer Authority, or to appropriate treatment such as an API or CP oil/water separator, catch basin filter or other appropriate system (see SWMMWW Volume V). Equip the sump outlet with a normally closed valve to prevent the release of spilled or leaked liquids, especially flammables (compliance with Fire Codes), and dangerous liquids. Open this valve only for the conveyance of contaminated stormwater to treatment.

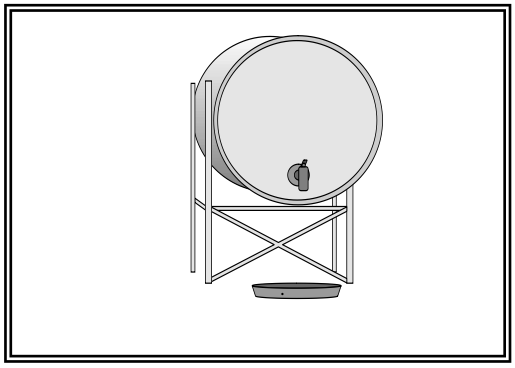

Figure 11 – Mounted Container - with drip pan (note that this figure does not show secondary containment)

- Another option for discharge of contaminated stormwater is to pump it from a dead-end sump or catchment to a tank truck or other appropriate vehicle for off-site treatment and/or disposal.

BMPs for Maintenance and Repair of Vehicles and Equipment (BMP S414)

Description of Pollutant Sources: Pollutant sources include parts/vehicle cleaning, spills/leaks of fuel and other liquids, replacement of liquids, outdoor storage of batteries/liquids/parts, and vehicle parking.

Pollutant Control Approach: Control of leaks and spills of fluids using good housekeeping and cover and containment BMPs.

Applicable Operational BMPs:

- Inspect all incoming vehicles, parts, and equipment stored temporarily outside for leaks.
- Use drip pans or containers under parts or vehicles that drip or that are likely to drip liquids, such as during dismantling of liquid containing parts or removal or transfer of liquids.
- Remove batteries and liquids from vehicles and equipment in designated areas designed to prevent stormwater contamination. Store cracked batteries in a covered non-leaking secondary containment system.
- Remove liquids from vehicles retired for scrap.
- Empty oil and fuel filters before disposal. Provide for proper disposal of waste oil and fuel.
- Do not pour/convey washwater, liquid waste, or other pollutants into storm drains or to surface water. Check with the local sanitary sewer authority for approval to convey water to a sanitary sewer.

- Do not connect maintenance and repair shop floor drains to storm drains or to surface water.
- To allow for snowmelt during the winter, install a drainage trench with a sump for particulate collection. Use the drainage trench for draining the snowmelt only and not for discharging any vehicular or shop pollutants.

Applicable Structural Source Control BMPs:

- Conduct all maintenance and repair of vehicles and equipment in a building or other covered impervious containment area that is sloped to prevent run-on of uncontaminated stormwater and runoff of contaminated water.
- Operators may conduct maintenance of refrigeration engines in refrigerated trailers in the parking area. Exercise due caution to avoid the release of engine or refrigeration fluids to storm drains or surface water.
- Park large mobile equipment, such as log stackers, in a designated contained area.

Applicable Treatment BMPs:

- Convey contaminated stormwater runoff from vehicle staging and maintenance areas to a sanitary sewer, if allowed by the local sewer authority, or to an API or CP oil and water separator followed by a basic treatment BMP, applicable filter, or other equivalent oil treatment system.

Recommended Additional Operational BMPs:

- Store damaged vehicles inside a building or other covered containment, until successfully removing all liquids.
- Clean parts with aqueous detergent-based solutions or non-chlorinated solvents such as kerosene or high flash mineral spirits, and/or use wire brushing or sand blasting in a booth whenever practicable. Avoid using toxic liquid cleaners such as methylene chloride, 1,1,1-trichloroethane, trichloroethylene or similar chlorinated solvents. Choose cleaning agents that can be recycled.
- Inspect all BMPs regularly, particularly after a significant storm. Identify and correct deficiencies to ensure that the BMPs are functioning as intended.
- Avoid hosing down work areas. Use dry methods for cleaning leaked fluids.
- Recycle greases, used oil, oil filters, antifreeze, cleaning solutions, automotive batteries, hydraulic fluids, transmission fluids, and engine oils.
- Do not mix dissimilar or incompatible waste liquids stored for recycling.

BMPs for Erosion and Sediment Control

The SWPPP shall include BMPs necessary to prevent the erosion of soils and other earthen materials (crushed rock/gravel, etc.), control off-site sedimentation, and prevent violations of water quality standards The Permittee shall implement and maintain:

- Sediment control BMPs such as detention or retention ponds or traps, vegetated filter strips, bioswales, or other permanent sediment control BMPs to minimize sediment loads in stormwater discharges.
- Filtration BMPs to remove solids from catch basins, sumps, or other stormwater collection and conveyance system components (catch basin filter inserts, filter socks, modular canisters, sand filtration, centrifugal separators, etc.).
- Volume II of the SWMMWW and Chapter 7 of the SWMMEW have information on many BMPs that you can use to provide Erosion and Sediment Control on your site.

BMPs for Soil Contaminated with Oil/grease and/or Toxics Such as Chemicals, Pesticides and Metals

If you discover soil contaminated with toxics, contact the local registered landfill in your area for assistance on acceptable disposal criteria. Implement the following BMP options, where applicable**,** if there is no actual or potential for the pollution of surface water or ground water by the contaminated soil.

Option 1 (Preferred) – Soil Remediation. Collect the contaminated soil in appropriate containers and transfer it to a covered impervious containment area on-site for temporary storage or remediation, if feasible, or arrange to transport it to a permitted waste treatment or disposal facility.

Option 2 – Prevent Contact with Stormwater. Cover the contaminated soil with a durable plastic cover, or equivalent, to prevent contact with stormwater and divert stormwater around the covered contaminated soil to prevent the contamination of stormwater.

Option 3 – Collect and Treat the Stormwater. Collect and treat the stormwater runoff from the contaminated soil site (see Section 6: Treatment BMPs) if the runoff contains greater than a benchmark value of any pollutant.

Additional BMP for all above options – Assess the potential for groundwater contamination. Contact your Ecology regional office for assistance if needed.

BMPs for Surface Protection of Green dimension lumber treated by FIFRA-registered chemicals and/or other chemicals

Logs and cut lumber dipped or sprayed with chemicals to control sap stain, mold, mildew, and insects, need containment during storage, handling, and use.

Log treating operations or storage areas shall not result in the release of any residual log treatment chemicals, which would cause the violation of ground water or surface water quality or sediment management standards. The goal is no discharge of any chemical. If you contaminate stormwater with any residual chemical after implementing the following BMPs, further controls are necessary. If this occurs, contact the Water Quality Program at your Ecology regional office for advice.

Implement the following BMPs**:**

- Apply log-treating chemicals on impervious containment such as Portland cement concrete or equivalent, in a building, or under a roof, cover, or equivalent structure.
- Store freshly treated logs on impervious containment in a building or under a roof, or equivalent cover, so there is no release of log treating chemicals, which would contaminate stormwater during outside storage or handling. Wrapping may also be used.
- Do not connect floor drains from the spray or dip facility to storm drains or to surface water.
- Dedicate equipment for log treatments, to avoid spreading the chemicals to other areas on the site.
- Store and handle all pesticides, chemicals and all equipment, containers, solid waste, and/or liquid wastes that is/are contaminated with log treatment chemicals in accordance with label instructions and Ecology's dangerous waste requirements (Chapter 173-303 WAC).
- If you identify soil contaminated with log treatment chemicals from past or current practices, call the regional office of Ecology's Toxics Cleanup Program for technical assistance.
- Do not vent volatile or mist-laden exhaust containing log treatment chemicals to the outside, unless necessary for occupational health and safety reasons.
- Clean up all spills and leaks immediately with dry absorbents and dispose in accordance with label instructions and Washington dangerous waste requirements.

BMP Considerations for Paving High Activity Rock/Soil Areas

Environmental benefits of paving the existing high activity rock/soil areas can include more efficient cleaning of debris and oil drips and less erosion of particulates from rock/soil work areas. Process improvements can include cleaner bark and hog fuel, less equipment, decreased saw and log stacker wear, and more efficient log stacker/loader operation. Permittees can efficiently collect and reuse water sprays required for maintenance of the quality of logs.

Basic Summary Approach for Stormwater Collection and Conveyance

Implement the following BMPs at the high activity areas, where applicable:

- Keep uncontaminated stormwater away from pollutant sources such as the high activity log and wood debris handling and storage areas, vehicle and equipment maintenance, bark and wood residue storage, and liquid storage areas.
- Collect, segregate, and convey to appropriate treatment BMPs, stormwater which contains greater than a benchmark value of a pollutant.
- Provide proper sloping and/or pavement to reduce or prevent ponding, erosion, and contamination of stormwater.
- Minimize the use of catch basins in the interior of the high activity areas, as they tend to fill rapidly with wood waste/sediment. The area should be sloped to drain stormwater to the perimeter where you can collect and treat it in larger solids handling systems.

6. Treatment BMPs

Design, construct, and operate treatment BMPs in accordance with the criteria in Ecology's applicable stormwater manual or documentation in the SWPPP. Ensure that the BMPs selected are demonstrably[2] equivalent to practices contained in stormwater technical manuals approved by Ecology, including the proper selection, implementation, and maintenance of all applicable and appropriate best management practices for on-site pollution control See ISGP Condition S3.A.3.

Employ oil/water separators, booms, skimmers, or other methods to eliminate or minimize oil and grease contamination of stormwater discharges.

Obtain Ecology approval before beginning construction/installation of all treatment BMPs that include the addition of polymers or other chemicals to provide treatment.

If Treatment BMPs are required to comply with ISGP Level 3 Corrective Action requirements, you must comply with the engineering report and treatment BMP construction /installation requirements in Condition S8.D.

7. Operation and Maintenance

Properly operate and maintain all stormwater treatment and control facilities and laboratories installed or used for compliance with the ISWGP. Ecology's stormwater manuals contain descriptions of Operation and Maintenance procedures for individual BMPs. (See references 4 and 5)

[2] Demonstrably Equivalent means that the applicant documented the technical basis for the selection of all stormwater best management practices within a SWPPP. The SWPPP must document 1) The method and reasons for choosing the stormwater best management practices selected; 2) The pollutant removal performance expected from the practices selected; 3) The technical basis supporting the performance claims for the practices selected, including any available existing data concerning field performance of the practices selected; 4) An assessment of how the selected practices will comply with state water quality standards; and 5) An assessment of how the selected practices will satisfy both applicable federal technology-based treatment requirements and state requirements to use all known, available, and reasonable methods of prevention, control, and treatment (AKART).

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Appendix A
References

1. *Industrial Stormwater General Permit* (http://www.ecy.wa.gov/programs/wq/stormwater/industrial/index.html)
2. *How to Do Stormwater Sampling; A guide for industrial facilities* (https://fortress.wa.gov/ecy/publications/summarypages/0210071.html)
3. *Guidance Manual for Preparing/updating a Stormwater Pollution Prevention Plan for Industrial Facilities* (https://fortress.wa.gov/ecy/publications/summarypages/0410030.html)
4. *ISGP Stormwater Pollution Prevention Plan Template* (http://www.ecy.wa.gov/programs/wq/stormwater/industrial/index.html Lower right hand side of page)
5. *Stormwater Management Manual for Western Washington* (http://www.ecy.wa.gov/programs/wq/stormwater/manual.html)
6. *Stormwater Management Manual for Eastern Washington* (http://www.ecy.wa.gov/programs/wq/stormwater/easternmanual/manual.html)
7. *Vehicle and Equipment Washwater, Best Management Practices Manual (Publication No.* 95-056) WA Dept. of Ecology, March 2012. (https://fortress.wa.gov/ecy/publications/summarypages/95056.html)
8. *Code of Federal Regulations, Protection of the Environment*, Title 40, Part 136, as updated.
9. *Standard Methods for the Examination of Water and Wastewater*, APHA, latest edition.
10. *Requirements for Generators of Dangerous Wastes,* Ecology, *Chapter 173-303 WAC*
11. *Step-by-Step: Fact Sheets for Hazardous Waste Generators*, (Publication No. 91-12) Dept. of Ecology, January 2008.
12. *Minimum Functional Standards for Solid Waste Handling*, Ecology, WAC Chapter 173-304.
13. *Minimum Functional Standards for Containers,* WAC 173-304-200.
14. *Coast Guard Requirements for Marine Transfer of Petroleum Products,* 33 CFR Parts 153, 154 and 155.
15. *Submission of Plans and Reports for the Construction of Wastewater Treatment Plants, WAC 173-240* (https://fortress.wa.gov/ecy/publications/documents/173240.pdf)
16. *USEPA/Ecology Emergency Spill Cleanup Regulations*, SPCC: 40 CFR Part 112 and WAC 173-303-350.

Appendix B
Example Sign for Employees

Notice to all Employees

To minimize or prevent stormwater pollution

1. Do not dump any polluting fluid or any other pollutant down any storm drains.
2. Keep all paved areas clean of debris that could contaminate stormwater.
3. Prevent outside spills and leaks of liquids particularly during operation of log stackers and loaders.
4. Use oil containment booms to contain and dry absorbents to clean up spills and leaks of pollutant liquids immediately.
5. Notify management of:
   - Any outside leak, spill, or situation that can cause contamination of stormwater.
   - Ongoing or frequently recurring oil sheen on the surface of a stormwater discharge or in receiving water.
   - Any unsatisfactory stormwater pollution control system operation.

Appendix C
Glossary and Acronyms

AKART: All known, available, and reasonable methods of prevention, control, and treatment: It shall represent the most current methodology that can be reasonable, required for preventing, controlling, or abating the pollutants associated with a stormwater discharge.

APHA: American Public Health Association.

BMP: Best management practices: Schedules of activities, prohibitions of practices, maintenance procedures, and structural and/or managerial practices that when used singly or in combination, prevent or reduce the release of pollutants and other adverse impacts to waters of Washington State.

CFR: Code of Federal Regulations.

Dike/berm: A constructed barrier of compacted earth, rock, or gravel. In a stormwater facility, a berm may serve as a vertical divider typically built up from the bottom. A physical containment barrier, usually concrete, or earthen with impervious plastic liner for the containment of fluids.

DMR: Discharge monitoring report.

High activity areas: include routine operation of log stackers and loaders, forklifts, and trucks; liquid, log, bark, wood, wood waste and debris storage, handling and access; log truck, stacker and loader access; fueling, washing and maintenance; timber material storage bin and conveyance; and debarkers.

Leachate: Water or other liquid that has percolated through raw material, product, or waste and contains substances in solution or suspension as a result of the contact with these materials.

Log Yard: The total land area where logs are stored, transferred, shipped, received, sorted, debarked, or otherwise handled. It includes supporting industrial activities such as: equipment/vehicle use, maintenance/fueling/washing, liquid/solid material storage, material shipping/receiving, and bark/ash/wood debris storage and handling. It also includes all the stormwater drainage features and areas from these log yard activities.

NPDES: National Pollutant Discharge Elimination System: The national program for issuing, modifying, revoking, terminating, monitoring, and enforcing permits for discharges to surface water.

Oil: Includes gasoline, crude oil, fuel oil, diesel oil, lubricating oil, oily refuse and sludge, liquid natural gas, propane, butane, oils distilled from coal, and other liquid hydrocarbons regardless of specific gravity, or any petroleum related product. (Chapter 90.48 RCW)

Operational BMPs: Schedule of activities, prohibition of practices, maintenance procedures, employee training, good housekeeping, and other managerial practices to prevent or reduce the contamination of stormwater.

Pollutant: Solid waste, including wood and bark waste, incinerator residue, garbage; oil leaks; filter backwash; sewage; sewage sludge; chemical wastes; biological materials; and industrial, municipal, and agricultural waste; discharged into water, or any other material that can cause pollution of water.

Pollution: Contamination or other alteration of the physical, chemical, or biological properties of waters of the state of Washington. This includes changes in temperature, taste, color, turbidity, or

odor of the waters. It also includes discharge of any liquid, solid, gaseous, radioactive, or other substance into any waters of the state that will or is likely to create a nuisance or render such waters harmful, detrimental, or injurious to the public health, safety, or welfare. Discharges that may damage domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses; or cause damage to livestock, wild animals, birds, fish or other aquatic life.

Putrescible: Solid waste that contains material capable of decomposition by microorganisms.

RCW: Revised Code of Washington

Significant Amount: An amount of pollutant in a discharge that is amenable to AKART, or an amount of pollutant that has a reasonable potential to cause a violation of surface or groundwater quality standards or sediment management standards

Structural Source Control BMPs: Physical, structural, mechanical devices, or facilities that are designed to prevent pollutants from entering stormwater.

Stormwater Runoff: Water originating from rainfall or snowmelt found in drainage or conveyance facilities at industrial sites.

SWMMEW: Stormwater Management Manual for Eastern Washington: The technical manual revised by Ecology in 2004 that contains BMPs to prevent, control, or treat stormwater pollutants.

SWMMWW: Stormwater Management Manual for Western Washington: The technical manual revised by Ecology in 2014 that contains BMPs to prevent, control, or treat stormwater pollutants.

SWPPP: Stormwater Pollution Prevention Plan: A documented plan to implement measures to identify, prevent, and control the contamination of stormwater and its discharge to ground or surface water.

TMDL Plan: A total maximum daily load plan is a description of the type, amount, and sources of water pollution in a water body with strategies to control the pollution.

Treatment BMPs: Structural BMPs intended to remove pollutants from stormwater, such as oil/water separation, biofiltration, and sand filters. Permittees may also consider emerging technologies such as media filtration and manufactured water treatment technologies.

USEPA: U. S. Environmental Protection Agency

WAC: Washington Administrative Code

Water Quality Standards: State of Washington water quality standards for surface waters of the state, which are codified in Chapter 173-201 WAC.

Waters of the State: Waters within the geographic boundaries of the State of Washington, including lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters or watercourses.

Contacts

If you have questions or want more information, please contact Douglas C. Howie, P.E. at Ecology Headquarters office in Lacey at 360-407-6444 or douglas.howie@ecy.wa.gov.

Phase I Environmental Site Assessment

Buse Timber & Sales

3812 28th Pl NE

Everett, Snohomish County, Washington

June 20, 2018

Terracon Project No. 81187262

RIMS Project No. 18-002488-02-2

Prepared for:
Umpqua Bank
Coeur D Alene, Idaho

Prepared by:
Terracon Consultants, Inc.
Mountlake Terrace, Washington

June 20, 2018

Umpqua Bank
1233 N Northwood Center Ct
Coeur D Alene, ID 83814-6190

Attn: Mr. Michael Pereira

Re: Phase I Environmental Site Assessment
Buse Timber & Sales
3812 28th Pl NE
Everett, Snohomish County, Washington 98205
Terracon Project No. 81187262
RIMS Project No. 18-002488-02-2

Dear Mr. Pereira:

Terracon Consultants, Inc. (Terracon) is pleased to submit the enclosed Phase I Environmental Site Assessment (ESA) report for the above-referenced site. This assessment was performed in accordance with the Master Environmental Service Agreement (MESA), dated June 10, 2015 and the Environmental Services Task Order, dated May 29, 2018.

Terracon has no present or contemplated future ownership interest or financial interest in the real estate that is the subject of this Environmental Assessment Report; and Terracon has no personal interest with respect to the subject matter of the Environmental Assessment Report of the parties involved and Terracon has no relationship with the property or the owners thereof which would prevent an independent analysis of the environmental or other conditions of the property.

Unless expressly authorized in writing by Umpqua Bank and Terracon, no one is permitted or intended to rely upon the findings, conclusions or recommendations found herein. This information is provided as a courtesy only and its accuracy has not been verified. The recipient accepts this information understanding that no representations or warranties are made with respect to this information and that recipient must make an independent determination of the accuracy of any information contained herein. The recipient acknowledges that Umpqua Bank has no responsibility for this information and the recipient releases Umpqua Bank from liability for any inaccuracy, mistake or other defect in this information.

We appreciate the opportunity to be of service to you on this project. If there are any questions regarding this report or if we may be of further assistance, please do not hesitate to contact us.

Sincerely,
Terracon Consultants, Inc.

Taylor R. Blackbourn
Environmental Staff Scientist

Matt Wheaton, L.G., P.E.
Department Manager

Attachments

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APPENDICES

EXECUTIVE SUMMARY

This Phase I Environmental Site Assessment (ESA) was performed in accordance with the Master Environmental Services Agreement (MESA), dated June 10, 2015, and the Environmental Services Task Order, dated May 29, 2018, and was conducted consistent with the procedures included in ASTM E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. The ESA was conducted under the supervision or responsible charge of Matt Wheaton, Environmental Professional. Taylor R. Blackbourn and Matt Wheaton performed the site reconnaissance on June 13, 2018.

Findings

A summary of findings is provided below. It should be recognized that details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein.

Site Description and Use

The approximate 60-acre site is located at 3812 28th Pl NE in Everett, Snohomish County, Washington (Snohomish County tax parcels 290504-0030-0600 and 290509-0020-1500) and consists of a lumber mill business. The site has been occupied by Buse Timber & Sales, a lumber mill company for approximately 70 years. The site contains eleven buildings and several modular sheds used as office space, storage, vehicle repair, manufacturing, and employee areas. Logs are brought in by truck or through the Union Slough and are stored in the log storage area on the south side of the facility. They are put through the saw mill to be debarked and cut, and approximately 40 percent of the lumber is run through the planer to be surfaced. Some lumber is treated with a water-based anti-stain in the dip tank and/or painted with a water-based end seal. There are several storage areas for the lumber and are shipped off-site by vehicles that are maintained and fueled on site.

Historical Information

According to site owner representatives and previous reports, the site was a golf course around 1900 and then became a dairy farm. By 1941, the site appeared to be mostly agricultural fields with two structures near 28th Pl NE. Apparently the site was purchased in 1947 by the Buse family and they built a sawmill on the western portion of the site, which is visible in 1952 aerial photographs. By 1965, the larger mill still used today was developed and associated buildings have been added through 2000. Residential buildings on the northwestern portion of the site were demolished in 2011.

The site has historically been surrounded by the Union Slough and associated ditches to the north and west since at least 1941. To the east were agricultural fields until the development of Interstate 5 by 1968, but agricultural fields have remained beyond. To the south were

agricultural fields since at least 1941 and a current barn was developed by 1952. The boat storage yard development started by 1981 and expanded towards the site through 2017. To the west were agricultural fields and residential structures since at least 1941 through 1968. Lumber from the mill was stored to the southwest from 1973 through 1990, then the current granite mill beyond was developed by 2006. Two residential structures remain abandoned on the north side of 28th Pl NE.

Records Review

The site was listed on the ERNS, CSCSL NFA, UST, NPDES, ECHO, RCRA NonGen/NLR, SEMS-ARCHIVE, and SPILLS databases. Based on an Ecology file review, in 1989 Ecology recommended that the site be placed on the EPA CERCLIS list of potential hazardous waste sites after detections of chlorinated hydrocarbons in soil and sediments. In 1992 Ecology again tested for chlorinated hydrocarbons in sediments and Union Slough but did not find impacts. In August 1994, the EPA completed an additional investigation of the site and concluded that no further investigation is required. Additional discussion regarding on-site subsurface investigations is discussed further in the Prior Report Review below.

Site Reconnaissance

Observations made during the site reconnaissance include heat pump systems, one sub-grade mechanic pit, a vehicle washdown area, eight aboveground storage tanks (ASTs), numerous drums, barrels and containers, MSDS sheets, a dip tank, catch basins, oil/water separators (OWS), two septic tank systems, interior floor drains, several pole mounted transformers, and solid waste dumpsters. While the vehicle washdown system appears to be sufficient in containing potential impacts, historical washdown practices in this area may have resulted in undocumented releases to the subsurface. Based on this information, the historical washdown area, reportedly located in the current washdown pad area, represents a REC. Although the ASTs located adjacent to the maintenance shed appeared to be within secondary containment, given the duration of operation of this portion of the site and our experience with similar facilities, there is the potential for an undocumented release to have occurred during filling or emptying of the ASTs and drums. Therefore, the ASTs and drums near the maintenance shed represent a REC.

Prior Report Review

Terracon was provided a Draft Phase II Environmental Site Assessment performed by Exponent in August 1998. The investigation consisted of sampling sediments in the drainage ditches surrounding the facility, sampling the storm drain system, as well as assessing soil and groundwater impacts. Samples were taken of sediment, storm drains, soil, and groundwater and were analyzed and tested for volatile organic compounds (VOCs), total petroleum hydrocarbons (TPH), and other petroleum compounds. Soil impacts of benzene are above current MTCA Method A cleanup levels were identified, in addition to groundwater impacts of vinyl chloride and diesel-range organics above their respective current MTCA Method A cleanup levels. Some recommendations were made about AST compliance, OWSs and sediment excavation. A Phase II 2010 update was also provided performed by Exponent. Investigations were limited

only to the identified recommendations of the 1998 report. Exponent further gave recommendations of general practices but recommended no further investigation.

Based on our review of the 1998 and 2010 Exponent subsurface investigations, it appears that limited soil and groundwater sampling performed on-site identified numerous areas of soil, sediment, and groundwater impacts. These areas primarily consist of the former location of the fire pond, maintenance area and former dip tank location. Soil and groundwater appear to be impacted with diesel-range TPH above current Washington State Model Toxics Control Act (MTCA) cleanup levels. The identified 1998 dioxin concentration, expressed as 2,3,7,8 tetrachlorodibenzo-p-dioxin, also appears to be above current (2018) regulatory action levels. Furthermore, numerous other VOC, semi-VOCs (SVOC) and polychlorinated biphenyls have been identified at concentrations below MTCA cleanup levels, but given the limited number of samples collected during previous investigations and that the selected locations may not have been situated in areas sufficient to assess for potential releases, there is the potential for additional impacts to have been present at concentrations above MTCA cleanup levels in other areas of the site. Given the findings of the previous subsurface investigations, the historical site use as a lumber yard and associated impacts identified in soil, sediment and groundwater represent a REC to the site.

Adjoining Properties

The site is adjoined to the north by a drainage channel flowing northeast into the Union Slough followed by Building Materials & Construction Solutions (3200 35th Ave NE); to the east by Union Slough and Interstate 5, with agricultural fields beyond; to the south by a drainage channel flowing west followed by Dagmar's Marina (1871 Ross Ave); and to the west by a drainage channel flowing north followed by vacant land (3807 28th Pl NE).

Additional Services

As requested by the client, the following additional services were performed:

- Visual Observations for Suspect Asbestos
- Visual Observations of Suspect Lead-Based Paint
- Visual Observations for Mold
- Radon Records Review
- Wetland Records Review
- Vapor Intrusion Assessment
- Limited Business Compliance Review
- Super Liens

Findings for the additional services are as follows:

- Terracon identified potential asbestos-containing materials (ACM) on the site. Based on the construction dates of the on-site structures (1961-2000), there is potential for asbestos containing materials located in/on these structures.

- Terracon identified potential lead-based paint (LBP) on the site. Based on the construction dates of the on-site buildings, the potential for lead-based paints located in/on these structures is moderate to high.
- The average residential radon concentration for the site is 1.5 pCi/L. Based on this information, the site is considered to have a moderate potential for elevated indoor concentrations of radon gas. However, testing would be required to evaluate site-specific concentrations of radon gas.
- Based on a review of the National Wetlands Inventory database, the site has mapped wetlands and stream on the site.
- Based on the findings of the ESA, the length of operation of the sawmill businesses (approximately 70 years) and the potential for and recorded impacts to site soil and groundwater, there is a moderate risk of potential vapor intrusion issues to be present at the site.
- Based on a review of the EPA Envirofacts or Enforcement and Compliance History Online (ECHO) database and federal and state database listings included in the EDR regulatory database report, the on-site tenants appear to be operating in compliance with local, state and federal regulations.
- The revised code of Washington (RCW) 70.1050.005, allows the Department of Ecology to obtain a super-priority lien on real property for which it has incurred remedial action costs. Cleanups or other Ecology interactions that might qualify a property as a candidate under the state of Washington super lien statute are not known to have occurred at the site.

Significant Data Gaps

No significant data gaps were identified during this assessment.

Opinions and Conclusions

We have performed a Phase I ESA consistent with the procedures included in ASTM Practice E 1527-13 at 3812 28th Pl NE in Everett, Snohomish County, Washington, the site. The following REC was identified in connection with the site:

- Given the duration of operation of vehicle maintenance at the site and our experience with similar facilities, there is the potential for undocumented releases to have occurred in the maintenance shed area.
- The former UST area has not been assessed for groundwater impacts, however a groundwater sample approximately 100 feet up-gradient of the area identified impacts of diesel- range hydrocarbons above cleanup levels. Given the duration of the UST operations, there is a potential for undocumented subsurface releases to have occurred.

- The historical washdown practices in the vehicle washdown area may have resulted in undocumented releases to the subsurface.
- Given the documented impacts of diesel-range hydrocarbons to soil and groundwater in the former fire pond area, there is a potential for remaining subsurface impacts.
- Based on the previously documented impacts of dioxins and furans in sediment samples common to lumber mills in addition to the duration of approximately 70 years of site operation, there is potential for site-wide impact to groundwater, soil and sediments.

Recommendations

Based on the findings of this assessment, Terracon recommends that a subsurface investigation be completed in an effort to assess the above-referenced RECs.

1.0 INTRODUCTION

1.1 Site Description

Site Name	Buse Timber & Sales
Site Location/Address	3812 28th Pl NE, Everett, Snohomish County, Washington (Snohomish County Tax Parcels 29050400300600 and 29050900204500)
Land Area	Approximately 60 acres
Site Improvements	The site is improved with 11 buildings comprising of offices, storage sheds, and lumber mill use. A complete list of buildings and their locations are depicted in the Draft Site Map, prepared by Landau Associates, and included in Appendix A.

The site location is depicted on Exhibit 1 of Appendix A, which was reproduced from a portion of the USGS 7.5-minute series topographic map. The Site and adjoining properties are depicted on the Site Diagram, which is included as Exhibit 2 of Appendix A. Acronyms and terms used in this report are described in Appendix F.

1.2 Scope of Services

This Phase I ESA was performed in accordance with the Master Environmental Services Agreement (MESA), June 10, 2015, and the Environmental Services Task Order, dated May 29, 2018, and was conducted consistent with the procedures included in ASTM E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. The purpose of this ESA was to assist the client in developing information to identify RECs in connection with the site as reflected by the scope of this report. This purpose was undertaken through user-provided information, a regulatory database review, historical and physical records review, interviews, including local government inquiries, as applicable, and a visual noninvasive reconnaissance of the site and adjoining properties. Limitations, ASTM deviations, and significant data gaps (if identified) are noted in the applicable sections of the report.

As requested by the client, the following additional services were performed:

- Visual Observations for Suspect Asbestos
- Visual Observations of Suspect Lead-Based Paint
- Visual Observations for Mold
- Radon Records Review
- Wetland Records Review
- Vapor Intrusion Assessment
- Limited Business Compliance Review

- Super Liens

1.3 Standard of Care

This ESA was performed in accordance with generally accepted practices of this profession, undertaken in similar studies at the same time and in the same geographical area. We have endeavored to meet this standard of care, but may be limited by conditions encountered during performance, a client-driven scope of work, or inability to review information not received by the report date. Where appropriate, these limitations are discussed in the text of the report, and an evaluation of their significance with respect to our findings has been conducted.

Phase I ESAs, such as the one performed at this site, are of limited scope, are noninvasive, and cannot eliminate the potential that hazardous, toxic, or petroleum substances are present or have been released at the site beyond what is identified by the limited scope of this ESA. In conducting the limited scope of services described herein, certain sources of information and public records were not reviewed. It should be recognized that environmental concerns may be documented in public records that were not reviewed. No ESA can wholly eliminate uncertainty regarding the potential for RECs in connection with a property. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for RECs. No warranties, express or implied, are intended or made. The limitations herein must be considered when the user of this report formulates opinions as to risks associated with the site or otherwise uses the report for any other purpose. These risks may be further evaluated – but not eliminated – through additional research or assessment. We will, upon request, advise you of additional research or assessment options that may be available and associated costs.

1.4 Additional Scope Limitations, ASTM Deviations and Data Gaps

Based upon the agreed-on scope of services, this ESA did not include subsurface or other invasive assessments, vapor intrusion assessments or indoor air quality assessments (i.e. evaluation of the presence of vapors within a building structure), business environmental risk evaluations, or other services not particularly identified and discussed herein. Credentials of the company (Statement of Qualifications) have not been included in this report but are available upon request. Pertinent documents are referred to in the text of this report, and a separate reference section has not been included. Reasonable attempts were made to obtain information within the scope and time constraints set forth by the client; however, in some instances, information requested is not, or was not, received by the issuance date of the report. Information obtained for this ESA was received from several sources that we believe to be reliable; nonetheless, the authenticity or reliability of these sources cannot and is not warranted hereunder. This ESA was further limited by the following:

- Records of first development were not available for the site. Based on the historical use of the site, this is not considered a significant data gap.

An evaluation of the significance of limitations and missing information with respect to our findings has been conducted, and where appropriate, significant data gaps are identified and discussed in the text of the report. However, it should be recognized that an evaluation of significant data gaps is based on the information available at the time of report issuance, and an evaluation of information received after the report issuance date may result in an alteration of our conclusions, recommendations, or opinions. We have no obligation to provide information obtained or discovered by us after the issuance date of the report, or to perform any additional services, regardless of whether the information would affect any conclusions, recommendations, or opinions in the report. This disclaimer specifically applies to any information that has not been provided by the client.

This report represents our service to you as of the report date and constitutes our final document; its text may not be altered after final issuance. Findings in this report are based upon the site's current utilization, information derived from the most recent reconnaissance and from other activities described herein; such information is subject to change. Certain indicators of the presence of hazardous substances or petroleum products may have been latent, inaccessible, unobservable, or not present during the most recent reconnaissance and may subsequently become observable (such as after site renovation or development). Further, these services are not to be construed as legal interpretation or advice.

1.5 Reliance

This ESA report is prepared for the exclusive use and reliance of Umpqua Bank. Use or reliance by any other party is prohibited without the written authorization of Umpqua Bank and Terracon Consultants, Inc. (Terracon).

Reliance on the ESA by the client and all authorized parties will be subject to the terms, conditions and limitations stated in the proposal, ESA report, and the Master Environmental Services Agreement (MESA). The limitation of liability defined in the MESA is the aggregate limit of Terracon's liability to the client and all relying parties.

Continued viability of this report is subject to ASTM E1527-13 Sections 4.6 and 4.8. If the ESA will be used by a different user (third party) than the user for whom the ESA was originally prepared, the third party must also satisfy the user's responsibilities in Section 6 of ASTM E1527-13.

1.6 Client Provided Information

Prior to the site visit, Ms. Leslie Somes, client's representative, was asked to provide the following user questionnaire information as described in ASTM E1527-13 Section 6.

Client Questionnaire Responses

Client Questionnaire Item	Client Did Not Respond	Client's Response	
		Yes	No
Specialized Knowledge or Experience that is material to a REC in connection with the site.			X
Actual Knowledge of Environmental Liens or Activity Use Limitations (AULs) that may encumber the site.			X
Actual Knowledge of a Lower Purchase Price because contamination is known or believed to be present at the site.			X
Commonly Known or Reasonably Ascertainable Information that is material to a REC in connection with the site.			X
Obvious Indicators of Contamination at the site.			X

Terracon's consideration of the client provided information did not identify RECs. A copy of the questionnaire is included in Appendix C.

2.0 PHYSICAL SETTING

Physical Setting Information		Source
Topography		
Site Elevation	Approximately 5 feet above mean sea level	USGS Topographic Map, Marysville, Washington, 1973 (Appendix A)
Topographic Gradient	Gently sloping towards the west	
Closest Surface Water	Site is bound to the north and west by the Union Slough	
Soil Characteristics		
Soil Type	Urban land and Puget silty clay loam	Snohomish County, Washington, USDA Natural Resources Conservation Service Soil Survey, 2018.
Description	Dense urban development, where soil survey data is not available; silty clay loam derived from alluvium with high available water storage	
Geology/Hydrogeology		
Formation	Younger alluvial and estuarine deposits (Qyal)	U.S. Geological Survey, Geologic Map of the Marysville quadrangle, Snohomish County, Washington; 1985
Description	Deposits consist mostly of stream-laid stratified sediment. The sediment is sand, silt, and clay with considerable amounts of organic matter	

Physical Setting Information		Source
Estimated Depth to First Occurrence of Groundwater	Approximately 3-6 feet bgs	Draft Phase II Environmental Site Assessment, Buse Timber & Sales, Inc.; Exponent, 1998 (See Section 3.8)
*Hydrogeologic Gradient	Not known - may be inferred to be parallel to topographic gradient (primarily to the west).	

* The groundwater flow direction and the depth to shallow, unconfined groundwater, if present, would likely vary depending upon seasonal variations in rainfall and other hydrogeological features. Without the benefit of on-site groundwater monitoring wells surveyed to a datum, groundwater depth and flow direction beneath the site cannot be directly ascertained.

3.0 HISTORICAL USE INFORMATION

Terracon reviewed the following historical sources to develop a history of the previous uses of the site and surrounding area, in order to help identify RECs associated with past uses. Copies of selected historical documents are included in Appendix C.

3.1 Historical Topographic Maps, Aerial Photographs, Sanborn Maps

Readily available historical USGS topographic maps, selected historical aerial photographs (at approximately 10 to 15 year intervals) and historical fire insurance maps produced by the Sanborn Map Company were reviewed to evaluate land development and obtain information concerning the history of development on and near the site. Reviewed historical topographic maps, aerial photographs and Sanborn maps are summarized below.

Historical fire insurance maps produced by the Sanborn Map Company were requested from EDR to evaluate past uses and relevant characteristics of the site and surrounding properties. Based upon inquiries to the above-listed Sanborn provider, Sanborn maps were not available for the site.

- Topographic map: Marysville, Washington, published in **1956** (1:24,000)
- Topographic map: Marysville, Washington, published in 1956; photorevised in **1973** (1:24,000)
- Aerial photograph: EDR, **1941, 1952, 1954, 1968, 1973, 1979, 1981, 1990, 2006, 2011, 2015**, (1”=500’)
- Aerial photograph: Google Earth, **2017** (scale varies)

Historical Maps and Aerial Photographs

Direction	Description
Site	The site is agricultural land with two structures on the western side of the site by the 28th Pl NE entrance (1941); lumber activities are visible on the western portion of the site with several large structures and a pond apparently used for soaking logs. The remaining portions are agricultural fields (1952-1954); the pond and structures are gone and the general configuration of the current facility has been developed with a residence and associated buildings to the northwest and a pond south of the sawmill building (1968-2006); all of the current buildings are developed, the pond is gone and the residence has been demolished (2011-2017)
North	The Union Slough is followed by agricultural fields (1941-1968); the current building materials facility is developed to the northwest (1973-2017)
East	Agricultural fields (1941-1954); I-5 is developed followed by agricultural fields (1968-2017)
South	Agricultural fields (1941); agricultural fields and the existing barn/warehouse with associated sheds (1952-1979); the boat storage lot is being developed and expands (1981-2011); the current configuration of the boat storage facility is visible (2017)
West	The Union Slough is followed by agricultural fields and a couple residential structures (1941-1968); lumber from the mill site is being stored to the southwest (1973-1990); the current granite mill is developed to the southwest and two structures remain on the north side of 28th Pl NE (2006); only the foundation remains of one structure north of the road (2017)

3.2 Historical City Directories

The Cole and Polk city directories used in this study were made available through GeoSearch (selected years reviewed: 1970-2016) and were reviewed at approximate five-year intervals, if readily available. Since these references are copyright protected, reproductions are not provided in this report. Street listings not available prior to 1970. The current street address for the site was identified as 3812 28th Pl NE.

Historical City Directories

Direction	Description
Site	3812 28th Pl NE: No Listing (1970-1975); Buse Timber&Sales (1980-1985); No Listing (1990); Buse Timber&Sales (1995-2006); Buse Timber & Sales Inc (2011); no listing (2016)
North	3200 35th Ave NE: No Listing (1975-1980); St Regis Corp (1985); No Listing (1990); Star Lumber&Mfg (1995); Bmc W Bldg Mtrls (2000/01-2006); Bmc Building Materials (2011); Bmc West Truss & Components (2011); No Listing (2016)
East	Interstate-5 (no address)

Direction	Description
South	1871 Ross Ave: No Listing (1970-1980); Qwik Stop (1985); No Listing (1990); Dagmars Marina (1995-2006); Hawleys Boats&Motr (1995); Signal Trailer Sls (1995-2016); Boat Country (2000/01-2006); Boat Country (2011-2016); Dagmar's Marina (2011); North West Products Unlimited (2011); K & E Enterprise Inc (2016)
West	3807 28th Pl NE: No Listing (1970-1980); Ron Swedeen (1985); No Listing (1990); Ron Luellen (1995); No Listing (2000-2016)

3.3 Site Ownership

Based on a review of information obtained from the Snohomish County assessor's records, the current site owner is Buse Timber & Sales Inc.

3.4 Title Search

At the direction of the client, a title search was not included as part of the scope of services. Unless notified otherwise, we assume that the client is evaluating this information outside the scope of this report.

3.5 Environmental Liens and Activity and Use Limitations

The Facility Reporting Source regulatory database report included a review of both Federal and State Engineering Control (EC) and Institutional Control (IC) databases. Based on a review of the database report, the site was not listed on the EC or IC databases. Please note that in addition to these federal and state listings, AULs can be recorded at the county and municipal level that may not be listed in the regulatory database report. Environmental lien and activity and use limitation records recorded against the site were not provided by the client. At the direction of the client, performance of a review of these records was not included as part of the scope of services and unless notified otherwise, we assume that the client is evaluating this information outside the scope of this report.

3.6 Historical Building and Fire Department Records

The City Clerk of the City of Everett provided permit and building records as well as fire department records for the site. Building permits include the construction of an office building in 1978, repair of a water main in 1985 and 2004, and a demolition permit for the residence and pool building in 2011. A Fire department permit dated 1987 was provided for storing and dispensing Class I Liquids from underground storage tank, store and dispense LPG, and welding and cutting operations. However in 1989 the Everett fire department identified several violations of fuel storage and dispensing operations. Numerous permits and studies for utilizing the west-adjoining property for log storage were also provided. A site summary score sheet was included that reports the lumber mill used pentachlorophenol to treat lumber until 1986. Sampling by EPA consultants in 1986 indicated pentachlorophenol (PCP) and tetrachlorophenol (TCP) in the soils and sediments at quantities above MTCA Cleanup levels. Apparently they

sampled in the same locations again in 1992 (locations were not specified) and did not find either compound or associated compounds. The site received an overall rank of 'NFA.' Further regulatory history of the site is discussed in Section 4.1.

3.7 Interviews Regarding Current and Historical Site Uses

The following individuals were interviewed regarding the current and historical use of the site.

Interviewees

Interviewer	Interviewee/Phone #	Title	Date/Time
Matt Wheaton	Diana Martin / 425-258-5844	Controller	June 13, 10:30AM
	Will Miller / 425-258-5849	Timber Manager	
	Tom Parks / 425-258-5840	President / General Manager	

During Terracon's site visit, discussed further in Section 5.1, Terracon was accompanied by Ms. Martin, Mr. Miller, and Mr. Parks. All three site representatives were familiar with the history of the site, including previous environmental sampling, current stormwater collection and discharge systems, and current operations. Additional discussion regarding current on-site operations is provided in Section 5.1. According to the site contacts, the site had been in operation as a lumber saw mill since at least 1947 and underwent a significant expansion in 1965. The site was historically owned by the Buse family; however, it was purchases by Buse Lumber employees in 2004.

Ms. Martin, Mr. Miller and Mr. Parks were not aware of any pending, threatened or past environmental litigation, proceedings or notices of possible violations of environmental laws or liability or potential environmental concerns in connection with the site.

3.8 Prior Report Review

Previous reports were provided by the client to Terracon for review. A summary of the findings of these reports is provided below. This summary is based solely on the information provided in the referenced documents and Terracon offers no assessment regarding the quality, completeness and/or accuracy of the information provided. This information is being considered solely in the context of additional historical information made available for the site.

- Draft Phase II Environmental Site Assessment
  Buse Timber & Sales, Inc.
  Everett, Washington
  By: Exponent
  Dated: August 1998

- Buse Timber and Sales Phase II Update
  By: Exponent
  Dated: December 6, 2010

A Draft Phase II Environmental Site Assessment was performed by Exponent in August 1998. The report was conducted to address potential areas of concern identified in their prior Phase I completed in April 1998. The investigation consisted of sampling sediments in the drainage ditches surrounding the facility, sampling the storm drain system, as well as assessing soil and groundwater impacts. Samples were taken of sediment, storm drains, soil, and groundwater and were analyzed and tested for VOCs, TPH, and BTEX. A total of 15 sediment samples were taken from the south, east, and west ditches and Union Slough. Four storm drains were evaluated for potential migration of contaminants. At the time of the report, the OWSs were not yet installed. Subsurface soil samples were collected from 13 borings at depths ranging from 2-4 feet bgs. One additional composite soil sample was collected from a stockpile containing dredged fire pond sediments. Eight groundwater samples were also collected from temporary well screens. The water table was encountered at 3-6 feet bgs. It should be noted that groundwater samples were not obtained in the former UST area due to impermeable clays. However, NSD-1 was located approximately 100 feet north and up-gradient of the former UST site and groundwater was collected.

The main Geoprobe test areas were located by the former pentachlorophenol dip tank south of the main office (FDT), the former UST area, the maintenance building area (MSA), the ASTs by the entrance, and the fire pond area (FPD and FPS). Soil impacts of diesel-oil range hydrocarbons was identified above MTCA Method A cleanup levels in soil samples collected from FPS-1. Impacts of diesel that are above current MTCA Method A cleanup levels for groundwater were identified in FPD-1, FPD-2, FPD-3, MSA-1, and NSD-1. Oil-range TPH concentrations were identified above cleanup levels in several ditch and stormwater sediments.

The 1998 investigation also identified concentrations of dioxins and furans at concentrations exceeding laboratory reporting limits; however, those concentrations were reportedly below 1998 regulatory action levels. Since 1998, changes to Washington State Department of Ecology cleanup levels for dioxins and furans have been implemented, and the identified 1998 dioxin concentration, expressed as 2,3,7,8 tetrachlorodibenzo-p-dioxin, appears to be above current (2018) regulatory action levels.

Recommendations made by Exponent were listed by areas of the site. The ASTs were not in compliance with codes for protection of surface waters and they recommended that the tanks be equipped with secondary containment and that a spill prevention control and counter measure plan be put in place. The lube oil impacted stockpiled soils were recommended to be disposed of off-site. OWSs were suggested to prevent oily water from entering the adjacent surface waters and ditches, and that the sediment from the existing impacted ditches and storm water drains be excavated and disposed of off-site. The areas of no further action were identified as

the former UST area, the former dip tank area, the fire pond area, the maintenance shop, and the former burn area.

A Phase II Update was performed by Exponent in December 2010. The report references another prior update of the 1998 Phase II done in 2004. Investigations were limited only to the identified recommendations of the 1998 report. Changes in operations included the installation of OWSs to the storm drain system and the shutdown of the kiln and gas line to the boiler. The ASTs have been replaced with double-walled tanks and now have containment controls connected to an OWS. The 1998 identified stockpiled soils were reportedly disposed of off-site. Sediments were removed from the south ditch and the areas that drain to the OWSs to the north reportedly had no evidence of oil or sheens. The OWSs are inspected regularly and pumped yearly except for the separators located downgradient from the maintenance building that are pumped quarterly. A lube storage building was constructed to house and dispense lubrication and oils with a concrete floor and a sump pump. At the time of the 2010 report, the sump had not been lined as recommended.

Based on our review of the 1998 and 2010 Exponent subsurface investigations, it appears that limited soil and groundwater sampling performed on-site identified numerous areas of soil, sediment, and groundwater impacts. These areas primarily consist of the former location of the fire pond, maintenance area and former dip tank location. Soil and groundwater appear to be impacted with diesel-range TPH above current Washington State Model Toxics Control Act (MTCA) cleanup levels. The identified 1998 dioxin concentration, expressed as 2,3,7,8 tetrachlorodibenzo-p-dioxin, also appears to be above current (2018) regulatory action levels. Furthermore, numerous other volatile organic compounds (VOC), semi-VOCs (SVOC) and polychlorinated biphenyls have been identified at concentrations below MTCA cleanup levels, but given the limited number of samples collected during previous investigations and that the selected locations may not have been situated in areas sufficient to assess for potential releases, there is the potential for additional impacts to have been present at concentrations above MTCA cleanup levels in other areas of the site. Given the findings of the previous subsurface investigations, the historical site use as a lumber yard and associated impacts identified in soil, sediment and groundwater represent a REC to the site.

4.0 RECORDS REVIEW

Regulatory database information was provided by EDR, a contract information services company. The purpose of the records review was to identify RECs in connection with the site. Information in this section is subject to the accuracy of the data provided by the information services company and the date at which the information is updated. The scope herein did not include confirmation of facilities listed as "unmappable" by regulatory databases.

In some of the following subsections, the words up-gradient, cross-gradient and down-gradient refer to the topographic gradient in relation to the site. As stated previously, the groundwater flow direction and the depth to shallow groundwater, if present, would likely vary depending

upon seasonal variations in rainfall and the depth to the soil/bedrock interface. Without the benefit of on-site groundwater monitoring wells surveyed to a datum, groundwater depth and flow direction beneath the site cannot be directly ascertained.

4.1 Federal and State/Tribal Databases

Listed below are the facility listings identified on federal and state/tribal databases within the ASTM-required search distances from the approximate site boundaries. Database definition, descriptions, and the database search report are included in Appendix D.

Federal Databases

Database	Description	Distance (miles)	Listings
CERCLIS	Comprehensive Environmental Response, Compensation, & Liability Information System	0.5	0
CERCLIS / NFRAP	Comprehensive Environmental Response, Compensation, & Liability Information System/No Further Remedial Action Planned	0.5	1
ERNS	Emergency Response Notification System	Site	1
IC / EC	Institutional Control/Engineering Control	Site	0
NPL	National Priorities List	1	0
NPL (Delisted)	National Priorities Delisted List	0.5	0
RCRA CORRACTS/ TSD	RCRA Corrective Action Activity	1	0
RCRA Generators	Resource Conservation and Recovery Act	Site and adjoining properties	0
RCRA Non-CORRACTS/ TSD	RCRA Non-Corrective Action Activity	0.5	0

State/Tribal Databases

Database	Description	Distance (miles)	Listings
CSCSL	Confirmed & Suspected Contaminated Sites List	0.5	1
HSL	Hazardous Sites List	1	5
IC	Institutional Controls Sites	Site	0
LUST	Leaking Underground Storage Tanks	0.5	0
SWF/LF	Solid Waste Facilities/Landfills	0.5	3
UST	Underground Storage Tanks	Site and adjoining properties	1

Database	Description	Distance (miles)	Listings
VCP	Voluntary Cleanup Program	0.5	2

In addition to the above ASTM-required listings, Terracon reviewed other federal, state, local, and proprietary databases provided by the database firm. A list of the additional reviewed databases is included in the regulatory database report included in Appendix D.

The following table summarizes the site-specific information provided by the database and/or gathered by this office for identified facilities. Facilities are listed in order of proximity to the site. Additional discussion for selected facilities follows the summary table.

Listed Facilities

Facility Name And Location	Estimated Distance / Direction/Gradient	Database Listings	Is a REC, CREC, or HREC to the Site
3812 28th Place NE	Site	ERNS	Yes, see discussion below
Buse Timber & Sales Inc 3812 28th Pl NE PO Box 5226		CSCSL NFA, NPDES, UST	
Buse Timber & Sales Inc 3812 28th Place NE		ECHO, RCRA NonGen / NLR, SEMS-ARCHIVE	
Buse Timber And Sales 3812 28th Pl NE		SPILLS	
Bmc West Truss & Components 3200 35th Ave NE	Approximately 170 feet northwest-adjoining / down-gradient	ICR, NPDES	No, based on distance, regulatory status, and inferred gradient
Star Lumber Co 3200 35th Ave NE		RCRA NonGen / NLR	
Granite Construction Company - Smith Isl 2111 Ross Ave NE	Approximately 200 feet southwest / down-gradient	SWF/LF	No, based on distance, regulatory status, and inferred gradient

<u>Buse Timber & Sales</u>
The site was listed on the ERNS, CSCSL NFA, UST, NPDES, ECHO, RCRA NonGen/NLR, SEMS-ARCHIVE, and SPILLS databases. Based on a review of the regulatory database report, three USTs and a former dip tank were removed in 1996. These are discussed further in Section 3.8. Buse Timber was verified as a non-generator or hazardous waste in 2003 and 2004 with no violations. The site also has an active industrial stormwater permit expiring in December 2019.

In 1989, Ecology recommended that the site be placed on the EPA CERCLIS list of potential hazardous waste sites after detections of PCP and TCP in soil and sediments. Until 1986, the company used PCP to treat lumber in the former dip tank with no cover or secondary containment. Subsequent evaluations and testing took place in the next few years. In 1990, the EPA conducted an inspection of the site for transformers and capacitors containing polychlorinated biphenyls (PCBs). According to a consent agreement record, Buse Timber removed at least seven PCB capacitors following reported violations that resulted from the inspection. In 1992 Ecology again tested for TCP and PCP in sediments and Union Slough but did not find impacts. In August 1994, the EPA completed an additional investigation of the site and concluded that no further investigation is required. In the report, sediment and soil samples were taken and tested for metals and volatile organic compounds. Further investigation of the site is discussed in Section 3.8.

The remaining facilities listed in the database report do not appear to represent RECs to the site at this time based upon regulatory status, apparent topographic gradient, and/or distance from the site.

Unmapped facilities are those that do not contain sufficient address or location information to evaluate the facility listing locations relative to the site. The report listed two facilities in the unmapped section. Determining the location of unmapped facilities is beyond the scope of this assessment; however, none of these facilities were identified as the site or adjacent properties. These facilities are listed in the database report in Appendix D.

4.2 Local Agency Inquiries

Agency Contacted/ Contact Method	Response
Snohomish Health Department / Online Request	Ms. Janna Abdul-Qadir of the Snohomish Health Department provided the 1994 EPA Screening Site Inspection Report for the site, which is discussed in Section 4.1.
City of Everett / Online Request	Records were requested from the City of Everett. Provided records are discussed in Section 3.6.
City of Everett Fire Department/ Online Request	Fire Department records were requested from the City of Everett. Provided records are included in Section 3.6.
Snohomish County Assessors Office	Tax assessor records were provided for the site. Only the previous residence and pool building were depicted on the 1971 assessor record, built in 1956. The present-day buildings are all depicted with floor layouts in the current assessor cards provided for the site.

Agency Contacted/ Contact Method	Response
Department of Ecology / email	Ecology was contacted by e-mail regarding environmental records in the Environmental Report Tracking System (ERTS) database for the site. According to Ms. Kristin Daves with the Northwest Regional Office of Ecology, one ERTS records was identified for the site. A report in November 2014 discusses a boom boat that sunk in union slough causing a discharge of diesel fuel. An estimate that less than 1 gallon of fuel was spilled when the vessel was swamped. Due to the relatively small amount of product spilled and the release was off-site into surface water, this incident is not considered a REC to the site.

5.0 SITE RECONNAISSANCE

5.1 General Site Information

Information contained in this section is based on a visual reconnaissance conducted while walking through the site and the accessible interior areas of structures, if any, located on the site. The site and adjoining properties are depicted on the Site Diagram, which is included as Exhibit 2 of Appendix A. Photo documentation of the site at the time of the visual reconnaissance is provided in Appendix B. Credentials of the individuals planning and conducting the site visit are included in Appendix E.

General Site Information

Site Reconnaissance	
Field Personnel	Taylor Blackbourn and Matt Wheaton
Reconnaissance Date	June 13, 2018
Weather Conditions	Rain, approximately 50 degrees
Site Contact/Title	Diana Martin

Building Description				
Building Identification	**Building Use**	**Approx. Construction Date**	**Number of Stories**	**Approx. Size (ft²)**
Office	Office	1980	2	4,323
Light Utility Storage	Storage	1980	1	3,840
Dry Kiln	Manufacturing	1966	1	7,360
Planer Building	Manufacturing	1965	1	15,034
Saw Mill	Manufacturing	1961	2	41,160

Building Description				
Building Identification	**Building Use**	**Approx. Construction Date**	**Number of Stories**	**Approx. Size (ft²)**
Machine Shed	Vehicle repair	1962	1	5,300
Stacker Shed	Storage	1972	1	1,320
Lunchroom/restrooms	Employee areas	1980	1	551
Lunch/meeting room	Employee areas	2000	1	796
Workshop	Manufacturing	1995	2	1,935
Storage Shed	Storage	1995	1	550
Site Utilities				
Drinking Water	City of Everett			
Wastewater	Septic system			
Electric	Snohomish County PUD			

5.2 Overview of Current Site Occupants

The site is occupied by Buse Timber & Sales, a lumber mill company. The site contains eleven buildings and several modular sheds used as office space, storage, vehicle repair, manufacturing, and employee areas.

5.3 Overview of Current Site Operations

Logs are brought in by truck or through the Union Slough and are stored in the log storage area on the south side of the facility. They are put through the saw mill to be debarked and cut, and approximately 40 percent of the lumber is run through the planer to be surfaced. Some lumber is treated with a water-based anti-stain in the dip tank and/or painted with a water-based end seal. There are several storage areas for the lumber and are shipped off-site by vehicles that are maintained and fueled on site. By-products such as bark, chips, and sawdust are sold to suppliers.

5.4 Site Observations

The following table summarizes site observations and interviews. Affirmative responses (designated by an “X”) are discussed in more detail following the table.

Site Characteristics

Category	Item or Feature	Observed or Identified
Site Operations,	Emergency generators	

Category	Item or Feature	Observed or Identified
Processes, and Equipment	Elevators	
	Air compressors	
	Hydraulic lifts	
	Dry cleaning	
	Photo processing	
	Ventilation hoods and/or incinerators	
	Waste treatment systems and/or water treatment systems	
	Heating and/or cooling systems	X
	Paint booths	
	Sub-grade mechanic pits	X
	Wash-down areas or carwashes	X
	Pesticide/herbicide production or storage	
	Printing operations	
	Metal finishing (e.g., electroplating, chrome plating, galvanizing, etc.)	
	Salvage operations	
	Oil, gas or mineral production	
	Other processes or equipment	
Aboveground Chemical or Waste Storage	Aboveground storage tanks	X
	Drums, barrels and/or containers ≥ 5 gallons	X
	MSDS or SDS	X
Underground Chemical or Waste Storage, Drainage or Collection Systems	Underground storage tanks or ancillary UST equipment	X
	Sumps, cisterns, French drains, catch basins and/or dry wells	X
	Grease traps	
	Septic tanks and/or leach fields	X
	Oil/water separators, clarifiers, sand traps, triple traps, interceptors	X
	Pipeline markers	
	Interior floor drains	X
Electrical Transformers/ PCBs	Transformers and/or capacitors	X
	Other equipment	

Category	Item or Feature	Observed or Identified
Releases or Potential Releases	Stressed vegetation	
	Stained soil	
	Stained pavement or similar surface	
	Leachate and/or waste seeps	
	Trash, debris and/or other waste materials	X
	Dumping or disposal areas	
	Construction/demolition debris and/or dumped fill dirt	
	Surface water discoloration, odor, sheen, and/or free floating product	
	Strong, pungent or noxious odors	
	Exterior pipe discharges and/or other effluent discharges	
Other Notable Site Features	Surface water bodies	
	Quarries or pits	
	Wastewater lagoons	
	Wells	

Site Operations, Processes, and Equipment

Heating and/or cooling systems

According to Ms. Martin, certain site buildings are equipped with electric heat pumps. Features indicating the current or former presence of heating oil tanks were not observed during observations of the site structure during the site visit. The heating system does not represent a REC.

Sub-grade mechanic pits

One sub-grade mechanic pit was observed in the maintenance shop building. According to Ms. Martin, the pit was installed when the building was constructed in 1962. The mechanic pits are used by staff for vehicle repair. According to Ms. Martin, there are no hydraulic lifts on site.

Wash down areas or car washes

A vehicle washdown area was observed western portion of the site. The washdown area consists of drains to a closed vault system that gets emptied regularly and taken off-site. This feature was reportedly constructed in this area since 2010 due to previous inspections of the stormwater runoff. While the current system appears to be sufficient in containing potential impacts, historical washdown practices in this area may have resulted in undocumented releases to the subsurface. Based on this information, the historical washdown area, reportedly located in the current washdown pad area, represents a REC.

Aboveground Chemical or Waste Storage

Aboveground storage tanks

Eight ASTs were observed on the site during the site reconnaissance. The following describes the ASTs observed:

- One approximately 10,000-gallon double-walled steel AST used for storage of clear diesel was observed at the entrance of the facility by the main office building. The AST was observed to be on a fuel pad and equipped with secondary containment connected to an oil-water separator. Evidence of staining or release on or within the vicinity of the AST was not observed;

- One approximately 2,000-gallon double-walled steel AST used for storing dyed diesel was observed at the entrance of the facility by the main office building adjacent to the clear diesel AST. Evidence of staining or release on or within the vicinity of the AST was not observed;

- One approximately 1,000-gallon double-walled steel AST used for storing gasoline was observed at the entrance of the facility by the main office building adjacent to the two diesel ASTs. Evidence of staining or release on or within the vicinity of the AST was not observed;

- One approximately 2,000 gallon double-walled steel AST used for storing dyed diesel was observed by the log sorting area and vehicle washdown area. The AST was observed to be on a fuel pad and equipped with a secondary containment. Evidence of staining or release on or within the vicinity of the AST was not observed;

- Three approximately 500-gallon double-walled steel ASTs used for storing 15W/40 Motor Oil, hydraulic fluid, and used motor oil were observed near the vehicle repair building. According to Ms. Martin, the used oil is disposed of off-site by Emerald Recycling Services, Inc in a quantity of approximately 500 gallons every 7-8 months.

- One approximately 2,000 gallon double-walled steel AST used to store saw guide oil (76 Uniguide II 180) was observed in the Lube building. Evidence of staining or release on or within the vicinity of the AST was not observed.

Based on the site observations and presence of secondary containment in and around the majority of the ASTs, it is unlikely that a release has occurred that would likely have resulted in impacts to the subsurface. Although the ASTs located adjacent to the maintenance shed appeared to be within secondary containment, given the duration of operation of this portion of the site and our experience with similar facilities, there is the potential for an undocumented

release to have occurred during filling or emptying of the ASTs. Therefore, the ASTs near the maintenance shed represent a REC.

Drums, barrels, and/or containers ≥ 5 gallons

One 55-gallon barrel of anti-freeze, one 55-gallon barrel of gear lube, and one 55-gallon barrel of 365 solvent were observed in the vehicle maintenance building. According to Ms. Martin, used anti-freeze is recycled off-site by Emerald Recycling Services at an approximate rate of 1 barrel every six months. Six 55-gallon barrels of grease and lube were observed in the lube building.

Given the duration of operation of the maintenance facility and our experience with similar facilities, there is the potential for an undocumented release to have occurred in association with current and historical chemical use and storage. Therefore, the drums observed in this area are identified in this area of the site are identified as RECs.

MSDS and/or SDS

Material Safety Data Sheets and/or Safety Data Sheets were observed during the visual reconnaissance and copies were provided to Terracon.

Underground Chemical or Waste Storage, Drainage or Collection Systems

Underground storage tanks or ancillary UST equipment

A dip tank used for coating cut lumber in a water based anti-stain solution is located in the center portion of the site. The tank is 80 percent underground and surrounded with a cement-walled pit that acts as a secondary containment. A sump pumps the solution back into the tank and the drip-plan that the lumber dries over which also drains back into the tank. The solution is located in an adjacent shed with MSDS sheets attached. According to Ms. Martin, the accumulated sludge gets pumped to a closed truck and taken off-site. The vehicle washdown area has its own closed containment tank that gets emptied as needed by Provac.

Sumps, cisterns, catch basins and/or dry wells

Approximately 32 catch basins were observed throughout the site during the site reconnaissance. The catch basins discharge to OWSs, discussed below. Staining and/or releases were not observed in the vicinity of catch basins during the site reconnaissance. Based on our observations, the catch basins do not represent an REC to the site.

Septic tanks and/or leach fields

According to Ms. Martin, two septic tanks are associated with the site. The main office tank is north of the office building and blocked up separately from the OWS. The other septic tank for the restrooms is located in the grassy area west of the sawmill. Both are clearly marked and blocked off from traffic with a yellow painted metal frame. The presence of the septic tanks do not represent a REC to the site.

Oil/water separators, clarifiers, sand traps, triple traps, interceptors

Approximately six OWSs were observed throughout the site during the site reconnaissance. They discharge to a single point on the northern portion of the facility, a stormwater outfall that discharges to a bioswale and then discharges to the union slough through a tide gate at the northernmost point of the property. According to Ms. Martin, the OWSs are inspected and cleaned as needed with a minimum monthly inspection, and a thorough inspection for accumulated solids in the storm drain.

Interior Floor Drains

An interior floor drain was observed in the lube building during visual reconnaissance. Contents in the drain appeared to have a sheen but drain to OWSs discussed above.

Electrical Transformers/PCBs

Transformers and/or capacitors

During Terracon's site visit, several pole-mounted transformers, owned and serviced by Snohomish County PUD (SPUD), was observed; however, no information with regard to PCB content of the transformer fluids was observed. Transformers contain mineral oil which may contain minor amounts of PCB and could be considered "PCB contaminated" (PCB content of 50-500 ppm). SPUD maintains responsibility for the transformer, and if the transformer was "PCB contaminated," the utility company is not required to replace the transformer fluids until a release is identified. However, no evidence of current or prior release was observed in the vicinity of the electrical equipment during the site reconnaissance. As a result, the transformer does not represent a REC.

Releases or Potential Releases

Trash, debris, and/or other waste materials

Several solid waste dumpster were observed throughout the site. Staining, noxious odors or hazardous waste disposal was not observed within or in the vicinity of the waste dumpster. Based on the visual observations, the waste dumpster does not represent a REC.

6.0 ADJOINING PROPERTY RECONNAISSANCE

Visual observations of adjoining properties (from site boundaries) are summarized below.

Adjoining Properties

Direction	Description
North	A drainage channel flowing north into the Union Slough followed to the northwest by Building Materials & Construction Solutions (3200 35th Ave NE)
East	Union Slough to the northeast and to the southeast is Interstate-5 with agricultural fields beyond
South	A drainage channel flowing west followed by Dagmar's Marina (1871 Ross Ave)
West	A drainage channel flowing north followed by vacant land (3807 28th Pl NE)

RECs were not observed with the adjoining properties.

7.0 ADDITIONAL SERVICES

Per the agreed scope of services, the following additional services (e.g. limited visual observations for asbestos and lead-based paint, limited radon records review, limited wetland review, limited vapor intrusion assessment, and limited business compliance review) were conducted.

7.1 Visual Observations for Suspect Asbestos

Terracon visually assessed Assessment Type of the on-site building for suspect asbestos-containing materials (ACM). The limited visual observations were performed by Matt Wheaton, an AHERA-accredited asbestos inspector. No samples of suspect ACM were collected or analyzed as part of the observations. The visual observations for suspect ACM were restricted to readily visible and accessible building materials.

The following suspect ACM was observed:

Summary of Suspect ACM

Material	Location	Friable / Non-friable
Carpet mastic	Main office	Non-friable
Rubber cove base mastic	Main office	Non-friable
Textured gypsum wallboard systems	Main office	Friable
Window caulking	Main office	Non-friable
Alphaltic roofing materials	Main office	Non-friable
Wiring/cables	Throughout site	Non-friable
Duct tape	Throughout site	Non-friable

According to Ms. Martin, no previous asbestos sampling activities have been conducted at the site, nor has an asbestos operation and maintenance (O&M) plan been prepared for the site.

Based on the age of the buildings, it is possible that the identified materials are ACM. Limited visual observations for asbestos is not intended to serve as a comprehensive building asbestos survey, comprehensive inspection or comprehensive assessment for the presence of ACM in all or most of the building systems, nor will it serve to adequately assess the presence of ACM in a building or portions thereof for pre-demolition or pre-renovation purposes. Terracon recommends conducting a thorough asbestos survey prior to disturbance of suspect ACM during planned renovations or building demolition.

7.2 Visual Observations of Suspect Lead-Based Paint

Terracon visually assessed interior and exterior space of the on-site buildings for suspect Lead-Based Paint (LBP). No samples of suspect LBP were collected or analyzed as part of the observations. The visual observations for suspect LBP were restricted to readily visible and accessible building materials.

The following suspect LBP was observed:

Summary of Suspect LBP

Material	Location	Condition
Beige interior paint	Main office	Good
Green interior paint	Maintenance building	Good
Brown exterior pain	Numerous site structures	Good
Green exterior paint	Numerous site structures	Good
Grey exterior paint	Numerous site structures	Good

7.3 Visual Observations for Mold

Terracon observed Observation Type of the on-site building for obvious indications of significant water infiltration and visible mold growth. Where required by state/local regulations, the limited visual observations were performed by appropriately trained and accredited personnel. The observations included visibly accessible surfaces in the building areas visited, and did not include observations of hidden conditions such as inaccessible areas, interior of wall cavities, interior of heating, ventilation and air conditioning (HVAC) systems, or behind intact wall coverings.

A source of excess moisture is typically related to leaky plumbing or roofing, but can also involve the building's HVAC system. When excess moisture accumulates in buildings, mold growth will often occur. In the presence of sufficient moisture, different molds can grow on wood, paper, carpet, or insulating materials. Molds reproduce through spores that cannot be

seen with the naked eye. When they settle on damp indoor surfaces, active mold growth can begin. Moisture control is the key to controlling mold growth in indoor environments.

Terracon did not observe obvious indications of significant water infiltration or visible mold growth at the time of the site reconnaissance. Additionally, Ms. Martin, was not aware of significant water infiltration or visible mold issues. The scope of this limited visual observation for mold should not be construed as a mold assessment.

7.4 Radon Records Review

Radon is a naturally occurring radioactive gas produced through the natural decay of uranium to stable lead. It is odorless, tasteless, and invisible. Elevated concentrations of radon can be found in soils and rocks containing uranium, granite, shale, phosphate, and pitchblende. Locations of these materials are highly unpredictable. Elevated levels of radon may also be found in soils containing certain types of industrial wastes, such as the by-products from uranium or phosphate mining. Radon can accumulate inside structures at concentrations that may pose risks to human health. Indoor radon levels are influenced by building construction and the concentration of radon in the underlying soil.

The average residential radon concentration for Snohomish County is <2 pCi/L.

Based on this information, the site is considered to have a low potential for elevated indoor concentrations of radon gas. However, testing would be required to evaluate site-specific concentrations of radon gas.

7.5 Wetland Records Review

Terracon conducted a limited wetland review for the site to evaluate potential presence of apparent jurisdictional Waters of the U.S., including wetlands, as defined and regulated by federal authority under 33 CFR Parts 320-330. This review may not identify state/locally-designated wetlands.

Wetlands as defined by EPA and the U.S. Army Corps of Engineers, in the *Federal Manual for Identifying and Delineating Jurisdictional Wetlands*, (Federal Interagency Committee for Wetland Determination, 1989), are “those areas that are inundated or saturated by surface or groundwater at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.” Jurisdictional wetlands, regulated under Section 404 of the Clean Water Act/1972, have undergone increasing regulation (Clean Water Act/1977 and 1987, Farm Bills/1985 and 1990), and are important for protection of aquatic species and waterfowl, water purification, and flood control.

Terracon reviewed the following resources to evaluate the potential presence of jurisdictional waters of the U.S., including wetlands, on the site:

- **Topographic Map**
  The United States Geologic Survey (USGS) 7.5-Minute Topographic Map of the subject site was reviewed to identify drainages or other potential waters of the U.S. within the project site. A portion of the Marysville, Washington Quadrangle can be seen as Exhibit 1 in Appendix A. The USGS map depicted a stream occurring along the southern portion of the project site.

- **National Wetland Inventory Map**
  National Wetland Inventory (NWI) data for the project site was reviewed to identify potential wetland areas. NWI data for the project site was published by the U.S. Department of the Interior's Fish and Wildlife Service and depicts possible wetland areas based on stereoscopic analysis of high altitude aerial photographs. The review of the NWI data indicates a freshwater forested/shrub wetland and a freshwater emergent wetland on the norther portion of the site and a freshwater emergent wetland and riverine on the southern portion of the site. The NWI map data for the project area can be seen as Exhibit 3 in Appendix A.

Terracon's review of the above resources indicated mapped wetlands and stream on the site. Please note this Limited Wetland Review does not constitute a formal determination and/or delineation of a potentially jurisdictional wetland, which is based on three criteria, wetland hydrology, hydrophytic vegetation, and hydric soils, as set forth in *1987 Corps of Engineers Wetland Delineation Manual* and further supported by the *applicable Regional Supplements to the Corps of Engineers Wetland Delineation Manual*.

To determine whether regulated wetlands may be present on the site, a wetland delineation must be performed and submitted to the U.S. Army Corps of Engineers for a jurisdictional determination, as required by Section 404 of the Clean Water Act.

7.6 Vapor Intrusion Assessment

Pursuant to the client's request, and in conjunction with the ESA, Terracon conducted a Vapor Intrusion Assessment. This assessment was not conducted in accordance with ASTM E 2600 15. This assessment was based on information collected in conjunction with the ESA, including existing/planned use of the site, type of structures located on the site, surrounding property description, user information, historical and physical records review, regulatory database review, manmade or natural conduits, as applicable, and a visual noninvasive reconnaissance of the site and adjoining properties, and did not include regulatory file reviews or subsurface investigations to evaluate soil, soil gas, or groundwater quality.

Based on the findings of the ESA, the length of operation of the sawmill businesses (approximately 70 years) and the potential for and recorded impacts to site soil and groundwater due to releases of petroleum hydrocarbons and volatile organic compounds represent a REC to the site.

Based on the physical setting of the site, the current use of the site, and the findings from the historical and regulatory records review, the site is considered to have a moderate potential for vapor intrusion issues.

7.7 Limited Business Compliance Review

Pursuant to the client's request, Terracon conducted a limited review of available existing permits provided to Terracon during, or subsequent to, the site reconnaissance. Existing regulatory compliance permits were not provided to Terracon during, or subsequent to, the site reconnaissance.

The facility address was identified in the EPA Envirofacts or Enforcement and Compliance History Online (ECHO) databases.

Federal and state database listings were identified for the facility in the EDR regulatory database. These database listings are further discussed in this section, as applicable, and in Section 4.1.

Terracon also observed on-site sumps and OWSs which, according to facility personnel, discharges to the Union Slough through a silt curtains and a tide gate. The facility has an up-to-date 2016 dated Stormwater Pollution Prevention Plan and submits stormwater testing to the Department of Ecology regularly. Based on our review of the document, the site appears to be in compliance with local and State stormwater discharge requirements.

Terracon also observed aboveground oil storage in containers and reservoirs of 55-gallons or greater which appear to exceed 1,320 total gallons. The EPA requires non-transportation related, onshore non-production facilities which exceed 1,320 gallons of aboveground oil storage in containers of 55-gallons or greater to prepare and implement a Spill Prevention, Control, and Countermeasure (SPCC) Plan in accordance with Title 40 of the Code of Federal Regulation (40 CFR) sections 112.7 and 112.8. Terracon was provided a copy of the facilities 2004 SPCC Plan for review and it appears to be in compliance.

Terracon's review of the above information is not intended as a compliance audit or compliance statement. Terracon's limited compliance review did not include consultation with local, state or Federal agencies; did not include review of available files at these agencies; and did not include a detailed assessment of site activities or operations for compliance with regulatory requirements.

7.8 Super Liens

The revised code of Washington (RCW) 70.1050.005, allows Ecology to obtain a super-priority lien on real property for which it has incurred remedial action costs. This lien has priority in rank over "all other privileges, liens, monetary encumbrances, or other security interests affecting the real property" except for the following:

(i) Local and special district property tax assessments; and

(ii) Mortgage liens recorded before liens or notices of intent to conduct remedial action are recorded under this statute.

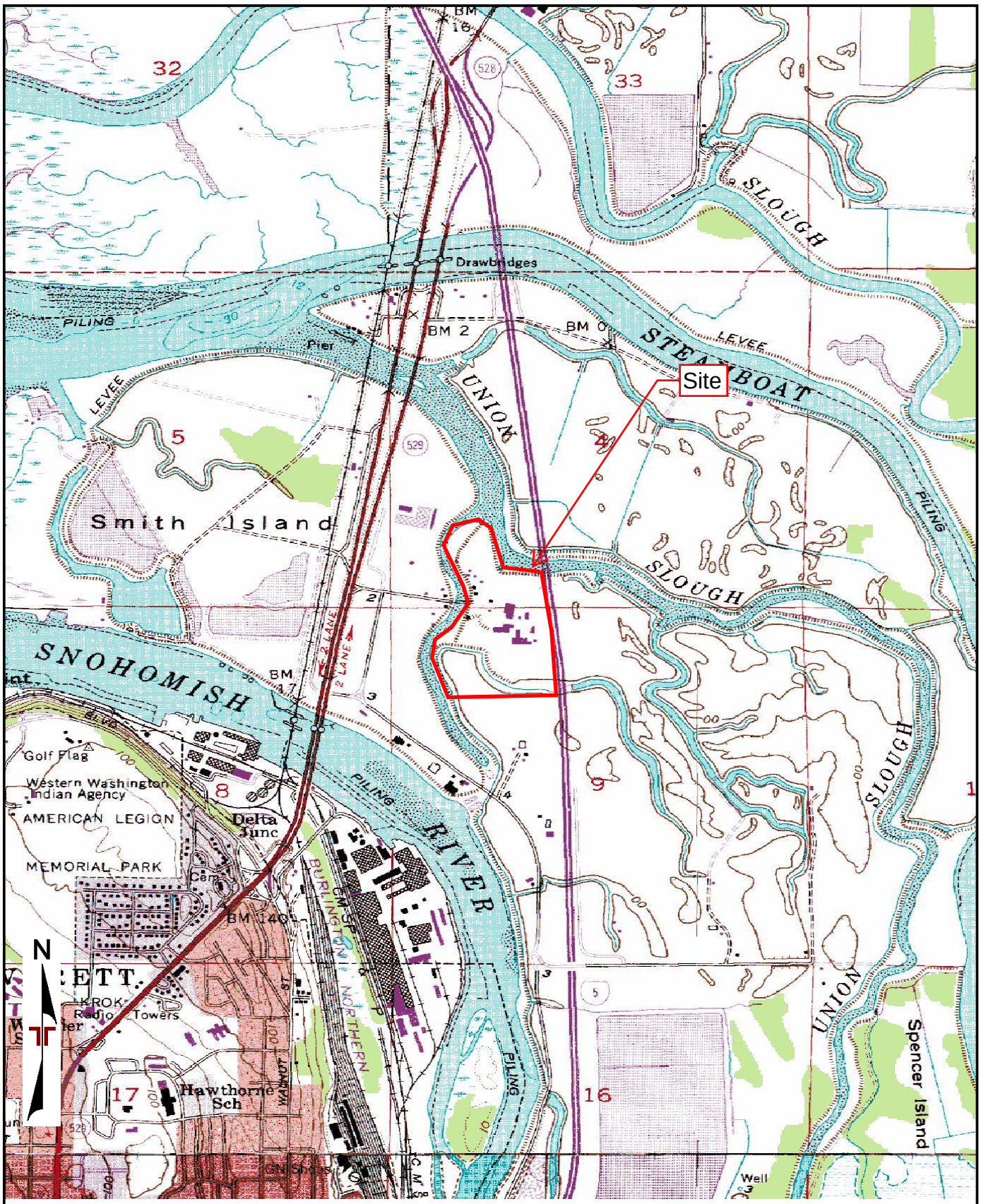
Indications of non-payment of VCP fees or other interactions that might indicate the need for a super lien are not known to have occurred at the site.

8.0 DECLARATION

I, Matt Wheaton, declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in Section 312.10 of 40 CFR 312; and I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the site. I have developed and performed the All Appropriate Inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Matt Wheaton, LG, PE
Department Manager

APPENDIX A
EXHIBIT 1 – TOPOGRAPHIC MAP
EXHIBIT 2 – SITE DIAGRAM



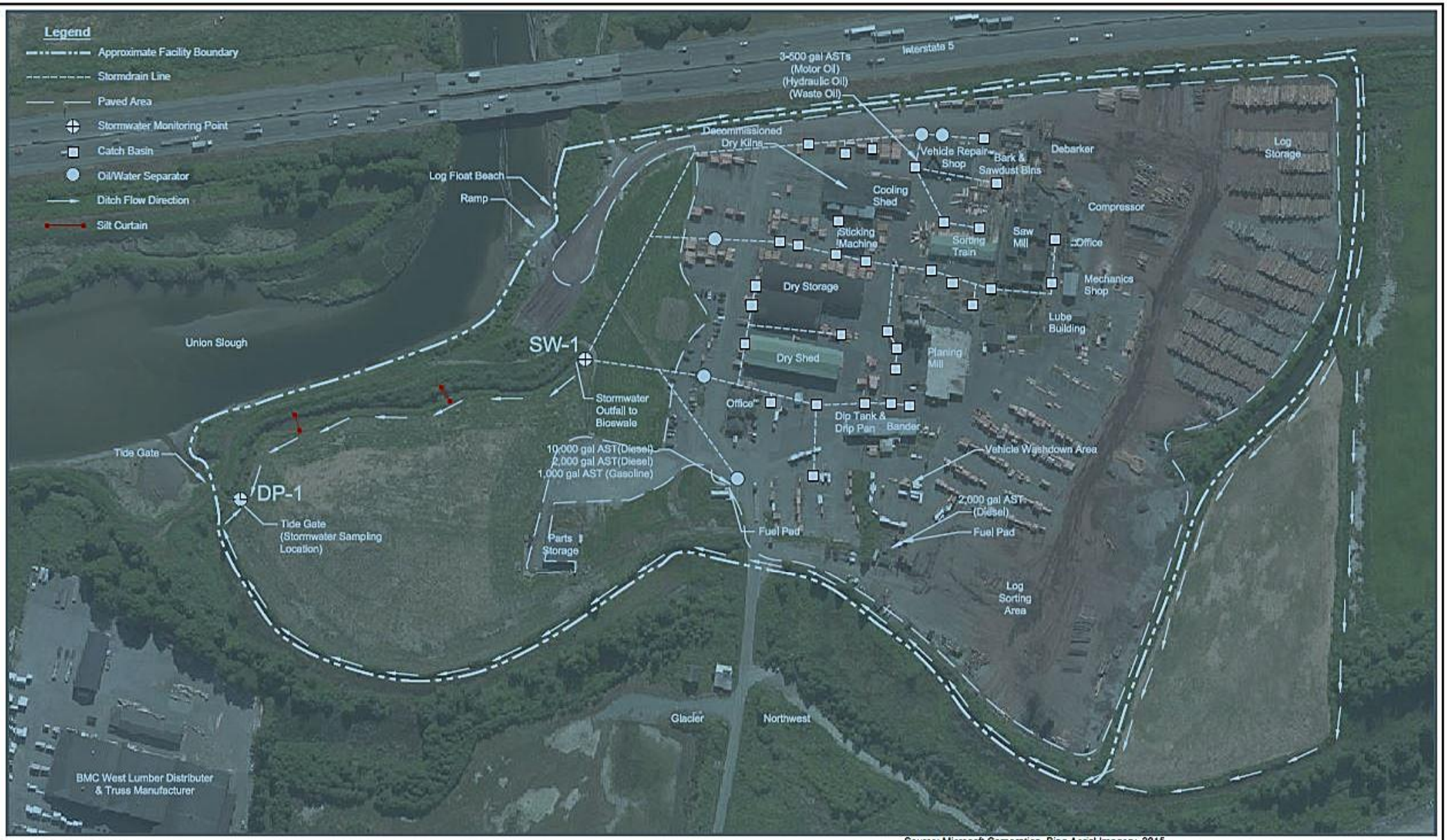
TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: MARYSVILLE, WA (1973) and EVERETT, WA (1973).

Project Manager: TRB	Project No. 81187262	Terracon 21905 64th Ave W, Ste 100 Mountlake Terrace, WA 98043-2251	TOPOGRAPHIC MAP Buse Timber & Sales 3812 28th Pl NE Everett, Snohomish County, Washington	Exhibit 1
Drawn by: TRB	Scale: 1"=2,000'			
Checked by: MYW	File Name: 81187262			
Approved by: MYW	Date: June 2018			

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

AERIAL PHOTOGRAPHY PROVIDED BY MICROSOFT BING MAPS

Project Manager: TRB Drawn by: TRB Checked by: MYW Approved by: MYW	Project No. 81187262 Scale: AS SHOWN File Name: 81187262 Date: June 2018	Terracon 21905 64th Ave W, Ste 100 Mountlake Terrace, WA 98043-2251	SITE DIAGRAM Buse Timber & Sales 3812 28th Pl NE Everett, Snohomish County, Washington	Exhibit 2



Source: Microsoft Corporation, Bing Aerial Imagery, 2015

DRAFT

LANDAU ASSOCIATES

Note

Stormwater drain locations are approximate.

N

0 200 400

Scale in Feet

Buse Timber Everett, Washington	**Site Map**	Figure 2

U.S. Fish and Wildlife Service
National Wetlands Inventory

Wetlands

June 5, 2018

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

APPENDIX B
SITE PHOTOGRAPHS

Photo 1 View of the Main Office facing north

Photo 2 Typical inside view of the Main Office

Photo 3 View of the Dry Shed facing east

Photo 4 View of the Dip Tank and Bander building facing southwest

Photo 5 View of the dry storage building facing north-northeast

Photo 6 View of the planning mill facing south

Photo 7 View inside the planning mill

Photo 8 View of the saw mill facing south-southeast

Photo 9 View of the vehicle maintenance building facing southeast

Photo 10 View of the waste oil AST and containers on the north side of the vehicle maintenance building

Photo 11 Inside of the vehicle maintenance building

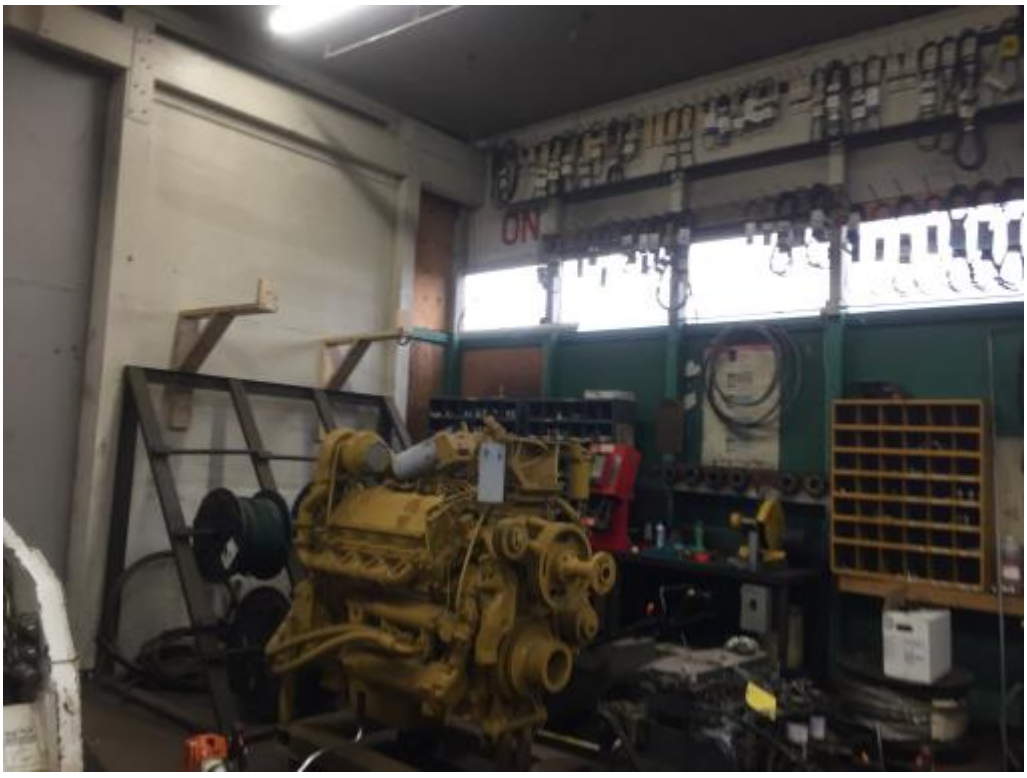


Photo 12 Inside of the vehicle maintenance building

Photo 13 Inside of the saw mill building

Photo 14 View of the restroom buildilng facing south-southeast

Photo 15 View of the mechanics shop facing east

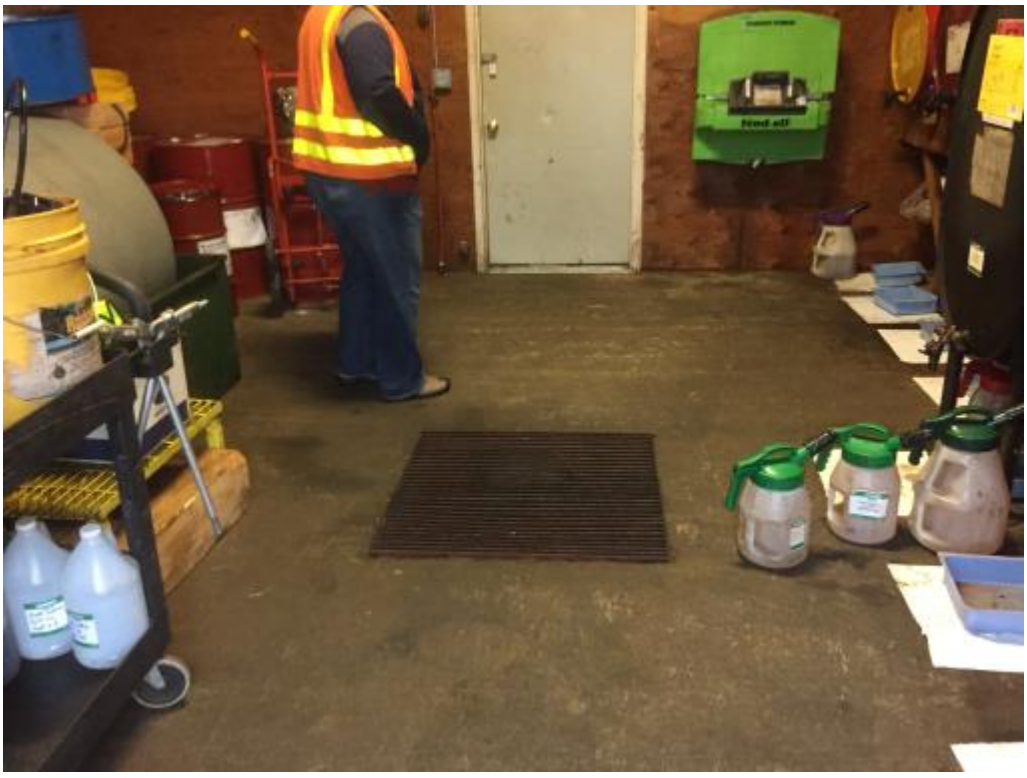


Photo 16 View inside the lube building with an lube AST to the left

Photo 17 View of the log storage area facing southwest

Photo 18 View of the vehicle washdown area facing east

Photo 19 View of the dip tank

Photo 20 View of the ASTs at the entrance facing northwest

Photo 21 View from the site towards I-5 facing east

Photo 22 View of the northern storage building facing northwest

Photo 23 View of the south-adjoining Dagmar's boat yard from the southern site boundary facing south

Photo 24 View of the northwest-adjoining Building Materials & Construction Solutions property from 35th Ave NE facing northeast

APPENDIX C
HISTORICAL DOCUMENTATION AND USER QUESTIONNAIRE

User Questionnaire from Terracon Consultants Inc. for Phase I ESA (ASTM 1527-13)

Project Name: Buse Timber & Sales

Project Address: 3812 28th Pl NE, Everett, WA

Terracon Project Number: 81187262

User Name/Title: Leslie Somes /

Date: 5/31/2018

In order to qualify for one of the Landowner Liability Protections (LLPs) offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the "Brownfields Amendments"), the user must provide the following information (if available) to the environmental professional. Failure to provide this information could result in a determination that "all appropriate inquiry" is not complete.

(1.) Environmental cleanup liens that are filed or recorded against the site.

Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state or local law?

No

(2.) Activity and land use limitations that are in place on the site or that have been filed or recorded in a registry.

Are you aware of any activity and use limitation (AULs), such as engineering controls, land use restrictions or institutional controls that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law?

No

(3.) Specialized knowledge or experience of the person seeking to qualify for the LLP.

As the user of this ESA do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

No

(4.) Relationship of the purchase price to the fair market value of the property if it were not contaminated.

Does the purchase price being paid for this property reasonably reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property?

N/A, all property has been owned by the client previously

(5.) Commonly known or reasonably ascertainable information about the property.

Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as user,

(a.) Do you know the past uses of the property?

(b.) Do you know of specific chemicals that are present or once were present at the property?

(c.) Do you know of spills or other chemical releases that have taken place at the property?

(d.) Do you know of any environmental cleanups that have taken place at the property?

Only what has been brought out in previous Phase I and Phase II's before I took this client over in 2016. As I read it, all issues have been taken care of as of 2011.

(6.) The degree of obviousness of the presence of likely presence of contamination at the property, and the ability to detect the contamination by appropriate investigation.

As the user of this ESA, based on your knowledge and experience related to the property are there any obvious indicators that point to the presence or likely presence of contamination at the property?

No

Buse Timber & Sales
3812 28th Pl NE
Everett, WA 98201

Inquiry Number: 5319024.3
June 01, 2018

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

06/01/18

Site Name:

Buse Timber & Sales
3812 28th Pl NE
Everett, WA 98201
EDR Inquiry # 5319024.3

Client Name:

Terracon
21905 64th Ave. West
Mountlake Terrace, WA 98043
Contact: Taylor Blackbourn

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Terracon were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 92A2-4D39-83E5

PO # NA

Project 81187262

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: 92A2-4D39-83E5

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

Limited Permission To Make Copies

Terracon (the client) is permitted to make up to FIVE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

Buse Timber & Sales

3812 28th Pl NE

Everett, WA 98201

Inquiry Number: 5319024.5

June 01, 2018

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

06/01/18

Site Name:

Buse Timber & Sales
3812 28th Pl NE
Everett, WA 98201
EDR Inquiry # 5319024.5

Client Name:

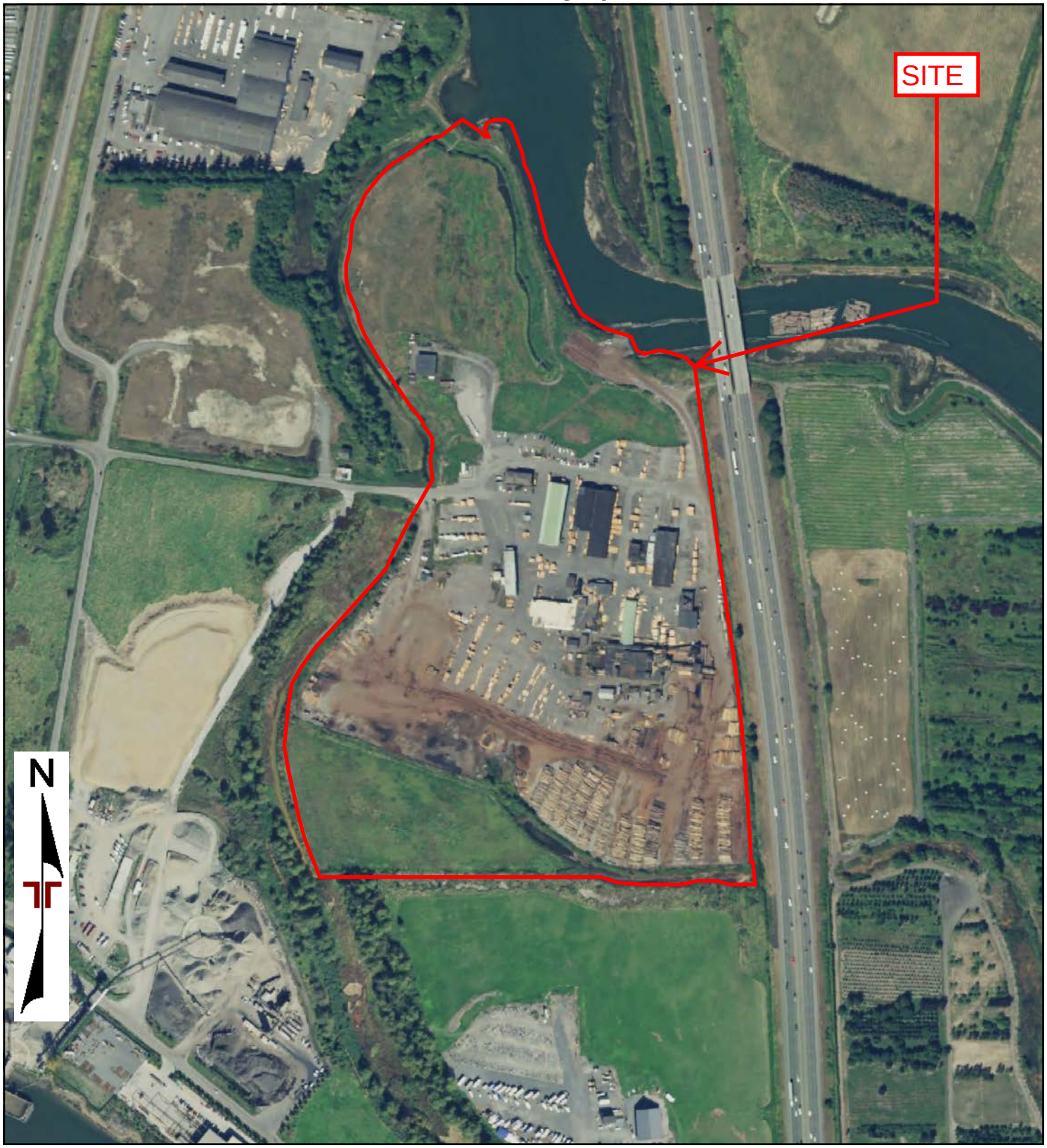
Terracon
21905 64th Ave. West
Mountlake Terrace, WA 98043
Contact: Taylor Blackbourn

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	*Scale*	*Details*	*Source*
2015	1"=500'	Flight Year: 2015	USDA/NAIP
2011	1"=500'	Flight Year: 2011	USDA/NAIP
2006	1"=500'	Flight Year: 2006	USDA/NAIP
1990	1"=500'	Acquisition Date: July 10, 1990	USGS/DOQQ
1981	1"=500'	Flight Date: July 26, 1981	USGS
1979	1"=500'	Flight Date: July 20, 1979	USDA
1973	1"=500'	Flight Date: July 09, 1973	NOAA
1968	1"=500'	Flight Date: September 02, 1968	USGS
1954	1"=500'	Flight Date: July 04, 1954	USGS
1952	1"=500'	Flight Date: July 01, 1952	USGS
1941	1"=500'	Flight Date: June 11, 1941	USDA

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.



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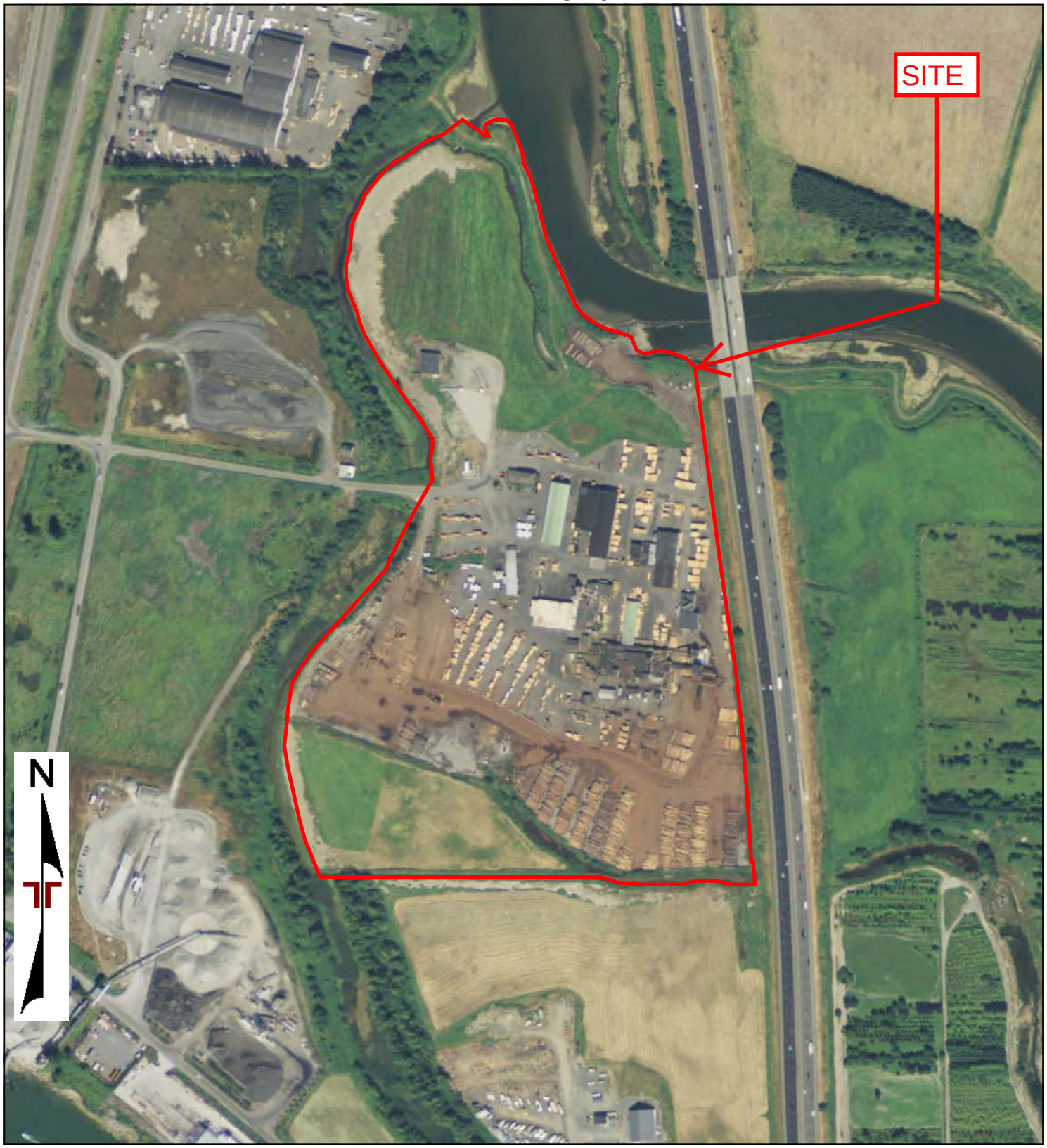
Checked By:	File Name:		
Approved By:	Date: 2015		



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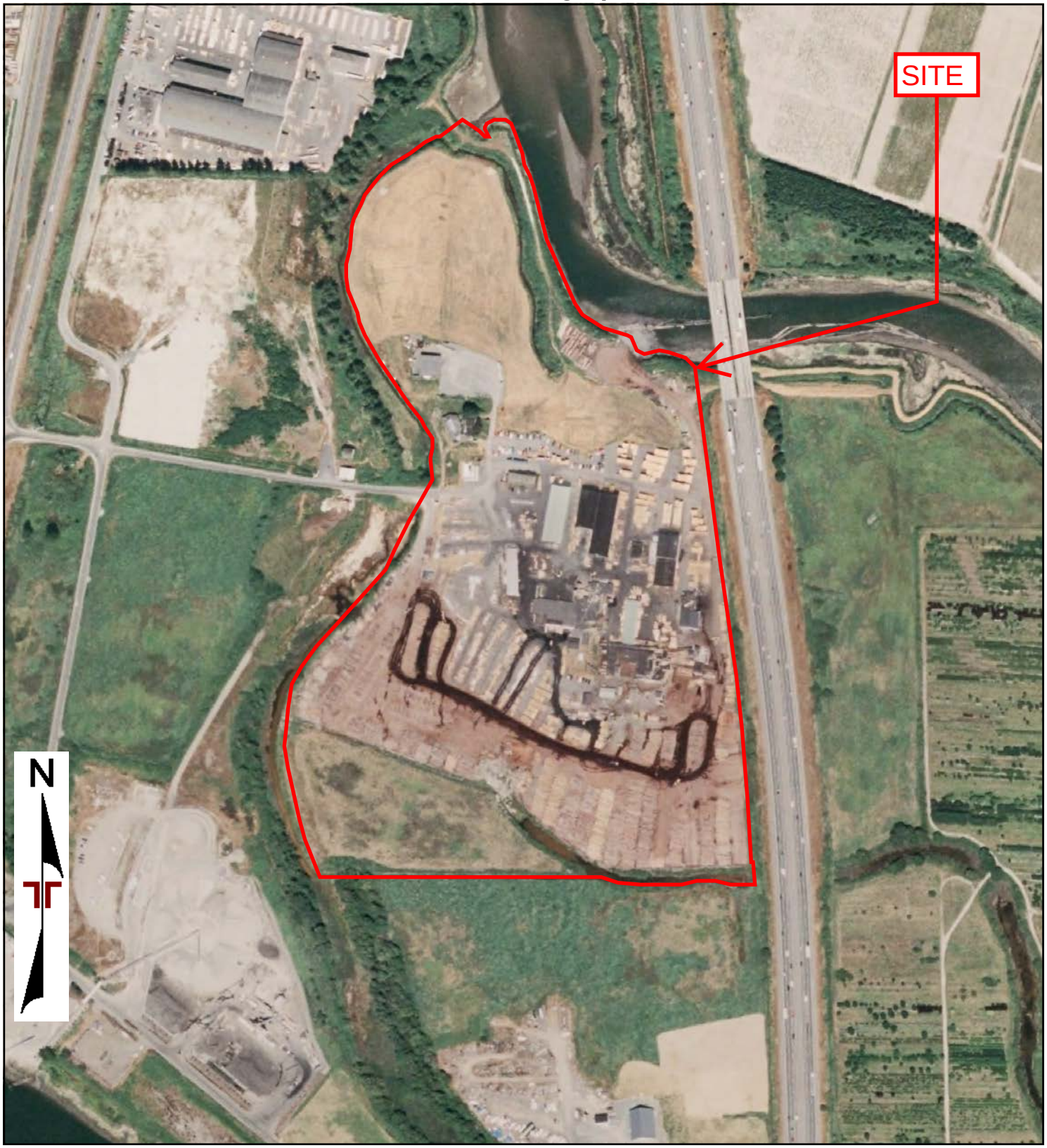
Approved By:	Date: 2011		



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Checked By:	File Name:		
Approved By:	Date: 2006		

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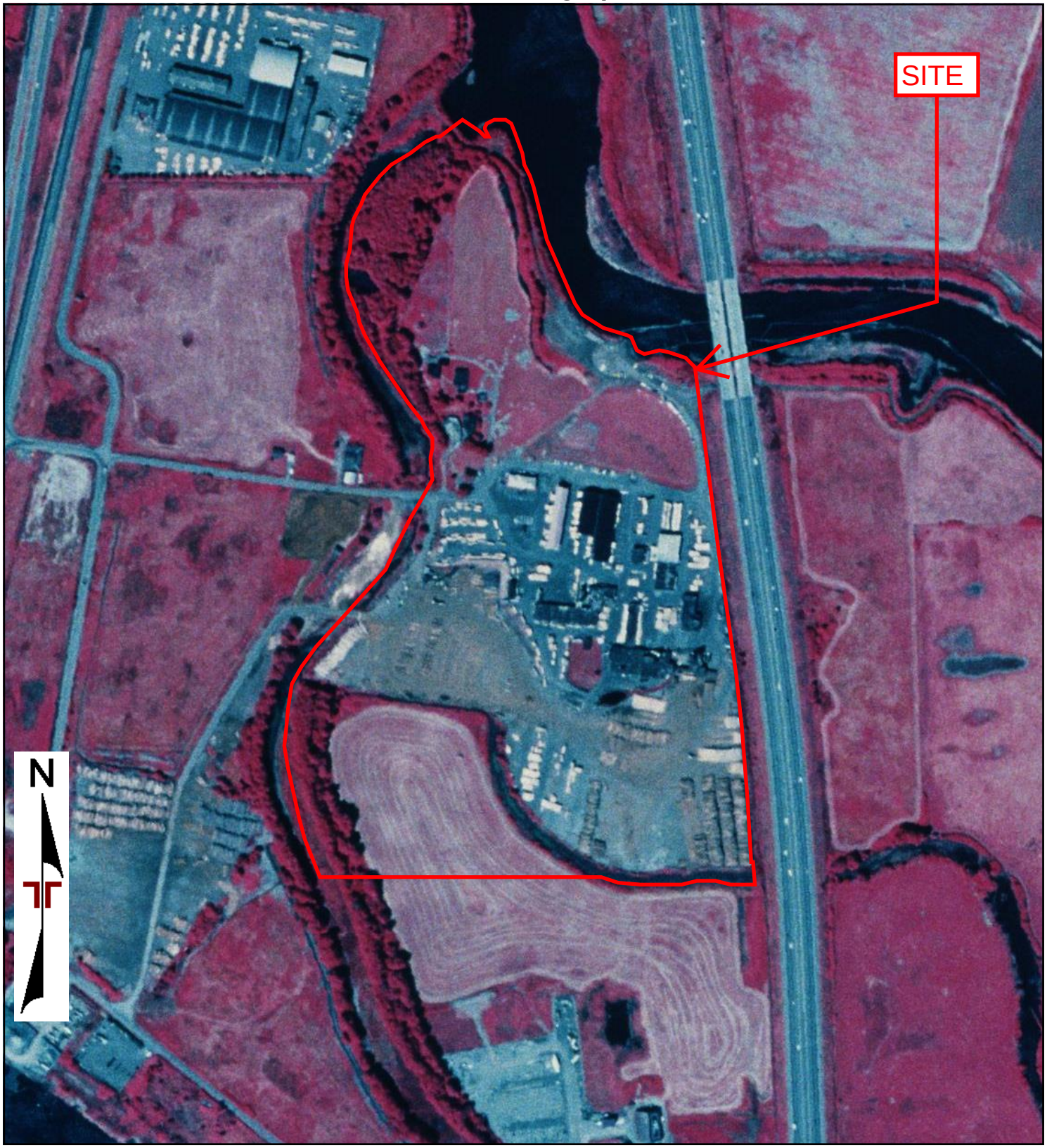
Drawn By:	Scale:		
Checked By:	File Name:		
Approved By:	Date: 1990		



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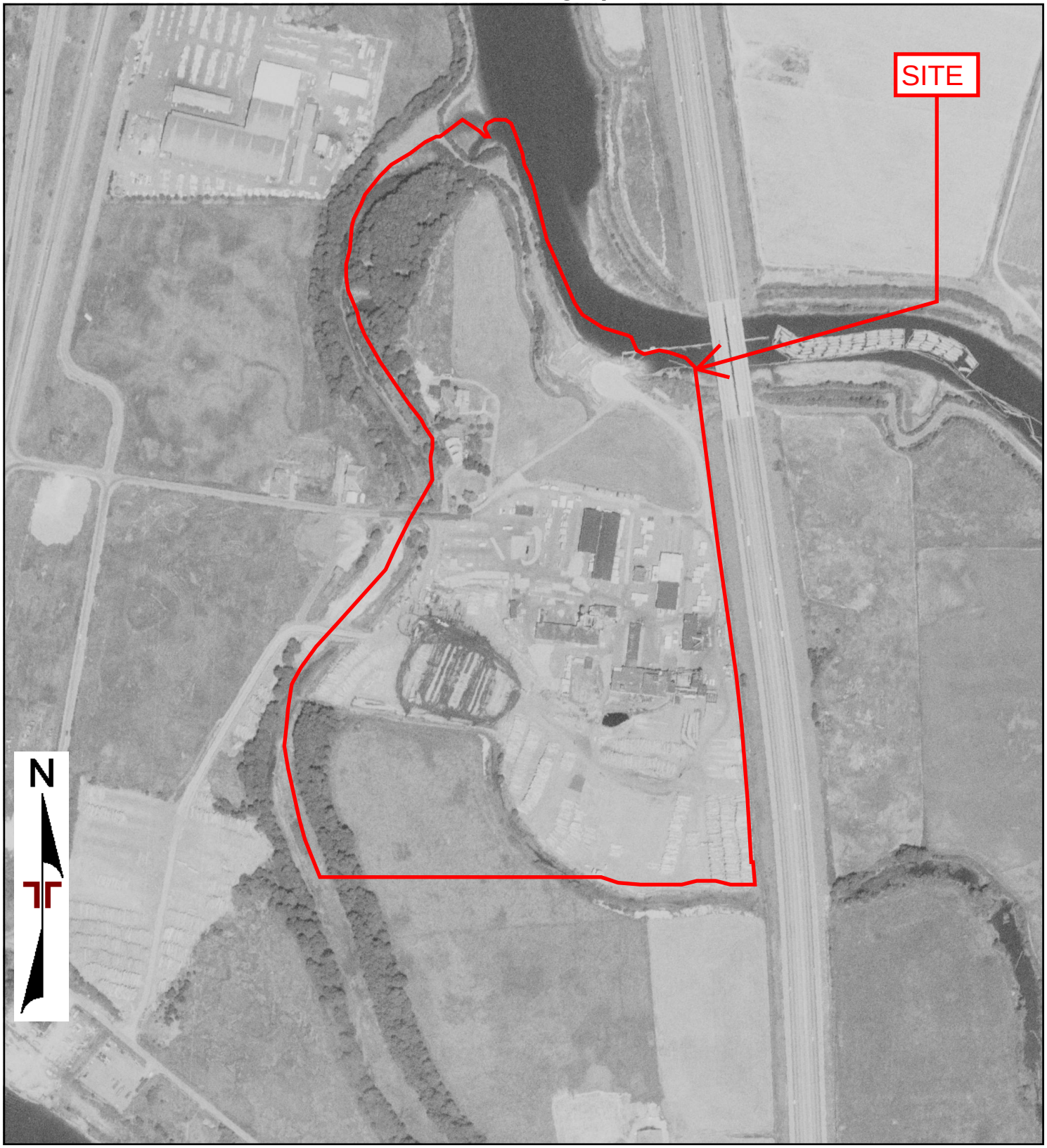
Checked By:	File Name:		
Approved By:	Date: 1981		



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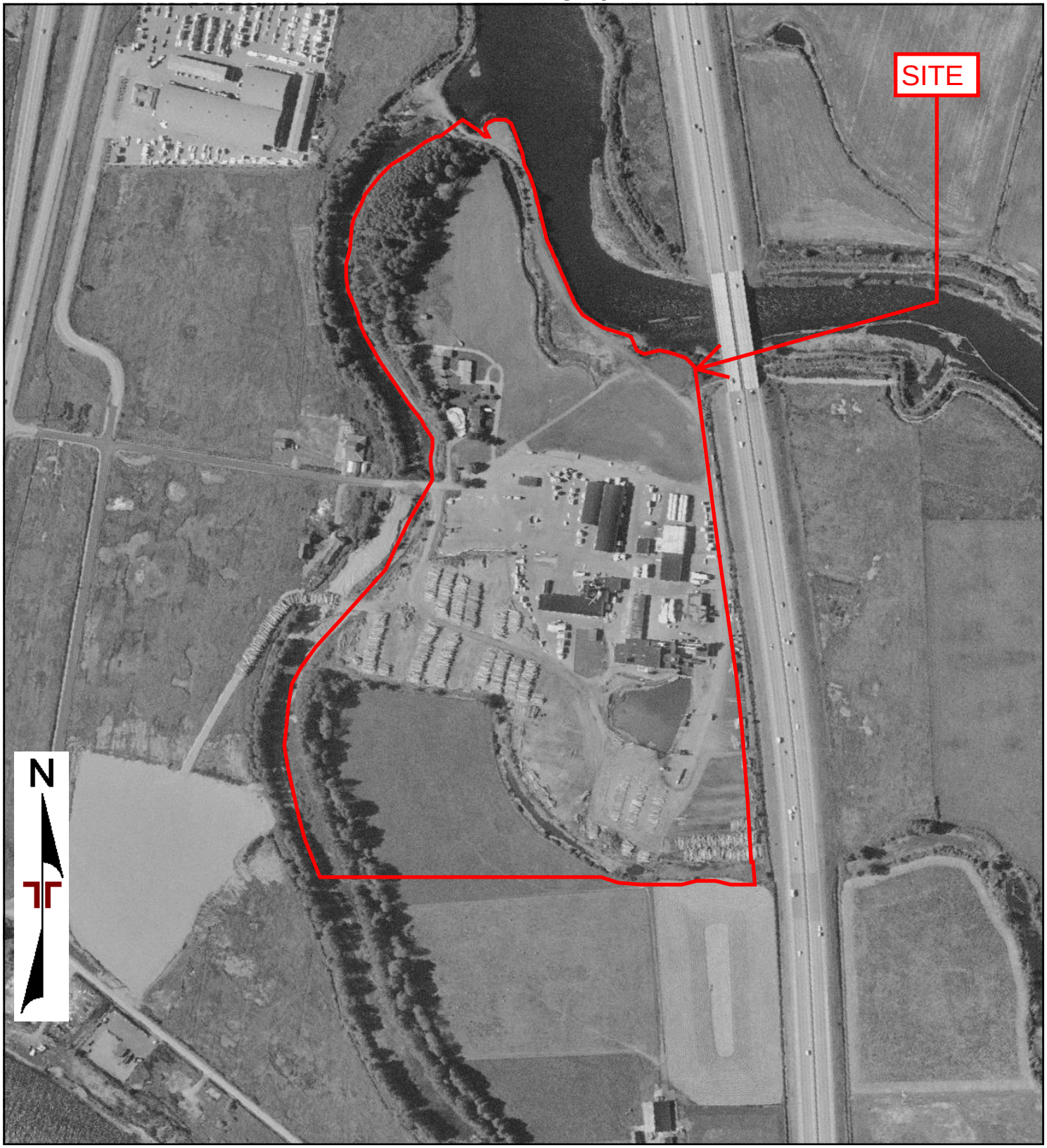
Checked By:	File Name:		
Approved By:	Date: 1979		



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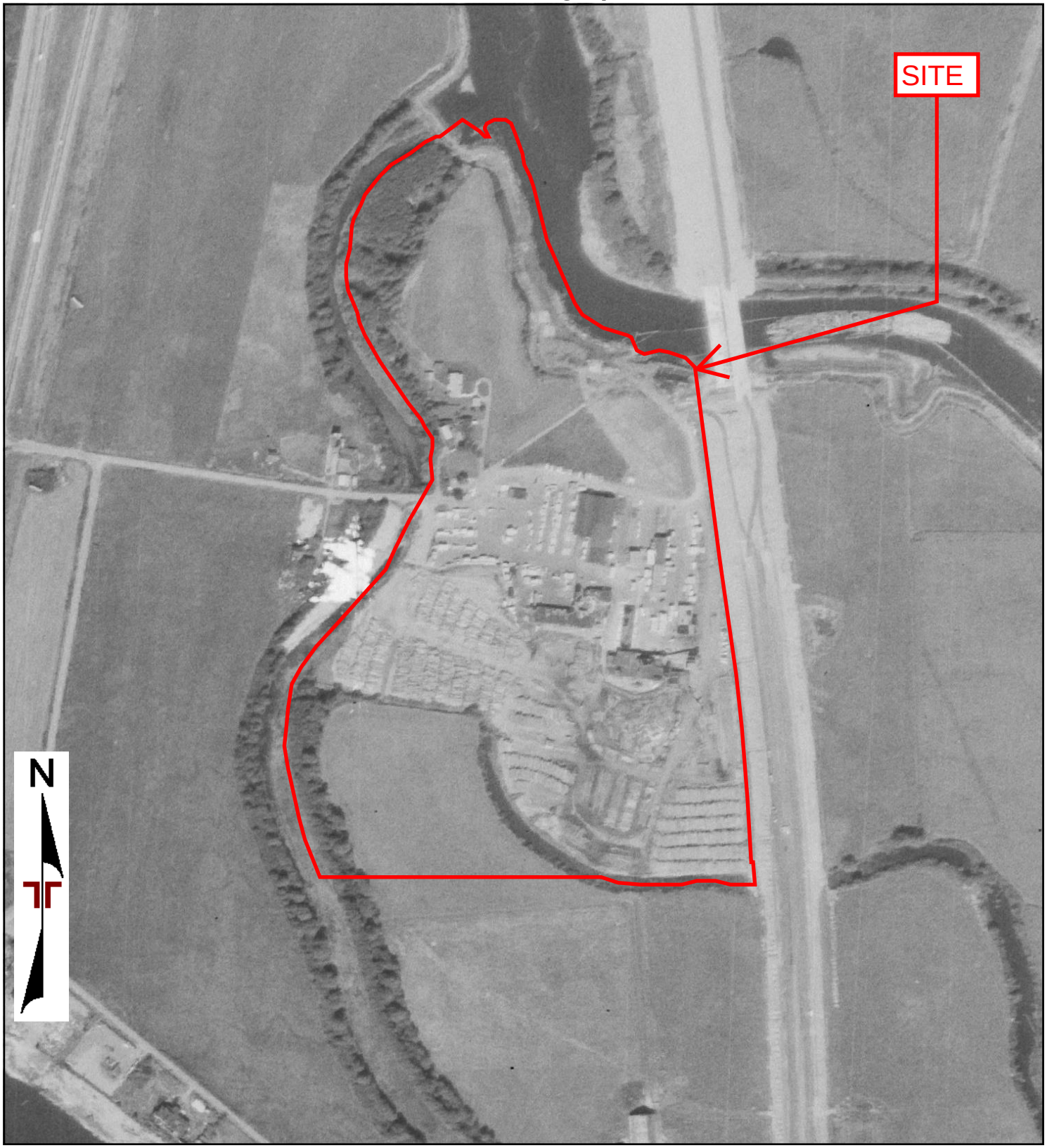
Drawn By:	Scale:		
Checked By:	File Name:		
Approved By:	Date: 1973		



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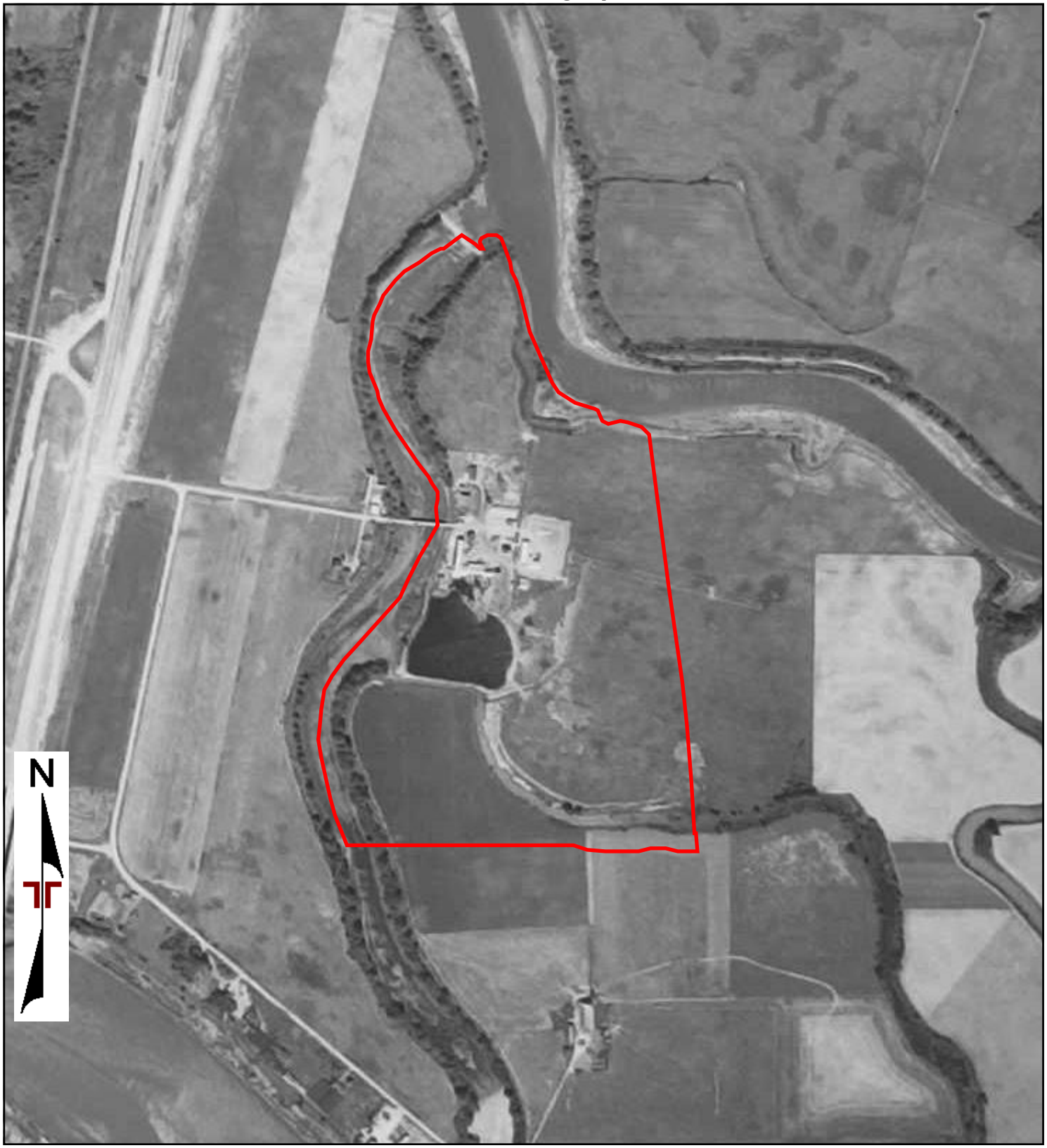
Project Manager:	Project No:	Terracon	1968 AERIAL PHOTOGRAPH
Drawn By:	Scale:		
Checked By:	File Name:		
Approved By:	Date: 1968		



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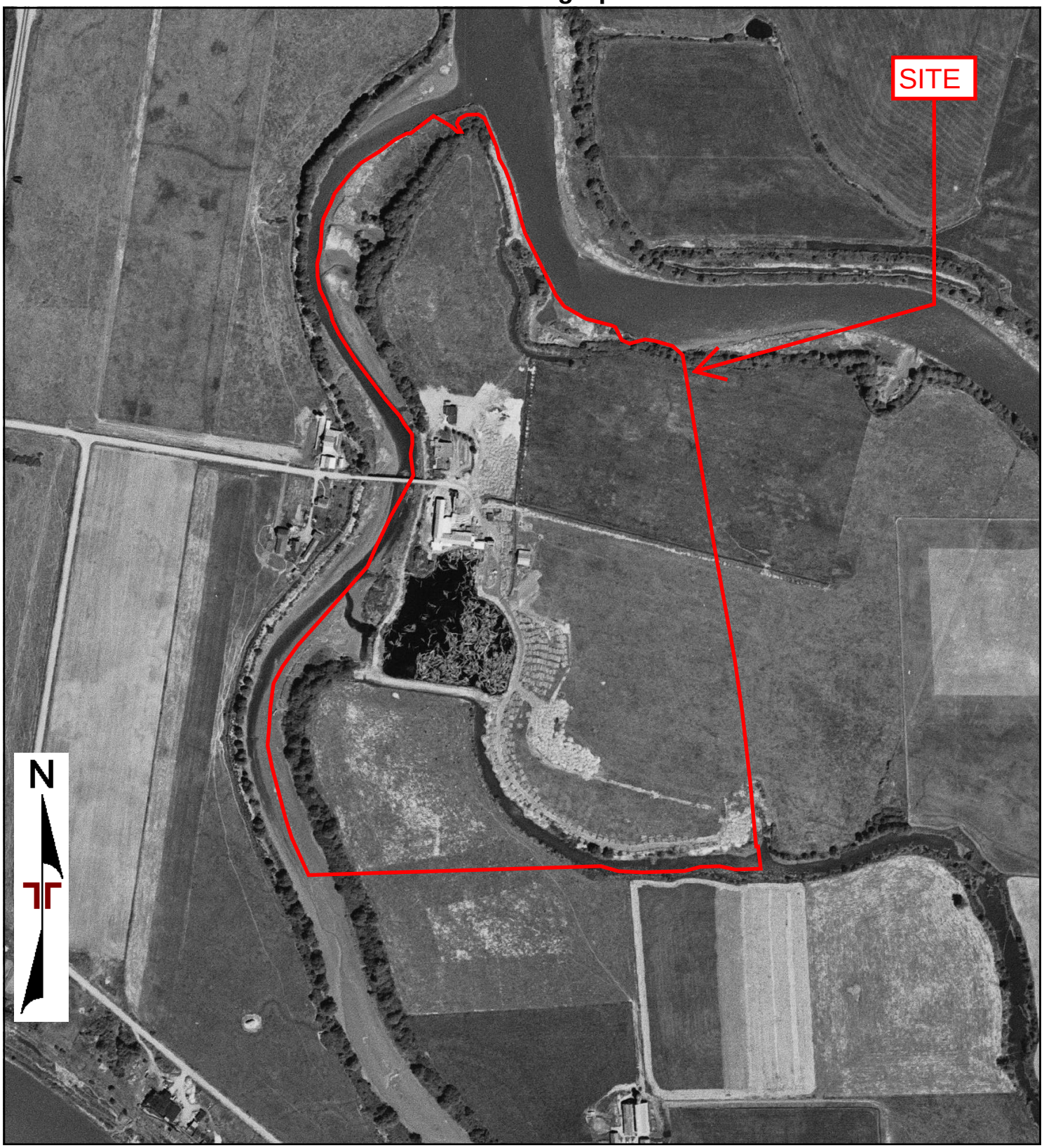
Project Manager:	Project No:	Terracon	1954 AERIAL PHOTOGRAPH
Drawn By:	Scale:		
Checked By:	File Name:		
Approved By:	Date: 1954		



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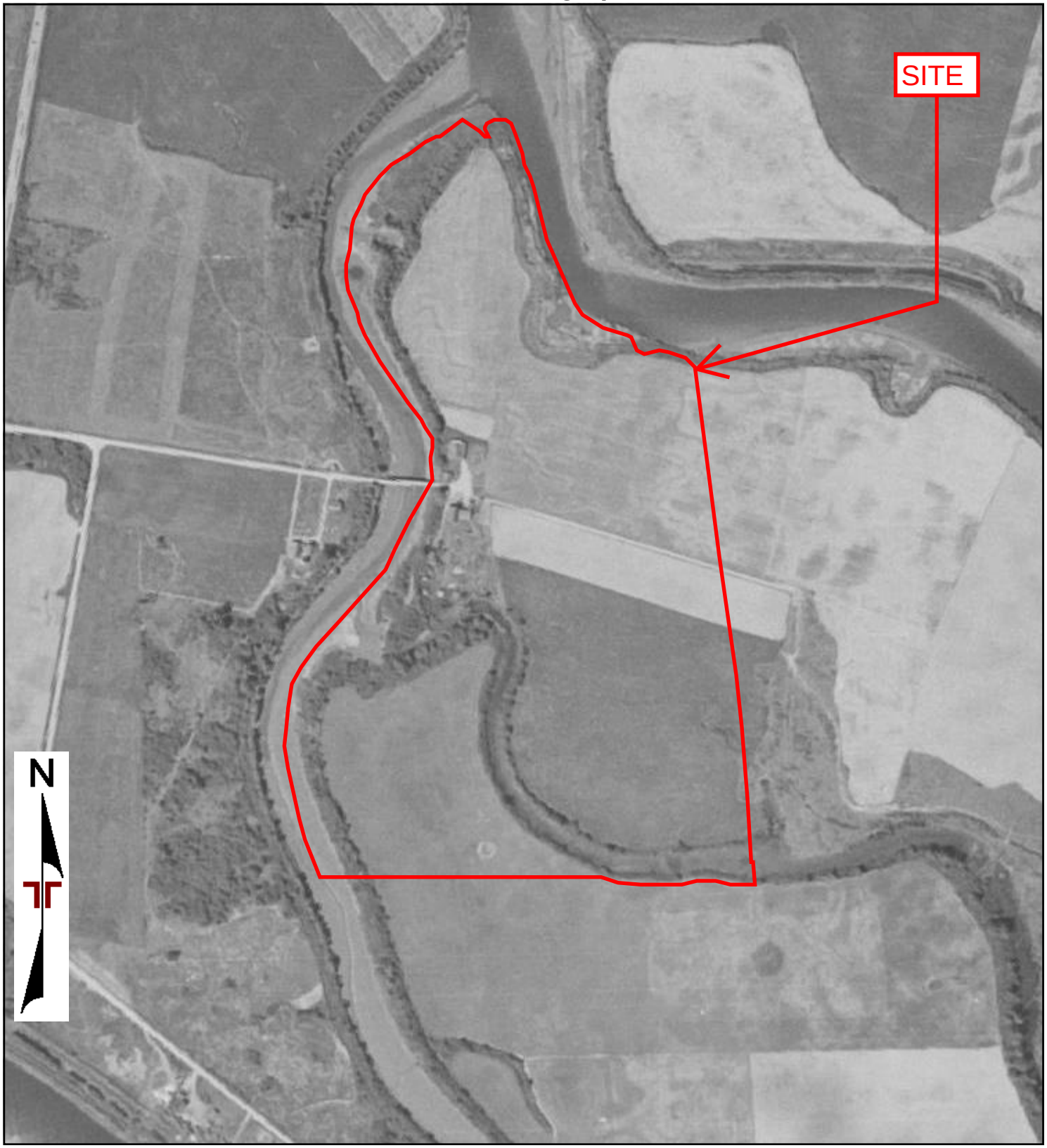
Project Manager:	Project No:	Terracon	1952 AERIAL PHOTOGRAPH
Drawn By:	Scale:		
Checked By:	File Name:		
Approved By:	Date: 1952		



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Project Manager:	Project No:	Terracon	1941 AERIAL PHOTOGRAPH
Drawn By:	Scale:		
Checked By:	File Name:		
Approved By:	Date: 1941		

ENVIRONMENTAL SITE ASSESSMENT
QUESTIONNAIRE

GENERAL INFORMATION

Property Name: Buse Timber & Sales, Inc.

Project Number:

Address: 3812 28th PL NE Everett, WA 98201

Owner/Operator Name: Tom Parks-President Telephone Number: 425-258-5840

Site Contact Name: Diana Martin-VP Finance Telephone Number: 425-258-5844

Acreage (Lot Size): 60 acres

Building Size: multi Date Built: approx. 1965

Years of Operation: 71 Leased/Owned: owned

Past Property Uses (if known): pea farm, golf course

Source of potable water: city of everett Sewage disposal: septic

Means of heating: Electric heat pumps/occasional portable gas heaters

Current use of adjoining properties:

North: N/A Slough

South: Dagmar's Marina

East: I-5/Hima Farm

West: _vacant lot/concrete storage/bmc truss/lumber distribution yard

Name of Person Completing Questionnaire: Diana Martin

Title: VP Finance

Date: 6/13/18

Signature: Diana Martin

OPERATIONS

Describe current business operations including chemical use/storage/disposal, production operations, etc: Logs are brought to the facility by raft and trucks. The raw logs are sawed into lumber. Approximately 40% of the lumber is run through the planer to be surfaced. Some lumber is coated with painted end seal, clear end seal and/or treated in a dip tank with an anti-stain dip. Raw logs are stored on site along with rough and surfaced lumber. All by-products (bark, chips, sawdust, and shavings are sold on contracts to two suppliers. _____

BULK PRODUCT STORAGE

Please list bulk product storage on-site, including aboveground storage tanks (ASTs) and various size drums. This listing is not intended to include various small plastic container/bottles of associated motor oils, brake fluids, and other automotive petroleum product typical of site operations.

Material Name (Generic Description)	New or Used	Location Reference	Container Type	Number of Containers	Container Capacity	Secondary Containment?
Dyed Diesel	New	Main office	Double wall	1	2000	yes
Clear Diesel	New	Main office	Double wall	1	10000	yes
Unleaded Gasoline	New	Main Office	Double wall	1	1000	yes
Dyed Diesel	New	Log Yard	Double wall	1	2000	yes
15W/40 Motor Oil	New	Truckshop	Double wall	1	500	yes
Hydraulic fluid	New	Truckshop	Double wall	1	500	Yes
Used Motor Oil	Used	Truckshop	Double wall	1	500	yes
Anti Freeze	New	Truckshop	Barrel	1	55	Yes
Gear Lube	New	Truckshop	Barrel	1	55	yes
Grease and lube	New	Lube building	Barrels	6	55	yes
365 solvent	New	Truckshop	Barrel	1	55	yes

ABOVEGROUND STORAGE TANK INFORMATION

Material Name (Generic Description)	New or Used	Size (gal)	Construction Material	Number of Containers	Length x Width x Height	Elevation above Floor

CURRENT ONSITE UST INFORMATION

Are any registered UST's currently located on the property?
If yes, please complete the following table.

	UST #1	UST #2	UST #3	UST #4
Tank Capacity				
Tank Age				
Tank Contents				
Fiberglass Or Steel				
Single Or Double Wall				
Cathodic Protection				
Spill Protection				
Overfill Protection				
Leak Monitoring				
Stick/Gauge Inventory				
Documented Inventory				
Date of Last Integrity Test				
Integrity Test Results				
Registration Confirmed				
Covered by State UST fund				

PREVIOUS USTS

Have any USTs been closed in place or removed from this property?
If yes, please complete the following.

Number of Former USTs Removed: 1
Number of Former USTs Abandoned In Place:
Date of Removal/Abandonment: before 1998-unknown (1998 Phase 2 environmental study found no contaminates in the area of the former UST
Size of Former USTs: unknown
No Further Action Letter Issued:
Closure Documentation Provided:
Closure Documentation Available:
Contamination Discovered:
Volume of Contamination Disposed off-site:
Testing Performed At Excavations Limits:
Test Results Provided:

SUMPS, FLOOR DRAINS, AND OIL/WATER SEPARATORS

Are floor drains, sumps and/or oil/water separators located on-site?
If yes, please complete the following.

	Floor Drains	Sumps	Oil/water separators
Number	29		6
Location	See map		See map
Point of Discharge	To oil/water separators		To single point
Permit Status			
Sealed/Closed			
Bermed			

Sump Purpose (water removal vs. lower bay collector):_____

Sump Operation (automatic or manual):_____

Oil/water separators Maintenance Frequency and Method: inspected and cleaned as needed (minimum monthly inspection), with an annual thorough inspection for accumulated solids in the storm drain-see SWPPP

WASTE STREAMS

Used Oil

Is used oil stored in a UST or AST? AST_____

Disposition of used oil (i.e. recycled, burned, disposed of off-site)?____Exposed of off-site

Hauler/Recycler Firm: Emerald Recycling Services, Inc._____

Address: 7343 E Marginal Way S, Seattle, WA 98108_____

Quantity Generated (monthly): 500 gallons every 7-8 months_____

Used Filters

Disposal Method: Off-Site_____

Used Filter Processing (punctured, drained 48 hours, crushed, double-bagged...):drained and crushed

Storage Method: stored in sealed barrel until picked up by recycling service_____

Quantity Generated (monthly):approx.. 1 barrel per month_____

Hauler/Recycler Firm: Emerald Recycling Services, Inc._____

Address: 7343 E Marginal Way S, Seattle, WA 98108_____

Used Oily Rags

Disposal Method: (Recycled by.../Discarded by...) recycled by Emerald Recycling Services/Safety Kleen

Storage Method: stored in sealed barrel
(Indicate whether stored in covered metal containers as most fire code regulations require.)

Used Anti-Freeze

Disposal Method: (Recycled on-site by.../Recycled off-site by.../Mixed with used oil...) Recycled off-site by Emerald Recycling Services

Storage Method: stored in sealed barrel

Quantity Generated (monthly): 1 barrel every 6 months

Hauler/Recycler Firm: Emerald Recycling Services

Address: 7343 E Marginal Way S, Seattle, WA 98108

Solvents

Are chemical solvents used on-site? yes

If yes, please answer the following.

Is a parts washing station used on-site? Yes-3

How many gallons are stored in the parts washing station? Less than 7 gallons each

What is the brands name of the solvent?365 thinner-seaport

Is the solvent recycled? yes_How often?1 barrel every 6 months

Recycler Information:

Name: Emerald Recycling Services

Address: 7343 E Marginal Way S, Seattle, WA 98108_Phone Number:888-832-3008

SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) PLAN

Does the facility utilize a Spill Prevention Control And Countermeasure (SPCC) Plan? Yes

If yes, when was it last updated? 9/13/04

Stamped by Registered Engineer: Yes

Name of Engineer: Dennis F. Stefani

HISTORICAL

Describe knowledge of site history: It is our understanding in the late 1800's the site was a golf course. It transitioned into a dairy/pea farm. The Buse Family purchased the site in 1947 and started a small sawmill at this time. In 1965 the larger mill was built (the same mill used today). The Buse Employees purchased the site from the Buse Family in 2004.

REQUIRED DOCUMENTS

Terracon will require one photo copy of each of the following applicable documents to be available in advance of our facility inspection or available on-site at the time of the facility inspection: Terracon reserves the right to obtain additional documents on-site as may be required during the facility inspection. A minimum of two months documentation of item 5 below may be deemed acceptable, if record of the previous six months cannot be produced.

1. Underground Storage Tank Permit(s)
2. UST Annual Tank Tightness Testing Results
3. Oil/water separator permit(s)
4. Waste water discharge Permit(s)
5. Hazardous Waste, Used Oil, Used filters, and Oil Rags Manifest(s) or Load Tickets for the previous six months
6. Material Safety Data Sheets (MSDS)
7. Any federal, state, or local Regulatory Agency Notices of Violation
8. Spill Prevention Control and Countermeasures (SPCC) Plan
9. Any previously conducted environmental investigation reports of the facility
10. Lead government agency "No Further Action" letters regarding former on-site USTs

9114c

September 15, 1989

DEL BUSE
BUSE TIMBER & SALES
3812 - 28th PLACE NE
~~MARYSVILLE WA 98270~~
Everett

CITY OF
everett
2811 OAKES • 259-8751
EVERETT, WASHINGTON
98201
FIRE DEPARTMENT

Dear Mr. Buse:

The Everett Fire Department recently made its annual fire prevention inspection of the mill and associated properties. We found the operation to be clean and well maintained. Only two minor violations were found in the mill operations.

However, the same inspection revealed the existence of some rather serious violations in the fuel storage and dispensing operations.

The Uniform Fire Code, 1988 Edition, as adopted by the State of Washington and enforced by the City of Everett, sets forth the conditions under which Class I and Class II liquids may be stored and dispensed.

Article 4 of the Uniform Fire Code requires that a fire department permit be obtained for:

1. The removal of underground storage tanks.
2. The installation of new storage tanks whether they be underground or aboveground.
3. The dispensing of Class I or Class II liquids.

Before a permit may be issued by the Fire Prevention Bureau, it may be necessary that:

1. An Application for Permit be completed and submitted to the Fire Prevention Bureau.
2. Plans be submitted to the Fire Prevention Bureau for review and approval.
3. An inspection of the premises be conducted to ascertain the suitability for the intended use.

Article 79 sets forth specific requirements for the installation of fuel storage tanks and the dispensing equipment. Regulations are spelled out for the dispensing process itself.

The present fueling operations do not comply in a number of different areas. Violations include, but may not be limited to, the following:

1. Failure to obtain permits for the removal of the old underground storage tanks.
2. Failure to obtain permits for the installation of the existing tanks and related dispensing equipment.
3. Section 79.902(e) prohibits the dispensing of Class I or Class II liquids in the fuel tank of a motor vehicle from an aboveground tank (this may be the most difficult problem to solve).
4. Failure to provide protection from vehicular damage (Sec. 79.903 (c) 3).
5. Failure to provide a clearly labeled pump master switch (Sec. 79.903 (e) 1).
6. Failure to provide an emergency pump shutoff (Sec. 79.903 (e) 2).
7. Fire extinguisher is placed too close to tank.
8. Improper separation of the LPG (propane) tank from the flammable liquid tanks.

As a note of information only, you should be aware that the installation of fuel storage tanks also requires a SEPA review and compliance with the Shoreline Management Regulations, both of which are administered by the City of Everett Planning Department.

We would suggest that you contact the Fire Prevention Bureau to discuss the problems outlined above. Otherwise, we shall expect to hear from you within 30 days as to your intention in this matter.

If we may be of any assistance, please call 259-8726.

Thank you for your attention.

Sincerely,

Allan Vroman
Fire Inspector

Sam Preston
Fire Marshal

AV/SP:lw

C/El

cc: City of Everett Planning Department
City of Everett Building Department

Date 2-19-93

Application For

PUBLIC WORKS PERMIT

Print or Type Only

Public Works Permit # 93/142
Bldg. Dept. # 39882
Public Works Fee Total Fee $ ____
Less Appl. Fee Paid $ ____
Balance Due $ 40-

Owner	Mailing Address	City	Zip	Phone
Buse Timber Sales	PoBox 5226	Everett	Wa 98206	252-5119/258-2577

Applicant	Mailing Address	City	Zip	Phone

Describe Proposed Work: Install Above ground fuel tank & dispensers

Project Address (if known): 3812 - 28th Pl NE

Attach four (4) copies of plans for proposed work - Draw to scale and note the following as applicable:

- Property Lines
- Outline and dimensions of all existing and proposed structures on the lot
- Existing and proposed utilities
- Centerline of street
- Indicate North
- Show any proposed grading changes
- Show measurements

POST ON JOB SITE

DO NOT WRITE BELOW THIS LINE

PERMIT CONDITIONS

1. All calls for inspection shall be made 24 hrs. in advance - phone **259-8810**.
2. All work shall be performed in accordance with this permit and current City of Everett Design and Construction Standards and Specifications.
3. Call Location Underground Service 48 hrs. before you dig. **TOLL FREE NUMBER 1-800-424-5555.**

1. A 55 gallon drum full of absorbant material shall be kept in a location convenient to the fueling island and tanker transfer areas. The absorbant material shall be used in the clean-up of any spills of gasoline or oil. In addition, an empty 55 gallon drum shall also be kept on the site for disposal of used absorbant.
2. Instructions on responding to an accidental spill shall be made availiable to all employees and shall be posted in visible locations.
3. Signs must be posted noting the location of the pump shut-off switch(es).
4. Concrete-filled steel pipe posts (see City Standard No. 510) shall be constructed and located where necessary to prevent vehicles entering the fueling area from striking the pumps.
5. As per approved plan dated 4/22/93

Paul McKee — 4-22-93
Approved for Construction — Date

No INSP. Requested — 11-99
FINAL INSPECTION Approved as Constructed — Date

PUBLIC WORKS DEPARTMENT
3200 Cedar Street
Everett, WA 98201
Phone: 259-8810

ACKNOWLEDGEMENT OF CONDITIONS

The undersigned owner/applicant hereby agrees to hold and save harmless the City of Everett from any and all claims for damages, costs, expenses, or causes of action that may arise because of installation and maintenance of the improvement or other right-of-way use hereto applied for and further agrees to remove same upon notice from the City and to replace public property damaged thereby.

Signature of Applicant — 4/22/93 Date

WORK AUTHORIZED BY THIS PERMIT MUST BE STARTED WITHIN 180 DAYS OF DATE PERMIT IS ISSUED AND THEREAFTER IS TO BE DILIGENTLY PURSUED TO COMPLETION. THIS PERMIT MAY BE CANCELLED BY THE CITY UPON ANY STOPPAGE OF WORK ON THIS PROJECT OVER 90 DAYS DURATION.

WORKSHEET 1
SUMMARY SCORE SHEET

Note: This document currently has no provision for sediment route scoring.

Site Name/Location (City, County, Section/Township/Range):

BUSE TIMBER AND SALES
Everett, Snohomish County

Section 9 of T29N, R5E.

Site Description (Include management areas, compounds of concern, and quantities):

Buse Timber and Sales has operated a saw mill on Smith Island since 1946. They used Pentachlorophenol to treat the lumber until 1986, then changed to "PQ8". Sampling, done in 1986 by consultants for EPA, indicated Pentachlorophenol and Tetrachlorophenol in the soils and sediments at quantities above MTCA Cleanup levels. The site was again sampled at the same points in June 1992 and there was no evidence that either compound or their breakdown compounds were still on the site or in the slough. We did find Pyrene and Bis(2-ethylhexyl)phthalate, but both were below MTCA Cleanup levels.

Pyrene on site = estimated 1.6 ppm Cleanup level = 2,400 ppm
Bis(2-ethylhexyl)phthalate on site = estimated 3.9 ppm and 2.7 ppm
Cleanup level = 71.4 ppm.

Special Considerations (Include limitations in site file data or data which cannot be accommodated in the model, but which are important in evaluating the risk associated with the site, or any other factor(s) over-riding a decision of no further action for the site):

Manchester Laboratory indicated that there are high amounts of petroleum products in Union Slough as evidenced the June 1992 sampling. Further study of the slough is merited. There is no evidence that the petroleum came from Buse and there are several other businesses abutting the slough.

ROUTE SCORES: **NOT SCORED**

Surface Water/Human Health:	ND	Surface Water/Environ.:	ND
Air/Human Health:	ND	Air/Environmental:	ND
Ground Water/Human Health:	ND		

OVERALL RANK: **NFA**

Rev. 4/3/92

CONSTRUCTION PERMIT

CITY OF EVERETT PERMIT SERVICES

3200 CEDAR STREET EVERETT, WA 98201
(425) 257-8810
Inspection Line: (425) 257-8881

PERMIT NUMBER: D1106-001 | **DATE:** 06/03/2011

JOB ADDRESS: 3812 28TH PL NE

APN: 29050900200100 | LOCATION:

OWNER: BUSE TIMBER & SALES INC
EVERETT WA 98205-320
PHONE:

TENANT:
PHONE:

CONTR: AFFORDABLE ENVIRONMENTAL INC
PO BOX 40
MOUNTLAKE TERRAC WA 98043
PHONE: 425357987

DESCRIPTION OF WORK: DEMOLISH DUPLEX & POOL ENCLOSURE

LENDER:

USE ZONE:	HT LIMIT	NO. UNITS	PLANNING NO:	BUILDING (SF)
				0

FR SETBACK	RR SETBACK	SIDE SETBACK	SIDE SETBACK	GARAGE (SF)
				0

OCC GROUP:	OCC LOAD:	NO. STORIES:	BASEMENT:	REMODEL /TI (SF)
		0.00		

TYPE OF CONSTR:	USE OF BUILDING:	HEAT TYPE:	PLANS APPR BY:
	DUPLEX		

SPRINKLER REQ'D:	REASON:	PERMIT VALUATION:
		$ 0.00

FIRE ALARM REQ'D:	REASON:	PUBLIC WORKS PERMIT:

MECHANICAL EQUIPMENT

PLUMBING EQUIPMENT

REG
M.H.
PERMIT No. 1106001
1 BLDG.
1 S C
TL
CHECK
06-03-2011(FRI) 12:40
REG-1
031510
CT 1
$50.00
$4.50
$54.50
$54.50

FEES:

Demolition	$50.00
State Building Code Surcharge	$4.50

TOTAL FEE	$54.50
TOTAL FEES PAID	$0.00
TOTAL FEES DUE	$54.50

REMARKS:

City of Everett Local Sales Tax Code is 3105

Permits expire if work not commenced within 180 days or ceases more than 180 days.
The City of Everett is not responsible to review the applicability of plat covenants to this permit. Compliance with plat covenants is the sole responsibility of the applicant\owner.

PERMIT NO:
D1106-001
ADDRESS FILE COPY

APPLICATION FOR A PERMIT

July 20, 87
(Date)

To Chief of the Fire Prevention Bureau, Everett, Washington:

Application is hereby made by BUSE TIMBER AND SALES (Firm Name)

for a permit to operate the MILL OPERATIONS (Type of Business) in or on the

premises at 3812-28th Pl NE (Street or Avenue)

(Describe briefly what is to be done and state what hazardous materials are to be used)

18A STORE AND DISPENSE CLASS I LIQUIDS FROM UNDERGROUND TANK

27 STORE AND DISPENSE LPG

47 WELDING AND CUTTING OPERATIONS

Conditions, surroundings and arrangements to be in accordance with the Uniform Fire Code.

W. M. Buse
Name of Applicant

3812-28th Pl NE
Address of Applicant

Permit Number 87-136 Date Issued July 20 19 87

Complete plans and construction details must be filed on all major projects and when requested by the Chief of the Fire Prevention Bureau.

✓

FIRE DEPARTMENT

City of Everett, Washington

PERMIT

No. 87-136 July 20 87
(Date)

TO WHOM IT MAY CONCERN:

By virtue of the provisions of the Uniform Fire Code as adopted by the city of Everett,

BUSE TIMBER & SALES 3812-28th Pl NE
Firm Name Firm Address

conducting a OPERATE LUMBER MILL having made application
Business

in due form, and as the conditions, surroundings, and arrangements are, in my opinion, such that the intent of the Uniform Fire Code can be observed, authority is hereby given and this permit is granted for

18A Store and dispense class I liquids from underground tank

27 Store and dispense LPG

47 Welding and cutting operations

This PERMIT is issued and accepted on condition that all Regulations now adopted, or that may hereafter be adopted, shall be complied with.

This permit does not take the place of any License required by law and is not transferable. Any changes in the use or occupancy of premises shall require a new permit.

John E. Whitaker
Chief, Fire Prevention Bureau

TAPE PICTURE HERE

042905-3-006-3006   06/14/71   000000

HUSE H H

ROUTE 1 BOX 35
MARYSVILLE WA   98270

L/C [illegible] 3025   SCHOOL DISTRICT (2)

SEC 04 TWP 29 RGE 05
RT-14) GOVT LT 15 SUBJ ESE PUD 1
LESS CO RD LESS PIN PROP HWY NO 1 SND
RIV TO MAR

CB reg'd 11/7/83

BUILDING PERMITS

DATE	NUMBER	AMOUNT

CONSTRUCTION DATA

DATE FINISHED	1955
DATE	
PER CENT UNFINISHED	
DATE REMODELED	
DATE MOVED	

VALUATION

ACRES OR LOT NUMBER	LAND	BLDG	INITIAL	DATE
	52350	19360	CB	11/7/83

SALES DATA

SALE	DATE	INSTRUMENT	RECEIPT NUMBER
—	4-9-86	QCD	435349w

38?? - 28th ?? NE
????? 98270
64

DWELLING

DATE	CONDITION	EFFECTIVE AGE	PER CENT DEPRECIATION

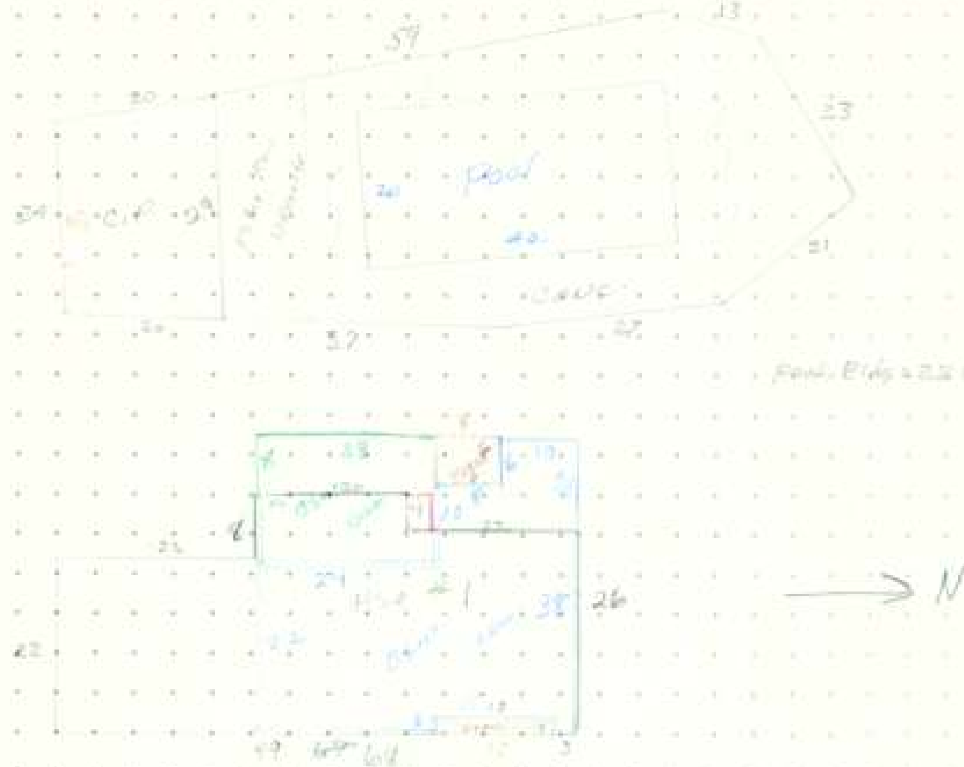
HIGHEST AND BEST USE VALUE

IMPROVED		UNIMPROVED		TIMBER		TOTAL ACRES	TOTAL AV
ACRES	VALUE	ACRES	VALUE	ACRES	VALUE		

OTHER CONSTRUCTION

TYPE	DATE BUILT	CONST.	FLOOR	ROOF	DIMENSION	S.F. AREA	CONDITION	FACTOR	VALUE	% DEP.	NET VALUE
Cabin	60	Dble	wood	T.P	16x22	352	AV	3.68	1295	40	775
AVG GAR Swimming Bldg	59	Single	Conc	T.P	Skeleton	2387	AV	4.49	10,717	30	7500
Ind. Pool	59	Conc	[illegible]	Plaster	20x40	800	AV	4000 x 1.5	6000 +112 = 6000	.45	3300
Boat HSE	68	Single	[illegible]	T.P.	See Sketch	1300		3.91	5083	.10	4575
(Good Equip Shed + Floor)											

CB   TOTAL 16150



RF = 1642 ☐

Bsmt = 1124 ☐

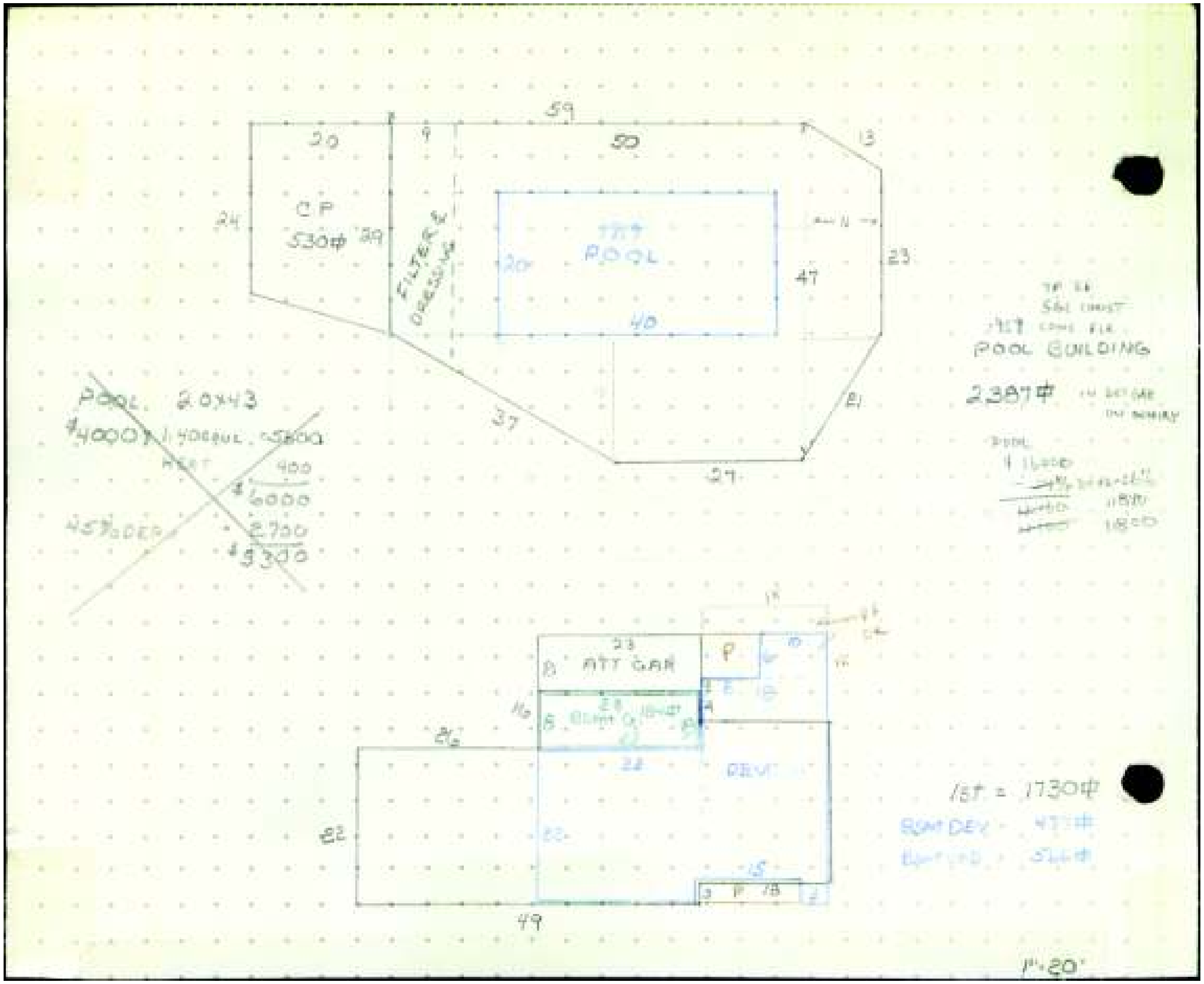
Bsmt. Garg = 184 ☐

Storage = 50 ☐

C.P. = 480 ☐

APPRAISAL DATA

DEPUTY	MONTH DAY YEAR	REMARKS
[illegible]	[illegible]	[illegible]
[illegible]	5 16 74	[illegible] — DELETE [illegible] FOR 75
SKL	6 3 74	REMEASURE & REVALUE FOR 76 TAX
JQ	[illegible]	[illegible]
[illegible]	[illegible] 29 81	APPR
[illegible]	[illegible]	[illegible]
[illegible]	2 27 [illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	APPR
[illegible]	[illegible]	APPR



CP
530#
FILTER & DRESSING
POOL
POOL BUILDING
2387#
POOL 20x43
ATT GAR
BSMT DEV
1st = 1730#
1"=20'

042905-3-006-0006 **11/11/83** 5831682

BUSE D H

3815 28TH PLACE N E
MARYSVILLE WA 98270

L/C ~~3029~~ [illegible] SCHOOL DISTRICT 2

SEC 04 TWP 29 RGE 05
ALL TH PTN GOVT LOT 15
LY W OF SR 5 EXC CO RD SUBJ ESE PUD

3944-010-064-0005
3944-[illegible]-011-0007
[illegible]3004-1-011-0003
083104-4-005-0005
052905-4-003-0001
093905-1-004-0003
[illegible]
092905-2-003-0006
092905-2-005-0001
042905-3-006-0006
042905-4-006-0006
042905-3-001-0008
052905-4-010-0007
3944-013-003-0003
3944-013-031-0003
203104-2-002-0009
173104-1-006-0002

SALES PRICE	DATE	INST	I %	W.O.P.	GRANTOR/SELLER	GRANTEE / PURCHASER
5,300	9-11-98	Easement	478599	[illegible]	D + N Buse	TCI Cablevision

A/C # 042905-3-006-0006

#1 1-30-73

C. P. – Swimming Pool / Hse. 1-30-73

TAPE PICTURE HERE

092905-2-015-0002 01/25/86 S860094

BUILDING PERMITS		
DATE	NUMBER	AMOUNT

NEW ACCOUNT Burr, Delmar &
Burr, Norman

L/C 0013 SCHOOL DISTRICT 2

CONSTRUCTION DATA	
DATE FINISHED	
DATE	
PER CENT UNFINISHED	
DATE REMODELED	
DATE MOVED	

SEC 09 TWP 29 RGE 05
TH PTN NE1/4 NW1/4 & OF
GOVT LOT 4 & ADJ TOLDS LY SLY & WLY
OF C/L OF JOHNSON SLOUGH ELY OF C/L
UNION CUTOFF SLOUGH AS SD SLOUGHS ARE
LOC BY SURV REC VOL 8 SURVS PG 146-147
AF NO 7810230267 & N OF LN DRAWN PLT
N LN SD SEC & DIST S AT R/A TO N LN
1184.84FT EXC THRER SQFT STRIP TO SNO
CO FOR DIKE R/W GCO AF NO 511130

VALUATION				
ACRES OR LOT NUMBER	LAND	BLDG	INITIAL	DATE

SALES DATA			
SALE	DATE	INSTRUMENT	RECEPT. NUMBER

DWELLING			
DATE	CONDITION	EFFECTIVE AGE	PER CENT DEPRECIATION

HIGHEST AND BEST USE VALUE							
IMPROVED		UNIMPROVED		TIMBER		TOTAL ACRES	TOTAL AV
ACRES	VALUE	ACRES	VALUE	ACRES	VALUE		

OTHER CONSTRUCTION											
TYPE	DATE BUILT	CONST	FLOOR	ROOF	DIMENSION	S.F. AREA	CONDITION	FACTOR	VALUE	% DEP	NET VALUE

APPRAISAL DATA

Tax ID 04290530060006 Printed 06/06/2018 Card No. 1 of 16

BUSE TIMBER & SALES INC
3812 28TH PL NE
EVERETT, WA 98201

Section 04 Township 29 Range 05
Quarter SW - COMB'D FOR TAX PURPOSES ONLY -
ALL TH PTN GOVT LOT 15 SD SEC 04 LY W OF SR 5 EXC CO RD SUBJ ESE PUD & TGW FDP

Neighborhood Number
5210000

Neighborhood Name
Snohomish River sloughs

TAXING DISTRICT INFORMATION

Jurisdiction Name	Snohomish
Area	001
Corporation	002
Section & Plat	0
Routing Number	2905043

Site Description

Topography
Low

Public Utilities
Water, Electric

Street or Road
Paved

Neighborhood

Zoning:

Legal Acres:
53.5424

Transfer of Ownership

Owner	Consideration	Transfer Date	Deed Book/Page	Deed Type
BUSE TIMBER & SALES INC	25000	06/12/2009	131425	X
BUSE GEORGIA M AHSE & BUSE NORMAN M	3797640	03/11/2004	381285	X
D.H. & NORMAN BUSE	5300	09/11/1998	478599	X

Valuation Record

Assessment Year		2012	2013	2014	2015	2016	2017	2018
Reason for Change		Reval	Reval	Reval	Reval	Reval	Reval	Reval
0	L	1310800	1310800	1310800	1310800	1364400	1405700	1474500
	I	2978400	3032900	3172000	3162600	3228200	3263800	3359300
	T	4289200	4343700	4482800	4473400	4592600	4669500	4833800
0	L	0	0	0	0	0	0	0
	I	2978400	3032900	3172000	3162600	3228200	3263800	3359300
	T	2978400	3032900	3172000	3162600	3228200	3263800	3359300

Land Size

Land Type	Rating, Soil ID - or - Actual Frontage	Acreage - or - Effective Frontage	Square Feet - or - Effective Depth	Influence Factor
71 Industrial Zoning		24.5000		
71 Industrial Zoning		8.4000		
71 Industrial Zoning		20.6400		

Tax ID 04290530060006 Printed 06/06/2018

Physical Characteristics

ROOFING

WALLS

	B	1	2	U
Frame		Yes	Yes	
Guard	Yes	Yes	Yes	Yes

FRAMING

	B	1	2	U
Wd Jst	0	2694	1629	0

FINISH

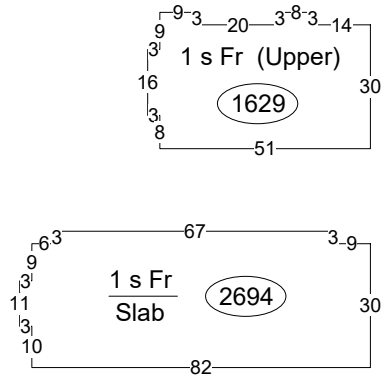
	UF	SF	FO	FD
1	0	0	0	2694
2	0	0	0	1629
Total	0	0	0	4323

HEATING AND AIR CONDITIONING

	B	1	2	U
Heat	0	2694	1629	0
A/C	0	2694	1629	0

01 02 03

BUSE TIMBER CO OFFICE



Special Features

Description

Summary of Improvements

ID	USE	Story Height	Const Type	Grade	Year Cons	Eff Year	Cond	Size or Area
C	GENOFF	0.00		Avg	1980	1980	AV	4323
01	TANK1	0.00		Avg	1972	1972	AV	0
02	PIPTANK	0.00		Avg	1972	1972	AV	0
03	PAVING	0.00	85	Avg	1956	1970	F	175000

Transfer of Ownership

Valuation Record								
Assessment Year								
Reason for Change								
0 LIT 0 LIT								

Land Size				
Land Type	Rating, Soil ID - or - Actual Frontage	Acreage - or - Effective Frontage	Square Feet - or - Effective Depth	Influence Factor

Tax ID 04290530060006 Printed 06/06/2018

Physical Characteristics

ROOFING

Built-up

WALLS

	B	1	2	U
Frame		Yes		
Guard	Yes	Yes	Yes	Yes

FRAMING

	B	1	2	U
Wd Jst	0	3840	0	0

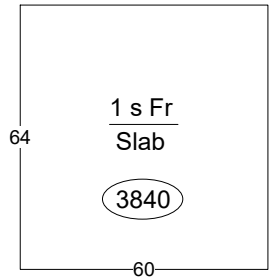
FINISH

	UF	SF	FO	FD
1	3840	0	0	0
Total	3840	0	0	0

HEATING AND AIR CONDITIONING

	B	1	2	U

LIGHT UTIL. STORAGE



Special Features

Description

Summary of Improvements

ID	USE	Story Height	Const Type	Grade	Year Cons	Eff Year	Cond	Size or Area
C	LUTLSTOR	0.00		Low	1980	1980	AV	3840

Transfer of Ownership

Valuation Record								
Assessment Year								
Reason for Change								
0 LIT 0 LIT								

Land Size				
Land Type	Rating, Soil ID - or - Actual Frontage	Acreage - or - Effective Frontage	Square Feet - or - Effective Depth	Influence Factor

Tax ID 04290530060006 Printed 06/06/2018

Physical Characteristics

ROOFING

Built-up

WALLS

	B	1	2	U
Frame		Yes		
Guard	Yes	Yes	Yes	Yes

FRAMING

	B	1	2	U
F Res	0	7360	0	0

FINISH

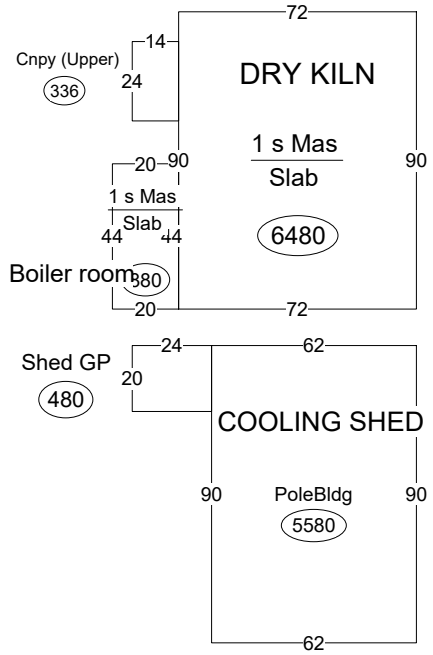
	UF	SF	FO	FD
1	7360	0	0	0
Total	7360	0	0	0

HEATING AND AIR CONDITIONING

	B	1	2	U
Heat	0	7360	0	0

03

DRY KILN AND SHEDS



Special Features

Description
01 : *STRSHED

Summary of Improvements

ID	USE	Story Height	Const Type	Grade	Year Cons	Eff Year	Cond	Size or Area
C	MILLMHG	0.00		Low	1966	1966	AV	7360
01	POLEBLDG	0.00		Fair	1966	1966	AV	62x 90
02	SHEDGP	0.00	1	Avg	1970	1970	AV	20x 24
03	PAVING	0.00	85	Avg	1956	1970	F	400000

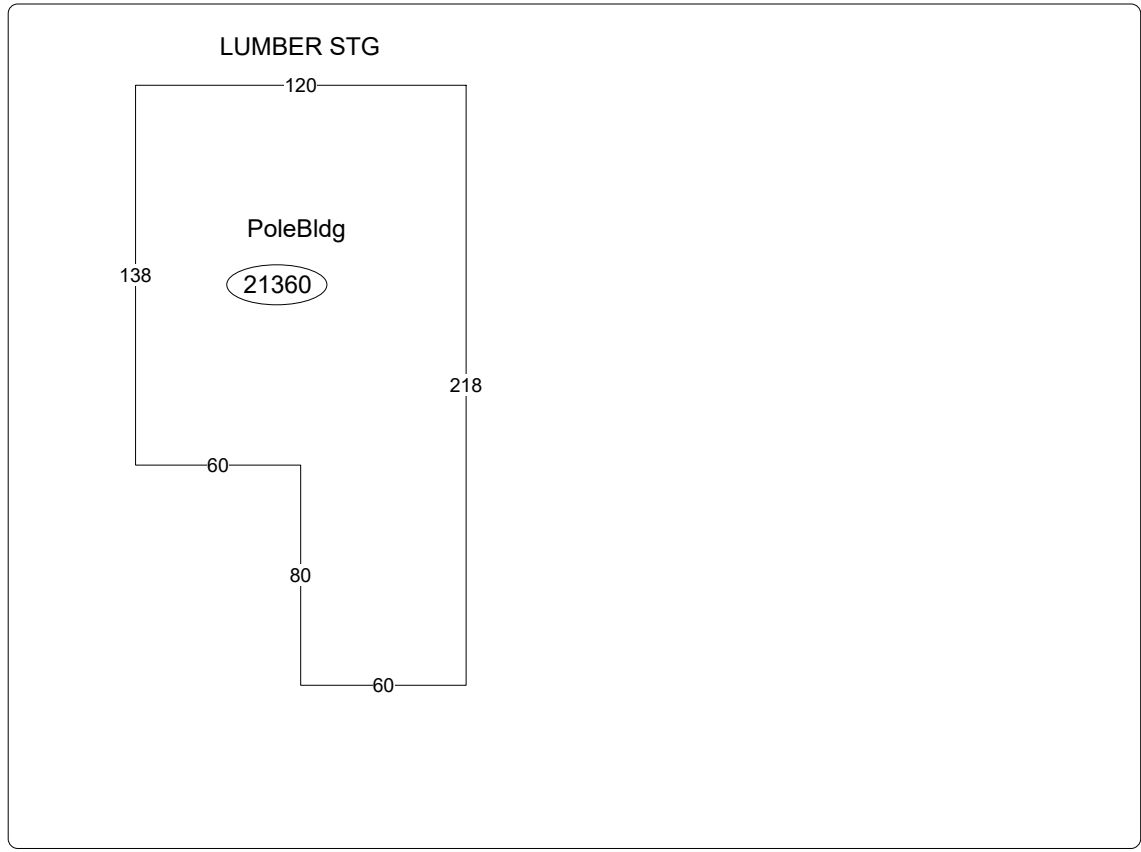
Transfer of Ownership

Valuation Record								
Assessment Year								
Reason for Change								
0 LIT 0 LIT								

Land Size				
Land Type	Rating, Soil ID - or - Actual Frontage	Acreage - or - Effective Frontage	Square Feet - or - Effective Depth	Influence Factor

Tax ID 04290530060006 Printed 06/06/2018

Physical Characteristics



Special Features

Description
01 : *STRSHED

Summary of Improvements

ID	USE	Story Height	Const Type	Grade	Year Cons	Eff Year	Cond	Size or Area
01	POLEBLDG	0.00		Avg	1963	1963	AV	120x138

Transfer of Ownership

Valuation Record								
Assessment Year								
Reason for Change								
0 LIT 0 LIT								

Land Size				
Land Type	Rating, Soil ID - or - Actual Frontage	Acreage - or - Effective Frontage	Square Feet - or - Effective Depth	Influence Factor

Tax ID 04290530060006 Printed 06/06/2018

Physical Characteristics

ROOFING

Built-up

WALLS

	B	1	2	U
Frame		Yes		
Guard	Yes	Yes	Yes	Yes

FRAMING

	B	1	2	U
Wd Jst	0	15034	0	0

FINISH

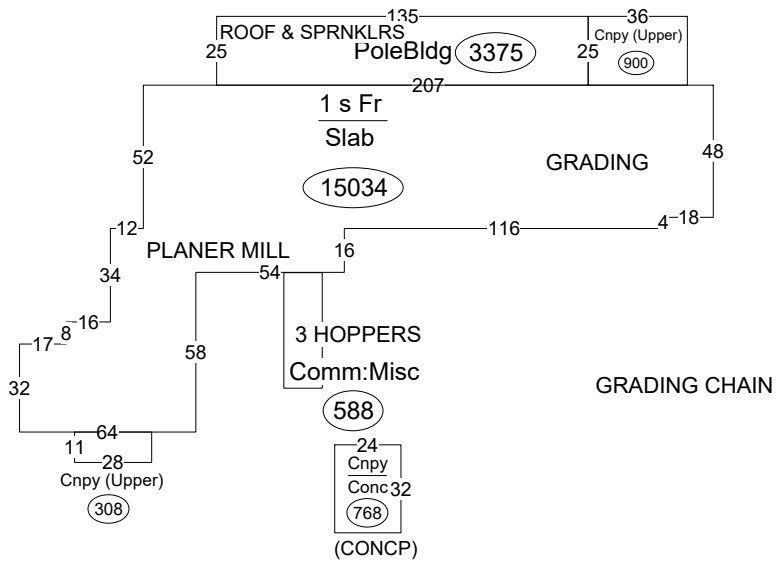
	UF	SF	FO	FD
1	15034	0	0	0
Total	15034	0	0	0

HEATING AND AIR CONDITIONING

	B	1	2	U
Sprink	0	15034	0	0

04

PLANER BLD/HOPPERS/SPRNKLRS



Special Features

Description

Summary of Improvements

ID	USE	Story Height	Const Type	Grade	Year Cons	Eff Year	Cond	Size or Area
C	MILLMHG	0.00		Avg	1965	1965	AV	15034
02	HOPPERS	0.00		Avg	1965	1965	AV	0
03	POLEBLDG	0.00		Low	1965	1965	AV	25x135
04	SPRNKLER	0.00			1965	1965	AV	0
05	CONCP	0.00		Good	2003	2003	AV	0

Transfer of Ownership

Valuation Record								
Assessment Year								
Reason for Change								
0 LIT 0 LIT								

Land Size				
Land Type	Rating, Soil ID - or - Actual Frontage	Acreage - or - Effective Frontage	Square Feet - or - Effective Depth	Influence Factor

Tax ID 04290530060006 Printed 06/06/2018

Physical Characteristics

ROOFING

Built-up

WALLS

	B	1	2	U
Frame		Yes	Yes	
Guard	Yes	Yes	Yes	Yes

FRAMING

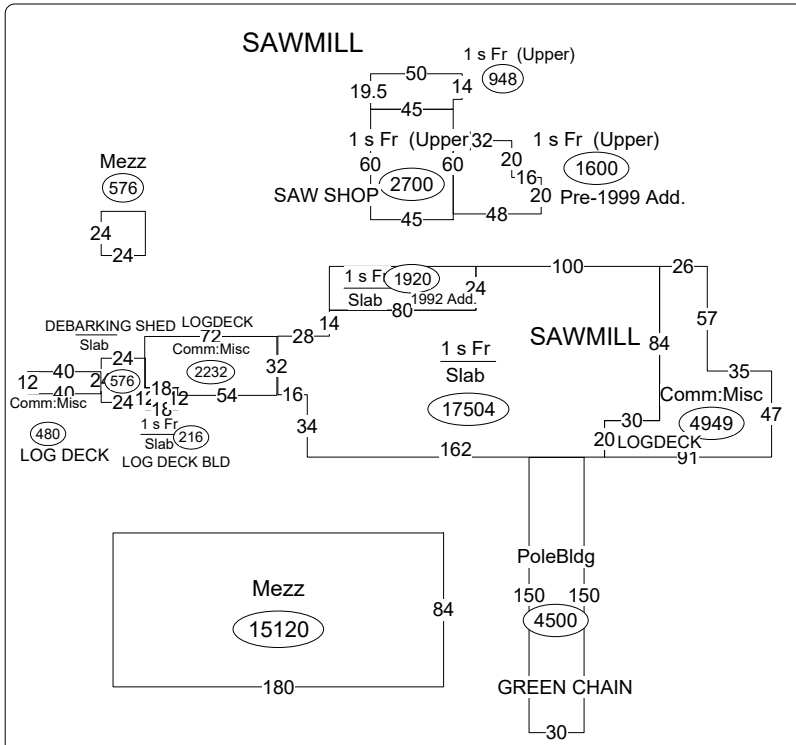
	B	1	2	U
Wd Jst	0	20216	5248	15696

FINISH

	UF	SF	FO	FD
1	20216	0	0	0
2	5248	0	0	0
U	15696	0	0	0
Total	41160	0	0	0

HEATING AND AIR CONDITIONING

	B	1	2	U
Heat	0	0	5248	0
Sprink	0	20216	5248	0



Special Features

Description

01 : *UTLCOMM

Summary of Improvements

ID	USE	Story Height	Const Type	Grade	Year Cons	Eff Year	Cond	Size or Area
C	MILLMHG	0.00		Avg	1961	1961	AV	25464
01	POLEBLDG	0.00		Low	1961	1961	F	30x150
02	LOGDECK	0.00		Avg	1961	1961	AV	0
03	LOGDECK	0.00		Avg	1961	1961	AV	0
04	MEZZ	1.00		Fair	1961	1961	AV	84x180
05	LOGDECK	0.00		Avg	1990	1990	AV	0
06	MEZZ	1.00		Fair	1961	1961	AV	24x 24

Transfer of Ownership

Valuation Record								
Assessment Year								
Reason for Change								
0 LIT 0 LIT								

Land Size				
Land Type	Rating, Soil ID - or - Actual Frontage	Acreage - or - Effective Frontage	Square Feet - or - Effective Depth	Influence Factor

Tax ID 04290530060006 Printed 06/06/2018

Physical Characteristics

ROOFING

Built-up

WALLS

	B	1	2	U
Frame		Yes		
Guard	Yes	Yes	Yes	Yes

FRAMING

	B	1	2	U
Wd Jst	0	5300	0	0

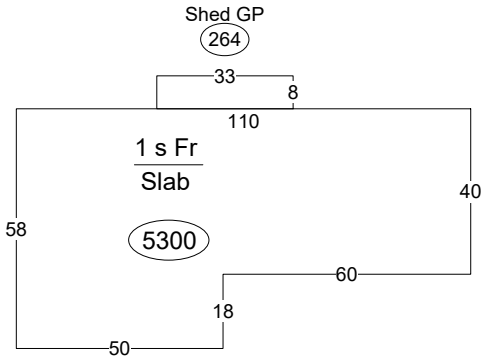
FINISH

	UF	SF	FO	FD
1	5300	0	0	0
Total	5300	0	0	0

HEATING AND AIR CONDITIONING

	B	1	2	U
Heat	0	5300	0	0
Sprink	0	5300	0	0

MACHINE SHD/ TRUCK REPR



Special Features

Description

Summary of Improvements

ID	USE	Story Height	Const Type	Grade	Year Cons	Eff Year	Cond	Size or Area
C	COMGAR	0.00		Avg	1962	1962	F	5300
01	SHEDGP	0.00	1	Avg	1980	1980	AV	8x 33

Transfer of Ownership

Assessment Year								
Reason for Change								
0	L I T							
0	L I T							

Valuation Record

Land Size

Land Type	Rating, Soil ID - or - Actual Frontage	Acreage - or - Effective Frontage	Square Feet - or - Effective Depth	Influence Factor

Tax ID 04290530060006 Printed 06/06/2018

Physical Characteristics

ROOFING

Built-up

WALLS

	B	1	2	U
Frame		Yes		
Guard	Yes	Yes	Yes	Yes

FRAMING

	B	1	2	U
Wd Jst	0	1320	0	0

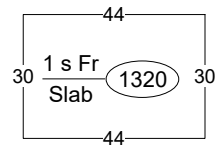
FINISH

	UF	SF	FO	FD
1	1320	0	0	0
Total	1320	0	0	0

HEATING AND AIR CONDITIONING

	B	1	2	U

STACKER SHED



Special Features

Description

Summary of Improvements

ID	USE	Story Height	Const Type	Grade	Year Cons	Eff Year	Cond	Size or Area
C	UTLSTOR	0.00		Fair	1972	1972	AV	1320

Transfer of Ownership

Valuation Record								
Assessment Year								
Reason for Change								
0 LIT 0 LIT								

Land Size				
Land Type	Rating, Soil ID - or - Actual Frontage	Acreage - or - Effective Frontage	Square Feet - or - Effective Depth	Influence Factor

Tax ID 04290530060006 Printed 06/06/2018

Physical Characteristics

ROOFING

Built-up

WALLS

	B	1	2	U
Frame		Yes		
Guard	Yes	Yes	Yes	Yes

FRAMING

	B	1	2	U
F Res	0	551	0	0

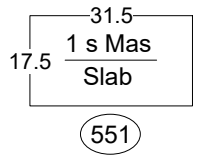
FINISH

	UF	SF	FO	FD
1	0	0	0	551
Total	0	0	0	551

HEATING AND AIR CONDITIONING

	B	1	2	U
Heat	0	551	0	0

LUNCHROOM/RESTROOMS



Special Features

Description

Summary of Improvements

ID	USE	Story Height	Const Type	Grade	Year Cons	Eff Year	Cond	Size or Area
C	DINING	0.00		Low	1980	1980	AV	551

Transfer of Ownership

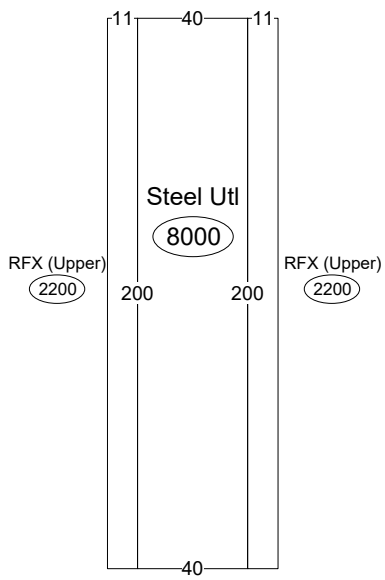
Valuation Record								
Assessment Year								
Reason for Change								
0 LIT 0 LIT								

Land Size				
Land Type	Rating, Soil ID - or - Actual Frontage	Acreage - or - Effective Frontage	Square Feet - or - Effective Depth	Influence Factor

Tax ID 04290530060006 Printed 06/06/2018

Physical Characteristics

DRY STORAGE



Special Features

Description
01 : *EQPCOMM

Summary of Improvements

ID	USE	Story Height	Const Type	Grade	Year Cons	Eff Year	Cond	Size or Area
01	STEELUTL	0.00	5PF	Low	1994	1994	AV	40x200

Transfer of Ownership

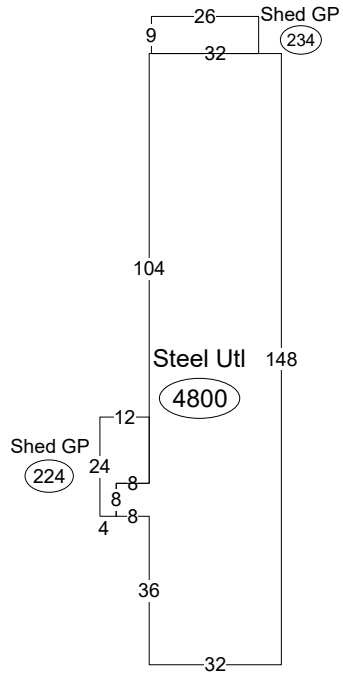
Valuation Record								
Assessment Year								
Reason for Change								
0 LIT 0 LIT								

Land Size				
Land Type	Rating, Soil ID - or - Actual Frontage	Acreage - or - Effective Frontage	Square Feet - or - Effective Depth	Influence Factor

Tax ID 04290530060006 Printed 06/06/2018

Physical Characteristics

LUMBER STORAGE



Special Features

Description
01 : *STRSHED

Summary of Improvements

ID	USE	Story Height	Const Type	Grade	Year Cons	Eff Year	Cond	Size or Area
01	STEELUTL	0.00	5PF	Low	1994	1994	AV	32x104
02	SHEDGP	0.00	1	Avg	2005	2005	G	4x 24
03	SHEDGP	0.00	1	Avg	2007	2007	G	9x 26

Transfer of Ownership

Valuation Record								
Assessment Year								
Reason for Change								
0 LIT 0 LIT								

Land Size

Land Type	Rating, Soil ID - or - Actual Frontage	Acreage - or - Effective Frontage	Square Feet - or - Effective Depth	Influence Factor

Tax ID 04290530060006 Printed 06/06/2018

Physical Characteristics

ROOFING

Shingle

WALLS

	B	1	2	U
Frame		Yes		
Guard	Yes	Yes	Yes	Yes

FRAMING

	B	1	2	U
Wd Jst	0	796	0	0

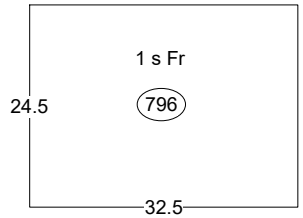
FINISH

	UF	SF	FO	FD
1	0	0	796	0
Total	0	0	796	0

HEATING AND AIR CONDITIONING

	B	1	2	U
Heat	0	796	0	0

LUNCH/MEETING ROOM



Special Features

Description

Summary of Improvements

ID	USE	Story Height	Const Type	Grade	Year Cons	Eff Year	Cond	Size or Area
C	GENOFF	0.00		Fair	2000	2000	G	796

Transfer of Ownership

Valuation Record								
Assessment Year								
Reason for Change								
0 LIT 0 LIT								

Land Size				
Land Type	Rating, Soil ID - or - Actual Frontage	Acreage - or - Effective Frontage	Square Feet - or - Effective Depth	Influence Factor

Tax ID 04290530060006 Printed 06/06/2018

Physical Characteristics

ROOFING

Metal

WALLS

	B	1	2	U
Frame		Yes		
Guard	Yes	Yes	Yes	Yes

FRAMING

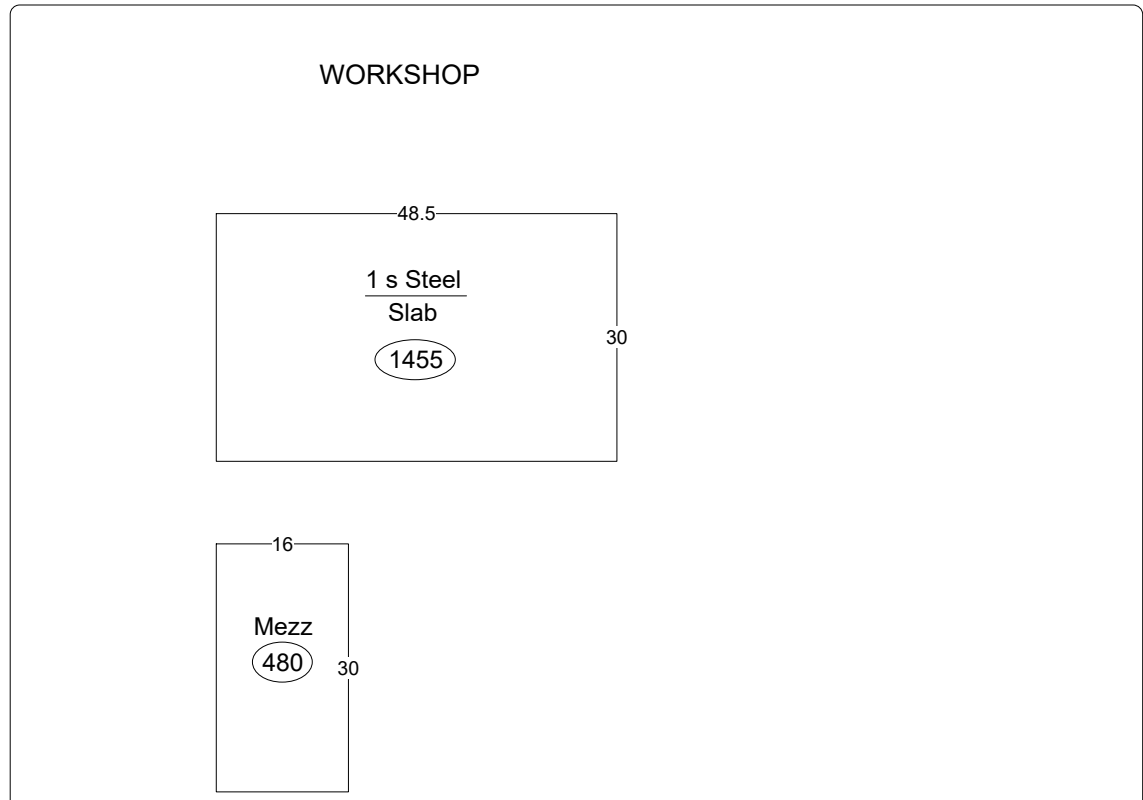
	B	1	2	U
F Res	0	1455	0	480

FINISH

	UF	SF	FO	FD
1	975	0	480	0
U	0	0	480	0
Total	975	0	960	0

HEATING AND AIR CONDITIONING

	B	1	2	U
Heat	0	480	0	480



Special Features

Description

Summary of Improvements

ID	USE	Story Height	Const Type	Grade	Year Cons	Eff Year	Cond	Size or Area
C	SMSHOP	0.00		Fair	1995	1995	F	1455
01	MEZZ	1.00		Avg	1995	1995	F	16x 30

Transfer of Ownership

Valuation Record								
Assessment Year								
Reason for Change								
0 LIT 0 LIT								

Land Size				
Land Type	Rating, Soil ID - or - Actual Frontage	Acreage - or - Effective Frontage	Square Feet - or - Effective Depth	Influence Factor

Tax ID 04290530060006 Printed 06/06/2018

Physical Characteristics

ROOFING

Metal

WALLS

	B	1	2	U
Frame		Yes		
Guard	Yes	Yes	Yes	Yes

FRAMING

	B	1	2	U
Wd Jst	0	550	0	0

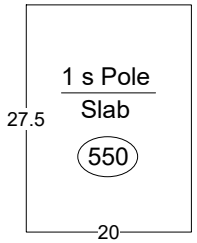
FINISH

	UF	SF	FO	FD
1	550	0	0	0
Total	550	0	0	0

HEATING AND AIR CONDITIONING

	B	1	2	U

STORAGE SHED



Special Features

Description

Summary of Improvements

ID	USE	Story Height	Const Type	Grade	Year Cons	Eff Year	Cond	Size or Area
C	LUTLSTOR	0.00		Low	1995	1995	AV	550

Transfer of Ownership

Assessment Year								
Reason for Change								
0 LIT 0 LIT								

Valuation Record

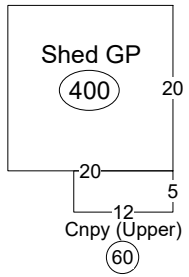
Land Size

Land Type	Rating, Soil ID - or - Actual Frontage	Acreage - or - Effective Frontage	Square Feet - or - Effective Depth	Influence Factor

Tax ID 04290530060006 Printed 06/06/2018

Physical Characteristics

OIL COMPOSITION ROOM



Special Features

Description
01 : E

Summary of Improvements

ID	USE	Story Height	Const Type	Grade	Year Cons	Eff Year	Cond	Size or Area
01	SHEDGP	0.00	1	Avg	1995	1995	AV	20x 20

BUSE TIMBER & SALES INC
3812 28TH PL NE
EVERETT, WA 98201

SEC 09 TWP 29 RGE 05TH PTN NE1/4 NW1/4 & OF GOVT LOT 4 & ADJ TDLDS LY SLY & WLY OF C/L OF JOHNSON SLOUGH ELY OF C/L UNION CUTOFF SLOUGH AS SD SLOUGHS ARE LOC BY SURV REC VOL 8 SURVS PG 146-147AF NO

Neighborhood Number
5210000

Neighborhood Name
Snohomish River sloughs

TAXING DISTRICT INFORMATION

Jurisdiction Name	Snohomish
Area	001
Corporation	002
Section & Plat	0
Routing Number	2905092

Site Description
Topography
Low
Public Utilities
Water, Electric
Street or Road
Paved
Neighborhood

Zoning:
Legal Acres:
6.9400

Tax ID 09290520150002 Printed 06/06/2018 Card No. 1 of 1

Transfer of Ownership

Owner	Consideration	Transfer Date	Deed Book/Page	Deed Type
BUSE GEORGIA M AHSE & BUSE NORMA3812	3797640	03/11/2004	381285	X
	5000	12/01/1985	16511	W

Valuation Record

Assessment Year		2012	2013	2014	2015	2016	2017	2018	
Reason for Change		Reval	Reval	Reval	Reval	Reval	Reval	Reval	
0	L	58100	58100	58100	58100	60400	62200	65200	
	I	0	0	0	0	0	0	0	
	T	58100	58100	58100	58100	60400	62200	65200	
0	L	0	0	0	0	0	0	0	
	I	0	0	0	0	0	0	0	
	T	0	0	0	0	0	0	0	

Land Size

Land Type	Rating, Soil ID - or - Actual Frontage	Acreage - or - Effective Frontage	Square Feet - or - Effective Depth	Influence Factor
71 Industrial Zoning		3.9400		
71 Industrial Zoning		3.0000		

ERTS # 653218

Initial Report

External Reference # NRC #1101782

Caller Information

First	Last
Name WILL	MILLER

Busines Name BUSE TIMBER AND SALES
Street Address 3812 28TH PL NE
Other Address
City EVERETT State WA Zip 98201
E-mail Confidential_FL ☐

Phone	Ext	Type
(425) 239-5067		Business

Where did it happen

Berth Anchorage
Location Name BUSE AND TIMBER SALES
Street Address 3812 28TH PL NE
Other Address
City/Place EVERETT State WA Zip 98201
County - Region SNOHOMISH NWRO FS ID
WIRA #
Waterway UNION SLOUGH Type OTHER
Latitude Longitude
Topo Quad 1:24:000 EVERETT
Direction/Landmark (mile post, cross roads, township/range)

What happened

Spills Program Oil Spill? Y

Incident Date 11/22/2014 Received Date 11/22/2014 11:08
Medium Fresh water
Material Diesel Oil

Sheen Only	Quantity	To Water
☐		

Source Other - Vessel
Type Vessel Primary ☑
Cause
Incident Type Structural Failure/Damage
Activity Static or performing designed function
Impact WATER POLLUTION
Vessel Name
Hull Number

Primary Potentially Responsible Party Information

First	Last
Name	

Business Name **BUSE TIMBER AND SALES**
Street Address 3812 V28TH PL NE
Other Address
City EVERETT State WA Zip 98201
Phone Ext Type
E-mail

Additional Contact Information

Name	Phone	Ext	Type

More Information

REPORT RECEIVED VIA NRC # 1101782:

CALLER STATED THAT A BOOM BOAT SUNK IN UNION SLOUGH CAUSING A DISCHARGE OF DIESEL FUEL.

NRC REPORT AVAILABLE ABLE:
X:\NWRO ERTS\ERTS Online Forms\2014\NRC_REPORTS

Entry Person SACAYANAN, TAMARA Entry Date 12/1/2014

*** The Initial report contains only information provided to Ecology from the complainant.

ERTS # **653218**

Referral

Referral # 188291

Referral Method

- ◯ E-mail ERTS number
- ◯ E-mail attachment
- ◯ Print
- ◉ Telephone

Person Referred to	Rose AHR, John
Primary	☐
Phone	(425) 649-7230
Fax	
E-mail	john461@ecy.wa.gov
Program/Organization	SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE
Address	3190 - 160th Ave SE
City	Bellevue WA 98008-5452
Region/Location	NWRO
Referral Date	11/23/2014

ERTS # 653218

Followup

Inspector Information

Referral # 188291
☑ Lead Inspector Rose AHR, John
Program/Organization SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE
* Region/Location NWRO
# of Ecology Staff 2 Overtime ☑

Action

Action	Start Date	End Date
TELEPHONE	11/22/2014	11/22/2014

What happened

Spills Program Oil Spill? Y

Incident Date 11/22/2014

[redacted]
Fresh water

[redacted]
Diesel Oil ☐ Sheen Only

Quantity	To Water	To Imperm	Recover	NRDA	Est
1	1	0	0		☐

[redacted] Regulated? ☐
Other - Vessel
Type Vessel Primary ☑

[redacted]
Type Unknown Primary ☐

Incident Type
Structural Failure/Damage

[redacted]
Static or performing designed function

Impact
WATER POLLUTION

Vessel

Where did it happen

Followup #1

Berth Anchorage
Location Name BUSE AND TIMBER SALES
Street Address 3812 V28TH PL NE
Other Address
City/Place EVERETT State WA Zip 98201-
County SNOHOMIS Region NWRO FS ID
Waterway UNION SLOUGH Type OTHER
WRIA #
Latitude 48.021979 Longitude 122.180092
Topo Quad 1:24,000 EVERETT
Direction/Landmark (mile post, cross roads, township/range)

Potentially Responsible Party Information

Check if the primary PRP provided notice to Ecology ☐

Primary ☑ First Last
Name
Business Name BUSE TIMBER AND SALES
Street Address 3812 V28TH PL NE
Other Address
City EVERETT State WA Zip 98201-
Phone Ext Type
E-mail

Narrative

USCG CONTACTED REPORTING PARTY. CAUSE OF SINKING UNKNOWN. PRP HAD BOAT TOWED TO SHORE. VESSEL IS NOW OUT OF THE WATER. PRP DEPLOYED SAUSAGE BOOM. VESSEL HAD A 30 GALLON TANK, ESTIMATE LESS THAN 1 GALLON SPILLED WHEN VESSEL WAS SWAMPED. RESIDUAL 40FT X 1FT `SHINY` SHEEN ADJACENT TO SHORE. PRODUCT UNRECOVERABLE. A. QUAST AND H. ZORZI NOTIFIED.

Vessel Emergency ☐

Entry Person: SACAYANAN, TAMARA Entry Date 12/1/2014

*** The Initial report contains only information provided to Ecology from the complainant.

United States
Environmental Protection
Agency

Region 10
1200 Sixth Avenue
Seattle WA 98101

Alaska
Idaho
Oregon
Washington

4350 150 Ave N.E
Redmond, WA
98052

EPA

RECEIVED
MAR 25 1991

RECEIVED
MAR 28 1991
DEPT. OF ECOLOGY

MARCH 25, 1991

Reply to
Attn of: SO-125

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Julian C. Dewell
Anderson Hunter Law Firm
P.O. Box 5397
Everett, Washington 98206

Re: In the Matter of Buse Timber & Sales, Inc.
Toxic Substances Control Act
Docket No. 1090-10-28-2615

Dear Mr. Dewell:

Enclosed is a conformed copy of the Consent Agreement and Consent Order For Payment of Civil Penalties (CACO) which the Regional Administrator signed on March 22, 1991. The original CACO is filed with the Regional Hearing Clerk.

As soon as we receive verification that the payment of $7,650 has been received by the bank in Pittsburgh we will close the case.

The Environmental Protection Agency thanks you for your cooperation in reaching a satisfactory resolution in this matter.

Sincerely,

Margaret B. Silver
Associate Regional Counsel

Enclosure

BEFORE THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

In the Matter of:	
BUSE TIMBER AND SALES, INC.	Docket No. 1090-10-28-2615
Respondent.	CONSENT AGREEMENT AND CONSENT ORDER FOR PAYMENT OF CIVIL PENALTIES

I. PRELIMINARY STATEMENT

1. The United States Environmental Protection Agency ("EPA") initiated this proceeding for the assessment of a civil penalty pursuant to Section 16(a) of the Toxic Substances Control Act ("TSCA"), 15 U.S.C. § 2615(a), by issuing a Complaint against Respondent, Buse Timber and Sales, Inc., on November 9, 1990.

2. The Complaint charged Respondent with fourteen violations of the Polychlorinated Biphenyl ("PCB") provisions of TSCA Section 15 (15 U.S.C. § 2614) and 40 C.F.R. Part 761, and sought the imposition of a penalty of TWELVE THOUSAND DOLLARS ($12,000).

3. As a result of information exchanged during settlement negotiations, EPA and Respondent agreed to resolve

this matter by executing this Consent Agreement and Consent Order.

II. CONSENT AGREEMENT

4. Respondent admits the jurisdictional allegations contained in the Complaint.

5. Respondent neither admits nor denies the factual allegations, findings, or conclusions of law contained in the Complaint.

6. The parties agree that on June 13, 1990, an EPA inspection was performed at Respondent's facility located in Everett, Washington.

7. In conformance with EPA's PCB Penalty Policy, dated April 9, 1990, EPA and Respondent agree to mitigate the penalty proposed in the Complaint as follows:

a. Respondent has been cooperative and took prompt action to respond to the Complaint and settle this matter voluntarily. Accordingly, the proposed penalty is reduced by 15 percent, or ONE THOUSAND EIGHT HUNDRED DOLLARS ($1,800).

b. Respondent removed at least seven PCB Capacitors, incurring disposal costs of at least FIFTY-ONE HUNDRED DOLLARS ($5,100), and provided documentation that this equipment was disposed of in accordance with all applicable laws and regulations. On account of these expenditures, the proposed penalty attributable to the violations associated with the capacitors located in the

Planer Control Center is reduced by 50 percent, or TWO THOUSAND FIVE HUNDRED FIFTY DOLLARS ($2,250). (NOTE: No credit for disposal costs was given towards the proposed penalty attributable to the violations associated with the pole capacitors since use of capacitors in this manner is not authorized.)

8. Respondent waives its right to request an adjudicatory hearing on any issue addressed in this Consent Agreement and Consent Order.

9. Respondent agrees not to claim or attempt to claim a federal income tax deduction or credit covering all or any part of the civil penalty paid to the United States Treasurer.

10. Respondent and EPA agree to the issuance of the Consent Order below, and Respondent consents to the assessment of the civil penalty specified therein.

III. CONSENT ORDER

IT IS HEREBY ORDERED and ADJUDGED as follows:

11. For the reasons set forth above, Respondent is hereby assessed a penalty in the amount of SEVEN THOUSAND SIX HUNDRED FIFTY DOLLARS ($7,650).

12. Respondent shall pay the penalty amount in full no later than 30 days from the entry date of this Consent Order by mailing a certified check or money order, payable to the United States Treasurer, to:

U.S. Environmental Protection Agency, Region 10
(Region 10 Hearing Clerk)
P.O. Box 360903M
Pittsburgh, Pennsylvania 15251

A transmittal letter, giving Respondent's name, complete address, and this case docket number must accompany each payment. A copy of the check and of the transmittal letter shall be delivered or mailed to the Regional Hearing Clerk at the following address:

U.S. Environmental Protection Agency
Region 10 Hearing Clerk
1200 Sixth Avenue, SO-125
Seattle, Washington 98101

13. If Respondent fails to pay the stipulated penalty when due, any unpaid amount may be liquidated and made certain by motion and notice filed with the court to which this Consent Order is submitted for judgment and collection. Such motion and notice may be served on the Respondent or its current legal representative herein and shall be effective if so served. Pursuant to TSCA Section 16(a)(4), 15 U.S.C. § 2615(a)(4), the validity, amount, and appropriateness of the penalty is not subject to review in any judicial collection proceedings.

14. On any amount overdue under this Consent Agreement and Consent Order, interest shall accrue at the rate established by the Secretary of the Treasury pursuant to 31 U.S.C. § 3717. Interest will begin to accrue from the date the payment was due.

15. Each party shall bear its own costs, fees, and disbursements in this action.

16. This document is a "consent order" as that term is used in the PCB Penalty Policy, dated April 9, 1990, for the purposes of demonstrating a "history of prior such violations" as provided in Section 16 of TSCA, 5 U.S.C. § 2615.

DATED this 22 day of March, 1991.

Dana A. Rasmussen

DANA A. RASMUSSEN
Regional Administrator

Stipulated, Agreed, and
Approved for Entry,
Waiving Notice:

BUSE TIMBER AND SALES, INC.

Dated: _____

David R. Buse
(signature)

David R. Buse
(print or type name and title)

Gen. Mgr.

U.S. ENVIRONMENTAL PROTECTION
AGENCY

Dated: March 21, 1991

Deborah E. Hilsman for
MARGARET B. SILVER
Associate Regional Counsel

U.S. EPA REGION 10

NEW FAX NUMBER

AIR AND TOXICS
DIVISION

FAX: (206) 442-0110
FTS 399-0110

TO CONFIRM YOUR FAX, CALL THE PERSON YOUR FAX WAS SENT TO.

TO: Peter Moule
PHONE NUMBER: 867-7015
CITY, STATE / REGION: WDOE Redmond

FAX NUMBER: 867-7098

FROM: Eileen Hayes
PHONE NUMBER: 442-2584
CITY, STATE / REGION: EPA Region 10

TOTAL PAGES: 4

PLEASE CALL ME WHEN YOU RECEIVE A FAX

ADDITIONAL REGION 10 FAX NUMBERS:

FOR FAX INFORMATION CALL (206) 442-4141 FOR THE FAX OPERATOR. GENERAL FAX # (206) 442-4672

Regional Administrator Press Office Congressional Activities Office of Enforcement Office of Criminal Investigation	(206) 442-0149 FTS 399-0149	Management Division	(206) 442-4672 FTS 399-4672
		Office of Regional Counsel	(206) 442-0163 FTS 399-0163
Air and Toxics Division Pesticides Branch	(206) 442-0110 FTS 399-0110	Superfund Branch RCRA Branch Hazardous Waste Policy	(206) 442-0124 FTS 399-0124
Environmental Services	(206) 442-0119 FTS 399-0119	Water Division	(206) 442-0165 FTS 399-0165

U.S. EPA - REGION 10, 1200 - 6TH AVE., SEATTLE WA 98101

Reply To
Attn Of: AT-083

CERTIFIED MAIL

Delbert Buse, President
Buse Timber and Sales, Inc.
P.O. Box 5226
Everett, Washington 98206

Dear Mr. Buse:

This concerns the June 13, 1990 Environmental Protection Agency (EPA) inspection of Buse Timber and Sales, Inc. located at 3812 28th Place N.E., Everett, Washington, which was performed by Peter Maule of the Washington Department of Ecology pursuant to Sections 11 and 28 of the Toxic Substances Control Act (TSCA). This inspection was conducted to determine whether activities at the facility were in compliance with EPA Regulations governing polychlorinated biphenyls (PCBs), 40 C.F.R. Part 761.

A review of the results of the inspection has been completed. On the basis of this review, it appears that certain violations of EPA regulations occurred at the facility. They are as follows:

VIOLATIONS ONE THROUGH SEVEN

REQUIREMENT - ASSUMPTION: Under 40 C.F.R. § 761.60(b)(2), any capacitor, other than one known to be oil-filled, that cannot be shown to be PCB-free by examining label or nameplate information, is assumed to be a PCB Capacitor. See also 44 Fed. Reg. 31522 (May 31, 1979).

REGULATION - MARKING: 40 C.F.R. § 761.40 requires that all PCB Containers, PCB Transformers, Large PCB Capacitors, and PCB storage for disposal areas be marked in accordance with 40 C.F.R. § 761.45. A 6 inch by 6 inch PCB label is required, except when the equipment is too small to accommodate the standard 6 inch by 6 inch label. In such case, the label may be reduced in size proportionately to a minimum of 2 inches by 2 inches.

VIOLATIONS ONE THROUGH FOUR: The four PCB Capacitors located in the Planer Control Center were not marked with the required PCB label.

VIOLATIONS FIVE THROUGH SEVEN: The three imputed PCB Capacitors located in the facility's substation were not marked with the required PCB labels.

VIOLATIONS EIGHT THROUGH FOURTEEN

REGULATION - USE: 40 C.F.R. § 761.30(l)(1)(ii) requires that after October 1, 1988, the use of PCB Large High Voltage Capacitors and PCB Large Low Voltage Capacitors is prohibited unless the capacitor is used within a restricted-access electrical substation or in a contained and restricted-access indoor installation. A restricted-access electrical substation is an outdoor, fenced or walled-in facility that restricts public access and is used in the transmission or distribution of electric power. A contained and restricted-access indoor installation does not have public access and has an adequate roof, walls, and floor to contain any release of PCBs within the indoor location.

VIOLATIONS EIGHT THROUGH ELEVEN: The four PCB Capacitors that are the subject of Violations One through Four were not authorized for use in that the area where the capacitors were located did not meet the requirements of a restricted-access indoor installation - the wooden floor beneath the capacitors would not contain any release of PCBs.

VIOLATIONS TWELVE THROUGH FOURTEEN: The three imputed PCB Capacitors that are the subject of Violations Five through Seven were not authorized for use in that the area where the capacitors were in service did not meet the requirements of a restricted-access electrical substation: there was no fence or wall to restrict public access.

The Agency believes that these conditions constitute a potential threat to human health and the environment. For this reason, you should immediately take the following steps, if you have not already done so:

1. Insure that all areas containing in-service PCB Capacitors (known or imputed) meet the requirements of 40 C.F.R. § 761.30(l)(1)(ii).

2. Insure that all Large PCB Capacitors are marked with the required PCB label.

In addition, Mr. Maule's report indicates that your facility owns an untested pole-mounted transformer. You should also be aware that a transformer must be assumed to be a PCB Transformer (500 parts per million PCB or greater) if any one of the following conditions exists:

1. The nameplate indicates the transformer contains PCB dielectric fluid;

2. The owner or operator has reason to believe the transformer contains PCB dielectric fluid; or

3. The transformer has been tested and found to contain greater than 500 ppm PCBs. If a transformer does not have nameplate or if there is no information available to indicate the type of dielectric fluid

in it, the transformer must be assumed to be a PCB Transformer unless it is tested and found to contain less than 500 ppm PCB (emphasis added).

All assumed to be PCB Transformers must meet all of the regulatory requirements for PCB Transformers, including, but not limited to, inclusion on Annual Reports, quarterly inspections, disposal, marking, and response to spills and leaks. However, if the transformer is known to contain mineral oil, it must be assumed to be a PCB-Contaminated Transformer rather than a PCB Transformer.

You should be advised that TSCA authorizes penalties of up to $25,000 per day for each violation. Criminal penalties are authorized for knowing and wilful violations of the law. Correcting the conditions noted in this letter may prevent future violations. However, it will not provide protection from Agency enforcement action for those violations that have already occurred. Nothing in this letter should be construed to waive or limit any remedy available to EPA by virtue of conditions at your facility or the acts or omissions of your company. We are referring this case to EPA's Region 10 Office of Regional Counsel for possible enforcement action. In this regard, you will be receiving further correspondence from EPA.

Please understand that the aforementioned steps are being recommended to avoid risk to health and the environment. Your company bears the ultimate responsibility for taking all steps necessary to comply with the law. If you have any information or test results which bear on this inspection, you should advise us. If you have any questions regarding this letter, please contact Eileen Hayes of my staff. She can be reached at EPA Region 10, 1200 Sixth Avenue, AT-093, Seattle, Washington 98101, telephone (206) 442-2584.

Sincerely,

Gil Haselberger, Chief
Toxic Substances Section

cc: Bill Danson, EPA HQ, EN-342

bcc: Eileen Hayes, Author
Firm File (w/Certified Slip); FTTS Project
Peter Maule, Inspector
Julie Hagenson, Washington Operations Office Director
ORC (goes with Referral Memo)

PTSB:eh/eh/rc:4486k:09/19;10/10/90

Concurrences

Initial							
Name	HAYES	HEDGEBETH	MAULE				
Date	10/10/90						

United States
Environmental Protection
Agency

Region 10
1200 Sixth Avenue
Seattle WA 98101

Alaska
Idaho
Oregon
Washington

EPA

FILE COPY

Reply To
Attn Of: AT-083

OCT 19 1990

RECEIVED
OCT 23 1990
DEPT. OF ECOLOGY

CERTIFIED MAIL

Delbert Buse, President
Buse Timber and Sales, Inc.
P.O. Box 5226
Everett, Washington 98206

Dear Mr. Buse:

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Please understand that the aforementioned steps are being recommended to avoid risk to health and the environment. Your company bears the ultimate responsibility for taking all steps necessary to comply with the law. If you have any information or test results which bear on this inspection, you should advise us. If you have any questions regarding this letter, please contact Eileen Hayes of my staff. She can be reached at EPA Region 10, 1200 Sixth Avenue, AT-093, Seattle, Washington 98101, telephone (206) 442-2584.

Sincerely,

William M. Hedgebeth

for Gil Haselberger, Chief
Toxic Substances Section

cc: Bill Danson, EPA HQ, EN-342

TSCA INSPECTION REPORT
Buse Timber and Sales, Inc.
Everett, Washington
June 13, 1990

MAILING ADDRESS:

Mr. Delbert (Del) Buse, Pres.
Buse Timber and Sales, Inc.
P.O. Box 5226
Everett, WA 98206

SITE ADDRESS:

3812 - 28th Place NE
Everett, WA 98206

INVESTIGATOR:

Peter Maule, Washington Dept. of Ecology, NWRO (Ecology).

PREVIOUS TSCA ENFORCEMENT ACTIVITY/BACKGROUND:

This facility was targeted by Ecology from a list of primary power customers provided by Snohomish County PUD. That list named the facility as "Smith Street Lumber Mill", further investigation suggested that this facility was misnamed in that list. EPA-X reports that this facility has not received a prior TSCA inspection.

COMMENCEMENT/INTRODUCTION:

I entered the facility at about 1130 hrs, June 13, 1990. I showed my credentials to Mr. Dennis Buckner, Maintenance Supervisor. We arranged to meet after lunch. I returned at 1330 hrs, then he and I attended to the usual inspection forms. He did not want to sign the CBI form. I left it with him to have signed and to be mailed to me, as agreed.

FACILITY'S EXPLANATION:

Mr. Buckner has worked in maintenance for other forest product firms for many years and was involved with a transformer oil spill before working for Buse. He claimed he has since been sensitive to PCB issues. He has worked for Buse for three years. He and his head electrician, Brian Fakenridge, took it upon themselves to recently sample Buse's main transformers, and to have them analyzed for PCBs by Laucks Testing Laboratories, Inc. in Seattle. Coincidentally, those analyses had been received the week prior to my inspection. Six transformers owned by Buse had been sampled. Only two of these proved to have detectable PCBs; they are known as: "West 2 transformer", (G.E.), 3.0 ppm PCBs, and "West 3 transformer", (G.E.), 3.6 ppm PCBs, (see attachment and photos).

These six transformers are clustered on two adjacent raised platforms. Mr. Buckner said one of these six has a small leak from its lid gasket. When I asked about a smaller pole-mount transformer at the same location, he said it was not tested and its contents are unknown (see photos). He also did not know the contents of three new-looking capacitors mounted above these same six transformers. These transformers perhaps dated from the 1946 origin of Buse.

FACILITY'S EXPLANATION: (continued)

Elsewhere, Mr. Buckner later pointed out two other small pole-mount lighting transformers. He did not know if Buse owned these or what their content is.

Snohomish County PUD also has a substation at the facility which is leased by Buse. It has three transformers. Buse is responsible for maintenance of these transformers, but Mr. Buckner had no information regarding them. He said they have required no attention since he has been there (see photos).

Mr. Buckner said the facility was planning a mid-July shut down, in part for G.E. to retrofill and service Buse's transformers. He and the electrician had taken the preliminary samples to prepare for that shutdown.

He said the facility also had a number of other capacitors and two oil-filled "starter switches" (as he called them). Later I saw that one of these "starter switches" was a G.E. voltage regulator transformer (see photos).

Mr. Buckner indicated he enjoyed working for Buse because its management was better and more enlightened towards environmental concerns.

RECORD REVIEW:

No annual reports, quarterly inspections, or manifests were reviewed. It apparently is only very recently that Buse had any files on its transformers, when it received the June 9, 1990, lab analyses (see attachments).

INSPECTION TOUR:

While Mr. Buckner pondered the CBI form and made copies of the lab analyses for me, I took pictures of the PUD's substation three transformers and of Buse's substation (seven transformers and three capacitors). Both substations were a few yards from his office. I noted that the three westerly Buse transformers were old-looking 176 KVA (old looking) G.E. transformers. The three easterly ones were old-looking Allis-Chalmers transformers. The middle Allis-Chalmers transformer appeared to have a weep stain from its lid gasket (see photos).

Mr. Buckner then led me into the main sawmill to show me a free-standing component that he called "the capacitor at the Main Sawmill Distribution Panel". I suspect there may be a number of capacitors housed in this 2 x 2 x 4 foot high housing. Its boiler-plate had been covered with paint and was not readable (see photos).

We then went to see a similar component called "the capacitor at the Head Rig Band Mill Meter". This component's boiler-plate was partly covered with paint.

INSPECTION TOUR: (continued)

When Mr. Buckner, of his own initiative, scraped much of the paint off, the label was only legible enough to read: G.E...Schenectady, New York. I do not believe the word "Pyranol" was on the label (see photos).

We then went around a corner to see the "Chipper Starter", which Mr. Buckner had earlier analyzed for PCBs. He explained that a lower compartment, that appeared to snap onto the starter's base, is oil-filled (see photos).

We then went to the Planer Control Center in another building where another "starter" was shown to me. I photographed a G.E. boiler-plate which read "voltage regulator transformer". I also saw a bank of four old capacitors with paint splattered labels. While I photographed the "starter", Mr. Buckner found some steel wool and cleaned the capacitor labels. They turned out to be G.E. Pyranol Capacitors. They were not labelled with a ML label, nor was the entry to the room labelled, nor were the capacitors contained. Although old, they seemed in good working order without any leaks (see photos).

As I was about to leave, Mr. Buckner pointed out two distant small pole transformers on two poles (see photos). He did not know if Buse or the PUD owned them.

CLOSING REMARKS:

I told Mr. Buckner that EPA would want to know what the unknown contents were of the two floor-mount capacitors components and of the three pole-mount capacitors of the Buse owned substation, and of the three small pole-mount transformers. I failed to mention the labelling requirements on the known PCB (e.g. Pyranol) equipment. I advised him to notify the local fire department about facility PCB equipment. I thanked Mr. Buckner for his assistance and explained EPA-X's usual inspection follow up. I left the facility at about 1515 hrs.

FOLLOW UP:

I called Mr. Buckner on June 14, 1990, but was only able to leave a message for him to call me. On June 19, 1990, I again called him to remind him of the information needs and to send me the CBI form and to discuss possible labelling requirements. I advised him to contact EPA-X directly to get TSCA summaries and further advice.

On July 9, 1990, I called Snohomish County PUD and asked to provide PCB analyses and any related information about its substation at Buse. I called again on July 12, 1990, and learned that the responsible person was on vacation for most of the month. To complete my report, I opted to write a letter to the PUD (see attachments).

WRITTEN:

2315 hrs, June 13, 1990, Kirkland, Washington. Amended July 13, 1990.

Peter A. Maule
Regional TSCA Inspector

ATTACHMENTS:

Notice of Inspection
Inspection Confidentiality Notice
13 Photos
Copy of Laboratory Analysis

PM:sw

PHOTO NO.: 1

DATE: 6/13/90

TIME: 1300-1450 hrs

TAKEN BY:

Peter A. Maule

WITNESS:

D. Buckner

FILM: Kodacolor 400

CAMERA: Canon T-70

LOCATION:

Buse Timber

DESCRIPTION:

Four poles in foreground support seven Buse owned transformers and three capacitors. Three dark transformers at left center are G.E.; three lighter gray transformers at right center are Allis Chalmers, (see photo 2). Note: PUD substation enclosure in lower-right background, (see photo 3).

PHOTO NO.: 2

DATE: 6/13/90

TIME: 1300-1450 hrs

TAKEN BY:

Peter A. Maule

WITNESS:

D. Buckner

FILM: Kodacolor 400

CAMERA: Canon T-70

LOCATION:

Buse Timber

DESCRIPTION:

Rear-opposite view of Buse transformers. Also, note small pole-mount transformer at upper-right and three capacitors near center of photo.

PHOTO NO.: 3

DATE: 6/13/90

TIME: 1300-1450 hrs

TAKEN BY:

Peter A. Maule

WITNESS:

. Buckner

FILM: Kodacolor 400

CAMERA: Canon T-70

LOCATION:

use Timber

ESCRIPTION:

ooking into PUD substation, showing three transformers.

HOTO NO.: 4

ATE: 6/13/90

IME: 1300-1450 hrs

AKEN BY:

eter A. Maule

ITNESS:

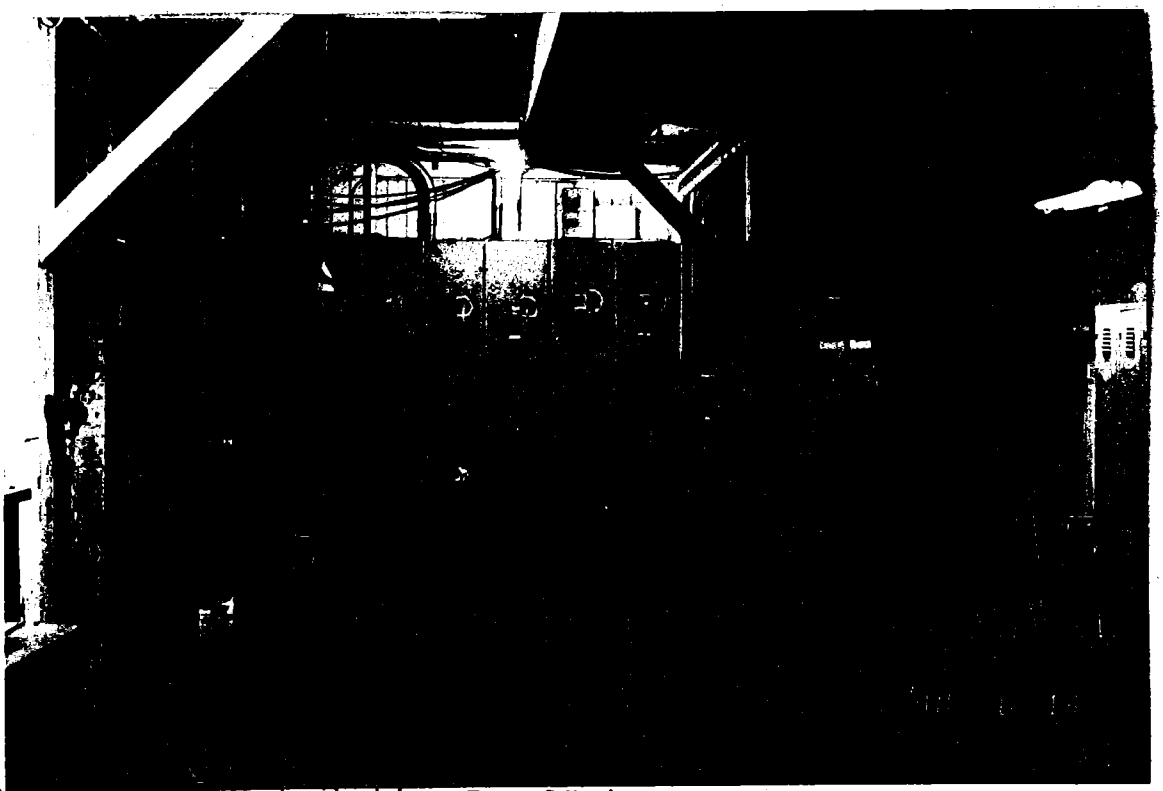
. Buckner

ILM: Kodacolor 400

AMERA: Canon T-70

OCATION:

ıse Timber



SCRIPTION:

apacitor at the Main Sawmill Distribution Panel" is blue component on
ort legs near center of photo (see photo 5).

PHOTO NO.: 5

DATE: 6/13/90

TIME: 1300-1450 hrs

TAKEN BY:

Peter A. Maule

WITNESS:

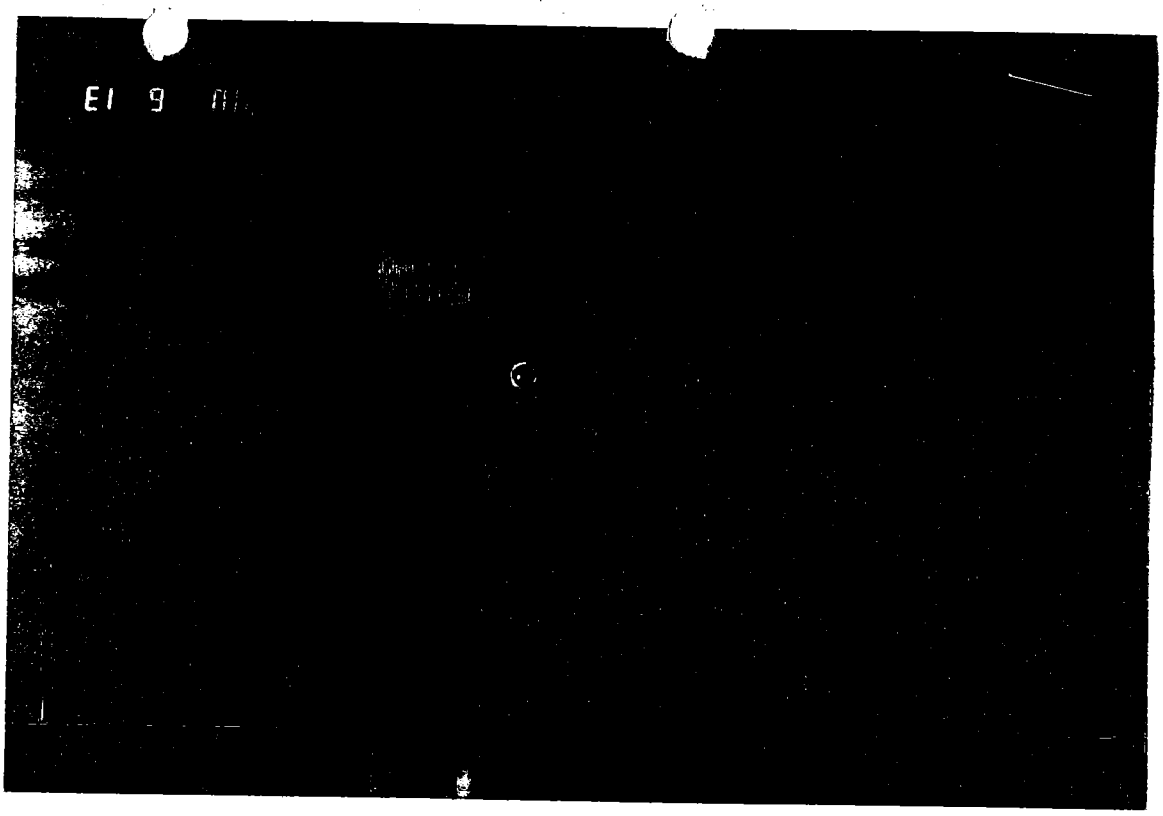
D. Buckner

FILM: Kodacolor 400

CAMERA: Canon T-70

LOCATION:

Buse Timber



DESCRIPTION:

Close-up of same capacitor, at Main Sawmill Distribution Panel. Note painted-over boiler-plate.

PHOTO NO.: 6

DATE: 6/13/90

TIME: 1300-1450 hrs

TAKEN BY:

Peter A. Maule

WITNESS:

. Buckner

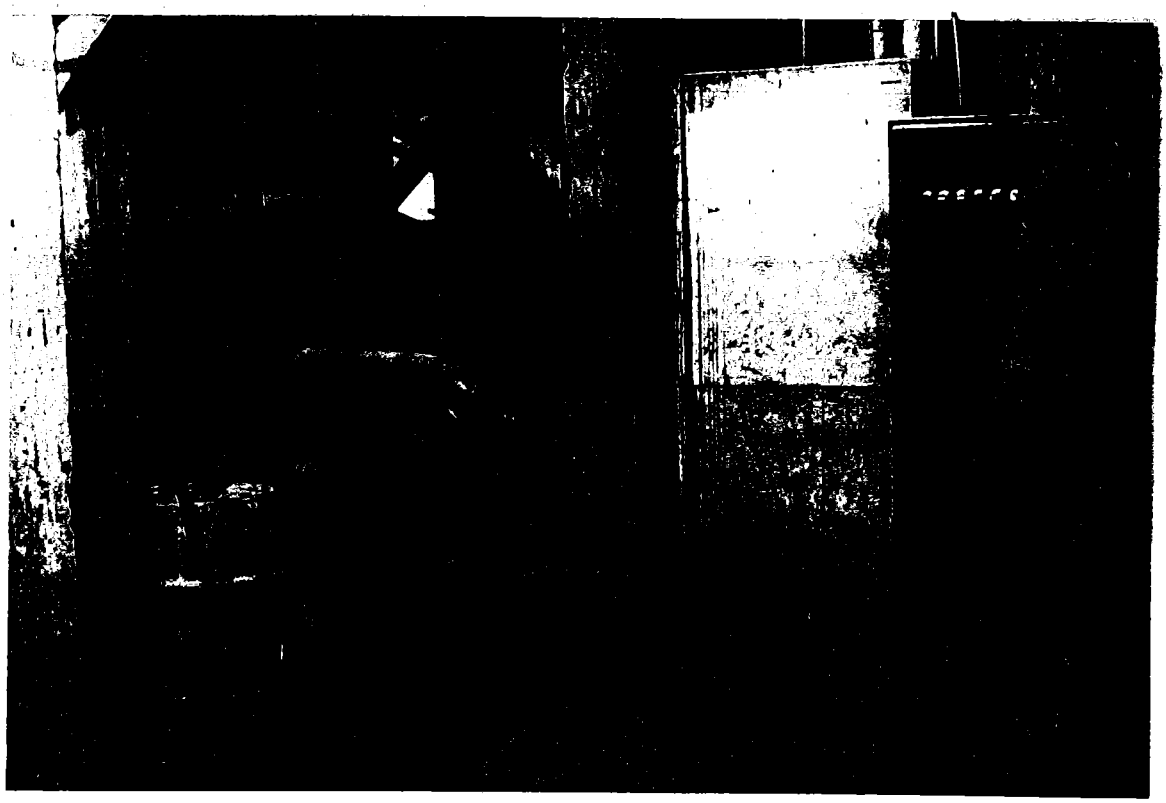
FILM: Kodacolor 400

CAMERA: Canon T-70

LOCATION:

use Timber

DESCRIPTION:



Capacitor at the Head Rig Band Mill Moter" is in background near center of hoto. Size and shape is perhaps identical to capacitor shown in Photos 4 nd 5 (see photo 7).

PHOTO NO.: 7

DATE: 6/13/90

TIME: 1300-1450 hrs

TAKEN BY:

Peter A. Maule

WITNESS:

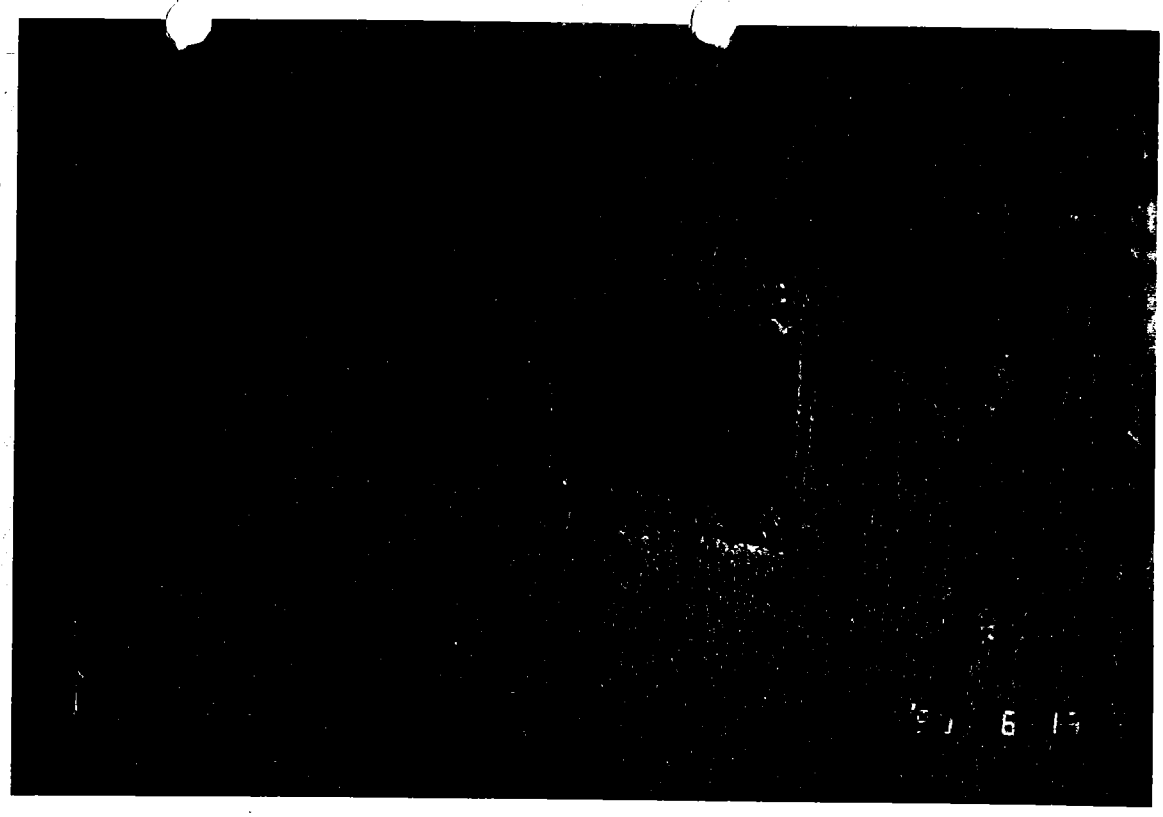
D. Buckner

FILM: Kodacolor 400

CAMERA: Canon T-70

LOCATION:

Buse Timber



DESCRIPTION:

Scraped name-plate of "capacitor at the Head Rig Band Mill Moter." See text.

PHOTO NO.: 8

DATE: 6/13/90

TIME: 1300-1450 hrs

TAKEN BY:

Peter A. Maule

WITNESS:

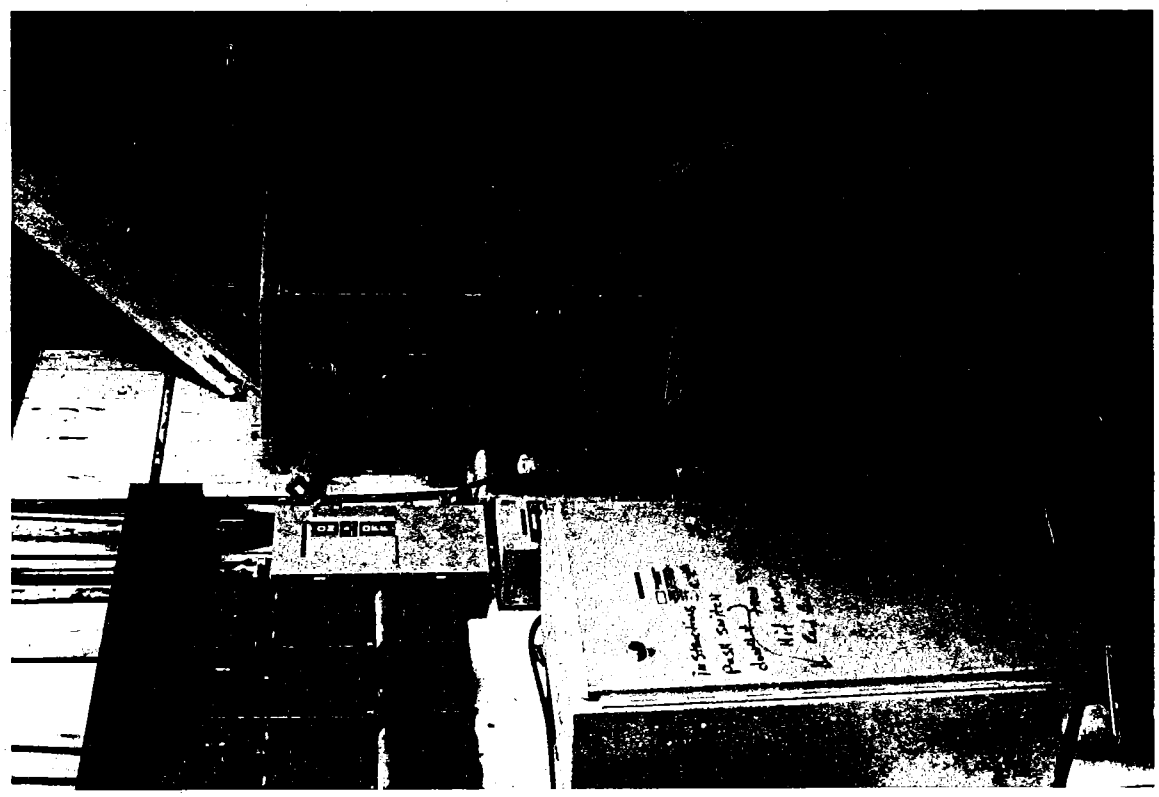
B. Buckner

FILM: Kodacolor 400

CAMERA: Canon T-70

LOCATION:

Buse Timber



DESCRIPTION:

Chipper Starter", right center. Reported oil bath compartment appears to snap onto bottom of starter.

PHOTO NO.: 9

DATE: 6/13/90

TIME: 1300-1450 hrs

TAKEN BY:

Peter A. Maule

WITNESS:

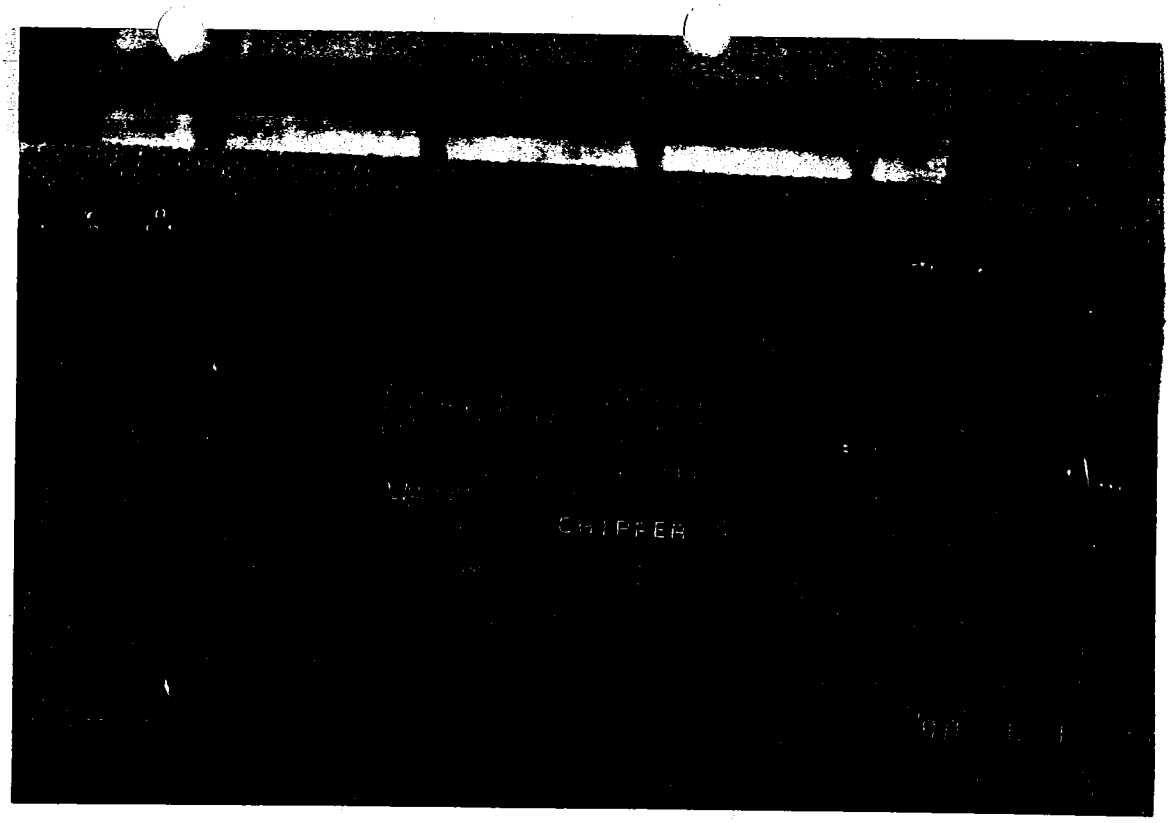
D. Buckner

FILM: Kodacolor 400

CAMERA: Canon T-70

LOCATION:

Buse Timber



DESCRIPTION:

Detail of "Chipper Starter".

PHOTO NO.: 10

DATE: 6/13/90

TIME: 1300-1450 hrs

TAKEN BY:

Peter A. Maule

WITNESS:

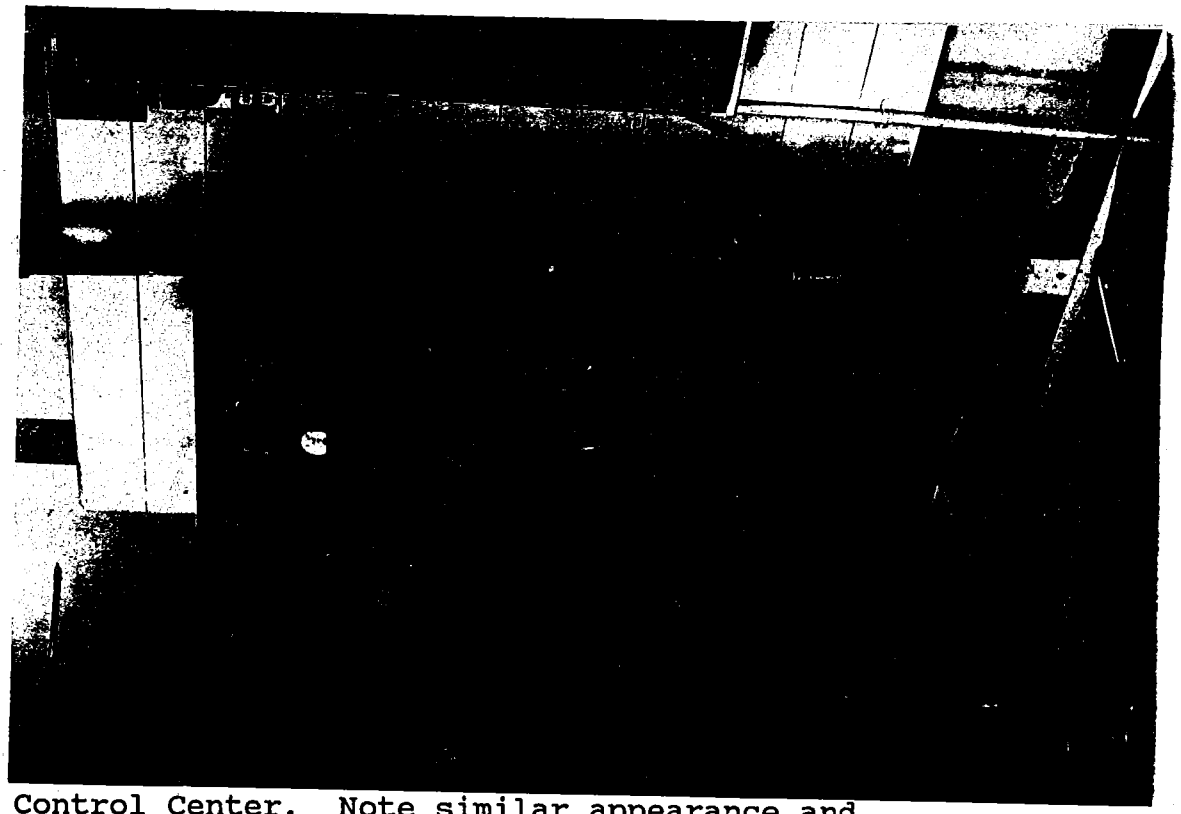
B. Buckner

FILM: Kodacolor 400

CAMERA: Canon T-70

LOCATION:

Buse Timber



DESCRIPTION:

Starter" at Planer Control Center. Note similar appearance and escription as "Chipper Starter" in Photo 8 (see photo 11).

PHOTO NO.: 11

DATE: 6/13/90

TIME: 1300-1450 hrs

TAKEN BY:

Peter A. Maulé

WITNESS:

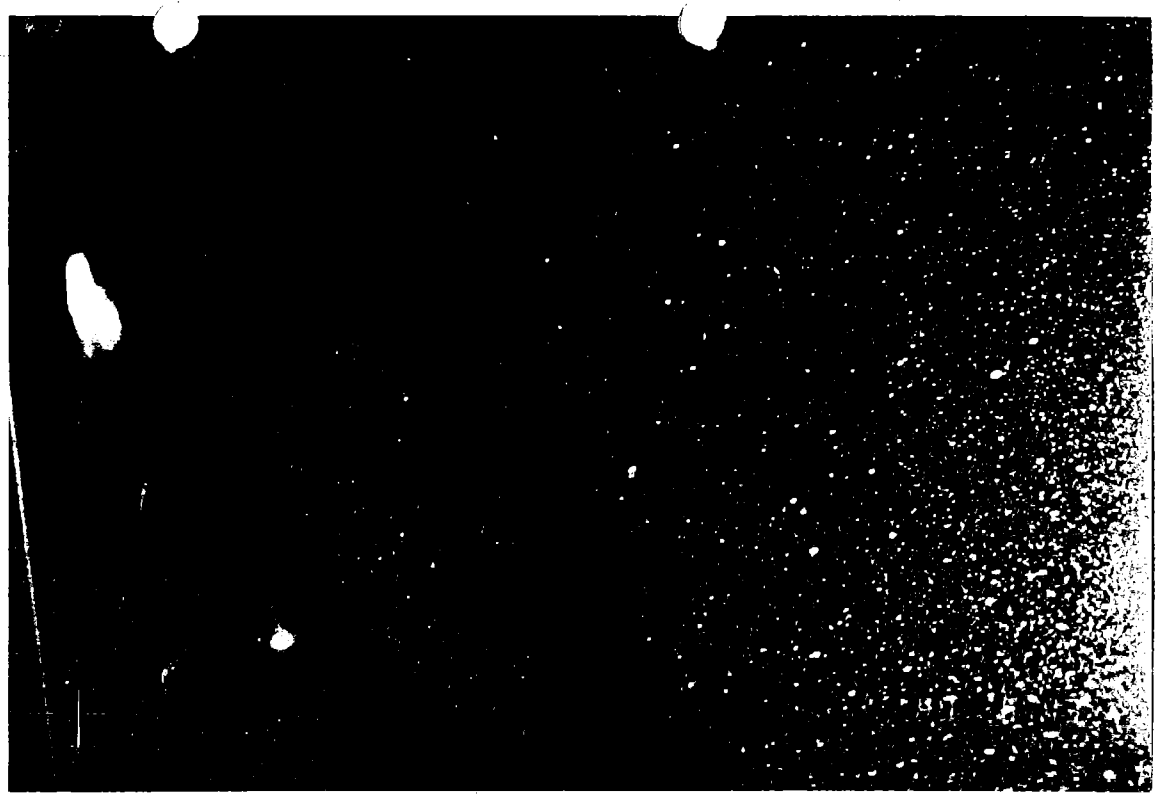
D. Buckner

FILM: Kodacolor 400

CAMERA: Canon T-70

LOCATION:

Buse Timber



DESCRIPTION:

Detail of "Planer Starter" name-plate. Legible words include: "...Starting Compensator...current(?) Transformer..."

PHOTO NO.: 12

DATE: 6/13/90

TIME: 1300-1450 hrs

TAKEN BY:

Peter A. Maule

WITNESS:

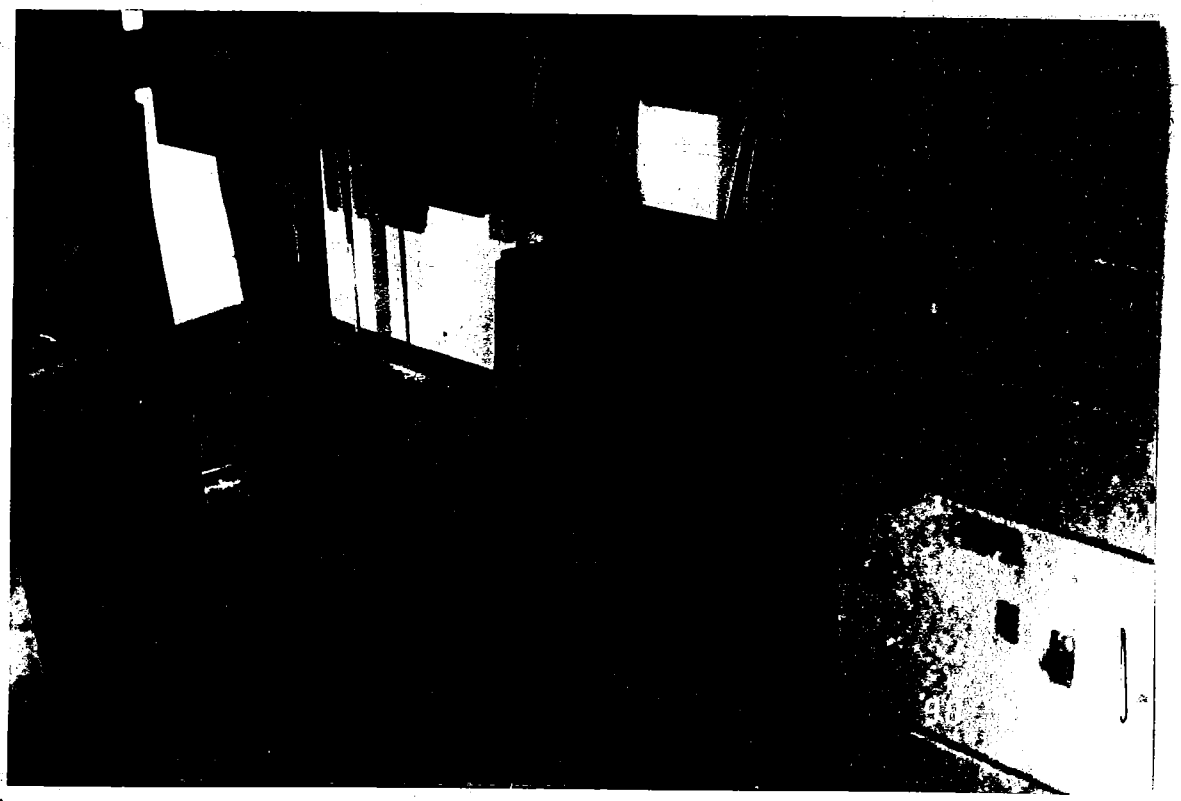
B. Buckner

FILM: Kodacolor 400

CAMERA: Canon T-70

LOCATION:

Buse Timber



DESCRIPTION:

Four Pyranol capacitors on wood floor at Planer Control Center. Mr. Buckner cleaned label on right-most capacitor, which revealed the word "Pyranol".

PHOTO NO.: 13

DATE: 6/13/90

TIME: 1300-1450 hrs

TAKEN BY:

Peter A. Maule

WITNESS:

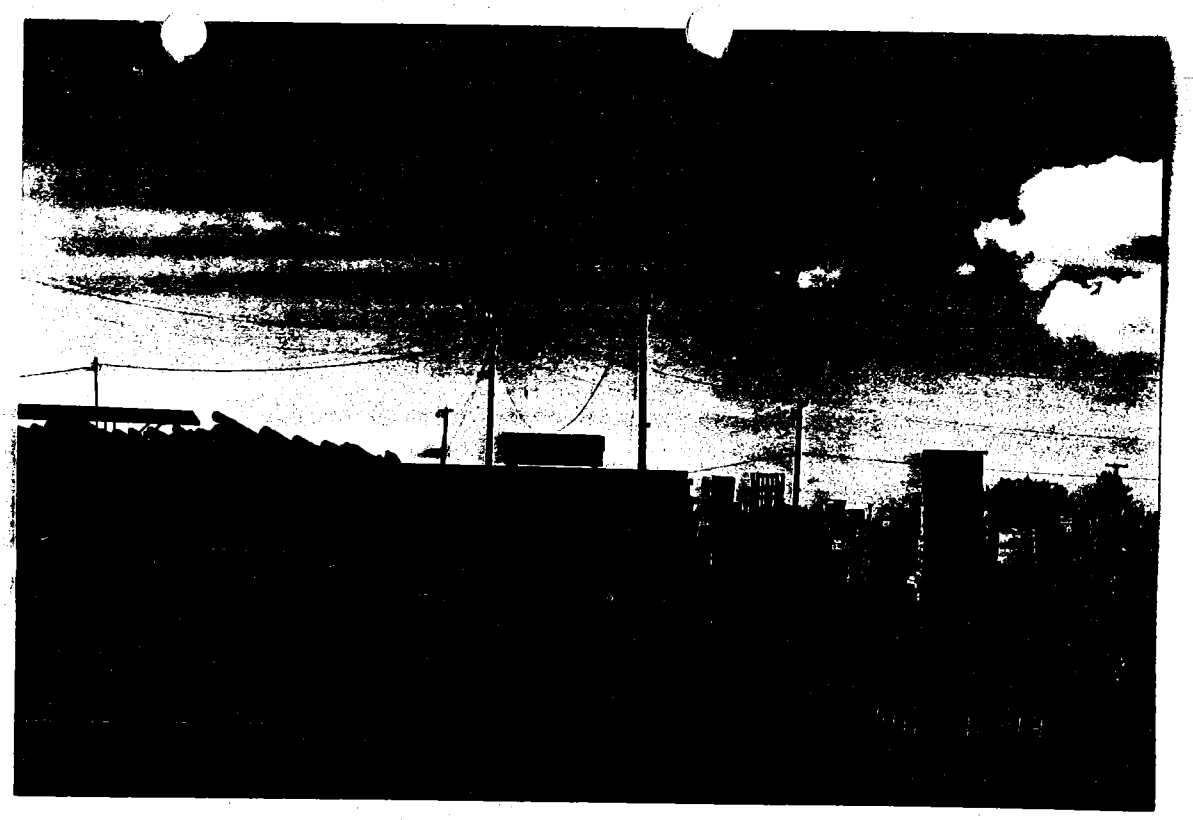
D. Buckner

FILM: Kodacolor 400

CAMERA: Canon T-70

LOCATION:

Buse Timber



DESCRIPTION:

View of lumber yard showing lighting power-poles. Small transformers were on two poles labelled here with the dots.

US ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DO 20460

EPA

TOXIC SUBSTANCES CONTROL ACT

NOTICE OF INSPECTION

Form Approved
OMB No. 2070-0007
Expires 3-31-88

1. INVESTIGATION IDENTIFICATION			2. TIME	3. FIRM NAME
DATE	INSPECTOR NO.	DAILY SEQ. NO.		
6/13/90	WA-003	(1)	1345 hrs	~~Base~~ Base Timber & Sales, Ik.

4. INSPECTOR ADDRESS	5. FIRM ADDRESS
WA. Dept. of Ecology 4350 - 150th Ave NE, Redmond, WA	P.O. Box 5226, Everett, WA 98206 3812-28th Pl. NE, Everett

REASON FOR INSPECTION

Under the authority of Section 11 of the Toxic Substances Control Act :

☒ For the purpose of inspecting (including taking samples, photographs, statements, and other inspection activities) an establishment, facility, or other premises in which chemical substances or mixtures or articles containing same are manufactured, processed or stored, or held before or after their distribution in commerce (including records, files, papers, processes, controls, and facilities) and any conveyance being used to transport chemical substances, mixtures, or articles containing same in connection with their distribution in commerce (including records, files, papers, processes, controls, and facilities) bearing on whether the requirements of the Act applicable to the chemical substances, mixtures, or articles within or associated with such premises or conveyance have been complied with.

☐ In addition, this inspection extends to *(Check appropriate blocks)*:

- ☐ A. Financial data
- ☐ B. Sales data
- ☐ C. Pricing data
- ☐ D. Personnel data
- ☐ E. Research data

The nature and extent of inspection of such data specified in A through E above is as follows:

INSPECTOR SIGNATURE		RECIPIENT SIGNATURE	
NAME Peter A. Wade		NAME Dennis Buckner	
TITLE Regional TSCA Inspector	DATE SIGNED 6/13/90	TITLE Maint Supv	DATE SIGNED 6-13-90

US ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

TOXIC SUBSTANCES CONTROL ACT

TSCA INSPECTION CONFIDENTIALITY NOTICE

Form Approved
OMB No. 2070-0007
Expires 3-31-88

1. INVESTIGATION IDENTIFICATION		
DATE	INSPECTOR NO.	DAILY SEQ. NO.
6/13/90	W003	03

2. FIRM NAME
Base Timber and Sales, Inc.

3. INSPECTOR NAME
Peter Mayle

4. FIRM ADDRESS
3812-28th St. NE
P.O. Box 5226
Everett, WA 98206

RECEIVED
JUN 18 1990
DEPT. OF ECOLOGY

5. INSPECTOR ADDRESS
WA Dept. of Ecology, NWRO
4350-150th Ave NE.
Redmond, WA 98052-5301

6. CHIEF EXECUTIVE OFFICER NAME
Robert Base

7. TITLE
President

TO ASSERT A CONFIDENTIAL BUSINESS INFORMATION CLAIM

It is possible that EPA will receive public requests for release of the information obtained during inspection of the facility above. Such requests will be handled by EPA in accordance with provisions of the Freedom of Information Act (FOIA), 5 USC 552; EPA regulations issued thereunder, 40 CFR Part 2; and the Toxic Substances Control Act (TSCA), Section 14. EPA is required to make inspection data available in response to FOIA requests unless the Administrator of the Agency determines that the data contain information entitled to confidential treatment or may be withheld from release under other exceptions of FOIA.

Any or all the information collected by EPA during the inspection may be claimed confidential if it relates to trade secrets or commercial or financial matters that you consider to be confidential business information. If you assert a CBI claim, EPA will disclose the information only to the extent, and by means of the procedures set forth in the regulations (cited above) governing EPA's treatment of confidential business information. Among other things, the regulations require that EPA notify you in advance of publicly disclosing any information you have claimed as confidential business information.

A confidential business information (CBI) claim may be asserted at any time. You may assert a CBI claim prior to, during, or after the information is collected. The declaration form was developed by the Agency to assist you in asserting a CBI claim. If it is more convenient for you to assert a CBI claim on your own stationery or by marking the individual documents or samples "TSCA confidential business information," it is not necessary for you to use this form. The inspector will be glad to answer any questions you may have regarding the Agency's CBI procedures.

While you may claim any collected information or sample as confidential business information, such claims are unlikely to be upheld if they are challenged unless the information meets the following criteria:

1. Your company has taken measures to protect the confidentiality of the information, and it intends to continue to take such measures.
2. The information is not, and has not been, reasonably obtainable without your company's consent by other persons (other than governmental bodies) by use of legitimate means (other than discovery based on showing of special need in a judicial or quasi-judicial proceeding).
3. The information is not publicly available elsewhere.
4. Disclosure of the information would cause substantial harm to your company's competitive position.

At the completion of the inspection, you will be given a receipt for all documents, samples, and other materials collected. At that time, you may make claims that some or all of the information is confidential business information.

If you are not authorized by your company to assert a CBI claim, this notice will be sent by certified mail, along with the receipt for documents, samples, and other materials to the Chief Executive Officer of your firm within 2 days of this date. The Chief Executive Officer must return a statement specifying any information which should receive confidential treatment.

The statement from the Chief Executive Officer should be addressed to:

and mailed by registered, return-receipt requested mail within 7 calendar days of receipt of this Notice. Claims may be made any time after the inspection, but inspection data will not be entered into the special security system for TSCA confidential business information until an official confidentiality claim is made. The data will be handled under the agency's routine security system unless and until a claim is made.

TO BE COMPLETED BY FACILITY OFFICIAL RECEIVING THIS NOTICE:

I have received and read the notice

SIGNATURE: David R. Base

NAME: David R Base

TITLE: Gen. Mgr.

DATE SIGNED: 6/14/90

If there is no one on the premises of the facility who is authorized to make business confidentiality claims for the firm, a copy of this Notice and other inspection materials will be sent to the company's chief executive officer. If there is another company official who should also receive this information, please designate below.

NAME

TITLE

ADDRESS

Laucks 82 years
Testing Laboratories, Inc.
940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
Chemistry, Microbiology, and Technical Services

CLIENT: Buse Timber & Sales, Inc
3812-28th Place N.E.
Everett, WA 98201

ATTN : Steve Fogg

Work ID : PCB In Oil
Taken By : Client
Transported by: -
Type : Oil

Certificate of Analysis
Work Order# : 90-06-015
DATE RECEIVED : 06/01/90
DATE OF REPORT: 06/06/90
CLIENT JOB ID : 33465

SAMPLE IDENTIFICATION:

	Sample Description
01	West 1 Transformer
02	West 2 Transformer
03	West 3 Transformer
04	East 1 Transformer
05	East 2 Transformer
06	East 3 Transformer
07	Saw Mill Chipper Starter
08	Duplicate

The flag "U" indicates the analyte of interest was not detected, to the limit of detection shown.

Unless otherwise instructed all samples will be discarded on 07/19/90

Respectfully submitted,
Laucks Testing Laboratories, Inc.

J. M. Owens

Aucks 82 years
Testing Laboratories, Inc.
940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063

Chemistry, Microbiology, and Technical Services

CLIENT : Buse Timber & Sales, Inc

Certificate of Analysis

Work Order # 90-06-015

TESTS PERFORMED AND RESULTS:

Analyte	Units	01	02	03	04
PCBs	mg/kg	2.0 U	3.0 PCB 1260	3.6 PCB1254/60	1.0 U

Analyte	Units	05	06	07
PCBs	mg/kg	1.0 U	1.0 U	1.0 U

Laucks 82 YEARS
Testing Laboratories, Inc.
940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063

Chemistry, Microbiology, and Technical Services

REPORT ON WORK ORDER 9006015 SAMPLE DUPLICATES

Test	:	PCBs
Relative Percent Difference	:	0
Control Limit	:	30

This duplicate and comments, if any, apply to the following sample(s): 1-7

* = outside control limits
NC = Not able to calculate RPD

CHRISTINE O. GREGOIRE
Director

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
4350-150th Ave. N.E. • Redmond, Washington 98052-5301 • (206) 867-7000

July 16, 1990

Mr. Jeff Short
Environmental Coordinator
Snohomish County PUD
P.O. Box 1107
Everett, WA 98206

Dear Mr. Short:

Hello, no doubt you remember me. Your assistance is needed to complete a recent TSCA inspection at Buse Timber and Sales, Inc., the Buse Mill is located on Smith Island, at 3810 28th Place N.E., Everett.

There is a PUD owned substation at the south east corner of this facility that contains three large cylindrical pad-mount transformers. I did not note any labels as these transformers from the brief vantage point I had, but there should be no confusion about what PUD transformers are our interest. We need to have documentation of the PCB analyses of these three transformers.

It may be that the PUD also owns at least two small light-pole transformers. Please identify these and any other PUD transformers at Buse Timber, if the PUD owns them.

Please send you response directly to Mr. Bill Hedgebeth of EPA-X at the following address:

Mr. William M. Hedgebeth
Environmental Protection Specialist
Toxic Substances Section
U.S. Environmental Protection Agency
1200 6th Avenue, Mail Stop AT-093
Seattle, WA 98101

Thank you for your help. I hope your vacation has been enjoyable. Say hello to Colleen for me please.

Sincerely,

Peter A. Maule
Regional TSCA Inspector

PAM:sw

cc: Bill Hedgebeth, EPA-X

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

August 29, 1994

Reply to
Attn of: HW-114

Norman Buse
Delmar Buse
3812 28th Place NE
Everett, WA 98026

Dear Sirs:

The U.S. Environmental Protection Agency (EPA), through its contractor, URS Consultants, Inc., has completed the site investigation (SI) of the Buse Timber & Sales site. A copy of the report is enclosed.

Based on this SI and other pertinent information, EPA does not anticipate further investigation under the Federal Superfund Program.

If you have any questions, I can be reached at (206) 553-2103.

Sincerely,
David Bennett

David Bennett
Site Assessment Manager
Site Evaluation Section

Enclosure

cc: Michael Spencer, Ecology (w/o Enclosure)
Bob Kievit, EPA-WOO (w/o Enclosure)
Mike Gallagher, Ecology-NWRO
Snohomish County Environmental Health

file - Buse Timber & Sales
Everett
Snohomish Co.

SCREENING SITE INSPECTION REPORT
FOR
BUSE TIMBER & SALES
EVERETT, WASHINGTON

CERCLIS NO. WAD009480542

Prepared for:

Work Assignment No. 54-17-0JZZ
Contract No. 68-W9-0054
United States Environmental Protection Agency
Region 10 ARCS
1200 Sixth Avenue
Seattle, Washington 98101

Prepared by:

URS Consultants, Inc.
1100 Olive Way, Suite 200
Seattle, Washington 98101

August 19, 1994

URS DOC 62760.17.20.654.27.b1

CONTENTS

CONTENTS (Continued)

FIGURES

TABLES

ABBREVIATIONS AND ACRONYMS

ARCS	Alternative Remedial Contract Strategy
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CFR	Code of Federal Regulations
CLP	Contract Laboratory Program
CRDL	contract-required detection limit (inorganics)
CRQL	contract-required quantitation limit (organics)
EPA	United States Environmental Protection Agency
HRS	Hazard Ranking System
IATA	International Air Transport Association
IDW	investigation-derived waste
NEIC	National Enforcement Investigations Center
NPL	National Priorities List
PA	preliminary assessment
PCB	polychlorinated biphenyl
PCP	pentachlorophenol
QMP	Quality Management Plan
RAS	routine analytical service
RSCC	Regional Sample Coordination Center
SARA	Superfund Amendments and Reauthorization Act of 1986
SAS	special analytical services
SDL	sample detection limit
SI	site inspection
SM	site manager (URS)
SQL	sample quantitation limit
SV	semivolatile
SVOC	semivolatile organic compound
TCP	tetrachlorophenol
TSCA	Toxic Substance Control Act
TSOP	technical standard operating procedures
URS	URS Consultants, Inc.

1.0 INTRODUCTION

Pursuant to United States Environmental Protection Agency (EPA) Contract No. 68-W9-0054 and Work Assignment No. 54-17-0JZZ, URS Consultants, Inc., (URS) conducted a site inspection (SI) of Buse Timber & Sales located at 3812 28th Place N.E. in Everett, Washington. This SI was conducted under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA). The SI process is intended to document a threat or potential threat to public health or the environment posed by a site, identify whether a potential emergency situation exists that may require an immediate response, document the presence or absence of uncontained or uncontrolled hazardous substances on a site, and confirm site characteristics and area receptor information collected during past studies. The SI is intended to collect sufficient data to enable evaluation of the site's potential for inclusion on the National Priorities List (NPL) and, for those sites determined to be NPL candidates, establish priorities for additional action. The SI process and this SI do not include extensive or complete site characterization, contaminant fate determination, or quantitative risk assessment.

This document presents the Buse Timber & Sales SI in the following manner:

- Section 1.0 Introduction—description of authority and purpose
- Section 2.0 Site Background—site-related information
- Section 3.0 Exposure Pathways and Potential Targets—evaluation of specific pathways and their possible targets
- Section 4.0 Sampling Program—synopsis of sampling conducted
- Section 5.0 Sampling Results—discussion of sampling results and those substances determined to be "significant"
- Section 6.0 Bibliography—list of references

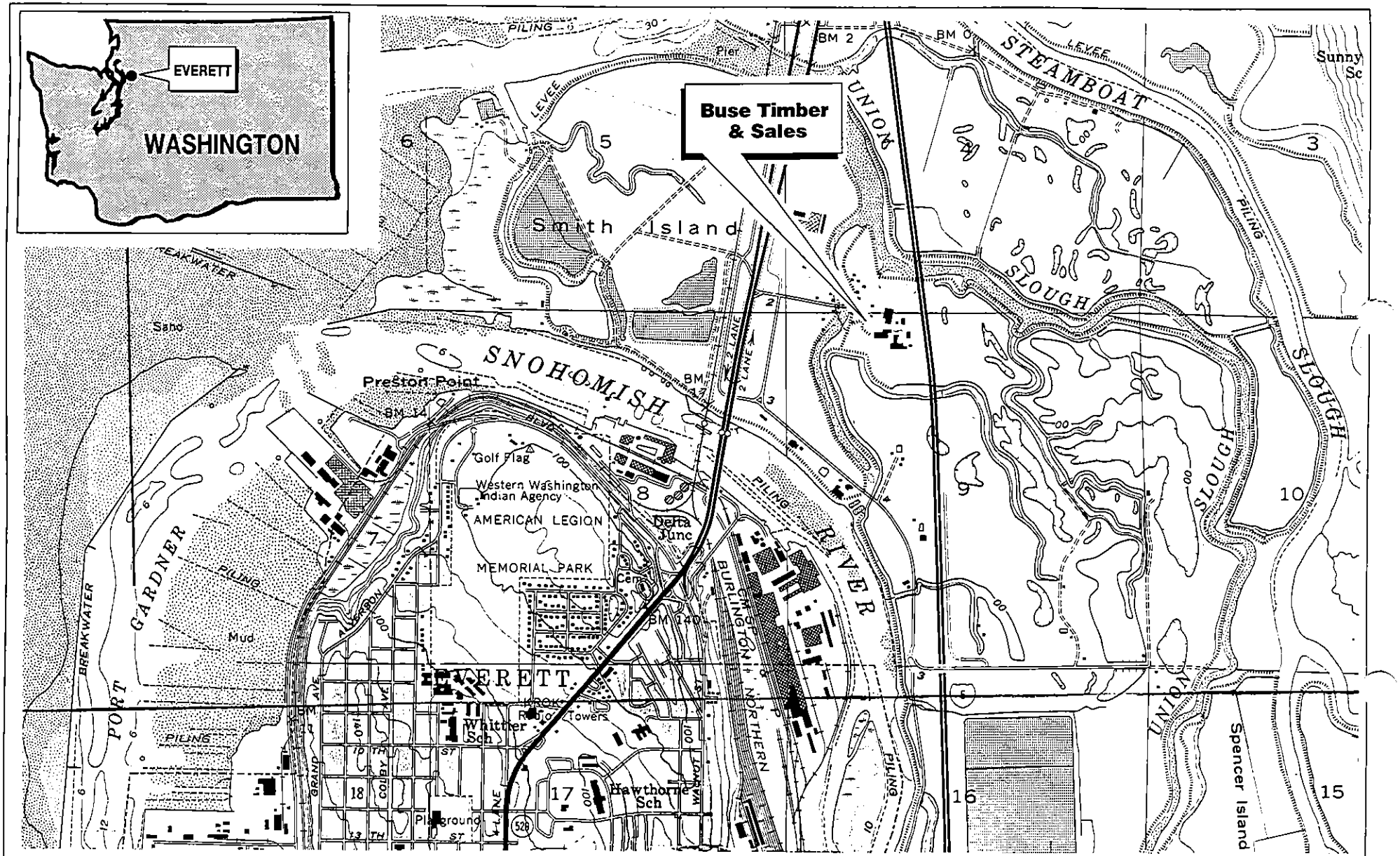
- Appendix A Photodocumentation of May 24 and 25, 1994, URS Sampling Event
- Appendix B Background sample location map
- Appendix C Laboratory Data Reports and Data Validation Reports for Samples Collected for Buse Timber & Sales
- Appendix D Data Quality Objectives

2.0 SITE BACKGROUND

2.1 SITE LOCATION AND DESCRIPTION

Site Name:	Buse Timber & Sales
CERCLIS No.:	WAD009480542
Location:	3812 28th Place N.E. Everett, Washington
Latitude:	48°1'17.2" North
Longitude:	122°10'32.5" West
Legal Description:	Section 4 and Section 9 Township 29, Range 5 East
Site Owner:	Norman and Delmar Buse 3812 28th Place NE Everett, Washington 98206
Site Operator:	Norman and Delmar Buse
Site Contact:	Steve Fogg (206) 258-2577

Buse Timber & Sales, located at 3812 28th Place N.E., is situated on Smith Island in the Snohomish River floodplain. The mill is 1 mile northeast of the city of Everett, in Snohomish County, Washington. The plant and log yard combined occupy approximately 25 acres of land in the southeast quarter of the southwest quarter of section 4, Township 29 North, Range 5 East, Willamette Meridian, and the northeast quarter of the northwest quarter of section 9, Township 29 North, Range 5 East, Willamette Meridian (USGS 1976). The coordinates of the site are 48°1'17.2" N. latitude 122°10'32.5" W. longitude. The site is surrounded by sloughs and agricultural lands. Directly to the east of the mill is Interstate 5. Figure 2-1 shows the general location of the Buse mill.



Source: USGS 7.5 Min. Topo Map, MARYSVILLE, WA 1973

URS CONSULTANTS

NORTH

0 1/2 1

Scale In Miles

Figure 2-1
Buse Timber & Sales Site Location Map

Buse Timber & Sales
Everett, Washington

The mill is adjacent to Union Slough and several backwater arms of the slough. Within ½ mile, the slough discharges into Possession Sound. Because of the proximity to tidally influenced waters, the sloughs surrounding the mill are affected by tidal flooding and ebbing. The water level in an unnamed slough that receives runoff from the northern portion of the mill is controlled by a tidal gate; this slough will be referred to as the tidal gate slough. Because the site is located in the Snohomish River delta, it is underlain by large quantities of alluvial deposits. Tidal influence and Snohomish River water levels have a large influence on groundwater levels in the area. The depth to groundwater is shallow in the area and generally follows the Snohomish River water levels (Ecology 1990).

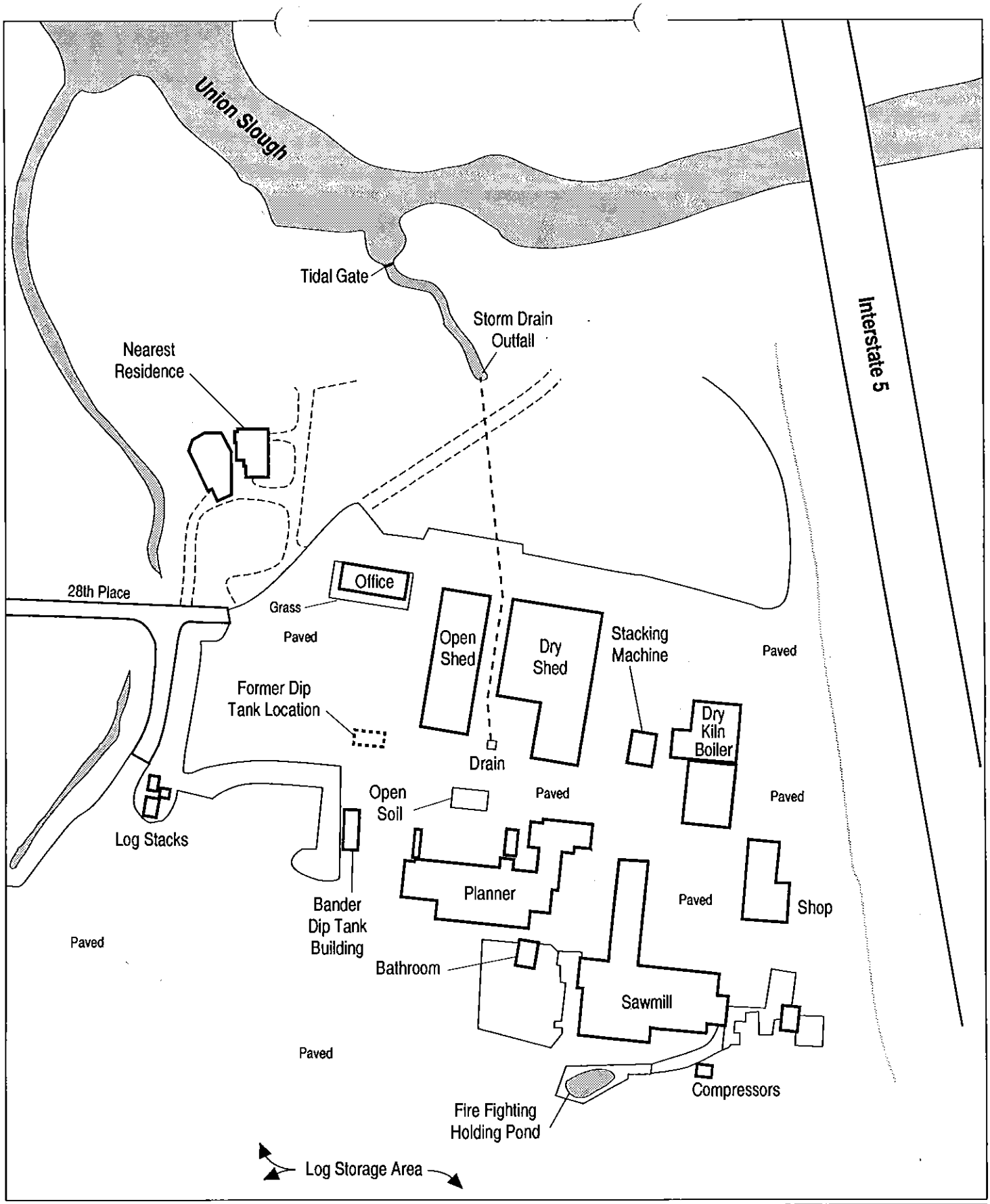
Twenty-eighth Place N.E., leading from State Route 593, provides access to the site via a land bridge which traverses Union Slough. Although the site is not secured by a fence, the property is physically separated from the surrounding areas by sloughs. The property owned by the Buses includes a large quantity of farmland and pasture on Smith Island. The Buses permit local farmers to produce hay to the south of the mill. The nearest residence, situated 300 feet from the mill offices in the northwest corner of the property, is owned by a member of the Buse family. A pasture to the north and west of the residence serves as a small golf course (URS 1994a).

The 20-acre facility comprises nine main buildings and several smaller ancillary structures (see the site map, Figure 2-2). A 5-acre log storage yard is situated south of the mill complex. Raw logs brought in by trucks and beauty bark from the debarking operation are deposited here.

The 20-acre facility has been in operation on this site since 1946. The Buses purchased the land in 1942 (Buse 1994). Originally, at an unknown point in time prior to the Buse's purchase of the land, the area was used as farmland (Buse 1994).

2.2 SITE OPERATIONS AND WASTE CHARACTERISTICS

Buse Timber & Sales produces approximately 60 million board feet per year of finished lumber products of various dimensions for domestic sale and export to Asia or Canada. Production activities include sizing, debarking, trimming, milling, planiug, treating, drying, banding, and shipping. The operations employ 120 persons on two 8-hour shifts at the sawmill and one 8-hour shift at the planer mill. Logs are sorted by size because the mill can handle only logs of a certain dimension. Logs that are too large or too small are



URS CONSULTANTS

NORTH

0 130 260

Scale In Feet

Figure 2-2
Buse Timber & Sales
Site Map

Buse Timber & Sales
Everett, Washington

sold to pulp mills (Buse 1994). Appropriately sized logs are sent to the debarking machine. Bark from this machine is then sold as mulch or beauty bark. Debarked logs are transferred to the sawmill where they are trimmed and cut to the required dimensions. Next, the rough-cut wood is sent to the planer for surfacing. Chips and sawdust from sawing and planing are retained and sold to Scott Paper Company in Everett. The lumber is then sorted by hand and sent off to be dipped, dried, or endsealed if necessary. Buse personnel manually spray a product called Light Green Endseal on the ends of the lumber. This water-based paint is a nonhazardous waste defined in RCRA 40 CFR 261. After the endseal has dried, the lumber is banded and wrapped for shipment.

Lumber that is being shipped long distances is sometimes treated in a dip tank with anti-stain chemicals called Britewood S or Britewood Q sapstain control. These are phenolate solutions that contain sodium ortho-phenylphenate. The bundled lumber is dipped into a 28 by 5 by 5-foot-deep steel tank (approximately 5,300 gallons) that contains one of the above products. After the wood is dipped, it rests over a drip pan, which drains back into the tank. The company adds 50 gallons per month to the tank. According to Mr. Buse, because the solution is constantly agitated by compressed air, sludge does not develop at the bottom of the tank. The company has not had to dispose of any sludges since tank installation (Buse 1994). Eighty percent of the tank is underground and is surrounded by a concrete-walled pit, which acts as a secondary containment system. At the bottom of the pit is a sump that pumps the Britewood solution back into the tank. Table 2-1 lists waste-related activities at Buse.

Occasionally, lumber must be kiln dried for special orders. The company has four gas-heated drying kilns for this purpose. Carts of lumber are rolled into the kiln on tracks and heated to 180 degrees under controlled humidity for 3 days (URS 1994a).

Until 1986, the company used pentachlorophenol (PCP) to treat lumber in a dip tank with no cover or secondary containment. On a complaint from EPA and on the advice of the company's chemical supplier, the mill switched to a product called PQ8. At the same time, the dip tank was moved into a shed in an area that is asphalted and bermed. The soils in the former diptank area were simply paved over (Ecology 1990).

In 1986, the EPA sponsored studies to determine whether wood treatment chemicals were entering the soil from lumber mills across the state of Washington. A sediment sample taken from a storm drain near the former dip tank revealed PCP and

Table 2-1
Hazardous-Waste-Related Activities On Site

Activity/Process	Dates	Waste(s) Produced	Storage/Disposal Method(s)	Containment Features	Hazardous Constituents
PCP wood treating	1946-86	PCP sludge	Landfilled	Tank without containment	PCP

Source: URS 1994a, Ecology 1990

trichlorophenol (TCP) at 240 mg/kg, and 47.5 mg/kg respectively. A sediment sample taken from Union Slough revealed 1.97 mg/kg PCP and 0.89 mg/kg TCP.

In 1989, Ecology recommended that Buse Timber & Sales be placed on the EPA CERCLIS list of potential hazardous waste sites. The detection of PCP and TCP in the sediments on and around the site prompted the Washington Department of Ecology to conduct a preliminary assessment (PA), which was completed in November 1990 (Ecology 1990). The Ecology PA recommended that the site be scored using the revised Hazard Ranking System (HRS) before further on-site investigations were conducted.

On June 13, 1990, a Toxic Substance Control Act (TSCA) inspection by Ecology revealed several polychlorinated biphenyl (PCB) violations at the mill. Buse was fined a total of $7,650 (Ecology 1992a).

In June 1992, Ecology again sampled sediments from the same locations as the 1986 EPA sampling effort. Although this round of sampling revealed no evidence of either PCP or TCP in the drain or slough, it revealed petroleum contamination in Union Slough. However, Ecology found no evidence linking the petroleum contamination in the slough with operations at Buse Timber & Sales (Ecology 1992a).

During the URS site visit on March 14, 1994, a rapid immunoassay field screening kit specific for PCP was used to test sediments from the tidal gate slough north of the mill. The results of this screening indicated that PCP was present at concentrations of at least 0.5 ppm in the slough sediments (URS 1994a) (see Table 2-1).

Buse Timber & Sales operates with coverage under the Storm Water Baseline General Permit SO3-000097 (Ecology 1992b).

3.0 EXPOSURE PATHWAYS AND POTENTIAL TARGETS

3.1 GROUNDWATER PATHWAY

3.1.1 Geology and Hydrogeology

Everett is located in the central part of the Puget Sound Lowland, which is a broad, rolling, glacial drift plain of low relief bordered by the Olympic and Cascade Mountains. The geologic features of the Puget Sound Lowland are primarily the result of the Fraser Glaciation, when the Puget glacial lobe made its last advance into the region. The sediments deposited during this time are collectively called "drift" and cover much of the lowland (Haase 1987).

In the Everett area, the glacial history is complicated by repeated advance and retreat episodes of glacial movement. This resulted in the deposition of several drift units, ranging from tills, sands, outwash gravels, silts, and clays to glaciomarine and terrace deposits.

The site is located in the delta region of the Snohomish River. The geology underlying the facility consists mainly of alluvial river deposits derived from glacial sediments and upstream surficial geologic materials. Washington State Department of Transportation boring logs from Interstate 5 bridges across the Snohomish River and the sloughs indicate silts, clays, and sands with small amounts of gravel, shell debris, and decomposing wood debris from the ground surface to more than 130 feet below ground surface (bgs)(DOH 1965).

There are three aquifer systems in the area: recent alluvial deposits associated with the Snohomish River and Union Slough, the Marysville sand member, and the Esperance sand member. The static water level at the site is probably within a range of 10 to 15 feet bgs (Ecology 1990). The depth to the water table varies due to tidal and river flow volume influences. The groundwater in this area is not used for domestic purposes, according to Ecology (Ecology 1990). However, two wells designated as domestic have been identified on Smith Island.

The average annual net precipitation in the Everett area is 18.5 inches (Ecology 1990).

3.1.2 Groundwater Targets

Only about 1 percent of the population within 4 miles of the site uses wells as the primary source of drinking water (Ecology 1990). Everett and the surrounding territory (including Marysville and the Tulalip Indian Reservation) are served by water collected from the 60-square-mile Sultan Basin. The water is stored 30 miles southeast of Everett in the Spada Reservoir, which has a capacity of 50 billion gallons (Wolcott 1994). Approximately 102 domestic and 54 community wells are located within a 4-mile radius of the site. An estimated 1,023 people use these wells for drinking water. However, only two of these wells are on Smith Island. All other wells within 4 miles are separated from the site by either the Snohomish River or the sloughs. Since the river and sloughs are groundwater divides, it is unlikely that contamination from the site could affect groundwater on the other side of these water bodies. A breakdown of groundwater drinking water populations within 4 miles of the site is shown in Table 3-1 (USDC 1990).

Table 3-1
Groundwater Drinking Populations Within 4 Miles of the Buse Timber & Sales Site

Distance from Site (miles)	Number of Domestic Wells	Estimated Domestic Population	Number of Community Wells	Community Well User Population	Total Population
On site	1	2	0	0	2
0 to 0.25	0	0	0	0	0
0.25 to 0.5	0	0	0	0	0
0.5 to 1	1	2	1	10	12
1 to 2	3	7	1	10	17
2 to 3	54	129	18	180	309
3 to 4	102	243	34	340	583
Total	161	383	54	540	923

Note: Domestic well population is based on an estimate of 2.38 people per household to obtain person/household/well except for wells on site. It is known that two persons reside on site (USDC 1990; U.S. EPA 1994a). Community well population assumes 10 persons per well.

3.2 SURFACE WATER PATHWAY

3.2.1 Surface Water Flow

The Buse Timber site is located adjacent to and south of Union Slough on Smith Island north of the Snohomish River. The site is relatively flat, with a general slope less than 5 degrees toward the northeast. The area has a relatively mild and wet climate and a 2-year, 24-hour precipitation of 2.3 inches (Ecology 1990). The site is located within the 100-year flood plain.

The Soil Conservation Service has mapped the soils in the area as Puget-Sultan Pilchuck. These soils are very deep and range from poorly drained to excessively drained, nearly level soils on the floodplain (USDA 1983).

Precipitation accumulating on site would tend to percolate into the ground or flow north; storm sewer drains are located on site to assist in surface water drainage. The on-site surface water flow would eventually reach Union Slough by either the storm sewer or overland flow. The storm sewer has a tidal gate to prevent saltwater from entering the storm sewer system. During the URS 1994 site visit, the stormwater system appeared to be in satisfactory condition.

The flow of Union Slough depends on tidal influences. Union Slough is 120 feet wide adjacent to the site and the Snohomish River is 850 feet wide. Average annual flow of the Union Slough is approximately 5,000 cubic feet per second (cfs). The average discharge in the Snohomish River for the past 29 years is 9,605 cfs (Miles 1992).

3.2.2 Surface Water Quality

As revealed by past sampling events, elevated concentrations of pentachlorophenol (PCP) and trichlorophenol (TCP) have been identified in sediments collected from the tidal gate slough which drains into the Union Slough. These elevated concentrations of contaminants have likely impacted the habitability of the slough for fisb and other aqueous species.

3.2.3 Surface Water Targets

There are no surface water intakes for drinking water use within 15 miles downstream of the site. At approximately 1.5 miles downstream from the site, both the Snomomish River and Union Slough empty into Possession Sound.

Two bodies of water in Possession Sound, at Port Gardner and Port Susan, are popular for non-Indian commercial fishing and Indian fishing and shellfish harvesting. The fish species observed in Port Gardner and Port Susan include chinook salmon (*Oncorhynchus tshawytscha*), chum salmon (*Oncorhynchus keta*), pink salmon (*Oncorhynchus gorbuscha*), and coho salmon (*Oncorhynchus kisutch*). The Snohomish River is an important migratory route for all of these anadromous fish species and is also home to the bull trout (*Salvelinus confluentis*) and the olympic mudminnow (*Novumbra hubbsi*), both of which are federal candidates for the endangered species list (WDW 1993). Port Gardner and Port Susan have an average annual harvest of 251,095 pounds of fish (WDF 1991) and an average annual harvest of 162,400 pounds of hardshell clams (WDF 1991).

Wetland frontage was calculated for the 1.5 miles downstream of Buse Timber to the point where both the Snohomish River and Union Slough enter the Pacific Ocean in Possession Sound. The frontage of wetlands in that span is 6 miles. National Wetlands Inventory maps classify this area as palustrine, estuarine, riverine, and forested wetlands. However, riverine and estuarine wetlands are also found in the areas downstream of the Buse site.

3.3 SOIL PATHWAY

3.3.1 Soil Description

The surface soils on site are classified as fill and alluvial soils deposited by the Snohomish River and extend 130 feet below the ground surface. These soils have low-to-moderate permeability estimated at 10^{-5} cm/second (Freeze and Cherry 1979) and often become waterlogged in the winter. The underlying sediments consist of alluvial and glacial deposits.

3.3.2 Soil Targets

The Buse Timber site is located within the city limits of Everett, which has a total population of 69,961 (USDC 1990). Residing within a 1-mile radius of the site are 154 people. Both Snohomish River and Union Slough, popular recreational areas, are located within 1 mile of the site. Although the Buse site is not fenced, it is physically separated from surrounding areas by sloughs and blackberries. There are no day cares or schools within 200 feet of the site. The closest resident lives within 200 feet west of the site. Residential populations identified within a 4-mile radius of the site are summarized in Table 3-2.

Table 3-2
Residential Populations Located Within 4 Miles of the Buse Timber & Sales Site

Distance From Site (miles)	Resident Population
0 to 0.25	7
0.25 to 0.5	10
0.5 to 1	137
1 to 2	7,743
2 to 3	22,792
3 to 4	19,801
Total Population	**50,490**

Source: U.S. EPA 1994a

3.3.3 On-Site Workers

Approximately 120 full-time employees work at the Buse facility.

3.4 AIR PATHWAY

3.4.1 Regional Characteristics

The Buse Timber site is located in the tideflats of the Snohomish River in a primarily industrial and agricultural mixed-use area. Possession Sound is located west of the site.

The area has a relatively mild and wet climate, with a normal annual rainfall of 36.51 inches (NOAA 1992).

3.4.2 Air Targets

The residential population within 4 miles of the site is detailed in Table 3-3. The closest residence (owned by Buse) is located within 200 feet of the Buse Timber & Sales office. Although access to the Buse Timber site is limited by the Snohomish River and the Union Slough, there is a road to the site and the east boundary of the site abuts the Interstate 5 right of way.

Table 3-3
Wetlands Within 4 Miles of the Buse Timber & Sales Site

Distance from Site (miles)	Wetland Acreage (estimated)
Onsite	3
0 - ¼	10
¼ - ½	40
½ - 1	150
1 - 2	560
2 - 3	1,000
3 - 4	580

Source: USDI 1987

There is one wetland of approximately 3 acres located on site. Approximately 200 acres of wetlands are located within 1 mile of the site. Table 3-3 gives a breakdown of wetlands within 4 miles of the site (USDI 1987).

3.4.3 Sensitive Areas

Washington State Department of Wildlife Sensitive Area maps were used to determine the presence of sensitive species within 4 miles of the site. The mouth of the Snohomish River, which is 1.5 miles from the site, is an estuary that supports bull trout and the

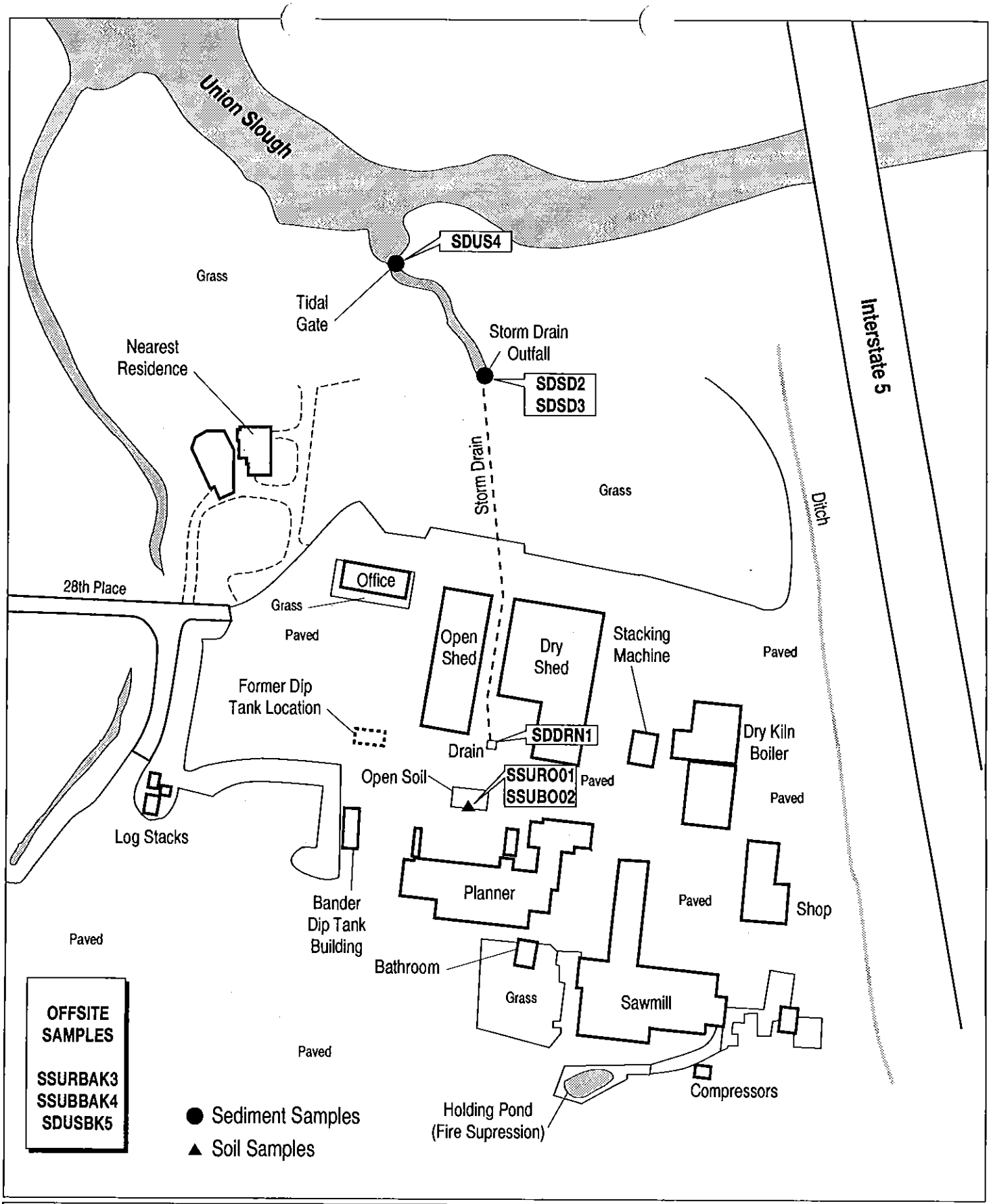
olympic mudminnow. There are three bald eagle nesting sites between 1 and 2 miles from the site, and one nesting site in both the 2- to 3-mile and 3- to 4-mile ranges.

4.0 SAMPLING PROGRAM

The media-specific sampling procedures were consistent with methodologies described in the field sampling plan (URS 1994b) and technical standard operating procedures (TSOP) (URS 1990b) for ARCS contract activity, as well as those described in EPA's *A Compendium of Superfund Field Operations Methods* (U.S. EPA 1987). All sampling equipment was decontaminated before and after use (TSOP 3.7). Four 8-ounce jars of sediment and soil (one each for SVs and PCBs, and two for inorganics and mercury) were collected from each sample station. All sample containers were clearly labeled with the EPA sample number, URS station number, replicate number (if applicable), date, time, type of sample, and sampling personnel (TSOP 2.4). Additionally, EPA sample tags were taped to the sample bottles, and the bottle lids were custody-label sealed. After sample collection, the containers were placed in a cooled ice chest maintained at approximately 4°C, as appropriate, for transport to an analytical laboratory (TSOP 2.3). The routine analytical service (RAS) samples (PCB and inorganics) were shipped to a different laboratory than the SAS samples (SVs). Additional preservation for water samples was conducted at the time of sampling. A chain-of-custody form was filled out and placed in the chest with the samples. The ice chests were sealed for shipment with duct tape and chain-of-custody seals. An accurate log of the sampling conducted and other information pertinent to the sampling were kept in the field logbook (TSOP 2.6). Photographs were taken during the sampling event and tracked in the field logbook (TSOP 2.5). Refer to Figure 4-1 and Table 4-1 for sample locations, rationale, and identifiers.

4.1 SEDIMENT SAMPLES (TSOP 5.5)

Sediments from the storm drain (sample SDDRN1) were characterized to assess the possible release of wood treating chemicals or their components. The sample locations were selected based on historical sampling results and best professional judgment. All sediment samples were collected as grab samples with a stainless steel spoon. The sediment was collected from the surface of the sediment where no water was present. Since no water was present in the catch basin, the catch basin sediment sample was collected from the bottom of the catch basin. The samples were transferred directly into the sample container. Sticks, rocks, and other large organic matter were removed. The on-site sediment sample was collected as close as possible to the area of sediment accumulation.



URS CONSULTANTS

NORTH

0 130 260

Scale In Feet

Figure 4-1
Buse Timber & Sales
Sample Locations

Buse Timber & Sales
Everett, Washington

Table 4-1
Sample Descriptions

Sample Number	Location	Rationale	Date:Time Collected
SSURO01	Treatment tank area surface soil	Characterize on-site surface soil	05/25/94:0820
SSUBO02	Treatment tank area subsurface soil	Characterize on-site subsurface soil	05/25/94:0844
SDDRN1	Storm drain catch basin	Characterize on-site sediments	05/25/94:0930
SDSD2	Storm drain outfall	Characterize outfall sediments	05/25/94:0957
SDSD3	Storm drain outfall	Characterize outfall sediments, quality control duplicate	05/25/94:1003
SDUS4	Tidal gate outfall to slough	Characterize on-site site slough sediments	05/25/94:1025
SSURBAK3	Off-site surface soil	Characterize background soil	05/25/94:1305
SSUBBAK4	Off-site subsurface soil	Characterize background subsurface soils	05/25/94:1310
ER01	Equipment rinsate	Quality assurance	05/25/94:1052
SBUSBK5	Union slough off-site sediment	Characterize background slough sediment	05/24/94:0940

4.2 SURFACE SOIL SAMPLES (TSOP 5.4)

To determine whether past practices have impacted on-site surface soil quality, one surface soil sample (SSURO01) was collected near the drain at the former dip tank location. Only one soil sample was collected because all other locations near the former dip tank location are paved. The sample was collected at a depth of 0 to 6 inches from the surface level at the location where it is suspected that wastes have been placed. An additional surface soil sample was collected off site to characterize background conditions (SSURBAK3). The background soil sampling location was collected from the residence of a home 2.9 miles southeast of the site. The background soils sampled are the alluvial soils in the valley of the Snohomish River. The map in Appendix B shows the exact location.

The surface soil sample was collected using a decontaminated stainless steel trowel. The sample was placed immediately into the sample containers.

4.3 SUBSURFACE SOIL SAMPLES (TSOP 5.4)

To determine whether past site practices have impacted subsurface soil quality, a subsurface soil sample was collected. One subsurface sample (SSUBO02) was collected from the unpaved area southwest of the former dip tank area. The sample was collected at an approximate depth of 2 feet below surface level. An additional subsurface soil sample was collected off site to characterize background conditions (SSUBBAK4). The location of this sample was 2.9 miles southeast of the site (for location of background surface soil sample, see Appendix B). The background soil sample was not collected in an industrial or agricultural area.

The soil was excavated to the predetermined sampling depth by using a decontaminated hand auger at a right angle to the surface. Once the desired depth was reached, the decontaminated hand auger was used to collect a sufficient soil volume. The soil was placed into a decontaminated stainless steel bowl, homogenized, and placed into the sample containers.

The borehole was refilled with the excavated material using a stainless steel trowel.

4.4 TIDAL GATE SLOUGH, UNION SLOUGH, AND SNOHOMISH RIVER SEDIMENT SAMPLING (TSOP 5.5)

One sediment sample and one field duplicate sample were collected from the outfall basin that drains the area near the former dip tank (SDSD2 and SDSD3) to characterize outfall sediments. The sampling event was conducted during a low tide when sediments are exposed and easily accessible. The sample material was placed into the bowl, debris removed, and homogenized. The sediment was then placed into the sample containers.

The sediment samples from Union Slough (SDUS4 and SDUSBK5) were not collected near piers, pilings, or any other obvious source of wood treatment chemicals. Sample SDUS4 was collected from the tidal gate outfall area to characterize sediments that have entered Union Slough. During the low tide, the sample locations were easily accessible from the boat or shore. The sediment samples were collected following the procedure

described for SDSD2. Because the area is located in the Snohomish River delta, a small boat was required for gathering background samples. Exact background sample locations were determined in the field and based on grain size comparison with site samples. The background Union Slough sample (SDUSBK5) was collected at the point where Union Slough joins the Snohomish River at its most upstream point. See the map in Appendix B for exact locations.

5.0 SAMPLING RESULTS

The conditions used to define an "observed release" of a particular substance to any of the matrices sampled during the data evaluation process are summarized in Table 5-1 (U.S. EPA 1990a, 1990b). Discussions of data results in this report use the term "significant" to classify concentrations of detected chemicals based on the criteria described in Table 5-1. The results discussed in the following sections are limited to those substances determined to be significant (as defined in Table 5-1). Based on EPA Region 10 policy, aluminum, calcium, iron, magnesium, potassium, sodium, and zinc (common earth crust metals) generally are employed only in water mass tracing, which is beyond the scope of this report. These elements will not be discussed further.

Table 5-1
Significance Criteria for Chemical Analysis

Sample Measurement < Sample Quantitation Limit[a]
No observed release is established; the result is not identified as "significant"
Sample Measurement ≥ Sample Quantitation Limit[a]
An observed release or "significant" result is established as follows:
If the background concentration is not detected (or is less than the detection limit), an observed release or significant result is established when the sample measurement equals or exceeds the sample quantitation limit.[a]
If the background concentration equals or exceeds the detectiou limit, an observed release or significant result is established when the sample measurement is three times or more above the background concentration.

Source: U.S. EPA 1994b

[a]If the SQL cannot be established, determine if there is an observed release as follows: If the sample analysis was performed under the EPA CLP, use the EPA CRQL in place of the SQL. If the sample analysis was not performed under the EPA CLP, use the detection limit in place of the SQL.

The tables provided in the following discussion include all reported concentrations of any metals, polychlorinated biphenyls (PCBs), semivolatiles (SVs), and chlorinated phenols detected in at least one sample collected on May 25, 1993. The laboratory data results and data validation reports are provided in Appendix C. A summary table of the target and actual data quality objectives of the Buse Timber field sampling are also presented in Appendix H. Only four chemicals were detected in significant concentrations and only in sediment samples collected from the storm drain catch basin and the storm drain outfall. It should be noted that detection limits varied considerably between and among samples. There were also a high number of qualified results. Only four organics results, three chlorinated phenols results, and one PCB result were unqualified among all SV, PCB, and chlorinated phenol detections.

5.1 ON-SITE SURFACE SOIL

None of the on-site surface soil results meet the criteria listed in Table 5-1 for significant concentrations. Results are summarized in Table 5-2. All samples collected during this investigation were analyzed for metals, PCBs, SVs, and chlorinated phenols as described in the field sampling plan (URS 1994b). No information was available in the data validation reports to assign a bias (high or low) to the qualified ("J") sample results identified in Table 5-2. Because the appropriate comparable sample for determining elevated concentrations in a surface soil sample is a background surface soil sample, SSURO01 was compared to SSURBAK3 (see Table 5-2).

5.1.1 Metals Analyses

Metals detected in the off-site background surface soil sample (SSURBK3) are summarized in Table 5-2. The metals detected represent concentrations for natural soils in the Snohomish River basin.

Metals detected in the on-site surface soil sample collected at the Buse site are summarized in Table 5-2. For the on-site soil sample location, see Figure 4-1.

5.1.2 PCB Analyses

PCBs were not detected in the off-site background surface soil sample or in the on-site surface soil samples.

Table 5-2
Surface Soil Sampling Results for Buse Timber and Sales, Inc.
May 25, 1994

	Off-site Background Soil	Treatment Tank Area Surface Soil	Treatment Tank Area Surface Soil Laboratory Duplicate
Substance Detected	SSURBAK3	SSURO01	SSURO01 DS
Total Metals (mg/kg)			
Aluminum	20900	18200	19700
Arsenic	22 J	20 J	17 J
Barium	108	50.5 J	52.9
Beryllium	0.49 J	0.34 J	0.37 J
Cadmium	0.35 J	0.24 J	0.2 U
Calcium	3010	2940	3280
Chromium	86.3	54.1	58.1
Cobalt	23.6	9.25	9.63
Copper	45.5	40.1	41.1
Iron	30300	30100	31300
Lead	52.3	12 J	14 J
Magnesium	8720	8840	9250
Manganese	417	298	311
Mercury	0.0575	0.0749	0.076
Nickel	64.1	36.2	39.3
Potassium	905	2410	2500
Selenium	6 U	15 J	15 J
Sodium	299	335	362
Thallium	6 J	5 U	8 J
Vanadium	66	68.6	70.3
Zinc	89.6	57.9	61.2
Semivolatiles (ug/kg)			
Di-n-butylphthalate	32 J	470 U	NAF

Notes:
J =value is an estimate
mg/kg = milligrams per kilograms
NAF = not analyzed for
U =sampe was undetected
ug = Microgram (1E-6 gram)

5.1.3 Semivolatile Organic Analyses

Di-n-butylphthalate was detected in the background sample (SSURBAK3) at an estimated concentration of 32 μg/kg. There were no detections of any SVs in the on-site surface soil sample.

5.1.4 Chlorinated Phenol Analyses

There were no significant detections of any chlorinated phenols in any of the surface soil samples.

5.2 SUBSURFACE SOIL

None of the subsurface soil results meet the criteria listed in Table 5-1 for significant concentrations. Results are summarized in Table 5-3. All samples collected during this investigation were analyzed for metals, PCBs, SVs, and chlorinated phenols as described in the field sampling plan (URS 1994b). No information was available in the data validation reports to assign a bias (high or low) to qualified ("J") sample results identified in Table 5-3. Because the appropriate comparable sample for determining elevated concentrations in a subsurface soil sample is a background subsurface soil sample, SSUBO02 was compared to SSUBBAK4 (see Table 5-3).

5.2.1 Metals Analyses

Metals detected in the off-site background subsurface soil sample (SSUBBK4) are summarized in Table 5-3. The metals detected represent concentrations for natural soils in the Snohomish River basin.

Metals detected in the on-site subsurface soil sample collected at the Buse site are summarized in Table 5-3. For the on-site soil sample location, see Figure 4-1.

5.2.2 PCB Analyses

PCBs were not detected in the off-site background subsurface soil sample or in the on-site subsurface soil samples.

Table 5-3
Subsurface Soil Sampling Results for Buse Timber and Sales, Inc.
May 25, 1994

	Offsite Background Subsurface Soil	Treatment Tank Area Subsurface Soil
Substance Detected	SSURBAK4	SSUBO02
Inorganics (mg/kg)		
Aluminum	18800	18200
Arsenic	17 J	25 J
Barium	70.9	46.4
Beryllium	0.28 J	0.3 J
Calcium	2530	2630
Chromium	61.5	79.4
Cobalt	13.2	9.92
Copper	34	41.4
Iron	28300	26500
Lead	12 J	9.8 J
Magnesium	7690	8630
Manganese	223	248
Mercury	0.0485	0.0668
Nickel	32.7	44.9
Potassium	985	2230
Selenium	6 J	13 J
Sodium	269	543
Thallium	7 J	6.2 J
Vanadium	63.3	69.6
Zinc	57.4	52.7
Semivolatiles (ug/kg)		
Di-n-butylphthalate	33 J	510 U

Notes:
J = value is an estimate
mg/kg = milligrams per kilogram
U = sample was undetected
ug = Microgram (1E-6 gram)

5.2.3 Semivolatile Organic Analyses

Di-n-butylphthalate was detected in the background sample (SSURBAK4) at an estimated concentration of 33 μg/kg. There were no detections of any SVs in any of the on-site subsurface soil samples.

5.2.4 Chlorinated Phenol Analyses

There were no significant detections of any chlorinated phenols in any of the subsurface soil samples.

5.3 STORM DRAIN SEDIMENT

Data results that satisfy the criteria listed in Table 5-1—described in this section to be significant—are highlighted in Table 5-4. All samples collected during this investigation were analyzed for metals, PCBs, SVs, and chlorinated phenols as described in the field sampling plan (URS 1994b). No information was available in the data validation reports to assign a bias (high or low) to qualified ("J") sample results identified in Table 5-3. Because the appropriate comparable sample for determining elevated concentrations in a sediment sample is a background sediment, sediment samples were compared to SDUSBK5 (see Table 5-4, Sediment Soil Sampling Results for Buse Timber & Sales, Inc., May 25, 1994).

5.3.1 Metals Analyses

Metals detected in the off-site background sediment sample represent concentrations expected for sediments in the Snohomish River estuary conditions. Results for all sediment samples are summarized in Table 5-4. For sample locations, see Figure 4-1.

There were several significant detections of metals in the on-site sediment samples. Lead and mercury were detected in the samples collected from the storm drain catch basin (SDDRN1) and the duplicate samples collected at the outfall for that storm drain (SDSD2 and SDSD3). Lead was detected in sample SDDRN1 at 57 mg/kg and in sample SDSD3 at 56.2 mg/kg, but the concentration of lead in duplicate sample SDSD2 was not significant. Mercury was detected in sample SDDRN1 at 1.84 mg/kg and in sample SDSD2 at 0.282 mg/kg, but the result for duplicate sample SDSD3 was not

Table 5-4
Sediment Sampling Results for Buse Timber and Sales, Inc.
May 25, 1994

	Union Slough Background Sediment	Storm Drain Catch Basin Sediment	Storm Drain Outfall Sediment	Storm Drain Outfall Sediment Duplicate	Union Slough Tidal Gate Sediment
Substance Detected	SDUSBK5	SDDRN1	SDSD2	SDSD3	SDUS4
Total Metals (mg/kg)					
Aluminum	17600	7410	3790	5030	14400
Antimony	3.2 J	3 UJ	3.4 J	5.6 J	3 UJ
Arsenic	15 J	8 J	6.7 J	7.7 J	10 J
Barium	61.2	51.2	63.9	69.3	45.6
Beryllium	0.41 J	0.15 J	0.13 J	0.15 J	0.33 J
Cadmium	0.29 J	0.56 J	1.9 J	2 J	0.23 J
Calcium	3770	3770	2770	2920	4540
Chromium	72.5	182	96.3	94.6	102
Cobalt	16.5	238	10.6	11.4	29.6
Copper	44.1	108	57.2	69.3	36.2
Iron	25900	13200	16700	18000	26900
Lead	11 J	57	39.9	56.2	13 J
Magnesium	9380	5300	2250	2880	8560
Manganese	385	188	144	153	263
Mercury	0.0694	1.84	0.282	0.159	0.103
Nickel	56.8	56.8	59	60.1	67.9
Potassium	1380	524	380 J	511	1380
Selenium	6.5 J	6 U	6 U	11 J	9.7 J
Sodium	440	378	797	952	3210
Thallium	5 U	5 U	5.2 J	5 U	7.4 J
Vanadium	53	32.3	18.1	22.7	45.4
Zinc	76.8	329	231	262	62.5
PCBs (ug/kg)					
Aroclor 1254	70 U	1000	460J	600 J	75 U

Notes:
Highlighted values indicate sample was detected at significant concentrations based on the criteria in Table 5-1.
J = Value is an estimate
U = Sample was undetected
ug = Microgram (1E-6 gram)
UJ = analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is an estimate

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

Northwest Regional Office, 3190 - 160th Ave S.E. • Bellevue, Washington 98008-5452 • (206) 649-7000

October 19, 1992

Mr. Steve Fogg
Buse Timber and Sales, Incorporated
P.O. Box 5226
Everett, WA 98206

Dear Mr. Fogg:

Enclosed are the two documents we sent to Dave Buse indicating the Site Hazard Ranking of No Further Action by the Department of Ecology. Sometime in the future, there could be other actions or data could reveal that a cleanup is necessary, but at present, we have no intentions of pursuing clean-up activities on-site.

If you have any questions, or want the laboratory results of the sampling we did on-site, please call. My phone number is (206) 649-7135.

Sincerely,

Judith M. Aitken
Pre-Remedial Analyst
Toxics Cleanup Program

JMA:rs
Enclosures

State of Washington Department of Ecology
Manchester Environmental Laboratory
7411 Beach Dr. East Port Orchard WA. 98366

Data Review
August 5, 1992

Project: **Buse Timber & Sales**

Samples: 258030 258031

Laboratory: Columbia Analytical Services 3922

By: Stuart Magoon

Case Summary

These samples were received at the Manchester Environmental Laboratory on June 18, 1992, and transported to Columbia Analytical Services on June 22, 1992 for semivolatile (BNA) analysis.

These analyses were reviewed for qualitative and quantitative accuracy, validity, and usefulness.

There is no need to assimilate the "dilution factor" or "sample wt/vol" into the final values reported; these calculations have already been figured into the reported values.

DATA QUALIFIER DEFINITIONS

ND - The analyte was not detected at or above the reported result. (MRL)

NDJ - The analyte was not detected at or above the reported estimated result.

J - The associated numerical result is an estimated quantity.

NJ - There is evidence that the analyte is present. The associated numerical result is an estimate.

NR- Not reported.

Semivolatile analyses (BNA)

Holding Times:

These samples were extracted and analyzed within the SW-846 recommended holding times.

Method Blanks:

No target analytes were detected in the method blank.

GC/MS Tuning and Calibration:

Calibration against Decaflourotriphenylphosphine (DFTPP) is acceptable for the initial calibration, continuing calibration and all associated sample analyses.

Initial Calibration:

The initial calibration met the minimum response criteria of greater than 0.05 for the average relative response, and the percent deviation (%D) of less than 30% between the five different concentrations.

Continuing Calibration:

The average relative response factor (RRF) for all the target analytes were all above the minimums; and the percent deviation (%D) between the initial and continuing calibration standards was within the maximum of 25% , with a few exceptions. No quantitations of detected analytes were affected as a result of these outliers. All non-detected results for the analytes that are above the 25% deviation criteria have been qualified with an "NDJ".

Surrogates:

surrogate recoveries for these samples, and the method blank are acceptable and within quality control limits.

Sample Data:

The results are acceptable for use, with the added qualifiers where appropriate.

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Washington State Dept. of Ecology	**Date Received:**	06/22/92
Project:	Buse Timber & Sales SHA	**Work Order No.:**	K923922
Sample Matrix:	Soil		

CASE NARRATIVE

All analyses were performed in accordance with the quality assurance program of Columbia Analytical Services, Inc. Samples 258030 and 258031 were received for BNA analysis on June 22, 1992. Both samples, received in good condition, were extracted on June 23, 1992. Due to the sample matrix, both were brought to a final volume of 5.0 mL. The samples were initially analyzed on June 25, 1992, at 1:10 dilutions. Based on these analyses, the samples were reanalyzed on July 13, 1992, using no dilution factor past the final volume. Results are reported from the analyses done on July 13, 1992 only. [Quantitation reports and chromatograms from the initial analyses are included in the raw data package.*] The TIC determinations were difficult in that the unknown peaks were coeluting with a chromatographic "hump". Most TIC determinations were done by hand vs. automated. All surrogate and laboratory control sample QC parameters were within acceptance criteria.

* NO They were not. SM

Approved by _____ Date 7-21-92

00001

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Washington State Dept. of Ecology	**Date Received:**	06/22/92
Project:	Buse Timber & Sales SHA	**Date Extracted:**	06/23/92
Sample Matrix:	Soil	**Date Analyzed:**	07/13/92
		Work Order No.:	K923922

Base Neutral/Acid Semivolatile Organic Compounds
EPA Methods 3550/8270
mg/Kg (ppm)
Dry Weight Basis

Sample Name: 258030
Lab Code: K3922-1

Base Neutral Analyte	MRL*	Result	Base Neutral Analyte	MRL*	Result
N-Nitrosodimethylamine	1.4	ND	2,6-Dinitrotoluene	1.4	ND
Aniline	1.4	ND	Diethyl Phthalate	1.4	ND
Bis(2-chloroethyl) Ether	1.4	ND	4-Chlorophenyl Phenyl Ether	1.4	ND
1,2-Dichlorobenzene	1.4	ND	Fluorene	1.4	ND
1,3-Dichlorobenzene	1.4	ND	4-Nitroaniline	10	ND
1,4-Dichlorobenzene	1.4	ND	N-Nitrosodiphenylamine	1.4	ND
Bis(2-chloroisopropyl) Ether	1.4	ND	4-Bromophenyl Phenyl Ether	1.4	ND
N-Nitrosodi-n-propylamine	1.4	ND	Hexachlorobenzene	1.4	ND
Hexachloroethane	1.4	ND	Phenanthrene	1.4	ND
Nitrobenzene	1.4	ND	Anthracene	1.4	ND
Isophorone	1.4	ND	Di-n-butyl Phthalate	1.4	ND
Bis(2-chloroethoxy)methane	1.4	ND	Fluoranthene	1.4	ND
1,2,4-Trichlorobenzene	1.4	ND	Pyrene	1.4	ND
Naphthalene	1.4	ND	Butylbenzyl Phthalate	1.4	ND
4-Chloroaniline	1.4	ND	3,3'-Dichlorobenzidine	1.4	ND J
Hexachlorobutadiene	1.4	ND	Benz(a)anthracene	1.4	ND
2-Methylnaphthalene	1.4	ND J	Bis(2-ethylhexyl) Phthalate	1.4	2.7 J
Hexachlorocyclopentadiene	1.4	ND J	Chrysene	1.4	ND
2-Chloronaphthalene	1.4	ND	Di-n-octyl Phthalate	1.4	ND
2-Nitroaniline	10	ND	Benzo(b)fluoranthene	1.4	ND
Dimethyl Phthalate	1.4	ND	Benzo(k)fluoranthene	1.4	ND
Acenaphthylene	1.4	ND	Benzo(a)pyrene	1.4	ND
3-Nitroaniline	10	ND J	Indeno(1,2,3-c,d)pyrene	1.4	ND
Acenaphthene	1.4	ND	Dibenz(a,h)anthracene	1.4	ND
Dibenzofuran	1.4	ND	Benzo(g,h,i)perylene	1.4	ND
2,4-Dinitrotoluene	1.4	ND			

Acid Analyte	MRL*	Result	Acid Analyte	MRL*	Result
Phenol	1.4	ND	2,4-Dichlorophenol	1.4	ND
2-Chlorophenol	1.4	ND J	4-Chloro-3-methylphenol	1.4	ND
Benzyl Alcohol	1.4	ND	2,4,6-Trichlorophenol	1.4	ND
2-Methylphenol	1.4	ND	2,4,5-Trichlorophenol	1.4	ND
3- and 4-Methylphenol♦	1.4	ND	2,4-Dinitrophenol	10	ND
2-Nitrophenol	1.4	ND	4-Nitrophenol	10	ND
2,4-Dimethylphenol	1.4	ND	2-Methyl-4,6-dinitrophenol	10	ND
Benzoic Acid	10	ND	Pentachlorophenol	10	~~ND~~ 1.6 M

MRL Method Reporting Limit
* MRLs are elevated because of matrix interferences, because the sample(s) required diluting, and because of the low percent solids in the sample as received.
ND None Detected at or above the method reporting limit
♦ Quantified as 4-methylphenol.

Approved by _____ Date 7-21-92

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Washington State Dept. of Ecology	**Date Received:**	06/22/92
Project:	Buse Timber & Sales SHA	**Date Extracted:**	06/23/92
Sample Matrix:	Soil	**Date Analyzed:**	07/13/92
		Work Order No.:	K923922

Base Neutral/Acid Semivolatile Organic Compounds
EPA Methods 3550/8270
mg/Kg (ppm)
Dry Weight Basis

Sample Name: 258031
Lab Code: K3922-2

Base Neutral Analyte	MRL*	Result	Base Neutral Analyte	MRL*	Result
N-Nitrosodimethylamine	1.6	ND	2,6-Dinitrotoluene	1.6	ND
Aniline	1.6	ND	Diethyl Phthalate	1.6	ND
Bis(2-chloroethyl) Ether	1.6	ND	4-Chlorophenyl Phenyl Ether	1.6	ND
1,2-Dichlorobenzene	1.6	ND	Fluorene	1.6	ND
1,3-Dichlorobenzene	1.6	ND	4-Nitroaniline	11	ND
1,4-Dichlorobenzene	1.6	ND	N-Nitrosodiphenylamine	1.6	ND
Bis(2-chloroisopropyl) Ether	1.6	ND	4-Bromophenyl Phenyl Ether	1.6	ND
N-Nitrosodi-n-propylamine	1.6	ND	Hexachlorobenzene	1.6	ND
Hexachloroethane	1.6	ND	Phenanthrene	1.6	ND
Nitrobenzene	1.6	ND	Anthracene	1.6	ND
Isophorone	1.6	ND	Di-n-butyl Phthalate	1.6	ND
Bis(2-chloroethoxy)methane	1.6	ND	Fluoranthene	1.6	ND
1,2,4-Trichlorobenzene	1.6	ND	Pyrene	1.6	1.6 J
Naphthalene	1.6	ND	Butylbenzyl Phthalate	1.6	ND
4-Chloroaniline	1.6	ND	3,3'-Dichlorobenzidine	1.6	ND J
Hexachlorobutadiene	1.6	ND	Benz(a)anthracene	1.6	ND
2-Methylnaphthalene	1.6	ND J	Bis(2-ethylhexyl) Phthalate	1.6	3.9 J
Hexachlorocyclopentadiene	1.6	ND J	Chrysene	1.6	ND
2-Chloronaphthalene	1.6	ND	Di-n-octyl Phthalate	1.6	ND
2-Nitroaniline	11	ND	Benzo(b)fluoranthene	1.6	ND
Dimethyl Phthalate	1.6	ND	Benzo(k)fluoranthene	1.6	ND
Acenaphthylene	1.6	ND	Benzo(a)pyrene	1.6	ND
3-Nitroaniline	11	ND J	Indeno(1,2,3-c,d)pyrene	1.6	ND
Acenaphthene	1.6	ND	Dibenz(a,h)anthracene	1.6	ND
Dibenzofuran	1.6	ND	Benzo(g,h,i)perylene	1.6	ND
2,4-Dinitrotoluene	1.6	ND			

Acid Analyte	MRL*	Result	Acid Analyte	MRL*	Result
Phenol	1.6	ND	2,4-Dichlorophenol	1.6	ND
2-Chlorophenol	1.6	ND J	4-Chloro-3-methylphenol	1.6	ND
Benzyl Alcohol	1.6	ND	2,4,6-Trichlorophenol	1.6	ND
2-Methylphenol	1.6	ND	2,4,5-Trichlorophenol	1.6	ND
3- and 4-Methylphenol♦	1.6	ND	2,4-Dinitrophenol	11	ND
2-Nitrophenol	1.6	ND	4-Nitrophenol	11	ND
2,4-Dimethylphenol	1.6	ND	2-Methyl-4,6-dinitrophenol	11	ND
Benzoic Acid	11	ND	Pentachlorophenol	11	~~ND~~ 4.1 N

MRL Method Reporting Limit
* MRLs are elevated because of matrix interferences, because the sample(s) required diluting, and because of the low percent solids in the sample as received.
ND None Detected at or above the method reporting limit
♦ Quantified as 4-methylphenol.

Approved by _____ Date 7-21-92

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Washington State Dept. of Ecology	**Date Received:**	06/22/92
Project:	Buse Timber & Sales SHA	**Date Extracted:**	06/23/92
Sample Matrix:	Soil	**Date Analyzed:**	07/13/92
		Work Order No.:	K923922

Tentatively Identified Compounds (TIC)

Base Neutral/Acid Semivolatile Organic Compounds
EPA Methods 3550/8270
mg/Kg (ppm)
Dry Weight Basis

Sample Name: 258030
Lab Code: K3922-1

CAS Number	TIC	Retention Time	Estimated Concentration
--	Unknown	9.93	2
--	Unknown	21.85	3
--	Unknown	23.21	4
--	Unknown	23.40	2
--	Unknown	24.77	10
--	Unknown	27.70	14
--	Unknown	29.84	17
--	Unknown	30.62	19
--	Unknown	31.20	33
--	Unknown	33.31	6
--	Unknown	33.58	28
--	Unknown	33.67	11
--	Unknown	34.25	5
--	Unknown	34.44	15
--	Unknown	34.69	22
--	Unknown	35.57	24
--	Unknown	36.80	14
--	Unknown	36.95	13
--	Unknown	37.85	13

Approved by _____ Date 7-21-92

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Washington State Dept. of Ecology	**Date Received:**	06/22/92
Project:	Buse Timber & Sales SHA	**Date Extracted:**	06/23/92
Sample Matrix:	Soil	**Date Analyzed:**	07/13/92
		Work Order No.:	K923922

Tentatively Identified Compounds (TIC)

Base Neutral/Acid Semivolatile Organic Compounds
EPA Methods 3550/8270
mg/Kg (ppm)
Dry Weight Basis

Sample Name: 258031
Lab Code: K3922-2

CAS Number	TIC	Retention Time	Estimated Concentration
4537115	(1-Butylhexyl)benzene	17.24	7
4537148	(1-Pentylhexyl)benzene	18.41	14
4537159	(1-Butylheptyl)benzene	18.45	11
4536861	(1-Propyloctyl)benzene	18.57	9
4536672	(1-Ethylnonyl)benzene	18.82	6
--	Unknown Hydrocarbon	19.15	3
4536883	(1-Methyldecyl)benzene	19.26	4
2719622	(1-Pentylheptyl)benzene	19.56	17
2719633	(1-Butyloctyl)benzene	19.62	10
2719644	(1-Propylnonyl)benzene	19.76	9
2719611	(1-Methylundecyl)benzene	20.43	4
--	Unknown Hydrocarbon	20.65	3
--	Unknown	21.92	4
--	Unknown	23.22	4
57114	Octadecanoic Acid	24.10	14
--	Unknown	34.45	17
--	Unknown	35.60	12
--	Unknown	36.82	6
--	Unknown	36.99	4
--	Unknown	38.13	24

Approved by _____ Date 7-21-92

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Washington State Dept. of Ecology	**Date Extracted:**	06/23/92
Project:	Buse Timber & Sales SHA	**Date Analyzed:**	07/01/92
Sample Matrix:	Soil	**Work Order No.:**	K923922

Base Neutral/Acid Semivolatile Organic Compounds
EPA Methods 3550/8270
mg/Kg (ppm)
Dry Weight Basis

Sample Name: Method Blank
Lab Code: K3922-MB

Base Neutral Analyte	MRL	Result	Base Neutral Analyte	MRL	Result
N-Nitrosodimethylamine	0.3	ND	2,6-Dinitrotoluene	0.3	ND
Aniline	0.3	ND	Diethyl Phthalate	0.3	ND
Bis(2-chloroethyl) Ether	0.3	ND	4-Chlorophenyl Phenyl Ether	0.3	ND
1,2-Dichlorobenzene	0.3	ND	Fluorene	0.3	ND
1,3-Dichlorobenzene	0.3	ND	4-Nitroaniline	2	ND
1,4-Dichlorobenzene	0.3	ND	N-Nitrosodiphenylamine	0.3	ND J
Bis(2-chloroisopropyl) Ether	0.3	ND	4-Bromophenyl Phenyl Ether	0.3	ND
N-Nitrosodi-n-propylamine	0.3	ND	Hexachlorobenzene	0.3	ND
Hexachloroethane	0.3	ND	Phenanthrene	0.3	ND
Nitrobenzene	0.3	ND	Anthracene	0.3	ND
Isophorone	0.3	ND	Di-n-butyl Phthalate	0.3	ND
Bis(2-chloroethoxy)methane	0.3	ND	Fluoranthene	0.3	ND
1,2,4-Trichlorobenzene	0.3	ND	Pyrene	0.3	ND
Naphthalene	0.3	ND	Butylbenzyl Phthalate	0.3	ND
4-Chloroaniline	0.3	ND	3,3'-Dichlorobenzidine	0.3	ND
Hexachlorobutadiene	0.3	ND	Benz(a)anthracene	0.3	ND
2-Methylnaphthalene	0.3	ND	Bis(2-ethylhexyl) Phthalate	0.3	ND
Hexachlorocyclopentadiene	0.3	ND	Chrysene	0.3	ND
2-Chloronaphthalene	0.3	ND	Di-n-octyl Phthalate	0.3	ND
2-Nitroaniline	2	ND	Benzo(b)fluoranthene	0.3	ND
Dimethyl Phthalate	0.3	ND	Benzo(k)fluoranthene	0.3	ND
Acenaphthylene	0.3	ND	Benzo(a)pyrene	0.3	ND
3-Nitroaniline	2	ND	Indeno(1,2,3-c,d)pyrene	0.3	ND
Acenaphthene	0.3	ND	Dibenz(a,h)anthracene	0.3	ND
Dibenzofuran	0.3	ND	Benzo(g,h,i)perylene	0.3	ND
2,4-Dinitrotoluene	0.3	ND			

Acid Analyte	MRL	Result	Acid Analyte	MRL	Result
Phenol	0.3	ND	2,4-Dichlorophenol	0.3	ND
2-Chlorophenol	0.3	ND	4-Chloro-3-methylphenol	0.3	ND
Benzyl Alcohol	0.3	ND	2,4,6-Trichlorophenol	0.3	ND
2-Methylphenol	0.3	ND	2,4,5-Trichlorophenol	0.3	ND
3- and 4-Methylphenol♦	0.3	ND	2,4-Dinitrophenol	2	ND
2-Nitrophenol	0.3	ND	4-Nitrophenol	2	ND
2,4-Dimethylphenol	0.3	ND	2-Methyl-4,6-dinitrophenol	2	ND
Benzoic Acid	2	ND	Pentachlorophenol	2	ND

MRL Method Reporting Limit
ND None Detected at or above the method reporting limit
♦ Quantified as 4-methylphenol.

Approved by _____ Date 7-21-92

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Washington State Dept. of Ecology	**Date Received:**	06/22/92
Project:	Buse Timber & Sales SHA	**Date Extracted:**	06/23/92
Sample Matrix:	Soil	**Date Analyzed:**	07/13/92
		Work Order No.:	K923922

Surrogate Recovery Summary
Base Neutral/Acid Semivolatile Organic Compounds
EPA Methods 3550/8270

Sample Name	Lab Code	Percent Recovery					
		2FP	PHL	TBP	NBZ	FBP	TPH
258030	K3922-1	93	102	94	78	87	127
258031	K3922-2	89	97	94	71	86	127
EPA Acceptance Criteria		25-121	24-113	19-122	23-120	30-115	18-137

2FP 2-Fluorophenol
PHL Phenol-D_6
TBP 2,4,6-Tribromophenol
NBZ Nitrobenzene-D_5
FBP 2-Fluorobiphenyl
TPH Terphenyl-D_{14}

Approved by _____ Date 7-21-92

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Washington State Dept. of Ecology	**Date Extracted:**	06/23/92
Project:	Buse Timber & Sales SHA	**Date Analyzed:**	07/01/92
Sample Matrix:	Soil	**Work Order No.:**	K923922

Surrogate Recovery Summary
Base Neutral/Acid Semivolatile Organic Compounds
EPA Methods 3550/8270

Sample Name	Lab Code	Percent Recovery					
		2FP	PHL	TBP	NBZ	FBP	TPH
Method Blank	K3922-MB	70	76	72	75	85	85
Laboratory Control Sample	K3922-LCS	69	71	72	73	83	88
EPA Acceptance Criteria		25-121	24-113	19-122	23-120	30-115	18-137

2FP 2-Fluorophenol
PHL Phenol-D_6
TBP 2,4,6-Tribromophenol
NBZ Nitrobenzene-D_5
FBP 2-Fluorobiphenyl
TPH Terphenyl-D_{14}

Approved by _____ Date 7-21-92

WORKSHEET 1
SUMMARY SCORE SHEET

Note: This document currently has no provision for sediment route scoring.

Site Name/Location (City, County, Section/Township/Range):
BUSE TIMBER AND SALES
Everett, Snohomish County

Section 9 of T29N, R5E.

Site Description (Include management areas, compounds of concern, and quantities):
Buse Timber and Sales has operated a saw mill on Smith Island since 1946. They used Pentachlorophenol to treat the lumber until 1986, then changed to "PQ8". Sampling, done in 1986 by consultants for EPA, indicated Pentachlorophenol and Tetrachlorophenol in the soils and sediments at quantities above MTCA Cleanup levels. The site was again sampled at the same points in June 1992 and there was no evidence that either compound or their breakdown compounds were still on the site or in the slough. We did find Pyrene and Bis(2-ethylhexyl)phthalate, but both were below MTCA Cleanup levels.

Pyrene on site = estimated 1.6 ppm Cleanup level = 2,400 ppm
Bis(2-ethylhexyl)phthalate on site = estimated 3.9 ppm and 2.7 ppm
Cleanup level = 71.4 ppm.

Special Considerations (Include limitations in site file data or data which cannot be accommodated in the model, but which are important in evaluating the risk associated with the site, or any other factor(s) over-riding a decision of no further action for the site):
Manchester Laboratory indicated that there are high amounts of petroleum products in Union Slough as evidenced the June 1992 sampling. Further study of the slough is merited. There is no evidence that the petroleum came from Buse and there are several other businesses abutting the slough.

ROUTE SCORES: NOT SCORED

Surface Water/Human Health: ND Surface Water/Environ.: ND

Air/Human Health: ND Air/Environmental: ND

Ground Water/Human Health: ND

OVERALL RANK: NFA

Rev. 4/3/92

Table 5-4 (Continued)
Sediment Sampling Results for Buse Timber and Sales, Inc.
May 25, 1994

	Union Slough Background Sediment	Storm Drain Catch Basin Sediment	Storm Drain Outfall Sediment	Storm Drain Outfall Sediment Duplicate	Union Slough Tidal Gate Sediment
Substanee Detected	SDUSBK5	SDDRN1	SDSD2	SDSD3	SDUS4
Semivolatile (ug/kg)					
2-Methylnaphthalene	610 U	4600 U	1900 U	3700 J	610 U
2-Methylphenol	610 U	4600 U	30000 U	2900 J	610 U
4-Methylphenol	140 J	4600 U	2100 J	2900 J	610 U
Benzo(g,h,i)perylene	610 U	380 J	30000 U	29000 U	610 U
Butylbenzylphthalate	610 U	650 J	30000 U	29000 U	610 U
Chrysene	610 U	320 J	30000 U	29000 U	610 U
Di-n-butylphthalate	42 J	4600 U	30000 U	1700 J	610 U
Di-n-octylphthalate	610 U	520 J	30000 U	29000 U	610 U
Diethylphthalate	34 J	4600 U	30000 U	29000 U	610 U
Fluoranthene	110 J	400 J	30000 U	29000 U	610 U
Pentachlorophenol	1500 U	460 J	73000 U	70000 U	1500 U
Phenanthrene	74 J	240 J	30000 U	1800 J	610 U
Pyrene	130 J	750 J	2200 J	1800 J	610 U
Chlorinated Phenols (ug/kg)					
2,4,5-Trichlorophenol	18 U	16 J	43 U	56 U	20 U
2,4,6-Trichlorophenol	18 U	16 U	43 U	56 U	10 J
2,4-Dichlorophenol	18 U	16 J	43 U	56 U	20 U
2,6-Dichlorophenol	18 J	16 J	109 J	56 U	40 J
2-Phenylphenol	18 U	32	43 J	56 U	20 J
4-Chloro-3-methylphenol	18 U	8 J	22 J	56 U	20 U
Pentachlorophenol	18 U	71	109	56 U	10 U

Notes:
Highlighted values indicate sample was detected at significant concentrations based on the criteria in Table 5-1.
J = Value is an estimate
U = Sample was undetected
ug = Microgram (1E-6 gram)

significant. There is no known source for mercury on the Buse site. The only known source of lead on the Buse site is leaded gasoline used in vehicles operated on the site.

5.3.2 PCB Analyses

No PCBs were detected in the off-site background sediment sample.

One PCB compound was detected in one on-site sample at a significant concentration. Aroclor 1254 was detected at 1,000 μg/kg in sample SDDRN1, the storm drain catch basin sample. Ecology noted several PCB violations in a 1990 TSCA inspection performed for the EPA (U.S. EPA 1991b). No other significant detections of PCBs were reported.

5.3.3 Semivolatile Analyses

Six SVs were detected at estimated concentrations in the off-site background sediment sample: 4-methylphenol, di-n-butylphthalate, diethylphthalate, fluoranthene, phenanthrene, and pyrene. See Table 5-4 for concentrations. No significant detections of SVs were reported for any of the on-site sediment samples.

5.3.4 Chlorinated Phenol Analyses

One chlorinated phenol (2,6-dichlorophenol) was detected at an estimated concentration of 18 mg/kg in the background sediment sample (SDUSBK5). All sample detections for chlorinated phenol analyses are reported in Table 5-4.

Pentachlorophenol was detected at significant concentrations in both the storm drain outfall sample (SDSD2) and in the storm drain catch basin sample (SDDRN1). Sample SDSD2 was reported to contain 109 μg/kg pentachlorophenol and sample SDDRN1 was reported to contain 71 μg/kg pentachlorophenol. The duplicate storm drain outfall sediment sample did not have any detections of chlorinated phenols. The detection limit for this duplicate sample was reported as 56 μg/kg for pentachlorophenol. The storm drain catch basin sample (SDDRN1) reported a significant concentration of 2-phenylphenol at 32 μg/kg.

5.4 QUALITY CONTROL SAMPLES

Duplicate samples were collected during this field sampling event to evaluate the environmental variability at a location and the consistency of sample collection. The results from the duplicates collected at the Buse site reported detections of similar compounds. However, none of the significant detections in either sample was confirmed by a significant detection in the other sample. Sample detections and detection limits varied widely. For example, sample SDSD3 has a reported concentration of di-n-butylphthalate of 1,700 (estimated) but the duplicate sample's (SDSD2) result is not detected at a detection limit of 30,000. Apparently, despite sample homogenization residual heterogeneity existed between the sample duplicates.

During the field sampling conducted at Buse Timber and Sales, an equipment rinsate sample (ERO01) was collected. The analytes detected in this sample are provided in Table 5-5. The equipment rinsate sample was collected after the stainless steel auger was decontaminated. None of the analytes detected in the rinsate sample were detected at significant concentrations in any of the environmental samples, indicating that cross contamination is not likely to have occurred.

5.5 SUMMARY

Significant quantities of lead, mercury, and pentachlorophenol were detected in the storm drain catch basin and storm drain outfall samples. One PCB (Aroclor 1254) and 2-phenylphenol were detected at significant quantities in the sediment sample collected from the storm drain catch basin. No other significant quantities of any other compound were detected in any sample.

Table 5-5
Rinsate Sample Results for Buse Timber & Sales
May 25, 1994

	Equipment Rinsate
Substance Detected	**ER01**
Inorganics ug/kg	
Aluminum	5.8 UJ
Iron	9.98 J
Magnesium	25 J
Manganese	0.21 UJ
Sodium	5.4 UJ
PCBs ug/kg	
	ND
Semivolatiles ug/kg	
1,4-Dichlorobenzene	1 J
Naphthalene	6 J
Chlorinated Phenols ug/kg	
4-Chloro-3-methylphenol	0.3 J
Phenol	0.3 J

Notes:
J =value is an estimate
mg/kg = milligrams per kilograms
ND = none detected
U =sampe was undetected
ug = Microgram (1E-6 gram)
UJ = analyte was not detected above the reported ample quantitation limit. However, the reported quantitation limit is an estimate.

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APPENDIX A

PHOTODOCUMENTATION OF MAY 24 AND 25, 1994, URS SAMPLING EVENT

URS Consultants	ARCS Photograph Log	DCL # 4162760.17.20.638.27.a	
Project Number: 4162760.17	Project/Site Name: Buse Marine Construction and Repair, Inc.	Photographer(s) Signatures(s): Thomas Mercer, Jeff Kesner	
Camera Type: Canon	Film Type/Speed: Kodak 200 ASA	Roll Number: 1	Date: 8/15/94

Frame	Date	Time	Orientation	Subject
1	5-24-94	0940	S	JMK and TAM at Union Slough background
2	5-24-94	0940	N	Sampling the Union Slough background sediment sample
3	5-24-94	0940	N	Sampling the Union Slough background sediment sample
4	5-25-94	0818	N	JMK at SSUR01 sample location
5	5-25-94	0920	SW	BUSE personnel attempting to remove catch basin cover
6	5-25-94	0922	SW	BUSE personnel attempting to remove catch basin cover
7	5-25-94	0926	NW	The catch basin where sample SDRN1 was collected
8	5-25-94	0930	Down	TAM collecting sample SDRN1
9	5-25-94	0946	W	Sample SDSD2 and SDSD3 location
10	5-25-94	0959	NW	JMK sampling SDSD2
11	5-25-94	1024	W	Panorama of tidal gate slough
12	5-25-94	1024	WSW	Panorama of tidal gate slough
13	5-25-94	1024	WSW	Panorama of tidal gate slough
14	5-25-94	1025	SW	Collecting subaqueous tidal gate sediment sample
15	5-25-94	1215	S	SSURBAK3 Abandoned location for background sample
16	5-25-94	1301	SE	JMK preparing to sample background samples SSURBAK3 and SSUBBAK4 at Barbara Lawson's home

Date Delivered to Processor	Date Received from Processor	Comments

1 | JMK and TAM at Union Slough background

2 | Sampling the Union Slough background sediment sample

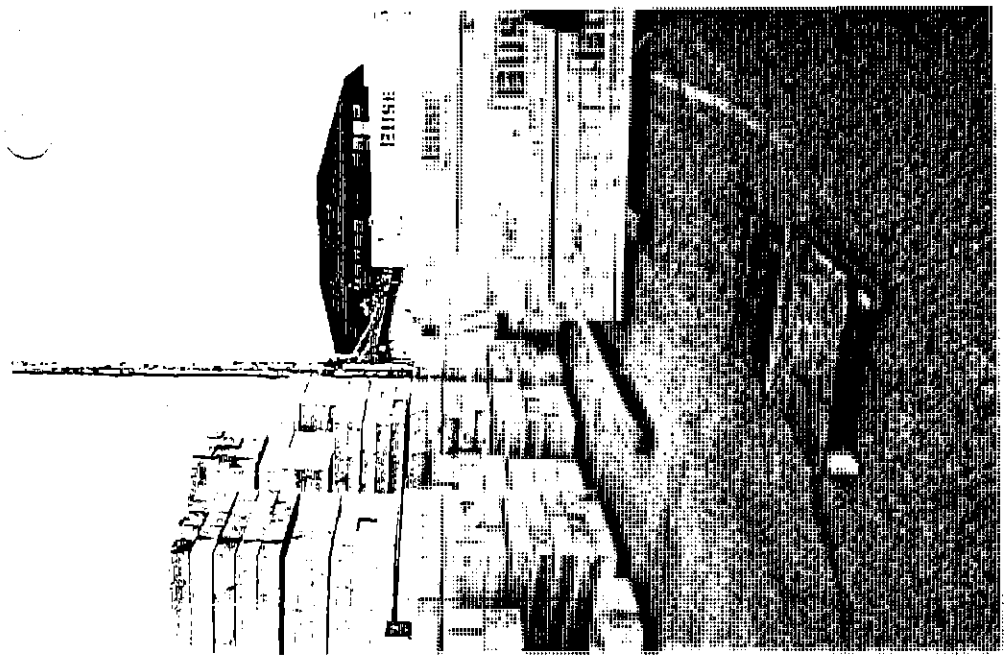
3 | Sampling the Union Slough background sediment sample

4 | JMK at SSUR01 sample location

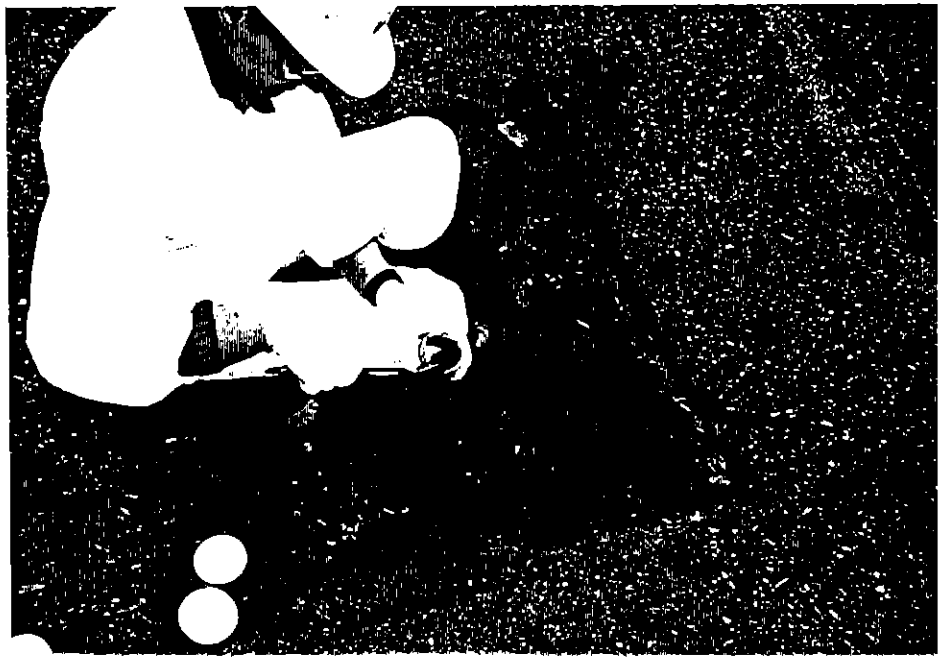
5 | BUSE personnel attempting to remove catch basin cover

6 | BUSE personnel attempting to remove catch basin cover

7 | The catch basin where sample SDRN1 was collected

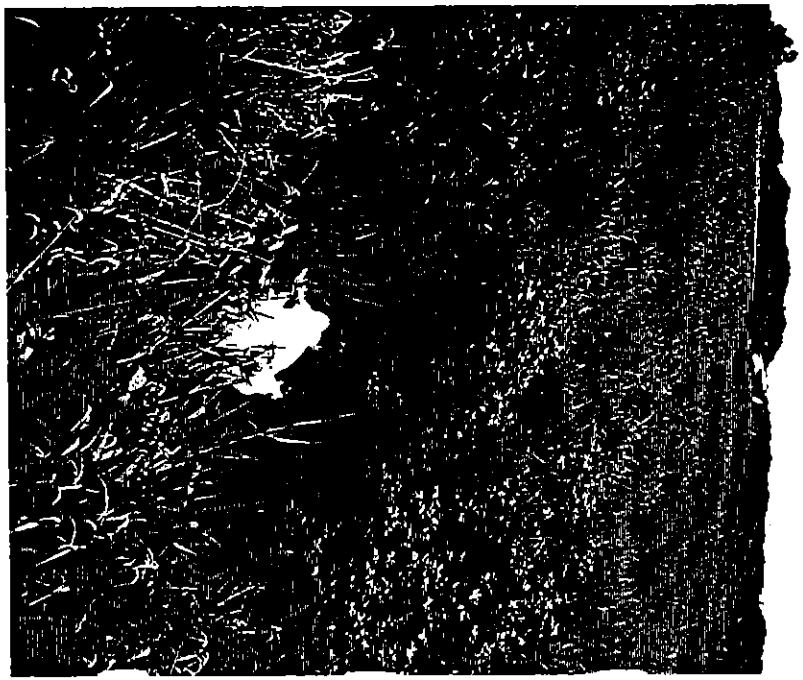


8 | TAM collecting sample SDRN1

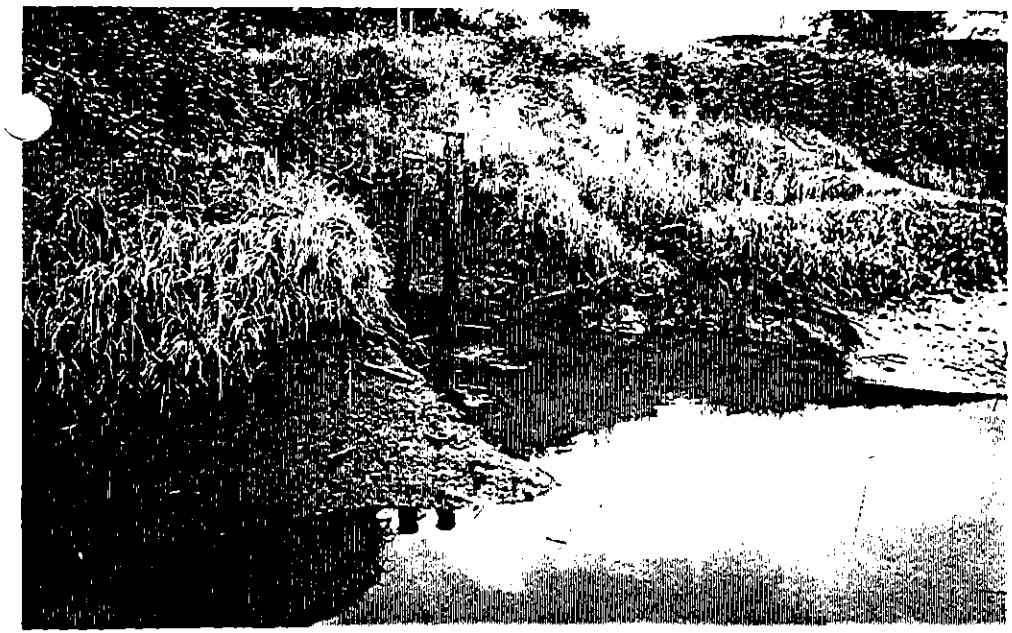


9 | Sample SDSD2 and SDSD3 location

10 | JMK sampling SDSD2

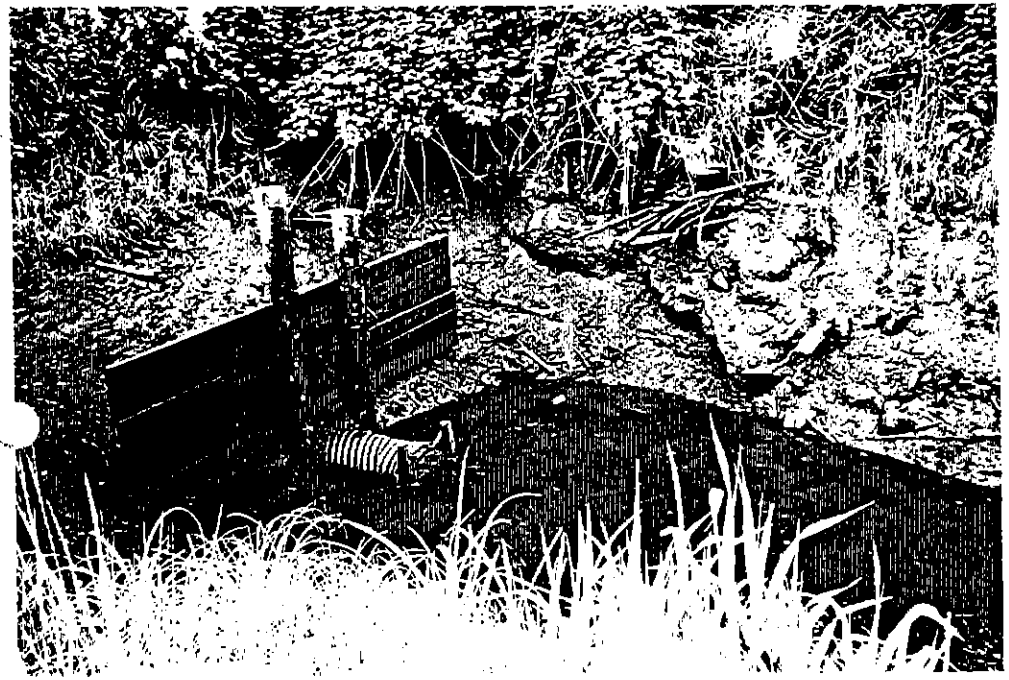


11 | Panorama of tidal gate slough

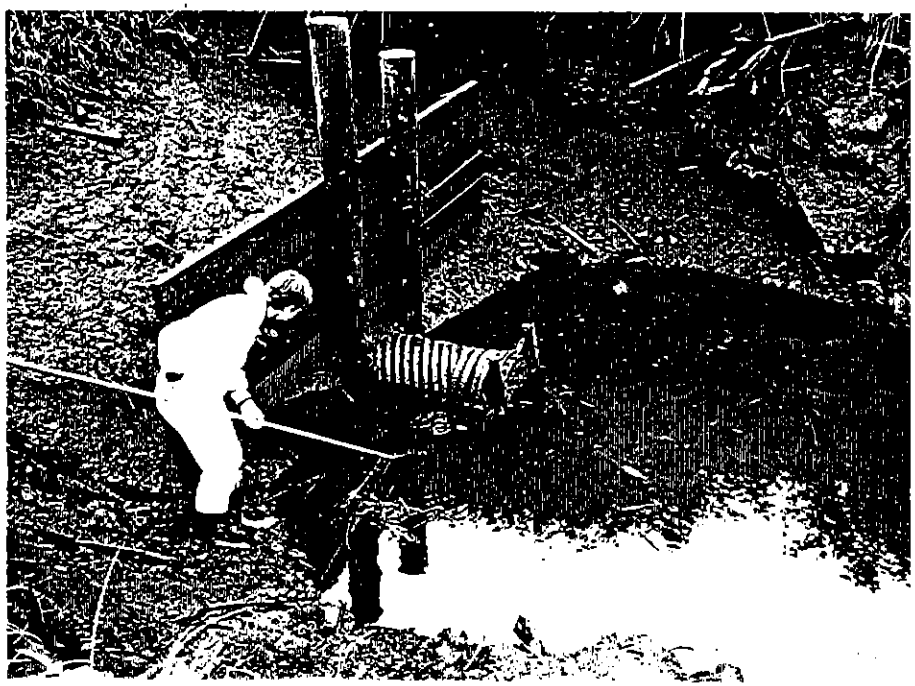


12 | Panorama of tidal gate slough

13 | Panorama of tidal gate slough



14 | Collecting subaqueous tidal gate sediment sample

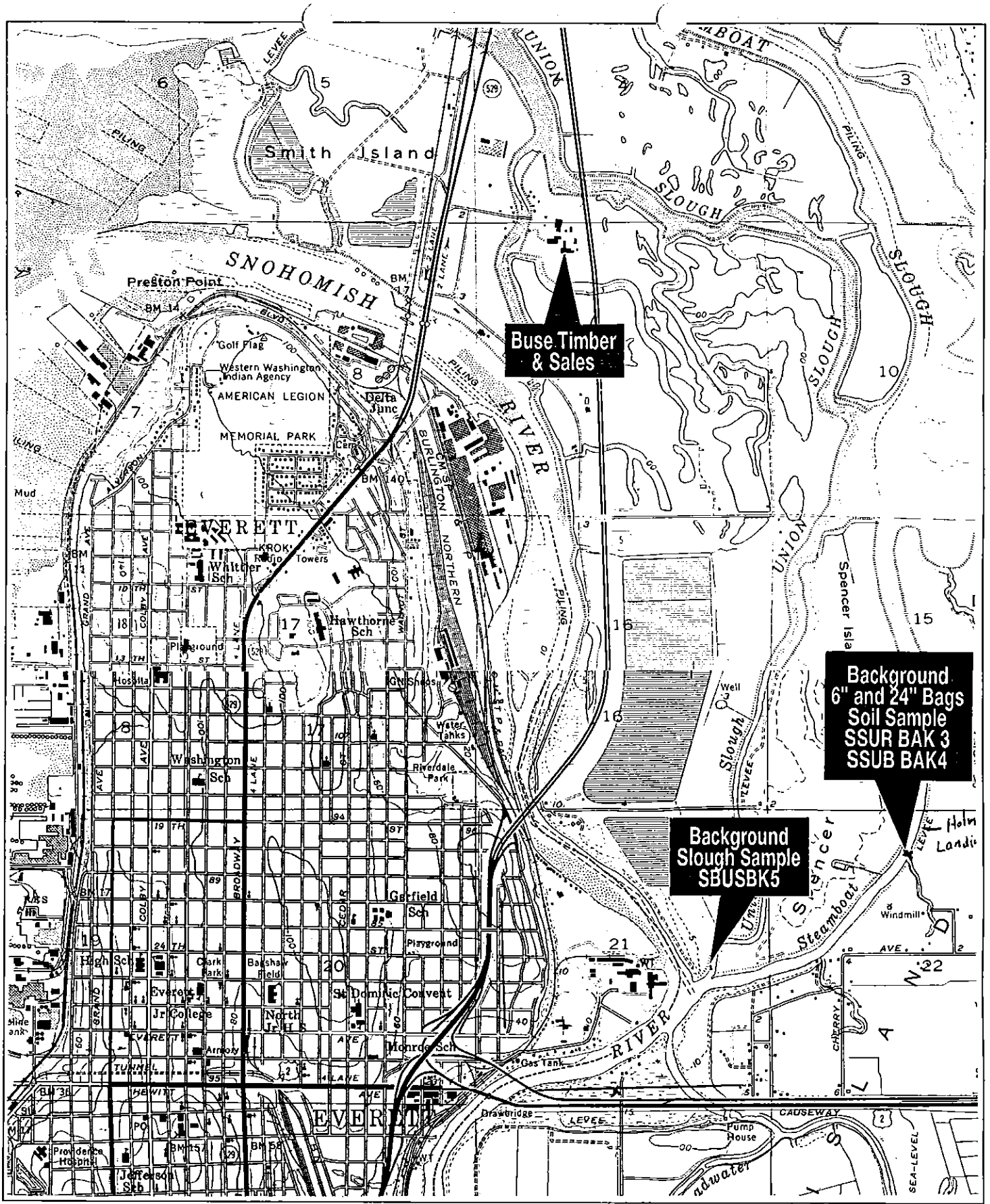


15 | SSURBAK3 Abandoned location for background sample

16 | JMK preparing to sample background samples SSURBAK3 and SSUBBAK4 at Barbara Lawson's home

APPENDIX B

BACKGROUND SAMPLE LOCATION MAP



URS CONSULTANTS

NORTH

0 1/2 1

Scale In Miles

Background Sample Location Map

Buse Timber & Sales
Everett, Washington

APPENDIX C

LABORATORY DATA REPORTS AND DATA VALIDATION REPORTS FOR SAMPLES COLLECTED FOR BUSE TIMBER & SALES

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10 LABORATORY
7411 Beach Dr. East
Port Orchard, Washington 98366
June 28, 1994

MEMORANDUM

SUBJECT: Buse Timber (SSI) Total Metals in Soil Analysis
Samples Nos: 94214115 - 94214124

FROM: Isabel Chamberlain, Task Monitor, USEPA, Region 10

TO: David Bennet, Project Manager, USEPA, Region 10

FULL DATA REVIEW

I have reviewed the attached data package and the corresponding raw data. Based on this review, I find that the Self Evaluation Report prepared by the ESAT contractor was conducted in accordance with the Functional Guidelines, and that the data qualifiers recommended in the ESAT contractor's evaluation are appropriate.

ENVIRONMENTAL SERVICE ASSISTANCE TEAMS - ZONE 2

ESAT Region 10
ICF Technology Inc.
7411 Beach Drive East
Port Orchard, WA 98366
Phone (206) 871-8760

ICF Technology Inc.
ManTech Environmental

MEMORANDUM

DATE: June 17, 1994

TO: Jerry Muth, Regional Project Officer, USEPA, Region 10
Isa Chamberlain, Task Monitor, USEPA, Region 10
David Bennett, Project Manager, USEPA, Region 10

THROUGH: Barry Pepich, Team Manager, ESAT, Region 10

FROM: John Alexander, Senior Chemist, ESAT, Region 10

SUBJECT: Quality Assurance Review of Buse Timber (SSI) Total Metals in Soil Analysis
Sample Nos: 94214115 - 94214124
Project Code: TEC-613A; Account Code: 4TFA10PUZZ

TID#: 10-9404-430
DOC#: ESAT-10A-7075
WUD#: 1420

CC: Bruce Woods, USEPA RQAMO, Region 10
Jeff Kesner, URS Consultants Inc., Seattle, WA

The following is a quality assurance review of the total metals analysis of nine soil samples and one field blank sample from the Buse Timber & Sales investigation, Everett, WA. The analysis was performed following CLP and laboratory guidelines by the ESAT Team at the USEPA Manchester Environmental Laboratory, Port Orchard, WA. This quality assurance review was conducted for the following samples:

94214115	94214116	94214117	94214118	94214119	94214120
94214121	94214122	94214123	94214124		

DATA QUALIFICATIONS

The following comments refer to the ESAT Team's performance in meeting quality control specifications outlined in the *CLP Statement of Work (CLP-SOW) for Inorganic Analysis, rev. ILM03.0*, the *Manchester Environmental Laboratory Quality Assurance Manual, revision 5/88*, and the *Buse Timber & Sales Field Sampling Plan, Rev. 2, 05/04/94*. The recommendations presented herein are based on the information provided for the review.

1.0 TIMELINESS - Acceptable

The suggested holding time from the date of collection for mercury in soil is 28 days and the holding time for remaining metals in soil is 180 days. The samples were collected on 05/24/94 and 05/25/94. Mercury analysis was completed by 06/02/94, nine days from collection. The remaining metals analyses were completed by 06/15/94, twenty-two days from collection. No qualification was recommended based on these holding time criteria.

2.0 SAMPLE PREPARATION - Acceptable

The samples were prepared using hot-plate digestion for total metals on 05/31/94 and for total mercury on 06/01/94. All procedures were in accordance with Manchester Laboratory and CLP protocols. Qualification was not recommended on this basis.

3.0 CALIBRATION - Acceptable

The samples were analyzed by ICP-AES (Inductively Coupled Plasma - Atomic Emission Spectroscopy) on 06/15/94. The instrument was standardized according to the analytical method using a blank and a series of calibration standards.

The samples were analyzed by CVAAS (Cold Vapor Atomic Absorption Spectroscopy) on 06/02/94 for mercury. Initial calibration included a blank and at least four standards, as required. The curve was linear with a correlation coefficient greater than 0.995.

All calibrations met acceptable criteria therefore no qualification was recommended on this basis.

4.0 REFERENCE CONTROL SAMPLES/CALIBRATION VERIFICATION - Acceptable

Laboratory reference control samples are required before and after sample analysis and after every 10 samples during analysis. All control samples met frequency and recovery criteria of 90 - 110% for ICP-AES and 80 - 120% for CVAAS (mercury) analysis except for aluminum in the final ICP-AES control sample (111%) on 06/15/94. However, a second control standard run for initial and final control verification was within limits and was deemed to be more representative of the aluminum concentrations found in the samples. On this basis, no qualification was recommended.

5.0 BLANKS

Procedural blanks were prepared with the samples to indicate potential contamination from the digestion or analysis procedure. If an analyte was found in the associated blank, the sample results were recommended for qualification if the analyte concentration was less than ten times the analytical value in the blank.

Calcium, iron, magnesium, manganese and sodium were detected in the ICP-AES procedural blank. The concentration of these analytes in the samples exceeded the minimum blank criterion except in the field blank sample 94214123. On this basis, (B) qualification was recommended for these analytes in sample 94214123.

6.0 ICP-AES INTERFERENCE CHECK SAMPLE - Acceptable

The interference check sample (ICS) is analyzed by ICP-AES to verify interelement and background correction factors. Analysis is required at the beginning and end of each sample analysis run. The acceptance criterion for the ICS is 80% - 120%. All results met frequency and recovery requirements on the day of analysis.

7.0 DUPLICATE ANALYSIS - Acceptable

Duplicate analysis was performed on samples 94214115 for ICP-AES and CVAAS analyses. All relative percent difference (RPD) were within 20%, as required by the laboratory. No qualification was recommended on this basis.

8.0 FIELD DUPLICATE ANALYSIS - Not Applicable

Field duplicate analysis was not indicated in the field collection documentation.

9.0 MATRIX SPIKE ANALYSIS

Matrix spike sample analyses are performed to provide information about the effect of the sample matrix on digestion and measurement methods. Manchester Laboratory and CLP guidelines specify that the matrix spike recovery must be within the limits of 75 - 125%. Matrix spike/matrix spike duplicate analyses were performed on sample 94214115. All recoveries were within acceptable limits except for antimony (0/0%) in ICP-AES analysis. Low recoveries for antimony are not uncommon in soil matrices, and subsequent post spike analysis demonstrated acceptable recoveries which indicate that matrix interference was not the likely cause of the low matrix spike results. Based on these results, the (N) qualifier was recommended for attachment to all antimony results to denote potential bias due to loss of the analyte during digestion or analysis.

10.0 GRAPHITE FURNACE ATOMIC ABSORPTION SPEC. (GFAAS) QC - Not Applicable

This analytical method was not used for these samples.

11.0 ICP-AES SERIAL DILUTION - Acceptable

Sample 94214115 was analyzed by serial dilution and compared to the original, undiluted analyses in the ICP-AES procedure. All percent differences of analytes above 50 times the detection level were within the required 10% criterion range. No qualification was recommended on this basis.

12.0 DETECTION LIMITS - Acceptable

Sample results which fall below the instrument detection limit (IDL) are assigned the value of the instrument detection limit and the (U) qualifier is recommended for attachment. Any sample result falling between the detection limit and the quantitation limit is recommended for qualification as an estimate (P). This notifies the data user that the

element was detected at the reported value, but below the minimum level of practicel quantitation determined to be within precision limits of 10% relative standard deviation.

13.0 OVERALL ASSESSMENT OF THE DATA

The quality assurance review of the data is based on the criteria outlined in the *Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses (7/88).*

The following is a summary of the recommended qualification for soil samples from the Buse Timber site, EPA sample numbers 94214115, 94214116, 94214117, 94214118, 94214119, 94214120, 94214121, 94214122, 94214123 and 94214124. The (U) qualifier was recommended for attachment to sample results below the minimum level of detection. The (P) qualifier was recommended for attachment to sample results less than the laboratory's quantitation limit.

The (N) qualifier was recommended for attachment to antimony results (4.3% of the reported sample data) due to low matrix spike recovery. The (B) qualifier was recommended for calcium, iron, magnesium, manganese and sodium results (2.2%) in the equipment rinsate blank sample.

Definitions of laboratory data qualifiers are attached.

USEPA Region 10 Laboratory

Below are the definitions for the qualifiers used in the metals area when qualifying data from metals analysis.

DATA QUALIFIERS

U	-	Element was analyzed but not detected. The associated numerical value is the instrument detection limit/method detection limit.
P	-	The analyte was detected above the Instrument Detection Limit, but not quantified within expected limits of precision. The laboratory has established minimum quantitation limits having a relative standard deviation of no more than 10%
H	-	The samples were analyzed after the suggested holding time limit.
E	-	The reported value is an estimate because of the presence of interference. An explanatory note will be included with the report.
B	-	Analyte is found in the analytical blank as well as the sample indicating possible/probable blank contamination. If analytes are found in any of the associated procedural blanks the concentration in the samples must be at least ten times the quantity observed in the blank. If the sample result fails these criteria the sample result is qualified (B).
N	-	Spiked sample recovery not within control limits.
NAR	-	There is no analysis result for this analyte.
NA	-	Not Applicable/Not Required.
S	-	Sample was analyzed by method of standard additions.
+	-	Sample was analyzed by method of standard additions and the correlation coefficient was less than 0.995.
*	-	The analyte was present in the sample.
W	-	Post spike out of specified range, and sample was less than 50% the spike added.

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid
SampleNumber : 94214115
Type : Reg sample
Station Description: SSURO01

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	0.0749	mg/kg					
ICP-RAS							
Aluminum	18200	mg/kg		Antimony	3.0	mg/kg	UN
Arsenic	20	mg/kg	P	Barium	50.5	mg/kg	
Beryllium	0.34	mg/kg	P	Cadmium	0.24	mg/kg	P
Calcium	2940	mg/kg		Chromium	54.1	mg/kg	
Cobalt	9.25	mg/kg		Copper	40.1	mg/kg	
Iron	30100	mg/kg		Lead	12	mg/kg	P
Magnesium	8840	mg/kg		Manganese	298	mg/kg	
Nickel	36.2	mg/kg		Potassium	2410	mg/kg	
Selenium	15	mg/kg	P	Silver	0.30	mg/kg	U
Sodium	335	mg/kg		Thallium	5.0	mg/kg	U
Vanadium	68.6	mg/kg		Zinc	57.9	mg/kg	

Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix : Solid
SampleNumber : 94214115
Type : Duplicate
Station Description:

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	0.0760	mg/kg					
ICP-RAS							
Aluminum	19700	mg/kg		Antimony	3.0	mg/kg	UN
Arsenic	17	mg/kg	P	Barium	52.9	mg/kg	
Beryllium	0.37	mg/kg	P	Cadmium	0.20	mg/kg	U
Calcium	3280	mg/kg		Chromium	58.1	mg/kg	
Cobalt	9.63	mg/kg		Copper	41.1	mg/kg	
Iron	31300	mg/kg		Lead	14	mg/kg	P
Magnesium	9250	mg/kg		Manganese	311	mg/kg	
Nickel	39.3	mg/kg		Potassium	2500	mg/kg	
Selenium	15	mg/kg	P	Silver	0.30	mg/kg	U
Sodium	362	mg/kg		Thallium	8.0	mg/kg	P
Vanadium	70.3	mg/kg		Zinc	61.2	mg/kg	

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix : Solid
SampleNumber : 94214115
Type : Matrix Spike
Station Description:

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	92	%R					
ICP-RAS							
Aluminum	NA			Antimony	0	%R	
Arsenic	91	%R		Barium	100	%R	
Beryllium	96	%R		Cadmium	89	%R	
Calcium	NA	%R		Chromium	97	%R	
Cobalt	94	%R		Copper	97	%R	
Iron	NA			Lead	91	%R	
Magnesium	NA	%R		Manganese	100	%R	
Nickel	95	%R		Potassium	NA	%R	
Selenium	101	%R		Silver	81	%R	
Sodium	NA	%R		Thallium	97	%R	
Vanadium	100	%R		Zinc	92	%R	

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix : Solid
SampleNumber : 94214115
Type : Matrix Spike Dupl
Station Description:

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	94	%R					
ICP-RAS							
Aluminum	NA			Antimony	0	%R	
Arsenic	89	%R		Barium	98	%R	
Beryllium	94	%R		Cadmium	90	%R	
Calcium	NA	%R		Chromium	99	%R	
Cobalt	93	%R		Copper	95	%R	
Iron	NA			Lead	90	%R	
Magnesium	NA	%R		Manganese	100	%R	
Nickel	93	%R		Potassium	NA	%R	
Selenium	99	%R		Silver	80	%R	
Sodium	NA	%R		Thallium	94	%R	
Vanadium	98	%R		Zinc	92	%R	

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid
SampleNumber : 94214116
Type : Reg sample
Station Description: SSUBO02

Analyte	Result	Units	Qlfr
MET			
Hg			
Mercury	0.0668	mg/kg	
ICP-RAS			
Aluminum	18200	mg/kg	
Arsenic	25	mg/kg	P
Beryllium	0.30	mg/kg	P
Calcium	2630	mg/kg	
Cobalt	9.92	mg/kg	
Iron	26500	mg/kg	
Magnesium	8630	mg/kg	
Nickel	44.9	mg/kg	
Selenium	13	mg/kg	P
Sodium	543	mg/kg	
Vanadium	69.6	mg/kg	
Antimony	3.0	mg/kg	UN
Barium	46.4	mg/kg	
Cadmium	0.20	mg/kg	U
Chromium	79.4	mg/kg	
Copper	41.4	mg/kg	
Lead	9.8	mg/kg	P
Manganese	248	mg/kg	
Potassium	2230	mg/kg	
Silver	0.30	mg/kg	U
Thallium	6.2	mg/kg	P
Zinc	52.7	mg/kg	

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid
SampleNumber : 94214117
Type : Reg sample
Station Description: SDDRN1

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	1.84	mg/kg					
ICP-RAS							
Aluminum	7410	mg/kg		Antimony	3.0	mg/kg	UN
Arsenic	8.0	mg/kg	P	Barium	51.2	mg/kg	
Beryllium	0.15	mg/kg	P	Cadmium	0.56	mg/kg	P
Calcium	3770	mg/kg		Chromium	182	mg/kg	
Cobalt	238	mg/kg		Copper	108	mg/kg	
Iron	13200	mg/kg		Lead	57.0	mg/kg	
Magnesium	5300	mg/kg		Manganese	188	mg/kg	
Nickel	56.8	mg/kg		Potassium	524	mg/kg	
Selenium	6.0	mg/kg	U	Silver	0.30	mg/kg	U
Sodium	378	mg/kg		Thallium	5.0	mg/kg	U
Vanadium	32.3	mg/kg		Zinc	329	mg/kg	

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid
SampleNumber : 94214118
Type : Reg sample
Station Description: SDSD3

Analyte	Result	Units	Qlfr
MET			
Hg			
Mercury	0.159	mg/kg	
ICP-RAS			
Aluminum	5030	mg/kg	
Arsenic	7.7	mg/kg	P
Beryllium	0.15	mg/kg	P
Calcium	2920	mg/kg	
Cobalt	11.4	mg/kg	
Iron	18000	mg/kg	
Magnesium	2880	mg/kg	
Nickel	60.1	mg/kg	
Selenium	11	mg/kg	P
Sodium	952	mg/kg	
Vanadium	22.7	mg/kg	
Antimony	5.6	mg/kg	PN
Barium	69.3	mg/kg	
Cadmium	2.0	mg/kg	P
Chromium	94.6	mg/kg	
Copper	69.3	mg/kg	
Lead	56.2	mg/kg	
Manganese	153	mg/kg	
Potassium	511	mg/kg	
Silver	0.30	mg/kg	U
Thallium	5.0	mg/kg	U
Zinc	262	mg/kg	

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid
SampleNumber : 94214119
Type : Reg sample
Station Description: SDSD2

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	0.282	mg/kg					
ICP-RAS							
Aluminum	3790	mg/kg		Antimony	3.4	mg/kg	PN
Arsenic	6.7	mg/kg	P	Barium	63.9	mg/kg	
Beryllium	0.13	mg/kg	P	Cadmium	1.9	mg/kg	P
Calcium	2770	mg/kg		Chromium	96.3	mg/kg	
Cobalt	10.6	mg/kg		Copper	57.2	mg/kg	
Iron	16700	mg/kg		Lead	39.9	mg/kg	
Magnesium	2250	mg/kg		Manganese	144	mg/kg	
Nickel	59.0	mg/kg		Potassium	380	mg/kg	P
Selenium	6.0	mg/kg	U	Silver	0.30	mg/kg	U
Sodium	797	mg/kg		Thallium	5.2	mg/kg	P
Vanadium	18.1	mg/kg		Zinc	231	mg/kg	

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid
SampleNumber : 94214120
Type : Reg sample
Station Description: SDUS4

Analyte	Result	Units	Qlfr
MET			
Hg			
Mercury	0.103	mg/kg	
ICP-RAS			
Aluminum	14400	mg/kg	
Arsenic	10	mg/kg	P
Beryllium	0.33	mg/kg	P
Calcium	4540	mg/kg	
Cobalt	29.6	mg/kg	
Iron	26900	mg/kg	
Magnesium	8560	mg/kg	
Nickel	67.9	mg/kg	
Selenium	9.7	mg/kg	P
Sodium	3210	mg/kg	
Vanadium	45.4	mg/kg	
Antimony	3.0	mg/kg	UN
Barium	45.6	mg/kg	
Cadmium	0.23	mg/kg	P
Chromium	102	mg/kg	
Copper	36.2	mg/kg	
Lead	13	mg/kg	P
Manganese	263	mg/kg	
Potassium	1380	mg/kg	
Silver	0.30	mg/kg	U
Thallium	7.4	mg/kg	P
Zinc	62.5	mg/kg	

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid
SampleNumber : 94214121
Type : Reg sample
Station Description: SSURBAK3

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	0.0575	mg/kg					
ICP-RAS							
Aluminum	20900	mg/kg		Antimony	3.0	mg/kg	UN
Arsenic	22	mg/kg	P	Barium	108	mg/kg	
Beryllium	0.49	mg/kg	P	Cadmium	0.35	mg/kg	P
Calcium	3010	mg/kg		Chromium	86.3	mg/kg	
Cobalt	23.6	mg/kg		Copper	45.5	mg/kg	
Iron	30300	mg/kg		Lead	52.3	mg/kg	
Magnesium	8720	mg/kg		Manganese	417	mg/kg	
Nickel	64.1	mg/kg		Potassium	905	mg/kg	
Selenium	6.0	mg/kg	U	Silver	0.30	mg/kg	U
Sodium	299	mg/kg		Thallium	6.0	mg/kg	P
Vanadium	66.0	mg/kg		Zinc	89.6	mg/kg	

Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid
SampleNumber : 94214122
Type : Reg sample
Station Description: SSURBAK4

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	0.0485	mg/kg					
ICP-RAS							
Aluminum	18800	mg/kg		Antimony	3.0	mg/kg	UN
Arsenic	17	mg/kg	P	Barium	70.9	mg/kg	
Beryllium	0.28	mg/kg	P	Cadmium	0.20	mg/kg	U
Calcium	2530	mg/kg		Chromium	61.5	mg/kg	
Cobalt	13.2	mg/kg		Copper	34.0	mg/kg	
Iron	28300	mg/kg		Lead	12	mg/kg	P
Magnesium	7690	mg/kg		Manganese	223	mg/kg	
Nickel	32.7	mg/kg		Potassium	985	mg/kg	
Selenium	6.0	mg/kg	U	Silver	0.30	mg/kg	U
Sodium	269	mg/kg		Thallium	7.0	mg/kg	P
Vanadium	63.3	mg/kg		Zinc	57.4	mg/kg	

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid
SampleNumber : 94214123
Type : Reg sample
Station Description: ER01

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	0.020	mg/kg	U				
ICP-RAS							
Aluminum	5.8	mg/kg	P	Antimony	3.0	mg/kg	UN
Arsenic	4.0	mg/kg	U	Barium	0.10	mg/kg	U
Beryllium	0.050	mg/kg	U	Cadmium	0.20	mg/kg	U
Calcium	18.5	mg/kg	B	Chromium	0.50	mg/kg	U
Cobalt	0.50	mg/kg	U	Copper	0.30	mg/kg	U
Iron	9.98	mg/kg	B	Lead	2.5	mg/kg	U
Magnesium	25.0	mg/kg	B	Manganese	0.21	mg/kg	PB
Nickel	1.0	mg/kg	U	Potassium	45	mg/kg	U
Selenium	6.0	mg/kg	U	Silver	0.30	mg/kg	U
Sodium	5.4	mg/kg	PB	Thallium	5.0	mg/kg	U
Vanadium	0.30	mg/kg	U	Zinc	0.40	mg/kg	U

Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/24/94
Matrix : Solid
SampleNumber : 94214124
Type : Reg sample
Station Description: SBUSBK5

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	0.0694	mg/kg					
ICP-RAS							
Aluminum	17600	mg/kg		Antimony	3.2	mg/kg	PN
Arsenic	15	mg/kg	P	Barium	61.2	mg/kg	
Beryllium	0.41	mg/kg	P	Cadmium	0.29	mg/kg	P
Calcium	3770	mg/kg		Chromium	72.5	mg/kg	
Cobalt	16.5	mg/kg		Copper	44.1	mg/kg	
Iron	25900	mg/kg		Lead	11	mg/kg	P
Magnesium	9380	mg/kg		Manganese	385	mg/kg	
Nickel	56.8	mg/kg		Potassium	1380	mg/kg	
Selenium	6.5	mg/kg	P	Silver	0.30	mg/kg	U
Sodium	440	mg/kg		Thallium	5.0	mg/kg	U
Vanadium	53.0	mg/kg		Zinc	76.8	mg/kg	

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix : Solid
SampleNumber : S940531B
Type : Blank
Station Description:

MET

ICP-RAS

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
Aluminum	2.0	mg/kg	U	Antimony	3.0	mg/kg	U
Arsenic	4.0	mg/kg	U	Barium	0.10	mg/kg	U
Beryllium	0.050	mg/kg	U	Cadmium	0.20	mg/kg	U
Calcium	18.7	mg/kg		Chromium	0.50	mg/kg	U
Cobalt	0.50	mg/kg	U	Copper	0.30	mg/kg	U
Iron	2.65	mg/kg		Lead	2.5	mg/kg	U
Magnesium	22.0	mg/kg		Manganese	0.15	mg/kg	P
Nickel	1.0	mg/kg	U	Potassium	45	mg/kg	U
Selenium	6.0	mg/kg	U	Silver	0.30	mg/kg	U
Sodium	2.9	mg/kg	P	Thallium	5.0	mg/kg	U
Vanadium	0.30	mg/kg	U	Zinc	0.40	mg/kg	U

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix : Solid
SampleNumber : S940601B
Type : Blank
Station Description:

Analyte	Result	Units	Qlfr
MET			
Hg			
Mercury	0.020	mg/kg	U

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10 LABORATORY
7411 Beach Dr. East
Port Orchard, Washington 98366

July 15, 1994

RECEIVED
JUL 25 1994
URS CONSULTANTS

MEMORANDUM

SUBJECT: QA Review for PCBs from Buse Timber, Everett, WA

FROM: R. H. Rieck, Chemist R. H. Rieck

TO: Dave Bennett, Project Officer

LESS THAN FULL DATA REVIEW

I have reviewed the attached data package and spot-checked approximately 10 percent of the corresponding raw data, as requested by the Superfund Project Manager. Based on this review, I find that it appears that the Self Evaluation Report prepared by the ESAT contractor was conducted in accordance with the Functional Guidelines, and that data qualifiers recommended in the evaluation appear to be appropriate.

ENVIRONMENTAL SERVICE ASSISTANCE TEAMS - ZONE 2

ESAT Region 10
ICF Technology Inc.
7411 Beach Drive East
Port Orchard, WA 98366
Phone (206) 871-8760

ICF Technology Inc.
ManTech Environmental

MEMORANDUM

DATE: July 14, 1994

TO: Gerald Muth, RPO, USEPA, Region 10
Robert Rieck, GC Supervisor, USEPA, Region 10 accepted 7-15-94 R.W. Rieck
Dave Bennett, Project Officer, USEPA, Region 10

FROM: Linda Karsonovich, Data Reviewer, ESAT, Region 10

THROUGH: Barry Pepich, ESAT Team Manager, Region 10

SUBJECT: Quality Assurance Review of PCB Samples from the Buse Timber, Everett, WA site

TID#; 10-9404-430
DOC#: ESAT 10A-7156
WUD#: 1423

cc: Bruce Woods, USEPA RQAMO
Jeff Kesner, URS Consultants
Sheila Smith, Organic Technical Lead, ESAT, Region 10
John Finke, Chemist, ESAT, Region 10

The quality assurance (QA) review of one water and nine soil samples from the Buse Timber, Everett, WA site has been completed. These samples were analyzed for polychlorinated biphenyls (PCBs) using SW-846 Method 8080 by the USEPA Region 10 Laboratory ESAT Team located in Manchester, WA. This QA review was conducted for the following samples listed by EPA sample codes:

Water	94214123			
Soil	94214115	94214116	94214117	94214118
	94214119	94214120	94214121	94214122
	94214124			

DATA QUALIFICATIONS

The following comments refer to the laboratory performance in meeting the Quality Control Specifications outlined in the SW-846 Method 8080, the CLP Data Review Guidelines Draft 06/91, and the USEPA Region 10 Manchester Environmental Guidelines. The recommendations presented herein are based on the information provided for the review.

TIMELINESS - Acceptable

The technical holding time for the extraction and analysis of soil samples is 14 days and 40 days respectively. The technical holding time for the extraction and analysis of water samples is seven days and 40 days respectively.

All samples were extracted and analyzed within the technical holding times. No qualifiers were recommended on this basis.

INITIAL CALIBRATION

The relative standard deviation (RSD) of the calibration factors of compounds quantified using a linear equation must be $\leq$20% for target compounds and $\leq$30% for surrogates. Compounds which are quantified using a quadratic equation must contain a minimum of five calibration levels and have a correlation coefficient of not less than 0.995.

A Perkin Elmer GC with dual columns (a DB-5 on the M channel and a DB-1701 on the N channel) and dual ECD detectors was used for this analysis. Two initial calibration sequences were included with the data set.

The first initial calibration was analyzed on 06/17/94. The sequence included a five point curve for PCB 1260 and single point standards of PCBs 1016, 1221, 1232, 1242, 1248, and 1254. Only the soil samples were analyzed with this sequence.

The soil and water samples were included in the second sequence analyzed on 06/20/94. This initial calibration contained only standards for PCB 1254. The analyst chose to report the sample results using the chromatograms obtained with this sequence. However, in order to obtain quantitation limits for the remaining PCBs the analyst chose to compare the 06/20 analyses to the standards injected on 06/17. A comparison of the PCB 1254 standard analyzed on 06/17/94 with the PCB standard analyzed on 06/02/94 showed that the retention times had remained stable and that the average percent difference of the calibration factors of PCB 1254 ranged from 12.8-13.7 percent. Therefore, the reviewer felt that it was reasonable to assume that the response of the other PCBs had also remained stable, and no qualifiers were recommended on this basis.

CONTINUING CALIBRATION

The percent difference (%D) between the calculated and the true amount for each compound must not exceed $\pm$15%. The absolute retention time of the compounds must be within the windows determined from the initial calibration.

Retention times were within the windows set by the initial calibration. The %D increased over the length of the run to the positive, indicating an increase in sensitivity. However, there were no positive results reported during the affected part of the analytical sequence. No qualifiers were recommended on this basis.

BLANKS - Acceptable

No contamination should be present in the method blanks. Instrument blanks should not display signs of carryover or cross contamination.

No target compounds were detected in the method blanks at or above the practical quantitation limit (PQL). The instrument blanks showed no signs of carryover or cross contamination at or above one half the PQL. No qualifiers were recommended on this basis.

ANALYTICAL SEQUENCE - Acceptable

Samples must be run following an initial calibration. Continuing calibration checks and instrument blanks must be run at least every 12 hours.

The sequence met the criteria for frequency of initial and continuing calibration. No qualifiers were recommended on this basis.

SURROGATES

The acceptance criteria for surrogate recovery is 60% to 150%. Manchester Laboratory Guidelines allow for 50-150% recovery.

Surrogate recoveries for the water samples ranged from 45-96% for tetrachloro-m-xylene (TCMX) and from 84-140% for decachlorobiphenyl (DCB). No qualifiers were recommended on this basis as the DCB recovery was considered to be more indicative of the behavior of the target compounds.

Surrogate recoveries for the soil samples ranged from 55-120% for TCMX and from 48-120% for DCB. Sample 94214118 was recommended for qualification as J/UJ due to a DCB recovery of 48%. No other qualifiers were recommended on this basis.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE - Acceptable

Matrix spike recoveries for PCBs should be between 50% and 150%. Relative percent differences (RPD) should be within ±30%.

The water MS/MSD had recoveries of 96-100%. The RPD was 4.1%. No qualifiers were recommended on this basis.

The soil MS/MSD had recoveries of 120-130% and the RPD was 8%. No qualifiers were recommended on this basis.

COMPOUND IDENTIFICATION - Acceptable

Compound identification is done by retention time matching of sample chromatograms to the chromatograms of authentic standards on dual dissimilar columns. The retention times of surrogates, matrix spikes, and reported compounds in each sample must be within the retention time window determined from the initial calibration.

The retention times of the surrogates and PCBs appeared to be within the windows set by the initial calibration. No qualifiers were recommended on this basis.

COMPOUND QUANTITATION - Acceptable

Reported results must be calculated using the standard curve or average calibration factor. Compounds reported below the detection level must be within 10% of the lowest calibration standard. Detected results should agree within ±30% RPD.

Results were calculated using the standard curve and reported as an average of both channels. PCB 1254 in sample 94214119 was recommended for qualification as JN as it had an 45% RPD between the two channels. No other qualifiers were recommended on this basis.

OVERALL ASSESSMENT

The data was evaluated using the guidelines set out in the quality control specifications outlined in SW-846 Method 8080, the CLP Data Review Guidelines Draft 06/91, and the USEPA Region 10 Manchester Environmental Guidelines. Overall, two percent of the data was recommended for qualification due to the continuing calibration standard and compound quantitation. While no other qualifiers were recommended, the data would have been better presented if a more sound analytical sequence had been followed.

DATA QUALIFIER DEFINITIONS

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

REJ - The data are unusable for all purposes.

N - For organic analyses there is evidence that the analyte is present in the sample.

JN - For organic analyses there is evidence that the analyte is present in the sample. The associated numerical result is an estimate.

UJ - The analyte was not detected at or above the reported estimated result.

NAF - Not analyzed for.

* - The analyte was present in the sample.

EXP - The result is equal to the number before the EXP times 10 to the power of the number after the EXP.

Manchester Environmental Laboratory

Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid (Soil)
SampleNumber : 94214115
Type : Reg sample
Station Description: SSURO01
Depth 0-6 inches bgs

GC

PCB

Analyte	Result	Units	Qlfr
Decachlorobiphenyl	97	%R	
PCB-1221	110	ug/kg	U
PCB-1242	110	ug/kg	U
PCB-1254	55	ug/kg	U
Tetrachlorometaxylen	100	%R	
PCB-1016	110	ug/kg	U
PCB-1232	110	ug/kg	U
PCB-1248	110	ug/kg	U
PCB-1260	110	ug/kg	U

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix : Solid (Soil)
SampleNumber : 94214115
Type : Matrix Spike
Station Description: SSVK001

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
GC							
PCB							
Decachlorobiphenyl	120	%R		PCB-1260	130	%R	
Tetrachlorometaxylen	120	%R					

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix : Solid (Soil)
SampleNumber : 94214115
Type : Matrix Spike Dupl
Station Description: SSUR001

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
GC							
PCB							
Decachlorobiphenyl	105	%R		PCB-1260	120	%R	
Tetrachlorometaxylen	104	%R					

Manchester Environmental Laboratory

Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid Soil
SampleNumber : 94214116
Type : Reg sample
Station Description: SSUBO02
Sample depth 18-24" bgs

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
GC							
PCB							
Decachlorobiphenyl	98	%R		PCB-1016	120	ug/kg	U
PCB-1221	120	ug/kg	U	PCB-1232	120	ug/kg	U
PCB-1242	120	ug/kg	U	PCB-1248	120	ug/kg	U
PCB-1254	62	ug/kg	U	PCB-1260	120	ug/kg	U
Tetrachlorometaxylen	102	%R					

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid Sediment
SampleNumber : 94214117
Type : Reg sample
Station Description: SDDRN1 Storm Drain

GC

PCB

Analyte	Result	Units	Qlfr
Decachlorobiphenyl	110	%R	
PCB-1221	130	ug/kg	U
PCB-1242	130	ug/kg	U
PCB-1254	1000	ug/kg	
Tetrachlorometaxylen	88	%R	
PCB-1016	130	ug/kg	U
PCB-1232	130	ug/kg	U
PCB-1248	130	ug/kg	U
PCB-1260	130	ug/kg	U

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid Sediment
SampleNumber : 94214118
Type : Reg sample duplicate
Station Description: SDSD3 Storm drain outfall

Analyte	Result	Units	Qlfr
GC			
PCB			
Decachlorobiphenyl	48	%R	
PCB-1221	330	ug/kg	UJ
PCB-1242	330	ug/kg	UJ
PCB-1254	600	ug/kg	J
Tetrachlorometaxylen	55	%R	
PCB-1016	330	ug/kg	UJ
PCB-1232	330	ug/kg	UJ
PCB-1248	330	ug/kg	UJ
PCB-1260	330	ug/kg	UJ

Manchester Environmental Laboratory

Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid Sediment
SampleNumber : 94214119
Type : Reg sample
Station Description: SDSD2 Storm drain out fall

GC

PCB

Analyte	Result	Units	Qlfr
Decachlorobiphenyl	57	%R	
PCB-1221	400	ug/kg	U
PCB-1242	400	ug/kg	U
PCB-1254	460	ug/kg	JN
Tetrachlorometaxylen	65	%R	
PCB-1016	400	ug/kg	U
PCB-1232	400	ug/kg	U
PCB-1248	400	ug/kg	U
PCB-1260	400	ug/kg	U

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid Sediment
SampleNumber : 94214120
Type : Reg sample
Station Description: SDUS4 Union Slough

GC

PCB

Analyte	Result	Units	Qlfr
Decachlorobiphenyl	81	%R	
PCB-1221	140	ug/kg	U
PCB-1242	140	ug/kg	U
PCB-1254	75	ug/kg	U
Tetrachlorometaxylen	84	%R	
PCB-1016	140	ug/kg	U
PCB-1232	140	ug/kg	U
PCB-1248	140	ug/kg	U
PCB-1260	140	ug/kg	U

Manchester Environmental Laboratory

Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid Soil
SampleNumber : 94214121
Type : Reg sample Background
Station Description: SSURBAK3 offsite 0-6inch bgs

GC

PCB

Analyte	Result	Units	Qlfr
Decachlorobiphenyl	86	%R	
PCB-1221	120	ug/kg	U
PCB-1242	120	ug/kg	U
PCB-1254	62	ug/kg	U
Tetrachlorometaxylen	91	%R	
PCB-1016	120	ug/kg	U
PCB-1232	120	ug/kg	U
PCB-1248	120	ug/kg	U
PCB-1260	120	ug/kg	U

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid Soil
SampleNumber : 94214122
Type : Reg sample background
Station Description: SSURBAK4 offsite 18-24" bgs

Analyte	Result	Units	Qlfr
GC			
PCB			
Decachlorobiphenyl	95	%R	
PCB-1221	150	ug/kg	U
PCB-1242	150	ug/kg	U
PCB-1254	77	ug/kg	U
Tetrachlorometaxylen	100	%R	
PCB-1016	150	ug/kg	U
PCB-1232	150	ug/kg	U
PCB-1248	150	ug/kg	U
PCB-1260	150	ug/kg	U

Manchester Environmental Laboratory

Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Liquid-Total
SampleNumber : 94214123
Type : Reg sample Rinsate
Station Description: ER01

GC

PCB

Analyte	Result	Units	Qlfr
Decachlorobiphenyl	140	%R	
PCB-1221	0.20	ug/L	U
PCB-1242	0.20	ug/L	U
PCB-1254	0.11	ug/L	U
Tetrachlorometaxylen	96	%R	
PCB-1016	0.20	ug/L	U
PCB-1232	0.20	ug/L	U
PCB-1248	0.20	ug/L	U
PCB-1260	0.20	ug/L	U

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix : Liquid-Total
SampleNumber : 94214123
Type : Matrix Spike
Station Description:

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
GC							
PCB							
Decachlorobiphenyl	110	%R		PCB-1260	100	%R	
Tetrachlorometaxylen	51	%R					

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix : Liquid-Total
SampleNumber : 94214123
Type : Matrix Spike Dupl
Station Description:

GC

PCB

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
Decachlorobiphenyl	84	%R		PCB-1260	96	%R	
Tetrachlorometaxylen	45	%R					

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/24/94
Matrix : Solid Sediment
SampleNumber : 94214124
Type : Reg sample background
Station Description: SBUSBK5 Union Slough

GC

PCB

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
Decachlorobiphenyl	92	%R		PCB-1016	140	ug/kg	U
PCB-1221	140	ug/kg	U	PCB-1232	140	ug/kg	U
PCB-1242	140	ug/kg	U	PCB-1248	140	ug/kg	U
PCB-1254	70	ug/kg	U	PCB-1260	140	ug/kg	U
Tetrachlorometaxylen	95	%R					

Manchester Environmental Laboratory

Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix :
SampleNumber : BW4151
Type : Blank
Station Description:

GC

PCB

Analyte	Result	Units	Qlfr
Decachlorobiphenyl	102	%R	
PCB-1221	0.19	ug/L	U
PCB-1242	0.19	ug/L	U
PCB-1254	0.098	ug/L	U
Tetrachlorometaxylen	43	%R	

Analyte	Result	Units	Qlfr
PCB-1016	0.19	ug/L	U
PCB-1232	0.19	ug/L	U
PCB-1248	0.19	ug/L	U
PCB-1260	0.19	ug/L	U

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix :
SampleNumber : BW4151D
Type : Blank
Station Description:

GC

PCB

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
Decachlorobiphenyl	105	%R		PCB-1016	0.20	ug/L	U
PCB-1221	0.20	ug/L	U	PCB-1232	0.20	ug/L	U
PCB-1242	0.20	ug/L	U	PCB-1248	0.20	ug/L	U
PCB-1254	0.11	ug/L	U	PCB-1260	0.20	ug/L	U
Tetrachlorometaxylen	55	%R					

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

REPLY TO
ATTN OF: ES-095

July 21, 19941

RECEIVED
JUL 25 1994
URS CONSULTANTS

MEMORANDUM

SUBJECT: Data Validation for Buse Timber SI, Case No. 22170, SDG No. JL511, Semi-Volatile Organic Analysis

FROM: Donald Matheny, Chemist DM
Quality Assurance Office, ESD

TO: Dave Bennett, Site Manager
Superfund Response & Investigations Branch, HWD

The QA Office has received and is transmitting the above ESAT data validation report.

CC: Porter Lombard, ESAT-RSCC
Jeff Kesner, Site Lead, URS
Bruce Woods, TPO, Region 10
Mike Hiatt, Data Audit Staff, EMSL-LV
QAO, AOB

ESAT Region 10
ICF Technology Inc.
1200 6th Avenue
Seattle, WA 98101
Phone (206) 224-4162

ICF Technology Inc.
ManTech Environmental

MEMORANDUM

DATE: July 19, 1994

TO: Jerry Muth, RPO, USEPA, Region 10

Donald Matheny, Task Monitor, USEPA, Region 10

THROUGH: Barry Pepich, ESAT Team Manager, Region 10

FROM: David J. Lindquist, ESAT Data Reviewer

SUBJECT: Data Validation Report of Semi-Volatile Organic Analyses of Samples from Buse Timber Site Investigation
Case: 22170 SDG: JL511

TID #: 10-9404-430
DOCUMENT #: ESAT-10B-7479
WUD #: 2347

The quality assurance (QA) review of nine (9) low level soil samples and one water sample (rinseate) collected from the above referenced site has been completed. These samples were analyzed for semi-volatile organic compounds in accordance with the USEPA Contract Laboratory Program Statement of Work. The analyses were performed by Southwest Laboratory of Oklahoma located in Broken Arrow, OK. The samples were numbered:

JL511	JL512	JL513	JL514	JL515
JL516	JL517	JL518	JL519	JL520

DATA QUALIFICATIONS

The following comments refer to the laboratory performance in meeting the Quality Control Specifications outlined in the "Contract Laboratory Program Statement of Work for Organics Analysis, 3/90" and the "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, (2/94)".

The conclusions presented herein are based on the information provided for the review.

1. Timeliness - Acceptable

The samples were extracted and analyzed within the contract required and technical (40 CFR 136 water criteria) holding times. The Chain of Custody Form indicates that the rinseate was not preserved with HCl.

Listed below are pertinent collection and analysis dates:

Sample Number	Collection Date	Rec'd. Date	Extraction Date	Analysis Date
JL511	052594	052794	052994	060394
JL512	052594	052794	052994	060394
JL513	052594	052794	052994	062094
JL514	052594	052794	052994	062094
JL515	052594	052794	052994	062094
JL516	052594	052794	052994	060394
JL517	052594	052794	052994	060394
JL518	052594	052794	052994	060394
JL519(r)	052594	052794	052894	060194
JL520	052494	052794	052994	060794

(r) = rinseate

2. GC/MS Tuning - Acceptable

Instrument tuning and system performance criteria were met for all dates of analysis.

Two GC/MS systems were used in the analysis of the samples. All samples were analyzed within the acceptable 12 hour window of decafluorotriphenylphosphine (DFTPP) tunings.

The data presented on each GC/MS Tuning and Mass Calibration Form (Form 5B) was compared with each mass listing and the raw data. Calculations and transcriptions were correct.

3. Initial Calibration - Acceptable

The initial calibrations were performed in accordance with the method. The percent relative standard deviation criterion (%RSD $\leq$ 30%) and the minimum average relative response factor requirements were met for all compounds.

The raw data was compared with the reported values. Calculations were correct and no transcription errors were noted.

4. Continuing Calibration

The continuing calibration standards met the criteria for minimum RRFs and percent difference (%D) relative to the initial calibration, for all target compounds with the following exceptions:

Analysis Date: 06/03/94

	%D	Sensitivity
2,2'-oxybis(1-chloropropane)	-31.4	increase@
hexachlorocyclopenatadiene	41.2	decrease
di-n-octylphthalate	-33.5	increase@

Hexachlorocyclopentadiene results are qualified "UJ" (estimated at the detection limit) for the samples listed below:

JL511 JL512 JL516 JL517 JL518

Analysis Date: 06/07/94

	%D	Sensitivity
4,6-dinitro-2-methylphenol	29.9+	decrease
hexachlorocyclopenatadiene	37.0	decrease
2,4-dinitrophenol	32.9+	decrease

Hexachlorocyclopenatadiene results are qualified "UJ" (estimated at the detection limit) for sample JL520.

Analysis Date: 06/13/94

	%D	Sensitivity
2,4-dimethylphenol	27.8+	decrease
4-chloroaniline	35.7	decrease
hexachlorocyclopenatadiene	56.0	decrease
4-nitrophenol	-31.9	increase@
3,3'-dichlorobenzidine	29.4+	decrease
2,4,6-tribromophenol	-27.0	increase@

Hexachlorocyclopenatadiene and 4-chloroaniline results are qualified "UJ" (estimated at the detection limit) for the samples listed below:

JL513 JL514 JL515

@ - Results do not warrant qualification on the basis of increased instrument sensitivity relative to the initial calibration and the associated results were non-detected.

+ - Results do not warrant qualification on the basis that the associated results were non-detected and the %D < 35%.

The raw data was compared with the reported values. Calculations were correct and no transcription errors were noted.

5. Blanks

Background levels for all target compounds in the method blanks were below the contract required quantitation limits.

Bis(2-ethylhexyl)phthalate was detected in VBLK02. All associated bis(2-ethylhexyl)phthalate results less than 10X the concentration reported in the blank are qualified "U", non-detected. Associated results that were detected at levels less than the CRQL, are raised to the CRQL on the Form 1. Bis(2-ethylhexyl)phthalate is qualified, "U" for the samples listed below:

JL511	JL512	JL513	JL514	JL515
JL516	JL517	JL518	JL520	

Tentatively identified compound (TIC) results reported for the method blanks were deleted from the associated sample Form 1s.

6. Surrogate Recovery - Acceptable

Surrogate recovery criteria were met for all samples, blanks and QC samples.

Listed below are the range of surrogate recoveries:

Surrogate	Recovery Range
nitrobenzene-d5	46-72%
2-fluorobiphenyl	55-85%
terphenyl-d14	58-120%
phenol-d5	39-68%
2-fluorophenol	38-65%
2,4,6-tribromophenol	42-96%
2-chlorophenol-d4	39-68%
1,2-dichlorobenzene-d4	40-71%

The raw data was compared with the data presented in the surrogate recovery forms. Calculations were correct and no transcription errors were noted.

7. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD analysis was performed on sample JL511. The MS/MSD compound recoveries and relative percent differences (%RPD) between values were within the required control limits with one exception noted below.

Compound	MS %R	MSD %R	RPD
acenaphthene	58	75	26*

* QC limit = 19

The data was not qualified on the basis of the MS/MSD results.

8. Internal Standards Performance - Acceptable

The data reported on the Internal Standard Area Summary (Form 8B) was verified with the raw data. Chromatograms, quantitation lists, and transcriptions were examined.

All analyses met the technical acceptance criteria for internal standard area counts (+100% to -50% of the associated continuing calibration internal standard area) and retention time shift (± 0.50 minutes of the associated continuing calibration internal standard RT).

9. Compound Identification - Acceptable

The chromatograms and quantitation lists were inspected. Sample and laboratory generated standard spectra were scrutinized. Calculations were checked with the raw data.

Positive sample results were within relative retention time (RRT) windows and provided spectra meeting USEPA spectral matching criteria.

10. Compound Quantitation and Detection Limits - Acceptable

The raw data was examined to verify the calculations of sample results and the reported detection limits. The sample results were quantitated using an updated continuing calibration standard. The method specified detection limits were achieved. The quantitation ions used were in accordance with the method.

11. Tentatively Identified Compounds (TICs)

The raw data and chromatograms were inspected for tentatively identified compounds. Several hydrocarbon TICs were detected in all of the samples.

12. System Performance - Acceptable

All blanks, samples and QC samples were analyzed on a GC/MS system meeting the technical acceptance criteria.

13. Laboratory Contact

The laboratory was not contacted for this review.

14. Overall Assessment

Approximately five percent of the reported sample results were qualified as non-detects or estimates due to blank contamination and/or continuing calibration criteria.

DATA QUALIFIER DEFINITIONS

U- The analyte was analyzed for and is not present above the level of the associated value. The associated numerical value indicates the approximate concentration necessary to detect the analyte in this sample.

If a decision requires quantitation of the analyte below the associated numerical level, reanalysis or alternative analytical methods should be considered. The technical staff is available to discuss available options.

J- The analyte was analyzed for and was positively identified, but the associated numerical value may not be consistent with the amount actually present in the environmental sample. The data should be seriously considered for decision making and are usable for many purposes.

A subscript may be appended to the "J" that indicates which of the following quality control criteria were not met:

1 Blank contamination: indicates possible high bias and/or false positives.

2 Calibration range exceeded: indicates possible low bias.

3 Holding times not met: indicates low bias for most analytes with the exception of common laboratory contaminants and chlorinated ethenes (i.e.: trichloroethene, 1,1-dichloroethene, vinyl chloride).

4 Other QC outside control limits: bias not readily determined.

R- The data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified.

Resampling and reanalysis are necessary to confirm or deny the presence of the analyte.

UJ - A combination of the "U" and "J" qualifier. The analyte was analyzed for and was not present above the level of the associated value. The associated numerical value may not accurately or precisely represent the concentration necessary to detect the analyte in this sample.

If a decision requires quantitation of the analyte close to the associated numerical level, reanalysis or alternative analytical methods should be considered.

N- The analysis indicates that an analyte is present, and there are strong indications that the identity is correct.

Confirmation of the analyte requires further analysis.

NJ- A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

A subscript may be appended to the "NJ" that indicates which of the following situations applies:

1 DDT/Endrin breakdown evident.

2 Interference from other sample components.

3 Non-Target Compound List (TCL) compounds (Confirmation is necessary using specific target compound methodology to accurately determine the concentration and identity of the detected compound).

4 A confirmation analysis was missing or quality control criteria were not met for the confirmation analysis.

NOTE: Data users are encouraged to contact their Regional representative within ESD to clarify or obtain further information on the appropriate use of analytical data.

DPO: [ ] ACTION [X] FYI

Region 10

ORGANIC REGIONAL DATA ASSESSMENT SUMMARY

CASE NO. 22170 LABORATORY Southwest Laboratory

SDG NO. JL511 DATA USER SUPERFUND

SOW 3/90 REVIEW COMPLETION DATE 7-19-94

NO. OF SAMPLES 1 WATER 9 SOIL ____ OTHER ____

REVIEWER [ ] ESD [X] ESAT [ ] OTHER, CONTRACT/CONTRACTOR ____

	~~VOA~~	BNA	PEST	OTHER
1. HOLDING TIMES		O		
2. GC-MS TUNE/ GC PERFORMANCE		O		
3. INITIAL CALIBRATIONS		O		
4. CONTINUING CALIBRATIONS		X		
5. FIELD BLANKS ("F" = not applicable)		F		
6. LABORATORY BLANKS		X		
7. SURROGATES		O		
8. MATRIX SPIKE/DUPLICATES		O		
9. REGIONAL QC ("F" = not applicable)		F		
10. INTERNAL STANDARDS		O		
11. COMPOUND IDENTIFICATION		O		
12. COMPOUND QUANTITATION		O		
13. SYSTEM PERFORMANCE		O		
14. OVERALL ASSESSMENT		X		

O = No problems or minor problems that do not affect data usability.
X = No more than *about* 5% of the data points are qualified as either estimated or unusable.
M = More than *about* 5% of the data points are qualified as estimated.
Z = More than *about* 5% of the data points are qualified as unusable.

DPO ACTION ITEMS: ____

AREAS OF CONCERN: ____

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
Surface Soil
JL511

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.01

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0211.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 30 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	470	U
111-44-4	bis(2-Chloroethyl)Ether	470	U
95-57-8	2-Chlorophenol	470	U
541-73-1	1,3-Dichlorobenzene	470	U
106-46-7	1,4-Dichlorobenzene	470	U
95-50-1	1,2-Dichlorobenzene	470	U
95-48-7	2-Methylphenol	470	U
108-60-1	2,2'-oxybis(1-Chloropropane)	470	U
106-44-5	4-Methylphenol	470	U
621-64-7	N-Nitroso-di-n-propylamine	470	U
67-72-1	Hexachloroethane	470	U
98-95-3	Nitrobenzene	470	U
78-59-1	Isophorone	470	U
88-75-5	2-Nitrophenol	470	U
105-67-9	2,4-Dimethylphenol	470	U
111-91-1	bis(2-Chloroethoxy)methane	470	U
120-83-2	2,4-Dichlorophenol	470	U
120-82-1	1,2,4-Trichlorobenzene	470	U
91-20-3	Naphthalene	470	U
106-47-8	4-Chloroaniline	470	U
87-68-3	Hexachlorobutadiene	470	U
59-50-7	4-Chloro-3-Methylphenol	470	U
91-57-6	2-Methylnaphthalene	470	U
77-47-4	Hexachlorocyclopentadiene	470	J U
88-06-2	2,4,6-Trichlorophenol	470	U
95-95-4	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	470	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	470	U
208-96-8	Acenaphthylene	470	U
606-20-2	2,6-Dinitrotoluene	470	U
99-09-2	3-Nitroaniline	1100	U
83-32-9	Acenaphthene	470	U

7-19-94

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET SSUK04

EPA SAMPLE NO.

JL511

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.01

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0211.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 30 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1100	U
100-02-7	4-Nitrophenol	1100	U
132-64-9	Dibenzofuran	470	U
121-14-2	2,4-Dinitrotoluene	470	U
84-66-2	Diethylphthalate	470	U
7005-72-3	4-Chlorophenyl-phenylether	470	U
86-73-7	Fluorene	470	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	N-Nitrosodiphenylamine (1)	470	U
101-55-3	4-Bromophenyl-phenylether	470	U
118-74-1	Hexachlorobenzene	470	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	470	U
120-12-7	Anthracene	470	U
86-74-8	Carbazole	470	U
84-74-2	Di-n-butylphthalate	470	U
206-44-0	Fluoranthene	470	U
129-00-0	Pyrene	470	U
85-68-7	Butylbenzylphthalate	470	U
91-94-1	3,3'-Dichlorobenzidine	470	U
56-55-3	Benzo(a)anthracene	470	U
218-01-9	Chrysene	470	U
117-81-7	bis(2-Ethylhexyl)phthalate	470 98	U JB
117-84-0	Di-n-octylphthalate	470	U
205-99-2	Benzo(b)fluoranthene	470	U
207-08-9	Benzo(k)fluoranthene	470	U
50-32-8	Benzo(a)pyrene	470	U
193-39-5	Indeno(1,2,3-cd)pyrene	470	U
53-70-3	Dibenz(a,h)anthracene	470	U
191-24-2	Benzo(g,h,i)perylene	470	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Surrogate
EPA SAMPLE NO.

JL511

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.01

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0211.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 30 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.1

Number TICs found: 25

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
~~1.~~	~~123-42-2~~	~~2-Pentanone, 4-hydroxy-4-met~~	~~3.463~~	~~17000~~	~~NJAB~~
2.		UNKNOWN HYDROCARBON	12.741	580	NJ
3.		UNKNOWN ORGANIC ACID	13.441	750	J
4.		UNKNOWN ORGANIC ACID	13.554	950	J
5.		UNKNOWN ALKANE	15.715	370	J
~~6.~~		~~UNKNOWN AMIDE~~	~~16.181~~	~~740~~	~~JB~~
7.		UNKNOWN HYDROCARBON	16.863	1100	J
8.		UNKNOWN CYCLOALKANE	17.945	2800	J
9.		UNKNOWN HYDROCARBON	18.127	1100	J
10.		UNKNOWN HYDROCARBON	18.321	390	J
~~11.~~		~~UNKNOWN AMIDE~~	~~18.435~~	~~1400~~	~~JB~~
12.		UNKNOWN	18.630	500	J
13.		UNKNKOWN ALKANE	18.915	1800	J
14.		Phosphonic acid, ester	18.961	1800	J
15.		UNKNOWN	19.041	480	J
16.		UNKNOWN ALKANE	19.865	1800	J
17.		UNKNOWN	20.014	500	J
18.		UNKNOWN ALKANE	20.918	450	J
19.		UNKNOWN	21.033	510	J
20.		UNKNOWN	21.113	460	J
21.		UNKNOWN	21.354	590	J
22.	83-47-6	.gamma.-Sitosterol	21.595	890	NJ
23.		UNKNOWN	21.698	590	J
24.		UNKNOWN	22.409	410	J
25.	1058-61-3	Stigmast-4-en-3-one	22.489	440	NJ
26.					
27.					
28.					
29.					
30.					

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SSUB002

EPA SAMPLE NO.

Subsurface Soil

JL512

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.02

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0214.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 35 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.8

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	510	U
111-44-4	bis(2-Chloroethyl)Ether	510	U
95-57-8	2-Chlorophenol	510	U
541-73-1	1,3-Dichlorobenzene	510	U
106-46-7	1,4-Dichlorobenzene	510	U
95-50-1	1,2-Dichlorobenzene	510	U
95-48-7	2-Methylphenol	510	U
108-60-1	2,2'-oxybis(1-Chloropropane)	510	U
106-44-5	4-Methylphenol	510	U
621-64-7	N-Nitroso-di-n-propylamine	510	U
67-72-1	Hexachloroethane	510	U
98-95-3	Nitrobenzene	510	U
78-59-1	Isophorone	510	U
88-75-5	2-Nitrophenol	510	U
105-67-9	2,4-Dimethylphenol	510	U
111-91-1	bis(2-Chloroethoxy)methane	510	U
120-83-2	2,4-Dichlorophenol	510	U
120-82-1	1,2,4-Trichlorobenzene	510	U
91-20-3	Naphthalene	510	U
106-47-8	4-Chloroaniline	510	U
87-68-3	Hexachlorobutadiene	510	U J U
59-50-7	4-Chloro-3-Methylphenol	510	U
91-57-6	2-Methylnaphthalene	510	U
77-47-4	Hexachlorocyclopentadiene	510	J U
88-06-2	2,4,6-Trichlorophenol	510	U
95-95-4	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	510	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	510	U
208-96-8	Acenaphthylene	510	U
606-20-2	2,6-Dinitrotoluene	510	U
99-09-2	3-Nitroaniline	1200	U
83-32-9	Acenaphthene	510	U

DL 7-19-94

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.: JL512

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.02

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0214.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 35 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500 (UL) Date Analyzed: 06/03/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.8

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1200	U
100-02-7	4-Nitrophenol	1200	U
132-64-9	Dibenzofuran	510	U
121-14-2	2,4-Dinitrotoluene	510	U
84-66-2	Diethylphthalate	510	U
7005-72-3	4-Chlorophenyl-phenylether	510	U
86-73-7	Fluorene	510	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	N-Nitrosodiphenylamine (1)	510	U
101-55-3	4-Bromophenyl-phenylether	510	U
118-74-1	Hexachlorobenzene	510	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	510	U
120-12-7	Anthracene	510	U
86-74-8	Carbazole	510	U
84-74-2	Di-n-butylphthalate	510	U
206-44-0	Fluoranthene	510	U
129-00-0	Pyrene	510	U
85-68-7	Butylbenzylphthalate	510	U
91-94-1	3,3'-Dichlorobenzidine	510	U
56-55-3	Benzo(a)anthracene	510	U
218-01-9	Chrysene	510	U
117-81-7	bis(2-Ethylhexyl)phthalate	510	U
117-84-0	Di-n-octylphthalate	510	U
205-99-2	Benzo(b)fluoranthene	510	U
207-08-9	Benzo(k)fluoranthene	510	U
50-32-8	Benzo(a)pyrene	510	U
193-39-5	Indeno(1,2,3-cd)pyrene	510	U
53-70-3	Dibenz(a,h)anthracene	510	U
191-24-2	Benzo(g,h,i)perylene	510	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE N: JL512

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.02

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0214.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 35 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.8

Number TICs found: 25 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123-42-2	2-Pentanone, 4-hydroxy-4-met	3.475	13000	NJ
2.		UNKNOWN ALKANE	15.712	450	NJ
3.		UNKNOWN AMIDE	16.189	2800	J
4.		UNKNOWN ALKANE	16.303	370	J
5.		UNKNOWN ALDEHYDE	16.508	510	J
6.		UNKNOWN ALCOHOL	16.872	1200	J
7.		UNKNOWN	16.975	680	J
8.		UNKNOWN ALKANE	17.408	330	J
9.		UNKNOWN ALKANE	17.933	1500	J
10.		UNKNOWN	18.447	860	J
11.		UNKNOWN ALKANE	18.924	1000	J
12.		UNKNOWN	18.970	580	J
13.		UNKNOWN	19.050	340	J
14.		UNKNOWN	19.680	360	J
15.		UNKNOWN ALKANE	19.864	1500	J
16.		UNKNOWN	19.944	720	J
17.		UNKNOWN	20.013	580	J
18.		UNKNOWN	20.150	370	J
19.		UNKNOWN ALKANE	20.242	330	J
20.		UNKNOWN ALKANE	20.918	340	J
21.		UNKNOWN	21.124	370	J
22.		UNKNOWN	21.365	470	J
23.	83-47-6	.gamma.-Sitosterol	21.606	370	NJ
24.		UNKNOWN	21.721	500	J
25.		UNKNOWN	22.409	260	J
26.					
27.					
28.					
29.					
30.					

DL 7-19-94 60

1B

SDDKN1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
Storm Drain Sediment
JL513

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.03

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0448.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 29 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/20/94

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 5.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	4600	U
111-44-4	bis(2-Chloroethyl)Ether	4600	U
95-57-8	2-Chlorophenol	4600	U
541-73-1	1,3-Dichlorobenzene	4600	U
106-46-7	1,4-Dichlorobenzene	4600	U
95-50-1	1,2-Dichlorobenzene	4600	U
95-48-7	2-Methylphenol	4600	U
108-60-1	2,2'-oxybis(1-Chloropropane)	4600	U
106-44-5	4-Methylphenol	4600	U
621-64-7	N-Nitroso-di-n-propylamine	4600	U
67-72-1	Hexachloroethane	4600	U
98-95-3	Nitrobenzene	4600	U
78-59-1	Isophorone	4600	U
88-75-5	2-Nitrophenol	4600	U
105-67-9	2,4-Dimethylphenol	4600	U
111-91-1	bis(2-Chloroethoxy)methane	4600	U
120-83-2	2,4-Dichlorophenol	4600	U
120-82-1	1,2,4-Trichlorobenzene	4600	U
91-20-3	Naphthalene	4600	U
106-47-8	4-Chloroaniline	4600	J U
87-68-3	Hexachlorobutadiene	4600	U
59-50-7	4-Chloro-3-Methylphenol	4600	U
91-57-6	2-Methylnaphthalene	4600	U
77-47-4	Hexachlorocyclopentadiene	4600	J U
88-06-2	2,4,6-Trichlorophenol	4600	U
95-95-4	2,4,5-Trichlorophenol	11000	U
91-58-7	2-Chloronaphthalene	4600	U
88-74-4	2-Nitroaniline	11000	U
131-11-3	Dimethylphthalate	4600	U
208-96-8	Acenaphthylene	4600	U
606-20-2	2,6-Dinitrotoluene	4600	U
99-09-2	3-Nitroaniline	11000	U
83-32-9	Acenaphthene	4600	U

7-19-94

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET SDDRNT EPA SAMPLE NO.

JL513

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.03

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0448.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 29 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/20/94

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 5.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	11000	U
100-02-7	4-Nitrophenol	11000	U
132-64-9	Dibenzofuran	4600	U
121-14-2	2,4-Dinitrotoluene	4600	U
84-66-2	Diethylphthalate	4600	U
7005-72-3	4-Chlorophenyl-phenylether	4600	U
86-73-7	Fluorene	4600	U
100-01-6	4-Nitroaniline	11000	U
534-52-1	4,6-Dinitro-2-methylphenol	11000	U
86-30-6	N-Nitrosodiphenylamine (1)	4600	U
101-55-3	4-Bromophenyl-phenylether	4600	U
118-74-1	Hexachlorobenzene	4600	U
87-86-5	Pentachlorophenol	460	J
85-01-8	Phenanthrene	240	J
120-12-7	Anthracene	4600	U
86-74-8	Carbazole	4600	U
84-74-2	Di-n-butylphthalate	4600	U
206-44-0	Fluoranthene	400	J
129-00-0	Pyrene	750	J
85-68-7	Butylbenzylphthalate	650	J
91-94-1	3,3'-Dichlorobenzidine	4600	U
56-55-3	Benzo(a)anthracene	4600	U
218-01-9	Chrysene	320	J
117-81-7	bis(2-Ethylhexyl)phthalate	~~4600~~ 2200	U JB
117-84-0	Di-n-octylphthalate	520	J
205-99-2	Benzo(b)fluoranthene	4600	U
207-08-9	Benzo(k)fluoranthene	4600	U
50-32-8	Benzo(a)pyrene	4600	U
193-39-5	Indeno(1,2,3-cd)pyrene	4600	U
53-70-3	Dibenz(a,h)anthracene	4600	U
191-24-2	Benzo(g,h,i)perylene	380	J

7-19-94

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
JL513

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.03

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0448.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 29 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/20/94

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 5.3

Number TICs found: 25

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123-42-2	2-Pentanone, 4-hydroxy-4-met	3.133	28000	NJA
2.		UNKNOWN ALKANE	16.421	12000	NJ
3.		UNKNOWN ALKANE	16.986	5000	J
4.		UNKNOWN ALKANE	17.274	6000	J
5.		UNKNOWN HYDROCARBON	17.494	3800	J
6.		UNKNOWN ALKANE	17.679	5800	J
7.		UNKNOWN HYDROCARBON	18.350	2300	J
8.		UNKNOWN HYDROCARBON	18.558	6400	J
9.		UNKNOWN	18.662	2100	J
10.		UNKNOWN	18.767	1800	J
11.		UNKNOWN ALKANE	18.836	5400	J
12.		UNKNOWN	19.021	2600	J
13.		UNKNOWN	19.091	2400	J
14.		UNKNOWN	19.207	3800	J
15.		UNKNOWN	19.300	5900	J
16.		UNKNOWN	19.392	1300	J
17.		UNKNOWN	19.427	1600	J
18.		UNKNOWN	19.508	3000	J
19.		UNKNOWN	19.636	2600	J
20.		UNKNOWN	19.682	1800	J
21.		UNKNOWN	20.065	2900	J
22.		UNKNOWN ALKANE	20.285	1400	J
23.		UNKNOWN	20.598	1800	J
24.		UNKNOWN ALKANE	20.865	2500	J
25.		UNKNOWN	21.039	2000	J
26.					
27.					
28.					
29.					
30.					

DL 1-19-94

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SVSV3 EPA SAMPLE NO.

JL514

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.04

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0449.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 77 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 1000(UL) Date Analyzed: 06/20/94

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 6.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	29000	U
111-44-4	bis(2-Chloroethyl)Ether	29000	U
95-57-8	2-Chlorophenol	29000	U
541-73-1	1,3-Dichlorobenzene	29000	U
106-46-7	1,4-Dichlorobenzene	29000	U
95-50-1	1,2-Dichlorobenzene	29000	U
95-48-7	2-Methylphenol	29000	U
108-60-1	2,2'-oxybis(1-Chloropropane)	2900	J
106-44-5	4-Methylphenol	29000	U
621-64-7	N-Nitroso-di-n-propylamine	29000	U
67-72-1	Hexachloroethane	29000	U
98-95-3	Nitrobenzene	29000	U
78-59-1	Isophorone	29000	U
88-75-5	2-Nitrophenol	29000	U
105-67-9	2,4-Dimethylphenol	29000	U
111-91-1	bis(2-Chloroethoxy)methane	29000	U
120-83-2	2,4-Dichlorophenol	29000	U
120-82-1	1,2,4-Trichlorobenzene	29000	U
91-20-3	Naphthalene	29000	J U
106-47-8	4-Chloroaniline	29000	U
87-68-3	Hexachlorobutadiene	29000	U
59-50-7	4-Chloro-3-Methylphenol	3700	J
91-57-6	2-Methylnaphthalene	29000	J U
77-47-4	Hexachlorocyclopentadiene	29000	U
88-06-2	2,4,6-Trichlorophenol	70000	U
95-95-4	2,4,5-Trichlorophenol	29000	U
91-58-7	2-Chloronaphthalene	70000	U
88-74-4	2-Nitroaniline	29000	U
131-11-3	Dimethylphthalate	29000	U
208-96-8	Acenaphthylene	29000	U
606-20-2	2,6-Dinitrotoluene	70000	U
99-09-2	3-Nitroaniline	29000	U
83-32-9	Acenaphthene		

DV 7-19-94

13

1C

SEMIVOLATILE(RGANICS ANALYSIS DATA SHE(SDSDS EPA SAMPLE NO.

JL514

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.04

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0449.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 77 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 1000(UL) Date Analyzed: 06/20/94

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 6.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG		Q
51-28-5	2,4-Dinitrophenol		70000	U
100-02-7	4-Nitrophenol		70000	U
132-64-9	Dibenzofuran		29000	U
121-14-2	2,4-Dinitrotoluene		29000	U
84-66-2	Diethylphthalate		29000	U
7005-72-3	4-Chlorophenyl-phenylether		29000	U
86-73-7	Fluorene		29000	U
100-01-6	4-Nitroaniline		70000	U
534-52-1	4,6-Dinitro-2-methylphenol		70000	U
86-30-6	N-Nitrosodiphenylamine (1)		29000	U
101-55-3	4-Bromophenyl-phenylether		29000	U
118-74-1	Hexachlorobenzene		29000	U
87-86-5	Pentachlorophenol		70000	U
85-01-8	Phenanthrene		1800	J
120-12-7	Anthracene		29000	U
86-74-8	Carbazole		29000	U
84-74-2	Di-n-butylphthalate		1700	J
206-44-0	Fluoranthene		29000	U
129-00-0	Pyrene		1800	J
85-68-7	Butylbenzylphthalate		29000	U
91-94-1	3,3'-Dichlorobenzidine		29000	U
56-55-3	Benzo(a)anthracene		29000	U
218-01-9	Chrysene		29000	U
117-81-7	bis(2-Ethylhexyl)phthalate	29000	~~17000~~	U ~~JB~~
117-84-0	Di-n-octylphthalate		29000	U
205-99-2	Benzo(b)fluoranthene		29000	U
207-08-9	Benzo(k)fluoranthene		29000	U
50-32-8	Benzo(a)pyrene		29000	U
193-39-5	Indeno(1,2,3-cd)pyrene		29000	U
53-70-3	Dibenz(a,h)anthracene		29000	U
191-24-2	Benzo(g,h,i)perylene		29000	U

DL 7-19-94

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL514

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.04

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0449.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 77 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/20/94

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 6.5

Number TICs found: 25

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN ALKANE	8.664	66000	NJ
2.		UNKNOWN ALKANE	9.546	69000	J
3.		UNKNOWN ALKANE	13.371	57000	J
4.		UNKNOWN ALKANE	14.033	54000	J
5.		UNKNOWN	15.637	25000	J
6.		UNKNOWN	15.845	25000	J
7.		UNKNOWN ALCOHOL	16.202	19000	J
8.		UNKNOWN HYDROCARBON	16.363	18000	J
9.		UNKNOWN ALKANE	16.432	42000	J
10.		UNKNOWN	16.767	50000	J
11.		UNKNOWN ALKANE	16.986	27000	J
12.		UNKNOWN	17.148	30000	J
13.		UNKNOWN ALKANE	17.275	56000	J
14.		UNKNOWN	17.507	23000	J
15.		UNKNOWN	17.831	75000	J
16.		UNKNOWN ALKANE	18.352	120000	J
17.		UNKNOWN	18.561	120000	J
18.		UNKNOWN ALKANE	18.839	91000	J
19.		UNKNOWN ALKANE	19.210	81000	J
20.		UNKNOWN	19.303	98000	J
21.		UNKNOWN ALKANE	20.023	73000	J
22.	36728-72-0	28-Nor-17.beta.(H)-hopane	20.069	89000	NJ
23.		UNKNOWN ALKANE	20.290	130000	J
24.		UNKNOWN ALKANE	20:870	120000	J
25.	1058-61-3	Stigmast-4-en-3-one	21.854	75000	NJ
26.					
27.					
28.					
29.					
30.					

DL 1-19-94

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SDSD2

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

JL515

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.05

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0450.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 78 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 1000(UL) Date Analyzed: 06/20/94

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 6.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	30000	U
111-44-4	bis(2-Chloroethyl)Ether	30000	U
95-57-8	2-Chlorophenol	30000	U
541-73-1	1,3-Dichlorobenzene	30000	U
106-46-7	1,4-Dichlorobenzene	30000	U
95-50-1	1,2-Dichlorobenzene	30000	U
95-48-7	2-Methylphenol	30000	U
108-60-1	2,2'-oxybis(1-Chloropropane)	30000	U
106-44-5	4-Methylphenol	2100	J
621-64-7	N-Nitroso-di-n-propylamine	30000	U
67-72-1	Hexachloroethane	30000	U
98-95-3	Nitrobenzene	30000	U
78-59-1	Isophorone	30000	U
88-75-5	2-Nitrophenol	30000	U
105-67-9	2,4-Dimethylphenol	30000	U
111-91-1	bis(2-Chloroethoxy)methane	30000	U
120-83-2	2,4-Dichlorophenol	30000	U
120-82-1	1,2,4-Trichlorobenzene	30000	U
91-20-3	Naphthalene	30000	U
106-47-8	4-Chloroaniline	30000	U
87-68-3	Hexachlorobutadiene	30000	U
59-50-7	4-Chloro-3-Methylphenol	30000	U
91-57-6	2-Methylnaphthalene	1900	J
77-47-4	Hexachlorocyclopentadiene	30000	U
88-06-2	2,4,6-Trichlorophenol	30000	U
95-95-4	2,4,5-Trichlorophenol	73000	U
91-58-7	2-Chloronaphthalene	30000	U
88-74-4	2-Nitroaniline	73000	U
131-11-3	Dimethylphthalate	30000	U
208-96-8	Acenaphthylene	30000	U
606-20-2	2,6-Dinitrotoluene	30000	U
99-09-2	3-Nitroaniline	73000	U
83-32-9	Acenaphthene	30000	U

JL 1-19-94

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SDS02 EPA SAMPLE NO.

JL515

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.05

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0450.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 78 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 1000(UL) Date Analyzed: 06/20/94

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 6.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	73000	U
100-02-7	4-Nitrophenol	73000	U
132-64-9	Dibenzofuran	30000	U
121-14-2	2,4-Dinitrotoluene	30000	U
84-66-2	Diethylphthalate	30000	U
7005-72-3	4-Chlorophenyl-phenylether	30000	U
86-73-7	Fluorene	30000	U
100-01-6	4-Nitroaniline	73000	U
534-52-1	4,6-Dinitro-2-methylphenol	73000	U
86-30-6	N-Nitrosodiphenylamine (1)	30000	U
101-55-3	4-Bromophenyl-phenylether	30000	U
118-74-1	Hexachlorobenzene	30000	U
87-86-5	Pentachlorophenol	73000	U
85-01-8	Phenanthrene	30000	U
120-12-7	Anthracene	30000	U
86-74-8	Carbazole	30000	U
84-74-2	Di-n-butylphthalate	30000	U
206-44-0	Fluoranthene	30000	U
129-00-0	Pyrene	2200	J
85-68-7	Butylbenzylphthalate	30000	U
91-94-1	3,3'-Dichlorobenzidine	30000	U
56-55-3	Benzo(a)anthracene	30000	U
218-01-9	Chrysene	30000	U
117-81-7	bis(2-Ethylhexyl)phthalate	30000 ~~15000~~	U ~~JB~~
117-84-0	Di-n-octylphthalate	30000	U
205-99-2	Benzo(b)fluoranthene	30000	U
207-08-9	Benzo(k)fluoranthene	30000	U
50-32-8	Benzo(a)pyrene	30000	U
193-39-5	Indeno(1,2,3-cd)pyrene	30000	U
53-70-3	Dibenz(a,h)anthracene	30000	U
191-24-2	Benzo(g,h,i)perylene	30000	U

JV 7-19-94

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: JL515

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.05

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0450.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 78 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/20/94

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 6.4

Number TICs found: 25 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123-42-2	2-Pentanone, 4-hydroxy-4-met	3.124	110000	NJA
2.		UNKNOWN ALKANE	8.669	60000	NJ
3.		UNKNOWN ALKANE	9.552	53000	J
4.		UNKNOWN ALKANE	13.374	51000	J
5.		UNKNOWN ALKANE	14.037	55000	J
6.		UNKNOWN	15.645	26000	J
7.		UNKNOWN HYDROCARBON	15.853	40000	J
8.		UNKNOWN	16.210	30000	J
9.		UNKNOWN	16.383	26000	J
10.		UNKNOWN	16.441	39000	J
11.		UNKNOWN ALKANE	16.776	63000	J
12.		UNKNOWN ALKANE	17.007	35000	J
13.		UNKNOWN ALKANE	17.157	37000	J
14.		UNKNOWN	17.285	59000	J
15.		UNKNOWN ALKANE	17.516	32000	J
16.		UNKNOWN ALKANE	17.701	62000	J
17.		UNKNOWN ALKANE	18.165	89000	J
18.		UNKNOWN	18.362	100000	J
19.		UNKNOWN ALKANE	18.583	96000	J
20.		UNKNOWN	19.221	92000	J
21.		UNKNOWN	19.326	100000	J
22.		UNKNOWN ALKANE	20.082	82000	J
23.		UNKNOWN ALKANE	20.303	110000	J
24.		Stigmast-4-en-3-one	20.885	130000	J
25.	1058-61-3		21.873	81000	NJ
26.					
27.					
28.					
29.					
30.					

SDU54

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Union Slough

JL516

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.06

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0218.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 46 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500 (UL) Date Analyzed: 06/03/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	610	U
111-44-4	bis(2-Chloroethyl)Ether	610	U
95-57-8	2-Chlorophenol	610	U
541-73-1	1,3-Dichlorobenzene	610	U
106-46-7	1,4-Dichlorobenzene	610	U
95-50-1	1,2-Dichlorobenzene	610	U
95-48-7	2-Methylphenol	610	U
108-60-1	2,2'-oxybis(1-Chloropropane)	610	U
106-44-5	4-Methylphenol	610	U
621-64-7	N-Nitroso-di-n-propylamine	610	U
67-72-1	Hexachloroethane	610	U
98-95-3	Nitrobenzene	610	U
78-59-1	Isophorone	610	U
88-75-5	2-Nitrophenol	610	U
105-67-9	2,4-Dimethylphenol	610	U
111-91-1	bis(2-Chloroethoxy)methane	610	U
120-83-2	2,4-Dichlorophenol	610	U
120-82-1	1,2,4-Trichlorobenzene	610	U
91-20-3	Naphthalene	610	U
106-47-8	4-Chloroaniline	610	U
87-68-3	Hexachlorobutadiene	610	U
59-50-7	4-Chloro-3-Methylphenol	610	U
91-57-6	2-Methylnaphthalene	610	U
77-47-4	Hexachlorocyclopentadiene	610	J U
88-06-2	2,4,6-Trichlorophenol	610	U
95-95-4	2,4,5-Trichlorophenol	1500	U
91-58-7	2-Chloronaphthalene	610	U
88-74-4	2-Nitroaniline	1500	U
131-11-3	Dimethylphthalate	610	U
208-96-8	Acenaphthylene	610	U
606-20-2	2,6-Dinitrotoluene	610	U
99-09-2	3-Nitroaniline	1500	U
83-32-9	Acenaphthene	610	U

DL
7-19-94

1C

SEMIVOLATILE(RGANICS ANALYSIS DATA SHE(SDG54

EPA SAMPLE NO.

JL516

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.06

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0218.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 46 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1500	U
100-02-7	4-Nitrophenol	1500	U
132-64-9	Dibenzofuran	610	U
121-14-2	2,4-Dinitrotoluene	610	U
84-66-2	Diethylphthalate	610	U
7005-72-3	4-Chlorophenyl-phenylether	610	U
86-73-7	Fluorene	610	U
100-01-6	4-Nitroaniline	1500	U
534-52-1	4,6-Dinitro-2-methylphenol	1500	U
86-30-6	N-Nitrosodiphenylamine (1)	610	U
101-55-3	4-Bromophenyl-phenylether	610	U
118-74-1	Hexachlorobenzene	610	U
87-86-5	Pentachlorophenol	1500	U
85-01-8	Phenanthrene	610	U
120-12-7	Anthracene	610	U
86-74-8	Carbazole	610	U
84-74-2	Di-n-butylphthalate	610	U
206-44-0	Fluoranthene	610	U
129-00-0	Pyrene	610	U
85-68-7	Butylbenzylphthalate	610	U
91-94-1	3,3'-Dichlorobenzidine	610	U
56-55-3	Benzo(a)anthracene	610	U
218-01-9	Chrysene	610	U
117-81-7	bis(2-Ethylhexyl)phthalate	610 ~~400~~	U ~~JB~~
117-84-0	Di-n-octylphthalate	610	U
205-99-2	Benzo(b)fluoranthene	610	U
207-08-9	Benzo(k)fluoranthene	610	U
50-32-8	Benzo(a)pyrene	610	U
193-39-5	Indeno(1,2,3-cd)pyrene	610	U
53-70-3	Dibenz(a,h)anthracene	610	U
191-24-2	Benzo(g,h,i)perylene	610	U

1-19-9

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1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL516

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.06

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0218.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 46 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

Number TICs found: 19

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
~~1.~~	~~123-42-2~~	~~2-Pentanone, 4-hydroxy-4-met~~	~~3.548~~	~~97000~~	~~NJAB~~
2.		UNKNOWN ORGANIC ACID	12.256	770	NJ
3.		UNKNOWN ORGANIC ACID	12.728	720	J
4.		UNKNOWN	12.786	1600	J
5.		UNKNOWN HYDROCARBON	13.616	1700	J
6.		UNKNOWN ORGANIC ACID	13.731	2700	J
7.		UNKNOWN	13.917	880	J
8.		UNKNOWN	14.114	800	J
9.		UNKNOWN	14.357	560	J
10.		UNKNOWN	14.613	1300	J
11.		UNKNOWN	14.846	530	J
12.		UNKNOWN AMIDE	15.232	550	J
13.		UNKNOWN ALKANE	15.852	520	J
14.		UNKNOWN	16.062	1500	J
15.		UNKNOWN	16.203	610	J
~~16.~~		~~UNKNOWN AMIDE~~	~~16.367~~	~~1600~~	~~JB~~
17.		UNKNOWN	16.648	590	J
18.		UNKNOWN	17.035	1300	J
19.		UNKNOWN ALKANE	18.069	500	J
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

DL 7-19-94

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SSURDTK3

EPA SAMPLE NO.

surface background soil

JL517

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.07

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0219.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 24 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 4.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	430	U
111-44-4	bis(2-Chloroethyl)Ether	430	U
95-57-8	2-Chlorophenol	430	U
541-73-1	1,3-Dichlorobenzene	430	U
106-46-7	1,4-Dichlorobenzene	430	U
95-50-1	1,2-Dichlorobenzene	430	U
95-48-7	2-Methylphenol	430	U
108-60-1	2,2'-oxybis(1-Chloropropane)	430	U
106-44-5	4-Methylphenol	430	U
621-64-7	N-Nitroso-di-n-propylamine	430	U
67-72-1	Hexachloroethane	430	U
98-95-3	Nitrobenzene	430	U
78-59-1	Isophorone	430	U
88-75-5	2-Nitrophenol	430	U
105-67-9	2,4-Dimethylphenol	430	U
111-91-1	bis(2-Chloroethoxy)methane	430	U
120-83-2	2,4-Dichlorophenol	430	U
120-82-1	1,2,4-Trichlorobenzene	430	U
91-20-3	Naphthalene	430	U
106-47-8	4-Chloroaniline	430	U
87-68-3	Hexachlorobutadiene	430	U
59-50-7	4-Chloro-3-Methylphenol	430	U
91-57-6	2-Methylnaphthalene	430	U
77-47-4	Hexachlorocyclopentadiene	430	J U
88-06-2	2,4,6-Trichlorophenol	430	U
95-95-4	2,4,5-Trichlorophenol	1000	U
91-58-7	2-Chloronaphthalene	430	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	430	U
208-96-8	Acenaphthylene	430	U
606-20-2	2,6-Dinitrotoluene	430	U
99-09-2	3-Nitroaniline	1000	U
83-32-9	Acenaphthene	430	U

DL 11-7-94

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1C

SEMIVOLATILE (.GANICS ANALYSIS DATA SHEI

SSUR... breakground surface soil

EPA SAMPLE NO.

JL517

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.07

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0219.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 24 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 4.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol	1000	U
132-64-9	Dibenzofuran	430	U
121-14-2	2,4-Dinitrotoluene	430	U
84-66-2	Diethylphthalate	430	U
7005-72-3	4-Chlorophenyl-phenylether	430	U
86-73-7	Fluorene	430	U
100-01-6	4-Nitroaniline	1000	U
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	N-Nitrosodiphenylamine (1)	430	U
101-55-3	4-Bromophenyl-phenylether	430	U
118-74-1	Hexachlorobenzene	430	U
87-86-5	Pentachlorophenol	1000	U
85-01-8	Phenanthrene	430	U
120-12-7	Anthracene	430	U
86-74-8	Carbazole	430	U
84-74-2	Di-n-butylphthalate	32	J
206-44-0	Fluoranthene	430	U
129-00-0	Pyrene	430	U
85-68-7	Butylbenzylphthalate	430	U
91-94-1	3,3'-Dichlorobenzidine	430	U
56-55-3	Benzo(a)anthracene	430	U
218-01-9	Chrysene	430	U
117-81-7	bis(2-Ethylhexyl)phthalate	430 ~~160~~	U ~~JB~~
117-84-0	Di-n-octylphthalate	430	U
205-99-2	Benzo(b)fluoranthene	430	U
207-08-9	Benzo(k)fluoranthene	430	U
50-32-8	Benzo(a)pyrene	430	U
193-39-5	Indeno(1,2,3-cd)pyrene	430	U
53-70-3	Dibenz(a,h)anthracene	430	U
191-24-2	Benzo(g,h,i)perylene	430	U

DL
7-19-94

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL517

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.07

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0219.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 24 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 4.4

Number TICs found: 21

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	2.079	1200	J
2.	123-42-2	2-Pentanone, 4-hydroxy-4-met	3.536	12000	NJAB
3.		UNKNOWN CYCLOALKANE	11.656	980	NJ
4.		UNKNOWN AMIDE	15.198	420	J
5.		UNKNOWN	15.742	1200	J
6.		UNKNONW ALKANE	15.823	670	J
7.		UNKNOWN	16.032	420	J
8.		UNKNOWN	16.333	2000	J
9.		UNKNOWN	16.624	480	J
10.		UNKNOWN	16.822	460	J
11.		UNKNOWN ALKANE	16.974	610	J
12.		UNKNOWN	17.020	920	J
13.		UNKNOWN	17.079	550	J
14.		UNKNOWN ALKANE	18.038	920	J
15.		UNKNOWN	18.460	670	J
16.		UNKNOWN AMIDE	18.601	1900	J
17.		UNKNOWN ALKANE	19.036	2100	J
18.		UNKNOWN	19.177	730	J
19.		UNKNOWN	20.000	4400	J
20.		UNKNOWN	21.294	410	J
21.		UNKNOWN	21.976	1200	J
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SSWD1AK4 Background Sub soil

EPA SAMPLE NO.

JL518

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.08

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0220.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 46 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 4.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	610	U
111-44-4	bis(2-Chloroethyl)Ether	610	U
95-57-8	2-Chlorophenol	610	U
541-73-1	1,3-Dichlorobenzene	610	U
106-46-7	1,4-Dichlorobenzene	610	U
95-50-1	1,2-Dichlorobenzene	610	U
95-48-7	2-Methylphenol	610	U
108-60-1	2,2'-oxybis(1-Chloropropane)	610	U
106-44-5	4-Methylphenol	610	U
621-64-7	N-Nitroso-di-n-propylamine	610	U
67-72-1	Hexachloroethane	610	U
98-95-3	Nitrobenzene	610	U
78-59-1	Isophorone	610	U
88-75-5	2-Nitrophenol	610	U
105-67-9	2,4-Dimethylphenol	610	U
111-91-1	bis(2-Chloroethoxy)methane	610	U
120-83-2	2,4-Dichlorophenol	610	U
120-82-1	1,2,4-Trichlorobenzene	610	U
91-20-3	Naphthalene	610	U
106-47-8	4-Chloroaniline	610	U
87-68-3	Hexachlorobutadiene	610	U
59-50-7	4-Chloro-3-Methylphenol	610	U
91-57-6	2-Methylnaphthalene	610	U
77-47-4	Hexachlorocyclopentadiene	610	UJ
88-06-2	2,4,6-Trichlorophenol	610	U
95-95-4	2,4,5-Trichlorophenol	1500	U
91-58-7	2-Chloronaphthalene	610	U
88-74-4	2-Nitroaniline	1500	U
131-11-3	Dimethylphthalate	610	U
208-96-8	Acenaphthylene	610	U
606-20-2	2,6-Dinitrotoluene	610	U
99-09-2	3-Nitroaniline	1500	U
83-32-9	Acenaphthene	610	U

DL 1-19-94

1C

SEMIVOLATILE (GANICS ANALYSIS DATA SHEE

BJSUBBAK EPA SAMPLE NO.

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.08

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0220.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 46 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 4.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1500	U
100-02-7	4-Nitrophenol	1500	U
132-64-9	Dibenzofuran	610	U
121-14-2	2,4-Dinitrotoluene	610	U
84-66-2	Diethylphthalate	610	U
7005-72-3	4-Chlorophenyl-phenylether	610	U
86-73-7	Fluorene	610	U
100-01-6	4-Nitroaniline	1500	U
534-52-1	4,6-Dinitro-2-methylphenol	1500	U
86-30-6	N-Nitrosodiphenylamine (1)	610	U
101-55-3	4-Bromophenyl-phenylether	610	U
118-74-1	Hexachlorobenzene	610	U
87-86-5	Pentachlorophenol	1500	U
85-01-8	Phenanthrene	610	U
120-12-7	Anthracene	610	U
86-74-8	Carbazole	610	U
84-74-2	Di-n-butylphthalate	33	J
206-44-0	Fluoranthene	610	U
129-00-0	Pyrene	610	U
85-68-7	Butylbenzylphthalate	610	U
91-94-1	3,3'-Dichlorobenzidine	610	U
56-55-3	Benzo(a)anthracene	610	U
218-01-9	Chrysene	610	U
117-81-7	bis(2-Ethylhexyl)phthalate	610 ~~140~~	U ~~JB~~
117-84-0	Di-n-octylphthalate	610	U
205-99-2	Benzo(b)fluoranthene	610	U
207-08-9	Benzo(k)fluoranthene	610	U
50-32-8	Benzo(a)pyrene	610	U
193-39-5	Indeno(1,2,3-cd)pyrene	610	U
53-70-3	Dibenz(a,h)anthracene	610	U
191-24-2	Benzo(g,h,i)perylene	610	U

DL 7-17-94

1F

EPA SAMPLE NO.

JL518

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.08

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0220.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 46 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 4.5

Number TICs found: 22

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123-42-2	2-Pentanone, 4-hydroxy-4-met	3.615	78000	NJA
2.		UNKNOWN	5.252	860	NJ
3.		UNKNOWN	11.640	1200	J
4.		UNKNOWN ALKANE	14.552	450	J
5.		UNKNOWN CYCLOALKANE	14.908	190	J
6.		UNKNOWN ALKANE	15.806	180	J
7.		UNKNOWN HYDROCARBON	16.025	270	J
8.		UNKNOWN	16.152	440	J
9.		UNKNOWN AMIDE	16.314	570	JB
10.		UNKNOWN ALDEHYDE	16.615	230	J
11.		UNKNOWN	16.870	200	J
12.		UNKNOWN ALKANE	18.031	340	J
13.		UNKNOWN ALKANE	19.035	1100	J
14.		UNKNOWN	19.163	430	J
15.		UNKNOWN ALKANE	19.984	380	J
16.		UNKNOWN	20.148	210	J
17.		UNKNOWN	20.324	270	J
18.		UNKNOWN ALKANE	21.087	220	J
19.		UNKNOWN	21.533	190	J
20.		UNKNOWN	21.873	180	J
21.		UNKNOWN	22.236	360	J
22.		UNKNOWN	22.482	400	J
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

7-19-94

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET (ERO1)

EPA SAMPLE NO.

JL519

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) WATER Lab Sample ID: 18854.09

Sample wt/vol: 1000 (g/mL) ML Lab File ID: HH3658.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: _____ decanted: (Y/N)___ Date Extracted:05/28/94

Concentrated Extract Volume: 1000(UL) Date Analyzed: 06/01/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	1	J
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	6	J
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U DL
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	25	U
95-95-4	2,4,5-Trichlorophenol	10	U
91-58-7	2-Chloronaphthalene	25	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	25	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene		

DL 7-19-94

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET (4.21)

EPA SAMPLE NO.: JL519

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) WATER Lab Sample ID: 18854.09

Sample wt/vol: 1000 (g/mL) ML Lab File ID: HH3658.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 05/28/94

Concentrated Extract Volume: 1000(UL) Date Analyzed: 06/01/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

ER01

EPA SAMPLE NO.

JL519

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) WATER Lab Sample ID: 18854.09

Sample wt/vol: 1000 (g/mL) ML Lab File ID: HH3658.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 05/28/94

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/01/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.4

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	2.042	6	JB
2.		UNKNOWN	2.084	4	JB
3.		UNKNOWN	2.198	2	JB
4.		UNKNOWN	2.229	3	JB
5.		UNKNOWN	2.322	3	JB
6.		UNKNOWN	4.116	8	JB
7.		UNKNOWN	10.326	2	NJ
8.					
9.					
10.					
11.					
12.					
13.					
14.					
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30.					

7-19-94

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL520

JUSBK5 Union Slough Background

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.10

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0241.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 46 decanted: (Y/N) N Date Extracted:05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/07/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	610	U
111-44-4	bis(2-Chloroethyl)Ether	610	U
95-57-8	2-Chlorophenol	610	U
541-73-1	1,3-Dichlorobenzene	610	U
106-46-7	1,4-Dichlorobenzene	610	U
95-50-1	1,2-Dichlorobenzene	610	U
95-48-7	2-Methylphenol	610	U
108-60-1	2,2'-oxybis(1-Chloropropane)	610	U
106-44-5	4-Methylphenol	140	J
621-64-7	N-Nitroso-di-n-propylamine	610	U
67-72-1	Hexachloroethane	610	U
98-95-3	Nitrobenzene	610	U
78-59-1	Isophorone	610	U
88-75-5	2-Nitrophenol	610	U
105-67-9	2,4-Dimethylphenol	610	U
111-91-1	bis(2-Chloroethoxy)methane	610	U
120-83-2	2,4-Dichlorophenol	610	U
120-82-1	1,2,4-Trichlorobenzene	610	U
91-20-3	Naphthalene	610	U
106-47-8	4-Chloroaniline	610	U
87-68-3	Hexachlorobutadiene	610	U
59-50-7	4-Chloro-3-Methylphenol	610	U
91-57-6	2-Methylnaphthalene	610	U
77-47-4	Hexachlorocyclopentadiene	610	J U
88-06-2	2,4,6-Trichlorophenol	610	U
95-95-4	2,4,5-Trichlorophenol	1500	U
91-58-7	2-Chloronaphthalene	610	U
88-74-4	2-Nitroaniline	1500	U
131-11-3	Dimethylphthalate	610	U
208-96-8	Acenaphthylene	610	U
606-20-2	2,6-Dinitrotoluene	610	U
99-09-2	3-Nitroaniline	1500	U
83-32-9	Acenaphthene	610	U

FORM I SV-1 3/90

DL 7-19-94

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SBU, BKS

EPA SAMPLE NO.: JL520

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.10

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0241.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 46 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/07/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1500	U
100-02-7	4-Nitrophenol	1500	U
132-64-9	Dibenzofuran	610	U
121-14-2	2,4-Dinitrotoluene	610	U
84-66-2	Diethylphthalate	34	J
7005-72-3	4-Chlorophenyl-phenylether	610	U
86-73-7	Fluorene	610	U
100-01-6	4-Nitroaniline	1500	U
534-52-1	4,6-Dinitro-2-methylphenol	1500	U
86-30-6	N-Nitrosodiphenylamine (1)	610	U
101-55-3	4-Bromophenyl-phenylether	610	U
118-74-1	Hexachlorobenzene	610	U
87-86-5	Pentachlorophenol	1500	U
85-01-8	Phenanthrene	74	J
120-12-7	Anthracene	610	U
86-74-8	Carbazole	610	U
84-74-2	Di-n-butylphthalate	42	J
206-44-0	Fluoranthene	110	J
129-00-0	Pyrene	130	J
85-68-7	Butylbenzylphthalate	610	U
91-94-1	3,3'-Dichlorobenzidine	610	U
56-55-3	Benzo(a)anthracene	610	U
218-01-9	Chrysene	610	U
117-81-7	bis(2-Ethylhexyl)phthalate	610 ~~540~~	U ~~JB~~
117-84-0	Di-n-octylphthalate	610	U
205-99-2	Benzo(b)fluoranthene	610	U
207-08-9	Benzo(k)fluoranthene	610	U
50-32-8	Benzo(a)pyrene	610	U
193-39-5	Indeno(1,2,3-cd)pyrene	610	U
53-70-3	Dibenz(a,h)anthracene	610	U
191-24-2	Benzo(g,h,i)perylene	610	U

7-19-94

1F

EPA SAMPLE NO.

JL520

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.10

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0241.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 46 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 25

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
~~1.~~	~~123-42-2~~	~~2-Pentanone, 4-hydroxy-4-met~~	~~3.745~~	~~18000~~	~~NJA~~
2.		UNKNOWN	13.084	1100	NJ
3.		UNKNOWN	13.402	1100	J
4.		UNKNOWN ORGANIC ACID	13.846	1300	J
5.		UNKNOWN ORGANIC ACID	13.960	2000	J
6.		UNKNOWN	15.203	1400	J
7.		2-Phenanthrenol, -octa	16.542	1200	J
8.		UNKNOWN	17.954	3200	J
9.		UNKNOWN ALKANE	18.345	4900	J
10.		UNKNOWN AMIDE	18.874	1000	J
11.		UNKNOWN ALDEHYDE	19.081	1700	J
12.		UNKNOWN ALKANE	19.334	1700	J
13.		UNKNOWN ALCOHOL	19.381	1100	J
14.		UNKNOWN ALDEHYDE	20.072	1000	J
15.		UNKNOWN	20.233	680	J
16.		UNKNOWN	20.325	680	J
17.		UNKNOWN	20.394	1400	J
18.		UNKNOWN	20.728	980	J
19.		UNKNOWN	20.982	1200	J
20.		UNKNOWN	21.074	820	J
21.		UNKNOWN	21.269	910	J
22.		UNKNOWN	21.695	1100	J
23.		UNKNOWN	21.891	1100	J
24.		UNKNOWN	22.294	4600	J
25.		UNKNOWN	22.386	1100	J
26.					
27.					
28.					
29.					
30.					

DL 7-19-94

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27.a

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

RECEIVED
AUG - 5 1994
URS CONSULTANTS

REPLY TO
ATTN OF: ES-095

August 4, 1994

MEMORANDUM

SUBJECT: Data Validation for Buse Timber SI, SAS No. 8404J-01, SDG No. 94214115, Chlorinated Phenols Analysis

FROM: Donald Matheny, Chemist
Quality Assurance Office, ESD

TO: Dave Bennett, Site Manager
Superfund Response & Investigations Branch, HWD

The QA Office has received and is transmitting the above ESAT data validation report.

CC: Porter Lombard, ESAT-RSCC
Jeff Kesner, Site Lead, URS
Bruce Woods, TPO, Region 10

ENVIRONMENTAL SERVICE ASSISTANCE TEAMS - ZONE 2

ICF Technology Inc.
ManTech Environmental

ESAT Region 10
ICF Technology Inc.
Suite 1510
1200 6th Avenue
Seattle, WA 98101
Phone (206) 224-4161

MEMORANDUM

DATE: July 28, 1994

TO: Jerry Muth, RPO, USEPA, Region 10

Donald Matheny, Task Monitor, USEPA, Region 10

THROUGH: Barry Pepich, ESAT Team Manager, Region 10

FROM: David J. Lindquist, ESAT Data Reviewer

SUBJECT: Data Validation Report of Chlorinated Phenols Analyses of Samples from Buse Timber Site Investigation
SAS: 8404J-01 SDG: 94214115

TID#: 10-9404-430
DOC#: ESAT-10B-7502
WUD#: 2351

The quality assurance (QA) review of nine (9) soil samples and one water sample collected from the above referenced site has been completed. These samples were analyzed for phenol, 2-chlorophenol, 2,6-dichlorophenol, 4-chloro-3-methylphenol, 2,4-dichlorophenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, o-phenylphenol and pentachlorophenol via Method 8040A, "Phenols by Gas Chromatography" by Pacific Analytical, Inc. of Carlsbad, California. The samples were numbered as follows:

94214115	94214116	94214117	94214118	94214119
94214120	94214121	94214122	94214123	94214124

DATA QUALIFICATIONS

The following comments refer to the laboratory performance in meeting the Quality Control Specifications outlined in Method 8040A, "Phenols by Gas Chromatography" found in "Test Methods for Evaluating Solid Waste (SW-846)", the technical instructions specified in Special Analytical Services (SAS) Request 8404J-01 and the "National Functional Guidelines for Organic Data Review, 2/94".

The conclusions presented herein are based on the information provided for the review.

1. Timeliness - Acceptable

All of the samples were extracted and analyzed within the SAS specified holding times. In addition, the water sample met the technical (40 CFR 136 water criteria) holding time criteria.

The Extraction Logs indicate that the samples underwent extraction, acid/base cleanup, pentafluorobenzylbromide derivatization, GPC and silica gel cleanup as specified by the SAS request.

Listed below are pertinent sample collection, extraction and analysis dates.

Sample Number	Collection Date	Rec'd. Date	Extraction Date	Preparation* Date	Sample Analysis
94214115	052594	052794	060694	062794	070794
94214116	052594	052794	060694	062794	070794
94214117	052594	052794	060694	062794	070794
94214118	052594	052794	060694	062794	070794
94214119	052594	052794	060694	062794	070794
94214120	052594	052794	060694	062794	070794
94214121	052594	052794	060694	062794	070794
94214122	052594	052794	060694	062794	070794
94214123	052594	052794	060194	062794	070894
94214124	052594	052794	060694	062794	070794

* Silica gel cleanup. Acid/base partition and derivatization were performed on 062194 and 062394.

2. Initial Calibration

The SAS specified QC criteria were met for the initial calibration.

A five point initial calibration curve was analyzed for all target compounds and surrogates in accordance with the SAS request. The percent relative standard deviations (%RSDs) were within the SAS specified level (<30%) and ranged from 6.7 - 24.8% for all target compounds and surrogates for both of the columns used.

The %RSDs between the retention times of the different standards ranged from 0.05 - 0.12%.

For the surrogate, 2,4,6-tribromophenol, the low standard response factor associated with the DB-608 Megabore column was not used. Therefore, the 2,4,6-tribromophenol quantitation limit warrants elevation for this column.

2,6-Dichlorophenol and 4-chloro-3-methylphenol co-eluted on the DB-608 column (see section 7 for qualifications).

3. Continuing Calibration

The SAS specified the analysis of a continuing calibration verification (CCV) standard every ten samples at a concentration approximately equal to half the instrument calibration range. The relative percent difference (RPD) between the CCV response factors (RFs) and the mean RF associated with the initial calibration was required to be less than 25%.

Two CCVs were performed meeting the above continuing calibration criteria. However, the RPDs were calculated using the mid-range standard (.01 ppm) RF from the initial calibration rather than the mean RF. The data was not qualified on this basis.

2,6-Dichlorophenol and 4-chloro-3-methylphenol co-eluted on the DB-608 column (see section 7 for qualifications) .

The RPDs for all compounds ranged from 3 - 23% on the DB-608 column and 1 - 24% on the DB-5 column.

4. Blanks

The method blank frequency of analysis criterion was met. The target compounds were not detected in the method blanks at levels greater than the detection limits with the following exceptions:

Soil Sample

Method Blank	Compound
5394PB	pentachlorophenol

Water Sample

Method Blanks	Compound
5370PB	2,6-dichlorophenol
5371PB	

Detected pentachlorophenol and 2,6-dichlorophenol results were qualified as non-detected, "U", if the sample result area integration was below five times that of the associated method blank. The following detected target compound results are qualified as non-detected, "U", based on the associated method blank results:

pentachlorophenol - 94214115 94214116 94214120

2,6-dichlorophenol - 94214123

5. Surrogate Recovery

The raw data was compared with the data presented in the surrogate recovery form. All of the surrogate recoveries were within the control limits (50-150%) with the following exceptions:

Sample	2-fluorophenol %R	2,4,6-tribromophenol %R
94214116	210	160
94214120	240	170
94214123		46

The high surrogate recoveries indicate the possibility of high bias. Therefore, the following compounds detected in samples 94214116 and 94214120 are qualified estimated (J):

Sample	
94214116	2,6-dichlorophenol
94214120	2,6-dichlorophenol, 2,4,6-trichlorophenol, o-phenylphenol

The reviewer deemed not to qualify compounds associated with the low surrogate recovery of 2,4,6-tribromophenol on the basis that the percent recovery was just slightly lower than the control limit and the 2-fluorophenol percent recovery was within the control limits.

For the remaining samples the 2-fluorophenol recoveries ranged from 70 - 130% and the 2,4,6-tribromophenol recoveries ranged from 60 - 90%.

6. Matrix Spike/Matrix Spike Duplicate (MS/MSD) - Acceptable

The frequency and percent recovery criteria for MS/MSD analysis were met. The values reported on the matrix spike/matrix spike duplicate recovery form were verified with the raw data. The MS and MSD analyses yielded recovery results that were within the SAS specified control limits for all target compounds. The recoveries ranged from 70% to 130% and the RPDs between matrix spike duplicate results ranged 0% to 55%.

7. Compound Identification

The chromatograms and quantitation lists were inspected.

2,6-Dichlorophenol and 4-chloro-3-methylphenol co-eluted on the DB-608 column. Positive results for these compounds cannot be confirmed due to co-elution on the confirmation column. Therefore, the following sample results are qualified, "JN" (tentatively identified at an estimated concentration):

2,6-dichlorophenol -	94214115	94214116	94214117	94214119
	94214120	94214121	94214122	94214124
p-chloro-m-cresol -	94214117	94214119	94214123	

Calculations were checked with the raw data. Calculations were correct. There were no transcription errors observed between the raw data and the reported results.

8. Compound Quantitation and Detection Limits

The response factor from the mid-range initial calibration was used for quantitation. Both columns were used for quantitation and confirmation of the compounds.

A method detection limit (MDL) study prior to sample analysis indicated that the SAS specified detection limits were achievable.

The raw data was examined to verify the calculations of sample results and the reported detection limits. The calculations were correct and conformed with the SAS and method required detection limits.

9. Laboratory Contact

The laboratory was contacted on 07/28/94 requesting that the Form 1s be re-submitted with the sample results reported on a dry weight basis.

The Form 1s were received on 08/02/94 and included with the CSF (purge file).

10. Overall Assessment

Approximately fifteen percent of the total data points were qualified as estimated due to high surrogate recoveries and/or identification problems. All of the standards, samples and QC samples were analyzed in accordance with the SAS specified method with exceptions previously noted.

DATA QUALIFIER DEFINITIONS

U- The analyte was analyzed for and is not present above the level of the associated value. The associated numerical value indicates the approximate concentration necessary to detect the analyte in this sample.

If a decision requires quantitation of the analyte below the associated numerical level, reanalysis or alternative analytical methods should be considered. The technical staff is available to discuss available options.

J- The analyte was analyzed for and was positively identified, but the associated numerical value may not be consistent with the amount actually present in the environmental sample. The data should be seriously considered for decision making and are usable for many purposes.

A subscript may be appended to the "J" that indicates which of the following quality control criteria were not met:

1 Blank contamination: indicates possible high bias and/or false positives.

2 Calibration range exceeded: indicates possible low bias.

3 Holding times not met: indicates low bias for most analytes with the exception of common laboratory contaminants and chlorinated ethenes (i.e.: trichloroethene, 1,1-dichloroethene, vinyl chloride).

4 Other QC outside control limits: bias not readily determined.

R- The data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified.

Resampling and reanalysis are necessary to confirm or deny the presence of the analyte.

UJ - A combination of the "U" and "J" qualifier. The analyte was analyzed for and was not present above the level of the associated value. The associated numerical value may not accurately or precisely represent the concentration necessary to detect the analyte in this sample.

If a decision requires quantitation of the analyte close to the associated numerical level, reanalysis or alternative analytical methods should be considered.

N- The analysis indicates that an analyte is present, and there are strong indications that the identity is correct.

Confirmation of the analyte requires further analysis.

NJ- A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

A subscript may be appended to the "NJ" that indicates which of the following situations applies:

1 DDT/Endrin breakdown evident.

2 Interference from other sample components.

3 Non-Target Compound List (TCL) compounds (Confirmation is necessary using specific target compound methodology to accurately determine the concentration and identity of the detected compound).

4 A confirmation analysis was missing or quality control criteria were not met for the confirmation analysis.

NOTE: Data users are encouraged to contact their Regional representative within ESD to clarify or obtain further information on the appropriate use of analytical data.

FORM 1

METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

94214115

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF Case No.: __ SAS No.: 8404J01 SDG No.: 94214115

SSURO01 on site duplicate soil

Matrix Type: SOIL Lab Sample ID: 89401

Sample weight: 50.0 (G/mL) Grams Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/06/94

Injection Volume: 2 (uL) Date Analyzed: 07/07/94

% Moisture: 26

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/kG	Q
367-12-4	2-Fluorophenol	74	
108-95-2	Phenol	14	U
95-57-8	2-Chlorophenol	14	U
87-65-0	2,6-Dichlorophenol	27	J N
59-50-7	p-Chloro-m-Cresol	14	U
120-83-2	2,4-Dichlorophenol	14	U
88-06-2	2,4,6-Trichlorophenol	14	U
95-95-4	2,4,5-Trichlorophenol	14	U
90-43-7	o-Phenylphenol	14	U
96-11-7	2,4,6-Tribromophenol	61	
87-86-5	Pentachlorophenol	7	X U

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

FORM 1

METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

94214116

SSUB

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF Case No.: _____ SAS No.: 8404J01 SDG No.: 94214115

Matrix Type: SOIL Lab Sample ID: 89402

Sample weight: 50.0 (G/mL) Grams Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/06/94

Injection Volume: 2 (uL) Date Analyzed: 07/07/94

% Moisture: 35

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/kG	Q
367-12-4	2-Fluorophenol	162	
108-95-2	Phenol	15	U
95-57-8	2-Chlorophenol	15	U
87-65-0	2,6-Dichlorophenol	~~8/15~~	NJ ~~U~~
59-50-7	p-Chloro-m-Cresol	15	U
120-83-2	2,4-Dichlorophenol	15	U
88-06-2	2,4,6-Trichlorophenol	15	U
95-95-4	2,4,5-Trichlorophenol	15	U
90-43-7	o-Phenylphenol	15	U
96-11-7	2,4,6-Tribromophenol	123	
87-86-5	Pentachlorophenol	8	~~U~~ U

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

FORM 1

METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

94214117

SDPRNT

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF Case No.: _____ SAS No.: 8404J01 SDG No.: 94214115

Matrix Type: SOIL Lab Sample ID: 89403

Sample weight: 50.0 (G/mL) Grams Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/06/94

Injection Volume: 2 (uL) Date Analyzed: 07/07/94

% Moisture: 37

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/kG	Q
367-12-4	2-Fluorophenol	79	
108-95-2	Phenol	16	U
95-57-8	2-Chlorophenol	16	U
87-65-0	2,6-Dichlorophenol	16	J N
59-50-7	p-Chloro-m-Cresol	8	J N
120-83-2	2,4-Dichlorophenol	16	J
88-06-2	2,4,6-Trichlorophenol	16	U
95-95-4	2,4,5-Trichlorophenol	16	J
90-43-7	o-Phenylphenol	32	
96-11-7	2,4,6-Tribromophenol	63	
87-86-5	Pentachlorophenol	71	

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

8-4-94

FORM 1

METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

94214118

SD503

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF Case No.: _____ SAS No.: 8404J01 SDG No.: 94214115

Matrix Type: SOIL Lab Sample ID: 89404

Sample weight: 50.0 (G/mL) Grams Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/06/94

Injection Volume: 2 (uL) Date Analyzed: 07/07/94

% Moisture: 82

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/kG	Q
367-12-4	2-Fluorophenol	194	
108-95-2	Phenol	56	U
95-57-8	2-Chlorophenol	56	U
87-65-0	2,6-Dichlorophenol	56	U
59-50-7	p-Chloro-m-Cresol	56	U
120-83-2	2,4-Dichlorophenol	56	U
88-06-2	2,4,6-Trichlorophenol	56	U
95-95-4	2,4,5-Trichlorophenol	56	U
90-43-7	o-Phenylphenol	56	U
96-11-7	2,4,6-Tribromophenol	167	
87-86-5	Pentachlorophenol	56	U

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

FORM 1

METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

94214119

SDSD2

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF Case No.: .... SAS No.: 8404J01 SDG No.: 94214115

Matrix Type: SOIL Lab Sample ID: 89405

Sample weight: 50.0 (G/mL) Grams Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/06/94

Injection Volume: 2 (uL) Date Analyzed: 07/07/94

% Moisture: 77

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/kG	Q
367-12-4	2-Fluorophenol	217	
108-95-2	Phenol	43	U
95-57-8	2-Chlorophenol	43	U
87-65-0	2,6-Dichlorophenol	109	J N
59-50-7	p-Chloro-m-Cresol	22	J N
120-83-2	2,4-Dichlorophenol	43	U
88-06-2	2,4,6-Trichlorophenol	43	U
95-95-4	2,4,5-Trichlorophenol	43	U
90-43-7	o-Phenylphenol	43	J
96-11-7	2,4,6-Tribromophenol	130	
87-86-5	Pentachlorophenol	109	

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

FORM 1

METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

4120
9421~~420~~ R

SDG54

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF Case No.: _____ SAS No.: 8404J01 SDG No.: 94214115

Matrix Type: SOIL Lab Sample ID: 89406

Sample weight: 50.0 (G/mL) Grams Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/06/94

Injection Volume: 2 (uL) Date Analyzed: 07/07/94

% Moisture: 50

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/kG	Q
367-12-4	2-Fluorophenol	240	
108-95-2	Phenol	20	U
95-57-8	2-Chlorophenol	20	U
87-65-0	2,6-Dichlorophenol	40	J N
59-50-7	p-Chloro-m-Cresol	20	U
120-83-2	2,4-Dichlorophenol	20	U
88-06-2	2,4,6-Trichlorophenol	10	J
95-95-4	2,4,5-Trichlorophenol	20	U
90-43-7	o-Phenylphenol	20	J
96-11-7	2,4,6-Tribromophenol	170	
87-86-5	Pentachlorophenol	10	~~J~~ U

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

8-4-9

000040

FORM 1

METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

9421 4121 DL

SURBAK3

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF Case No.: _____ SAS No.: 8404J01 SDG No.: 94214115

Matrix Type: SOIL Lab Sample ID: 89407

Sample weight: 50.0 (G/mL) Grams Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/06/94

Injection Volume: 2 (uL) Date Analyzed: 07/07/94

% Moisture: 25

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/kG	Q
367-12-4	2-Fluorophenol	73	
108-95-2	Phenol	13	U
95-57-8	2-Chlorophenol	13	U
87-65-0	2,6-Dichlorophenol	27	J N
59-50-7	p-Chloro-m-Cresol	13	U
120-83-2	2,4-Dichlorophenol	13	U
88-06-2	2,4,6-Trichlorophenol	13	U
95-95-4	2,4,5-Trichlorophenol	13	U
90-43-7	o-Phenylphenol	13	U
96-11-7	2,4,6-Tribromophenol	60	
87-86-5	Pentachlorophenol	13	U

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

FORM 1

METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

4122
9421~~422~~

SuBBAK4

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF Case No.: _____ SAS No.: 8404J01 SDG No.: 94214115

Matrix Type: SOIL Lab Sample ID: 89408

Sample weight: 50.0 (G/mL) Grams Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/06/94

Injection Volume: 2 (uL) Date Analyzed: 07/07/94

% Moisture: 65

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/kG	Q
367-12-4	2-Fluorophenol	129	
108-95-2	Phenol	29	U
95-57-8	2-Chlorophenol	29	U
87-65-0	2,6-Dichlorophenol	14	J N
59-50-7	p-Chloro-m-Cresol	29	U
120-83-2	2,4-Dichlorophenol	29	U
88-06-2	2,4,6-Trichlorophenol	29	U
95-95-4	2,4,5-Trichlorophenol	29	U
90-43-7	o-Phenylphenol	29	U
96-11-7	2,4,6-Tribromophenol	100	
87-86-5	Pentachlorophenol	29	U

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

000053

FORM 1

METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

4123
9421~~423~~ pr

ERØ1

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF ~~Case~~ No.: _____ SAS No.: 8404J01 SDG No.: 94214115

Matrix Type: WATER Lab Sample ID: 89409

Sample weight: ~~1000~~.0 (G/mL) mL Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/01/94

Injection Volume: 2 (uL) Date Analyzed: 07/0~~8~~/94 csf

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/L	Q
367-12-4	2-Fluorophenol	4.0	
108-95-2	Phenol	0.3	J
95-57-8	2-Chlorophenol	0.5	U
87-65-0	2,6-Dichlorophenol	0.3 ug/L	U
59-50-7	p-Chloro-m-Cresol	0.3	J N
120-83-2	2,4-Dichlorophenol	0.5	U
88-06-2	2,4,6-Trichlorophenol	0.5	U
95-95-4	2,4,5-Trichlorophenol	0.5	U
90-43-7	o-Phenylphenol	0.5	U
36-11-7	2,4,6-Tribromophenol	~~2.3~~	
87-86-5	Pentachlorophenol	0.5	U

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

8-4-94

FORM 1

METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

94214124

5 BUS BKS

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF Case No.: _____ SAS No.: 8404J01 SDG No.: 94214115

Matrix Type: SOIL Lab Sample ID: 89410

Sample weight: 50.0 (G/mL) Grams Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/06/94

Injection Volume: 2 (uL) Date Analyzed: 07/07/94

% Moisture: 44

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/kG	Q
367-12-4	2-Fluorophenol	89	
108-95-2	Phenol	18	U
95-57-8	2-Chlorophenol	18	U
87-65-0	2,6-Dichlorophenol	18	J N
59-50-7	p-Chloro-m-Cresol	18	U
120-83-2	2,4-Dichlorophenol	18	U
88-06-2	2,4,6-Trichlorophenol	18	U
95-95-4	2,4,5-Trichlorophenol	18	U
90-43-7	o-Phenylphenol	18	U
96-11-7	2,4,6-Tribromophenol	45	
87-86-5	Pentachlorophenol	18	U

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

APPENDIX D

DATA QUALITY OBJECTIVES

Appendix D
Table D-1
Data Quality Objectives for RAS Soil Samples

Analysis	Method[a]	Targeted Detection Limit[b]	Actual Detection Limits	Units[c]	Target Accuracy[d]	Actual Accuracy	Target Precision[e]	Actual Precision	Target Completeness[f]	Actual Completeness
SVs	CLP-RAS	330-800	430-73,000	µg/kg	11-142%	38-120%	50%	26%[i]	90%	90%
PCBs	CLP-RAS	1.7-170	55-150	µg/kg	23-139%	48-170%	50%	8%	90%	90%
Inorganics	CLP-RAS	0.6-100	0.05-6	mg/kg	75-125%	75-125%	20%	20%	90%	90%
Mercury[g]	CLP-RAS	0.10	0.02	mg/kg	75-125%	75-125%	20%	20%	90%	90%

[a]Methods for analyses as defined in U.S. EPA 1990a, 1990b.
[b]Calculated from laboratory reporting limits.
[c]Units reported in mass/mass unless otherwise indicated.
[d]Calculated from laboratory attainable control limits through analytical surrogate or matrix spike recovery and laboratory QC.
[e]Calculated from laboratory relative percent difference between results of field replicate samples or through matrix duplicates.
[f]Calculated from comparing planned and actual analytical results, including analyte rejections and work plan deviations.
[g]Mercury listed separately due to specific target detection limit.
[h]Antimony recovery was 0 percent in both quality assurance samples. Data were qualified appropriately.
[i]Data were not qualified on this basis.

RAS soil sample data quality objectives were met or exceeded for all inorganics and mercury analyses. RAS soil sample data quality objectives for SVs and PCBs were met for completeness and exceeded for precision. Target detection limits were not met by the laboratory for either SVs or PCBs. The detection limits also had high variability within and among samples. Higher than expected detection limits make comparison of relatively low detections with sample results for which analytes were not detected at higher detection limits difficult. PCB accuracy targets were not met for RAS soil samples. Surrogate recoveries were high for some of the samples; however, data quality is not believed to have been affected.

Appendix D
Table D-2
Data Quality Objectives for RAS Water Samples

Analysis	Method[a]	Targeted Detection Limit[b]	Actual Detection Limit	Units[c]	Target Accuracy[d]	Actual Accuracy	Target Precision[e]	Actual Precision	Target Completeness[f]	Actual Completeness
SVs	CLP-RAS	10-25	10-25	µg/L	9-145%	No data quality information provided by laboratory	50%	No data quality information provided by laboratory	90%	No data quality information provided by laboratory
PCBs	CLP-RAS	0.05-1.0	0.11-0.20	µg/L	38-127%	96-100%	30%	4.1%	90%	100%
Inorganics	CLP-RAS	0.003-5.0	0.05-6.0	mg/L	75-125%	75-125%[h]	20%	20%	90%	100%
Mercury[g]	CLP-RAS	0.0002	0.02	mg/L	75-125%	75-125%	20%	20%	90%	100%

[a]Methods for analyses as defined in U.S. EPA 1990a, 1990b.
[b]Calculated from laboratory reporting limits.
[c]Units reported in mass/mass unless otherwise indicated.
[d]Calculated from laboratory attainable control limits through analytical surrogate or matrix spike recovery and laboratory quality control (QC).
[e]Calculated from laboratory relative percent difference between results of field replicate samples or through matrix duplicates.
[f]Calculated from comparing planned and actual analytical results, including analyte rejections and work plan deviations.
[g]Mercury listed separately due to specific target detection limit.
[h]Antimony recovery was 0 percent in both quality assurance samples. Data were qualified appropriately.
Data quality objectives were met for RAS water samples with the exception of the inorganics and mercury detection limits. The laboratory reported all inorganics detection limits within targets except for selenium. The mercury detection limit was reported by the laboratory at 0.020 mg/L, 100 times the target detection limit. Data quality was not apparently affected.

Appendix D
Table D-3
Data Quality Objectives for SAS Soil and Water Samples

Matrix	Analysis	Method	Target Detection Limit[a]	Actual Detection Limit	Target Precision[b]	Actual Precision	Target Accuracy[c]	Actual Accuracy	Target Completion[d]	Actual Completeness
Soil	SV	CLP-SAS	4.0-600 µg/kg	13-56 µg/kg	60%	0-55%	20-140%	46-240%[e]	90%	90%
Water	SV	CLP-SAS	0.6-10 µg/L	0.5 µg/L	60%	No data quality information provided by laboratory	20-140%	No data quality information provided by laboratory	90%	100%

[a]Calculated from laboratory reporting limits.
[b]Calculated from laboratory relative percent difference between results of field duplicate samples or through matrix duplicates.
[c]Calculated from laboratory attainable control limits through analytical surrogate or MS recovery and laboratory QC.
[d]Calculated from comparing planned and actual analytical results, including analyte rejections and work plan deviations.
[e]Data outside laboratory control limits were qualified appropriately.
Data quality objectives were met or exceeded for all soil targets. Water sample data quality objectives were met for detection limit, but information concerning the other aspects of data quality was not provided by the laboratory. Target completeness is exceeded.

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

Northwest Regional Office, 3190 - 160th Ave S.E. • Bellevue, Washington 98008-5452 • (206) 649-7000

March 13, 1992

Mr. Dave Buse
Buse Timber & Sales, Inc.
P.O. Box 5226
Everett, WA 98206

Re: EARLY NOTICE LETTER
Buse Timber & Sales #N-31-5065-000

Dear Mr. Buse:

I am writing to send you information the Department of Ecology has gathered regarding the above referenced property. Under the Model Toxics Control Act (Chapter 70.105D RCW) Ecology maintains a database of known or suspected contaminated sites. Based on available information, we have added the above referenced property to our database.

Enclosed is a computer print-out summarizing information which we believe reflects the current status of this site. We are making every effort to ensure that we have accurate information. I encourage you to carefully review this report. If you have any corrections, please send them and any supporting material to me at the above address. A legend has also been enclosed to help you interpret this report.

Please note that inclusion in the database **does not** mean that Ecology has determined you are a potentially liable person under the Model Toxics Control Act or that immediate action is needed. We will be conducting a more detailed inspection of this property, including testing for possible contamination, at a future time. After that, we will be better able to assess whether action will be needed and to establish a priority for this work.

It is Ecology's policy to work cooperatively with persons to accomplish prompt and effective site cleanups. However, due to limited resources and requirements in state law, we are not always able to provide requested assistance in a timely manner. Cooperating with the department in planning or conducting a remedial cleanup action is not admission of guilt or liablity. If you decide to proceed with an independent cleanup, please be aware to adhere to requirements in state law.

Please contact me for a copy of Chapter 70.105D RCW (The Model Toxics Control Act) and the implementing regulations, Chapter 173-340 WAC, which detail these requirements.

If you have any questions regarding this letter, you may call me at (206)649-7209. Thank you in advance for your cooperation.

Sincerely,

Louise Bardy

Louise Bardy
Site Information Coordinator
Toxics Cleanup Program

Enclosures

LB:lb

cc: Mike Gallagher, Supervisor, NWRO/TCP

DEPARTMENT OF ECOLOGY
ERT SYSTEM -- INITIAL REPORT/FOLLOWUP

COORDINATOR: LOUISE BARDY UNIQUE RECORD #: N8010 REGION: N

DATE/TIME REC'D: 03/09/92 12:03:12 REPORT TYPE: INITIAL

REPORTER'S NAME: EPA BUSINESS NAME:

ADDRESS: BEST TIME TO CALL:

OR ANONYMOUS:

WORK PHONE: EXT. HOME PHONE:

DETAILS ON INCIDENT:

COUNTY: SNOHOMISH NEAREST CITY: EVERETT
WATERWAY: UNION SLOUGH WRIA #:
LOCATION: SMITH ISLAND

WEATHER: UNKNOWN TIDE:

DETAILS ON ALLEGED VIOLATOR:

CONTACT'S NAME:

NAME & ADDRESS:
BUSE TIMBER & SALES, INC.
3812 28TH PLACE NE
EVERETT WA

PHONE NUMBER AND EXT:

VEHICLE INFORMATION:

DESCRIPTION OF CONTAMINANT: (PROVIDED BY REPORTER)

MEDIUM: SOIL
MATERIAL: OIL/PETROLEUM OTHER: PETOL & PENTACHLORO
QUANTITY: UNKNOWN
SOURCE: COMMERCIAL

COMMENTS: THIS IS A HISTORIC WOOD PRESERVING SITE. EPA DID A PRELIMINARY ASSESSMENT IN 1990 AND RECOMMENDED THAT THE STATE PURSUE CLEANUP, AS SOIL AND SURFACE WATER CONTAMINATION EXCEED MTCA STANDARDS. THE PA COUNTS AS AN I.I. SITE WILL GO ON SMIS.

REFERRED TO PROGRAM: HWICP SECTION HEAD: GALLAGHER

EXTERNAL REFERRAL? (Y/N): N

IF EXTERNAL, WHAT AGENCY: _____

INVESTIGATION COMPLETED? (Y/N): N
IF YES, COMPLETE SECOND PAGE OF FORM.

CONTINUED ON PAGE 2

ERT SYSTEM - INITIAL REPORT/FOLLOWUP

INTERNAL REFERRAL INFORMATION:

NAME OF STAFF PERSON: EPA
DATE RECEIVED:
DATE INVESTIGATED:
ACTION TAKEN: PA
DATE COMPLETED:
CAUSE OF INCIDENT:
IMPACT:
LUST:

NONPOINT: (UNK, GW, SW) POINT: (UNK, SW, PRETMT)

ACTUAL VIOLATOR INFORMATION:

NAME: same
CONTACT:
ADDRESS:
CITY:
HOME:
WORK:

ACTUAL CONTAMINANT:

MEDIUM: same
MATERIAL:
OTHER:
QUANTITY:
SOURCE:

ENFORCEMENT SENSITIVE? (Y/N): N

CROSS-REFERENCES TO OTHER SYSTEMS: Smis # N-31-5065-000

OTHER RELEVANT INFORMATION: Ecology did prelim. assess. for EPA. This ~~[illegible]~~ serves as initial investigation. Smis referal C1 petroleum & phenols. Source removed but contamination remains in soil.

WRITE ANY ADDITIONAL INFORMATION ON BACK OF FORM:

DEPARTMENT OF ECOLOGY ENVIRONMENTAL REPORT TRACKING FORM
INITIAL REPORT AND FOLLOW-UP PAGE 1 OF 2

****

RECORDER : _____ REPORT TYPE: _____ REPORT #: ____

DATE & TIME RECEIVED: _________ ___ : ___

****

REPORTER'S NAME: EPA OR ANONYMOUS: ___(A

ADDRESS _____

_____ PHONE WK(___) ___- ___

BUSINESS NAME: _____ HM(___) ___- ___

BEST TIME TO CALL _____

****

DETAILS ON INCIDENT:

COUNTY: Snohomish NEAREST CITY: _____

WATERWAY: Union Slough WRIA #: _____

DESCRIPTION OF LOCATION: Smith Island

_____

****

DETAILS ON ALLEDGED VIOLATOR:

NAME: BUCE TIMBER & SALES, INC. PHONE: (___) ___- ___

ADDRESS: 3812 28th Place N.E. (___) ___ - ___

Everett, WA 98206

VEHICLE INFORMATION: _____

****

DESCRIPTION OF CONTAMINANT:

MEDIA: Soil, SW, Sed. QUANTITY: _____

MATERIAL: petroleum & pentachlorophenol

SOURCE: _____ _____

****

COMMENTS: This is a historic wood preserving site. EPA did a Preliminary Assessment in 1990 and recommended that the State pursue cleanup, as soil & surface water contamination exceed MTCA Stds. The PA counts as an I.I. Site will go on SMIS

Buse Timber & Sales

1. Introduction

The Washington State Department of Ecology (Ecology) Preliminary Assessment/Site Inspection (PA/SI) Unit conducted a PA of Buse Timber & Sales in Everett, Snohomish County, Washington (Figure 1). This is one of the sites for which PA's are scheduled to be performed by Ecology under a Cooperative Agreement with the U.S. Environmental Protection Agency, signed July 31, 1989.

A PA represents the second of a three-step pre-remedial assessment process which begins with Site Discovery and concludes, if necessary, with a Screening Site Inspection. The assessment process, in general, is intended to identify, compare, and rank the potential hazards associated with a particular site relative to other sites across the nation for the purpose of identifying priority sites requiring remedial response. It does not include extensive or complete site characterization, containment fate determination or quantitative risk assessment.

The Buse Timber & Sales PA was conducted to identify potential public health and/or environmental hazards related to the site and, if present, then evaluate the need for additional investigations. The PA is based on data derived from available files, literature pertaining to the site, and a drive-by reconnaissance, as observed by the Ecology PA/SI Unit on December 18, 1989.[1]

Buse Timber & Sales is located on Smith Island in the Snohomish River flood plain. It is in the southeast quarter of the southwest quarter of Section 4, Township 29 North, Range 5 East, Willamette Meridian, and the northeast quarter of the northwest quarter of Section 9, Township 29 North, Range 5 East, Willamette Meudian. Buse Timber is at a latitude of 48° 1" 17" North and a longitude of 122° 10' 00" West. The site is adjacent to Union Slough and near the mouth of the Snohomish River, Port Gardner Bay and Possession Sound.

2. Background/Operating History

In 1986 EPA sponsored studies to determine whether wood treatment chemicals were entering the soil in certain lumber mills in Washington. Buse Timber & Sales in Everett was chosen as a likely place where wood treatment chemicals might be found. Sediment samples collected in the lumber yard indicated elevated levels of pentachlorophenol (PCP) and tetrachlorophenol (TCP). A sample taken at the storm drain near the dip tank at Buse Timber showed concentrations of 240.0 mg/kg PCP and 47.5 mg/kg TCP. Another sample near Union Slough had 1.970 mg/kg PCP and 0.890 mg/kg TCP.[2]

PRELIMINARY ASSESSMENT REPORT

BUSE TIMBER & SALES, INC.
EVERETT, SNOHOMISH COUNTY, WASHINGTON

WAD009480542

OCTOBER, 1990

REPORT PREPARED BY:

JUDITH M. AITKEN
WASHINGTON STATE DEPARTMENT OF ECOLOGY
PRELIMINARY ASSESSMENT/SITE INSPECTION UNIT
TOXICS CLEANUP PROGRAM

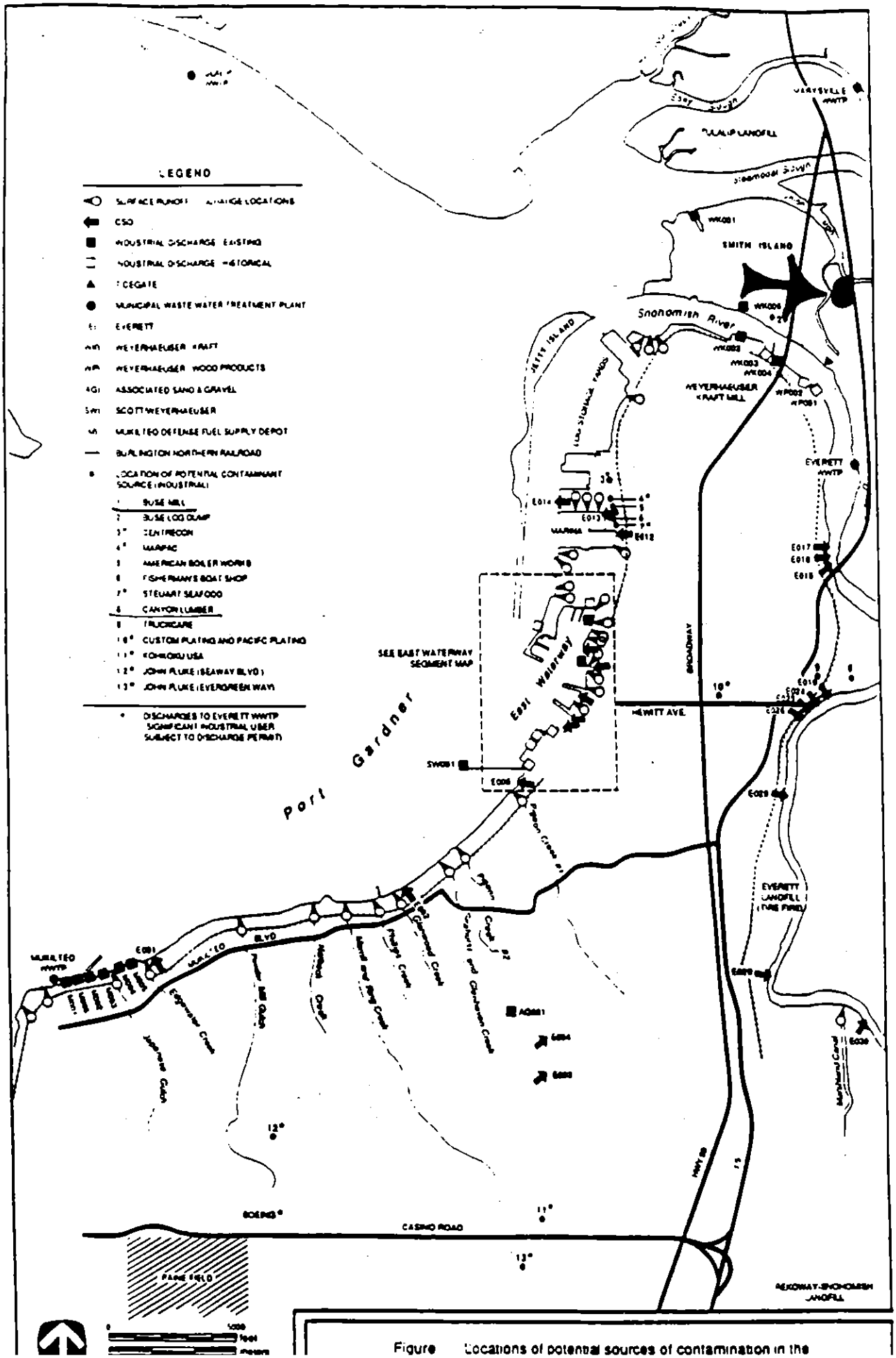

Figure Locations of potential sources of contamination in the

Buse Timber & Sales has operated a saw mill on Smith Island since 1946. They used PCP or pentachlorophenol to treat the lumber. In 1986, on a complaint from EPA and on the advice of their chemical supplier, Chapman Chemical Company, they changed to "PQ8". At the same time, they moved the dip tank into a shed in an area that is asphalted and bermed. Although the dip tank was moved the contaminated soils were not treated or removed.[3]

Historically, the site was not used by the timber industry until the Buse family purchased the land. Smith Island was originally utilized as an agricultural area. In the early part of the century the island was diked to help prevent the effects of the Snohomish Rivers flooding. A large mansion or estate was built northwest of the property. The railroad then built the rail system across the island; this still crosses the island. A spur was built across the Buse site. Destination of the spur and its use are not mentioned in Everett Library records.[4]

In 1936, the railroad spur had disappeared and the area was platted and a community was planned. There is no record that this development ever actually took place.

The lumber company is partially fenced but it is not a secured fence. The lumber yard is partially paved or asphalted.

The company is owned by a family: Delmar Buse is President and Norm Buse, his brother, is Secretary/Treasurer.

3. Waste Containment/Hazardous Substance Identification

Sediment samples collected at Buse Timber & Sales indicated elevated levels of pentachlorophenol and tetrachlorophenol.

Pentachlorophenol (Penta or PCP) is a needle-like crystalline solid that has a boiling point of 309°-310°F (with decomposition). It has a very pungent odor when hot and is almost insoluble in water (8 mg. in 100 ml.).[5] As a wood preservative it is usually dissolved in heavy petroleum oil or light petroleum solvents. When heavy petroleum oil is used as a carrier, little evaporation takes place; most of the oil remains in the wood permanently. If light petroleum solvents are used as the carrier, most of the solvent evaporates from the wood. When water is used as a carrier, PCP is dispersed in water to form an emulsion.[6]

Generally, PCP is applied as a five (5) percent solution in petroleum oils. Although PCP is normally contaminated with chlorodibenzodioxins (CDDs) and chlorodibenzofurans (CDFs), the presence of dioxin (2,3,7,8-TCDD) in PCP and wood treating mixtures containing PCP has not been reported.

Health risks involving PCP's include severe toxicity by ingestion and inhalation. Ingestion causes increase then decrease of respiration, blood pressure and urinary output; fever; increased bowel action; motor weakness; collapse with convulsions and death. Inhalation causes lung, liver and kidney damage. Contact dermatitis can also occur and PCP's can be absorbed through the skin. PCPs are more toxic in organic or petroleum solvents when heated to decompose, it emits highly toxic fumes of Cl2.[7]

Tetrachlorophenol (TCP) was also found in the soil and water samples taken adjacent to the lumber company. It is a brown solid with a pungent phenol odor. It is found in commercial and purified grades of pentachlorophenol. It is also severely toxic when ingested or absorbed through the skin. When heated to decomposition, TCPs also emit toxic fumes of Cl_2. Tetrachlorophenol is soluble in a sodium hydroxide solution and most organic solvents. It is insolvent in water.[8]

Wood treating processes may be sub-divided into two principal steps: conditioning and impregnation. Conditioning the wood reduces the wood's moisture content and improves the transport of preservatives into the wood cells. If wood is not properly seasoned or is not porous enough, wood conditioning is required. The following processes are usually used for wood conditioning: 1)The Boulton Process (using hot creosote or PCP solution and a vacuum), 2) steaming (open and closed containers), 3) vapor conditioning, 4) natural drying in yards, 5) kiln drying, and 6) incising.

Wood treating consists of drying and impregnating the wood with a preservative by one of the following methods: 1) Brushing and Spraying; 2) Dipping and Steeping; 3) A Thermal Process; and 4) Vacuum-Pressure Methods including the Full Cell Process, the Empty Cell Process, and the Modified Full Cell Process. Buse uses the Dipping and Steeping method.

There are three main types of wastes associated with wood treating: waste water, sludges, and spilled preservatives. Waste water is generated during wood conditioning. Sludges produced in the retort are designated as a hazardous waste.

Waste water can be treated by several different treatment methods. Oil/water separation is the most common primary treatment used by the wood treating industry. Oil/water separators with long detention can also be used for secondary treatment.

Sludges produced in the retort from PCP preservatives are classified as a hazardous waste. Sludges are frequently by-products of wastewater treatment. They contain hazardous components from the preservatives and its by-products. Buse

states that the sludges they produce are not toxic and fall within EPA's range of acceptable wastes. They state that there is very little sludge produced and it is disposed off-site.[9]

Preservatives can be spilled on site during normal operations. When freshly treated wood is removed,excess treating solution can be spilled outside of the retort. If excess treating solution is present on the wood when it is placed in the storage area, the solution can be washed off onto the ground. In some old treating plants, waste oil was sprayed across the entire site. Cracked sumps may also be a potential source of contamination. It is not known if any of these practices took place at Buse Lumber.

4. Pathway Characteristics

A. Air:

No qualitative or quantitative information exists to indicate an observed release to the air at this time. The major complaint was elevated levels of pentachlorophenol (PCP) and tetrachlorophenol (TCP) at the lumber company. Investigations and sampling were done in U.S. EPA sponsored studies in 1986. [10]

B. Ground Water:

Buse Timber is located on the east side of Smith Island in deltaic area at the mouth of the Snohomish River.

There are three aquifer systems of concern in the area: recent alluvial deposits associated with the Snohomish River (10-75 feet depth), the Marysville sand member (100-180 feet depth), and the Esperance sand member (greater than 225 feet).

Ground water levels at the project site are relatively high and are influenced by, and generally follow, the water levels of the river. The ground water in this area is not used for domestic or other water supply.

Ground water is of great importance as a contributor to streamflow, particularly during late summer when rainfall is usually less than at other times.

The Snohomish River estuary is also tidally influenced with salt or marine water intruding as far up the river as the south end of Ebey Island. Salt water or tidal water and fresh water are usually vertically distributed and homogeneous or well mixed.

The closest National Weather Service meteorological station is in Everett, within five miles of the site. Net precipitation, calculated from monthly precipitation and actual evapotranspiration data, is 18.5 inches. [11]

C. Surface Water:

There is no information to document an observed release to the surface water pathway from the site. Staining around the storm drain, on-site, indicates that some of the product has been released to surface water and soils.

Runoff is determined by evaluating three parameters: rainfall, a runoff curve number, and the drainage area. The 2-year, 24-hour rainfall value is 2.3 inches.

The runoff curve number reflects the ability of soils, and the nature of the land surface to retard runoff. The Soil Conservation Service has mapped soils in the project area. General soils in the area are mapped as Puget-Sultan-Pilchuck. These soils are very deep, poorly drained, moderately well drained to somewhat excessively drained, nearly level soils found on flood plains. More specific mapping indicates the site is located on alluvial soils deposited by the Snohomish River.[12]

The flow of surface water runoff is to the east - northeast. The closest surface water is that direction is Union Slough, a branch of the Snohomish River. It is adjacent to Buse Timber. A drainage ditch also runs along the east border of the site. The storm drain drains to the drainage ditch which then drains to Union Slough. The site lies in the 100 year flood plain.

The Snohomish River near Buse Timber is 850 feet wide and Union Slough which is adjacent the site is approximately 120 feet wide. The average mean flow of water is 9,951 ft/sec. Historic flow records are kept at Monroe, Washington, approximately 16 miles upstream.[13]

D. On-Site Pathway:

Samples taken on site indicate contamination of soils. A sample taken near a storm drain that was close to the dip tank showed concentrations of 240.0 mg/kg PCP and 47.5 mg/kg TCP. A sample near Union Slough had 1.970 mg/kg PCP and 0.890 mg/kg TCP.

5. Targets

A. Air Pathway:

As stated, there is no documentation of any release of hazardous constituents to the environment via the air pathway, relative to any off-site control (background). There is a remote potential for release since most PCP that is used as a wood preservative is mixed with petroleum solvents as the carrier. The solvents readily evaporate and could introduce PCP's into the air pathway. It should also be noted that when PCP is heated to decomposition temperature, Cl_2 is released and this product is highly toxic. However, the product, in its normal form would not release to the air pathway.

If a potential release is possible, the following targets could be affected: 1) population - both the maximally exposed and those within a four mile radius; 2) land use; and 3) sensitive environments also within four miles from the site.

It is assumed that the maximally exposed individuals would be the employees of Buse Timber & Supply. It is estimated that 120 people work at this facility.

The population of the surrounding area, within a four mile radius of the site has been calculated by using the 1990 Decennial Census which is a pre-census local review of the preliminary housing unit and special place counts done by the City of Everett Planning Department. [14] For those areas outside the Everett City limits, the most recent USGS 7.5 Minute topographic maps and the latest U.S. Census factor for the number of people per residence for Snohomish County, which is 2.6, were used to calculate the population. For each distance category the population is estimated to be:

Distance (miles)	Population
On-Site	120
0-¼	13
¼-½	10
½-1	702
1-2	4,242
2-3	9,586
3-4	8,753
TOTAL	23,426

Land within four miles of Canyon Lumber is used for a variety of purposes. Land use has been divided into the following categories along with the distance of the

closest occurrence to the site of concern. Land use was determined by studying the City of Everett Planning Department's maps and confirmed drive-by. The categories are:

1. Manufacturing, Industrial/Commercial:

Buse Timber is one of several businesses located on Smith Island. It is adjacent to Dagmar's Landing, a marine equipment and boat sales organization.

2. Single Family Residential:

To the west-northwest of Buse Timber and less than 1/8 mile away there's a single family residence.

3. Multiple Family Residential:

Both duplexes and apartment houses can be found within a one to two miles radius of the site. Most of these housing units are to the south-southwest of Buse Timber.

4. Parks:

Langus Park and The American Legion Memorial Park are within 2 miles of Buse Timber. Langus is a river park and is up stream (to the south), across the river and adjacent to I-5 (Interstate 5). The American Legion Memorial Park is southwest of the site, on top of the bluff. There are at least three other parks within the four mile radius.

5. Prime Agriculture:

There are some prime agricultural lands across the river and/or the interstate. Diking has been used in the area since the 1800's to provide flood protection. This has enhanced the use of these low-lying areas for agricultural grazing and crop production. These lands are 1/2 to four miles from Buse Lumber.

6. Non-Prime Agriculture:

These activities are found within one-half mile of the site. Hobby farms and tree farms are found on this land.

B. Ground Water Pathway:

The population living in Everett and its vicinity are served by public surface water systems that bring water from outside the area and not by ground water wells. Most of the wells are across the river; many are used for irrigation. The nearest well is 0.4 miles north of the site, on Smith Island.

Ground water within four miles of the site is predominately used for irrigation/agriculture and/or commercial industrial purposes.

Distance to nearest drinking well is 0.74 miles from the site. Population rings for "potential" contamination using Department of Health Public Water Supply Listing Information and well logs from the Department of Ecology are estimated as follows for three different aquifers:

Distance (miles)	Well Depth (feet)		
	10-75	100-200	>225
0-¼	0	0	0
¼-½	0	0	0
½-1	5	2	0
1-2	9	0	0
2-3	7	98	0
3-4	66	105	10

These figures account for only about 1% of the population within four (4) miles of the site.[15]

No well head protection areas have been defined in the State of Washington at this time.

C. Surface Water Pathway:

Surface water from the site drains off the paving into storm drains. The water than drains into drainage ditches on the east and south of the site and eventually into Union Slough, a branch of the Snohomish River that is adjacent to the property.

There is a population of 23,326 that might be affected. It is difficult to estimate the population affected beyond this point - distribution of PCP would be influenced by tides which run north and south depending

on whether they are incoming or out-going tides. (see figures 2 and 3) If you take into account populations within 125 miles of the site you have over 1.5 million people. But you must also account for PCP's insolubility in water and the fact that the petroleum products that would transport it, would evaporate or sink, depositing the PCP in the sediments.

The Snohomish River is a major migratory route for salmon and other sport fisheries and annually produces approximately 1,071,00 pounds of fish. The wetlands at the mouth of the river also serve as nurseries for such commercially valuable fisheries as shrimp, dungeness crab, and hake.[16]

Recreational use of the surface water pathway includes water sports such as boating, kayaking and canoeing. Other uses include fishing and wildlife viewing. There are public boat launches within one mile of the site and kayak launching areas are within two miles. The University of Washington's Women's Crew uses the area of the river for practice.

Wetland ecosystems are found 1/2 mile to the south, adjacent to the site, and throughout the Snohomish River Basin. There are wetland habitats on Smith Island, Jetty Island, and along Steamboat, Union and Ebey Sloughs which are all part of the Snohomish River estuary system and within a four mile radius. No known rare and endangered species breed in the area but Bald Eagles have been seen hunting along the river, the East Waterway, and Port Gardner Bay.

D. On-site Pathway:

On-site pathways include the storm drains that receive runoff from the paved areas. The area surrounding the storm drain by the dip tank was stained and soils in that area indicated contamination. The amount and extent of contamination in the drainage ditches on and adjacent to the site is unkown.

6. Regulatory Involvement

In 1986, the U.S. EPA sponsored studies to determine whether wood treatment chemicals were entering the soils and water surrounding certain lumber mills in Washington. Sediment and water samples were collected and results of the analysis indicated elevated levels of pentachlorophenol and tetrachlorophenol. The results of the analyses were mentioned in the Everett harbor Action Program: Evaluation of Potential Contaminant Sources. [15] In 1989 Ecology recommended that Buse Lumber be placed on the CERCLIS list.

According to Buse, EPA suggested that they move the dip tank and provide more protection for the dipping and steeping process. The tank was moved into a shed with an asphalted floor and a berm to help prevent contamination. Buse did not, however clean up the contaminated soil and did not determine the extent of contamination.

7. Conclusions and Recommendation's

Information gathered through this PA process indicates that, although hazardous contamination had been determined to have occurred on-site through past activities involving wood preservatives, the Buse Timber & Sales site presents no significant threats to nearby human populations and/or the environment, following scoring guidance for the proposed revised federal hazard ranking system (HRS). It is therefore recommended at this time that the Ecology PA/SI Unit pursue no further federally funded action at this site.

Elevated levels of pentachlorophenol and tetrachlorophenol were observed in sediment samples collected from a storm drain near an on-site dip tank and nearby adjacent offsite slough. Although the company changed to a non-hazardous preservative in 1986, it is not known that the soil contaminated from past activities has been cleaned up, nor has there been followup sampling to determine the extent of this contamination. It is thus further recommended that Ecology score this site under the Washington Ranking Method guidelines (WAC 173-340), following a site hazard assessment with appropriate on-site sampling.

Buse Timber

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1. Department of Ecology PA/SI Drive-By, December 18, 1989 - Memo to the file.

2. Tetra Tech, Inc. Everett Harbor Action Plan: Evaluation of Potential Contaminated Sources. September 1988.

3. Philips, Merle, Buse Timber & Sales. Personal Communication, July 11, 1990.

4. Riddle, Margaret, Everett Public Library. Personal Communication, June 27, 1990.

5. Sax, M. Irving. Dangerous Properties of Industrial Materials, 6th Edition, 1984. Van Noshand Reinhold Company; Inc. New York, New York.

6. Ecology and Environment, Inc. Wood Treating Technology Notebook prepared for EPA. July 1989.

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8. Ibid.

9. Philips, Merle, Buse Timber & Sales.

10. Tetra Tech, Inc. Everett Harbor Action Plan

11. Washington State University, Cooperative Extension Service. Washington Climate for Snohomish County.

12. U.S. Department of Agriculture, Soil Conservation Service. Soil Survey of Snohomish County Area Washington. 1983.

13. Luis Stuste. U.S. Geological Survey, Personal Communication, August 1990.

14. Kos, Art. City of Everett Planning Department City of Everett 1989 Population Estimate April 1989.

15. Washington State Department of Health. Public Water Supply System Listing.

16. Washington State Department of Fisheries Fisheries Lab. Mount Vernon, Washington Personal Communication, August 24, 1990.

EPA V

DATA ENTRY (ENTERED)

File	Date	Init.
STMASTER	3/10/92	JS
STDESC	3/10/92	JS
STADDRES		
STMILE		
EPA # ✓		
Letter file	3/13/92	JS

OWNER/OPERATOR SITE INFORMATION — WASHINGTON

Date of Last Update:

I. SITE ID

Region N NORTHWEST
County
Site No
Sub-Site No

HWICP ID N-31-5065-000
EPA ID #WAD009480542

Site Name BUSE TIMBER & Sales, Inc.
Alias Name(s)

II. SITE STATUS (STATE)

Site Status C
State Ranking

P1=HWICP Program Plan P2=Other Program P

Site Category:
A = Federal Lead NPL
B = State Lead NPL
C1= Confirmed Haz.Wst.Site
C2= Potential Haz.Wst.Site
L = Long Term Monitoring
N = No Haz.Wst. found
Y = Cleanup (Remediation) Comple

III. LOCATION DESCRIPTION X

Site Location Address: 3812 28th Place N.E. Everett WA 98206 (Smith Island)
Legislative District: 39 Congressional District: 2

Legal Description T/R-
Latitude Longitude

Geographic Location: PS Union Slough

Codes: CBN = Comm Bay Nearshore
CBS = Comm Bay So Tacoma Chnl
EB = Elliot Bay
HA = Hanford
HI = Harbor Island
PS = Other Puget Sound

IV. SITE STATUS (FEDERAL)

EPA HRS Score:
NPL Dates: Nomination ____ Final ____ Deletion ____
CERCLIS Status: (A = Active, N = No Further Action)

VI. SITE DESCRIPTION

Facility Active? A

Codes: A = Active M = Mixture
I = Inactive U = Unknown

Ownership Type 1 Operator Type 1

Codes:
1= Private
2= Municipal
3= County
4= Federal
5= State
6= Tribal
7= Multiple Sites/Ownership
8= Other
9= Unknown
10= Public Ownership due to bankruptcy
11= Fincial Inst. owned due to bankruptcy

Standard Industrial Classification (SIC) Code(s):
1. 2491 Lumber treatment + retail Sales
2. 5211 Lumber dealers
3.

Preliminary Assessment Ratings:
H = High M = None
M = Medium P = Pending Investigation
L = Low

Site Inspection Recommendation:
Codes:
1=No Further Action
2=Referred to EPA for HRS Score
3=Referred to Ecology
4=Follow-up SI

VII. WASTE DESCRIPTION

Waste Management Practice(s):
1. Handling
2. Spills
3. Tank

Categories:
Landfill
Impoundment
Drum
Tank
Spill
Drug Lab
Pesticide Application
Pesticide Disposal
Land Application (proper)
Improper Handling
Storm Drain

General Waste Categories: (S = Suspected, C = Confirmed)

Halogenated Organic Compounds	
Metals-Priority Pollutants	
Metals-Other	
Polychlorinated Bi-Phenyls (PCB)	
Pesticides (incl. herbicides)	
Petroleum Products	C
Phenolic Compounds	
Non-Chlorinated Solvents	
Dioxin	
Polynuclear Aromatic Hydrocarbons	
Reactive Wastes	
Corrosive Wastes	
Radioactive Wastes	
Conventional Contaminants-Organic	
Conventional Contaminants-Inorganic	

no creosote >

MTJG 3/9/92

Contaminated Environments:

Ground Water	P
Surface Water	P
Air	U
Soil	T
Sediment	T
Drinking Water	U

Codes:
T = True
P = Potential
F = False
U = Unknown

Drinking Water Type:

Codes:
1 = Single-Family Residence
2 = Community Water Supply

JD 3/8/92

VIII. AUTHORITY

Legal Authority 1

Codes:
1=RCW 70.105B (Toxics Act)
2=RCW 70.105 (Haz. Wst. Mgmt.)
3=RCW 70.94 (WA Clean Air Act)
4=RCW 70.95 (Solid Wst. Mgmt.)
5=RCW 90.48 (Water Poll. Ctrl.)
6=RCRA
7=CERCLA
8=LUST
9=NPDES
10=TSCA

NW Regional Contact Person (first & last initial) JA

Other Ecology Contacts (initials) _____

VIV. SITE ADDRESSES

Address Type OW
Codes: OW=Owner OP=Operator GE=Generator TR=Transporter

Former/Current (F/C) C

Site Ownership
Begin __/__/__
End __/__/__

Site Responsibility
Owner/Operator Responsible _____
Codes: Y=Yes N=No U=Unknown

Organization _____
Contact Dave Buse
Address P.O. Box 5226
Everett WA 98206
Phone 206/258-2577

Address Type _____
Codes: OW=Owner OP=Operator GE=Generator TR=Transporter

Former/Current (F/C) _____

Site Ownership
Begin __/__/__
End __/__/__

Site Responsibility
Owner/Operator Responsible _____
Codes: Y=Yes N=No U=Unknown

Organization _____
Contact _____
Address _____
_____
Phone _____

Address Type _____
Codes: OW=Owner OP=Operator GE=Generator TR=Transporter

Former/Current (F/C) _____

Site Ownership
Begin __/__/__
End __/__/__

Site Responsibility
Owner/Operator Responsible _____
Codes: Y=Yes N=No U=Unknown

Organization _____
Contact _____
Address _____
_____
Phone _____

OWNER/OPERATOR SITE INFORMATION — WASHINGTON DEPARTMENT OF ECOLOGY

Date of Last Update: — Page 1 of 1

I. SITE ID

Region	N	NORTHWEST
County	31	Snohomish
Site No	5065	
Sub-Site No	000	

HWICP ID: N-31-5065-000 EPA ID: WAD009480542

Site Name: Buse Timber & Sales, Inc.
Alternate Name(s): _____

II. SITE STATUS (STATE)

Site Status: __ _____ (P1=HWICP Program Plan)

Site Category: C1
A = Federal Lead NPL — C2= Potential Haz Wst Site — M = No Haz Wst Found
B = State Lead NPL — D = RA Complete (70.105B/MTCA) — N = RA Complete (Other Statutes)
C1= Confirmed State Site — L = Long Term Monitoring

III. LOCATION DESCRIPTION

Site Location Address: 3812 28th Place N.E.
Everett WA 98206
Legislative District: 38 Congressional District: 02

Township/Range/Section: T/R-
Latitude _____ Longitude _____

Geographic Location: PS OTHER PUGET SOUND

Codes: CBN = Comm Bay Nearshore; CBS = Comm Bay So Tacoma Chnl; EB = Elliot Bay; HA = Hanford; HI = Harbor Island; PS = Other Puget Sound

IV. SITE STATUS (FEDERAL)

EPA HRS Score: ____
NPL Dates: Nomination _____ Final _____ Deletion _____
CERCLIS Status: ___ (A = Active, N = No Further Action)

VI. SITE DESCRIPTION

Facility Active? A

Codes: A = Active; I = Inactive; M = Mixture; U = Unknown

Ownership Type 1 Operator Type 1

Codes :
1= Private; 2= Municipal; 3= County; 4= Federal; 5= State; 6= Tribal; 7= Multiple Sites/Ownership; 8= Other; 9= Unknown; 10= Public Ownership due to bankruptcy; 11= Fincial Inst. owned due to bankruptcy

Standard Industrial Classification (SIC) Code(s):
1. 2491 WOOD PRESERVING
2. 5211 Lumber Dealers
3. ____ _____

Preliminary Assessment Rating: ___ N/A
H = High; M = Medium; L = Low; N = None; P = Pending Investigation

Site Inspection Recommendation: ___
Codes:
1=No Further Action; 2=Referred to EPA for HRS Score; 3=Referred to Ecology; 4=Follow-up SI

VII. WASTE DESCRIPTION

Waste Management Practice(s):
1. IMPROPER HANDLING
2. SPILL
3. TANK

Categories: Drug Lab; Drum; Impoundment; Improper Handling; Land Application (proper); Landfill; Pesticide Application; Pesticide Disposal; Spill; Storm Drain; Tank

General Waste Categories: (S = Suspected, C = Confirmed, R = Remediated)

Halogenated Organic Compounds	___
Metals-Priority Pollutants	___
Metals-Other	___
Polychlorinated Bi-Phenyls (PCB)	___
Pesticides (incl. herbicides)	___
Petroleum Products	C
Phenolic Compounds	C
Non-Chlorinated Solvents	___
Dioxin	___
Polynuclear Aromatic Hydrocarbons (PAH)	___
Reactive Wastes	___
Corrosive Wastes	___
Radioactive Wastes	___
Conventional Contaminants-Organic	___
Conventional Contaminants-Inorganic	___
Base/Neutral Organics	___

Contaminated Media:

Ground Water	P	Codes: T = True; P = Potential; F = False; R = Remediated; U = Unknown
Surface Water	T	
Air	___	
Soil	T	
Sediment	T	
Drinking Water	___	

Drinking Water Type: ___
Codes: 1 = Single-Family Residence; 2 = Community Water Supply

ROFORM1.DFR

DOUGLAS FIR HEMLOCK RED CEDAR

NW

011428

4200081

EVERETT — 258-2577

P.O. BOX 5226, EVERETT, WASHINGTON 98206

June 14, 1993

DEPARTMENT OF ECOLOGY
UNDERGROUND STORAGE TANKS
RECEIVED
JUN 22 1993

Department of Ecology
Underground Storage Tank Section
P.O. Box 47655
Olympia, Washington 98504-7655

RE: Site #011428

To whom it concerns:

The above referenced site was closed. The tank has been removed and the area filled prior to 1993.

Please send a tank closure packet.

Dave Buse
General Manager

DB:ks

Exponent

Draft

Phase II Environmental Site Assessment Buse Timber & Sales, Inc. Everett, Washington

Prepared for

Koncor Forest Products Company
Tacoma, Washington

Draft

Phase II Environmental Site Assessment Buse Timber & Sales, Inc. Everett, Washington

Prepared for

Koncor Forest Products Company
Transpacific Trade Center, Suite 418
3700 Pacific Highway East
Tacoma, WA 98424

Prepared by

Exponent
4000 Kruse Way Place
Building Two, Suite 285
Lake Oswego, Oregon 97035

August 1998

Contract No.: 8601011.001 03F1

CONTENTS

LIST OF FIGURES

LIST OF TABLES

ACRONYMS AND ABBREVIATIONS

AST	aboveground storage tank
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylene
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
ESA	environmental site assessment
KFP	Koncor Forest Products Company
MRL	method reporting limit
MTCA	Model Toxics Control Act
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PCP	pentachlorophenol
TDS	total dissolved solids
TeCP	tetrachlorophenol
TPH	total petroleum hydrocarbon
TSCA	Toxic Substances Control Act
UST	underground storage tank
VOC	volatile organic compound
WA-EPH	Washington extractable petroleum hydrocarbon
WA-VPH	Washington volatile petroleum hydrocarbon

INTRODUCTION

This report presents the results of the Phase II Environmental Site Assessment (ESA) for the Buse Timber & Sales Inc., (Buse Mill) site in Everett, Washington. Koncor Forest Products Company (KFP) is considering purchasing the mill and has retained Exponent to evaluate potential environmental liabilities at the facility. Exponent completed a focused Phase I ESA in April 1998, which listed potential areas of concern. The Phase II ESA was conducted to address specific issues identified in Exponent's April 10, 1998 letter to Stan Doi of KFP and additional data requested by KFP.

The following sections summarize site background, objectives of the investigation, field sampling procedures, laboratory analyses, investigation results, conclusions, and an update of the engineering cost estimate.

SITE BACKGROUND

Location

The Buse Mill is located at 3812 28th Place NE in Everett, Washington (see Figure 1). The Buse Mill is located on Smith Island, which is bordered by the Snohomish River (on the south), Possession Sound (on the west), and Union Slough (on the north and east). Interstate 5 is located adjacent to and east of the operating areas of the mill. The lands proposed for purchase include the operating areas of the mill and land on the east side of Interstate 5 that is used for growing hay and corn. The City of Everett is located approximately 1 mile south of the site across the Snohomish River. The City of Marysville is located approximately 1.5 miles north of the site across Steamboat and Ebey Slough.

Environmental Setting

The operating areas of the Buse Mill are asphalt-paved. Other portions of the site include mowed fields on the north edge of the mill and agricultural fields to the east of the mill (east of Interstate 5) and at the southwest corner of the site. Drainage ditches surround the site and discharge to Union Slough on the north side.

The site is located on Smith Island in the Snohomish River Delta. The site is generally level, except for levies located along Union Slough and some drainage ditches. Soils consist of clay and silt alluvial deposits overlain by shallow fill beneath the pavement in some areas of the mill. Groundwater is generally not present in the clay/silt beneath the site, although groundwater may be encountered in deeper units.

History

The mill began operations in 1942. Facility personnel reported that the land was previously used as a dairy farm, and was a golf course in the 1920s. The facility expanded in the 1950s and the current mill was constructed in 1960. Major facility changes include the construction of Interstate 5 across the site in the late 1960s and early 1970s. A log pond formerly located at the south end of the facility was filled in the late 1960s and early 1970s, partly as a result of freeway construction. Several buildings have been added since the current mill was constructed in 1960, including the current dry kiln.

Regulatory History

As part of the Phase I ESA, Exponent conducted a review of documents provided by Buse Timber and also documents available from the Washington State Department of Ecology's (Ecology's) Northwest Regional office. A summary of those documents is provided below:

- October 1990—Preliminary assessment report for Buse Timber & Sales prepared by Ecology. The report concludes that the use of wood preservatives at the site does not present a significant threat to nearby human populations and the environment, and thus no further federally funded action should be pursued. However, the report does cite elevated concentrations of pentachlorophenol (PCP) and tetrachlorophenol (TeCP) in sediment samples collected from a storm drain near an onsite dip tank and in a nearby slough. The report recommends that Ecology conduct further evaluations of the site.

- October 19, 1990—Letter to Buse Timber & Sales from the U.S. Environmental Protection Agency (EPA) describing violations of the Toxic Substances Control Act (TSCA). These violations concern the use and labeling of electrical equipment containing polychlorinated biphenyls (PCBs). Other supporting correspondence includes EPA inspection reports from June and July 1990.

- March 25, 1991—Letter to Julian Dewell, who is apparently an attorney for Buse Timber & Sales. The letter is in regard to a Consent Agreement and Consent Order for Payment of Civil Penalties. The order specifies violations of TSCA regulations for the use and handling of PCBs. The matter appears to have been resolved, because Dave Buse and EPA signed the attached order, which provides instructions for payment of penalties.

- March 13, 1992—Letter from Ecology stating that the Buse Timber & Sales site has been added to Ecology's list of known or suspected contaminated sites. Attached materials indicate that the listing was due to the historical use of wood preservatives at the site.

- October 19, 1992—Letter to Buse Timber & Sales from Ecology indicating that the site was ranked as requiring "No Further Action."

- December 24, 1992—Letter to Buse Timber & Sales from Ecology regarding coverage under the storm water general permit. The letter grants coverage of the mill under the basic permit and describes some of the requirements of the permit, including the preparation of a storm water pollution prevention plan.

- August 29, 1994—Letter to Buse Timber & Sales from EPA, transmitting a copy of a "Site Investigation Report" prepared by URS Consultants on behalf of EPA. The attached report describes limited collection of soil and sediment samples at the site. The samples were analyzed for semivolatile compounds, PCBs, chlorinated phenols, mercury, and inorganic compounds. No samples were analyzed for total petroleum hydrocarbon (TPH) or volatile organic compounds (VOCs) (i.e., solvents). No exceedances of background concentrations were found for surface or subsurface soils. Samples collected from catch basins and in the North Ditch (near the storm drain outfall) exceeded background concentrations for PCBs, lead, and mercury. None of these concentrations was significantly increased above background or above Ecology's generic cleanup levels for soil at sites with unrestricted land use (MTCA Method A cleanup levels). PCP was detected at concentrations exceeding background levels in the storm drains and storm drain outfall. A sample collected from a storm drain located approximately 100 ft east of the former dip tank was found to contain 0.07 mg/kg PCP. A sample collected in the North Ditch near the storm drain outfall was found to contain 0.11 mg/kg, but PCP was *not* detected in a duplicate sample collected from the same location. The cover letter states that EPA does not anticipate further investigation of the site under the Superfund program.

- December 18, 1997—Draft Letter of Findings for Phase II ESA, prepared for Lone Star Northwest by Environmental Partners. This

letter is a Phase II ESA for a parcel owned by Buse Timber & Sales. The subject property is separate from the mill facility being considered for purchase by Koncor Forest Products.

OBJECTIVES OF THE INVESTIGATION

- The goal of the sediment sampling program was to determine whether sediments in the drainage ditches that surround the facility have been affected by mill operations or other sources, including runoff from Interstate 5 and other nearby (upgradient) facilities. Where impacts were observed, (e.g., the north ditch), samples were collected to determine the extent of impact.
- The goal of the storm drain sampling program was to determine whether contaminants may have been released to the storm drain system from mill activities, including the maintenance shop and the former PCP dip tank. Contaminants released to the storm drains could affect receiving waters and also affect soils and groundwater as a result of leakage from the catch basins and wooden drain lines.
- The goals of the soil and groundwater investigation were to assess soil and fill stratigraphy, evaluate the vertical and horizontal extent of contamination (if any) that may have resulted from various mill operations, identify potential exposure pathways, and evaluate the potential effect of contaminated soils, if any, on groundwater.

Other tasks performed as part of the Phase II ESA included the review of historical aerial photographs and visual inspection of the Buse Mill lands located east of the freeway. Observations regarding the historical aerial photos are provided in Attachment A.

Subsequent sections of this report describe the field sampling procedures and laboratory analytical methods and summarize the results of the current investigation.

FIELD SAMPLING PROCEDURES

Field work was conducted May 18, June 18-19, and June 29, 1998. The initial round of sediment sampling in the North Ditch (May 18, 1998) was conducted in accordance with the scope of work presented in a letter dated April 14, 1998 to Stan Doi of Koncor Forest Products. All subsequent field work was conducted in accordance with the *Draft Work Plan for Phase II Environmental Site Assessment, Buse Timber & Sales* (Exponent 1998). Additional details on field sampling procedures, including standard operating procedures, can be found in the work plan. Copies of the field logbooks, borehole logs, and chain-of-custody records prepared during the field survey are on file at Exponent's Bellevue office.

SAMPLE COLLECTION

The following sections describe the procedures for collection of sediment, storm drain, soil, and groundwater samples.

Sediment Samples

Sediment sampling was conducted in two phases. Phase 1 sampling was conducted on May 18, 1998. During Phase 1, sediment samples were collected only from the North Ditch. Phase 2 sampling was conducted on June 29, 1998 and sediment samples were collected from multiple areas surrounding the site (i.e., South, East, and West ditches and Union Slough). A total of 15 sediment samples were collected during both phases of sampling. Station locations are presented on Figure 2.

The top 4 in. of the sediment column were collected at each station. Table 1 provides a description of the physical characteristics of the sediment and the type of sampling

equipment used at each station. As specified in the work plan, appropriate measures were taken to ensure the quality of sediment samples. Two sediment equipment rinsate samples were collected and submitted for laboratory analysis. Equipment rinsate blanks are used to identify possible contamination from the environment or from the sampling equipment.

Storm Drain Samples

Sediment samples were collected from four storm drain sumps to evaluate the potential migration of contaminants from known or suspected source areas to nearby surface waters and soils via the storm water drainage system. Storm drain sample locations are shown on Figure 3. Because each storm drain is of a different configuration (i.e., type of construction, depth, location of sediment available for sampling), detailed descriptions of the storm drains and sample collection locations are provided below.

Storm Drain FDT-9

This storm drain is located approximately 15 ft southeast of the former dip tank. The catch basin is covered by a 2-ft by 2-ft square steel plate. The drain is surrounded by asphalt pavement. Beneath the steel cover is a sump formed by a four-sided wood frame. In the center of the wood frame is a vertical 8-in.-diameter concrete pipe that carries runoff from the sump to a culvert buried below the catch basin. That culvert discharges to the North Ditch. Soil and accumulated sediment fill the area between the wood frame and the concrete pipe. Samples were collected from the following locations:

- Sample SD0010: This sample was collected from the upper 0 to 6 in. of soil and accumulated sediment located between the wood frame and the culvert. This sample was collected with a pre-cleaned stainless

steel spoon. Sediments were collected from all four quarters of the sump. The sediments were placed into a stainless-steel bowl, homogenized, and then placed into a labeled glass jar for analysis. The sample consisted of a mixture of silt and sawdust.

- Sample SD00B: This sample was collected from an approximately 2- to 3-in.-thick layer of sediments that had accumulated in the culvert beneath the sump. This sample was collected by reaching down through the vertical pipe and scooping the sediment with a pre-cleaned stainless-steel spoon. The sediment was placed into a stainless-steel bowl, homogenized, and then placed into a glass jar. This sample consisted of sands and silts.

Storm Drain FDT-10

This storm drain is located approximately 75 ft north of the former dip tank, in the roadway on the south side of the Buse Timber & Sales Company office. The drain is covered with an approximately 18-in.-diameter steel plate, surrounded by asphalt pavement. Beneath the plate is an approximately 12-in.-diameter steel sleeve set in concrete. In the center of the 12-in.-diameter steel sleeve is an approximately 9-in.-diameter vertical pipe, which discharges runoff to the underlying culvert. According to Buse personnel, drain FDT-10 connects to the same culvert as FDT-9, which discharges to the North Ditch. Coarse sediment had accumulated in the area between the asphalt pavement and steel sleeve. Sample SD0011 was collected from this accumulated sediment at a depth of 0 to 1 in. using a pre-cleaned stainless-steel spoon. This sample consisted of coarse sand and grit. No sediment was observed in the culvert beneath the catch basin.

Storm Drain FDT-11

This storm drain is located in the grass field north of the Buse Mill office. The drain is located approximately 100 ft north of the pavement, generally in line with the eastern end of the office building. The drain consists of a small wood box (less than 1 ft × 1 ft) covered with steel plate. The drain is surrounded by mown grass. The depth to water inside the wood box is approximately 2 ft. According to Buse personnel, this catch basin is connected to the same culvert as catch basins FDT-9 and FDT-10, which discharges to the North Ditch. A 1- to 2-in.-thick layer of sediment was found in the bottom of the wood catch basin. Sediment sample SD000A was collected from the bottom of the catch basin using a pre-cleaned stainless-steel spoon. This sample consisted of coarse sand and grit.

Storm Drain MSA-4

This storm drain is located on the east side of the maintenance shop. According to Buse personnel, this drain has been affected by releases of hydraulic, lubricating, and motor oils from nearby equipment maintenance operations. The catch basin is surrounded by asphalt pavement, is covered with a steel grate, and consists of a vault approximately 2 ft by 2 ft. (Due to the heavy accumulation of oil and dirt in the basin, field staff did not determine whether the catch basin was made of wood or concrete.) Approximately 10 to 12 in. of sediment were present in the bottom of the basin, overlain by 12 in. of water. According to Buse personnel, this catch basin discharges to the North Ditch. Sediment sample SD0012 was collected from the bottom of the catch basin using a pre-cleaned stainless-steel soil auger. This sample consisted of oily sediment.

Soil Samples

Soil samples were collected from 13 boreholes at depths of 2–4 ft below ground surface (bgs), or the groundwater-vadose zone interface. The boreholes were placed in potential source areas and/or at downgradient locations, based on historical operations. Sampling stations were chosen to bracket potential contaminant concentrations throughout the subject area. Soil sampling locations are shown on Figure 4.

Subsurface soil samples were collected using Geoprobe® techniques that advance a stainless-steel sample corer into the ground with truck-mounted hydraulics. The Geoprobe® was generally advanced to 2–4 ft bgs to intersect the groundwater interface. Soil samples were collected from the boreholes using a 1.5-in.-diameter, 2-ft-long, stainless-steel, split-spoon sampler. At the burn area (FBA-1), subsamples from three boreholes (1-4 ft) were composited as one sample. At four of the stations (MSA-3, FDP-3, FDT-4, and FDT-6) the Geoprobe® was advanced to its maximum depth (10–22 ft bgs) beyond the shallow sample collection interval (2–4 ft bgs) to determine subsurface lithology. Soil lithology was logged, and the color, texture, and grain size were characterized in the field, consistent with the Unified Soil Classification System. Borehole logs are presented in Attachment B.

In addition to samples collected using the Geoprobe®, one additional composite sample was collected from the stockpile containing dredged fire pond sediments. Five grab samples were collected from the surface of the stockpile, and composited into one sample using a stainless-steel bowl and spoon.

As specified in the work plan, appropriate measures were taken to ensure the quality of soil samples. One soil equipment rinsate sample was collected and submitted for laboratory analysis.

Groundwater Samples

Groundwater samples were generally collected from stations near potentially affected areas. These screening-level samples were intended to determine whether contaminants had migrated from soil to groundwater at the site. Groundwater sampling locations are shown on Figure 4.

Eight groundwater samples were collected from a temporary well screen advanced by the Geoprobe® rig at the locations shown on Figure 4. The water table was encountered at depths ranging between 3–6 ft bgs over a 2-day period. The bottom of the Geoprobe® well-screen sampler was driven below the groundwater interface and opened to allow the groundwater to flow into the well screen. Once groundwater had recharged with enough volume to allow sample collection, groundwater samples were collected for chemical analyses of VOCs using a decontaminated, 7/16-in.-outside-diameter stainless-steel bailer. Once all of the VOC vials were filled, a peristaltic pump and new, dedicated polyethylene tubing were used to fill remaining sample containers (i.e., for non-VOC chemical analyses).

Following completion of each Geoprobe® borehole, the hole was abandoned and backfilled with bentonite chips from the bottom of the borehole to approximately 1 ft bgs and hydrated with water. The upper 1 ft was backfilled with native soil or patched with asphalt, as appropriate. The sampling stations were measured from utility lines, streets, and other permanent features and recorded into the field logbook.

SAMPLE HANDLING

All soil, sediment, and storm drain samples were collected in sample containers provided by the laboratory. Representative soil and sediment samples were collected and transferred directly to a 2-oz. sample jar with no headspace for potential analysis of VOCs.

The remaining soil from each station or interval was then homogenized and placed into the appropriate sample jar, sealed, placed in Ziploc® bags to minimize breakage, and stored on ice in coolers. Sediment and soil samples were submitted for laboratory analysis without preservatives.

Groundwater samples submitted for petroleum hydrocarbon and VOC analyses were preserved with hydrochloric acid. Samples submitted for chlorinated phenol analyses and total dissolved solids (TDS) were collected in bottles that contained no preservative. The samples were stored on ice in coolers and shipped to the analytical laboratory within 48 hours after collection under appropriate chain-of-custody procedures.

DECONTAMINATION PROCEDURES

Before collecting samples, all non-dedicated sampling equipment was scrubbed with Alconox®, rinsed with distilled water, rinsed with acetone and hexane, and then rinsed thoroughly with deionized water. The small volume of acetone and hexane rinsates was collected in an open container and allowed to evaporate in a well-ventilated area.

DEVIATIONS FROM THE WORK PLAN

Although the work was generally conducted according to the draft work plan (Exponent 1998), the following deviations were noted:

- Due to the varying compositions of the sediment at the site, the Ekman grab sampler could not always be used to collect the sample. Table 1 provides clarification of the type of sampling equipment used at each station.

- Due to the convergent topography of the mudflat surrounding the tide gate at the north end of the property (i.e., both tide gates discharged to Union Slough via the same channel), it was decided that the samples collected at Stations USG-1 and USG-2, respectively, would consist of a composite of three grabs from each side of the channel that enters Union Slough.

- An additional sample was collected in the West Ditch (i.e., Station WDM-1). This station was located upstream of the confluence of the West Ditch and another smaller ditch that drains onto the site. Because this station was added to the sampling program, the sample collected at Station WDM-3 was not analyzed, but archived at 4 °C for possible future analysis.

- Due to the narrowness of the ditch and the relatively low water level, the sediment sample at Station SDM-1 was not collected from a boat.

- An archive sample was collected at each of the sediment stations. These archive samples are being held at –20 °C for possible future analysis.

- Three field duplicate sediment samples were collected during sediment sampling.

- Because of the configuration of the storm drain at FDT-9, two samples were collected from this location. One sample was collected from sediments that had accumulated within culvert and one sample was collected from soils/sediments between the wood frame and the vertical pipe.

- Because no sediment was found in the culvert at FDT-10, a sample was instead collected from coarse sands and silts that had accumulated under the steel plate around the top of the catch basin.

- Because of the absence of submerged sediment in storm drain FDT-10, a sample was collected at the next downstream storm drain, FDT-11. This sample was submitted to the laboratory for possible future analysis.

- The soil sample from Station FDT-2 was collected from the 3–6 ft interval because there was insufficient recovery at the 2–4 ft depth.

- Due to insufficient recovery within the upper 0–2 ft interval at Station AST-2, the available volume was submitted for only heavier-range petroleum hydrocarbon analysis (NWTPH-G extended).

- Archive soil samples were collected at stations FDT-3 and FDT-6 for possible future analysis.

- Due to very slow recharge, groundwater samples could be collected from only 8 of the proposed 17 stations.

- Groundwater volumes from Station MSA-2 were sufficient to allow the collection of only one VOC vial. This sample was submitted for analysis of VOCs as described above.

- Grain size was analyzed on four soil samples to confirm the subsurface stratigraphy.

- Laboratory analyses of four soil samples included the new analytical methods (i.e., Washington extractable petroleum hydrocarbons [WA-EPH] and Washington volatile petroleum hydrocarbons [WA-VPH]) specified in an interim TPH policy (Ecology 1997), in addition to the analyses specified in the work plan. WA-EPH methods were used for analysis of polycyclic aromatic hydrocarbons (PAHs) in these four samples.

LABORATORY ANALYSES

Analyses for specific samples were selected based on historical operating information. The samples selected and the specified analytical suite for each sample are shown in Table 2.

To satisfy Model Toxics Control Act (MTCA) requirements regarding hydrocarbon quantification, NWTPH-D extended and NWTPH-G extended (which includes analysis for benzene, toluene, ethylbenzene, and xylenes [BTEX] constituents) analyses were performed on selected sediment, soil, and groundwater samples as specified in the work plan. In addition, the Ecology-proposed draft analytical methods (i.e., WA-EPH and WA-VPH) were performed to evaluate site conditions using the interim TPH policy (Ecology 1997). Selected PAHs are also reported under the WA-EPH method.

For non-petroleum hydrocarbon analysis, a subset of soil and groundwater samples was submitted for chlorinated phenols analysis by EPA Method 8151M or for VOC analysis by EPA Method 8260. Two soil samples (collected from the former dip tank and the former burn area as specified in the work plan) were also submitted for polychlorinated dibenzo-*p*-dioxin and polychlorinated dibenzofuran (dioxon/furan) analysis using EPA Method 8290. All groundwater samples were also submitted for analysis of TDS to determine potential potability.

North Creek Analytical of Bothell, Washington analyzed the sediment samples collected May 18, 1998. Columbia Analytical Services in Kelso, Washington conducted all other laboratory analyses.

area due to the presence of impermeable silts/clays. Surface soil samples (0-2 ft) were found to contain concentrations of lube oil at 291 and 635 mg/kg. One sample (SO0009) analyzed for EPH/VPH had concentrations of 23 and 49 mg/kg for total aliphatic and aromatic compounds, respectively. These values are well below risk-based concentrations for direct contact with soil based on Ecology's Interim TPH Policy (Table 6). Using modeling procedures specified in Ecology's Interim TPH Policy, the EPH/VPH concentrations yielded predicted groundwater concentrations that are substantially less than Ecology's target groundwater concentration for drinking water supplies. These results indicate that the measured soil concentrations do not present the potential for adverse impacts on underlying groundwater.

Former Underground Storage Tank Area

Three soil samples collected from the area of the former underground storage tanks (USTs) were analyzed for petroleum hydrocarbons. No groundwater samples were collected in this area due to the presence of impermeable silts/clays. The only analyte detected above method reporting limits (MRLs) was 246 mg/kg "non petroleum hydrocarbon as diesel." This is likely biogenic material such as wood fibers found in the clay/silt layer. This sample was also analyzed using MTCA Interim TPH Policy methods; the aliphatic and aromatic compound concentrations were well below risk-based benchmark concentrations for direct contact with soil derived based on Ecology's Interim TPH Policy (Table 6). Groundwater modeling analyses based on this sample also indicate that the measured soil concentrations do not present the potential for adverse impacts on underlying groundwater.

Former Pentachlorophenol Dip Tank Area

Three subsurface soil samples (from boreholes FDT-1, FDT-2, and FDT-3) collected in this area were analyzed for chlorinated phenols, dioxins/furans and petroleum hydrocarbons. Boreholes placed farther south (FDT-4) and north (FDT-6) of the former dip tank were sampled for groundwater and analyzed for chlorinated phenols. Sediment samples collected from two storm drain sumps (Figure 3) near the former dip tank were also analyzed for chlorinated phenols.

Chlorinated Phenols

Pentachlorophenol was detected in one soil sample (from borehole FDT-2) at a concentration of 0.04 mg/kg. (This sample was subsequently analyzed for dioxins and furans.) This is below Washington State MTCA Method B risk-based formula values for residential soil of 8.33 mg/kg (based on direct contact with soil). It is slightly below the MTCA Method B formula value for protection of underlying groundwater used as a drinking water supply (0.073 mg/kg). Use of these benchmark values as comparison values for this site is highly conservative (i.e., health-protective) because the site is located within a largely industrial area and is currently used as an industrial facility. The intended future use of the site is expected to remain industrial. Neither of the two groundwater samples had detectable amounts of chlorinated phenols.

Dioxins and Furans

The soil sample (from borehole FDT-2) analyzed for dioxins and furans had 0.034 μg/kg (parts per billion) expressed as 2,3,7,8-tetrachlorodibenzo-*p*-dioxin toxic equivalent concentration (TEC). This is well below current recommended EPA soil cleanup level of 1 μg/kg TEC for residential sites and 5 to 20 μg/kg TEC for industrial sites (U.S. EPA 1998). The MTCA soil risk-based formula valuc for dioxins/furans for direct contact

with soil at industrial sites (0.875 μg/kg) is similar to EPA's level for residential soils. The sample result of 0.034 μg/kg does exceed the MTCA risk-based formula value for direct contact with soil at residential sites of 0.0067 μg/kg. However, this exceedance is not significant because 1) the Buse site qualifies as an industrial site according to MTCA eriteria (WAC 173-340-745) and 2) the residential formula value is near typical background concentrations (0.008 μg/kg, U.S. EPA 1996) and is rarely, if ever, enforced[1]. For similar reasons, exceedance of the MTCA formula value for soil based on groundwater protection (0.000058 μg/kg) is not relevant. Specifically, the value is less than typical background concentrations, less than analytical detection limits, and less than cleanup levels that are typically used at dioxin/furan sites). Moreover, no potentially affected groundwater supply for drinking water is present at the site.

Petroleum Hydrocarbons

One soil sample (SO0001 from borehole FDT-2) was submitted for petroleum hydrocarbon analysis under the MTCA Interim TPH Policy. Results from this sample and groundwater modeling estimates based on these results were well below criteria established based on Ecology's Interim TPH Policy (Table 6).

Fire Pond Area

Subsurface soil and groundwater samples collected from three borings near the fire pond (FPD-1, FPD-2 and FPD-3) were analyzed for petroleum hydrocarbons.

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[1] We have conducted extensive searches of dioxin/furan cleanup levels in the Northwest and around the country. We are not aware of any sites where remediation was required based on a dioxin/furan cleanup level less than the EPA default value of 1 μg/kg.

Subsurface Soil

One of the three subsurface soil samples had detectable petroleum hydrocarbons. A relatively low detection of lube oil (852 mg/kg) was reported for sample SO0011 from borehole FPD-1. This sample was also analyzed for EPH and VPH in order to determine whether the site concentrations exceeded criteria established under Ecology's Interim TPH Policy. As shown in Table 6, the concentrations were well below the risk-based formula values for residential land use. In addition, groundwater concentrations predicted based on these analytical results were substantially less than the MTCA target value for drinking water supplies. This sample was also analyzed for PAHs (no detections) and for benzene, ethylbenzene, toluene, and xylenes (BTEX) with only a very low detection of ortho-xylene (0.3 mg/kg).

Groundwater

Groundwater collected from one of the boreholes (FPD-1) had detectable petroleum hydrocarbon (diesel range petroleum hydrocarbons at a concentration of 1.1 mg/L). This sample is approximately equal to the MTCA target for drinking water of 1 mg/L. This borehole was located in the backfilled area of the filled-in portion of the fire pond. The diesel concentration is likely a result of the backfill material and not an indication of migration of diesel through the native silty clay soils. Two other groundwater samples were found to contain non-petroleum hydrocarbons at concentrations of 3.02 mg/L and 5.01 mg/L. These results are not subject to regulations and are likely due to biogenic (i.e., naturally occurring) substances, probably decomposed wood waste.

Stockpiled Soils

One composite soil sample (SO0014 from station FPS-1) was collected from the stockpiled soil previously removed from the fire pond. The sample was analyzed for

petroleum hydrocarbons and found to contain 18,200 mg/kg lube oil. Although this sample was not analyzed using the EPH/VPH methods, a rough approximation of the likely results was estimated using results from a soil sample containing similar source materials. These estimates indicated a concentration of total aliphatic compounds in this sample of 5,700 mg/kg and a concentration of total aromatic compounds of 2,600 mg/kg[2]. These estimates are well below the Interim TPH Policy risk-based concentrations for direct contact with soil at industrial sites (Table 6). The estimate of total aromatic compound concentration is slightly greater than the Interim TPH Policy risk-based concentration for direct contact with soil at residential sites. As discussed above, applying standards based on residential land use is highly conservative for this site. Thus, this slight exceedance does not indicate a potential adverse health risk. Modeling predictions based on the Interim TPH Policy modeling approach and these estimated concentrations indicate that the TPH concentration present at this location does not present a threat to underlying groundwater.

Maintenance Shop

One storm drain sump sediment sample (SO0012 from station MSA-4) and two groundwater samples (from boreholes MSA-1 and MSA-2) were collected from the area near the storm drain located adjacent to the maintenance shop. A planned third groundwater sample (from borehole MSA-3) was not collected because of lack of water. The storm water entering this drain flows north in the buried cedar storm drain line to the North Ditch. A borehole was placed adjacent to that line in the field north of the facility.

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[2] The aliphatic and aromatic compound totals were roughly estimated from the lube oil concentration for sample FPS-1 because both types of petroleum analyses (TPH-Dx/TPH-Gx and EPH/VPH) were conducted on sample SO0011, which was collected from borehole FPD-1 at the fire pond and resulted from the same petroleum source material. For sample SO0011, the ratio of lube oil concentration (852 mg/kg) to total aliphatics (268 mg/kg) is 0.3145; the ratio to total aromatics (120 mg/kg) is 0.14. Applying these ratios to the 18,200 mg/kg lube oil result for sample SO0014 yields estimates of 5,725 mg/kg and 2,563 mg/kg total aliphatics and total aromatics, respectively.

A groundwater sample (GW0017) from that location was collected and analyzed for volatile organic compounds and petroleum hydrocarbons.

Sump Sediments

The sump sediments were very oily as indicated by the lube oil result (140,000 mg/kg). Results from this sample would likely exceed criteria based on the Interim TPH Policy if analyzed by the EPH/VPH method. Gasoline (76 mg/kg) and toluene (34 mg/kg) were detected but the concentrations were less than MTCA Method A levels. Other VOCs (1,1-dichloroethane, 1,1,1-trichloroethane, ethylbenzene, total xylenes, 1,2,4-trimethylbenzene, and naphthalene) were detected at concentrations (less than a maximum of 4 mg/kg) several orders of magnitude lower than the most conservative MTCA values.

Groundwater

The groundwater analyses indicated that very little migration has occurred from the storm drain to the adjacent groundwater (i.e., soil pore water). In the two MSA samples, low concentrations of volatile compounds were detected (40 μg/L acetone, 1.8 μg/L ethyl benzene, 11 μg/L total xylene, 0.6 μg/L carbon disulfide, 3 μg/L 1,3,5-trimethylbenzene, and 8 μg/L 1,2,4-trimethylbenzene). None of the results exceeded the most conservative MTCA risk-based formula values for groundwater consumption. The groundwater sample from the north field had only a very low concentration of carbon disulfide (1.5 μg/L) detected (MTCA cleanup level is 800 μg/L). No petroleum hydrocarbons compounds were detected for any of the three groundwater samples.

Former Burn Area

This area was identified by Buse personnel as the location of historic burning of wood debris. However, the three 4-ft boreholes did not show evidence of past burning (e.g., ash or cinders). The composite soil sample (SO0015) collected from this area was analyzed for dioxins/furans. The concentration of 0.3 pg/g, or 0.003 μg/kg TEC, is less than the typical background level of 0.008 μg/kg TEC (U.S. EPA 1994).

Ditch and Slough Sediments

Fifteen sediment samples collected from 14 stations in the drainage ditches surrounding the site (Figure 2) were analyzed for petroleum hydrocarbons. Ten samples were also analyzed for chlorinated phenols and nine for VOCs. Lube oil was the primary contaminant detected with gasoline and diesel range hydrocarbons detected in some of the North Ditch samples. No chlorinated phenols were detected. Four VOCs (acetone, 2-butanone (MEK), toluene, and 4-isopropyltoluene) were detected at relatively low concentrations in several samples. The concentrations were well below any MTCA levels for soils. MTCA has no cleanup criteria for petroleum hydrocarbons or VOCs in sediments (either marine or freshwater).

Lube oil concentrations are shown in Figure 5. Upgradient (background) concentration is 1,680 mg/kg as measured in sample WDM-1 in the West Ditch. The East Ditch samples (4,060 and 10,500 mg/kg) and the eastern South Ditch sample (SDM-2, 2,530 and 2,810 mg/kg) are influenced by runoff from the freeway and from the site. The highest concentrations (greater than 20,000 mg/kg) are found near the storm water outfall at the south end of the North Ditch. The lowest concentrations (220 and 245 mg/kg) were reported for the tide gate stations adjacent to Union Slough (samples USG-1 and USG-2) indicating that very little lube oil has migrated offsite.

The North Ditch sediment samples with the elevated lube oil also had elevated diesel range organics (3,340 to 7,740 mg/kg) and much lower concentrations of gasoline range organics (18.4 to 71.9 mg/kg).

The only potential exceedance of a MTCA level in the ditch sediments is the diesel range organics in the North Ditch that, if analyzed by the EPH/VPH method, might result in a predicted exceedance of the Interim TPH Policy soil criteria for the protection of groundwater. MTCA has no cleanup criteria for freshwater sediments and deals with each site on a case by case basis (WAC 173-204-340).

RECOMMENDATIONS

ABOVEGROUND STORAGE TANK AREA

These aboveground tanks are not in compliance with current codes for protection of surface waters. We recommend that these tanks be equipped with secondary containment. As indicated in the Phase II soil sampling, there does not appear to be a soil contamination problem. However, small areas of petroleum hydrocarbon contaminated soils may be encountered when constructing the containment. These areas should be excavated and disposed of as petroleum hydrocarbon contaminated soils (potentially at a municipal landfill). Also, a spill prevention control and counter measure plan will be required for these ASTs and other aboveground fuel storage facilities at the facility.

FORMER UST AREA

No evidence of petroleum hydrocarbon soil contamination was found at the locations sampled. No further action is recommended for this area.

FORMER PENTACHLOROPHENOL DIP TANK AREA

No evidence of soil, groundwater, or stormdrain sump sediments was found at the locations sampled. No further action is recommended for this area.

FIRE POND AREA

Petroleum hydrocarbon soil concentrations did not exceed criteria based on Interim TPH Policy. Groundwater concentrations were equal to the MTCA target for drinking water, however the sample was collected in fill placed when the log pond was closed and does not indicate transport of petroleum hydrocarbon through the silty clay layer that is present as an aquitard throughout the site. Moreover, standards based on use of groundwater as a drinking water supply are highly conservative for use at this site because of the absence of usable groundwater. No further action is recommended for this area.

STOCKPILED SOILS

Because the only contaminant is petroleum hydrocarbon as lube oil, the material may pass criteria based on Ecology's Interim TPH Policy. However, we recommend that this relatively small volume (estimated 30 CY) of oily soil be disposed of offsite. Bioremediation is not effective for heavy oils and the soil may even be acceptable at a municipal solid waste landfill (it would need to be tested for dangerous waste characteristics to determine actual disposal options).

MAINTENANCE SHOP

Low concentrations of VOCs (below MTCA Method A cleanup levels) were detected in groundwater in this area. No petroleum hydrocarbon compounds were detected in groundwater in this area. No further action is recommended except for the storm drains (see below).

DITCH SEDIMENTS

We recommend that oily water discharges be discontinued (see below) and that petroleum hydrocarbon contaminated sediments in the southern portion of the ditch be excavated for off site treatment or disposal. Storm water controls will be sufficient to address petroleum hydrocarbons in the east, south and west ditches.

STORM DRAINS

The maintenance shop storm drain was found to contain elevated concentrations of lube oil. Low concentrations of chlorinated phenols were found in two other catch basins. Exponent recommends that sediments in the maintenance shop storm drain system (including the maintenance shop storm drain, down gradient catch basins, and sediment accumulated in the culvert) be removed for offsite treatment and disposal. No further action is required for the storm drains near the former penta dip tank.

STORM WATER

We recommend that storm water controls, including oil-water separators be constructed to prevent oily water from entering adjacent surface waters. These methods could include installation of oil/water separators at storm drains, installation of curbing or other drainage control measures to channel runoff from high trafficked areas to oil/water separators, and regular maintenance of equipment used at the site. This should reduce the concentration of petroleum hydrocarbons in the ditches, but will not eliminate offsite sources.

LUBE OIL STORAGE

We recommend that secondary containment be provided for all lubricating or hydraulic oil storage facilities at the mill. → Done

FORMER BURN AREA

We found no evidence of elevated concentrations of dioxins/furans in subsurface soils in this area. No further action is recommended.

ENGINEERING COST ESTIMATE

In a May 27, 1998 letter, Exponent provided KFP with a conceptual-level engineering cost estimate to address potential environmental problems at the site. With the conclusion of the Phase II ESA, we make the following comments regarding the validity of that estimate:

- Remedial investigation costs have been higher than estimated. This is due to the greater level of certainty requested by KFP.
- The cost for soil remediation should be less than estimated in the May 27, 1998 letter. The Phase II ESA has shown that soil remediation will not be required in several areas, including the former UST area, former dip tank, and fire pond. Remediation is still recommended for the stockpiled soils, sediments in the maintenance shop storm drain system, small quantities associated with the ASTs, and the southern portion of the North Ditch.
- The cost for oil water separation may be higher than estimated. The low gradients and distance from the site to surface waters may require more expensive oil water separator technology. Costs will vary based on the technologies chosen, location and number of treatment units, and the amount of culvert replaced.

The reduced costs for remediation may offset the increased costs for storm water control and management. Thus the engineering cost estimate is still a valid conceptual-level engineering estimate of expected costs to address environmental liabilities at the Buse Timber & Sales site.

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Ecology. 1997. Interim interpretive and policy statement: cleanup of total petroleum hydrocarbons. Ecology Publication No. ECY97-600. Washington State Department of Ecology, Olympia, WA.

Exponent. 1998. Draft work plan, Phase II environmental site assessment, Buse Timber & Sales. Prepared by Exponent Environmental Group, Bellevue, WA.

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U.S. EPA. 1994. Estimating exposure to dioxin-like compounds. Volume II: properties, sources, occurrence and background exposures. EPA/600/6-88/005Cb. Exposure Assessment Group, Office of Health and Environmental Assessment, U.S. Environmental Protection Agency, Washington, DC.

U.S. EPA. 1998. Memorandum (Directive 9200.4-26 dated April 13, 1998 from Timothy Fields, Jr., Office of Solid Waste and Emergency Response, to EPA directors) re: approach for addressing dioxin in soil at CERCLA and RCRA sites. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, Washington, D.C.

Figures

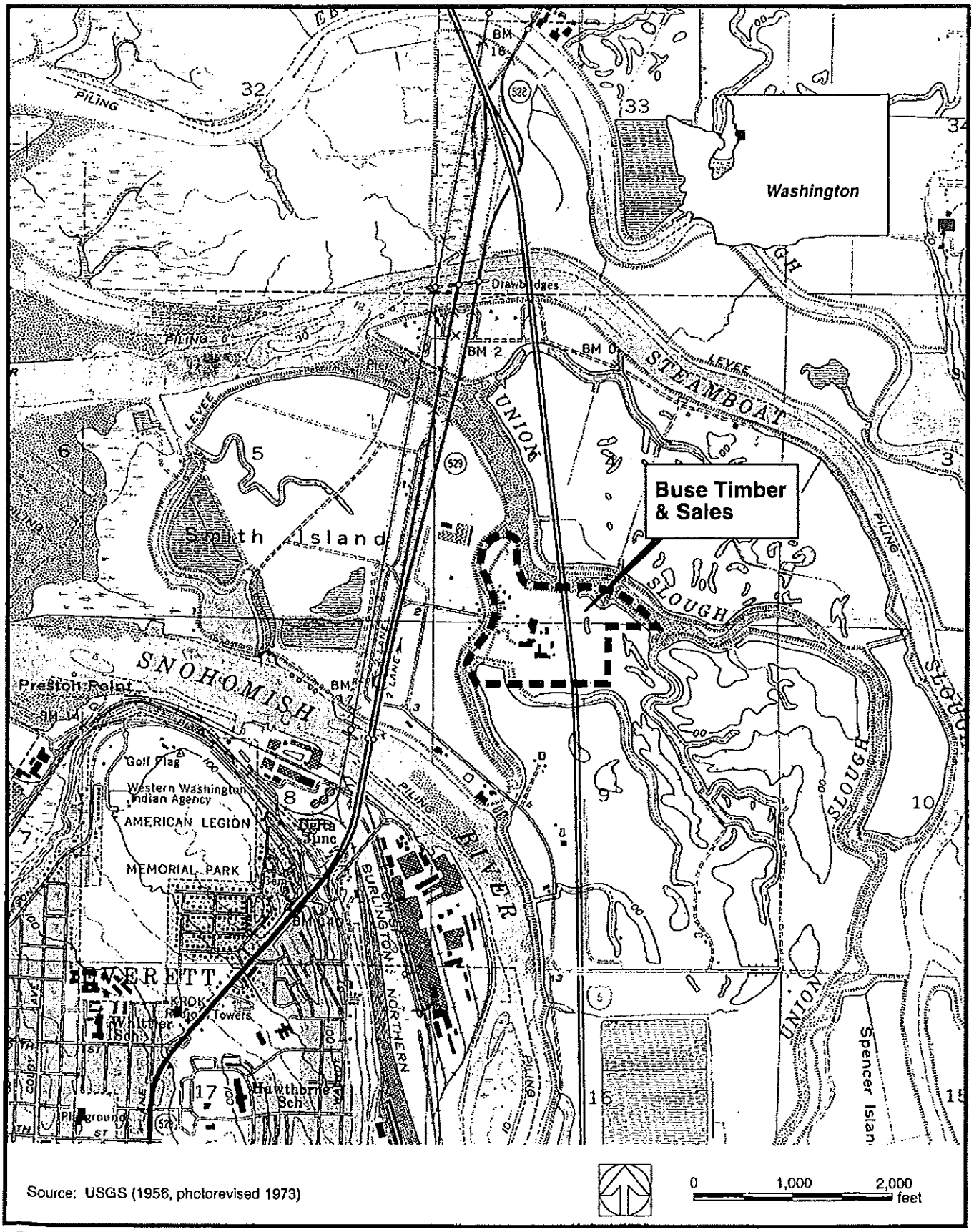

Figure 1. Buse Timber & Sales site, Everett, Washington.

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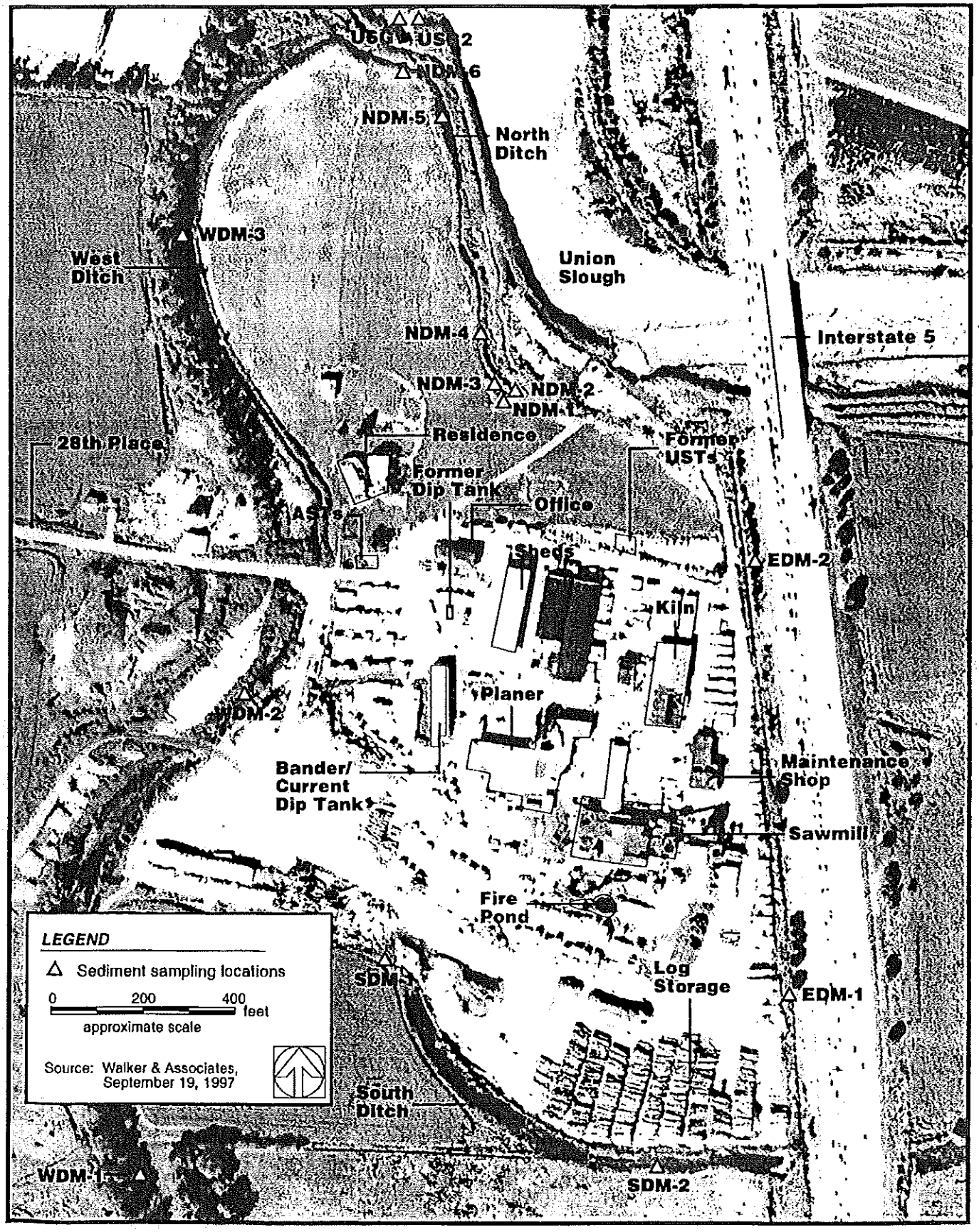

Figure 2. Surface sediment sampling locations.

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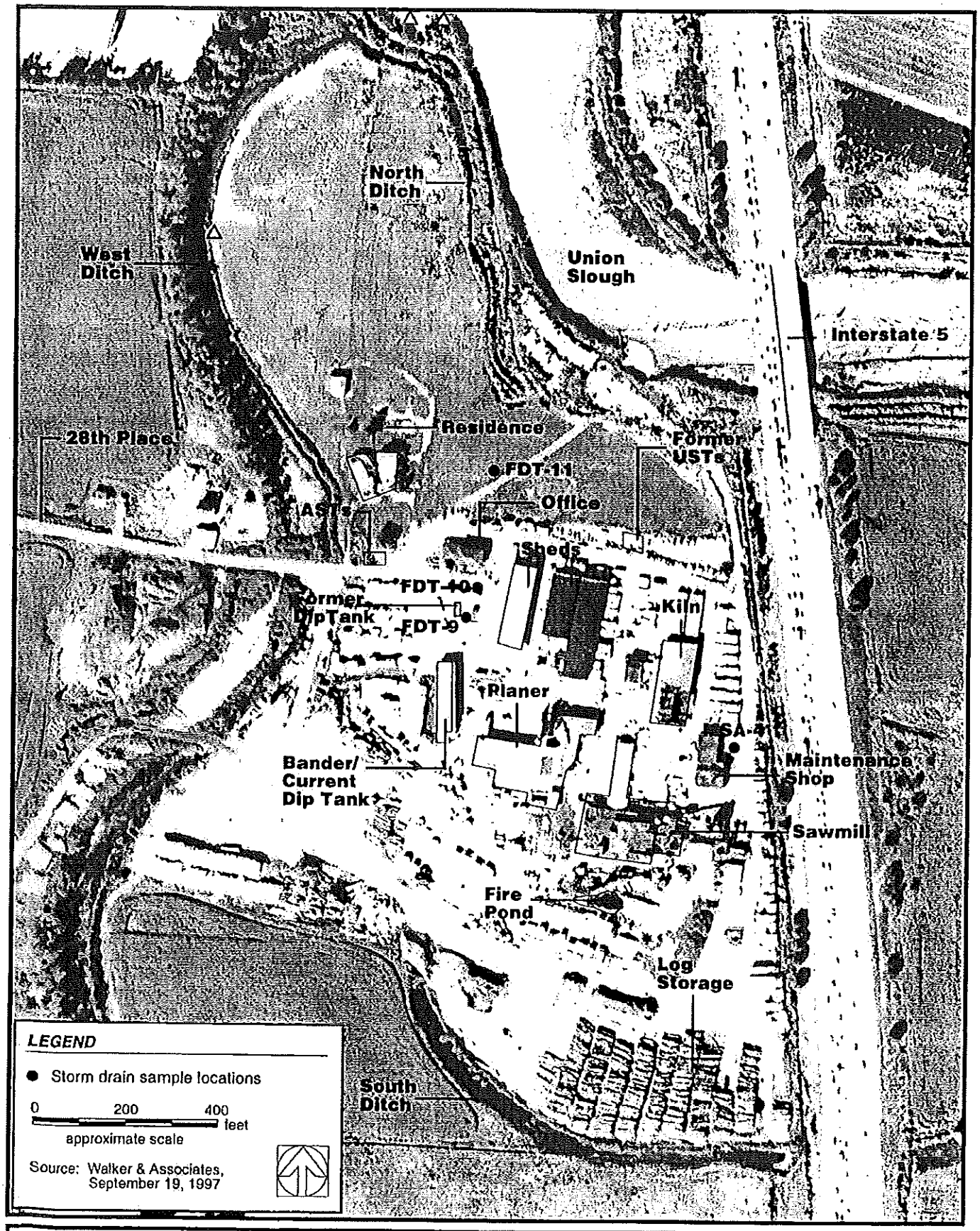

Figure 3. Storm drain sediment sample locations.

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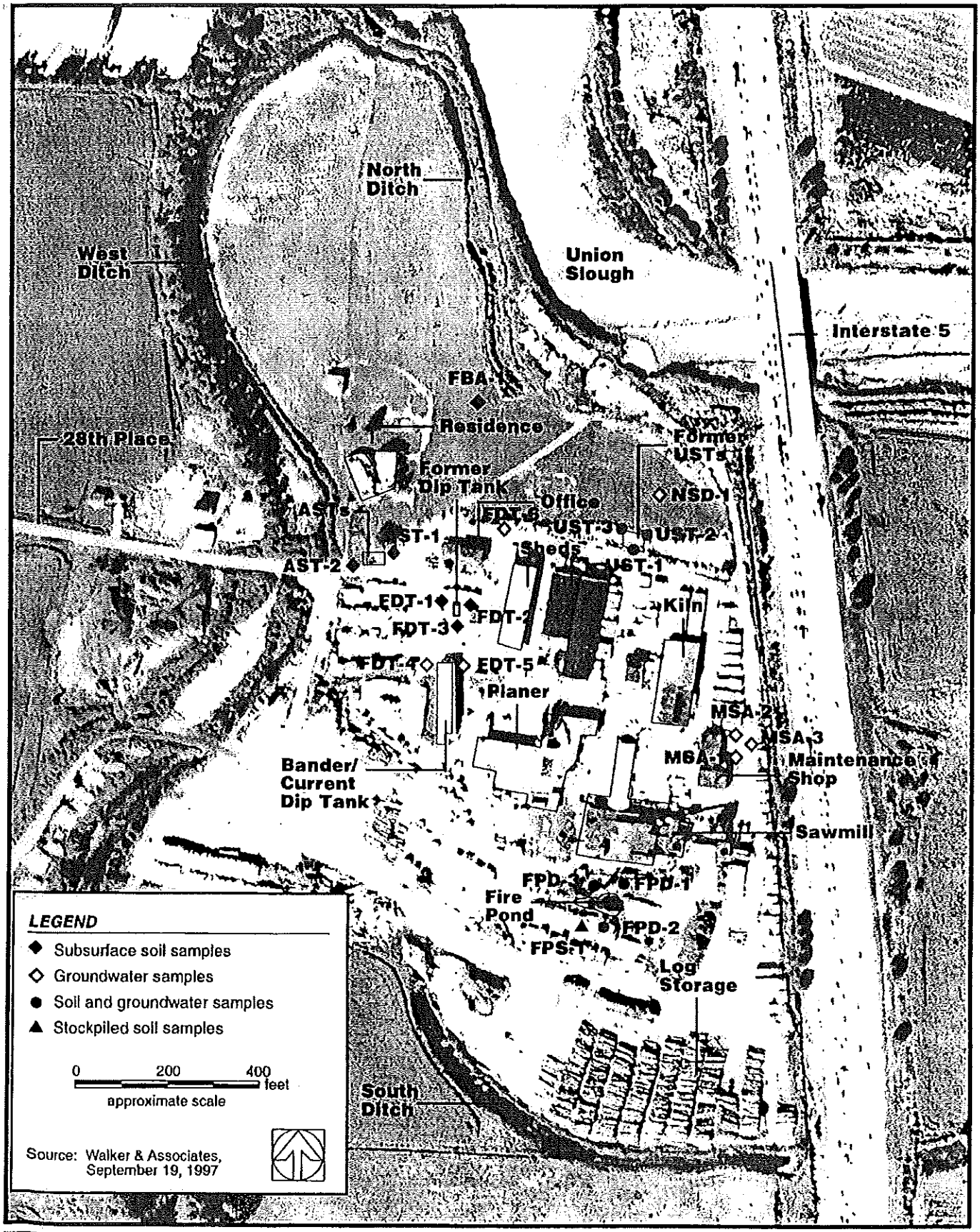

Figure 4. Geoprobe® sampling locations.

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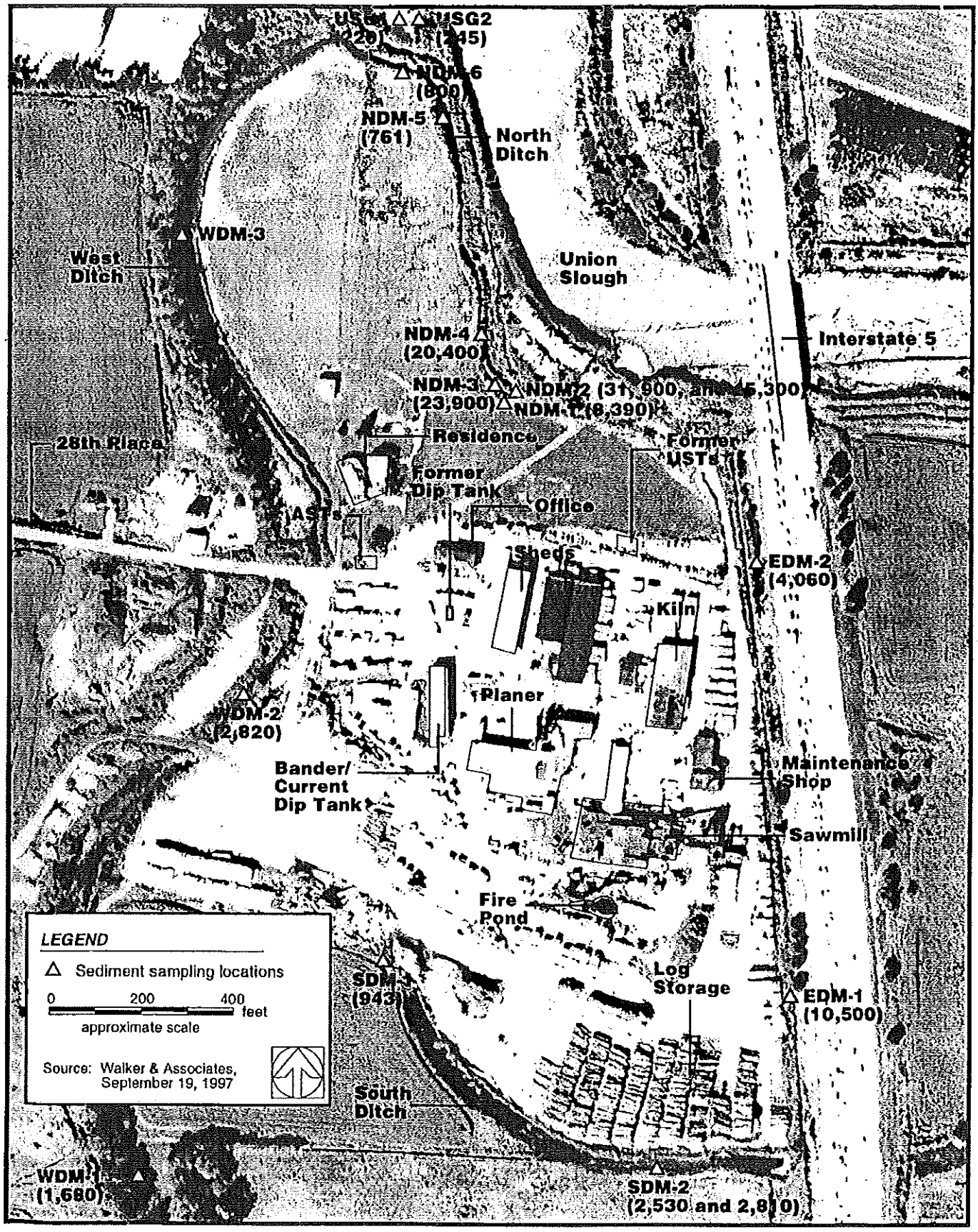

Figure 5. Lube oil concentration (mg/kg) in ditch sediments.

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Tables

TABLE 1. GENERAL SEDIMENT CHARACTERISTICS AND TYPE OF SAMPLING EQUIPMENT USED AT BUSE TIMBER SITE

Station	Sampling Equipment	Sediment Characteristics
North Ditch		
NDM-1	Polycarbonate core tube (3-in. diameter)	Brown-black color; thin layer of fine-grain sediment (>0.5 in. predominantly clay; sediment covered by thick blanket of vegetation (fresh and decomposing grass clippings); petroleum odor
NDM-2	Stainless-steel spoon	Black color; fine-grain sediment; lots of wood fragments; some worms; sheen on surface; very strong petroleum odor
NDM-3	Stainless-steel Ekman	Black color; fine-grain sediment; some wood debris and grass; two leaves removed from sample; sheen on surface; strong petroleum odor
NDM-4	Stainless-steel Ekman	Black color; fine-grain sediment with high water content; very little organic debris; some grass clippings; slight petroleum odor
NDM-5	Stainless-steel spoon	Brown color; clay; a few rocks removed from sample; organic debris on surface; no odor; sediment completely different from samples collected at Stations NDM1, NDM2, and NDM3
NDM-6	Stainless-steel spoon	Brown color; clay; decaying organic debris; no odor; sediment very similar to sample collected at Station NDM5
East Ditch		
EDM-1	Stainless-steel Ekman	Dark brown color; fine-grain sediment with high water content; organic debris; sheen on surface; slight petroleum odor
EDM-2	Stainless-steel Ekman	Dark brown color; fine-grain sediment with high water content; organic debris; slight petroleum odor
South Ditch		
SDM-1	Titanium core tube (3-in. diameter)	Thin red-brown flocculent layer on surface (0–0.75 in.); approximately 12 nymphs/larvae observed on sediment surface; 0.75–4 in. gray clay with gravel and sand and some organic debris; strong odor of decaying vegetation and possibly manure
SDM-2	Stainless-steel Ekman	Black color; fine-grain sediment with high water content; organic debris; no odor
West Ditch		
WDM-1	Titanium core tube (3-in. diameter)	Dark brown, fine-grain surface sediment with high water content (0–1.5 in.); large decaying leaf at 1.5 in.; 1.5–4 in. a lot of organic material (more organic material than sediment; sheen noted on surface of sample; no odor)
WDM-2	Stainless-steel Ekman	Red-brown, fine-grain surface sediment (0–0.75 in.); black color from 0.75 to 4 in.; fine-grain sediment with high water content; organic debris; normal odor

TABLE 1. (cont.) *DRAFT*

Station	Sampling Equipment	Sediment Characteristics
WDM-3	Stainless-steel Ekman	Red-brown, fine-grain surface sediment (0–0.25 in.); black sediment from 0.25 to 2 in.; thin brown marbling in sediment at 2 in.; dark gray sediment from 2 to 4 in.; lots of organic debris; sheen on surface of water when sample was collected; normal odor
Union Slough		
USG-1	Stainless-steel spoon	Light brown, fine-grain sediment on surface (0–0.5 in.); 0.5–1.5 in. gray, fine-grain sediment; 1.5–4 in. dark gray compacted silt; normal odor
USG-2	Stainless-steel spoon	Light brown, fine-grain sediment on surface (0–0.5 in.); 0.5–1.5 in. gray, fine-grain sediment; 1.5–4 in. dark gray compacted silt; normal odor

TABLE 2. SAMPLING AND ANALYSIS SUMMARY

Station ID	Depth	Sample No.	Archive Only	NWTPH-Gx	NWTPH-Dx	Chlorinated Phenols	Volatile Organic Compounds	Dioxins/ Furans	Total Dissolved Solids	WA-EPH & WA-VPH	Grain Size
Geoprobe Soil Samples											
Former Dip Tank											
FDT-1	2-4 ft	SO0002				X					X
FDT-2	4-6 ft	SO0001				X		X		X	
FDT-3	2-4 ft	SO0003				X					
FDT-3	4-6 ft	SO0016	X								
FDT-6	2-4 ft	SO0017	X								
Former Underground Storage Tanks											
UST-1	2-4 ft	SO0004		X	X						X
UST-2	2-4 ft	SO0005		X	X					X	
UST-3	2-4 ft	SO0006		X	X						
Current Aboveground Storage Tanks											
AST-1	0-2 ft	SO0007			X						
AST-1	2-4 ft	SO0008	X								
AST-2	0-2 ft	SO0009		X	X					X	
AST-2	2-4 ft	SO0010		X[a]							
Fire Pond											
FPD-1	2-4 ft	SO0011		X	X					X	
FPD-2	2-4 ft	SO0012		X	X						X
FPD-3	2-4 ft	SO0013		X	X						
Former Burn Area (3 boreholes composited into one sample)											
FBA-1	1-4 ft	SO0015						X			
Geoprobe Water Samples											
Former Dip Tank											
FDT-4	3-7 ft	GW0001				X			X		
FDT-5	NA	DELETED DUE TO POOR RECOVERY									
FDT-6	4-8 ft	GW0003				X			X		
FDT-7	NA	DELETED DUE TO POOR RECOVERY									
FDT-8	NA	DELETED DUE TO POOR RECOVERY									
Former Underground Storage Tanks											
UST-1	NA	DELETED DUE TO POOR RECOVERY									
UST-2	NA	DELETED DUE TO POOR RECOVERY									
UST-3	NA	DELETED DUE TO POOR RECOVERY									
Current Aboveground Storage Tanks											
AST-1	NA	DELETED DUE TO POOR RECOVERY									
AST-2	NA	DELETED DUE TO POOR RECOVERY									
Fire Pond											
FPD-1	2-6 ft	GW0011		X	X				X		
FPD-2	3-7 ft	GW0012		X	X				X		
FPD-3	4-8 ft	GW0013		X	X				X		
Maintenance Shop Area											
MSA-1	2-6 ft	GW0014		X	X		X		X		
MSA-2	2-6 ft	GW0015					X				
MSA-3	NA	DELETED DUE TO POOR RECOVERY									

TABLE 2. (cont.)

Station ID	Depth	Sample No.	Archive	NWTPH-Gx	NWTPH-Dx	Chlorinated Phenols	Volatile Organic Compounds	Dioxins	Total Dissolved Solids	WA-EPH & WA-VPH	Grain Size
Geoprobe Water Samples (cont.)											
North Storm Drain											
NSD-1	3-7 ft	GW0017		X	X		X		X		
Rinsate Blank											
RNS-1	NA	GW0018		X	X	X	X		X		
Storm Drain Sump Sediment Samples											
Former Dip Tank											
FDT-9	Surface	SD0010				X					
FDT-9	Sump	SD000B				X					
FDT-10	Surface	SD0011				X					
FDT-11	Sump	SD000A	X								
Maintenance Shop Area											
MSA-4	Surface	SD0012		X	X		X				
Ditch and Slough Sediment Samples											
Union Slough											
USG-1	0-4 in.	SD0013		X	X	X					
USG-2	0-4 in.	SD0014		X	X	X					
North Ditch											
NDM-1	0-4 in.	SD0003		X	X	X					
NDM-2	0-4 in.	SD0001		X	X						
NDM-2	0-4 in.	SD0002		X	X						
NDM-3	0-4 in.	SD0004		X	X						
NDM-4	0-4 in.	SD0005		X	X						
NDM-5	0-4 in.	SD0006		X	X						
NDM-6	0-4 in.	SD0007		X	X						
West Ditch											
WDM-1	0-4 in.	SD0015		X	X	X					
WDM-2	0-4 in.	SD0016		X	X	X					
WDM-3	0-4 in.	SD0017	X								
South Ditch											
SDM-1	0-4 in.	SD0018		X	X	X					
SDM-2	0-4 in.	SD0019		X	X	X					
East Ditch											
EDM-1	0-4 in.	SD0020		X	X	X					
EDM-2	0-4 in.	SD0021		X	X	X					
		SD0022	X	(Duplicate of USG2)							
		SD0023		X	X	X	(Duplicate of SDM2)				
Soil Grab Samples											
Fire Pond Soil Stockpile											
FPS-1		SO0014		X	X						X

[a] This sample was intended to be archived, but the laboratory inadvertently analyzed it for TPH-Gx.

TABLE 3. SOIL ANALYTICAL RESULTS

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Analyte	Units	Meas. Basis	Method	FDT-2 SO0001 06/19/98 14:15 4-6 ft	FDT-1 SO0002 06/19/98 14:00 2-4 ft	FDT-3 SO0003 06/19/98 14:40 2-4 ft	UST-1 SO0004 06/18/98 10:45 2-4 ft	UST-2 SO0005 06/18/98 11:00 2-4 ft	UST-3 SO0006 06/18/98 11:30 2-4 ft	AST-1 SO0007 06/19/98 16:30 0-2 ft	AST-2 SO0009 06/19/98 17:10 0-2 ft	AST-2 SO0010 06/19/98 17:25 2-4 ft	FPD-1 SO0011 06/18/98 17:24 2-4 ft
Diesel-Oil Range Petroleum Hydrocarbons													
Mineral spirits	mg/kg	dry	TPH-Dx				25 U	25 U	25 U	25 U	25 U		25 U
Jet fuel as Jet A	mg/kg	dry	TPH-Dx				25 U	25 U	25 U	25 U	25 U		25 U
Kerosene	mg/kg	dry	TPH-Dx				25 U	25 U	25 U	25 U	25 U		25 U
Diesel fuel	mg/kg	dry	TPH-Dx				25 U	25 U	25 U	25 U	25 U		25 U
Heavy fuel oil	mg/kg	dry	TPH-Dx				100 U	100 U	100 U	100 U	100 U		100 U
Lube oil	mg/kg	dry	TPH-Dx				100 U	100 U	100 U	635	291		852
PHC as diesel	mg/kg	dry	TPH-Dx				100 U	100 U	100 U	100 U	100 U		100 U
Non-PHC as diesel	mg/kg	dry	TPH-Dx				100 U	246	100 U	100 U	100 U		100 U
Gasoline Range Petroleum Hydrocarbons													
Gasoline	mg/kg	dry	TPH-Gx				20 U	20 U	20 U		20 U	20 U	20 U
Naphtha distillate	mg/kg	dry	TPH-Gx				20 U	20 U	20 U		20 U	20 U	20 U
Jet fuel as JP-4	mg/kg	dry	TPH-Gx				20 U	20 U	20 U		20 U	20 U	20 U
PHC as gasoline	mg/kg	dry	TPH-Gx				20 U	20 U	20 U		20 U	20 U	20 U
Non-PHC as gasoline	mg/kg	dry	TPH-Gx				20 U	20 U	20 U		20 U	20 U	20 U
Volatile Petroleum Hydrocarbon Fractions													
C8-C10 Aliphatics	mg/kg	dry	EPH	5 U				5 U			5 U		5 UJ
C10-C12 Aliphatics	mg/kg	dry	EPH	5 U				5 U			5 U		5 UJ
C10-C12 Aromatics	mg/kg	dry	EPH	5 U				5 U			5 U		5 UJ
C12-C16 Aliphatics	mg/kg	dry	EPH	5 U				5 U			5 U		5 UJ
C16-C21 Aliphatics	mg/kg	dry	EPH	32				19			5 U		41 J
C21-C34 Aliphatics	mg/kg	dry	EPH	186				13			23		227 J
C12-C16 Aromatics	mg/kg	dry	EPH	5 U				5 U			5 U		5 UJ
C16-C21 Aromatics	mg/kg	dry	EPH	5 U				34			25		37 J
C21-C34 Aromatics	mg/kg	dry	EPH	24				9			24		83 J
Extractable Petroleum Hydrocarbon Fractions													
C5-C6 Aliphatics	mg/kg	dry	VPH	5 U				5 U			5 U		5 U
C6-C8 Aliphatics	mg/kg	dry	VPH	5 U				5 U			5 U		5 U
C8-C10 Aromatics	mg/kg	dry	VPH	5 U				5 U			5 U		5 U
C8-C10 Aliphatics	mg/kg	dry	VPH	5 U				5 U			5 U		5 U
C10-C12 Aliphatics	mg/kg	dry	VPH	5 U				5 U			5 U		5 U
C10-C12 Aromatics	mg/kg	dry	VPH	5 U				5 U			5 U		5 U
C12-C13 Aromatics	mg/kg	dry	VPH	5 U							5 U		
Volatile Organic Compounds													
Methyl *tert* butylether	mg/kg	dry	8020A	0.5 U				0.5 U			0.5 U		0.5 UJ
Benzene	mg/kg	dry	8020A	0.05 U				0.05 U			0.05 U		0.05 UJ
Toluene	mg/kg	dry	8020A	0.1 U				0.1 U			0.1 U		0.1 UJ
Ethylbenzene	mg/kg	dry	8020A	0.1 U				0.1 U			0.1 U		0.1 UJ
meta and *para* Xylenes	mg/kg	dry	8020A	0.1 U				0.1 U			0.1 U		0.1 UJ
ortho-Xylene	mg/kg	dry	8020A	0.1 U				0.1 U			0.1 U		0.3 J
Phenols													
2,4,6-Trichlorophenol	ug/kg	dry	3540B/8151	5 U	20 U	15 U							
Tetrachlorophenols (2,3,4,5- and 2,3,4,6)	ug/kg	dry	3540B/8151	15 U	15 U	10 U							
Pentachlorophenol	ug/kg	dry	3540B/8151	40	5 U	15 U							

TABLE 3. (cont.)

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Analyte	Units	Meas. Basis	Method	FDT-2 SO0001 06/19/98 14:15 4-6 ft	FDT-1 SO0002 06/19/98 14:00 2-4 ft	FDT-3 SO0003 06/19/98 14:40 2-4 ft	UST-1 SO0004 06/18/98 10:45 2-4 ft	UST-2 SO0005 06/18/98 11:00 2-4 ft	UST-3 SO0006 06/18/98 11:30 2-4 ft	AST-1 SO0007 06/19/98 16:30 0-2 ft	AST-2 SO0009 06/19/98 17:10 0-2 ft	AST-2 SO0010 06/19/98 17:25 2-4 ft	FPD-1 SO0011 06/18/98 17:24 2-4 ft
Conventional Parameters													
Total solids (dry wt. as % of wet wt.)	%	wet	160.3M	50.4	65.2	56.8	63.4	76	53.3	80.2	74.2		87.4
Particles > 0.074 mm (sieve #200)	%	dry	D422		1.1		1.75						
Particles > 0.105 mm (sieve #140)	%	dry	D422		4.6		3.17						
Particles > 0.250 mm (sieve #60)	%	dry	D422		7.28		2.84						
Particles > 0.42 mm (sieve #40)	%	dry	D422		8.07		3.63						
Particles > 0.84 mm (sieve #20)	%	dry	D422		5.18		2.76						
Particles > 2.00 mm (sieve #10)	%	dry	D422		3.27		0.52						
Particles > 4.75 mm (sieve #4)	%	dry	D422		3.78		0.06						
Percent clay	%	dry	D422		22.9		32.4						
Percent silt	%	dry	D422		44.9		54.7						

TABLE 3. (cont.)

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Analyte	Units	Meas. Basis	Method	FPD-2 SO0012 06/19/98 07:40 2-4 ft	FPD-3 SO0013 06/19/98 09:10 2-4 ft	FPS-1 SO0014 06/19/98 16:50 2-4 ft	FBA-1 SO0015 6/18/98 9:30 1-4 ft	FDT-6 SO0017 06/19/98 15:45 2-4 ft
Diesel-Oil Range Petroleum Hydrocarbons								
Mineral spirits	mg/kg	dry	TPH-Dx	25 *U*	25 *U*	25 *U*		
Jet fuel as Jet A	mg/kg	dry	TPH-Dx	25 *U*	25 *U*	25 *U*		
Kerosene	mg/kg	dry	TPH-Dx	25 *U*	25 *U*	25 *U*		
Diesel fuel	mg/kg	dry	TPH-Dx	25 *U*	25 *U*	25 *U*		
Heavy fuel oil	mg/kg	dry	TPH-Dx	100 *U*	100 *U*	100 *U*		
Lube oil	mg/kg	dry	TPH-Dx	100 *U*	100 *U*	18200		
PHC as diesel	mg/kg	dry	TPH-Dx	100 *U*	100 *U*	100 *U*		
Non-PHC as diesel	mg/kg	dry	TPH-Dx	100 *U*	100 *U*	100 *U*		
Gasoline Range Petroleum Hydrocarbons								
Gasoline	mg/kg	dry	TPH-Gx	20 *U*	20 *U*	20 *U*		
Naphtha distillate	mg/kg	dry	TPH-Gx	20 *U*	20 *U*	20 *U*		
Jet fuel as JP-4	mg/kg	dry	TPH-Gx	20 *U*	20 *U*	20 *U*		
PHC as gasoline	mg/kg	dry	TPH-Gx	20 *U*	20 *U*	20 *U*		
Non-PHC as gasoline	mg/kg	dry	TPH-Gx	20 *U*	20 *U*	20 *U*		
Volatile Petroleum Hydrocarbon Fractions								
C8-C10 Aliphatics	mg/kg	dry	EPH					
C10-C12 Aliphatics	mg/kg	dry	EPH					
C10-C12 Aromatics	mg/kg	dry	EPH					
C12-C16 Aliphatics	mg/kg	dry	EPH					
C16-C21 Aliphatics	mg/kg	dry	EPH					
C21-C34 Aliphatics	mg/kg	dry	EPH					
C12-C16 Aromatics	mg/kg	dry	EPH					
C16-C21 Aromatics	mg/kg	dry	EPH					
C21-C34 Aromatics	mg/kg	dry	EPH					
Extractable Petroleum Hydrocarbon Fractions								
C5-C6 Aliphatics	mg/kg	dry	VPH					
C6-C8 Aliphatics	mg/kg	dry	VPH					
C8-C10 Aromatics	mg/kg	dry	VPH					
C8-C10 Aliphatics	mg/kg	dry	VPH					
C10-C12 Aliphatics	mg/kg	dry	VPH					
C10-C12 Aromatics	mg/kg	dry	VPH					
C12-C13 Aromatics	mg/kg	dry	VPH					
Volatile Organic Compounds								
Methyl *tert* butylether	mg/kg	dry	8020A					
Benzene	mg/kg	dry	8020A					
Toluene	mg/kg	dry	8020A					
Ethylbenzene	mg/kg	dry	8020A					
meta and *para* Xylenes	mg/kg	dry	8020A					
ortho-Xylene	mg/kg	dry	8020A					
Phenols								
2,4,6-Trichlorophenol	ug/kg	dry	3540B/8151					
Tetrachlorophenols (2,3,4,5- and 2,3,4,6)	ug/kg	dry	3540B/8151					
Pentachlorophenol	ug/kg	dry	3540B/8151					

TABLE 3. (cont.)

DRAFT

Analyte	Units	Meas. Basis	Method	FPD-2 SO0012 06/19/98 07:40 2-4 ft	FPD-3 SO0013 06/19/98 09:10 2-4 ft	FPS-1 SO0014 06/19/98 16:50 2-4 ft	FBA-1 SO0015 6/18/98 9:30 1-4 ft	FDT-6 SO0017 06/19/98 15:45 2-4 ft
PAHs								
Naphthalene	ug/kg	dry	SIM					
2-Methylnaphthalene	ug/kg	dry	SIM					
Acenaphthene	ug/kg	dry	SIM					
Acenaphthylene	ug/kg	dry	SIM					
Dibenzofuran	ug/kg	dry	SIM					
Fluorene	ug/kg	dry	SIM					
Phenanthrene	ug/kg	dry	SIM					
Anthracene	ug/kg	dry	SIM					
Fluoranthene	ug/kg	dry	SIM					
Pyrene	ug/kg	dry	SIM					
Benz[a]anthracene	ug/kg	dry	SIM					
Benzo[a]pyrene	ug/kg	dry	SIM					
Benzo[b]fluoranthene	ug/kg	dry	SIM					
Benzo[ghi]perylene	ug/kg	dry	SIM					
Benzo[k]fluoranthene	ug/kg	dry	SIM					
Chrysene	ug/kg	dry	SIM					
Dibenz[a,h]anthracene	ug/kg	dry	SIM					
Indeno[1,2,3-cd]pyrene	ug/kg	dry	SIM					
Polychlorinated Dibenzo-p-dioxins and Dibenzofurans								
2,3,7,8-TCDD	pg/g	dry	8290				0.059 *U*	
Total TCDD	pg/g	dry	8290				4.1	
1,2,3,7,8-PeCDD	pg/g	dry	8290				0.1	
Total PeCDD	pg/g	dry	8290				1.4	
1,2,3,4,7,8-HxCDD	pg/g	dry	8290				0.14	
1,2,3,6,7,8-HxCDD	pg/g	dry	8290				0.33	
1,2,3,7,8,9-HxCDD	pg/g	dry	8290				0.37	
Total HxCDD	pg/g	dry	8290				5.4	
1,2,3,4,6,7,8-HpCDD	pg/g	dry	8290				3.5	
Total HpCDD	pg/g	dry	8290				9	
OCDD	pg/g	dry	8290				62	
2,3,7,8-TCDF	pg/g	dry	8290				0.053 *U*	
Total TCDF	pg/g	dry	8290				1.2	
1,2,3,7,8-PeCDF	pg/g	dry	8290				0.048 *U*	
2,3,4,7,8-PeCDF	pg/g	dry	8290				0.081 *U*	
Total PeCDF	pg/g	dry	8290				0.48	
1,2,3,4,7,8-HxCDF	pg/g	dry	8290				0.076 *U*	
1,2,3,6,7,8-HxCDF	pg/g	dry	8290				0.041 *U*	
2,3,4,6,7,8-HxCDF	pg/g	dry	8290				0.044 *U*	
1,2,3,7,8,9-HxCDF	pg/g	dry	8290				0.083 *U*	
Total HxCDF	pg/g	dry	8290				0.62	
1,2,3,4,6,7,8-HpCDF	pg/g	dry	8290				0.6	
1,2,3,4,7,8,9-HpCDF	pg/g	dry	8290				0.036 *U*	
Total HpCDF	pg/g	dry	8290				1.2	
OCDF	pg/g	dry	8290				1.7	

TABLE 3. (cont.)

Analyte	Units	Meas. Basis	Method	FPD-2 SO0012 06/19/98 07:40 2-4 ft	FPD-3 SO0013 06/19/98 09:10 2-4 ft	FPS-1 SO0014 06/19/98 16:50 2-4 ft	FBA-1 SO0015 6/18/98 9:30 1-4 ft	FDT-6 SO0017 06/19/98 15:45 2-4 ft
Conventional Parameters								
Total solids (dry wt. as % of wet wt.)	%	wet	160.3M	90.7	94.1	41.4		
Particles > 0.074 mm (sieve #200)	%	dry	D422	0.82				1.31
Particles > 0.105 mm (sieve #140)	%	dry	D422	11.3				5.63
Particles > 0.250 mm (sieve #60)	%	dry	D422	34.9				3.93
Particles > 0.42 mm (sieve #40)	%	dry	D422	33.2				2.55
Particles > 0.84 mm (sieve #20)	%	dry	D422	8.31				2.01
Particles > 2.00 mm (sieve #10)	%	dry	D422	2.88				0.77
Particles > 4.75 mm (sieve #4)	%	dry	D422	4.6				0
Percent clay	%	dry	D422	0.78				28.6
Percent silt	%	dry	D422	2.83				54.4

TABLE 4. SEDIMENT ANALYTICAL RESULTS

Analyte	Units	Meas. Basis	Method	NDM-2 SD0001 05/08/98 13:08 0-4 in.	NDM-2 SD0002 05/08/98 13:23 0-4 in.	NDM-1 SD0003 05/08/98 13:55 0-4 in.	NDM-3 SD0004 05/08/98 15:10 0-4 in.	NDM-4 SD0005 05/08/98 15:55 0-4 in.	NDM-5 SD0006 05/08/98 16:40 0-4 in.	NDM-6 SD0007 05/08/98 17:28 0-4 in.	FDT-9 SD0008 06/29/98 14:10 Sump	FDT-9 SD0010 06/29/98 12:20 Sump	FDT-10 SD0011 06/29/98 13:10 Sump	MSA-4 SD0012 06/29/98 11:30 Sump	USG-1 SD0013 06/29/98 14:50 0-4 in.
Diesel-Oil Range Hydrocarbons															
Mineral spirits	mg/kg	dry	TPH-Dx											25 U	25
Jet fuel as Jet A	mg/kg	dry	TPH-Dx											25 U	25
Kerosene	mg/kg	dry	TPH-Dx	50 UJ	50 UJ	50 UJ	50 UJ	50 UJ	50 UJ	10 UJ				25 U	25
Diesel fuel	mg/kg	dry	TPH-Dx											25 U	25
Heavy fuel oil	mg/kg	dry	TPH-Dx	125 UJ	125 UJ	125 UJ	125 UJ	125 UJ	125 UJ	25 UJ				100 U	100
Lube oil	mg/kg	dry	TPH-Dx	45300 J	31900 J	8390 J	23900 J	20400 J	761 J	800 J				140000	220
PHC as diesel	mg/kg	dry	TPH-Dx											100 U	100
Non-PHC as diesel	mg/kg	dry	TPH-Dx											100 U	100
Gx range hydrocarbons [<C10]	mg/kg	dry	TPH-Dx	50 UJ	50 UJ	50 UJ	50 UJ	50 UJ	50 UJ	10 UJ					
Diesel range organics	mg/kg	dry	TPH-Dx	7740 J	7120 J	50 UJ	5240 J	3440 J	50 UJ	10 UJ					
Insulating oil range hydrocarbons	mg/kg	dry	TPH-Dx	125 UJ	125 UJ	125 UJ	125 UJ	125 UJ	125 UJ	25 UJ					
Gasoline Range Hydrocarbons															
Gasoline	mg/kg	dry	TPH-Gx											20 UJ	20
Naphtha distillate	mg/kg	dry	TPH-Gx											20 UJ	20
Jet fuel as JP-4	mg/kg	dry	TPH-Gx											20 UJ	20
PHC as gasoline	mg/kg	dry	TPH-Gx											76 J	20
Non-PHC as gasoline	mg/kg	dry	TPH-Gx											20 UJ	20
Aviation gasoline range hydrocarbons	mg/kg	dry	TPH-Gx	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 U	5 U					
Gasoline range organics	mg/kg	dry	TPH-Gx	46.2 J	71.9 J	5	53.8 J	18.4 J	5 U	5 U					
VM&P naphtha range hydrocarbons	mg/kg	dry	TPH-Gx	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 U	5 U					
Mineral spirits	mg/kg	dry	TPH-Gx	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 U	5 U					
Dx range hydrocarbons [>C12]	mg/kg	dry	TPH-Gx	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 U	5 U					
Phenols															
2,4,6-Trichlorophenol	mg/kg	dry	3540B/8151								0.005 U	0.005 U	0.005 U		0.005
Tetrachlorophenols (2,3,4,5- and 2,3,4,6)	mg/kg	dry	3540B/8151								0.005 U	0.105	0.081		0.005
Pentachlorophenol	mg/kg	dry	3540B/8151			0.01 U					0.016	0.5	0.22		0.005
Volatile Organic Compounds															
Dichlorodifluoromethane	ug/kg	dry	8260B											200 U	10
Chloromethane	ug/kg	dry	8260B											200 U	10
Vinyl chloride	ug/kg	dry	8260B											200 U	10
Bromomethane	ug/kg	dry	8260B											200 U	10
Chloroethane	ug/kg	dry	8260B											200 U	10
Trichlorofluoromethane	ug/kg	dry	8260B											200 U	10
Acetone	ug/kg	dry	8260B											10000 U	100
1,1-Dichloroethene	ug/kg	dry	8260B											200 U	10
Carbon disulfide	ug/kg	dry	8260B											200 U	10
Methylene chloride	ug/kg	dry	8260B											200 U	20
trans-1,2-Dichloroethene	ug/kg	dry	8260B											200 U	10
1,1-Dichloroethane	ug/kg	dry	8260B											2500	10
2-Butanone	ug/kg	dry	8260B											10000 U	40
2,2-Dichloropropane	ug/kg	dry	8260B											200 U	10
cis-1,2-Dichloroethene	ug/kg	dry	8260B											730	10
Chloroform	ug/kg	dry	8260B											200 U	10
Bromochloromethane	ug/kg	dry	8260B											200 U	10
1,1,1-Trichloroethane	ug/kg	dry	8260B											560	10
1,1-Dichloropropene	ug/kg	dry	8260B											200 U	10
Carbon tetrachloride	ug/kg	dry	8260B											200 U	10

TABLE 5. GROUNDWATER ANALYTICAL RESULTS

DRAFT

Analyte	Units	Meas. Basis	Method	FDT-4 GW0001 06/19/98 12:45 3-7 ft	FDT-6 GW0003 06/19/98 17:40 4-8 ft	FPD-1 GW0011 06/18/98 17:15 2-6 ft	FPD-2 GW0012 06/19/98 07:50 3-7 ft	FPD-3 GW0013 06/19/98 09:25 4-8 ft	MSA-1 GW0014 06/18/98 14:45 2-6 ft	MSA-2 GW0015 06/19/98 10:15 2-6 ft	NSD-1 GW0017 06/18/98 13:35 3-7 ft
Diesel-Oil Range Hydrocarbons											
Diesel fuel	ug/L	whl	TPX-Dx			250 U	250 U	250 U	250 UJ		250 U
Heavy fuel oil	ug/L	whl	TPX-Dx			500 U	500 U	500 U	500 UJ		500 U
Jet fuel as Jet A	ug/L	whl	TPX-Dx			250 U	250 U	250 U	250 UJ		250 U
Kerosene	ug/L	whl	TPX-Dx			250 U	250 U	250 U	250 UJ		250 U
Lube oil	ug/L	whl	TPX-Dx			500 U	500 U	500 U	500 UJ		500 U
Mineral spirits	ug/L	whl	TPX-Dx			250 U	250 U	250 U	250 UJ		250 U
Non-PHC as diesel	ug/L	whl	TPX-Dx			500 U	5010	3020	792 J		1900
PHC as diesel	ug/L	whl	TPX-Dx			1110	500 U	500 U	500 UJ		500 U
Gasoline Range Hydrocarbons											
Gasoline	ug/L	whl	TPH-Gx			250 U	250 U	250 U	250 U		250 U
Naphtha distillate	ug/L	whl	TPH-Gx			250 U	250 U	250 U	250 U		250 U
Jet fuel as JP-4	ug/L	whl	TPH-Gx			250 U	250 U	250 U	250 U		250 U
PHC as gasoline	ug/L	whl	TPH-Gx			250 U	250 U	250 U	250 U		250 U
Non-PHC as gasoline	ug/L	whl	TPH-Gx			250 U	260	250 U	250 U		250 U
Phenols											
2,4,6-Trichlorophenol	ug/L	whl	8151	0.5 U	0.5 U						
Pentachlorophenol	ug/L	whl	8151	0.5 U	0.5 U						
Tetrachlorophenols (2,3,4,5- and 2,3,4,6)	ug/L	whl	8151	0.5 U	0.5 U						
Volatile Organic Compounds											
Dichlorodifluoromethane	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
Chloromethane	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
Vinyl chloride (CH2=CHCl)	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
Bromomethane	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
Chloroethane	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
Trichlorofluoromethane	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
Acetone	ug/L	whl	8260A						20 U	40	20 U
1,1-Dichloroethene	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
Carbon disulfide	ug/L	whl	8260A						0.5 U	0.6	1.5
Methylene chloride (dichloromethane)	ug/L	whl	8260A						1 U	1 U	1 U
trans-1,2-Dichloroethene	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
2-Butanone (methyl ethyl ketone, MEK)	ug/L	whl	8260A						20 U	20 U	20 U
2,2-Dichloropropane	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
Chloroform	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
Bromochloromethane	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
1,1-Dichloropropene	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
Carbon tetrachloride	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
Benzene	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
Trichloroethene	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U

TABLE 5. (cont.)

DRAFT

Analyte	Units	Meas. Basis	Method	FDT-4 GW0001 06/19/98 12:45 3-7 ft	FDT-6 GW0003 06/19/98 17:40 4-8 ft	FPD-1 GW0011 06/18/98 17:15 2-6 ft	FPD-2 GW0012 06/19/98 07:50 3-7 ft	FPD-3 GW0013 06/19/98 09:25 4-8 ft	MSA-1 GW0014 06/18/98 14:45 2-6 ft	MSA-2 GW0015 06/19/98 10:15 2-6 ft	NSD-1 GW0017 06/18/98 13:35 3-7 ft
Bromodichloromethane	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
Dibromomethane	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
2-Hexanone	ug/L	whl	8260A						20 U	20 U	20 U
cis-1,3-Dichloropropene	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
Toluene	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
4-Methyl-2-pentanone (MIBK)	ug/L	whl	8260A						20 U	20 U	20 U
1,3-Dichloropropane	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
1,1,1,2-Tetrachloroethane	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	ug/L	whl	8260A						2 U	2 U	2 U
1,2,3-Trichloropropane	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	ug/L	whl	8260A						2 U	2 U	2 U
1,2,4-Trimethylbenzene	ug/L	whl	8260A						8	2 U	2 U
1,2-Dibromo-3-chloropropane	ug/L	whl	8260A						2 U	2 U	2 U
1,2-Dibromoethane (EDB)	ug/L	whl	8260A						2 U	2 U	2 U
1,2-Dichlorobenzene	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene	ug/L	whl	8260A						3	2 U	2 U
1,3-Dichlorobenzene	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
2-Chlorotoluene	ug/L	whl	8260A						2 U	2 U	2 U
4-Chlorotoluene	ug/L	whl	8260A						2 U	2 U	2 U
4-Isopropyltoluene	ug/L	whl	8260A						2 U	2 U	2 U
Bromobenzene	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
Bromoform	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
Chlorobenzene	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
Dibromochloromethane	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
Ethylbenzene	ug/L	whl	8260A						1.8	0.5 U	0.5 U
Hexachlorobutadiene	ug/L	whl	8260A						2 U	2 U	2 U
Isopropylbenzene	ug/L	whl	8260A						2 U	2 U	2 U
Naphthalene	ug/L	whl	8260A						2 U	2 U	2 U
n-Butyl benzene	ug/L	whl	8260A						2 U	2 U	2 U
n-Propylbenzene	ug/L	whl	8260A						2 U	2 U	2 U
sec Butylbenzene	ug/L	whl	8260A						2 U	2 U	2 U
Styrene	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
tert Butylbenzene	ug/L	whl	8260A						2 U	2 U	2 U
Tetrachloroethene	ug/L	whl	8260A						0.5 U	0.5 U	0.5 U
Xylene isomers (total)	ug/L	whl	8260A						11	0.5 U	0.5 U
Conventional Parameters											
Total dissolved solids	mg/L	dis	160.1	364	2080	2160	852	535	612		5230

TABLE 6. COMPARISON OF SITE TPH DATA WITH BENCHMARKS FROM FROM MTCA INTERIM TPH POLICY (Ecology 1997)

Basis for Comparison	Site Values				Comparison Values		
	SO0001	SO0005	SO0009	SO0011			
	Station Location						
	FDT-2	UST-2	AST-2	FDD-1			
Direct Contact with Soil					Risk-Based Soil Concentration (mg/kg)		
Description of Value	Site Soil Concentration (mg/kg)				Residential	Commercial	Industrial
Total aliphatic compounds	218	32	23	268	4,800	19,200	210,000
Total aromatic compounds	24	43	49	120	2,400	9,600	105,000
Groundwater Protection							
Description of Value	Predicted Groundwater Concentration (mg/L)				MTCA Target for Drinking Water (mg/L)		
TPH	0.0002	0.016	0.015	0.007	1		

Note: With one exception, no individual toxic constituents of TPH (i.e., benzene, toluene, ethylbenzene, xylenes) or polycyclic aromatic hydrocarbon (PAH) compounds were detected in these samples. Ortho-xylene was detected at a concentration of 0.3 mg/kg in SO0011. The risk-based soil concentrations for ortho-xylene are 160,000 mg/kg (residential), 640,000 mg/kg (commercial), and >1,000,000 mg/kg (industrial).

MTCA - Model Toxics Control Act
TPH - total petroleum hydrocarbon

Attachment A

Summary of Historical Photos

BUSE SITE AERIAL PHOTOS

1947 (B&W)

This photo shows most of the site to be cultivated farm fields. The sawmill occupies a small area near the entrance to the current mill (west edge of operating mill, adjacent to the west ditch). The West Ditch is much larger in this photo than at present, and is a tributary of Union Slough. The South Ditch connects to the West Ditch. There is some evidence of fill to the south of the mill and along the north side of the South Ditch.

1955 (B&W)

This photo shows an expanded mill with several new buildings. The mill operation has been expanded to the east. Two log ponds have been created between the mill and the South Ditch. The west end of the South Ditch has been filled, apparently related to the construction of the log pond. The West Ditch is mostly dry, having been blocked off at Union Slough (and presumably at the Snohomish River, but that is not visible in the picture).

1967 (B&W)

This photo shows a greatly expanded mill occupying the present mill location. The original mill shown in the 1947 and 1955 photos has been demolished. The log pond has been increased in size and now occupies the entire area south of the mill and north of the South Ditch. A large log storage area is also visible southeast of the mill. Logs are shown rafted in Union Slough and a ramp is visible where logs are hauled out.

Vegetation is visible in the West Ditch, especially in the lower (northern) channel near the former confluence with Union Slough.

Log storage and other trafficked areas extend eastward under the current location of Interstate 5 and into the western edge of the current farm field (this includes the area along I-5 that is not currently cultivated). The remaining lands to the east of the mill appear to be cultivated.

1976 (B&W)

This photo shows Interstate 5 crossing through the site. The log ponds have been almost entirely filled — only a small pond remains immediately south of the mill building. A dark rectangle is located south of the mill office. This may be the former penta dip tank. This feature was not visible in the 1967 photograph, but may have been obscured by stacks of lumber. Logs are still rafted along Union Slough; the land to the east of the freeway appears to be cultivated.

FEBRUARY 1981 (B&W)

This photo shows the mill to be very similar to the present configuration. The mill office has been expanded and there is a soil "mound" in the field north of the dry lumber storage sheds. (According to Buse personnel, this is a septic system built when the office was expanded.) The log pond is much smaller than in the 1976 photo. A dark rectangle corresponding with the location of the former penta dip tank is visible in the photo.

MARCH 1985 (B&W)

This photo also shows the mill to be very similar to the present configuration. A light-colored rectangle that appears to be the former penta dip tank is present.

The field north of the office (near the confluence of the west and north ditches) has been expanded by reclaiming/grading the vegetated portions of the former west slough (i.e., the area of the West Ditch that was formerly a river channel). The field south of the log storage area has been similarly expanded westward into the former river channel/West Ditch.

A new drainage ditch is now visible extending westward from the southern portion of the South Ditch. This new ditch cuts straight across the cornfield, whereas the original South Ditch curved northward along the edge of the log yard.

SEPT 1989 (COLOR)

This photo is very similar to the present site conditions. The southwest corner of the log storage area has been expanded over the western end of the South Ditch. Although it is not clearly visible, the former penta dip tank appears to still be present.

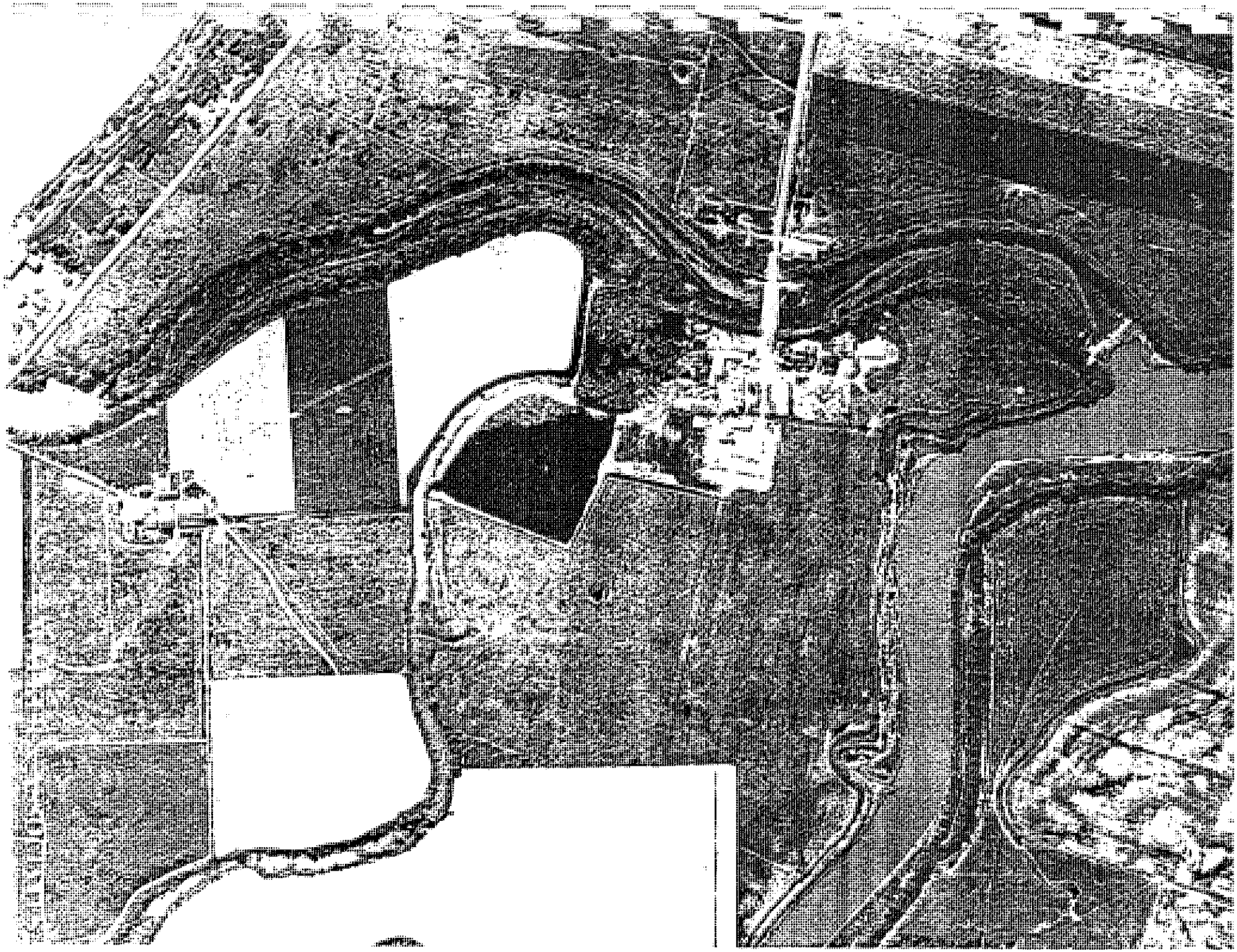
SEPTEMBER 1993 (COLOR)

This photo is also very similar to the present mill site conditions. The photo shows the active filling or expansion of the southwest corner of the log storage area into the adjacent farm field.

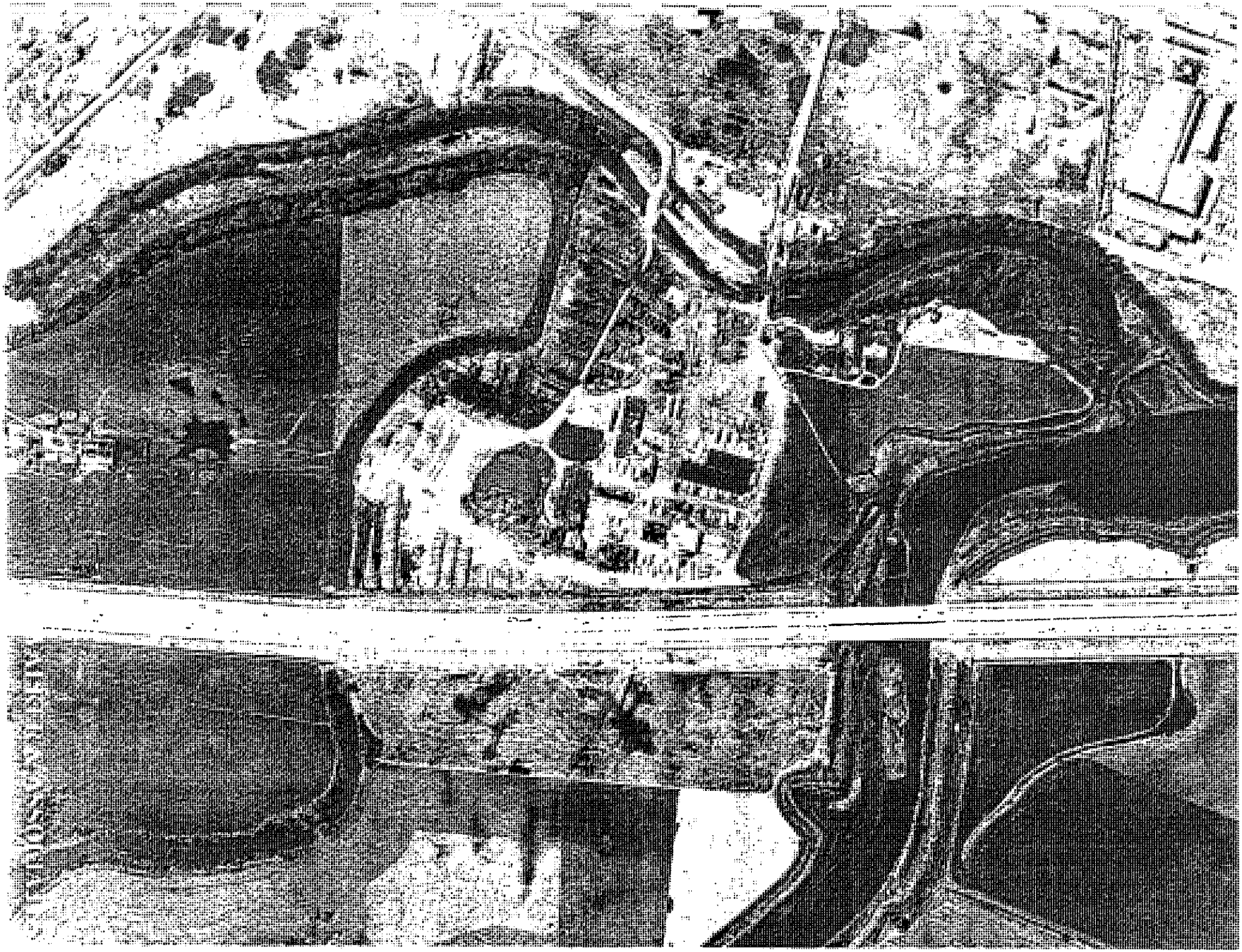
What appears to be a pile of lumber is located at the former location of the penta dip tank. The southern end of the farmland (east of I-5) is not currently cultivated.

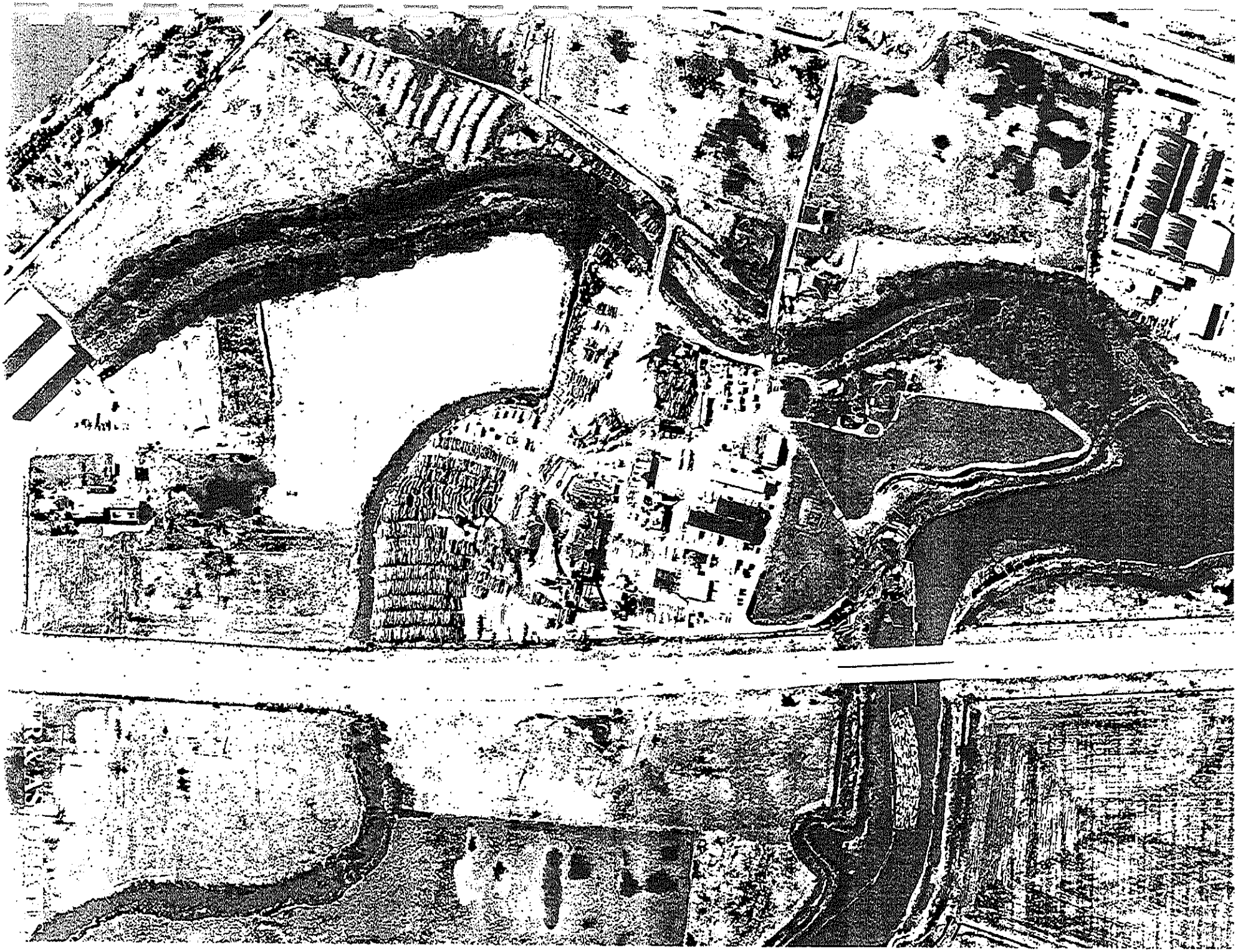
SEPTEMBER 1997 (COLOR)

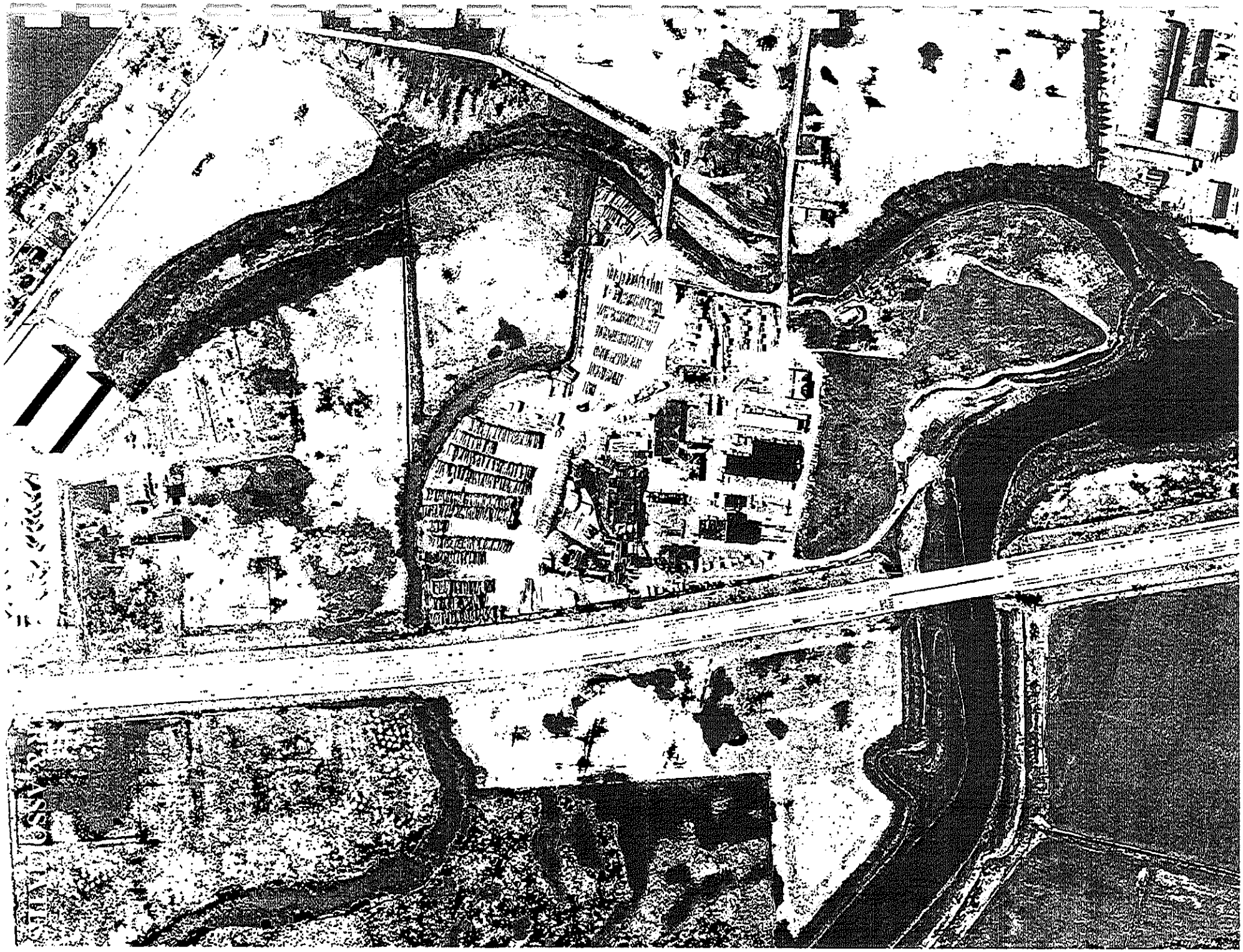
This photo closely matches current site conditions. The former penta dip tank is not visible. The expansion of the southwest corner of the log yard appears to be complete. The land east of the freeway is cultivated.

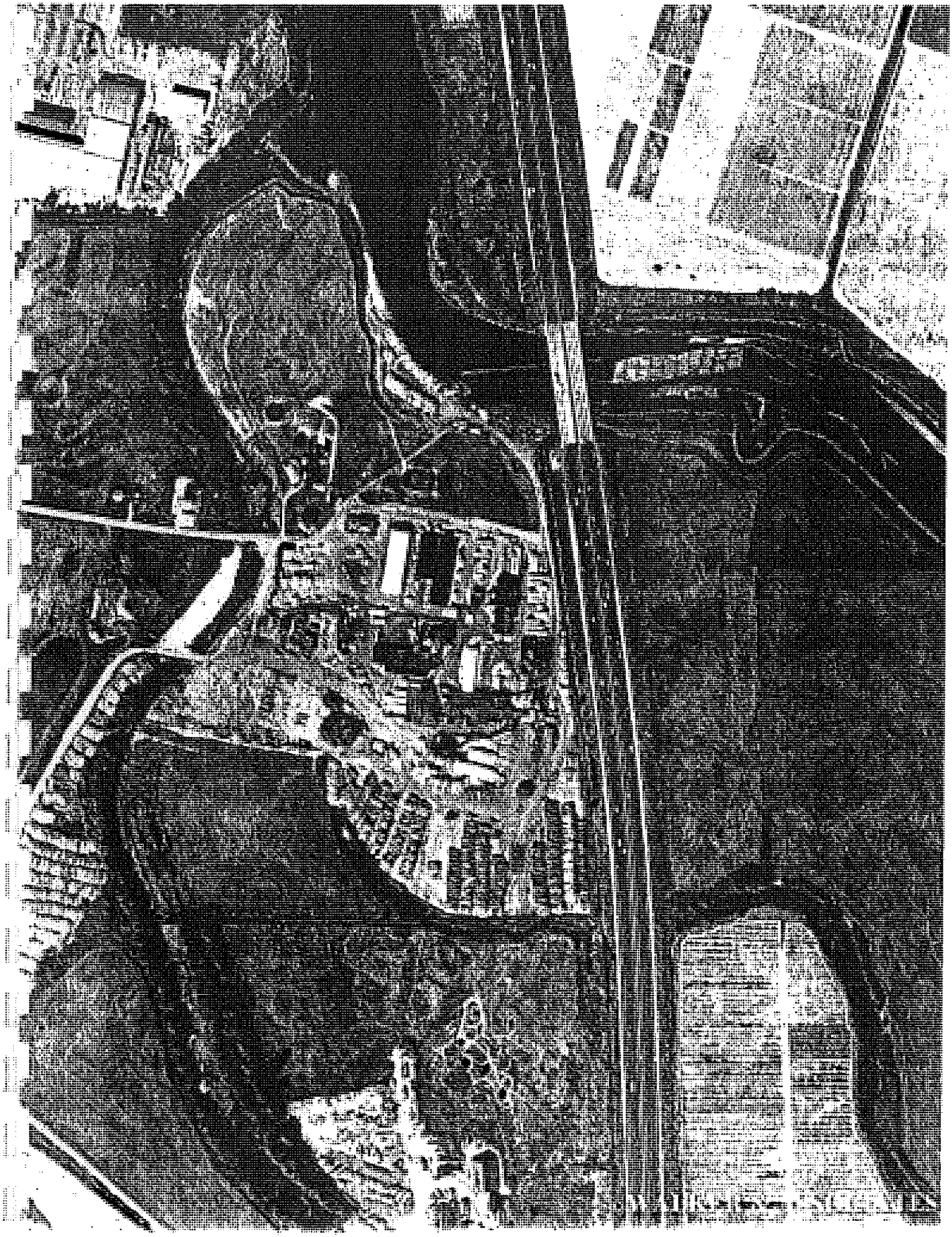


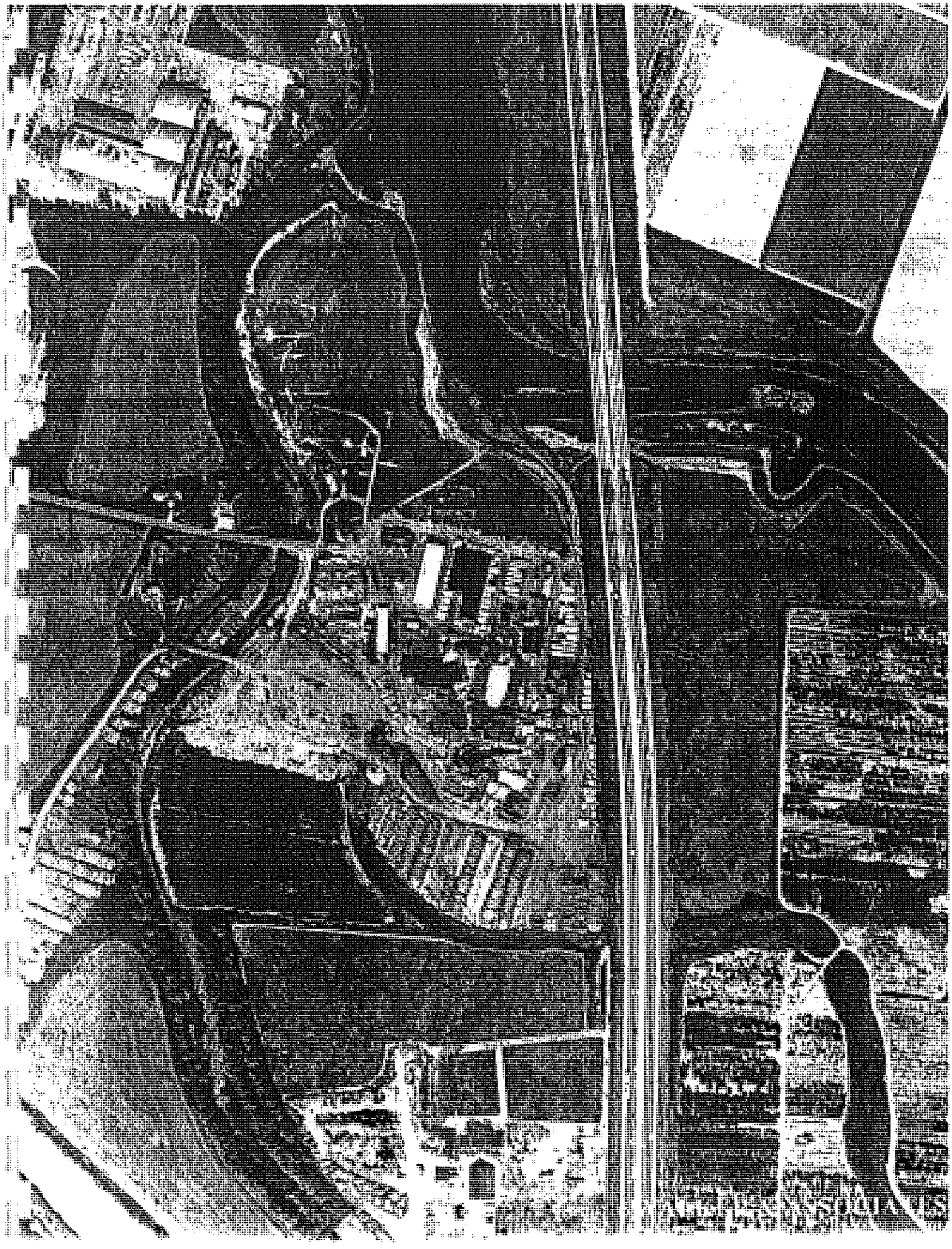

SAUNDERS ASSOCIATES











Attachment B

Borehole Logs

Exponent

FIELD BOREHOLE LOG

Client/Owner Buse Timber Well Number FPD-1

Project No. 8601061.001

Start Date 6.18.98 Finish Date 6.18.98

Ground Surface Conditions Asphalt (12 in.)

Weather Conditions Rainy, 50°F

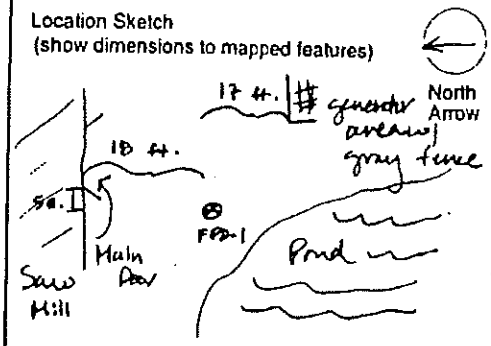
Field Geologist S. Doran

Contractor/Operator Cascade

Drill Type/Method Geoprobe

Boring Diameter 1.5 inch

Location Sketch
(show dimensions to mapped features)



Groundwater Elevation n/a at Date ____

Well Casing Elevation n/a

Ground Surface Elevation n/a Datum ____

Water Level Information	
Date	6.18.98
Time	1724
Depth to Water	3.0 ft bgs
Hole to Depth	6 ft
Casing Depth	—

Sample No.	Sampler Type	Depth Scale (ft)	Unified Symbol	Soil Description	Comments
		0			
		1	Asp.		GW@11 collected
		2	AGG. BAS.		from 2-6 ft.
↑ GW@11 ↓	↑ Soil ↓	3	SM	2-4 ft: Brown and gray sandy	interval.
		4		silts and silty sands with	
		5	NOT LOGGED	some cobbles. Faint hydro-	
		6		carbon-like odor.	

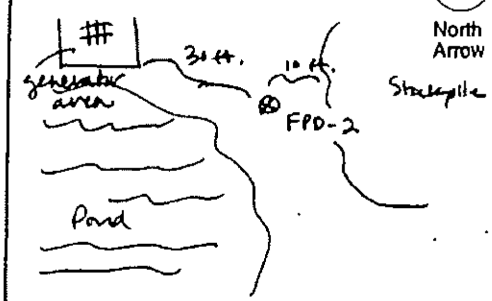
Sampler: D/M. SPT, Thinwall (TW), Shelby Tube (S), Bulk (B), etc. (Add 'C' to sampler type if a catcher is used)

Exponent™

FIELD BOREHOLE LOG

Client/Owner: Buse Timber
Well Number: FPD-2
Project No.: 8601061.001
Start Date: 6.19.98
Finish Date: 6.19.98
Ground Surface Conditions: Asphalt / concrete (2 ft.)
Weather Conditions: Overcast, 50°F
Field Geologist: S. Doran
Contractor/Operator: Cascade
Drill Type/Method: Geoprobe
Boring Diameter: 1.5 inch

Location Sketch (show dimensions to mapped features)



Groundwater Elevation: — at Date: —
Well Casing Elevation: n/a
Ground Surface Elevation: n/a Datum: ___

Water Level Information			
Date	6.19.98		
Time	0740		
Depth to Water	4.0 ft		
Hole to Depth	7.0 ft		
Casing Depth	—		

Sample No. - GW	Sample Type - Soil	Depth Scale (ft)	Unified Symbol	Soil Description	Comments
		0			
		1	Asphalt/concrete		GWØØ12 collected
		2	Asphalt/concrete		from 3-7 ft.
↑ GWØØ12	← SOØØ12 →	3	SM	2-4 ft: Brown sand w/ rust-colored	interval.
GWØØ12		4	▽	streaks; grayish sand near	
GWØØ12		5	Not logged	bottom. Medium to fine sand	
GWØØ12		6	Not logged	w/ silt. No odor.	
↓		7			
				Total depth: 7 ft.	

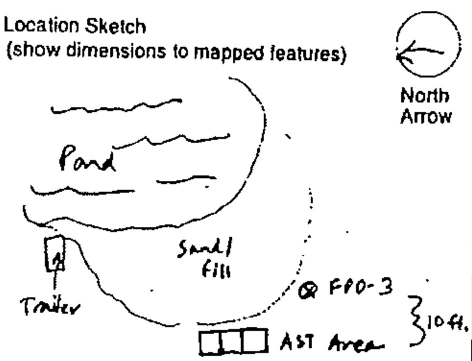
Sampler: D/M, SPT, Thinwall (TW), Shelby Tube (S), Bulk (B), etc. (Add 'C' to sampler type if a catcher is used)

Exponent™

FIELD BOREHOLE LOG

Client/Owner: Buse Timber
Well Number: FPD-3
Project No.: 8601061.001
Start Date: 6.19.98
Finish Date: 6.19.98
Ground Surface Conditions: Grass/weeds
Weather Conditions: Cloudy, 50°F
Field Geologist: S. Doran
Contractor/Operator: Cascade
Drill Type/Method: Geoprobe
Boring Diameter: 1.5 in.

Location Sketch
(show dimensions to mapped features)



Groundwater Elevation: – at Date:
Well Casing Elevation: –
Ground Surface Elevation: – Datum:

Water Level Information			
Date	6.19.98		
Time	0846		
Depth to Water	5.0 ft		
Hole to Depth	10.0 ft.		
Casing Depth	–		

Sample No. – GW	Sample Type – Soil	Depth Scale (ft.)	Unified Symbol	Soil Description	Comments
		0–2	Not Logged		GWΦΦ13 collected from 4-8 ft. interval.
	SOΦΦ13 (2–4 ft)	2–4	SM	2-4 ft: Brown to gray silty sand w/ some cobbles, fine to medium grained; one 2 in. lense of green-gray sand at 2.5 ft bgs with hydrocarbon-like odor.	
GWΦΦ13 (4–8 ft)		4–8	Not Logged (water level ∇ at 5)		
		8–9.2	SM	8-9.2 ft: Gray sand as above but with no odor or staining.	
		9.2–10	CL	9.2-10 ft: Brown clay (stiff), mottled with woody, bark-like plant materials at 10 ft bgs.	
				Total depth = 10 ft.	

Sampler: D/M, SPT, Thinwall (TW), Shelby Tube (S), Bulk (B), etc. (Add 'C' to sampler type if a catcher is used)

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Exponent

FIELD BOREHOLE LOG

Client/Owner Buse Timber Well Number MSA-1

Project No. 8601061.001

Start Date 6.18.98 Finish Date 6.18.98

Ground Surface Conditions Asphalt (3ft. thick)

Weather Conditions Rainy, 50°F

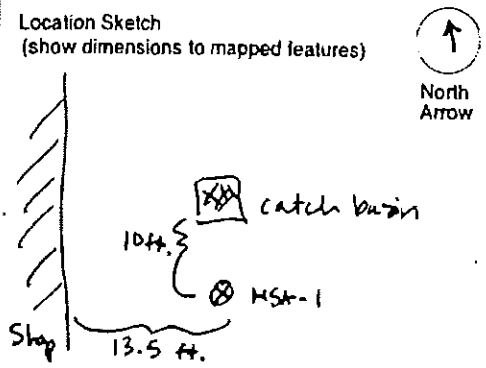
Field Geologist S. Doran

Contractor/Operator Cascade

Drill Type/Method Geoprobe

Boring Diameter 1.5 inch

Location Sketch
(show dimensions to mapped features)



Groundwater Elevation — at Date

Well Casing Elevation n/a

Ground Surface Elevation n/a Datum

Water Level Information	
Date	6.18.98
Time	1355
Depth to Water	3 ft. bgs
Hole to Depth	6 ft.
Casing Depth	—

Sample No.	Sampler Type	Depth Scale (ft)	Unified Symbol	Soil Description	Comments
GW0014		0			GW0014 collected from 2-6 ft. interval.
		1	Asphalt		
		2			
		3			
		4	SM	3-6 ft: Silty sands; brown (may be subbase materials)	
		5			
		6		Total depth: 6 ft.	
				GW0014 collected over 2-6 ft bgs. interval.	

Sampler: D/M, SPT, Thinwall (TW), Shelby Tube (S), Bulk (B), etc. (Add 'C' to sampler type if a catcher is used)

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Exponent

FIELD BOREHOLE LOG

Client/Owner Buse Timber Well Number MSA-2

Project No. 8601061.001

Start Date 6.18.98 Finish Date 6.19.98

Ground Surface Conditions Asphalt (14 in. thick)

Weather Conditions Rainy, 50°F

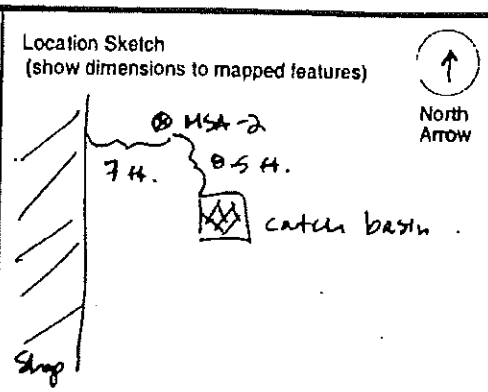
Field Geologist S. Doran

Contractor/Operator Cascade

Drill Type/Method Geoprobe

Boring Diameter 1.5 inch

Location Sketch (show dimensions to mapped features)



Groundwater Elevation — at Date

Well Casing Elevation n/a

Ground Surface Elevation n/a Datum

Water Level Information	
Date	6.19.98
Time	0947
Depth to Water	4.9 ft bgs
Hole to Depth	6 ft
Casing Depth	—

Sample No.	Sampler Type	Depth Scale (ft)	Unified Symbol	Soil Description	Comments
GW@01S ↓		0	Asph.		GW@01S collected from 2-6 ft. interval. Recovery was allowed overnight, with sufficient recharge volume for only 1 VOA vial.
		1			
		2	SM	1.2 - 2.0 ft: Gray sand / silts	
		3	CL	2.0 - 5.0 ft: Brown, mottled clays (stiff) with silt	
		4			
		5	PT	5.0 - 6.0 ft: Wood fragments	
		6		Total depth: 6 ft.	

Sampler: D/M, SPT, Thinwall (TW), Shelby Tube (S), Bulk (B), etc. (Add 'C' to sampler type if a catcher is used)

Exponent

FIELD BOREHOLE LOG

Client/Owner Buse Timber | Well Number MSA-3

Project No. 8601061.001

Start Date 6.18.98 | Finish Date 6.19.98

Ground Surface Conditions Asphalt (18 ft.)

Weather Conditions Rainy, 50°F

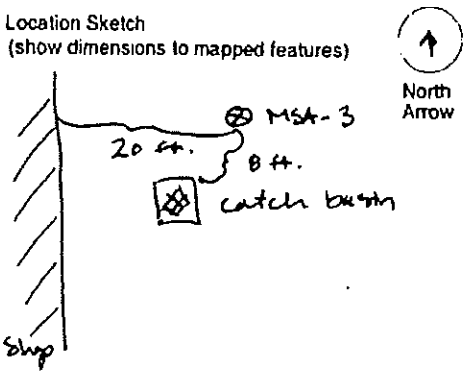
Field Geologist S. Duran

Contractor/Operator Cascade

Drill Type/Method Geoprobe

Boring Diameter 1.5 inch

Location Sketch (show dimensions to mapped features)



Groundwater Elevation — at Date —

Well Casing Elevation n/a

Ground Surface Elevation n/a Datum —

Date	6.19.98
Time	0947
Depth to Water	5.1 ft.
Hole to Depth	17 ft.
Casing Depth	—

Water Level Information

Sample No.	Sampler Type	Depth Scale (ft)	Unified Symbol	Soil Description	Comments
		0	Asphalt		* Groundwater could not be collected due to insufficient recharge. Recovery allowed overnight.
		1			
		2	SM	1.8-2.5 ft: Gray sands	
		3			
		4	CL	2.5-5.0 ft: Brown mottled clay (stiff) with some silt. No odor, no staining.	
		5			
		6	Not Logged		
		7			
		8			
		9			
*	None	10	CL/ML	9.0-11.0 ft: Brown to light gray silty clay and clayey silts (less stiff) with root masses and decomposing plant (reducing) odor present.	
		11			
		12	Not Logged		
		13			
		14			
		15			
		16	ML/SM	15.0-17.0 ft: Light gray silts that coarsen downward into fine sands with some silt; no odor, some small woody debris lenses.	
		17		Total depth: 17.0 ft.	

Sampler: D/M, SPT, Thinwall (TW), Shelby Tube (S), Bulk (B), etc. (Add 'C' to sampler type if a catcher is used)

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Exponent

FIELD BOREHOLE LOG

Client/Owner Buse Timber Well Number FDT-1

Project No. 86010611.001

Start Date 6.19.98 Finish Date 6.19.98

Ground Surface Conditions Asphalt (8 in.)

Weather Conditions Sunny, 60°F

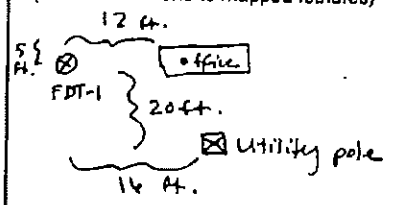
Field Geologist S. Doran

Contractor/Operator Cascade

Drill Type/Method Geoprobe

Boring Diameter 1.5 in.

Location Sketch
(show dimensions to mapped features)



Groundwater Elevation — at Date

Well Casing Elevation —

Ground Surface Elevation — Datum

Water Level Information	
Date	6.19.98
Time	1400
Depth to Water	3.5 ft
Hole to Depth	4.0 ft
Casing Depth	—

Sample No. - Soil	Sampler Type	Depth Scale (ft.)	Unified Symbol	Soil Description	Comments
		0		Asphalt	
		1	(FILL) SAND		
		2	SM	2-4 ft. Gray to brown silty SAND,	
← Sample →		3	CL	medium to fine grained from	
		4		2.0-2.5 ft.; from 2.5 ft - 4 ft.	
				gray clay (stiff) with some	
				root fragments. No odor	
				or staining.	
				Total depth = 4.0 ft bgs	

Sampler: D/M, SPT, Thinwall (TW), Shelby Tube (S), Bulk (B), etc. (Add 'C' to sampler type if a catcher is used)

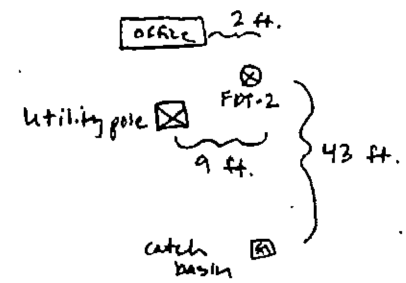
Exponent™

FIELD BOREHOLE LOG

Client/Owner: Buse Timber
Well Number: FDT-2
Project No.: 8601041.001
Start Date: 6.19.98
Finish Date: 6.19.98
Ground Surface Conditions: Asphalt
Weather Conditions: Sunny, 60°F
Field Geologist: S. Doran
Contractor/Operator: Cascade
Drill Type/Method: Geoprobe
Boring Diameter: 1.5 in.

Location Sketch
(show dimensions to mapped features)

North Arrow



Groundwater Elevation: — at Date: ___
Well Casing Elevation: —
Ground Surface Elevation: — Datum: ___

Water Level Information	
Date	6.19.98
Time	1405
Depth to Water	3 ft.
Hole to Depth	6 ft.
Casing Depth	—

Sample No.	Sampler Type	Depth Scale (ft)	Unified Symbol	Soil Description	Comments
		0–2	NOT LOGGED		S00001 collected from 4-6 ft interval b/c <10% recovery at 2-4 ft. interval.
		2–4	▽ SM	2-4: Gray silty sand w/ some cobbles, wood chips in nose of sampler. No odor.	
S00001		4–6	CL	4-6 ft: Dark gray to black silty sand to 4.5 ft; transitions into clay that is brown to gray (stiff) that contains decomposing woody debris; reducing odor. Staining appears to cease at clay transition. Slight organic? odor at sand layer.	

Sampler: D/M, SPT, Thinwall (TW), Shelby Tube (S), Bulk (B), etc. (Add 'C' to sampler type if a catcher is used)

Exponent

FIELD BOREHOLE LOG

Client/Owner Bure Timber | Well Number FDT-3

Project No. 8601061.001

Start Date 6.19.98 | Finish Date 6.19.98

Ground Surface Conditions Asphalt (8 in.)

Weather Conditions Sunny, 60° F

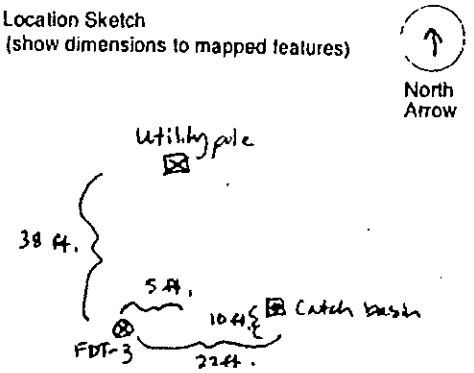
Field Geologist S. Duran

Contractor/Operator Cascade

Drill Type/Method Geoprobe

Boring Diameter 1.5 in.

Location Sketch (show dimensions to mapped features)



Groundwater Elevation — at Date

Well Casing Elevation —

Ground Surface Elevation — Datum

Water Level Information	
Date	6.19.98
Time	1420
Depth to Water	6 ft.
Hole to Depth	10 ft.
Casing Depth	—

Sample No.	Sampler Type	Depth Scale (ft.)	Unified Symbol	Soil Description	Comments
		0			
		1		Asphalt	
		2	SM	2.4 ft: Gray to brown sand,	
		3		medium to fine grained;	
		4			
		5	CL	underlying gray clay @	
		6		3.0 ft. No odor.	
		7			
		8		4-6 ft: Gray clay with	
		9		root mass and decaying	
		10		woody material	
				6-8 ft: Same clay.	
				8-10 ft: " "	

Sampler: D/M, SPT, Thinwall (TW), Shelby Tube (S), Bulk (B), etc. (Add 'C' to sampler type if a catcher is used)

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Exponent

FIELD BOREHOLE LOG

Client/Owner: Buse Timber | Well Number: FDT-4

Project No.: 8601061.001

Start Date: 6.19.98 | Finish Date: 6.19.98

Ground Surface Conditions: Asphalt (6 in. thick)

Weather Conditions: Cloudy, 50° F

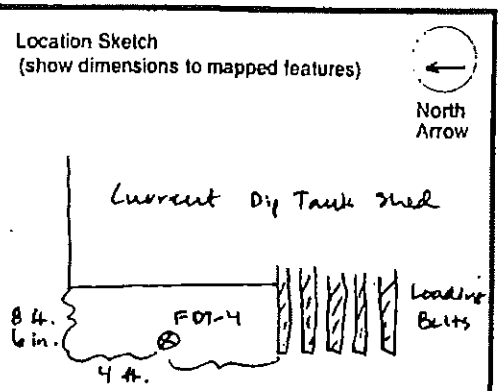
Field Geologist: S. Doran

Contractor/Operator: Cascade

Drill Type/Method: Geoprobe

Boring Diameter: 1.5 in.

Location Sketch (show dimensions to mapped features)



Groundwater Elevation: — at Date

Well Casing Elevation: —

Ground Surface Elevation: — Datum

Water Level Information	
Date	6.19.98
Time	1245
Depth to Water	4.0 ft.
Hole to Depth	16.0 ft.
Casing Depth	

Sample No.	Sampler Type	Depth Scale (ft.)	Unified Symbol	Soil Description	Comments
		0		Asphalt	
		1	SM	1-4 ft: Gray to brown sand w/ cobbles (may be subbase for asphalt). Underlying brown to gray clay, with no odor. One dark brown lense of sand has faint organic? odor.	GW0001 collected from 3-7 ft. Interval. Slightly turbid w/ faint hydrocarbon-like odor.
		2			
		3	CL		
↑		4			
GW0001		5			
↓		6			
		7			
		8			
		9	CL		
		10		8-10 ft: Gray to brown clay (silt) with some wood debris, burn layer present 9.5 ft bgs.	
		11			
		12			
		13			
		14		14-16 ft: Same gray clay as above.	
		15	CL		
		16		Total depth: 16 ft.	

Sampler: D/M, SPT, Thinwall (TW), Shelby Tube (S), Bulk (B), etc. (Add 'C' to sampler type if a catcher is used)

Exponent

FIELD BOREHOLE LOG

Client/Owner Buse Timbers Well Number FDT-5

Project No. 8601061.001

Start Date 6.19.98 Finish Date 6.19.98

Ground Surface Conditions Asphalt (1 ft. thick)

Weather Conditions Cloudy, 55°F

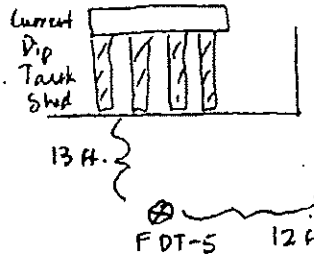
Field Geologist S Doran

Contractor/Operator Cascade

Drill Type/Method Geoprobe

Boring Diameter 1.5 in

Location Sketch
(show dimensions to mapped features)



Groundwater Elevation — at Date

Well Casing Elevation —

Ground Surface Elevation — Datum

Water Level Information	
Date	6.19.98
Time	1147
Depth to Water	3 ft.
Hole to Depth	6 ft.
Casing Depth	—

Sample No.	Sampler Type	Depth Scale (ft.)	Unified Symbol	Soil Description	Comments
		0	Asph.		GW0002 screened
		1	SM	1-4 ft: Some sand on surface (may	from 2-6 ft.
		2		be subbase to support asphalt,	interval, but
		3	CL	with gray clay below. No	no recovery.
		4		odors or staining.	
			NOT LOGGED		

Sampler: D/M, SPT, Thinwall (TW), Shelby Tube (S), Bulk (B), etc. (Add 'C' to sampler type if a catcher is used)

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Exponent

FIELD BOREHOLE LOG

Client/Owner Buse Timber Well Number FDT-6

Project No. 96010161.001

Start Date 6.19.98 Finish Date 6.21.98

Ground Surface Conditions Grass

Weather Conditions Sunny, 55°F

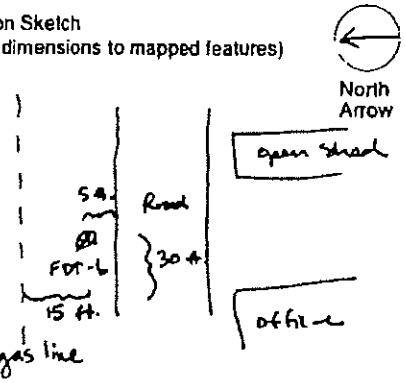
Field Geologist S. Duran

Contractor/Operator Cascade

Drill Type/Method Geoprobe

Boring Diameter 1.5 inch

Location Sketch (show dimensions to mapped features)



Groundwater Elevation – at Date

Well Casing Elevation –

Ground Surface Elevation – Datum

Water Level Information	
Date	6.19.98
Time	1601
Depth to Water	5.0 ft
Hole to Depth	22.0 ft
Casing Depth	–

Sample No. | Sampler Type | Depth Scale (ft) | Unified Symbol | Soil Description | Comments

Depth (ft)	Unified Symbol	Soil Description	Comments
0–2	NOT LOGGED		
2–4	CL	2-4 ft: Gray stiff clay w/ root fragments and decomposing wood materials. Reducing odor.	
4–8	NOT LOGGED		
8–10	CL	8-10 ft: Gray clay from 8 - 8.6 ft, then brown clay with woody debris and decomposing organic matter.	
10–14	NOT LOGGED		
14–16	CL/ML	14-16 ft: Gray clay with increasing silt content.	Response in drilling resistance suggested sand layer began @ 19 ft. bgs per the driller.
16–19	NOT LOGGED		
19–21	SM	20-22 ft: Silty sand with silt lenses, coarsens downward to gray sand.	

Sampler: D/M, SPT, Thinwall (TW), Shelbe (S), Bulk (B), etc. (Add 'C' to sampler type if a catcher is used)

Exponent

FIELD BOREHOLE LOG

Client/Owner Buse Timber Well Number FBA-1

Project No. 8601061.001

Start Date 6.18.98 Finish Date 6.18.98

Ground Surface Conditions Grass / sod

Weather Conditions Cloudy, 50°F

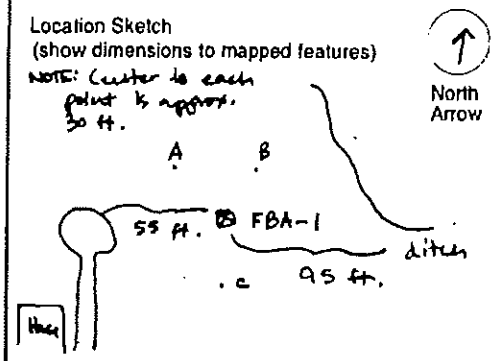
Field Geologist G. Bowden

Contractor/Operator Cascade

Drill Type/Method Geoprobe

Boring Diameter 1.5 in.

Location Sketch
(show dimensions to mapped features)



Groundwater Elevation — at Date

Well Casing Elevation n/a

Ground Surface Elevation n/a Datum

Water Level Information	
Date	6.18.98
Time	0900
Depth to Water	4 ft bgs.
Hole to Depth	4 ft.
Casing Depth	—

Sample No.	Sampler Type	Depth Scale (ft)	Unified Symbol	Soil Description	Comments
		0			
		1		0-2 ft: Brown silt, mottled.	Three borehles (points A, B, C in above figure) were composited for one sample. This borelog is recorded from point B.
		2	ML		
		3		2-4 ft: Brown to gray silt, contains	
Exposed		4		wood fibers.	
				Total depth = 4 ft.	

Sampler: D/M, SPT, Thinwall (TW), Shelby Tube (S), Bulk (B), etc. (Add 'C' to sampler type if a catcher is used)

FF Rev 08/96

Exponent

FIELD BOREHOLE LOG

Client/Owner Buse Timber Well Number NSP-1

Project No. 8601061.001

Start Date 6.18.98 Finish Date 6.19.98

Ground Surface Conditions Grass / sod

Weather Conditions Rainy, 50°F

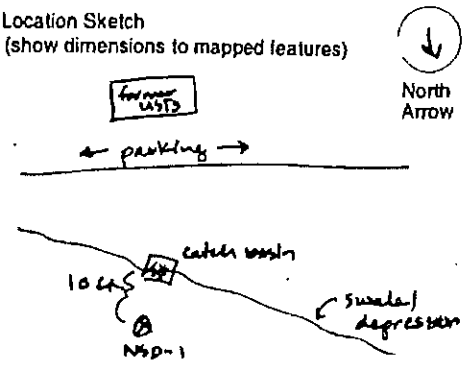
Field Geologist G. Bowden

Contractor/Operator Cascade

Drill Type/Method Geoprobe

Boring Diameter 1.5 inch.

Location Sketch
(show dimensions to mapped features)



Groundwater Elevation — at Date

Well Casing Elevation —

Ground Surface Elevation — Datum

Water Level Information	
Date	6.18.98
Time	1015
Depth to Water	6.9 ft.
Hole to Depth	7.0 ft
Casing Depth	—

Sample No.	Sampler Type	Depth Scale (ft.)	Unified Symbol	Soil Description	Comments
		0			
		1		- Soil not logged.	Soil not logged because no soil samples were to be collected.
		2			
		3			
		4			
		5			
		6			
		7		Total depth = 7.0 ft	

GW 6.9 ft ↓

Sampler: D/M, SPT, Thinwall (TW), Shelby Tube (S), Bulk (B), etc. (Add 'C' to sampler type if a catcher is used)

FF Rev 08/96

Exponent

FIELD BOREHOLE LOG

Client/Owner Buse Timber Well Number UST-1

Project No. 060061.00,

Start Date 6.18.98 Finish Date 6.18.98

Ground Surface Conditions Asphalt (9 in. thick)

Weather Conditions Overcast 50° F

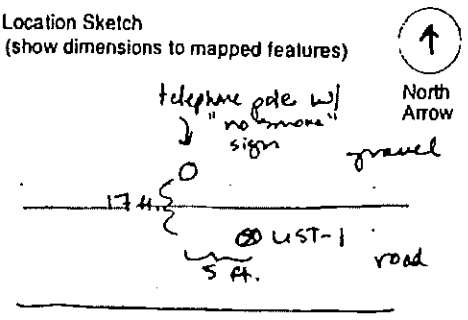
Field Geologist G. Bowden

Contractor/Operator Cascade

Drill Type/Method Geoprobe

Boring Diameter 1.5 inch

Location Sketch
(show dimensions to mapped features)



Groundwater Elevation — at Date

Well Casing Elevation —

Ground Surface Elevation — Datum

Water Level Information	
Date	—
Time	—
Depth to Water	n/a
Hole to Depth	4.0 ft
Casing Depth	—

Sample No.	Sampler Type	Depth Scale (ft.)	Unified Symbol	Soil Description	Comments
		0		Asphalt	
		1			
		2		- Soil not logged.	
← Soil →		3			
		4			
				Total depth = 4.0 ft.	

Sampler: D/M, SPT, Thinwall (TW), Shelby Tube (S), Bulk (B), etc. (Add 'C' to sampler type if a catcher is used)

FF Rev 08/95

Exponent

FIELD BOREHOLE LOG

Client/Owner Buse Timber Well Number UST-2

Project No. 8601061.001

Start Date 6.18.98 Finish Date 6.18.98

Ground Surface Conditions gravel

Weather Conditions Overcast, 50° F

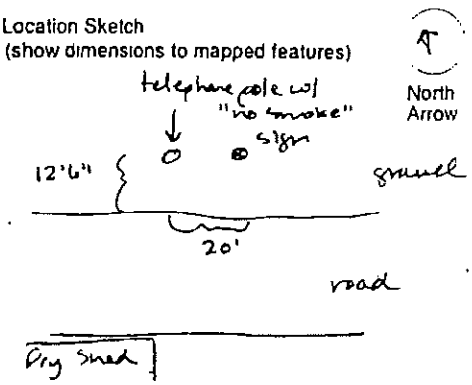
Field Geologist S. Bowden

Contractor/Operator Cascade

Drill Type/Method Geoprobe

Boring Diameter 1.5 in

Location Sketch
(show dimensions to mapped features)



Groundwater Elevation – at Date

Well Casing Elevation –

Ground Surface Elevation – Datum

Sample No.	Sampler Type	Depth Scale (ft)	Unified Symbol	Water Level Information	Soil Description	Comments
		0		Date –		
				Time –		
				Depth to Water n/a		
				Hole to Depth 4.0		
				Casing Depth –		
		1			- Soil not logged	
		2				
		3				
		4				
					Total depth = 4 ft. bgs.	

Sampler: D/M, SPT, Thinwall (TW), Shelby Tube (S), Bulk (B), etc. (Add 'C' to sampler type if a catcher is used)

FF Rev 08/96

Exponent

FIELD BOREHOLE LOG

Client/Owner Buse Timber Well Number WT-3

Project No. 86010161.001

Start Date 6.18.98 Finish Date 6.18.98

Ground Surface Conditions Gravel

Weather Conditions Overcast, 50° F

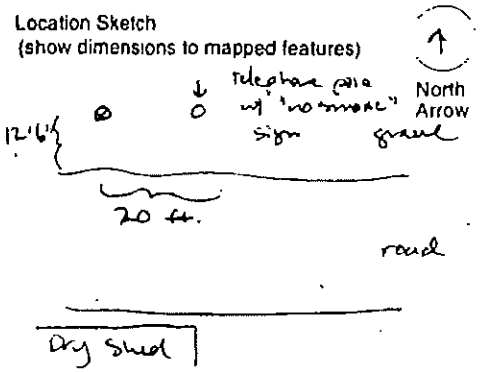
Field Geologist G. Bauman

Contractor/Operator Cascade

Drill Type/Method Geoprobe

Boring Diameter 1.5 in

Location Sketch
(show dimensions to mapped features)



Groundwater Elevation – at Date

Well Casing Elevation –

Ground Surface Elevation – Datum

Water Level Information	
Date	–
Time	–
Depth to Water	n/a
Hole to Depth	4.0 ft
Casing Depth	–

Sample No.	Sampler Type	Depth Scale (ft)	Unified Symbol	Soil Description	Comments
		0			
		1		- Soil not logged.	
		2			
↓ soil ↓		3			
		4		Total depth = 4 ft bgs.	

Sampler: D/M, SPT, Thinwall (TW), Shelby Tube (S), Bulk (B), etc. (Add 'C' to sampler type if a catcher is used)

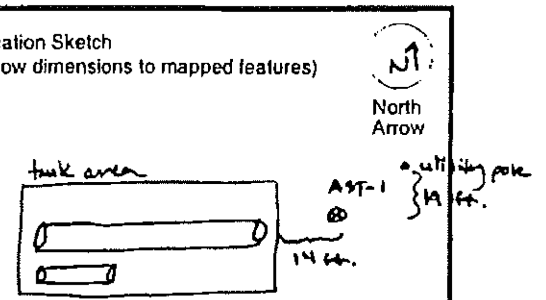
FF Rev 08/96

Exponent

FIELD BOREHOLE LOG

Client/Owner: Buse Timber
Well Number: AST-1
Project No.: B601061.001
Start Date: 6.19.98
Finish Date: 6.19.98
Ground Surface Conditions: Asphalt (1 ft. thick)
Weather Conditions: Sunny, 55°F
Field Geologist: S. Daum
Contractor/Operator: Cascade
Drill Type/Method: Geoprobe
Boring Diameter: 1.5 in.

Location Sketch
(show dimensions to mapped features)



Groundwater Elevation: –
at Date:
Well Casing Elevation: –
Ground Surface Elevation: –
Datum:

Water Level Information			
Date	6.19.98		
Time	1640		
Depth to Water	~3.9 ft bgs		
Hole to Depth	4.0 ft		
Casing Depth	–		

Sample No.	Sampler Type	Depth Scale (ft.)	Unified Symbol	Soil Description	Comments
← S0001 →		0–2	Asphalt / SM	0-2 ft. Gray sand / gravel (may be subbase); < 50% recovery; no odor.	Due to poor recovery @ 0-2 ft. interval, only 4 oz. jar filled for analysis.
← S0008 →		2–4	▽	2-4 ft. Brown to gray sandy silt and sand; no odor.	
				Total depth: 4.0 ft bgs.	

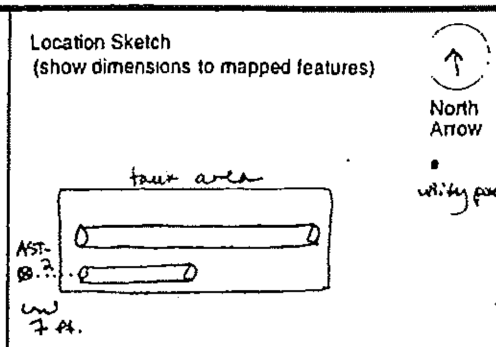
Sampler: D/M, SPT, Thinwall (TW), Shelby Tube (S), Bulk (B), etc. (Add 'C' to sampler type if a catcher is used)

Exponent

FIELD BOREHOLE LOG

Client/Owner: Bue Timber
Well Number: AST - 2
Project No.: 86 01061. 001
Start Date: 6.19.98 Finish Date: 6.19.98
Ground Surface Conditions: Asphalt (3" thick
Weather Conditions: Sunny, 55°F
Field Geologist: S. Doran
Contractor/Operator: Cascade
Drill Type/Method: Geoprobe
Boring Diameter: 1.5 in

Location Sketch
(show dimensions to mapped features)



Groundwater Elevation: — at Date:
Well Casing Elevation: —
Ground Surface Elevation: — Datum:

Water Level Information	
Date	6.19.98
Time	1725
Depth to Water	3.8 ft.
Hole to Depth	4.0 ft
Casing Depth	–

Sample No.	Sampler Type	Depth Scale (ft)	Unified Symbol	Soil Description	Comments
		0		Asphalt	
0-2		1	SM		
		2	CL	0-2: Sand (subbase material?) overlying gray, mottled clay w/ root fragments; no odor.	
2-4		3			
		4	▽		
				2-4 ft: Gray, stiff clay w/ decomposing organic matter (reducing odor). Also noted moderate hydrocarbon-like odor during sample compositing.	
				Total depth = 4.0 ft bgs.	

Sampler: D/M, SPT, Thinwall (TW), Shelby Tube (S), Bulk (B), etc. (Add 'C' to sampler type if a catcher is used)

FF Rev 08/96

Exponent
15375 SE 30th Place, Suite 250
Bellevue, WA 98007

December 6, 2010

BUSE Timber and Sales Phase II Update

Introduction

BUSE Timber and Sales Inc. (BUSE) retained Exponent in November 2010 to prepare an update to the 1998 environmental site assessment report (Exponent 1998) and the 2004 Update. This letter report summarizes Exponent's work and findings, including limitations.

Scope

The scope of Exponent's activities was limited to review and assessment of those items listed in the recommendations section of the subject report (Exponent 1998) and the 2004 Update (Exponent 2004) as requiring further action. Additionally, Exponent was asked to view and assess environmentally-related site improvements and changes made since the 2004 Update to the 1998 report. In 2004, the site improvements identified by BUSE and viewed and assessed by Exponent were limited to the new lubricants storage facility, new oil/water separators, and the new fueling facility that was nearly complete at the time of the 2003 site visit presented in the 2004 report. In 2010, Exponent observed the operation of these facilities and focused on current conditions and operation. Although there were no significant environmental upgrades made to the Site since the last inspection in 2004, housekeeping was even better and filter fabrics have been added to the storm water catch basins. Exponent also noted that the kiln has been shut down and computer upgrades have been completed in the saw mill.

Limitations

This report and the activities conducted by Exponent were limited to only those activities necessary to assess the status of recommendations contained in the Exponent (1998) report and the 2004 Update. These activities did not include assessment or evaluation of wood waste, lead-based paint, asbestos, polychlorinated biphenyls (PCBs), or any other element not included in the *Recommendations* section of the original Exponent report (Exponent 1998). Also, Exponent did not review the storm water pollution prevention plan (Landau Associates 2003b), or the spill

prevention, contingency, and countermeasure plan (SPCC) (Landau Associates 2003a), because Exponent was not retained to review or assess these documents.

Activities

Gary Brugger, a senior managing engineer at Exponent, conducted the site visit and met with Mr. Steve Fogg, a representative of BUSE, on November 12, 2010. Mr. Brugger's observations and Exponent's assessment of BUSE's progress regarding implementation of recommendations from past Exponent reports (1998, 2004), and recommendations for further action, are presented in the following sections.

BUSE Timber Site Visit and Observations

Gary Brugger met with Mr. Steve Fogg, C.P.M. of BUSE Timber and Sales, on November 12, 2010. Mr. Fogg and Mr. Brugger reviewed the recommendations from past Exponent reports (1998, 2004) and toured the BUSE Timber facility located at 3812 28th Place Northeast, Everett, Washington. The bulk of the time was spent observing the storm water collection and mill operation with regard to the handling of fuels and lubricants.

At the time of the visit, the site was still wet from recent rains. Mr. Brugger observed two of the oil/water separators and surface runoff from the operation areas. Small puddles containing from several liters to as much as 100 liters of rainwater were observed in low areas around the site. None of these puddles contained any sign of oil (e.g., petroleum sheens). The pavement was sufficiently wet that a single drop of oil would produce a visible sheen about 6-in. in diameter on the wet pavement. Sheens were observed almost entirely in the portion of the site where outside trucks (non-BUSE) enter and leave the site. These minor sheens observed primarily at the site entrance/exit are generally considered insignificant, and when considered with the absence of any sheen on the puddles, indicates good housekeeping and management of equipment, fuels, and lubricants. Few changes have occurred since the 2004 Update. The biggest operational change is the shutdown of the kiln. Other than terminating the gas line to the boiler, the kiln remains intact and can be returned to operation. The Fueling Pad with connection to an oil/water separator was completed shortly after the 2004 Update was

completed. The pad and connection were observed and appear to be functioning as intended to control both small and large spills. The heavy parts warehouse/large equipment storage building was inspected. There was a minor amount of oil on the floor under a recently placed piece of equipment. The mill uses sawdust to absorb such spills and recycles the material as hog fuel. Mr. Fogg said that he would have someone get some additional sawdust on the oil ASAP.

Other changes since the 2004 Update included filter/absorbent fabric in the catch basins to adsorb small fuel spills and facilitate cleanup. Drip pans have been placed under lubricant dispensing drums, and drums outside the storage building were on pallets with spill containment compartments.

The mill uses a portable diesel tank to fuel the diesel heaters below the saw mill. This tank was observed on the pavement on the south side of the building at the time of the site visit. No containment or spill protection was observed.

According to Steve Fogg, minimal waste is generated at the site as the total volume of hazardous waste generation continues to be less than the current threshold requiring a generator permit. The mill has shifted to zinc-free lubricants to facilitate recycling and all paint and wood preservatives used at the mill are now water-based/oil-free products. Other waste streams, including hydraulic oils and cutting fluids, are also recycled.

Most of the issues from the 1998 Exponent report and the 2004 Update have been or are being addressed.

It has been noted that Exponent's current report will not address wood wastes, PCBs, asbestos, or lead-based paints. Also, Exponent did not address any sediment or water quality issue that was not addressed in the 1998 report. Additionally, the sediment and water quality issues in the 1998 report were addressed by 2004 and were included in the 2004 Update. During this assessment we reviewed only the latest test information from the last four quarters.

Implementation of Recommendations

The Exponent (1998) report included a number of findings and recommendations. These original recommendations are listed in order below. Each recommendation is followed by Exponent's 2004 Update (in italics) and the current 2010 assessment (in bold) of the status of implementation of the recommendation. New recommendations are presented at the end of this section.

Aboveground Storage Tank Area

Exponent's findings and recommendation from the Exponent (1998) report:

> These aboveground tanks are not in compliance with current codes for protection of surface waters. We recommend that these tanks be equipped with secondary containment. As indicated in the Phase II soil sampling, there does not appear to be a soil contamination problem. However, small areas of petroleum hydrocarbon contaminated soils may be encountered when constructing the containment. These areas should be excavated and disposed of as petroleum hydrocarbon contaminated soils (potentially at a municipal landfill). Also, a spill prevention control and counter measure plan will be required for these ASTs and other aboveground fuel storage facilities at the facility.

Status—2003. *The single-walled ASTs have been replaced with new double-walled ASTs placed on a new concrete pad. The fueling area sub-grade has been prepared for the placement of a fueling pad with containment. According to Mr. Fogg, the fueling pad will be installed in early 2004 and the fueling pad drain will be connected to an oil-water separator that has already been installed. The ASTs existing at the time of the 1998 Exponent investigation were removed. One tank was removed and disposed of by Emerald Petroleum and the other tank was moved to the boiler room to be used as a backup. The backup tank was not observed during the site visit. According to Mr. Fogg, there was no physical evidence of spills at the ASTs when they were removed. However, the area will be excavated and further assessed after the new AST fueling facility is operational (Fogg 2003a, pers. comm.). Additionally, BUSE has contracted Landau Associates to prepare an SPCC plan to cover these tanks. A draft copy of the SPCC plan (Landau Associates 2003a) was provided to Exponent for verification. Exponent*

did not review and/or assess the draft SPCC plan because such review was not included in the scope of work requested by BUSE.

Status—2010. The fueling facility has been completed as planned. The fueling pads were clean and free of stains during the November 12, 2010, site visit. Containment controls appeared to be maintained and ready for use and set to contain mode should spill containment be needed.

Former UST Area

Exponent's findings and recommendation from the Exponent (1998) report:

> No evidence of petroleum hydrocarbon soil contamination was found at the locations sampled. No further action is recommended for this area.

Status—2003, 2010. *Because no further action was recommended, this item was not re-assessed during the December 2003 or the* **November 2010** *review.*

Former Pentachlorophenol Dip Tank Area

Exponent's findings and recommendation from the Exponent (1998) report:

> No evidence of soil, groundwater, or storm drain sump sediments was found at the locations sampled. No further action is recommended for this area.

Status—2003, 2010. *Because no further action was recommended, this item was not re-assessed during the December 2003 or the* **November 2010** *review*

Fire Pond Area

Exponent's findings and recommendation from the Exponent (1998) report:

> Petroleum hydrocarbon soil concentrations did not exceed criteria based on Interim TPH Policy. Groundwater concentrations were equal to the MTCA target for drinking water; however, the sample was collected in fill placed when the log pond was closed and does not indicate transport of petroleum hydrocarbon through the silty clay layer that is present as an aquitard throughout the site.

> Moreover, standards based on use of groundwater as a drinking water supply are highly conservative for use at this site because of the absence of usable groundwater. No further action was recommended for this area.

Status—2003, 2010. *Because no further action was recommended in 1998, this item was not re-assessed during the December 2003 or the* **November 2010** *review*

Stockpiled Soils

Exponent's findings and recommendation from the Exponent (1998) report:

> Because the only contaminant is petroleum hydrocarbon as lube oil, the material may pass criteria based on Ecology's Interim TPH Policy. However, we recommend that this relatively small volume (estimated 30 CY) of oily soil be disposed of offsite. Bioremediation is not effective for heavy oils and the soil may even be acceptable at a municipal solid waste landfill (it would need to be tested for dangerous waste characteristics to determine actual disposal options).

Status—2003. *The soil was reportedly disposed at an offsite disposal facility. Mr. Fogg provided a copy of the invoice for soil disposal (Fogg 2003b, pers. comm.; see attached copy included with the 2004 letter report).*

Status—2010. The soils were removed and disposal complete by 2003. Because work was completed by December 2003, this item was not re-assessed during the November 2010 review.

Maintenance Shop

Exponent's findings and recommendation from the Exponent (1998) report:

> Low concentrations of VOCs (below MTCA Method A cleanup levels) were detected in groundwater in this area. No petroleum hydrocarbon compounds were detected in groundwater in this area. No further action is recommended except for the storm drains (see below).

Status—2003, 2010. *Because no further action was recommended, this item was not re-assessed during the December 2003 or the* **November 2010** *review*

Ditch Sediments

Exponent's findings and recommendation from the Exponent (1998) report:

> We recommend that oily water discharges be discontinued (see below) and that petroleum hydrocarbon contaminated sediments in the southern portion of the ditch be excavated for off site treatment or disposal. Storm water controls will be sufficient to address petroleum hydrocarbons in the east, south and west ditches.

Status—2003. *Oil-water separators have been placed on the discharges from the BUSE site to the north ditch that was the subject of the comments in the Exponent (1998) report. According to Mr. Fogg, sediments were removed from the southern portion of this ditch. At the time of the site visit, the oil-water separators showed no evidence of oil and the discharge to the ditch did not have a sheen, odor, or other physical evidence of oil contamination. The west ditch was observed. The west ditch had been recently dredged. The dredge material from the west ditch appeared to be primarily a medium to coarse sand with no physical evidence of oil contamination.*

Status—2010. The areas that drain to the oil/water separators that discharge to the north ditch had no evidence of any oil or sheen and the discharges were not inspected further. The oil/water separators are inspected regularly and cleaned every 3 months unless earlier cleaning is needed. The effluent sample test results for the second calendar quarter of 2010 are within the benchmarks for the statewide facility permit (permit number WAR000097). However, the chemical oxygen demand (COD) concentration detected during the October sampling event was above the permit benchmark of 120 mg/L. The storm water management system relies on keeping wastes with high COD values out of the discharge as the oil/water separators are not designed to remove substantial quantities of material with high COD. The ditch was cleaned between the second quarter sampling and the third quarter sampling. Because the cleaning leaves some soils exposed to erosion during the initial run-off period, it can cause short-term increases in turbidity and COD; thus this cleaning may have been the primary cause of the increased COD. If the October 2010 COD result is not an anomaly caused by the earlier cleaning, additional storm water treatment may be required. See the New Items section below.

Storm Drains

Exponent's findings and recommendation from the Exponent (1998) report:

> The maintenance shop storm drain was found to contain elevated concentrations of lube oil. Low concentrations of chlorinated phenols were found in two other catch basins. Exponent recommends that sediments in the maintenance shop storm drain system (including the maintenance shop storm drain, down gradient catch basins, and sediment accumulated in the culvert) be removed for offsite treatment and disposal. No further action is required for the storm drains near the former penta dip tank.

Status—2003, 2010. Because no further action was recommended for these storm drains, this item was not re-assessed during the December 2003 or 2010 reviews. However, the recommended soil disposal was completed (Fogg 2003b, pers. comm.; **see Exponent 2004 Letter Report for a copy of the disposal invoice).**

Storm Water

Exponent's findings and recommendation from the Exponent (1998) report:

> We recommend that storm water controls, including oil-water separators be constructed to prevent oily water from entering adjacent surface waters. These methods could include installation of oil/water separators at storm drains, installation of curbing or other drainage control measures to channel runoff from high trafficked areas to oil/water separators, and regular maintenance of equipment used at the site. This should reduce the concentration of petroleum hydrocarbons in the ditches, but will not eliminate offsite sources.

Status—2003. *Four oil-water separators have been installed on the storm drain system that discharges to the north ditch. This discharge is permitted under a statewide, storm water NPDES permit (number WAR000097) issued by the Washington State Department of Ecology (Ecology). According to Mr. Fogg, all the oil-water separators are inspected regularly and pumped yearly except for the separators located downgradient from the maintenance building that are pumped quarterly. There was no physical evidence of oil in any of these separators at the time of Mr. Brugger's visit. Although Exponent obtained copies of the NPDES permit and some monitoring data, Exponent did not assess any compliance issues that may be associated with this permit. Such assessment was not included in the scope of work requested by BUSE. Because*

there was no physical evidence of petroleum products in the oil-water separators or at the point of discharge, it is probable that BUSE is in compliance with the NPDES permit condition that limits the discharge of petroleum. BUSE has contracted Landau Associates to prepare a storm water management plan. A copy of the draft storm water management plan was provided to Exponent for verification. Exponent did not review or assess the storm water management plan because such review and assessment were not included in Exponent's scope of services.

Status—2010. As noted above, the COD concentration in the sample collected in October exceeded the permit benchmark of 120 mg/L. The 2010 inspection was limited to catch basins and two oil/water separators and the last two sample results. None of these showed any evidence of any measurable or detectable release of petroleum. Consequently, the COD exceedance may be related the ditch cleaning rather than fuels and lubricating oils or other onsite sources.

Lube Oil Storage

Exponent's findings and recommendation from the Exponent (1998) report:

> We recommend that secondary containment be provided for all lubricating or hydraulic oil storage facilities at the mill.

Status—2003. *BUSE has constructed a new building to house and dispense lubrication and hydraulic oils. This building has a concrete floor with a sump.*

Status—2010. This storage building was free of drips and there was no evidence of spills. Small drip pans have been placed under each dispenser. The oil-based paints previously stored in the building have been replaced by water-based paint. The sump has not been lined as Exponent recommended in the 2004 report. Exponent still recommends lining the sump to facilitate cleanup of any spills that overwhelm the drip pans.

Former Burn Area

Exponent's findings and recommendation from the Exponent (1998) report:

> We found no evidence of elevated concentrations of dioxins/furans in subsurface soils in this area. No further action is recommended.

Status—2003, 2010. *Because no further action was recommended, this item was not re-assessed during the December 2003 or the* **November 2010** *review*. However, it would be prudent to reevaluate this area prior to any new development, as the regulations have changed since 1998.

2004 Letter Report Recommendations

Aboveground Storage Tank Area

The recommendations from the Exponent (1998) report regarding the ASTs and dispensing of fuels have not been completely implemented. Installing the fueling pad, connecting the fueling pad drain to the new oil-water separator, and excavation of the former AST site remain to be completed. According to Mr. Fogg, these improvements are planned for early 2004. Once these improvements are complete, BUSE will have implemented the recommendations regarding the ASTs contained in the Exponent (1998) report.

Status—2010. The fuel pad and environmental controls were installed in 2004. The area was clean and well maintained at the time of the Exponent site visit on November 12. Control valves were not tested but were observed to be well lubricated and relatively free of rust. No sign of spills were observed around the dispensers or the tank.

Lube Oil Storage

Although most of the lubrication and hydraulic oils are now stored and dispensed in a building with a concrete floor, the sump of the building is not lined and there are no drip pans under the dispensers. While the current facility is generally protective, it is possible that the concrete sump will develop cracks with time. Additionally, the lining of the sump and the use of drip pans will facilitate the cleanup of any small spills. Accordingly, Exponent recommends that the sump be lined and drip pans used at all dispensing locations.

Status—2010. Drip pans are in use but the sump remained unlined at the time of the Exponent site visit on November 12.

Site Housekeeping

The general housekeeping of the site was very good during Exponent's site visit (the exception being several pieces of equipment being randomly stored at the site). Because the oil-water separators installed by BUSE are not very efficient, BUSE must rely on good housekeeping, particularly of petroleum products, and frequent inspection and periodic maintenance (pumping) of the separators to meet the conditions of the NPDES permit Exponent recommends that BUSE develop a regular inspection program to address site housekeeping and separator operation, including documentation that includes dates of inspection and service of the separators.

Status—2010. Site housekeeping was generally excellent during the November 2010 site visit. The equipment storage building located at the northern portion of the property sees intermittent use and was generally organized and free of spills. However, one piece of equipment recently placed in the building had a minor oil leak that was contained by sawdust but not cleaned up.

Finalize Draft SPCC and Storm Water Management Plans

BUSE has contracted Landau Associates to prepare both an SPCC plan and a storm water management plan. Exponent recommends that BUSE carefully review these plans, verify that they meet EPA and Ecology requirements, and then finalize these plans. Both plans should be reviewed at least yearly to verify that the plans are consistent with site operations and still meet agency (EPA and Ecology) requirements.

Status—2010. Exponent did not review these plans or look for updates and approvals because it was not in the scope of the 2003 work covered in the 2004 Update. Exponent did review the results of the last four storm water sampling events. Exponent recommends that BUSE review these plans and update them if the plans have not been updated in the last year. This is particularly true for the storm water management plan, as the WDOE rules have been revised during the last 2 years. WDOE will likely complete rule revisions

in early 2011. Consequently, updating the Storm Water Management Plan in 2011 is recommended.

New Items 2010

At the time of Exponent's Site Visit on November 12, a portable diesel fuel tank was present on the south side of the sawmill building. This tank is used to fuel the heaters in the basement of the building. Exponent recommends that BUSE provide secondary containment when the tank is temporarily placed outside the sawmill building. Because of the temporary nature of the tank placement, a simple containment system was discussed with Mr. Fogg and Allen McKay, Maintenance Supervisor, which included the use of a small piece of 40-mil or heavier HDPE liner to place under this tank when placed at this location. Timbers or other materials could be used to construct a temporary containment dike that would contain the contents of the tank in case of a major rupture.

Housekeeping was excellent in the yard, building, and work areas. The equipment maintenance is good, as illustrated by the absence of oil leaks from the heavy equipment used in the yard. The shops have been in use for many years and the floors show the expected wear and staining. However, the staining is old and relatively small, and consistent with prompt cleanup of spills and drips. The two hydraulic reservoirs that supply the large log and small log band saws are fitted with spill containment trays placed to collect any spills or pump leaks. However, accumulated liquid was observed in both trays. Subsequently, Mr. Fogg directed the maintenance manager to have the accumulated liquids recovered ASAP. Finally, there were some empty drums found outside the Lube Oil Storage Building and several more at other locations in the mill that were being stored for future use. Exponent recommends that "Empty" and "Clean" labels, stencils, or other markers be placed on drums to clearly indicate the current status, as soon as the drums are emptied and again if they have been cleaned so that these drums will not be mistaken for their original contents..

References

Exponent. 1998. Draft Phase II environmental site assessment, BUSE Timber & Sales, Inc., Everett, Washington. Prepared for Koncor Forest Products Company, Tacoma, WA. Exponent, Lake Oswego, OR.

Exponent. 2004. BUSE Timber and Sales Phase II Update (Update). Prepared for BUSE Timber Company. Exponent, Bellevue, WA.

Fogg, S. 2003a. Personal communication (e-mail to G. Brugger, Exponent, Bellevue, WA, dated December 26, 2003, regarding AST removal). BUSE Timber and Sales Inc., Everett, WA.

Fogg, S. 2003b. Personal communication (letter to G. Brugger, Exponent, Bellevue, WA, dated December 17, 2003, regarding soil pile disposal). BUSE Timber and Sales Inc., Everett, WA.

Landau Associates. 2003a. Client review draft—Spill prevention, control, and countermeasures plan (SPCC), BUSE Timber Sales, Inc., Everett, Washington. Prepared for BUSE Timber Sales, Inc., Everett, WA. Landau Associates, Edmonds, WA.

Landau Associates. 2003b. Stormwater pollution prevention plan, BUSE Timber Sales, Inc., 3812 28th Place NE, Everett, Washington. Prepared for BUSE Timber Sales, Inc., Everett, WA. Landau Associates, Edmonds, WA.

Exponent®
15375 SE 30th Place, Suite 250
Bellevue, WA 98007

January 5, 2004

Buse Timber and Sales Phase II Update

Introduction

Buse Timber and Sales Inc. (Buse) retained Exponent to prepare an update to the 1998 environmental site assessment report (Exponent 1998). This letter report summarizes Exponent's work and findings, including limitations.

Scope

The scope of Exponent's activities was limited to review and assessment of those items listed in the recommendations section of the subject report (Exponent 1998) as requiring further action. Additionally, Exponent would view and assess environmentally related site improvements made since the 1998 report. The new site improvements identified by Buse and viewed and assessed by Exponent were limited to the new lubricants storage facility, new oil/water separators, and the new fueling facility.

Limitations

This report and the activities conducted by Exponent were limited to only those activities necessary to assess the status of recommendations contained in the Exponent (1998) report. This assessment and report did not assess or evaluate lead-based paint, asbestos, polychlorinated biphenyls (PCBs), or any other item not included in the *Recommendations* section of the original Exponent report (Exponent 1998). Although Buse provided copies of its draft storm water management plan (Landau Associates 2003a), and its draft spill prevention, contingency, and countermeasure plan (SPCC) (Landau Associates 2003b), Exponent did not review or assess these documents, but simply verified that Buse was in the process of preparing such documents. Exponent was not retained to review or assess these documents.

Activities

Gary Brugger, a managing engineer at Exponent, conducted the site visit and met with Mr. Steve Fogg, a representative of Buse, on December 15, 2003. Mr. Brugger's observations and Exponent's assessment of Buse's progress regarding implementation of recommendations from the Exponent (1998) report, and recommendations for further action, are presented in the following sections.

Buse Timber Site Visit and Observations

Gary Brugger met with Mr. Steve Fogg, C.P.M. of Buse Timber and Sales, on December 15, 2003. Mr. Fogg and Mr. Brugger reviewed the recommendations from the Exponent (1998) report and toured the Buse Timber facility. The bulk of the time was spent observing the storm water collection and oil/water separators that were installed as the result of recommendations included in the 1998 report and the handling and storage areas for the lubricants also addressed in the 1998 report.

At the time of the visit, the site was still wet from the weekend rains. Mr. Brugger observed all the oil water separators and surface runoff from the operation areas. Small puddles containing several liters of water were observed around the site. Two of these puddles (one in the employee parking area) had oil sheens that Mr. Brugger estimated in the 5–10 mg/L range based on his prior experience assessing fuel spills. This minor sheening is generally considered insignificant, and provides an indication that good housekeeping and management of equipment, fuels, and lubricants, including storage and handling, are being practiced at the facility.

There are a number of changes that have occurred since the 1998 audit. Mr. Brugger was able to observe and note some of the changes during the morning visit; other changes and issues arising since the time of the 1998 report required a review of additional documents from Buse. The biggest changes from the time of the Exponent (1998) report included the construction of a lubricants storage building and a new aboveground storage tank (AST) fueling area. Fuels handling improvements included new double-wall ASTs sitting on a concrete slab. The fueling

pad has been laid out and the oil-water separator has been put in place but not installed. Once the fueling pad has been installed, walls placed around the AST pad, and piping completed, all fueling handling will occur on contained surfaces connect to an oil-water separator.

According to Steve Fogg, the site is no longer on the hazardous waste generators list, as the annual disposal is reportedly less than the current threshold. The storm water discharges from the site are covered under the general storm water permit issued by the State of Washington. Current sampling results were discussed and copies will be obtained.

Most of the issues from the 1998 Exponent report have been or are being addressed.

New recommendations include improved containment for dispensing lubricants and other liquids from barrels and lining the concrete sump in the new lubricants building.

It has been noted that Exponent's current report will not address wood wastes, PCBs, asbestos, or lead-based paints. Also, Exponent will not address any sediment or water quality issue that was not addressed in the 1998 report. Additionally, the sediment and water quality issues in the 1998 report will only be addressed to document the actions taken in response to those issues raised in the 1998 report.

Implementation of Recommendations

The Exponent (1998) report contained a number of findings and recommendations. These original recommendations are listed in order below. Each recommendation is followed by Exponent's current assessment of the status of implementation of the recommendation.

Aboveground Storage Tank Area

Exponent's findings and recommendation from the Exponent (1998) report:

> These aboveground tanks are not in compliance with current codes for protection of surface waters. We recommend that these tanks be equipped with secondary containment. As indicated in the Phase II soil sampling, there does not appear to be a soil contamination problem. However, small areas of petroleum hydrocarbon contaminated soils may be encountered when constructing the containment. These areas should be excavated and disposed of as petroleum hydrocarbon contaminated soils (potentially at a municipal landfill). Also, a spill prevention control and counter measure plan will be required for these ASTs and other aboveground fuel storage facilities at the facility.

Status—The single-walled ASTs have been replaced with new double-walled ASTs placed on a new concrete pad. The fueling area sub-grade has been prepared for the placement of a fueling pad with containment. According to Mr. Fogg, the fueling pad will be installed in early 2004 and the fueling pad drain will be connected to an oil-water separator that has already been installed. The ASTs existing at the time of the 1998 Exponent investigation were removed. One tank was removed and disposed of by Emerald Petroleum and the other tank was moved to the boiler room to be used as a backup. The backup tank was not observed during the site visit. According to Mr. Fogg, there was no physical evidence of spills at the ASTs when they were removed. However, the area will be excavated and further assessed after the new AST fueling facility is operational (Fogg 2003a, pers. comm.). Additionally, Buse has contracted Landau Associates to prepare an SPCC plan to cover these tanks. A draft copy of the SPCC plan (Landau Associates 2003a) was provided to Exponent for verification. Exponent did not review and/or assess the draft SPCC plan because such review was not included in the scope of work requested by Buse.

Former UST Area

Exponent's findings and recommendation from the Exponent (1998) report:

> No evidence of petroleum hydrocarbon soil contamination was found at the locations sampled. No further action is recommended for this area.

Status—Because no further action was required, this item was not re-assessed during the December 2003 review.

Former Pentachlorophenol Dip Tank Area

Exponent's findings and recommendation from the Exponent (1998) report:

> No evidence of soil, groundwater, or storm drain sump sediments was found at the locations sampled. No further action is recommended for this area.

Status—Because no further action was required, this item was not re-assessed during the December 2003 review.

Fire Pond Area

Exponent's findings and recommendation from the Exponent (1998) report:

> Petroleum hydrocarbon soil concentrations did not exceed criteria based on Interim TPH Policy. Groundwater concentrations were equal to the MTCA target for drinking water, however the sample was collected in fill placed when the log pond was closed and does not indicate transport of petroleum hydrocarbon through the silty clay layer that is present as an aquitard throughout the site. Moreover, standards based on use of groundwater as a drinking water supply are highly conservative for use at this site because of the absence of usable groundwater. No further action is recommended for this area.

Status—Because no further action was required, this item was not re-assessed during the December 2003 review.

Stockpiled Soils

Exponent's findings and recommendation from the Exponent (1998) report:

> Because the only contaminant is petroleum hydrocarbon as lube oil, the material may pass criteria based on Ecology's Interim TPH Policy. However, we recommend that this relatively small volume (estimated 30 CY) of oily soil be disposed of offsite. Bioremediation is not effective for heavy oils and the soil may even be acceptable at a municipal solid waste landfill (it would need to be tested for dangerous waste characteristics to determine actual disposal options).

Status—The soil was reportedly disposed at an offsite disposal facility. Mr. Fogg provided a copy of the invoice for soil disposal (Fogg 2003b, pers. comm.; see attached copy).

Maintenance Shop

Exponent's findings and recommendation from the Exponent (1998) report:

> Low concentrations of VOCs (below MTCA Method A cleanup levels) were detected in groundwater in this area. No petroleum hydrocarbon compounds were detected in groundwater in this area. No further action is recommended except for the storm drains (see below).

Status—Because no further action was required, this item was not re-assessed during the December 2003 review.

Ditch Sediments

Exponent's findings and recommendation from the Exponent (1998) report:

> We recommend that oily water discharges be discontinued (see below) and that petroleum hydrocarbon contaminated sediments in the southern portion of the ditch be excavated for off site treatment or disposal. Storm water controls will be sufficient to address petroleum hydrocarbons in the east, south and west ditches.

Status—Oil-water separators have been placed on the discharges from the Buse site to the north ditch that was the subject of the comments in the Exponent (1998) report. According to Mr. Fogg, sediments were removed from the southern portion of this ditch. At the time of the site visit, the oil-water separators showed no evidence of oil and the discharge to the ditch did not have a sheen, odor, or other physical evidence of oil contamination. The west ditch was observed. The west ditch had been recently dredged. The dredge material from the west ditch appeared to be primarily a medium to course sand with no physical evidence of oil contamination.

Storm Drains

Exponent's findings and recommendation from the Exponent (1998) report:

> The maintenance shop storm drain was found to contain elevated concentrations of lube oil. Low concentrations of chlorinated phenols were found in two other catch basins. Exponent recommends that sediments in the maintenance shop storm drain system (including the maintenance shop storm drain, down gradient catch basins, and sediment accumulated in the culvert) be removed for offsite treatment and disposal. No further action is required for the storm drains near the former penta dip tank.

Status—Because no further action was required for these storm drains, this item was not re-assessed during the December 2003 review. However, the recommended soil disposal was completed (Fogg 2003b, pers. comm.; see attached copy of invoice).

Storm Water

Exponent's findings and recommendation from the Exponent (1998) report:

> We recommend that storm water controls, including oil-water separators be constructed to prevent oily water from entering adjacent surface waters. These methods could include installation of oil/water separators at storm drains, installation of curbing or other drainage control measures to channel runoff from high trafficked areas to oil/water separators, and regular maintenance of equipment used at the site. This should reduce the concentration of petroleum hydrocarbons in the ditches, but will not eliminate offsite sources.

Status—Four oil-water separators have been installed on the storm drain system that discharges to the north ditch. This discharge is permitted under a statewide, storm water NPDES permit issued by the Washington State Department of Ecology (Ecology). According to Mr. Fogg, all the oil-water separators are inspected regularly and pumped yearly except for the separators located downgradient from the maintenance building that are pumped quarterly. There was no physical evidence of oil in any of these separators at the time of Mr. Brugger's visit. Although Exponent obtained copies of the NPDRS permit and some monitoring data, Exponent did not assess any compliance issues that may be associated with this permit. Such assessment was not included in the scope of work requested by Buse. Because there was no physical evidence of

petroleum products in the oil-water separators or at the point of discharge, it is probable that Buse is in compliance with the NPDES permit condition that limits the discharge of petroleum. Buse has contracted Landau Associates to prepare a storm water management plan. A copy of the draft storm water management plan was provided to Exponent for verification. Exponent did not review or assess the storm water management plan because such review and assessment were not included in Exponent's scope of services.

Lube Oil Storage

Exponent's findings and recommendation from the Exponent (1998) report:

> We recommend that secondary containment be provided for all lubricating or hydraulic oil storage facilities at the mill.

Status—Buse has constructed a new building to house and dispense lubrication and hydraulic oils. This building has a concrete floor with a sump.

Former Burn Area

Exponent's findings and recommendation from the Exponent (1998) report:

> We found no evidence of elevated concentrations of dioxins/furans in subsurface soils in this area. No further action is recommended.

Status—Because no further action was required, this item was not re-assessed during the December 2003 review.

Recommendations

Aboveground Storage Tank Area

The recommendations from the Exponent (1998) report regarding the ASTs and dispensing of fuels have not been completely implemented. Installing the fueling pad, connecting the fueling pad drain to the new oil-water separator, and excavation of the former AST site remain to be completed. According to Mr. Fogg, these improvements are planned for early 2004. Once these improvements are complete, Buse will have implemented the recommendations regarding the ASTs contained in the Exponent (1998) report.

Lube Oil Storage

Although most of the lubrication and hydraulic oils are now stored and dispensed in a building with a concrete floor, the sump of the building is not lined and there are no drip pans under the dispensers. While the current facility is generally protective, it is possible that the concrete sump will develop cracks with time. Additionally, the lining of the sump and the use of drip pans will facilitate the cleanup of any small spills. Accordingly, Exponent recommends that the sump be lined and drip pans used at all dispensing locations.

Site Housekeeping

The general housekeeping of the site was very good during Exponent's site visit (the exception being several pieces of equipment being randomly stored at the site). Because the oil-water separators installed by Buse are not very efficient, Buse must rely on good housekeeping, particularly of petroleum products, and frequent inspection and periodic maintenance (pumping) of the separators to meet the conditions of the NPDES permit. Exponent recommends that Buse develop a regular inspection program to address site housekeeping and separator operation, including documentation that includes dates of inspection and service of the separators.

Finalize Draft SPCC and Storm Water Management Plans

Buse has contracted Landau Associates to prepare both an SPCC plan and a storm water management plan. Exponent recommends that Buse carefully review these plans, verify that they meet EPA and Ecology requirements, and then finalize these plans. Both plans should be reviewed at least yearly to verify that the plans are consistent with site operations and still meet agency (EPA and Ecology) requirements.

Bibliography

Exponent. 1998. Draft Phase II environmental site assessment, Buse Timber & Sales, Inc., Everett, Washington. Prepared for Koncor Forest Products Company, Tacoma, WA. Exponent, Lake Oswego, OR.

Fogg, S. 2003a. Personal communication (e-mail to G. Brugger, Exponent, Bellevue, WA, dated December 26, 2003, regarding AST removal). Buse Timber and Sales Inc., Everett, WA.

Fogg, S. 2003b. Personal communication (letter to G. Brugger, Exponent, Bellevue, WA, dated December 17, 2003, regarding soil pile disposal). Buse Timber and Sales Inc., Everett, WA.

Landau Associates. 2003a. Client review draft—Spill prevention, control, and countermeasures plan (SPCC), Buse Timber Sales, Inc., Everett, Washington. Prepared for Buse Timber Sales, Inc., Everett, WA. Landau Associates, Edmonds, WA.

Landau Associates. 2003b. Stormwater pollution prevention plan, Buse Timber Sales, Inc., 3812 28th Place NE, Everett, Washington. Prepared for Buse Timber Sales, Inc., Everett, WA. Landau Associates, Edmonds, WA.

DOUGLAS FIR HEMLOCK SPRUCE

EVERETT: (425) 258-2577
FAX: (425) 259-6956

3812 - 28TH PLACE N.E.
EVERETT, WASHINGTON 98205-3209

December 17, 2003

Gary Brugger, PE
Exponent
15375 SE 30th PL
Suite 250
Bellevue, WA 98007

Gary,

Regarding the disposal of the "soil pile" referred to in your 1998 Report, the verbal information that I gave you on the 15th of December was in error. The material was disposed of offsite as indicated by the attached copies of invoices and a copy of the file folder front with notes.

This should clear up the concern
Thank you,

Steve Fogg C.P.M.
Buse Timber

North Ditch Clean Up 9/98

Ditch was excavated by Buse
Material Hauled To Waste Management Inc.
by Clark Service

Area was Reseeded
Work Completed 10/1/98

CLEAN SERVICE COMPANY, INC.
P.O. BOX 49
MAPLE VALLEY, WA 98038-0049
PHONE 425-432-8005
FAX 425-432-2405

File

INVOICE NO.
103384

INVOICE

SOLD TO: BUSE TIMBER
3812 28TH PL. NE

EVERETT, WA 98205-3209
(206) 252-5119

SHIP TO: BUSE TIMBER
DISPOSAL & TRANSPORTATION OF
SLEW SLUDGE
EVERETT, WA 98205-3209
(206) 252-5119

ACCOUNT NO	SALESREP NO	PURCHASE ORDER NO	SHIP VIA	COL	PPD	DATE SHIPPED	TERMS	INVOICE DATE	PA
BUSE		S FOGG				09/15/98	NET 30	09/17/98	

QTY ORDERED	QTY SHIPPED	QTY BACK ORDERED	ITEM NO	DESCRIPTION	UNIT PRICE	DISC %	EXTENDED PRICE
				DISPOSAL AND TRANSPORTATION OF SLEW SLUDGE TRUCK AND TRAILER SERVICES 9-15-98 11.5 HRS @ $78 PER HR = $897.00	897.00		897.00
				9-16-98 11.25 HRS @ $78 PER HR = $877.50	877.50		877.50
				DISPOSAL OF WASTE 114.75 TONS @ $44 PER TON = $ 5,049.00	5049.00		5049.00

SALE AMOUNT	6823.50
MISC CHARGES	
8.300% SALES TAX	566.35
FREIGHT	
TOTAL	7389.85

Thank You

1

INVOICE NO. 1

103441

INVOICE

CLEAN SERVICE COMPANY, INC.
P.O. BOX 49
MAPLE VALLEY, WA 98038-0049
PHONE 425-432-8005
FAX 425-432-2405

File

SOLD TO: BUSE TIMBER
3812 28TH PL. NE

EVERETT, WA 98205-3209
(206) 252-5119

SHIP TO: BUSE TIMBER
3812 28TH PL. NE

EVERETT, WA 98205-3209
(206) 252-5119

ACCOUNT NO.	SALESPER NO.	PURCHASE ORDER NO.	SHIP VIA	COL	PPD	DATE SHIPPED	TERMS	INVOICE DATE	PA
BUSE		S FOGG				09/28/98	NET 30	09/29/98	

QTY ORDERED	QTY SHIPPED	QTY BACK ORDERED	ITEM NO.	DESCRIPTION	UNIT PRICE	DISC %	EXTENDED PRICE
				TRUCKING AND DISPOSAL OF SLEW SLUDGE ON 9-28-98 TRUCK & TRAILER 7 HRS @ $78 PER HR = $ 546.00	546.00		546.00
				DISPOSAL 32.81 TONS @ $44 PER TON = $ 1443.64	1443.64		1443.64

SALE AMOUNT	1989.64
MISC CHARGES	
8.300% SALES TAX	165.14
FREIGHT	
TOTAL	2154.78

Thank You

INVOICE NO.
103461

INVOICE

CLEAN SERVICE COMPANY, INC.
P.O. BOX 49
MAPLE VALLEY, WA 98038-0049
PHONE 425-432-8005
FAX 425-432-2405

SOLD TO:
BUSE TIMBER
3812 28TH PL. NE
EVERETT, WA 98205-3209
(206) 252-5119

SHIP TO:
BUSE TIMBER
3812 28TH PL. NE
EVERETT, WA 98205-3209
(206) 252-5119

ACCOUNT NO	SALESREP NO	PURCHASE ORDER NO	SHIP VIA	COL	PPD	DATE SHIPPED	TERMS	INVOICE DATE	PA
BUSE	PK	S FOGG				09/30/98	NET 30	09/30/98	

QTY ORDERED	QTY SHIPPED	QTY BACK ORDERED	ITEM NO	DESCRIPTION	UNIT PRICE	DISC	EXTENDED PRICE
				DUMP TRUCK SERVICES ON 9-30-98 12 HRS @ $78 PER HR = $936.00	936.00		936.00
				DISPOSAL 48.2 TONS @ $44 PER TON = $2120.80	2120.80		2120.80

	SALE AMOUNT	3056.80
8.300%	MISC CHARGES SALES TAX FREIGHT	253.71
Thank You	TOTAL	3310.51

Patti Warden

Subject: FW: Site visit
Attachments: Storm water 2.jpg; Storm water 1.jpg

From: SteveFogg [mailto:SteveFogg@BuseTimber.com]
Sent: Tuesday, November 16, 2010 1:27 PM
To: Gary Brugger
Subject: RE: Site visit

Gary
Here are the last two tests. Let me know if you need anything else.
Steve

From: Gary Brugger [mailto:bruggerg@exponent.com]
Sent: Tuesday, November 16, 2010 12:29 PM
To: SteveFogg
Subject: Site visit

Forgot to check your stormwater permit and annual report. Do you still have a permit that requires reporting? If yes could you forward a copy of the latest report?

Thanks

Gary

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Buse Timber 3812 28th Pl. NE Everett, WA 98205	DATE:	11/8/2010
		ALS JOB#:	1010162
		ALS SAMPLE#:	-01
CLIENT CONTACT:	Steve Fogg	DATE RECEIVED:	10/25/2010
CLIENT PROJECT:	DP1-102510	COLLECTION DATE:	10/25/2010 08:17
CLIENT SAMPLE ID	DP1-102510	WDOE ACCREDITATION:	C601

DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Total Suspended Solids	SM2540D	11 100	5.0	1	MG/L	10/25/2010	DLC
Turbidity	EPA-180.1	10 25	0	1	NTU	10/25/2010	RAL
Copper	EPA-6020	U 14	2.6	1	UG/L	10/26/2010	RAL
Iron	EPA-6020	[redacted]	220	1	UG/L	10/26/2010	RAL
Zinc	EPA-6020	17 117	14	1	UG/L	10/26/2010	RAL
Chemical Oxygen Demand (COD)	SM5220	200 120	10	1	MG/L	11/08/2010	ARI

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

GARY

Benchmarks

APPROVED BY:

Rob Bagan

Laboratory Director

This test is in house info not part of the Stormwater permit

Steve

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

Site Name: BUSE TIMBER AND SALES INC		WAR000097	DP-1
Site Address: 3812 28th Pl Ne		Permit Number	Sampling Point
City: Everett	**County:** Snohomish		

Submit **one** DMR per sampling point.

Reporting Period			
Quarter (circle one) Year:			
1st	2nd	3rd	4th
Jan/Feb/Mar	Apr/May/Jun	Jul/Aug/Sept	Oct/Nov/Dec

Parameter	Units	Benchmark Value	Analytical Method	Laboratory Quantitation Level	Sample Results			
					SINGLE SAMPLE RESULT	SINGLE SAMPLE DATE (MM/DD)	AVERAGE (If more than one sample collected, complete additional sampling log on next page.)	CONSISTENT ATTAINMENT? (Condition S4.B.6) (✓ for yes)
Turbidity	NTU	25	EPA 180.1, Meter	0.5	23	9/1/10		☐
pH	s.u.	5 - 9	Meter	±0.5	6.5		N/A	☐
Zinc, Total	µg/L	117	EPA 200.8	2.5	65			☐
Oil Sheen	Yes/No	No visible oil sheen	N/A	N/A	Sheen Present? Yes / (No) (circle)		N/A	N/A
Copper, Total	µg/L	Western WA: 14 Eastern WA: 32	EPA 200.8	2.0	ND			☐
COD	mg/L	120	SM5220-D	10	100			☐
TSS	mg/L	100	SM2540-D	5	45			☐

☐ No sample collected – No stormwater was discharged during normal working hours.

☐ No sample collected – Stormwater was discharged during normal working hours, but a sample wasn't collected (explain in comments section).

ADDITIONAL COMMENTS:

APPENDIX D
ENVIRONMENTAL DATABASE INFORMATION

Buse Timber & Sales
3812 28th Pl NE
Everett, WA 98201

Inquiry Number: 5319024.2s
June 01, 2018

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

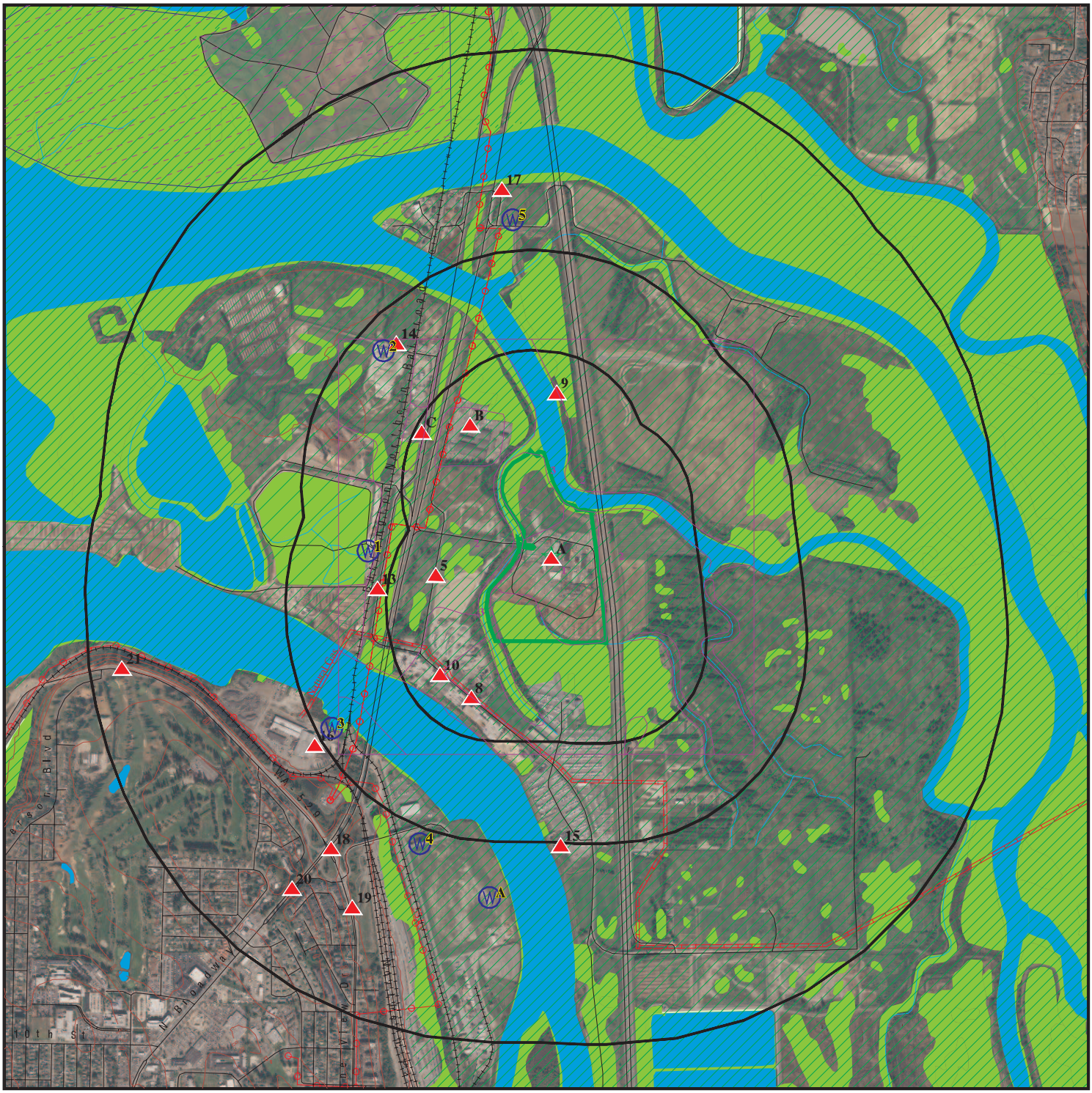
MAPPED SITES SUMMARY

Target Property Address:
3812 28TH PL NE
EVERETT, WA 98205

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	BUSE TIMBER & SALES	3812 28TH PL NE	SEMS-ARCHIVE, RCRA NonGen / NLR, ECHO		TP
A2	BUSE TIMBER & SALES	3812 28TH PL NE PO B	UST, CSCSL NFA, NPDES		TP
A3	BUSE TIMBER AND SALE	3812 V28TH PL NE	SPILLS		TP
A4		3812 28TH PLACE NE	ERNS		TP
Reg	TULALIP RESERVATION		INDIAN RESERV	Same	4228, 0.801, NNW
5	PACIFIC TOPSOILS, IN		US AIRS, US MINES	Higher	726, 0.138, West
B6	BMC WEST TRUSS & COM	3200 35TH AVE NE	ICR, NPDES	Higher	753, 0.143, NNW
B7	STAR LUMBER CO	3200 35TH AVE NE	RCRA NonGen / NLR	Higher	753, 0.143, NNW
8	GRANITE CONSTRUCTION	2111 ROSS AVE NE	SWF/LF	Higher	800, 0.152, SSW
9	WA DOT I5 MP 197 MAR	I5 AT MP 197 SB	HSL, CSCSL	Higher	802, 0.152, North
10	CALPORTLAND EVERETT	2222 ROSS AVE	UST, VCP, CSCSL NFA, RCRA NonGen / NLR, ECHO	Higher	845, 0.160, SW
C11	MP ENVIRONMENTAL	3400 34TH AVE NE	RCRA NonGen / NLR	Higher	1224, 0.232, NW
C12	MP ENVIRONMENTAL	3400 34TH AVE NE	MANIFEST	Higher	1224, 0.232, NW
13	PACIFIC TOPSOILS INC	3000 FRONTAGE ROAD	SWF/LF, SWRCY	Higher	1444, 0.273, West
14	CEDAR GROVE COMPOSTI	3460 34TH AVE NE	SWF/LF, UST, VCP, SWRCY, CSCSL NFA, SPILLS	Higher	2198, 0.416, NW
15	DAGMARS MARINA	1871 ROSS AVE	CSCSL, SPILLS, NPDES	Higher	2668, 0.505, South
16	WEYERHAEUSER COMPANY	101 E MARINE VIEW DR	HSL, CSCSL, SWF/LF, UST, INST CONTROL, ICR, CSCSL...	Higher	2737, 0.518, SW
17	SPENCER ISLAND MOSER	FRONTAGE RD & I5	HSL, CSCSL	Higher	3461, 0.655, North
18	RIVERSIDE BUSINESS P	501 E MARINE VIEW DR	CSCSL, NPDES	Higher	3477, 0.659, SW
19	WEYERHAEUSER PAPER C	515 E MARINE VIEW DR	HSL, CSCSL, LUST, INST CONTROL, RCRA NonGen / NLR	Higher	3971, 0.752, SSW
20	EVERETT SMELTER	SR 529 & E MARINE VI	HSL, CSCSL, INST CONTROL	Higher	4206, 0.797, SW
21	LEGION MEMORIAL GOLF	144 W MARINE VIEW DR	CSCSL, SPILLS	Higher	4849, 0.918, WSW

OVERVIEW MAP - 5319024.2S



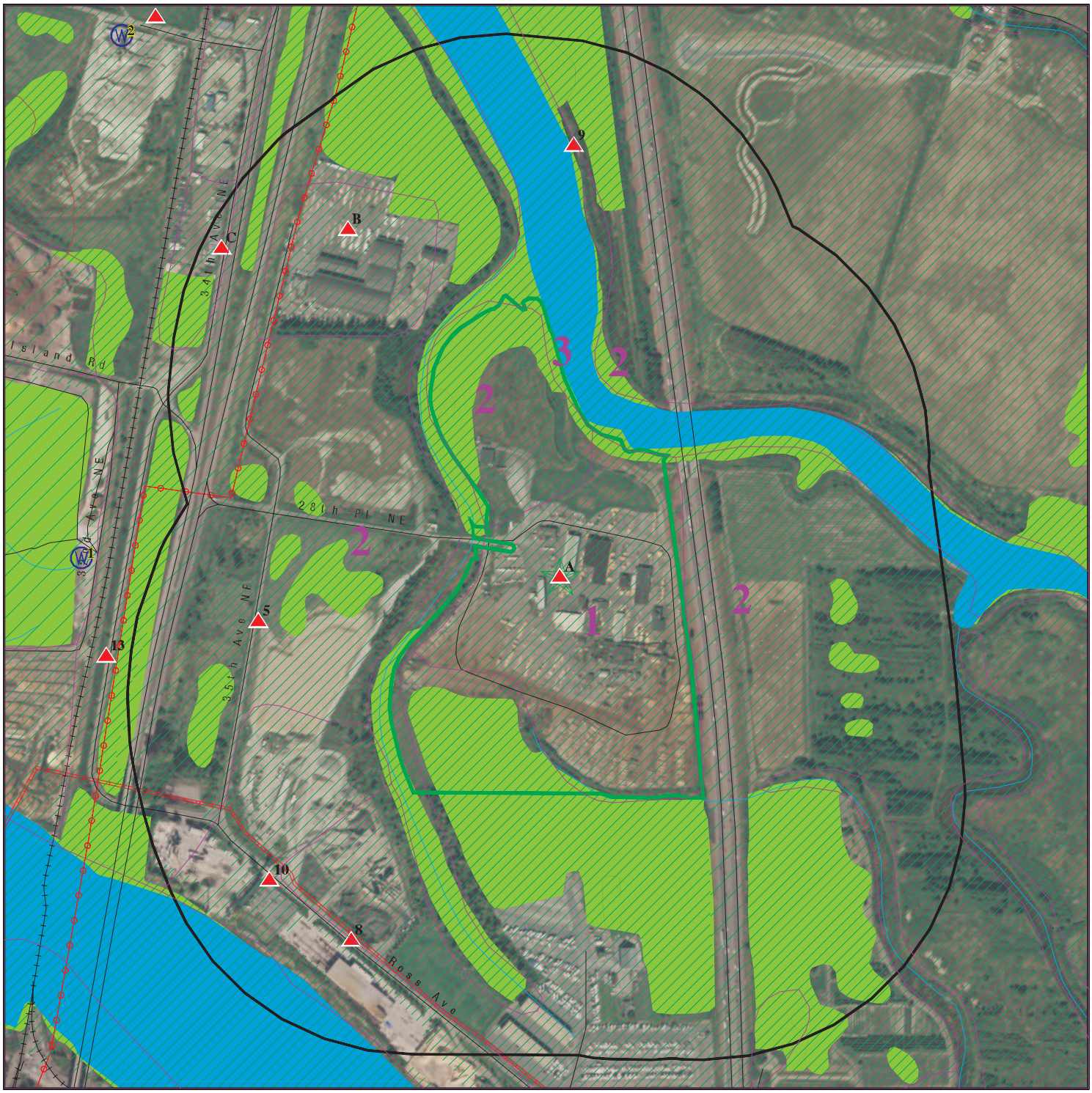
0 1/4 1/2 1 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Pipelines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Upgradient Area

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Buse Timber & Sales	CLIENT: Terracon
ADDRESS: 3812 28th Pl NE Everett WA 98201	CONTACT: Taylor Blackbourn INQUIRY #: 5319024.2s
LAT/LONG: 48.021797 / 122.178336	DATE: June 01, 2018 1:37 pm

DETAIL MAP - 5319024.2S



0 1/8 1/4 1/2 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Pipelines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Buse Timber & Sales	CLIENT:	Terracon
ADDRESS:	3812 28th Pl NE Everett WA 98201	CONTACT:	Taylor Blackbourn
LAT/LONG:	48.021797 / 122.178336	INQUIRY #:	5319024.2s
		DATE:	June 01, 2018 1:38 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500	1	0	0	0	NR	NR	1
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	TP		NR	NR	NR	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP	1	NR	NR	NR	NR	NR	1
State- and tribal - equivalent NPL								
HSL	1.000		0	1	0	4	NR	5
State- and tribal - equivalent CERCLIS								
CSCSL	1.000		0	1	0	7	NR	8
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	1	2	NR	NR	3
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.100	1	0	NR	NR	NR	NR	1
AST	0.100		0	NR	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
INST CONTROL	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	1	1	NR	NR	2
ICR	0.500		0	1	0	NR	NR	1
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
SWTIRE	0.500		0	0	0	NR	NR	0
SWRCY	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
HIST CDL	TP		NR	NR	NR	NR	NR	0
CSCSL NFA	0.500	1	0	1	1	NR	NR	3
US CDL	TP		NR	NR	NR	NR	NR	0
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
SPILLS	TP	1	NR	NR	NR	NR	NR	1
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250	1	0	3	NR	NR	NR	4

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	1	NR	1
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	1	NR	NR	NR	1
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
ECHO	TP	1	NR	NR	NR	NR	NR	1
UXO	1.000		0	0	0	0	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
AIRS	TP		NR	NR	NR	NR	NR	0
ASBESTOS	TP		NR	NR	NR	NR	NR	0
COAL ASH	0.500		0	0	0	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
Inactive Drycleaners	0.250		0	0	NR	NR	NR	0
MANIFEST	0.250		0	1	NR	NR	NR	1
NPDES	TP	1	NR	NR	NR	NR	NR	1
UIC	TP		NR	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA HWS	TP		NR	NR	NR	NR	NR	0
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		8	0	11	4	12	0	35

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1 Target Property — **BUSE TIMBER & SALES INC**, **3812 28TH PL NE**, **EVERETT, WA 98205**

Database(s): SEMS-ARCHIVE, RCRA NonGen / NLR, ECHO

EDR ID Number: 1003034963
EPA ID Number: WAD009480542

Site 1 of 4 in cluster A

Actual: 4 ft.

SEMS Archive:

Site ID:	1001313
EPA ID:	WAD009480542
Cong District:	1
FIPS Code:	53061
FF:	N
NPL:	Not on the NPL
Non NPL Status:	NFRAP-Site does not qualify for the NPL based on existing information

SEMS Archive Detail:

Region:	10
Site ID:	1001313
EPA ID:	WAD009480542
Site Name:	BUSE TIMBER & SALES INC
NPL:	N
FF:	N
OU:	0
Action Code:	VS
Action Name:	ARCH SITE
SEQ:	1
Finish Date:	1994-08-31 00:00:00
Current Action Lead:	EPA Perf In-Hse

Region:	10
Site ID:	1001313
EPA ID:	WAD009480542
Site Name:	BUSE TIMBER & SALES INC
NPL:	N
FF:	N
OU:	0
Action Code:	SI
Action Name:	SI
SEQ:	1
Start Date:	1994-08-31 00:00:00
Finish Date:	1994-08-31 00:00:00
Qual:	N
Current Action Lead:	EPA Perf

Region:	10
Site ID:	1001313
EPA ID:	WAD009480542
Site Name:	BUSE TIMBER & SALES INC
NPL:	N
FF:	N
OU:	0
Action Code:	PA
Action Name:	PA
SEQ:	1
Start Date:	1990-11-21 00:00:00
Finish Date:	1990-11-21 00:00:00
Qual:	L
Current Action Lead:	St Perf

Region:	10

BUSE TIMBER & SALES INC (Continued) **1003034963**

Site ID:	1001313
EPA ID:	WAD009480542
Site Name:	BUSE TIMBER & SALES INC
NPL:	N
FF:	N
OU:	0
Action Code:	DS
Action Name:	DISCVRY
SEQ:	1
Start Date:	1989-06-06 00:00:00
Finish Date:	1989-06-06 00:00:00
Current Action Lead:	St Perf

RCRA NonGen / NLR:

Date form received by agency:	04/01/2004
Facility name:	BUSE TIMBER & SALES INC
Facility address:	3812 28TH PL NE EVERETT, WA 98206
EPA ID:	WAD009480542
Contact:	STEVE FOGG
Contact address:	3812 28TH PL NE EVERETT, WA 98205-3209
Contact country:	US
Contact telephone:	425-258-2577
EPA Region:	10
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	BUSE TIMBER & SALES INC
Owner/operator address:	3812 28TH PL NE EVERETT, WA 98205
Owner/operator country:	US
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	02/27/2001
Owner/operator name:	NORM BUSE & ESTATE OF DELMAR BUSE
Owner/operator address:	3812 28TH PL NE EVERETT, WA 98205
Owner/operator country:	US
Owner/operator telephone:	425-258-2577
Legal status:	Private
Owner/Operator Type:	Owner
Owner/operator name:	BUSE TIMBER & SALES INC
Owner/operator address:	3812 28TH PL NE EVERETT, WA 98205
Owner/operator country:	US
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	01/01/1997
Owner/operator name:	BUSE TIMBER & SALES INC
Owner/operator address:	3812 28TH PL NE

BUSE TIMBER & SALES INC (Continued) **1003034963**

EVERETT, WA 98205
Owner/operator country: US
Owner/operator telephone: 425-258-2577
Legal status: Private
Owner/Operator Type: Operator

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 04/01/2004
Site name: BUSE TIMBER & SALES INC
Classification: Not a generator, verified

Date form received by agency: 12/31/2003
Site name: BUSE TIMBER & SALES INC
Classification: Not a generator, verified

Violation Status: No violations found

ECHO:
Envid: 1003034963
Registry ID: 110005314686
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110005314686

A2 **BUSE TIMBER & SALES INC** **UST** **U004123471**
Target **3812 28TH PL NE PO BOX 5226** **CSCSL NFA** **N/A**
Property **EVERETT, WA 98206** **NPDES**

Site 2 of 4 in cluster A

Actual:
4 ft.

UST:
Facility ID: 2786
Site Id: 11428
Decimal Latitude: 48.022804
Decimal Longitude: -122.182468

Tank Name: DIP TANK
Tank Status: Exempt - Removed
Tank Status Date: 08/06/1996
Tank Install Date: 00/31/1964
Tank Material: Steel
Pipe Construction: Above Ground Piping

BUSE TIMBER & SALES INC (Continued) **U004123471**

Responsible Unit: NORTHWEST

Tank Name: EAST TANK
Tank Status: Removed
Tank Status Date: 08/06/1996
Tank Install Date: 00/31/1964
Tank Material: Steel
Pipe Material: Steel
Responsible Unit: NORTHWEST

Tank Name: GAS TANK
Tank Status: Removed
Tank Status Date: 08/06/1996
Tank Install Date: 00/31/1964
Tank Material: Steel
Pipe Material: Steel
Responsible Unit: NORTHWEST

Tank Name: WEST TANK
Tank Status: Removed
Tank Status Date: 08/06/1996
Tank Install Date: 00/31/1964
Tank Material: Steel
Pipe Material: Steel
Responsible Unit: NORTHWEST

CSCSL NFA:
Facility/Site Id: 2786
CS Id: 4340
NFA Date: 08/30/1992
VCP: No
Latitude: 48.022804
Longitude: -122.182468

NPDES:
Facility Status: Active
Facility Type: Industrial SW GP
Admin Region: Headqarters
Date Issued: 12/03/2014
Latitude: 48.02280400
Longitude: -122.182468
Permit ID: WAR000097
Permit Version: 5
Permit Status: Active
Permit SubStatus: Coverage Issued
Ecology Contact: Greg Stegman
WRIA: Snohomish
Permit Expiration Date: 12/31/2019
Effective Date: 01/01/2015
Days to Expiration: 805

A3 Target Property **BUSE TIMBER AND SALES** **SPILLS** **S117368211**
3812 V28TH PL NE **N/A**
EVERETT, WA

Site 3 of 4 in cluster A

Actual: 4 ft.

SPILLS:

Facility ID:	653218
Medium:	SURFACE WATER-FRESH
Material Desc:	PETROLEUM - DIESEL FUEL
Material Units:	GALLON
Date Received:	11/22/2014

A4 Target Property **ERNS** **2014101782**
3812 28TH PLACE NE **N/A**
EVERETT, WA

Site 4 of 4 in cluster A

Actual: 4 ft.

Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.

IND RES Region NNW 1/2-1 4228 ft. **TULALIP RESERVATION** **INDIAN RESERV** **CIND200107**
N/A
, WA

INDIAN RESERV:

Feature:	Indian Reservation
Name:	Tulalip Reservation
Agency:	BIA

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5 West 1/8-1/4 0.138 mi. 726 ft. **PACIFIC TOPSOILS, INC.** **US AIRS** **1015763722**
US MINES **N/A**
SNOHOMISH (County), WA

Relative: Higher

Actual: 11 ft.

US AIRS MINOR:

Envid:	1015763722
Region Code:	10
Programmatic ID:	AIR WAPSC0005306129459
Facility Registry ID:	110017944625
NAICS Code:	541330
Default Air Classification Code:	MIN
Facility Type of Ownership Code:	POF

US AIRS MINOR:

Region Code:	10
Programmatic ID:	AIR WAPSC0005306129459
Facility Registry ID:	110017944625
Air Operating Status Code:	OPR
Default Air Classification Code:	MIN
Air Program:	New Source Performance Standards
Activity Date:	2015-08-27 00:00:00
Activity Status Date:	2015-10-14 17:09:17
Activity Group:	Compliance Monitoring

PACIFIC TOPSOILS, INC. (Continued) **1015763722**

Activity Type: Inspection/Evaluation
Activity Status: Active

Region Code: 10
Programmatic ID: AIR WAPSC0005306129459
Facility Registry ID: 110017944625
Air Operating Status Code: OPR
Default Air Classification Code: MIN
Air Program: New Source Performance Standards
Activity Date: 2015-10-27 00:00:00
Activity Status Date: 2015-12-10 17:07:25
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Active

Region Code: 10
Programmatic ID: AIR WAPSC0005306129459
Facility Registry ID: 110017944625
Air Operating Status Code: OPR
Default Air Classification Code: MIN
Air Program: New Source Performance Standards
Activity Date: 2012-03-27 00:00:00
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation

Region Code: 10
Programmatic ID: AIR WAPSC0005306129459
Facility Registry ID: 110017944625
Air Operating Status Code: OPR
Default Air Classification Code: MIN
Air Program: New Source Performance Standards
Activity Date: 2012-09-20 00:00:00
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation

Region Code: 10
Programmatic ID: AIR WAPSC0005306129459
Facility Registry ID: 110017944625
Air Operating Status Code: OPR
Default Air Classification Code: MIN
Air Program: New Source Performance Standards
Activity Date: 2013-09-20 00:00:00
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation

Region Code: 10
Programmatic ID: AIR WAPSC0005306129459
Facility Registry ID: 110017944625
Air Operating Status Code: OPR
Default Air Classification Code: MIN
Air Program: New Source Performance Standards
Activity Date: 2014-07-29 00:00:00
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation

PACIFIC TOPSOILS, INC. (Continued) **1015763722**

US AIRS MINOR:
Envid: 1015763722
Region Code: 10
Programmatic ID: AIR WAPSC0005306129459
Facility Registry ID: 110017944625
NAICS Code: 541330
Default Air Classification Code: MIN
Facility Type of Ownership Code: POF

US AIRS MINOR:
Region Code: 10
Programmatic ID: AIR WAPSC0005306129459
Facility Registry ID: 110017944625
Air Operating Status Code: OPR
Default Air Classification Code: MIN
Air Program: New Source Performance Standards
Activity Date: 2015-08-27 00:00:00
Activity Status Date: 2015-10-14 17:09:17
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Active

Region Code: 10
Programmatic ID: AIR WAPSC0005306129459
Facility Registry ID: 110017944625
Air Operating Status Code: OPR
Default Air Classification Code: MIN
Air Program: New Source Performance Standards
Activity Date: 2015-10-27 00:00:00
Activity Status Date: 2015-12-10 17:07:25
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Active

Region Code: 10
Programmatic ID: AIR WAPSC0005306129459
Facility Registry ID: 110017944625
Air Operating Status Code: OPR
Default Air Classification Code: MIN
Air Program: New Source Performance Standards
Activity Date: 2012-03-27 00:00:00
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation

Region Code: 10
Programmatic ID: AIR WAPSC0005306129459
Facility Registry ID: 110017944625
Air Operating Status Code: OPR
Default Air Classification Code: MIN
Air Program: New Source Performance Standards
Activity Date: 2012-09-20 00:00:00
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation

Region Code: 10
Programmatic ID: AIR WAPSC0005306129459
Facility Registry ID: 110017944625

PACIFIC TOPSOILS, INC. (Continued) **1015763722**

Air Operating Status Code: OPR
Default Air Classification Code: MIN
Air Program: New Source Performance Standards
Activity Date: 2013-09-20 00:00:00
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation

Region Code: 10
Programmatic ID: AIR WAPSC0005306129459
Facility Registry ID: 110017944625
Air Operating Status Code: OPR
Default Air Classification Code: MIN
Air Program: New Source Performance Standards
Activity Date: 2014-07-29 00:00:00
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation

US MINES:
Mine ID: 4503632
SIC code(s): 142900 000000 000000 000000 000000 000000
Entity name: PORTABLE #P-77 PREMIERTRACK JAW CRUSHER
Company: PACIFIC TOPSOILS, INC.
Status: 4
Status date: 20070829
Operation Class: non-Coal Mining
Number of shops: 0
Number of plants: 0
Latitude: 00 00 00
Longitude: 000 00 00

B6 **BMC WEST TRUSS & COMPONENTS** **ICR S104487647**
NNW **3200 35TH AVE NE** **NPDES N/A**
1/8-1/4 **EVERETT, WA 98201**
0.143 mi.
753 ft. **Site 1 of 2 in cluster B**

Relative: Higher
Actual: 10 ft.

ICR:
Date Ecology Received Report: 04/12/95
Contaminants Found at Site: Petroleum products
Media Contaminated: Soil
Waste Management: Tank, Spill
Region: North Western
Type of Report Ecology Received: Final cleanup report
Site Register Issue: 94-02
County Code: 31

NPDES:
Facility Type: Industrial SW GP
Admin Region: Headqarters
Date Issued: 12/03/2014
Permit ID: WAR009730
Permit Status: Active
Permit Expiration Date: 12/31/2019
Effective Date: 01/01/2015
Days to Expiration: 805

B7 **STAR LUMBER CO** **RCRA NonGen / NLR** **1000982946**
NNW **3200 35TH AVE NE** **WA0000959296**
1/8-1/4 **MARYSVILLE, WA 98271**
0.143 mi.
753 ft. **Site 2 of 2 in cluster B**

Relative:
Higher

Actual:
10 ft.

RCRA NonGen / NLR:
Date form received by agency: 11/17/1998
Facility name: STAR LUMBER CO
Facility address: 3200 35TH AVE NE
MARYSVILLE, WA 98271
EPA ID: WA0000959296
Contact address: 3200 35TH AVE NE
MARYSVILLE, WA 98271
Contact telephone: 000-000-0000
EPA Region: 10
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: STAR LUMBER CO
Owner/operator address: 3200 35TH AVE NE
MARYSVILLE, WA 98271
Owner/operator country: US
Owner/operator telephone: 000-000-0000
Legal status: Private
Owner/Operator Type: Operator

Owner/operator name: SEE PAPER COPY
Owner/operator address: 3200 35TH AVE NE
MARYSVILLE, WA 98271
Owner/operator telephone: 000-000-0000
Legal status: Private
Owner/Operator Type: Owner

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 11/17/1998
Site name: STAR LUMBER CO
Classification: Unverified

Date form received by agency: 11/14/1994

STAR LUMBER CO (Continued) **1000982946**

Site name: STAR LUMBER CO
Classification: Large Quantity Generator

Violation Status: No violations found

8
SSW
1/8-1/4
0.152 mi.
800 ft.

GRANITE CONSTRUCTION COMPANY - SMITH ISLAND PLANT **SWF/LF** **S108108300**
2111 ROSS AVE NE **N/A**
EVERETT, WA 98205

Relative:
Higher

Actual:
7 ft.

SWF/LF:

Facility ID:	1558
Region:	STATE
Permit Status:	Exempt
Contact Organization:	Granite Construction Company
Contact Address1:	1525 E Marine View Dr
Contact City:	Everett
Contact State:	WA
Contact Postal:	98201
Contact EMail:	james.essig@gcinc.com
Contact Phone:	(360) 410-8117
Phone:	425-551-3100
Operator Organization:	Granite Construction Company
Recycle Survey Code:	5544
Facility Type:	Recycling (exempt)
Contact Name:	James Essig
Contact Title:	Resource Development Plant Manager
Open to Public Flag:	No
Latitude:	48.0172717
Longitude:	-122.1836245

9
North
1/8-1/4
0.152 mi.
802 ft.

WA DOT I5 MP 197 MARYSVILLE **HSL** **S108969379**
I5 AT MP 197 SB **CSCSL** **N/A**
MARYSVILLE, WA 98270

Relative:
Higher

Actual:
5 ft.

HSL:

edr_fstat:	WA
edr_fzip:	Not reported
edr_fcnty:	SNOHOMISH
edr_zip:	Not reported
Facility Type:	**Hazardous Sites List**
Facility Status:	Awaiting Cleanup
FSID Number:	513712
Rank:	4
Region:	NW
EDR Link ID:	513712
Region Decode:	NORTHWEST REGIONAL OFFICE

CSCSL:

Facility ID:	513712
Region:	Northwest
Lat/Long:	48.027763561 / -122.17805352
Rank Status:	4
Clean Up Siteid:	308

WA DOT I5 MP 197 MARYSVILLE (Continued) **S108969379**

Site Status:	Awaiting Cleanup
PSI?:	Yes
Contaminant Name:	Petroleum Products-Unspecified
Ground Water:	Suspected
Surface Water:	Suspected
Soil:	Confirmed Above Cleanup Level
Air:	Suspected
Responsible Unit:	Northwest

---

10 SW 1/8-1/4 0.160 mi. 845 ft. **CALPORTLAND EVERETT READY MIX** **UST 1004794980**
2222 ROSS AVE **VCP WAR000001503**
EVERETT, WA 98201 **CSCSL NFA**
RCRA NonGen / NLR
ECHO

Relative: Higher

Actual: 8 ft.

UST:

Facility ID:	1343693
Site Id:	101259
Decimal Latitude:	48.017738
Decimal Longitude:	-122.184416
Tank Name:	1
Tank Status:	Removed
Tank Status Date:	08/06/1996
Tank Install Date:	00/15/1987
Capacity Range:	10,000 to 19,999 Gallons
Tank Permit Expiration Date:	02/28/1999
Tank Spill Prevention:	None
Tank Overfill Prevention:	None
Tank Material:	Dielectric Coated Steel
Tank Construction:	Single Wall Tank
Tank Tightness Test:	Annual
Tank Corrosion Protection:	Impressed Current
Tank Release Detection:	Manual Inventory Control (daily)
Pipe Material:	Coated Steel
Pipe Construction:	Single Wall Pipe
Pipe Primary Release Detection:	Safe Suction (No Leak Detection)
Pipe Corrosion Protection:	Corrosion Resistant
Responsible Unit:	NORTHWEST

VCP:

edr_fstat:	WA
edr_fzip:	98205
edr_fcnty:	SNOHOMISH
edr_zip:	Not reported
Facility ID:	1343693
VCP Status:	Not reported
VCP:	Yes
Ecology Status:	Not reported
NFA Type:	Not reported
Date NFA:	12/18/2006
Rank:	Not reported
Cleanup Siteid:	5247

CSCSL NFA:

Facility/Site Id:	1343693
CS Id:	5247

CALPORTLAND EVERETT READY MIX (Continued) **1004794980**

NFA Date: 12/18/2006
VCP: Yes
Latitude: 48.017738
Longitude: -122.184416

RCRA NonGen / NLR:
Date form received by agency: 01/13/2005
Facility name: GLACIER NORTHWEST INC EVERETT
Facility address: 2222 ROSS AVE NE
EVERETT, WA 98205
EPA ID: WAR000001503
Mailing address: PO BOX 1730
SEATTLE, WA 98111-1730
Contact: NED PETTIT
Contact address: PO BOX 1730
SEATTLE, WA 98111-1730
Contact country: US
Contact telephone: 206-768-7612
Contact email: NPETTIT@GLACIERNW.COM
EPA Region: 10
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: GLACIER NORTHWEST INC
Owner/operator address: PO BOX 1730
SEATTLE, WA 98111
Owner/operator country: US
Owner/operator telephone: 206-764-3000
Legal status: Other
Owner/Operator Type: Owner
Owner/Op start date: 03/27/1995

Owner/operator name: GLACIER NORTHWEST INC
Owner/operator address: PO BOX 1730
SEATTLE, WA 98111
Owner/operator country: US
Owner/operator telephone: 206-764-3000
Legal status: Private
Owner/Operator Type: Owner

Owner/operator name: GLACIER NORTHWEST INC
Owner/operator address: PO BOX 1730
SEATTLE, WA 98111
Owner/operator country: US
Owner/operator telephone: 206-764-3000
Legal status: Private
Owner/Operator Type: Operator

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No

CALPORTLAND EVERETT READY MIX (Continued) **1004794980**

On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:

Date form received by agency: 03/03/2003
Site name: GLACIER NORTHWEST INC EVERETT
Classification: Unverified

Date form received by agency: 03/05/2002
Site name: GLACIER NORTHWEST INC EVERETT
Classification: Unverified

Date form received by agency: 02/26/2001
Site name: GLACIER NORTHWEST INC EVERETT
Classification: Unverified

Date form received by agency: 02/29/2000
Site name: GLACIER NORTHWEST INC EVERETT
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 03/01/1999
Site name: GLACIER NORTHWEST INC EVERETT
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 02/25/1998
Site name: GLACIER NORTHWEST INC EVERETT
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 03/04/1997
Site name: GLACIER NORTHWEST INC EVERETT
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 02/29/1996
Site name: GLACIER NORTHWEST INC EVERETT
Classification: Conditionally Exempt Small Quantity Generator

Violation Status: No violations found

ECHO:

Envid: 1004794980
Registry ID: 110012701111
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110012701111

C11 **MP ENVIRONMENTAL** **RCRA NonGen / NLR** **1010337931**
NW **3400 34TH AVE NE** **WAH000024717**
1/8-1/4 **EVERETT, WA 98205**
0.232 mi.
1224 ft. **Site 1 of 2 in cluster C**

Relative:
Higher

Actual:
14 ft.

RCRA NonGen / NLR:

Date form received by agency:	01/11/2012
Facility name:	MP ENVIRONMENTAL
Facility address:	3400 34TH AVE NE EVERETT, WA 98205
EPA ID:	WAH000024717
Mailing address:	3400 MANOR ST BAKERSFIELD, WA 93308
Contact:	WAYNE MARTIN
Contact address:	3400 34TH AVE NE EVERETT, WA 98201
Contact country:	US
Contact telephone:	425-257-3105
Contact email:	WANE.MARTIN@MPENVIRO.COM
EPA Region:	10
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	DAWN CALDERWOOD
Owner/operator address:	3400 MANOR ST BAKERSFIELD, CA 93308
Owner/operator country:	US
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	09/01/1990

Owner/operator name:	MP ENVIRONMENTAL
Owner/operator address:	3400 MANOR ST BAKERSFIELD, CA 93308
Owner/operator country:	US
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	09/01/2004

Owner/operator name:	MP ENVIRONMENTAL
Owner/operator address:	3400 MANOR ST BAKERSFIELD, CA 93308
Owner/operator country:	US
Owner/operator telephone:	661-393-1151
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	09/01/2004

Owner/operator name:	DAWN CALDERWOOD
Owner/operator address:	3400 MANOR ST BAKERSFIELD, CA 93308
Owner/operator country:	US
Owner/operator telephone:	661-393-1151
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	09/01/1990

MP ENVIRONMENTAL (Continued) **1010337931**

Owner/operator name: WAYNE M
Owner/operator address: 3400 MANOR ST
BAKERSFIELD, CA 93308
Owner/operator country: US
Owner/operator telephone: 661-393-1151
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 09/01/2004

Owner/operator name: DAWN C
Owner/operator address: 3400 MANOR ST
BAKERSFIELD, CA 93308
Owner/operator country: US
Owner/operator telephone: 661-393-1151
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 09/01/1990

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: Yes
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: Yes

Historical Generators:
Date form received by agency: 02/18/2011
Site name: MP ENVIRONMENTAL
Classification: Not a generator, verified

Date form received by agency: 01/18/2010
Site name: MP ENVIRONMENTAL
Classification: Not a generator, verified

Date form received by agency: 12/31/2007
Site name: MP ENVIRONMENTAL
Classification: Not a generator, verified

Date form received by agency: 12/31/2005
Site name: MP ENVIRONMENTAL
Classification: Not a generator, verified

Date form received by agency: 01/21/2005
Site name: MP ENVIRONMENTAL
Classification: Not a generator, verified

MP ENVIRONMENTAL (Continued) **1010337931**

Date form received by agency: 09/30/2004
Site name: MP ENVIRONMENTAL
Classification: Not a generator, verified

Violation Status: No violations found

C12 **MP ENVIRONMENTAL** **MANIFEST** **S107672290**
NW **3400 34TH AVE NE** **N/A**
1/8-1/4 **EVERETT, WA 98205**
0.232 mi.
1224 ft. **Site 2 of 2 in cluster C**

Relative:
Higher

Actual:
14 ft.

WA MANIFEST:

Facility Site ID Number:	5319811
EPA ID:	WAH000024717
NAICS:	484230
Form Comm:	no waste generated, transportation only
Data Year:	2016
Permit by Rule:	False
Treatment by Generator:	False
Mixed radioactive waste:	False
Importer of hazardous waste:	False
Immediate recycler:	False
Treatment/Storage/Disposal/Recycling Facility:	False
Generator of dangerous fuel waste:	False
Generator marketing to burner:	False
Other marketers (i.e., blender, distributor, etc.):	False
Utility boiler burner:	False
Industry boiler burner:	False
Industrial Furnace:	False
Smelter defferal:	False
Universal waste - batteries - generate:	False
Universal waste - thermostats - generate:	False
Universal waste - mercury - generate:	False
Universal waste - lamps - generate:	False
Universal waste - batteries - accumulate:	False
Universal waste - thermostats - accumulate:	False
Universal waste - mercury - accumulate:	False
Universal waste - lamps - accumulate:	False
Destination Facility for Universal Waste:	False
Off-specification used oil burner - utility boiler:	False
Off-specification used oil burner - industrial boiler:	False
Off-specification used oil burner - industrial furnace:	False
Tax Reg #:	770262888
Business Type:	Transportation
Mail Name:	MP Environmental
Mail addr line1:	3400 Manor St
Mail city,st,zip:	Bakersfield, CA 93308
Mail country:	UNITED STATES
Legal org type:	Private
Legal addr line1:	3400 Manor St
Legal city,st,zip:	Bakersfield, CA 93308
Legal country:	UNITED STATES
Legal phone nbr:	(661)393-1151
Legal effective date:	09/01/1990
Land org type:	Private
Land person name:	Bradley F Rengen
Land addr line1:	PO Box 471
Land city,st,zip:	Arlington, WA 98223

MP ENVIRONMENTAL (Continued) **S107672290**

Land country:	UNITED STATES
Land phone nbr:	(000)000-0000
Operator org name:	MP Environmental
Operator org type:	Private
Operator addr line1:	3400 Manor St
Operator city,st,zip:	Bakersfield, CA 93308
Operator country:	UNITED STATES
Operator phone nbr:	(661)393-1151
Operator effective date:	09/01/2004
Site contact name:	Wayne Martin
Site contact addr line1:	3400 34th Ave NE
Site Contact City/State/ Zip:	Everett, WA 98201
Site Contact Country:	UNITED STATES
Site Contact Phone #:	(425)257-3105
Site Contact EMail:	wane.martin@mpenviro.com
Form Contact NAME:	Wayne Martin
Form Contact ADDR LINE1:	3400 34th Ave NE
Form Contact City,ST,Zip:	Everett, WA 98201
Form Contact Country:	UNITED STATES
Form Contact Phone #:	(425)257-3105
Form Contact EMail:	wane.martin@mpenviro.com
Gen Status CD:	XQG
Monthly Generation:	False
Batch Generation:	False
One Time Generation:	False
Transport Own Waste:	False
Tranports Other Waste:	True
Recycler Onsite:	False
Transfer Facility:	True
UW Battery Gen:	False
Used Oil Transporter:	True
Used Oil Transfer Facility:	False
Used Oil Processor:	False
Used Oil Refiner:	False
Used Oil Fuel Marketer Directs Shipments:	False
Used Oil Fuel Marketer Meets Specs:	False

Facility Site ID Number:	5319811
EPA ID:	WAH000024717
NAICS:	48423
Data Year:	2008
Permit by Rule:	False
Treatment by Generator:	False
Mixed radioactive waste:	False
Importer of hazardous waste:	False
Immediate recycler:	False
Treatment/Storage/Disposal/Recycling Facility:	False
Generator of dangerous fuel waste:	False
Generator marketing to burner:	False
Other marketers (i.e., blender, distributor, etc.):	False
Utility boiler burner:	False
Industry boiler burner:	False
Industrial Furnace:	False
Smelter defferal:	False
Universal waste - batteries - generate:	False
Universal waste - thermostats - generate:	False

MP ENVIRONMENTAL (Continued) **S107672290**

Universal waste - mercury - generate:	False
Universal waste - lamps - generate:	False
Universal waste - batteries - accumulate:	False
Universal waste - thermostats - accumulate:	False
Universal waste - mercury - accumulate:	False
Universal waste - lamps - accumulate:	False
Destination Facility for Universal Waste:	False
Off-specification used oil burner - utility boiler:	False
Off-specification used oil burner - industrial boiler:	False
Off-specification used oil burner - industrial furnace:	False
Tax Reg #:	770262888
Business Type:	Transportation
Mail Name:	MP Environmental
Mail addr line1:	3400 Manor St
Mail city,st,zip:	Bakersfield, CA 93308
Mail country:	UNITED STATES
Legal org type:	Private
Legal addr line1:	3400 Manor St
Legal city,st,zip:	Bakersfield, CA 93308
Legal country:	UNITED STATES
Legal phone nbr:	(661)393-1151
Legal effective date:	09/01/1990
Land org type:	Private
Land person name:	Bradley F Rengen
Land addr line1:	PO Box 471
Land city,st,zip:	Arlington, WA 98223
Land country:	UNITED STATES
Land phone nbr:	(000)000-0000
Operator org name:	MP Environmental
Operator org type:	Private
Operator addr line1:	3400 Manor St
Operator city,st,zip:	Bakersfield, CA 93308
Operator country:	UNITED STATES
Operator phone nbr:	(661)393-1151
Operator effective date:	09/01/2004
Site contact name:	Wayne Martin
Site contact addr line1:	3400 34th Ave NE
Site Contact City/State/ Zip:	Everett, WA 98205
Site Contact Country:	UNITED STATES
Site Contact Phone #:	(425)257-3105
Site Contact EMail:	wane.martin@mpenviro.com
Form Contact NAME:	Wayne Martin
Form Contact ADDR LINE1:	3400 34th Ave NE
Form Contact City,ST,Zip:	Everett, WA 98205
Form Contact Country:	UNITED STATES
Form Contact Phone #:	(425)257-3105
Form Contact EMail:	wane.martin@mpenviro.com
Gen Status CD:	XQG
Monthly Generation:	False
Batch Generation:	False
One Time Generation:	False
Transport Own Waste:	False
Tranports Other Waste:	True
Recycler Onsite:	False
Transfer Facility:	False
UW Battery Gen:	False
Used Oil Transporter:	True

MP ENVIRONMENTAL (Continued) **S107672290**

Used Oil Transfer Facility:	False
Used Oil Processor:	False
Used Oil Refiner:	False
Used Oil Fuel Marketer Directs Shipments:	False
Used Oil Fuel Marketer Meets Specs:	False

Facility Site ID Number:	5319811
EPA ID:	WAH000024717
NAICS:	48423
Form Comm:	no waste generated or stored
Permit by Rule:	FALSE
Treatment by Generator:	FALSE
Mixed radioactive waste:	FALSE
Importer of hazardous waste:	FALSE
Immediate recycler:	FALSE
Treatment/Storage/Disposal/Recycling Facility:	FALSE
Generator of dangerous fuel waste:	FALSE
Generator marketing to burner:	FALSE
Other marketers (i.e., blender, distributor, etc.):	FALSE
Utility boiler burner:	FALSE
Industry boiler burner:	FALSE
Industrial Furnace:	FALSE
Smelter defferal:	FALSE
Universal waste - batteries - generate:	FALSE
Universal waste - thermostats - generate:	FALSE
Universal waste - mercury - generate:	FALSE
Universal waste - lamps - generate:	FALSE
Universal waste - batteries - accumulate:	FALSE
Universal waste - thermostats - accumulate:	FALSE
Universal waste - mercury - accumulate:	FALSE
Universal waste - lamps - accumulate:	FALSE
Destination Facility for Universal Waste:	FALSE
Off-specification used oil burner - utility boiler:	FALSE
Off-specification used oil burner - industrial boiler:	FALSE
Off-specification used oil burner - industrial furnace:	FALSE
Tax Reg #:	770262888
Business Type:	Transportation
Mail Name:	MP Environmental
Mail addr line1:	3400 Manor St
Mail city,st,zip:	Bakersfield, CA 93308
Mail country:	UNITED STATES
Legal org type:	Private
Legal addr line1:	3400 Manor St
Legal city,st,zip:	Bakersfield, CA 93308
Legal country:	UNITED STATES
Legal phone nbr:	(661)393-1151
Legal effective date:	09/01/1990
Land org type:	Private
Land person name:	Bradley F Rengen
Land addr line1:	PO Box 471
Land city,st,zip:	Arlington, WA 98223
Land country:	UNITED STATES
Land phone nbr:	(000)000-0000
Operator org name:	MP Environmental
Operator org type:	Private
Operator addr line1:	3400 Manor St

MP ENVIRONMENTAL (Continued) **S107672290**

Operator city,st,zip:	Bakersfield, CA 93308
Operator country:	UNITED STATES
Operator phone nbr:	(661)393-1151
Operator effective date:	09/01/2004
Site contact name:	Wayne Martin
Site contact addr line1:	3400 34th Ave NE
Site Contact City/State/ Zip:	Everett, WA 98205
Site Contact Country:	UNITED STATES
Site Contact Phone #:	(425)257-3105
Site Contact EMail:	wane.martin5@verizon.net
Form Contact NAME:	Wayne Martin
Form Contact ADDR LINE1:	3400 34th Ave NE
Form Contact City,ST,Zip:	Everett, WA 98205
Form Contact Country:	UNITED STATES
Form Contact Phone #:	(425)257-3105
Form Contact EMail:	wane.martin5@verizon.net
Gen Status CD:	XQG
Monthly Generation:	FALSE
Batch Generation:	FALSE
One Time Generation:	FALSE
Transport Own Waste:	FALSE
Tranports Other Waste:	TRUE
Recycler Onsite:	FALSE
Transfer Facility:	FALSE
UW Battery Gen:	FALSE
Used Oil Transporter:	TRUE
Used Oil Transfer Facility:	FALSE
Used Oil Processor:	FALSE
Used Oil Refiner:	FALSE
Used Oil Fuel Marketer Directs Shipments:	FALSE
Used Oil Fuel Marketer Meets Specs:	FALSE

Facility Site ID Number:	5319811
EPA ID:	WAH000024717
NAICS:	484230
Data Year:	2015
Permit by Rule:	False
Treatment by Generator:	False
Mixed radioactive waste:	False
Importer of hazardous waste:	False
Immediate recycler:	False
Treatment/Storage/Disposal/Recycling Facility:	False
Generator of dangerous fuel waste:	False
Generator marketing to burner:	False
Other marketers (i.e., blender, distributor, etc.):	False
Utility boiler burner:	False
Industry boiler burner:	False
Industrial Furnace:	False
Smelter defferal:	False
Universal waste - batteries - generate:	False
Universal waste - thermostats - generate:	False
Universal waste - mercury - generate:	False
Universal waste - lamps - generate:	False
Universal waste - batteries - accumulate:	False
Universal waste - thermostats - accumulate:	False
Universal waste - mercury - accumulate:	False

MP ENVIRONMENTAL (Continued) **S107672290**

Universal waste - lamps - accumulate:		False
Destination Facility for Universal Waste:		False
Off-specification used oil burner - utility boiler:		False
Off-specification used oil burner - industrial boiler:		False
Off-specification used oil burner - industrial furnace:		False
Tax Reg #:	770262888	
Business Type:	Transportation	
Mail Name:	MP Environmental	
Mail addr line1:	3400 Manor St	
Mail city,st,zip:	Bakersfield, CA 93308	
Mail country:	UNITED STATES	
Legal org type:	Private	
Legal addr line1:	3400 Manor St	
Legal city,st,zip:	Bakersfield, CA 93308	
Legal country:	UNITED STATES	
Legal phone nbr:	(661)393-1151	
Legal effective date:	09/01/1990	
Land org type:	Private	
Land person name:	Bradley F Rengen	
Land addr line1:	PO Box 471	
Land city,st,zip:	Arlington, WA 98223	
Land country:	UNITED STATES	
Land phone nbr:	(000)000-0000	
Operator org name:	MP Environmental	
Operator org type:	Private	
Operator addr line1:	3400 Manor St	
Operator city,st,zip:	Bakersfield, CA 93308	
Operator country:	UNITED STATES	
Operator phone nbr:	(661)393-1151	
Operator effective date:	09/01/2004	
Site contact name:	Wayne Martin	
Site contact addr line1:	3400 34th Ave NE	
Site Contact City/State/ Zip:	Everett, WA 98201	
Site Contact Country:	UNITED STATES	
Site Contact Phone #:	(425)257-3105	
Site Contact EMail:	wane.martin@mpenviro.com	
Form Contact NAME:	Wayne Martin	
Form Contact ADDR LINE1:	3400 34th Ave NE	
Form Contact City,ST,Zip:	Everett, WA 98201	
Form Contact Country:	UNITED STATES	
Form Contact Phone #:	(425)257-3105	
Form Contact EMail:	wane.martin@mpenviro.com	
Gen Status CD:	XQG	
Monthly Generation:	False	
Batch Generation:	False	
One Time Generation:	False	
Transport Own Waste:	False	
Tranports Other Waste:	True	
Recycler Onsite:	False	
Transfer Facility:	False	
UW Battery Gen:	False	
Used Oil Transporter:	True	
Used Oil Transfer Facility:	False	
Used Oil Processor:	False	
Used Oil Refiner:	False	
Used Oil Fuel Marketer Directs Shipments:		False
Used Oil Fuel Marketer Meets Specs:		False

MP ENVIRONMENTAL (Continued) **S107672290**

Facility Site ID Number:	5319811
EPA ID:	WAH000024717
NAICS:	484230
Form Comm:	No waste was generated or stored at this site
Data Year:	2009
Permit by Rule:	False
Treatment by Generator:	False
Mixed radioactive waste:	False
Importer of hazardous waste:	False
Immediate recycler:	False
Treatment/Storage/Disposal/Recycling Facility:	False
Generator of dangerous fuel waste:	False
Generator marketing to burner:	False
Other marketers (i.e., blender, distributor, etc.):	False
Utility boiler burner:	False
Industry boiler burner:	False
Industrial Furnace:	False
Smelter defferal:	False
Universal waste - batteries - generate:	False
Universal waste - thermostats - generate:	False
Universal waste - mercury - generate:	False
Universal waste - lamps - generate:	False
Universal waste - batteries - accumulate:	False
Universal waste - thermostats - accumulate:	False
Universal waste - mercury - accumulate:	False
Universal waste - lamps - accumulate:	False
Destination Facility for Universal Waste:	False
Off-specification used oil burner - utility boiler:	False
Off-specification used oil burner - industrial boiler:	False
Off-specification used oil burner - industrial furnace:	False
Tax Reg #:	770262888
Business Type:	Transportation
Mail Name:	MP Environmental
Mail addr line1:	3400 Manor St
Mail city,st,zip:	Bakersfield, CA 93308
Mail country:	UNITED STATES
Legal org type:	Private
Legal addr line1:	3400 Manor St
Legal city,st,zip:	Bakersfield, CA 93308
Legal country:	UNITED STATES
Legal phone nbr:	(661)393-1151
Legal effective date:	09/01/1990
Land org type:	Private
Land person name:	Bradley F Rengen
Land addr line1:	PO Box 471
Land city,st,zip:	Arlington, WA 98223
Land country:	UNITED STATES
Land phone nbr:	(000)000-0000
Operator org name:	MP Environmental
Operator org type:	Private
Operator addr line1:	3400 Manor St
Operator city,st,zip:	Bakersfield, CA 93308
Operator country:	UNITED STATES
Operator phone nbr:	(661)393-1151
Operator effective date:	09/01/2004
Site contact name:	Wayne Martin
Site contact addr line1:	3400 34th Ave NE

MP ENVIRONMENTAL (Continued) **S107672290**

Site Contact City/State/ Zip:	Everett, WA 98205
Site Contact Country:	UNITED STATES
Site Contact Phone #:	(425)257-3105
Site Contact EMail:	wane.martin@mpenviro.com
Form Contact NAME:	Wayne Martin
Form Contact ADDR LINE1:	3400 34th Ave NE
Form Contact City,ST,Zip:	Everett, WA 98205
Form Contact Country:	UNITED STATES
Form Contact Phone #:	(425)257-3105
Form Contact EMail:	wane.martin@mpenviro.com
Gen Status CD:	XQG
Monthly Generation:	False
Batch Generation:	False
One Time Generation:	False
Transport Own Waste:	False
Tranports Other Waste:	True
Recycler Onsite:	False
Transfer Facility:	False
UW Battery Gen:	False
Used Oil Transporter:	True
Used Oil Transfer Facility:	False
Used Oil Processor:	False
Used Oil Refiner:	False
Used Oil Fuel Marketer Directs Shipments:	False
Used Oil Fuel Marketer Meets Specs:	False

Facility Site ID Number:	5319811
EPA ID:	WAH000024717
NAICS:	484230
Data Year:	2010
Permit by Rule:	False
Treatment by Generator:	False
Mixed radioactive waste:	False
Importer of hazardous waste:	False
Immediate recycler:	False
Treatment/Storage/Disposal/Recycling Facility:	False
Generator of dangerous fuel waste:	False
Generator marketing to burner:	False
Other marketers (i.e., blender, distributor, etc.):	False
Utility boiler burner:	False
Industry boiler burner:	False
Industrial Furnace:	False
Smelter defferal:	False
Universal waste - batteries - generate:	False
Universal waste - thermostats - generate:	False
Universal waste - mercury - generate:	False
Universal waste - lamps - generate:	False
Universal waste - batteries - accumulate:	False
Universal waste - thermostats - accumulate:	False
Universal waste - mercury - accumulate:	False
Universal waste - lamps - accumulate:	False
Destination Facility for Universal Waste:	False
Off-specification used oil burner - utility boiler:	False
Off-specification used oil burner - industrial boiler:	False
Off-specification used oil burner - industrial furnace:	False
Tax Reg #:	770262888

MP ENVIRONMENTAL (Continued) **S107672290**

Business Type:	Transportation
Mail Name:	MP Environmental
Mail addr line1:	3400 Manor St
Mail city,st,zip:	Bakersfield, CA 93308
Mail country:	UNITED STATES
Legal org type:	Private
Legal addr line1:	3400 Manor St
Legal city,st,zip:	Bakersfield, CA 93308
Legal country:	UNITED STATES
Legal phone nbr:	(661)393-1151
Legal effective date:	09/01/1990
Land org type:	Private
Land person name:	Bradley F Rengen
Land addr line1:	PO Box 471
Land city,st,zip:	Arlington, WA 98223
Land country:	UNITED STATES
Land phone nbr:	(000)000-0000
Operator org name:	MP Environmental
Operator org type:	Private
Operator addr line1:	3400 Manor St
Operator city,st,zip:	Bakersfield, CA 93308
Operator country:	UNITED STATES
Operator phone nbr:	(661)393-1151
Operator effective date:	09/01/2004
Site contact name:	Wayne Martin
Site contact addr line1:	3400 34th Ave NE
Site Contact City/State/ Zip:	Everett, WA 98201
Site Contact Country:	UNITED STATES
Site Contact Phone #:	(425)257-3105
Site Contact EMail:	wane.martin@mpenviro.com
Form Contact NAME:	Wayne Martin
Form Contact ADDR LINE1:	3400 34th Ave NE
Form Contact City,ST,Zip:	Everett, WA 98201
Form Contact Country:	UNITED STATES
Form Contact Phone #:	(425)257-3105
Form Contact EMail:	wane.martin@mpenviro.com
Gen Status CD:	XQG
Monthly Generation:	False
Batch Generation:	False
One Time Generation:	False
Transport Own Waste:	False
Tranports Other Waste:	True
Recycler Onsite:	False
Transfer Facility:	False
UW Battery Gen:	False
Used Oil Transporter:	True
Used Oil Transfer Facility:	False
Used Oil Processor:	False
Used Oil Refiner:	False
Used Oil Fuel Marketer Directs Shipments:	False
Used Oil Fuel Marketer Meets Specs:	False

Facility Site ID Number:	5319811
EPA ID:	WAH000024717
NAICS:	48423
Form Comm:	no waste generated or stored

MP ENVIRONMENTAL (Continued) **S107672290**

Permit by Rule:	No
Treatment by Generator:	No
Mixed radioactive waste:	No
Importer of hazardous waste:	No
Immediate recycler:	No
Treatment/Storage/Disposal/Recycling Facility:	No
Generator of dangerous fuel waste:	No
Generator marketing to burner:	No
Other marketers (i.e., blender, distributor, etc.):	No
Utility boiler burner:	No
Industry boiler burner:	No
Industrial Furnace:	No
Smelter defferal:	No
Universal waste - batteries - generate:	No
Universal waste - thermostats - generate:	No
Universal waste - mercury - generate:	No
Universal waste - lamps - generate:	No
Universal waste - batteries - accumulate:	No
Universal waste - thermostats - accumulate:	No
Universal waste - mercury - accumulate:	No
Universal waste - lamps - accumulate:	No
Destination Facility for Universal Waste:	No
Off-specification used oil burner - utility boiler:	No
Off-specification used oil burner - industrial boiler:	No
Off-specification used oil burner - industrial furnace:	No
Tax Reg #:	770262888
Business Type:	Transportation
Mail Name:	MP Environmental
Mail addr line1:	3400 Manor St
Mail city,st,zip:	Bakersfield, CA 93308
Mail country:	UNITED STATES
Legal org type:	Private
Legal addr line1:	3400 Manor St
Legal city,st,zip:	Bakersfield, CA 93308
Legal country:	UNITED STATES
Legal phone nbr:	(661)393-1151
Legal effective date:	09/01/1990
Land org type:	Private
Land person name:	Bradley F Rengen
Land addr line1:	PO Box 471
Land city,st,zip:	Arlington, WA 98223
Land country:	UNITED STATES
Land phone nbr:	(000)000-0000
Operator org name:	MP Environmental
Operator org type:	Private
Operator addr line1:	3400 Manor St
Operator city,st,zip:	Bakersfield, CA 93308
Operator country:	UNITED STATES
Operator phone nbr:	(661)393-1151
Operator effective date:	09/01/2004
Site contact name:	Wayne Martin
Site contact addr line1:	3400 34th Ave NE
Site Contact City/State/ Zip:	Everett, WA 98205
Site Contact Country:	UNITED STATES
Site Contact Phone #:	(425)257-3105
Site Contact EMail:	wane.martin5@verizon.net
Form Contact NAME:	Wayne Martin

MP ENVIRONMENTAL (Continued) **S107672290**

Form Contact ADDR LINE1:	3400 34th Ave NE
Form Contact City,ST,Zip:	Everett, WA 98205
Form Contact Country:	UNITED STATES
Form Contact Phone #:	(425)257-3105
Form Contact EMail:	wane.martin5@verizon.net
Gen Status CD:	XQG
Monthly Generation:	Yes
Batch Generation:	No
One Time Generation:	No
Transport Own Waste:	No
Tranports Other Waste:	Yes
Recycler Onsite:	No
Transfer Facility:	No
UW Battery Gen:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Fuel Marketer Directs Shipments:	No
Used Oil Fuel Marketer Meets Specs:	No

Facility Site ID Number:	5319811
EPA ID:	WAH000024717
NAICS:	48423
Form Comm:	no waste generated or stored
Permit by Rule:	False
Treatment by Generator:	False
Mixed radioactive waste:	False
Importer of hazardous waste:	False
Immediate recycler:	False
Treatment/Storage/Disposal/Recycling Facility:	False
Generator of dangerous fuel waste:	False
Generator marketing to burner:	False
Other marketers (i.e., blender, distributor, etc.):	False
Utility boiler burner:	False
Industry boiler burner:	False
Industrial Furnace:	False
Smelter defferal:	False
Universal waste - batteries - generate:	False
Universal waste - thermostats - generate:	False
Universal waste - mercury - generate:	False
Universal waste - lamps - generate:	False
Universal waste - batteries - accumulate:	False
Universal waste - thermostats - accumulate:	False
Universal waste - mercury - accumulate:	False
Universal waste - lamps - accumulate:	False
Destination Facility for Universal Waste:	False
Off-specification used oil burner - utility boiler:	False
Off-specification used oil burner - industrial boiler:	False
Off-specification used oil burner - industrial furnace:	False
Tax Reg #:	770262888
Business Type:	Transportation
Mail Name:	MP Environmental
Mail addr line1:	3400 Manor St
Mail city,st,zip:	Bakersfield, CA 93308
Mail country:	UNITED STATES

MP ENVIRONMENTAL (Continued) **S107672290**

Legal org type:	Private
Legal addr line1:	3400 Manor St
Legal city,st,zip:	Bakersfield, CA 93308
Legal country:	UNITED STATES
Legal phone nbr:	(661)393-1151
Legal effective date:	09/01/1990
Land org type:	Private
Land person name:	Bradley F Rengen
Land addr line1:	PO Box 471
Land city,st,zip:	Arlington, WA 98223
Land country:	UNITED STATES
Land phone nbr:	(000)000-0000
Operator org name:	MP Environmental
Operator org type:	Private
Operator addr line1:	3400 Manor St
Operator city,st,zip:	Bakersfield, CA 93308
Operator country:	UNITED STATES
Operator phone nbr:	(661)393-1151
Operator effective date:	09/01/2004
Site contact name:	Wayne Martin
Site contact addr line1:	3400 34th Ave NE
Site Contact City/State/ Zip:	Everett, WA 98205
Site Contact Country:	UNITED STATES
Site Contact Phone #:	(425)257-3105
Site Contact EMail:	wane.martin5@verizon.net
Form Contact NAME:	Wayne Martin
Form Contact ADDR LINE1:	3400 34th Ave NE
Form Contact City,ST,Zip:	Everett, WA 98205
Form Contact Country:	UNITED STATES
Form Contact Phone #:	(425)257-3105
Form Contact EMail:	wane.martin5@verizon.net
Gen Status CD:	XQG
Monthly Generation:	False
Batch Generation:	False
One Time Generation:	False
Transport Own Waste:	False
Tranports Other Waste:	True
Recycler Onsite:	False
Transfer Facility:	False
UW Battery Gen:	False
Used Oil Transporter:	True
Used Oil Transfer Facility:	False
Used Oil Processor:	False
Used Oil Refiner:	False
Used Oil Fuel Marketer Directs Shipments:	False
Used Oil Fuel Marketer Meets Specs:	False

Facility Site ID Number:	5319811
EPA ID:	WAH000024717
NAICS:	484230
Data Year:	2012
Permit by Rule:	False
Treatment by Generator:	False
Mixed radioactive waste:	False
Importer of hazardous waste:	False
Immediate recycler:	False

MP ENVIRONMENTAL (Continued) **S107672290**

Treatment/Storage/Disposal/Recycling Facility:	False
Generator of dangerous fuel waste:	False
Generator marketing to burner:	False
Other marketers (i.e., blender, distributor, etc.):	False
Utility boiler burner:	False
Industry boiler burner:	False
Industrial Furnace:	False
Smelter defferal:	False
Universal waste - batteries - generate:	False
Universal waste - thermostats - generate:	False
Universal waste - mercury - generate:	False
Universal waste - lamps - generate:	False
Universal waste - batteries - accumulate:	False
Universal waste - thermostats - accumulate:	False
Universal waste - mercury - accumulate:	False
Universal waste - lamps - accumulate:	False
Destination Facility for Universal Waste:	False
Off-specification used oil burner - utility boiler:	False
Off-specification used oil burner - industrial boiler:	False
Off-specification used oil burner - industrial furnace:	False
Tax Reg #:	770262888
Business Type:	Transportation
Mail Name:	MP Environmental
Mail addr line1:	3400 Manor St
Mail city,st,zip:	Bakersfield, CA 93308
Mail country:	UNITED STATES
Legal org type:	Private
Legal addr line1:	3400 Manor St
Legal city,st,zip:	Bakersfield, CA 93308
Legal country:	UNITED STATES
Legal phone nbr:	(661)393-1151
Legal effective date:	09/01/1990
Land org type:	Private
Land person name:	Bradley F Rengen
Land addr line1:	PO Box 471
Land city,st,zip:	Arlington, WA 98223
Land country:	UNITED STATES
Land phone nbr:	(000)000-0000
Operator org name:	MP Environmental
Operator org type:	Private
Operator addr line1:	3400 Manor St
Operator city,st,zip:	Bakersfield, CA 93308
Operator country:	UNITED STATES
Operator phone nbr:	(661)393-1151
Operator effective date:	09/01/2004
Site contact name:	Wayne Martin
Site contact addr line1:	3400 34th Ave NE
Site Contact City/State/ Zip:	Everett, WA 98201
Site Contact Country:	UNITED STATES
Site Contact Phone #:	(425)257-3105
Site Contact EMail:	wane.martin@mpenviro.com
Form Contact NAME:	Wayne Martin
Form Contact ADDR LINE1:	3400 34th Ave NE
Form Contact City,ST,Zip:	Everett, WA 98201
Form Contact Country:	UNITED STATES
Form Contact Phone #:	(425)257-3105
Form Contact EMail:	wane.martin@mpenviro.com

MP ENVIRONMENTAL (Continued) **S107672290**

Gen Status CD:	XQG
Monthly Generation:	False
Batch Generation:	False
One Time Generation:	False
Transport Own Waste:	False
Tranports Other Waste:	True
Recycler Onsite:	False
Transfer Facility:	False
UW Battery Gen:	False
Used Oil Transporter:	True
Used Oil Transfer Facility:	False
Used Oil Processor:	False
Used Oil Refiner:	False
Used Oil Fuel Marketer Directs Shipments:	False
Used Oil Fuel Marketer Meets Specs:	False

Facility Site ID Number:	5319811
EPA ID:	WAH000024717
NAICS:	484230
Form Comm:	transportation only
Data Year:	2013
Permit by Rule:	False
Treatment by Generator:	False
Mixed radioactive waste:	False
Importer of hazardous waste:	False
Immediate recycler:	False
Treatment/Storage/Disposal/Recycling Facility:	False
Generator of dangerous fuel waste:	False
Generator marketing to burner:	False
Other marketers (i.e., blender, distributor, etc.):	False
Utility boiler burner:	False
Industry boiler burner:	False
Industrial Furnace:	False
Smelter defferal:	False
Universal waste - batteries - generate:	False
Universal waste - thermostats - generate:	False
Universal waste - mercury - generate:	False
Universal waste - lamps - generate:	False
Universal waste - batteries - accumulate:	False
Universal waste - thermostats - accumulate:	False
Universal waste - mercury - accumulate:	False
Universal waste - lamps - accumulate:	False
Destination Facility for Universal Waste:	False
Off-specification used oil burner - utility boiler:	False
Off-specification used oil burner - industrial boiler:	False
Off-specification used oil burner - industrial furnace:	False
Tax Reg #:	770262888
Business Type:	Transportation
Mail Name:	MP Environmental
Mail addr line1:	3400 Manor St
Mail city,st,zip:	Bakersfield, CA 93308
Mail country:	UNITED STATES
Legal org type:	Private
Legal addr line1:	3400 Manor St
Legal city,st,zip:	Bakersfield, CA 93308
Legal country:	UNITED STATES

MP ENVIRONMENTAL (Continued) **S107672290**

Legal phone nbr:	(661)393-1151
Legal effective date:	09/01/1990
Land org type:	Private
Land person name:	Bradley F Rengen
Land addr line1:	PO Box 471
Land city,st,zip:	Arlington, WA 98223
Land country:	UNITED STATES
Land phone nbr:	(000)000-0000
Operator org name:	MP Environmental
Operator org type:	Private
Operator addr line1:	3400 Manor St
Operator city,st,zip:	Bakersfield, CA 93308
Operator country:	UNITED STATES
Operator phone nbr:	(661)393-1151
Operator effective date:	09/01/2004
Site contact name:	Wayne Martin
Site contact addr line1:	3400 34th Ave NE
Site Contact City/State/ Zip:	Everett, WA 98201
Site Contact Country:	UNITED STATES
Site Contact Phone #:	(425)257-3105
Site Contact EMail:	wane.martin@mpenviro.com
Form Contact NAME:	Wayne Martin
Form Contact ADDR LINE1:	3400 34th Ave NE
Form Contact City,ST,Zip:	Everett, WA 98201
Form Contact Country:	UNITED STATES
Form Contact Phone #:	(425)257-3105
Form Contact EMail:	wane.martin@mpenviro.com
Gen Status CD:	XQG
Monthly Generation:	False
Batch Generation:	False
One Time Generation:	False
Transport Own Waste:	False
Tranports Other Waste:	True
Recycler Onsite:	False
Transfer Facility:	False
UW Battery Gen:	False
Used Oil Transporter:	True
Used Oil Transfer Facility:	False
Used Oil Processor:	False
Used Oil Refiner:	False
Used Oil Fuel Marketer Directs Shipments:	False
Used Oil Fuel Marketer Meets Specs:	False

Facility Site ID Number:	5319811
EPA ID:	WAH000024717
NAICS:	484230
Form Comm:	no waste generated or stored on site
Data Year:	2011
Permit by Rule:	False
Treatment by Generator:	False
Mixed radioactive waste:	False
Importer of hazardous waste:	False
Immediate recycler:	False
Treatment/Storage/Disposal/Recycling Facility:	False
Generator of dangerous fuel waste:	False
Generator marketing to burner:	False

MP ENVIRONMENTAL (Continued) **S107672290**

Other marketers (i.e., blender, distributor, etc.):	False
Utility boiler burner:	False
Industry boiler burner:	False
Industrial Furnace:	False
Smelter defferal:	False
Universal waste - batteries - generate:	False
Universal waste - thermostats - generate:	False
Universal waste - mercury - generate:	False
Universal waste - lamps - generate:	False
Universal waste - batteries - accumulate:	False
Universal waste - thermostats - accumulate:	False
Universal waste - mercury - accumulate:	False
Universal waste - lamps - accumulate:	False
Destination Facility for Universal Waste:	False
Off-specification used oil burner - utility boiler:	False
Off-specification used oil burner - industrial boiler:	False
Off-specification used oil burner - industrial furnace:	False
Tax Reg #:	770262888
Business Type:	Transportation
Mail Name:	MP Environmental
Mail addr line1:	3400 Manor St
Mail city,st,zip:	Bakersfield, CA 93308
Mail country:	UNITED STATES
Legal org type:	Private
Legal addr line1:	3400 Manor St
Legal city,st,zip:	Bakersfield, CA 93308
Legal country:	UNITED STATES
Legal phone nbr:	(661)393-1151
Legal effective date:	09/01/1990
Land org type:	Private
Land person name:	Bradley F Rengen
Land addr line1:	PO Box 471
Land city,st,zip:	Arlington, WA 98223
Land country:	UNITED STATES
Land phone nbr:	(000)000-0000
Operator org name:	MP Environmental
Operator org type:	Private
Operator addr line1:	3400 Manor St
Operator city,st,zip:	Bakersfield, CA 93308
Operator country:	UNITED STATES
Operator phone nbr:	(661)393-1151
Operator effective date:	09/01/2004
Site contact name:	Wayne Martin
Site contact addr line1:	3400 34th Ave NE
Site Contact City/State/ Zip:	Everett, WA 98201
Site Contact Country:	UNITED STATES
Site Contact Phone #:	(425)257-3105
Site Contact EMail:	wane.martin@mpenviro.com
Form Contact NAME:	Wayne Martin
Form Contact ADDR LINE1:	3400 34th Ave NE
Form Contact City,ST,Zip:	Everett, WA 98201
Form Contact Country:	UNITED STATES
Form Contact Phone #:	(425)257-3105
Form Contact EMail:	wane.martin@mpenviro.com
Gen Status CD:	XQG
Monthly Generation:	False
Batch Generation:	False

MP ENVIRONMENTAL (Continued) **S107672290**

One Time Generation:	False
Transport Own Waste:	False
Tranports Other Waste:	True
Recycler Onsite:	False
Transfer Facility:	False
UW Battery Gen:	False
Used Oil Transporter:	True
Used Oil Transfer Facility:	False
Used Oil Processor:	False
Used Oil Refiner:	False
Used Oil Fuel Marketer Directs Shipments:	False
Used Oil Fuel Marketer Meets Specs:	False

Facility Site ID Number:	5319811
EPA ID:	WAH000024717
NAICS:	484230
Data Year:	2014
Permit by Rule:	False
Treatment by Generator:	False
Mixed radioactive waste:	False
Importer of hazardous waste:	False
Immediate recycler:	False
Treatment/Storage/Disposal/Recycling Facility:	False
Generator of dangerous fuel waste:	False
Generator marketing to burner:	False
Other marketers (i.e., blender, distributor, etc.):	False
Utility boiler burner:	False
Industry boiler burner:	False
Industrial Furnace:	False
Smelter defferal:	False
Universal waste - batteries - generate:	False
Universal waste - thermostats - generate:	False
Universal waste - mercury - generate:	False
Universal waste - lamps - generate:	False
Universal waste - batteries - accumulate:	False
Universal waste - thermostats - accumulate:	False
Universal waste - mercury - accumulate:	False
Universal waste - lamps - accumulate:	False
Destination Facility for Universal Waste:	False
Off-specification used oil burner - utility boiler:	False
Off-specification used oil burner - industrial boiler:	False
Off-specification used oil burner - industrial furnace:	False
Tax Reg #:	770262888
Business Type:	Transportation
Mail Name:	MP Environmental
Mail addr line1:	3400 Manor St
Mail city,st,zip:	Bakersfield, CA 93308
Mail country:	UNITED STATES
Legal org type:	Private
Legal addr line1:	3400 Manor St
Legal city,st,zip:	Bakersfield, CA 93308
Legal country:	UNITED STATES
Legal phone nbr:	(661)393-1151
Legal effective date:	09/01/1990
Land org type:	Private
Land person name:	Bradley F Rengen

MP ENVIRONMENTAL (Continued) **S107672290**

Land addr line1:	PO Box 471
Land city,st,zip:	Arlington, WA 98223
Land country:	UNITED STATES
Land phone nbr:	(000)000-0000
Operator org name:	MP Environmental
Operator org type:	Private
Operator addr line1:	3400 Manor St
Operator city,st,zip:	Bakersfield, CA 93308
Operator country:	UNITED STATES
Operator phone nbr:	(661)393-1151
Operator effective date:	09/01/2004
Site contact name:	Wayne Martin
Site contact addr line1:	3400 34th Ave NE
Site Contact City/State/ Zip:	Everett, WA 98201
Site Contact Country:	UNITED STATES
Site Contact Phone #:	(425)257-3105
Site Contact EMail:	wane.martin@mpenviro.com
Form Contact NAME:	Wayne Martin
Form Contact ADDR LINE1:	3400 34th Ave NE
Form Contact City,ST,Zip:	Everett, WA 98201
Form Contact Country:	UNITED STATES
Form Contact Phone #:	(425)257-3105
Form Contact EMail:	wane.martin@mpenviro.com
Gen Status CD:	XQG
Monthly Generation:	False
Batch Generation:	False
One Time Generation:	False
Transport Own Waste:	False
Tranports Other Waste:	True
Recycler Onsite:	False
Transfer Facility:	False
UW Battery Gen:	False
Used Oil Transporter:	True
Used Oil Transfer Facility:	False
Used Oil Processor:	False
Used Oil Refiner:	False
Used Oil Fuel Marketer Directs Shipments:	False
Used Oil Fuel Marketer Meets Specs:	False

13
West
1/4-1/2
0.273 mi.
1444 ft.

PACIFIC TOPSOILS INC - SMITH ISLAND **SWF/LF S111416089**
3000 FRONTAGE ROAD **SWRCY N/A**
EVERETT, WA 98205

Relative:
Higher

Actual:
14 ft.

SWF/LF:

Facility ID:	2262
Region:	STATE
Permit Status:	Exempt
Contact Organization:	Pacific Topsoils Inc -
Operator Name:	Janusz Bajsarowicz
Operator Organization:	Pacific Topsoils Inc -
Operator EMail:	januszb@pacifictopsoils.com
Operator Title:	Environmental Director
Facility Type:	Material Recovery Facility (exempt)
Open to Public Flag:	No

PACIFIC TOPSOILS INC - SMITH ISLAND (Continued) **S111416089**

SWRCY:

Service:	Pacific Topsoils
Phone:	425-317-8420
Website:	http://www.pacifictopsoils.com/
Material Category:	Yard & Food Waste
Material Accepted:	Leaves & clippings
Residential:	Yes
Commercial:	Yes
Service Type:	Dropoff and buy-back sites
Light Recycle Participant:	No
Hours:	Mon-Fri 7am-6pm, Sat 8am-5pm, Sun 9am-4pm
Comments:	Located on Smith Island/Marysville. For fee, accepts grass clippings, leaves, prunings, sod, brush, stumps, wood chips, asphalt, concrete, lumber, and soils. Railroad ties (that haven't been in saltwater) taken for separate fee. No lead-based painted wood.

Service:	Pacific Topsoils
Phone:	425-317-8420
Website:	http://www.pacifictopsoils.com/
Material Category:	Building Materials
Material Accepted:	Clean lumber
Residential:	Yes
Commercial:	Yes
Service Type:	Dropoff and buy-back sites
Light Recycle Participant:	No
Hours:	Mon-Fri 7am-6pm, Sat 8am-5pm, Sun 9am-4pm
Comments:	Located on Smith Island/Marysville. For fee, accepts grass clippings, leaves, prunings, sod, brush, stumps, wood chips, asphalt, concrete, lumber, and soils. Railroad ties (that haven't been in saltwater) taken for separate fee. No lead-based painted wood.

Service:	Pacific Topsoils
Phone:	425-317-8420
Website:	http://www.pacifictopsoils.com/
Material Category:	Building Materials
Material Accepted:	Concrete
Residential:	Yes
Commercial:	Yes
Service Type:	Dropoff and buy-back sites
Light Recycle Participant:	No
Hours:	Mon-Fri 7am-6pm, Sat 8am-5pm, Sun 9am-4pm
Comments:	Located on Smith Island/Marysville. For fee, accepts grass clippings, leaves, prunings, sod, brush, stumps, wood chips, asphalt, concrete, lumber, and soils. Railroad ties (that haven't been in saltwater) taken for separate fee. No lead-based painted wood.

Service:	Pacific Topsoils
Phone:	425-317-8420
Website:	http://www.pacifictopsoils.com/
Material Category:	Yard & Food Waste
Material Accepted:	Trees & stumps
Residential:	Yes
Commercial:	Yes
Service Type:	Dropoff and buy-back sites
Light Recycle Participant:	No
Hours:	Mon-Fri 7am-6pm, Sat 8am-5pm, Sun 9am-4pm
Comments:	Located on Smith Island/Marysville. For fee, accepts grass clippings,

PACIFIC TOPSOILS INC - SMITH ISLAND (Continued) **S111416089**

leaves, prunings, sod, brush, stumps, wood chips, asphalt, concrete, lumber, and soils. Railroad ties (that haven't been in saltwater) taken for separate fee. No lead-based painted wood.

Service:	Pacific Topsoils
Phone:	425-317-8420
Website:	http://www.pacifictopsoils.com/
Material Category:	Building Materials
Material Accepted:	Wooden pallets
Residential:	Yes
Commercial:	Yes
Service Type:	Dropoff and buy-back sites
Light Recycle Participant:	No
Hours:	Mon-Fri 7am-6pm, Sat 8am-5pm, Sun 9am-4pm
Comments:	Located on Smith Island/Marysville. For fee, accepts grass clippings, leaves, prunings, sod, brush, stumps, wood chips, asphalt, concrete, lumber, and soils. Railroad ties (that haven't been in saltwater) taken for separate fee. No lead-based painted wood.

Service:	Pacific Topsoils
Phone:	425-317-8420
Website:	http://www.pacifictopsoils.com/
Material Category:	Yard & Food Waste
Material Accepted:	Sod
Residential:	Yes
Commercial:	Yes
Service Type:	Dropoff and buy-back sites
Light Recycle Participant:	No
Hours:	Mon-Fri 7am-6pm, Sat 8am-5pm, Sun 9am-4pm
Comments:	Located on Smith Island/Marysville. For fee, accepts grass clippings, leaves, prunings, sod, brush, stumps, wood chips, asphalt, concrete, lumber, and soils. Railroad ties (that haven't been in saltwater) taken for separate fee. No lead-based painted wood.

Service:	Pacific Topsoils
Phone:	425-317-8420
Website:	http://www.pacifictopsoils.com/
Material Category:	Yard & Food Waste
Material Accepted:	Dirt
Residential:	Yes
Commercial:	Yes
Service Type:	Dropoff and buy-back sites
Light Recycle Participant:	No
Hours:	Mon-Fri 7am-6pm, Sat 8am-5pm, Sun 9am-4pm
Comments:	Located on Smith Island/Marysville. For fee, accepts grass clippings, leaves, prunings, sod, brush, stumps, wood chips, asphalt, concrete, lumber, and soils. Railroad ties (that haven't been in saltwater) taken for separate fee. No lead-based painted wood.

Service:	Pacific Topsoils
Phone:	425-317-8420
Website:	http://www.pacifictopsoils.com/
Material Category:	Building Materials
Material Accepted:	Painted wood
Residential:	Yes
Commercial:	Yes
Service Type:	Dropoff and buy-back sites

PACIFIC TOPSOILS INC - SMITH ISLAND (Continued) **S111416089**

Light Recycle Participant:	No
Hours:	Mon-Fri 7am-6pm, Sat 8am-5pm, Sun 9am-4pm
Comments:	Located on Smith Island/Marysville. For fee, accepts grass clippings, leaves, prunings, sod, brush, stumps, wood chips, asphalt, concrete, lumber, and soils. Railroad ties (that haven't been in saltwater) taken for separate fee. No lead-based painted wood.
Service:	Pacific Topsoils
Phone:	425-317-8420
Website:	http://www.pacifictopsoils.com/
Material Category:	Yard & Food Waste
Material Accepted:	Branches & brush
Residential:	Yes
Commercial:	Yes
Service Type:	Dropoff and buy-back sites
Light Recycle Participant:	No
Hours:	Mon-Fri 7am-6pm, Sat 8am-5pm, Sun 9am-4pm
Comments:	Located on Smith Island/Marysville. For fee, accepts grass clippings, leaves, prunings, sod, brush, stumps, wood chips, asphalt, concrete, lumber, and soils. Railroad ties (that haven't been in saltwater) taken for separate fee. No lead-based painted wood.
Service:	Pacific Topsoils
Phone:	425-317-8420
Website:	http://www.pacifictopsoils.com/
Material Category:	Building Materials
Material Accepted:	Treated wood
Residential:	Yes
Commercial:	Yes
Service Type:	Dropoff and buy-back sites
Light Recycle Participant:	No
Hours:	Mon-Fri 7am-6pm, Sat 8am-5pm, Sun 9am-4pm
Comments:	Located on Smith Island/Marysville. For fee, accepts grass clippings, leaves, prunings, sod, brush, stumps, wood chips, asphalt, concrete, lumber, and soils. Railroad ties (that haven't been in saltwater) taken for separate fee. No lead-based painted wood.
Service:	Pacific Topsoils
Phone:	425-317-8420
Website:	http://www.pacifictopsoils.com/
Material Category:	Yard & Food Waste
Material Accepted:	Christmas trees
Residential:	Yes
Commercial:	Yes
Service Type:	Dropoff and buy-back sites
Light Recycle Participant:	No
Hours:	Mon-Fri 7am-6pm, Sat 8am-5pm, Sun 9am-4pm
Comments:	Located on Smith Island/Marysville. For fee, accepts grass clippings, leaves, prunings, sod, brush, stumps, wood chips, asphalt, concrete, lumber, and soils. Railroad ties (that haven't been in saltwater) taken for separate fee. No lead-based painted wood.
Service:	Pacific Topsoils
Phone:	425-317-8420
Website:	http://www.pacifictopsoils.com/
Material Category:	Building Materials
Material Accepted:	Brick

PACIFIC TOPSOILS INC - SMITH ISLAND (Continued) **S111416089**

Residential:	Yes
Commercial:	Yes
Service Type:	Dropoff and buy-back sites
Light Recycle Participant:	No
Hours:	Mon-Fri 7am-6pm, Sat 8am-5pm, Sun 9am-4pm
Comments:	Located on Smith Island/Marysville. For fee, accepts grass clippings, leaves, prunings, sod, brush, stumps, wood chips, asphalt, concrete, lumber, and soils. Railroad ties (that haven't been in saltwater) taken for separate fee. No lead-based painted wood.
Service:	Pacific Topsoils
Phone:	425-317-8420
Website:	http://www.pacifictopsoils.com/
Material Category:	Building Materials
Material Accepted:	Asphalt paving
Residential:	Yes
Commercial:	Yes
Service Type:	Dropoff and buy-back sites
Light Recycle Participant:	No
Hours:	Mon-Fri 7am-6pm, Sat 8am-5pm, Sun 9am-4pm
Comments:	Located on Smith Island/Marysville. For fee, accepts grass clippings, leaves, prunings, sod, brush, stumps, wood chips, asphalt, concrete, lumber, and soils. Railroad ties (that haven't been in saltwater) taken for separate fee. No lead-based painted wood.

14
NW
1/4-1/2
0.416 mi.
2198 ft.

Relative:
Higher

Actual:
15 ft.

CEDAR GROVE COMPOSTING INC EVERETT **SWF/LF** **1007453279**
3460 34TH AVE NE **UST** **N/A**
EVERETT, WA 98205 **VCP**
SWRCY
CSCSL NFA
SPILLS

SWF/LF:

Facility ID:	962
Region:	STATE
Permit Status:	Permitted
Contact Organization:	Cedar Grove Composting
Contact Address1:	7343 E Marginal Way S
Contact City:	Seattle
Contact State:	WA
Contact Postal:	98108
Contact EMail:	ronw@emeraldnw.com
Contact Phone:	(206) 450-6182
Phone:	206-832-3000
Operator Name:	Sloane St. John
Operator Organization:	Cedar Grove Composting
Operator EMail:	sloanes@emeraldnw.com
Ownership:	PRIVATE
Facility Type:	Compost Facility
Contact Name:	Ron Westmoreland
Open to Public Flag:	Yes
Website:	http://www.cedar-grove.com/
Latitude:	48.031274
Longitude:	-122.191455

SNOHOMISH Co. LF:
Region: SNOHOMISH

CEDAR GROVE COMPOSTING INC EVERETT (Continued) **1007453279**

Facility Status: Active

UST:

Facility ID:	9970818
Site Id:	619196
Decimal Latitude:	48.031274
Decimal Longitude:	-122.191455
Tank Name:	1
Tank Status:	Removed
Tank Status Date:	01/01/1990
Capacity Range:	111 TO 1,100 Gallons
Responsible Unit:	NORTHWEST

VCP:

edr_fstat:	WA
edr_fzip:	98201
edr_fcnty:	SNOHOMISH
edr_zip:	Not reported
Facility ID:	9970818
VCP Status:	Not reported
VCP:	Yes
Ecology Status:	Not reported
NFA Type:	Not reported
Date NFA:	11/22/2005
Rank:	Not reported
Cleanup Siteid:	5508

SWRCY:

Service:	Cedar Grove Composting
Website:	http://www.cedar-grove.com/
Material Category:	Paper
Material Accepted:	Corrugated cardboard
Contact Name:	Terry Johnson
Residential:	Yes
Commercial:	Yes
Service Type:	Dropoff and buy-back sites
Light Recycle Participant:	No
Hours:	Mon-Fri 7am-5pm, Sat 8am-4pm
Comments:	Lumber must be clean, no demolition lumber waste. No size restriction on yard waste, takes all. Takes sod in small amounts only, mixed with other green waste.
Latitude:	48.029222
Longitude:	-122.185084
Service:	Cedar Grove Composting
Website:	http://www.cedar-grove.com/
Material Category:	Building Materials
Material Accepted:	Particle board
Contact Name:	Terry Johnson
Residential:	Yes
Commercial:	Yes
Service Type:	Dropoff and buy-back sites
Light Recycle Participant:	No
Hours:	Mon-Fri 7am-5pm, Sat 8am-4pm
Comments:	Lumber must be clean, no demolition lumber waste. No size restriction

CEDAR GROVE COMPOSTING INC EVERETT (Continued) **1007453279**

	on yard waste, takes all. Takes sod in small amounts only, mixed with other green waste.
Latitude:	48.029222
Longitude:	-122.185084
Service:	Cedar Grove Composting
Website:	http://www.cedar-grove.com/
Material Category:	Building Materials
Material Accepted:	Plywood
Contact Name:	Terry Johnson
Residential:	Yes
Commercial:	Yes
Service Type:	Dropoff and buy-back sites
Light Recycle Participant:	No
Hours:	Mon-Fri 7am-5pm, Sat 8am-4pm
Comments:	Lumber must be clean, no demolition lumber waste. No size restriction on yard waste, takes all. Takes sod in small amounts only, mixed with other green waste.
Latitude:	48.029222
Longitude:	-122.185084
Service:	Cedar Grove Composting
Website:	http://www.cedar-grove.com/
Material Category:	Building Materials
Material Accepted:	Clean lumber
Contact Name:	Terry Johnson
Residential:	Yes
Commercial:	Yes
Service Type:	Dropoff and buy-back sites
Light Recycle Participant:	No
Hours:	Mon-Fri 7am-5pm, Sat 8am-4pm
Comments:	Lumber must be clean, no demolition lumber waste. No size restriction on yard waste, takes all. Takes sod in small amounts only, mixed with other green waste.
Latitude:	48.029222
Longitude:	-122.185084
Service:	Cedar Grove Composting
Website:	http://www.cedar-grove.com/
Material Category:	Yard & Food Waste
Material Accepted:	Leaves & clippings
Contact Name:	Terry Johnson
Residential:	Yes
Commercial:	Yes
Service Type:	Dropoff and buy-back sites
Light Recycle Participant:	No
Hours:	Mon-Fri 7am-5pm, Sat 8am-4pm
Comments:	Lumber must be clean, no demolition lumber waste. No size restriction on yard waste, takes all. Takes sod in small amounts only, mixed with other green waste.
Latitude:	48.029222
Longitude:	-122.185084
Service:	Cedar Grove Composting
Website:	http://www.cedar-grove.com/
Material Category:	Yard & Food Waste
Material Accepted:	Sod

CEDAR GROVE COMPOSTING INC EVERETT (Continued) **1007453279**

Contact Name:	Terry Johnson
Residential:	Yes
Commercial:	Yes
Service Type:	Dropoff and buy-back sites
Light Recycle Participant:	No
Hours:	Mon-Fri 7am-5pm, Sat 8am-4pm
Comments:	Lumber must be clean, no demolition lumber waste. No size restriction on yard waste, takes all. Takes sod in small amounts only, mixed with other green waste.
Latitude:	48.029222
Longitude:	-122.185084
Service:	Cedar Grove Composting
Website:	http://www.cedar-grove.com/
Material Category:	Building Materials
Material Accepted:	Wooden pallets
Contact Name:	Terry Johnson
Residential:	Yes
Commercial:	Yes
Service Type:	Dropoff and buy-back sites
Light Recycle Participant:	No
Hours:	Mon-Fri 7am-5pm, Sat 8am-4pm
Comments:	Lumber must be clean, no demolition lumber waste. No size restriction on yard waste, takes all. Takes sod in small amounts only, mixed with other green waste.
Latitude:	48.029222
Longitude:	-122.185084
Service:	Cedar Grove Composting
Website:	http://www.cedar-grove.com/
Material Category:	Yard & Food Waste
Material Accepted:	Trees & stumps
Contact Name:	Terry Johnson
Residential:	Yes
Commercial:	Yes
Service Type:	Dropoff and buy-back sites
Light Recycle Participant:	No
Hours:	Mon-Fri 7am-5pm, Sat 8am-4pm
Comments:	Lumber must be clean, no demolition lumber waste. No size restriction on yard waste, takes all. Takes sod in small amounts only, mixed with other green waste.
Latitude:	48.029222
Longitude:	-122.185084
Service:	Cedar Grove Composting
Website:	http://www.cedar-grove.com/
Material Category:	Yard & Food Waste
Material Accepted:	Branches & brush
Contact Name:	Terry Johnson
Residential:	Yes
Commercial:	Yes
Service Type:	Dropoff and buy-back sites
Light Recycle Participant:	No
Hours:	Mon-Fri 7am-5pm, Sat 8am-4pm
Comments:	Lumber must be clean, no demolition lumber waste. No size restriction on yard waste, takes all. Takes sod in small amounts only, mixed with other green waste.

CEDAR GROVE COMPOSTING INC EVERETT (Continued) **1007453279**

Latitude:	48.029222
Longitude:	-122.185084
Service:	Cedar Grove Composting
Website:	http://www.cedar-grove.com/
Material Category:	Yard & Food Waste
Material Accepted:	Food waste & food soiled paper
Contact Name:	Terry Johnson
Residential:	Yes
Commercial:	Yes
Service Type:	Dropoff and buy-back sites
Light Recycle Participant:	No
Hours:	Mon-Fri 7am-5pm, Sat 8am-4pm
Comments:	Lumber must be clean, no demolition lumber waste. No size restriction on yard waste, takes all. Takes sod in small amounts only, mixed with other green waste.
Latitude:	48.029222
Longitude:	-122.185084

CSCSL NFA:

Facility/Site Id:	9970818
CS Id:	5508
NFA Date:	11/22/2005
VCP:	Yes
Latitude:	48.031274
Longitude:	-122.191455

SPILLS:

Facility ID:	652810
Medium:	SOIL
Material Desc:	PETROLEUM - HYDRAULIC OIL
Material Qty:	35
Material Units:	GALLON
Date Received:	11/10/2014

---

15 South 1/2-1 0.505 mi. 2668 ft.

DAGMARS MARINA
1871 ROSS AVE
EVERETT, WA 98205

CSCSL SPILLS NPDES **S108010039 N/A**

Relative: Higher

Actual: 5 ft.

CSCSL:

Facility ID:	8070274
Region:	Northwest
Lat/Long:	48.013979334 / -122.179267
Rank Status:	N
Clean Up Siteid:	4698
Site Status:	Awaiting Cleanup
PSI?:	Yes
Contaminant Name:	Metals Priority Pollutants
Ground Water:	Confirmed Above Cleanup Level
Responsible Unit:	Northwest

SPILLS:

Facility ID:	621060
Medium:	SURFACE WATER-FRESH

DAGMARS MARINA (Continued) **S108010039**

Material Desc: PETROLEUM - GASOLINE
Material Qty: 55
Material Units: GALLON
Date Received: 07/16/2010
Contact Name: PRUGLO

Facility ID: 555595
Material Desc: PETROLEUM - GASOLINE
Material Qty: 1
Material Units: SHEEN
Date Received: 06/03/2006
Contact Name: UNK

Facility ID: 621060
Medium: SURFACE WATER-MARINE
Material Desc: PETROLEUM - UNKNOWN
Material Qty: 300
Material Units: GALLON
Date Received: 07/09/2010
Contact Name: UNKNOWN

Facility ID: 617968
Medium: SURFACE WATER-FRESH
Material Desc: BILGE WATER
Material Qty: 1
Material Units: GALLON
Date Received: 02/07/2010
Contact Name: DEATTIE

Facility ID: 614699
Medium: SURFACE WATER-FRESH
Material Desc: PETROLEUM - DIESEL FUEL
Material Units: GALLON
Date Received: 08/12/2009
Contact Name: UNKNOWN

NPDES:
Facility Status: Active
Facility Type: Boatyard GP
Admin Region: Northwest
Date Issued: 07/06/2016
Latitude: 48.01415999
Longitude: -122.17802
Permit ID: WAG030059
Permit Version: 4
Permit Status: Active
Permit SubStatus: Coverage Issued
Ecology Contact: Greg Stegman
WRIA: Snohomish
Permit Expiration Date: 07/31/2021
Effective Date: 08/08/2016
Days to Expiration: 1383

16
SW
1/2-1
0.518 mi.
2737 ft.

Relative:
Higher

Actual:
11 ft.

WEYERHAEUSER COMPANY EVERETT
101 E MARINE VIEW DR
EVERETT, WA 98201

HSL **1000214995**
CSCSL **N/A**
SWF/LF
UST
INST CONTROL
ICR
CSCSL NFA
ASBESTOS
MANIFEST

HSL:

edr_fstat:	WA
edr_fzip:	Not reported
edr_fcnty:	SNOHOMISH
edr_zip:	Not reported
Facility Type:	**Hazardous Sites List**
Facility Status:	CC-O&M/Monitoring
FSID Number:	11
Rank:	1
Region:	NW
EDR Link ID:	11
Region Decode:	NORTHWEST REGIONAL OFFICE

CSCSL:

Facility ID:	11
Region:	Northwest
Lat/Long:	48.0101 / -122.18458
Rank Status:	1
Clean Up Siteid:	2495
Site Status:	Cleanup Complete-Active O&M/Monitoring
PSI?:	Yes
Contaminant Name:	Arsenic
Ground Water:	Confirmed Above Cleanup Level
Soil:	Confirmed Above Cleanup Level
Responsible Unit:	Northwest

Facility ID:	11
Region:	Northwest
Lat/Long:	48.0101 / -122.18458
Rank Status:	1
Clean Up Siteid:	2495
Site Status:	Cleanup Complete-Active O&M/Monitoring
PSI?:	Yes
Contaminant Name:	Other Halogenated Organics
Ground Water:	Remediated-Above Cleanup Level
Responsible Unit:	Northwest

Facility ID:	11
Region:	Northwest
Lat/Long:	48.0101 / -122.18458
Rank Status:	1
Clean Up Siteid:	2495
Site Status:	Cleanup Complete-Active O&M/Monitoring
PSI?:	Yes
Contaminant Name:	Petroleum-Other
Ground Water:	Remediated-Above Cleanup Level
Soil:	Remediated-Above Cleanup Level
Responsible Unit:	Northwest

WEYERHAEUSER COMPANY EVERETT (Continued) **1000214995**

Facility ID: 11
Region: Northwest
Lat/Long: 48.0101 / -122.18458
Rank Status: 1
Clean Up Siteid: 2495
Site Status: Cleanup Complete-Active O&M/Monitoring
PSI?: Yes
Contaminant Name: Polychlorinated biPhenyls (PCB)
Ground Water: Remediated-Above Cleanup Level
Soil: Remediated-Above Cleanup Level
Responsible Unit: Northwest

Facility ID: 11
Region: Northwest
Lat/Long: 48.0101 / -122.18458
Rank Status: 1
Clean Up Siteid: 2495
Site Status: Cleanup Complete-Active O&M/Monitoring
PSI?: Yes
Contaminant Name: Polycyclic Aromatic Hydrocarbons
Ground Water: Remediated-Above Cleanup Level
Soil: Remediated-Above Cleanup Level
Responsible Unit: Northwest

SNOHOMISH Co. LF:
Region: SNOHOMISH
Facility Status: Active

Region: SNOHOMISH
Facility Status: Closed

UST:
Facility ID: 41
Site Id: 6160

Tank Name: 1
Tank Status: Removed
Tank Status Date: 08/06/1996
Tank Install Date: 00/01/1980
Tank Closure Date: 08/16/1994
Capacity Range: 111 TO 1,100 Gallons
Tank Permit Expiration Date: 07/01/1995
Tank Spill Prevention: None
Tank Overfill Prevention: None
Tank Construction: Single Wall Tank
Tank Corrosion Protection: None
Pipe Construction: Single Wall Pipe
Pipe Primary Release Detection: Safe Suction (No Leak Detection)
Pipe Corrosion Protection: None
Responsible Unit: NORTHWEST

INST CONTROL:
Facility Site ID: 11
Latitude: 48.0101
Longitude: -122.18458
Instrument Type: Environmental Covenant

WEYERHAEUSER COMPANY EVERETT (Continued) **1000214995**

Document Type:	Restrictive Covenant # 9706180506
County Filing # For Individual IC Doc:	9706180506
Filing Date Of Individual IC Doc:	06/17/1997
Anchorage Restrictions:	No
Drinking Water Restrictions:	No
Education Programs:	No
Financial Assurance:	No
Finfish Harvesting Restrictions:	No
Groundwater Restriction:	No
Maintenance Requirements:	No
No Dredge Zone:	No
No Wake Zone:	No
Property Use Restriction:	No
Restrictive Signage:	No
Shell Fish Harvesting Restrictions:	No
Soil Restriction:	Yes
Surface Water Restriction:	No
Swimming Restriction:	No
Vessel Draft Restriction:	No
CS ID:	2495
Shoreline Stabilization Structure:	N
Wave Attenuation Structure:	N
Fencing or Other Permanent Access Barriers:	N
Simple Soil CAP:	Y
Engineered CAP:	Y
Engineered Bottom Barriers:	N
Immobilization by Stabilization, Solidification, or Encapsulation:	N
Ground Water Extraction and Gradient Control:	N
Vertical Ground Water Barrier:	N
Impermeable Surface:	Y
Restrict Land Use:	Y
Restrict All Ground Water Use:	Y
Prohibit Domestic Ground Water Well Installation:	N
Prohibit All Soil Disturbance:	N
Access Barrier:	N

Facility Site ID:	11
Latitude:	48.0101
Longitude:	-122.18458
Instrument Type:	Amended Environmental Covenant
Document Type:	Restrictive Covenant
County Filing # For Individual IC Doc:	201203010379
Filing Date Of Individual IC Doc:	03/01/2012
Anchorage Restrictions:	No
Drinking Water Restrictions:	No
Education Programs:	No
Financial Assurance:	No
Finfish Harvesting Restrictions:	No
Groundwater Restriction:	No
Maintenance Requirements:	No
No Dredge Zone:	No
No Wake Zone:	No
Property Use Restriction:	No
Restrictive Signage:	No
Shell Fish Harvesting Restrictions:	No
Soil Restriction:	No
Surface Water Restriction:	Yes

WEYERHAEUSER COMPANY EVERETT (Continued) **1000214995**

Swimming Restriction:	No
Vessel Draft Restriction:	No
CS ID:	2495
Shoreline Stabilization Structure:	N
Wave Attenuation Structure:	N
Fencing or Other Permanent Access Barriers:	N
Simple Soil CAP:	N
Engineered CAP:	N
Engineered Bottom Barriers:	N
Immobilization by Stabilization, Solidification, or Encapsulation:	N
Ground Water Extraction and Gradient Control:	N
Vertical Ground Water Barrier:	N
Impermeable Surface:	N
Restrict Land Use:	Y
Restrict All Ground Water Use:	Y
Prohibit Domestic Ground Water Well Installation:	N
Prohibit All Soil Disturbance:	N
Access Barrier:	N

Facility Site ID:	10
Latitude:	48.015051
Longitude:	-122.191052
Instrument Type:	Environmental Covenant
Document Type:	Recording #: 9506010274, Date: Jun 1 1995 12:00AM
County Filing # For Individual IC Doc:	9506010274
Filing Date Of Individual IC Doc:	06/01/1995
Anchorage Restrictions:	No
Drinking Water Restrictions:	No
Education Programs:	No
Financial Assurance:	No
Finfish Harvesting Restrictions:	No
Groundwater Restriction:	No
Maintenance Requirements:	No
No Dredge Zone:	No
No Wake Zone:	No
Property Use Restriction:	No
Restrictive Signage:	No
Shell Fish Harvesting Restrictions:	No
Soil Restriction:	No
Surface Water Restriction:	No
Swimming Restriction:	No
Vessel Draft Restriction:	No
CS ID:	2902
Shoreline Stabilization Structure:	N
Wave Attenuation Structure:	N
Fencing or Other Permanent Access Barriers:	N
Simple Soil CAP:	N
Engineered CAP:	N
Engineered Bottom Barriers:	N
Immobilization by Stabilization, Solidification, or Encapsulation:	N
Ground Water Extraction and Gradient Control:	N
Vertical Ground Water Barrier:	N
Impermeable Surface:	N
Restrict Land Use:	Y
Restrict All Ground Water Use:	Y
Prohibit Domestic Ground Water Well Installation:	N
Prohibit All Soil Disturbance:	N

WEYERHAEUSER COMPANY EVERETT (Continued) **1000214995**

Access Barrier: N

ICR:
Date Ecology Received Report: 04/10/00

CSCSL NFA:

Facility/Site Id:	10
CS Id:	2902
NFA Date:	04/06/2015
Rank:	1
VCP:	No
Latitude:	48.015051
Longitude:	-122.191052

ASBESTOS:

Facility Type:	Recycling Ctr
Parent ID:	0
Form ID:	143958##1411Const065336
Notice Date:	06/02/2017
Start Date:	06/12/2017
Completion Date:	09/15/2017
Initial:	1
Site Hours Start:	7:00 a.m.
Site Hours End:	3:30 p.m.
Monday:	1
Tuesday:	1
Wednesday:	1
Thursday:	1
Friday:	1
Contractor ID:	1411
Phone:	425-487-2618x0
Job Site CAS:	Fidel Garcia
Project Form Email:	debraz@cgius.net
Property Owner Agent:	Chris Huck
Property Owner Company:	Blunt Family LLC
Property Owner Address:	6443 Rainier Dr.
Property Owner City:	Everett
Property Owner State:	WA
Property Owner Zip4:	98203
Property Owner Phone:	206-492-7393
Facility Age:	1990
Facility Size:	80000
Facility Demo:	1
Removed:	1
Quantity Sq Ft:	2000
CAB:	1
Roofing:	1
Outdoors:	1
Wet Methods:	1
HEPA Vacuum:	1
MANUALMETHODS :	1
Half Mask APR:	1
Comments:	This is a burn out of the recycle center. it is estimated at 4,800-cy of non friable roofing disposal. contact Mark Marcell for any information.
Date Time Submitted:	2017-06-02 15:11:21
Submitter IP Address:	173.10.108.181

WEYERHAEUSER COMPANY EVERETT (Continued) **1000214995**

Contractor:

Contractor ID:	1411
Contractor UBI:	602516973
Contractor Priority:	M
Contractor Cris Num:	CONSTGI953NA
Contractor Name:	Construction Group International, LLC
Contractor Status:	Active
Contact Name:	Debra Zentner
Contact Phone:	4254872618
Contact Fax:	4254872619
Contractor Cert Prn Date:	2016-07-19 00:00:00
Contractor Original Date:	08/23/2005
Contractor Effective Date:	08/07/2009
Contractor Renewal Letter Date:	05/16/2016
Contractor Exp Date:	08/10/2017
Contractor Cnty Code:	17
Contractor Street Address:	19407 144TH AVE NE BLDG D
Contractor City:	WOODINVILLE
Contractor State:	WA
Contractor Zip:	98072
Contractor Phone:	4254872618
Contractor Email:	debraz@cgius.com
Contractor Mail Street Address:	19407 144TH AVE NE BLDG D
Contractor Mail City:	WOODINVILLE
Contractor Mail State:	WA
Contractor Mail Zip:	98072

Facility Type:	Recycling Ctr
Parent ID:	143958
Form ID:	143959##1411Const065779
Notice Date:	06/02/2017
Start Date:	06/12/2017
Completion Date:	09/15/2017
Amended:	1
On Hold:	1
Site Hours Start:	7:00 a.m.
Site Hours End:	3:30 p.m.
Monday:	1
Tuesday:	1
Wednesday:	1
Thursday:	1
Friday:	1
Contractor ID:	1411
Phone:	425-487-2618x0
Job Site CAS:	Fidel Garcia
Project Form Email:	debraz@cgius.net
Property Owner Agent:	Chris Huck
Property Owner Company:	Blunt Family LLC
Property Owner Address:	6443 Rainier Dr.
Property Owner City:	Everett
Property Owner State:	WA
Property Owner Zip4:	98203
Property Owner Phone:	206-492-7393
Facility Age:	1990
Facility Size:	80000
Facility Demo:	1

WEYERHAEUSER COMPANY EVERETT (Continued) **1000214995**

Removed:	1
Quantity Sq Ft:	2000
CAB:	1
Roofing:	1
Outdoors:	1
Wet Methods:	1
HEPA Vacuum:	1
MANUALMETHODS :	1
Half Mask APR:	1
Comments:	This is a burn out of the recycle center. it is estimated at 4,800-cy of non friable roofing disposal. contact Mark Marcell for any information.
Date Time Submitted:	2017-06-02 15:15:42
Submitter IP Address:	173.10.108.181

Contractor:

Contractor ID:	1411
Contractor UBI:	602516973
Contractor Priority:	M
Contractor Cris Num:	CONSTGI953NA
Contractor Name:	Construction Group International, LLC
Contractor Status:	Active
Contact Name:	Debra Zentner
Contact Phone:	4254872618
Contact Fax:	4254872619
Contractor Cert Prn Date:	2016-07-19 00:00:00
Contractor Original Date:	08/23/2005
Contractor Effective Date:	08/07/2009
Contractor Renewal Letter Date:	05/16/2016
Contractor Exp Date:	08/10/2017
Contractor Cnty Code:	17
Contractor Street Address:	19407 144TH AVE NE BLDG D
Contractor City:	WOODINVILLE
Contractor State:	WA
Contractor Zip:	98072
Contractor Phone:	4254872618
Contractor Email:	debraz@cgius.com
Contractor Mail Street Address:	19407 144TH AVE NE BLDG D
Contractor Mail City:	WOODINVILLE
Contractor Mail State:	WA
Contractor Mail Zip:	98072

WA MANIFEST:

Facility Site ID Number:	41
EPA ID:	WAD009273129
NAICS:	321113
Form Comm:	Weyerhaeuser Company (Weyerhaeuser) closed a purchase and sale agreement for this property located in Everett Snohomish County Washington to Pacific Topsoils Inc. (Pacific Topsoils"). The former Mill E/Koppers site which is the subject of Consent Decree No. 98-2-087186 (Snohomish County) was included as part of the transaction. Pacific Topsoils has agreed to assume and complete all remaining obligations imposed by the Consent Decree. Contact information for Pacific Topsoils: Pacific Topsoils Inc. Attn.: Janusz Bajsarowicz 805 - 80th Street SW Everett WA 98203 Telephone (425) 337-2700 Weyerhaeuser submits this report for reporting year 2005.

WEYERHAEUSER COMPANY EVERETT (Continued) **1000214995**

Permit by Rule:	No
Treatment by Generator:	No
Mixed radioactive waste:	No
Importer of hazardous waste:	No
Immediate recycler:	No
Treatment/Storage/Disposal/Recycling Facility:	No
Generator of dangerous fuel waste:	No
Generator marketing to burner:	No
Other marketers (i.e., blender, distributor, etc.):	No
Utility boiler burner:	No
Industry boiler burner:	No
Industrial Furnace:	No
Smelter defferal:	No
Universal waste - batteries - generate:	No
Universal waste - thermostats - generate:	No
Universal waste - mercury - generate:	No
Universal waste - lamps - generate:	No
Universal waste - batteries - accumulate:	No
Universal waste - thermostats - accumulate:	No
Universal waste - mercury - accumulate:	No
Universal waste - lamps - accumulate:	No
Destination Facility for Universal Waste:	No
Off-specification used oil burner - utility boiler:	No
Off-specification used oil burner - industrial boiler:	No
Off-specification used oil burner - industrial furnace:	No
Tax Reg #:	278012337
Mail Name:	Weyerhaeuser Co NP 310
Mail addr line1:	PO BOX 9777 EC2-2C1
Mail city,st,zip:	FEDERAL WAY, WA 98063-9777
Mail country:	UNITED STATES
Legal org name:	Weyerhaeuser Co NP 310
Legal org type:	Private
Legal addr line1:	PO BOX 9777 EC2-2C1
Legal city,st,zip:	FEDERAL WAY, WA 98063-9777
Legal country:	UNITED STATES
Legal phone nbr:	(253)924-3746
Legal effective date:	08/08/1996
Land org name:	Weyerhaeuser Co NP 310
Land org type:	Private
Land addr line1:	PO BOX 9777 EC2-2C1
Land city,st,zip:	FEDERAL WAY, WA 98063-9777
Land country:	UNITED STATES
Land phone nbr:	(253)924-3746
Operator org name:	Weyerhaeuser Company
Operator org type:	Private
Operator addr line1:	CH1 D29
Operator city,st,zip:	TACOMA, WA 98421-4321
Operator country:	UNITED STATES
Operator phone nbr:	(253) 924-3746
Operator effective date:	01/01/1997
Site contact name:	Jennifer Hale
Site contact addr line1:	PO BOX 9777 EC2-2C1
Site Contact City/State/ Zip:	FEDERAL WAY, WA 98063-9777
Site Contact Country:	UNITED STATES
Site Contact Phone #:	253924-3746
Form Contact NAME:	Jennifer Bariska
Form Contact ADDR LINE1:	PO BOX 9777 EC2-2C1

WEYERHAEUSER COMPANY EVERETT (Continued) **1000214995**

Form Contact City,ST,Zip:	FEDERAL WAY, WA 98063-9777
Form Contact Country:	UNITED STATES
Form Contact Phone #:	253924-3746
Form Contact EMail:	jennifer.hale@weyerhaeuser.com
Gen Status CD:	XQG
Monthly Generation:	No
Batch Generation:	No
One Time Generation:	No
Transport Own Waste:	No
Tranports Other Waste:	No
Recycler Onsite:	No
Transfer Facility:	No
UW Battery Gen:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Fuel Marketer Directs Shipments:	No
Used Oil Fuel Marketer Meets Specs:	No

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17 **SPENCER ISLAND MOSER PROPERTY** **HSL** **1007080251**
North **FRONTAGE RD & I5** **CSCSL** **N/A**
1/2-1 **EVERETT, WA 98205**
0.655 mi.
3461 ft.

Relative:
Higher

Actual:
6 ft.

HSL:

edr_fstat:	WA
edr_fzip:	Not reported
edr_fcnty:	SNOHOMISH
edr_zip:	Not reported
Facility Type:	**Hazardous Sites List**
Facility Status:	Awaiting Cleanup
FSID Number:	2785
Rank:	5
Region:	NW
EDR Link ID:	2785
Region Decode:	NORTHWEST REGIONAL OFFICE

CSCSL:

Facility ID:	2785
Region:	Northwest
Lat/Long:	48.035119 / -122.180929
Rank Status:	5
Clean Up Siteid:	3830
Site Status:	Awaiting Cleanup
PSI?:	Yes
Contaminant Name:	Non-Halogenated Solvents
Ground Water:	Suspected
Surface Water:	Suspected
Soil:	Suspected
Responsible Unit:	Northwest

Facility ID:	2785
Region:	Northwest
Lat/Long:	48.035119 / -122.180929

SPENCER ISLAND MOSER PROPERTY (Continued) **1007080251**

Rank Status:	5
Clean Up Siteid:	3830
Site Status:	Awaiting Cleanup
PSI?:	Yes
Contaminant Name:	Petroleum Products-Unspecified
Ground Water:	Suspected
Surface Water:	Suspected
Soil:	Confirmed Above Cleanup Level
Responsible Unit:	Northwest

18
SW
1/2-1
0.659 mi.
3477 ft.

RIVERSIDE BUSINESS PARK **CSCSL S104490913**
501 E MARINE VIEW DR **NPDES N/A**
EVERETT, WA 98201

Relative: Higher
Actual: 68 ft.

CSCSL:

Facility ID:	49839758
Region:	Northwest
Lat/Long:	48.000163 / -122.183458
Rank Status:	N
Clean Up Siteid:	3105
Site Status:	Cleanup Started
Contaminant Name:	Metals Priority Pollutants
Ground Water:	Confirmed Above Cleanup Level
Soil:	Confirmed Above Cleanup Level
Responsible Unit:	Northwest

NPDES:

Facility Status:	Active
Facility Type:	Construction SW GP
Admin Region:	Headqarters
Date Issued:	11/18/2015
Latitude:	48.01030000
Longitude:	-122.19
Permit ID:	WAR007543
Permit Version:	2
Permit Status:	Active
Permit SubStatus:	Coverage Issued
Ecology Contact:	Tracie Walters
WRIA:	Snohomish
Permit Expiration Date:	12/31/2020
Effective Date:	01/01/2016
Days to Expiration:	1171

19
SSW
1/2-1
0.752 mi.
3971 ft.

WEYERHAEUSER PAPER CO EVERETT **HSL 1000215010**
515 E MARINE VIEW DR **CSCSL WAD980738090**
EVERETT, WA 98201 **LUST**
INST CONTROL
RCRA NonGen / NLR

Relative: Higher
Actual: 38 ft.

HSL:

edr_fstat:	WA
edr_fzip:	Not reported
edr_fcnty:	SNOHOMISH
edr_zip:	Not reported

WEYERHAEUSER PAPER CO EVERETT (Continued) **1000215010**

Facility Type: **Hazardous Sites List**
Facility Status: CC-Perf. Monitoring
FSID Number: 12
Rank: 1
Region: NW
EDR Link ID: 12
Region Decode: NORTHWEST REGIONAL OFFICE

CSCSL:
Facility ID: 12
Region: Northwest
Lat/Long: 48.0101 / -122.1818
Rank Status: 1
Clean Up Siteid: 2903
Site Status: Construction Complete-Performance Monitoring
Contaminant Name: Arsenic
Ground Water: Remediated-Above Cleanup Level
Soil: Remediated-Above Cleanup Level
Responsible Unit: Northwest

Facility ID: 12
Region: Northwest
Lat/Long: 48.0101 / -122.1818
Rank Status: 1
Clean Up Siteid: 2903
Site Status: Construction Complete-Performance Monitoring
Contaminant Name: Halogenated Organics
Ground Water: Remediated-Above Cleanup Level
Soil: Remediated-Above Cleanup Level
Responsible Unit: Northwest

Facility ID: 12
Region: Northwest
Lat/Long: 48.0101 / -122.1818
Rank Status: 1
Clean Up Siteid: 2903
Site Status: Construction Complete-Performance Monitoring
Contaminant Name: Metals - Other
Ground Water: Remediated-Above Cleanup Level
Soil: Remediated-Above Cleanup Level
Responsible Unit: Northwest

Facility ID: 12
Region: Northwest
Lat/Long: 48.0101 / -122.1818
Rank Status: 1
Clean Up Siteid: 2903
Site Status: Construction Complete-Performance Monitoring
Contaminant Name: Petroleum-Other
Ground Water: Remediated-Above Cleanup Level
Soil: Remediated-Above Cleanup Level
Responsible Unit: Northwest

Facility ID: 12
Region: Northwest
Lat/Long: 48.0101 / -122.1818
Rank Status: 1

WEYERHAEUSER PAPER CO EVERETT (Continued) **1000215010**

Clean Up Siteid: 2903
Site Status: Construction Complete-Performance Monitoring
Contaminant Name: Polycyclic Aromatic Hydrocarbons
Soil: Remediated-Above Cleanup Level
Responsible Unit: Northwest

Facility ID: 4999496
Region: Northwest
Lat/Long: 48.010166 / -122.182416
Rank Status: N
Clean Up Siteid: 5350
Site Status: Cleanup Started
PSI?: Yes
Contaminant Name: Metals Priority Pollutants
Ground Water: Confirmed Above Cleanup Level
Soil: Confirmed Above Cleanup Level
Sediment: Suspected
Responsible Unit: Northwest

Facility ID: 4999496
Region: Northwest
Lat/Long: 48.010166 / -122.182416
Rank Status: N
Clean Up Siteid: 5350
Site Status: Cleanup Started
PSI?: Yes
Contaminant Name: Non-Halogenated Solvents
Ground Water: Confirmed Above Cleanup Level
Soil: Confirmed Above Cleanup Level
Sediment: Confirmed Above Cleanup Level
Responsible Unit: Northwest

Facility ID: 4999496
Region: Northwest
Lat/Long: 48.010166 / -122.182416
Rank Status: N
Clean Up Siteid: 5350
Site Status: Cleanup Started
PSI?: Yes
Contaminant Name: Pesticides-Unspecified
Ground Water: Suspected
Soil: Confirmed Above Cleanup Level
Sediment: Suspected
Responsible Unit: Northwest

Facility ID: 4999496
Region: Northwest
Lat/Long: 48.010166 / -122.182416
Rank Status: N
Clean Up Siteid: 5350
Site Status: Cleanup Started
PSI?: Yes
Contaminant Name: Petroleum Products-Unspecified
Ground Water: Confirmed Above Cleanup Level
Sediment: Suspected
Responsible Unit: Northwest

WEYERHAEUSER PAPER CO EVERETT (Continued) **1000215010**

Facility ID: 4999496
Region: Northwest
Lat/Long: 48.010166 / -122.182416
Rank Status: N
Clean Up Siteid: 5350
Site Status: Cleanup Started
PSI?: Yes
Contaminant Name: Petroleum-Gasoline
Soil: Confirmed Above Cleanup Level
Responsible Unit: Northwest

Facility ID: 4999496
Region: Northwest
Lat/Long: 48.010166 / -122.182416
Rank Status: N
Clean Up Siteid: 5350
Site Status: Cleanup Started
PSI?: Yes
Contaminant Name: Phenolic Compounds
Ground Water: Confirmed Above Cleanup Level
Soil: Confirmed Above Cleanup Level
Sediment: Suspected
Responsible Unit: Northwest

Facility ID: 4999496
Region: Northwest
Lat/Long: 48.010166 / -122.182416
Rank Status: N
Clean Up Siteid: 5350
Site Status: Cleanup Started
PSI?: Yes
Contaminant Name: Polychlorinated biPhenyls (PCB)
Ground Water: Suspected
Soil: Confirmed Above Cleanup Level
Sediment: Suspected
Responsible Unit: Northwest

Facility ID: 4999496
Region: Northwest
Lat/Long: 48.010166 / -122.182416
Rank Status: N
Clean Up Siteid: 5350
Site Status: Cleanup Started
PSI?: Yes
Contaminant Name: Polycyclic Aromatic Hydrocarbons
Ground Water: Confirmed Above Cleanup Level
Soil: Confirmed Above Cleanup Level
Sediment: Confirmed Above Cleanup Level
Responsible Unit: Northwest

LUST:
Facility ID: 4999496
Lust Status Type: Cleanup Started
Cleanup Site ID: 5350
Cleanup Unit Type: Upland
Process Type: Independent Action
Cleanup Unit Name: WEYERHAEUSER EVERETT MILL

WEYERHAEUSER PAPER CO EVERETT (Continued) **1000215010**

Lust Status Date: 07/01/2011
Response Section: Northwest
Lat/Long: 48.010166 / -122.18241

INST CONTROL:
Facility Site ID: 12
Latitude: 48.0101
Longitude: -122.1818
Instrument Type: Environmental Covenant
Document Type: Recording #: 1999072660455, Date: Jul 26 1999 12:00AM
County Filing # For Individual IC Doc: 1999072660455
Filing Date Of Individual IC Doc: 07/26/1999
Anchorage Restrictions: No
Drinking Water Restrictions: Yes
Education Programs: No
Financial Assurance: No
Finfish Harvesting Restrictions: No
Groundwater Restriction: No
Maintenance Requirements: Yes
No Dredge Zone: No
No Wake Zone: No
Property Use Restriction: Yes
Restrictive Signage: No
Shell Fish Harvesting Restrictions: No
Soil Restriction: No
Surface Water Restriction: No
Swimming Restriction: No
Vessel Draft Restriction: No
CS ID: 2903
Shoreline Stabilization Structure: N
Wave Attenuation Structure: N
Fencing or Other Permanent Access Barriers: N
Simple Soil CAP: N
Engineered CAP: N
Engineered Bottom Barriers: N
Immobilization by Stabilization, Solidification, or Encapsulation: N
Ground Water Extraction and Gradient Control: N
Vertical Ground Water Barrier: N
Impermeable Surface: N
Restrict Land Use: Y
Restrict All Ground Water Use: Y
Prohibit Domestic Ground Water Well Installation: N
Prohibit All Soil Disturbance: N
Access Barrier: Y

RCRA NonGen / NLR:
Date form received by agency: 12/31/1993
Facility name: WEYERHAEUSER PAPER CO EVERETT
Facility address: 515 E MARINE VIEW DR
EVERETT, WA 98201-1252
EPA ID: WAD980738090
Mailing address: 101 E MARINE VIEW DR
EVERETT, WA 98201-1255
Contact: WEYERHAEUSER CO WEYERHAEUSER CO
Contact address: 101 E MARINE VIEW DR
EVERETT, WA 98201-1255

WEYERHAEUSER PAPER CO EVERETT (Continued) **1000215010**

Contact country: US
Contact telephone: 000-000-0000
EPA Region: 10
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: WEYERHAEUSER CO W
Owner/operator address: 515 E MARINE VIEW DR
EVERETT, WA 98201
Owner/operator country: US
Owner/operator telephone: 000-000-0000
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 01/01/1902

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 06/12/1991
Site name: WEYERHAEUSER PAPER CO EVERETT
Classification: Not a generator, verified

Date form received by agency: 12/31/1990
Site name: WEYERHAEUSER CO-EVERETT WOOD P
Classification: Large Quantity Generator

Violation Status: No violations found

---

20 SW 1/2-1 0.797 mi. 4206 ft. **EVERETT SMELTER** **HSL S102845936**
SR 529 & E MARINE VIEW DR **CSCSL N/A**
EVERETT, WA 98201 **INST CONTROL**

Relative: Higher
Actual: 112 ft.

HSL:
edr_fstat: WA
edr_fzip: Not reported
edr_fcnty: SNOHOMISH
edr_zip: Not reported
Facility Type: Hazardous Sites List
Facility Status: Cleanup Started

EVERETT SMELTER (Continued) **S102845936**

FSID Number: 2744
Rank: 1
Region: NW
EDR Link ID: 2744
Region Decode: NORTHWEST REGIONAL OFFICE

CSCSL:
Facility ID: 2744
Region: Northwest
Lat/Long: 48.00989 / -122.19228
Rank Status: 1
Clean Up Siteid: 4298
Site Status: Cleanup Started
PSI?: Yes
Contaminant Name: Metals Priority Pollutants
Ground Water: Confirmed Above Cleanup Level
Surface Water: Confirmed Above Cleanup Level
Soil: Confirmed Above Cleanup Level
Air: Below MTCA Cleanup Level After Assessment
Responsible Unit: Northwest

Facility ID: 2744
Region: Northwest
Lat/Long: 48.00989 / -122.19228
Rank Status: 1
Clean Up Siteid: 4298
Site Status: Cleanup Started
PSI?: Yes
Contaminant Name: Petroleum Products-Unspecified
Soil: Below MTCA Cleanup Level After Assessment
Responsible Unit: Northwest

INST CONTROL:
Facility Site ID: 2744
Latitude: 48.00989
Longitude: -122.19228
Instrument Type: Environmental Covenant
Document Type: Historic Restrictive Covenant
Anchorage Restrictions: No
Drinking Water Restrictions: No
Education Programs: Yes
Financial Assurance: No
Finfish Harvesting Restrictions: No
Groundwater Restriction: No
Maintenance Requirements: No
No Dredge Zone: No
No Wake Zone: No
Property Use Restriction: No
Restrictive Signage: No
Shell Fish Harvesting Restrictions: No
Soil Restriction: No
Surface Water Restriction: No
Swimming Restriction: No
Vessel Draft Restriction: No
CS ID: 4298
Shoreline Stabilization Structure: N

EVERETT SMELTER (Continued) **S102845936**

Wave Attenuation Structure:	N
Fencing or Other Permanent Access Barriers:	N
Simple Soil CAP:	N
Engineered CAP:	N
Engineered Bottom Barriers:	N
Immobilization by Stabilization, Solidification, or Encapsulation:	N
Ground Water Extraction and Gradient Control:	N
Vertical Ground Water Barrier:	N
Impermeable Surface:	N
Restrict Land Use:	N
Restrict All Ground Water Use:	N
Prohibit Domestic Ground Water Well Installation:	N
Prohibit All Soil Disturbance:	N
Access Barrier:	N

21
WSW
1/2-1
0.918 mi.
4849 ft.

LEGION MEMORIAL GOLF COURSE **CSCSL S104971344**
144 W MARINE VIEW DR **SPILLS N/A**
EVERETT, WA 98201

Relative:
Higher

Actual:
84 ft.

CSCSL:

Facility ID:	9311679
Region:	Northwest
Lat/Long:	48.016642066 / -122.20316697
Rank Status:	N
Clean Up Siteid:	1653
Site Status:	Cleanup Started
PSI?:	Yes
Contaminant Name:	Metals Priority Pollutants
Soil:	Confirmed Above Cleanup Level
Responsible Unit:	Northwest

SPILLS:

Facility ID:	646451
Medium:	ROADWAY-PAVED
Material Desc:	SEWAGE/SLUDGE
Material Qty:	10
Material Units:	GALLON
Contact Name:	UNKNOWN

Count: 2 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
EVERETT	S105454387	MOSER PROPERTY - SPENCER ISLAND	BETWEEN FRONTAGE ROAD & I-5	98205	ICR
EVERETT	S118401762	HERITAGE ENVIRONMENTAL SERVICES, L	2323 ROSS AVE	98205	SWF/LF

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
WA	AIRS (EMI)	Washington Emissions Data System	Department of Ecology	12/31/2016	01/10/2017	03/17/2017
WA	ASBESTOS	Asbestos Notification Listing	Department of Labor & Industries	03/13/2018	03/16/2018	04/11/2018
WA	AST	Aboveground Storage Tank Locations	Department of Ecology	12/14/2015	02/02/2016	05/03/2016
WA	BROWNFIELDS	Brownfields Sites Listing	Department of Ecology	01/18/2017	01/20/2017	03/17/2017
WA	CDL	Clandestine Drug Lab Contaminated Site List	Department of Health	01/17/2018	02/13/2018	03/07/2018
WA	COAL ASH	Coal Ash Disposal Site Listing	Department of Ecology	03/08/2018	03/13/2018	04/11/2018
WA	CSCSL	Confirmed and Suspected Contaminated Sites List	Department of Ecology	01/17/2018	01/18/2018	02/13/2018
WA	CSCSL NFA	Confirmed and Contaminated Sites - No Further Action	Department of Ecology	01/17/2018	01/18/2018	02/13/2018
WA	DRYCLEANERS	Drycleaner List	Department of Ecology	01/17/2018	01/19/2018	02/13/2018
WA	HIST CDL	List of Sites Contaminated by Clandestine Drug Labs	Department of Health	02/08/2007	06/26/2007	07/19/2007
WA	HSL	Hazardous Sites List	Department of Ecology	02/21/2018	03/15/2018	04/11/2018
WA	ICR	Independent Cleanup Reports	Department of Ecology	12/01/2002	01/03/2003	01/22/2003
WA	INACTIVE DRYCLEANERS	Inactive Drycleaners	Department of Ecology	01/17/2018	01/19/2018	02/13/2018
WA	INST CONTROL	Institutional Control Site List	Department of Ecology	01/17/2018	01/18/2018	02/13/2018
WA	LUST	Leaking Underground Storage Tanks Site List	Department of Ecology	02/13/2018	02/15/2018	03/08/2018
WA	NPDES	Water Quality Permit System Data	Department of Ecology	10/17/2017	10/18/2017	10/20/2017
WA	RGA HWS	Recovered Government Archive State Hazardous Waste Facilitie	Department of Ecology		07/01/2013	12/24/2013
WA	RGA LF	Recovered Government Archive Solid Waste Facilities List	Department of Ecology		07/01/2013	01/10/2014
WA	RGA LUST	Recovered Government Archive Leaking Underground Storage Tan	Department of Ecology		07/01/2013	12/24/2013
WA	SPILLS	Reported Spills	Department of Ecology	03/05/2018	03/08/2018	04/11/2018
WA	SPILLS 90	SPILLS90 data from FirstSearch	FirstSearch	05/23/2006	01/03/2013	03/06/2013
WA	SWF/LF	Solid Waste Facility Database	Department of Ecology	03/05/2018	03/13/2018	04/11/2018
WA	SWRCY	Recycling Facility List	Department of Ecology	01/23/2018	01/26/2018	03/15/2018
WA	SWTIRE	Solid Waste Tire Facilities	Department of Ecology	11/01/2005	03/16/2006	04/13/2006
WA	SWTIRE 2	Solid Waste Tire Facilities 2	Department of Ecology	06/20/2017	06/23/2017	05/30/2018
WA	UIC	Underground Injection Wells Listing	Department of Ecology	01/17/2018	01/18/2018	02/13/2018
WA	UST	Underground Storage Tank Database	Department of Ecology	05/01/2018	05/01/2018	05/09/2018
WA	VCP	Voluntary Cleanup Program Sites	Department of Ecology	01/17/2018	01/18/2018	02/13/2018
WA	WA MANIFEST	Hazardous Waste Manifest Data	Department of Ecology	12/31/2016	04/27/2017	06/05/2017
US	2020 COR ACTION	2020 Corrective Action Program List	Environmental Protection Agency	04/22/2013	03/03/2015	03/09/2015
US	ABANDONED MINES	Abandoned Mines	Department of Interior	12/20/2017	12/21/2017	03/23/2018
US	BRS	Biennial Reporting System	EPA/NTIS	12/31/2015	02/22/2017	09/28/2017
US	COAL ASH DOE	Steam-Electric Plant Operation Data	Department of Energy	12/31/2005	08/07/2009	10/22/2009
US	COAL ASH EPA	Coal Combustion Residues Surface Impoundments List	Environmental Protection Agency	07/01/2014	09/10/2014	10/20/2014
US	CONSENT	Superfund (CERCLA) Consent Decrees	Department of Justice, Consent Decree Library	12/31/2017	01/24/2018	04/13/2018
US	CORRACTS	Corrective Action Report	EPA	12/11/2017	12/26/2017	02/09/2018
US	DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations	EPA, Region 9	01/12/2009	05/07/2009	09/21/2009
US	DOCKET HWC	Hazardous Waste Compliance Docket Listing	Environmental Protection Agency	01/04/2018	01/19/2018	04/13/2018
US	DOD	Department of Defense Sites	USGS	12/31/2005	11/10/2006	01/11/2007
US	DOT OPS	Incident and Accident Data	Department of Transporation, Office of Pipeli	07/31/2012	08/07/2012	09/18/2012
US	Delisted NPL	National Priority List Deletions	EPA	12/11/2017	12/22/2017	01/05/2018
US	ECHO	Enforcement & Compliance History Information	Environmental Protection Agency	01/13/2018	01/19/2018	03/02/2018
US	EPA WATCH LIST	EPA WATCH LIST	Environmental Protection Agency	08/30/2013	03/21/2014	06/17/2014
US	ERNS	Emergency Response Notification System	National Response Center, United States Coast	01/16/2018	01/19/2018	03/23/2018
US	FEDERAL FACILITY	Federal Facility Site Information listing	Environmental Protection Agency	11/07/2016	01/05/2017	04/07/2017
US	FEDLAND	Federal and Indian Lands	U.S. Geological Survey	12/31/2005	02/06/2006	01/11/2007
US	FEMA UST	Underground Storage Tank Listing	FEMA	05/15/2017	05/30/2017	10/13/2017

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
US	FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA/Office of Prevention, Pesticides and Toxi	04/09/2009	04/16/2009	05/11/2009
US	FTTS INSP	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA	04/09/2009	04/16/2009	05/11/2009
US	FUDS	Formerly Used Defense Sites	U.S. Army Corps of Engineers	01/31/2015	07/08/2015	10/13/2015
US	FUELS PROGRAM	EPA Fuels Program Registered Listing	EPA	02/20/2018	02/21/2018	03/23/2018
US	FUSRAP	Formerly Utilized Sites Remedial Action Program	Department of Energy	12/23/2016	12/27/2016	02/17/2017
US	HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	HIST FTTS INSP	FIFRA/TSCA Tracking System Inspection & Enforcement Case Lis	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	HMIRS	Hazardous Materials Information Reporting System	U.S. Department of Transportation	01/19/2018	01/19/2018	03/23/2018
US	ICIS	Integrated Compliance Information System	Environmental Protection Agency	11/18/2016	11/23/2016	02/10/2017
US	IHS OPEN DUMPS	Open Dumps on Indian Land	Department of Health & Human Serivces, Indian	04/01/2014	08/06/2014	01/29/2015
US	INDIAN LUST R1	Leaking Underground Storage Tanks on Indian Land	EPA Region 1	10/14/2017	01/23/2018	04/13/2018
US	INDIAN LUST R10	Leaking Underground Storage Tanks on Indian Land	EPA Region 10	10/24/2017	01/23/2018	04/13/2018
US	INDIAN LUST R4	Leaking Underground Storage Tanks on Indian Land	EPA Region 4	10/14/2017	01/23/2018	04/13/2018
US	INDIAN LUST R5	Leaking Underground Storage Tanks on Indian Land	EPA, Region 5	10/16/2017	01/23/2018	04/13/2018
US	INDIAN LUST R6	Leaking Underground Storage Tanks on Indian Land	EPA Region 6	01/06/2018	01/23/2018	04/13/2018
US	INDIAN LUST R7	Leaking Underground Storage Tanks on Indian Land	EPA Region 7	10/12/2017	01/23/2018	04/13/2018
US	INDIAN LUST R8	Leaking Underground Storage Tanks on Indian Land	EPA Region 8	10/12/2017	01/23/2018	04/13/2018
US	INDIAN LUST R9	Leaking Underground Storage Tanks on Indian Land	Environmental Protection Agency	09/30/2017	01/23/2018	04/13/2018
US	INDIAN ODI	Report on the Status of Open Dumps on Indian Lands	Environmental Protection Agency	12/31/1998	12/03/2007	01/24/2008
US	INDIAN RESERV	Indian Reservations	USGS	12/31/2014	07/14/2015	01/10/2017
US	INDIAN UST R1	Underground Storage Tanks on Indian Land	EPA, Region 1	10/14/2017	01/23/2018	04/13/2018
US	INDIAN UST R10	Underground Storage Tanks on Indian Land	EPA Region 10	10/24/2017	01/23/2018	04/13/2018
US	INDIAN UST R4	Underground Storage Tanks on Indian Land	EPA Region 4	10/14/2017	01/23/2018	04/13/2018
US	INDIAN UST R5	Underground Storage Tanks on Indian Land	EPA Region 5	10/16/2017	01/23/2018	04/13/2018
US	INDIAN UST R6	Underground Storage Tanks on Indian Land	EPA Region 6	04/24/2017	07/27/2017	12/08/2017
US	INDIAN UST R7	Underground Storage Tanks on Indian Land	EPA Region 7	01/13/2018	01/23/2018	04/13/2018
US	INDIAN UST R8	Underground Storage Tanks on Indian Land	EPA Region 8	10/12/2017	01/23/2018	04/13/2018
US	INDIAN UST R9	Underground Storage Tanks on Indian Land	EPA Region 9	09/30/2017	01/23/2018	04/13/2018
US	INDIAN VCP R1	Voluntary Cleanup Priority Listing	EPA, Region 1	07/27/2015	09/29/2015	02/18/2016
US	INDIAN VCP R7	Voluntary Cleanup Priority Lisitng	EPA, Region 7	03/20/2008	04/22/2008	05/19/2008
US	LEAD SMELTER 1	Lead Smelter Sites	Environmental Protection Agency	01/09/2018	02/06/2018	03/02/2018
US	LEAD SMELTER 2	Lead Smelter Sites	American Journal of Public Health	04/05/2001	10/27/2010	12/02/2010
US	LIENS 2	CERCLA Lien Information	Environmental Protection Agency	01/09/2018	02/06/2018	05/11/2018
US	LUCIS	Land Use Control Information System	Department of the Navy	02/16/2018	02/22/2018	05/11/2018
US	MLTS	Material Licensing Tracking System	Nuclear Regulatory Commission	08/30/2016	09/08/2016	10/21/2016
US	NPL	National Priority List	EPA	12/11/2017	12/22/2017	01/05/2018
US	NPL LIENS	Federal Superfund Liens	EPA	10/15/1991	02/02/1994	03/30/1994
US	ODI	Open Dump Inventory	Environmental Protection Agency	06/30/1985	08/09/2004	09/17/2004
US	PADS	PCB Activity Database System	EPA	06/01/2017	06/09/2017	10/13/2017
US	PCB TRANSFORMER	PCB Transformer Registration Database	Environmental Protection Agency	05/24/2017	11/30/2017	12/15/2017
US	PRP	Potentially Responsible Parties	EPA	10/25/2013	10/17/2014	10/20/2014
US	Proposed NPL	Proposed National Priority List Sites	EPA	12/11/2017	12/22/2017	01/05/2018
US	RAATS	RCRA Administrative Action Tracking System	EPA	04/17/1995	07/03/1995	08/07/1995
US	RADINFO	Radiation Information Database	Environmental Protection Agency	01/03/2018	01/04/2018	04/13/2018
US	RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated	Environmental Protection Agency	12/11/2017	12/26/2017	02/09/2018
US	RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generators	Environmental Protection Agency	12/11/2017	12/26/2017	02/09/2018
US	RCRA-LQG	RCRA - Large Quantity Generators	Environmental Protection Agency	12/11/2017	12/26/2017	02/09/2018

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
US	RCRA-SQG	RCRA - Small Quantity Generators	Environmental Protection Agency	12/11/2017	12/26/2017	02/09/2018
US	RCRA-TSDF	RCRA - Treatment, Storage and Disposal	Environmental Protection Agency	12/11/2017	12/26/2017	02/09/2018
US	RMP	Risk Management Plans	Environmental Protection Agency	11/02/2017	11/17/2017	12/08/2017
US	ROD	Records Of Decision	EPA	01/09/2018	02/06/2018	05/11/2018
US	SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing	Environmental Protection Agency	01/01/2017	02/03/2017	04/07/2017
US	SEMS	Superfund Enterprise Management System	EPA	01/09/2018	02/06/2018	04/13/2018
US	SEMS-ARCHIVE	Superfund Enterprise Management System Archive	EPA	01/09/2018	02/06/2018	04/13/2018
US	SSTS	Section 7 Tracking Systems	EPA	12/31/2009	12/10/2010	02/25/2011
US	TRIS	Toxic Chemical Release Inventory System	EPA	12/31/2016	01/10/2018	01/12/2018
US	TSCA	Toxic Substances Control Act	EPA	12/31/2016	06/21/2017	01/05/2018
US	UMTRA	Uranium Mill Tailings Sites	Department of Energy	06/23/2017	10/11/2017	11/03/2017
US	US AIRS (AFS)	Aerometric Information Retrieval System Facility Subsystem (	EPA	10/12/2016	10/26/2016	02/03/2017
US	US AIRS MINOR	Air Facility System Data	EPA	10/12/2016	10/26/2016	02/03/2017
US	US BROWNFIELDS	A Listing of Brownfields Sites	Environmental Protection Agency	01/19/2018	01/19/2018	02/09/2018
US	US CDL	Clandestine Drug Labs	Drug Enforcement Administration	02/22/2018	03/01/2018	05/11/2018
US	US ENG CONTROLS	Engineering Controls Sites List	Environmental Protection Agency	02/13/2018	02/27/2018	05/11/2018
US	US HIST CDL	National Clandestine Laboratory Register	Drug Enforcement Administration	02/22/2018	03/01/2018	05/11/2018
US	US INST CONTROL	Sites with Institutional Controls	Environmental Protection Agency	02/13/2018	02/27/2018	05/11/2018
US	US MINES	Mines Master Index File	Department of Labor, Mine Safety and Health A	01/25/2018	02/28/2018	05/11/2018
US	US MINES 2	Ferrous and Nonferrous Metal Mines Database Listing	USGS	12/05/2005	02/29/2008	04/18/2008
US	US MINES 3	Active Mines & Mineral Plants Database Listing	USGS	04/14/2011	06/08/2011	09/13/2011
US	UXO	Unexploded Ordnance Sites	Department of Defense	09/30/2016	10/31/2017	01/12/2018
CT	CT MANIFEST	Hazardous Waste Manifest Data	Department of Energy & Environmental Protecti	01/03/2018	02/14/2018	03/22/2018
NY	NY MANIFEST	Facility and Manifest Data	Department of Environmental Conservation	12/31/2017	01/31/2018	03/09/2018
PA	PA MANIFEST	Manifest Information	Department of Environmental Protection	12/31/2016	07/25/2017	09/25/2017
WI	WI MANIFEST	Manifest Information	Department of Natural Resources	12/31/2016	04/13/2017	07/14/2017
US	AHA Hospitals	Sensitive Receptor: AHA Hospitals	American Hospital Association, Inc.			
US	Medical Centers	Sensitive Receptor: Medical Centers	Centers for Medicare & Medicaid Services			
US	Nursing Homes	Sensitive Receptor: Nursing Homes	National Institutes of Health			
US	Public Schools	Sensitive Receptor: Public Schools	National Center for Education Statistics			
US	Private Schools	Sensitive Receptor: Private Schools	National Center for Education Statistics			
WA	Daycare Centers	Sensitive Receptor: Daycare Center Listing	Department of Social & Health Services			
US	Flood Zones	100-year and 500-year flood zones	Emergency Management Agency (FEMA)			
US	NWI	National Wetlands Inventory	U.S. Fish and Wildlife Service			
WA	State Wetlands	Wetland Inventory	Department of Ecology			
US	Topographic Map	Current USGS 7.5 Minute Topographic Map	U.S. Geological Survey			
US	Oil/Gas Pipelines		PennWell Corporation			
US	Electric Power Transmission Line Data		PennWell Corporation			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date

STREET AND ADDRESS INFORMATION

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

BUSE TIMBER & SALES
3812 28TH PL NE
EVERETT, WA 98201

TARGET PROPERTY COORDINATES

Latitude (North):	48.021797 - 48° 1' 18.47''
Longitude (West):	122.178336 - 122° 10' 42.01''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	561268.3
UTM Y (Meters):	5318830.5
Elevation:	4 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	6006526 MARYSVILLE, WA
Version Date:	2014

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

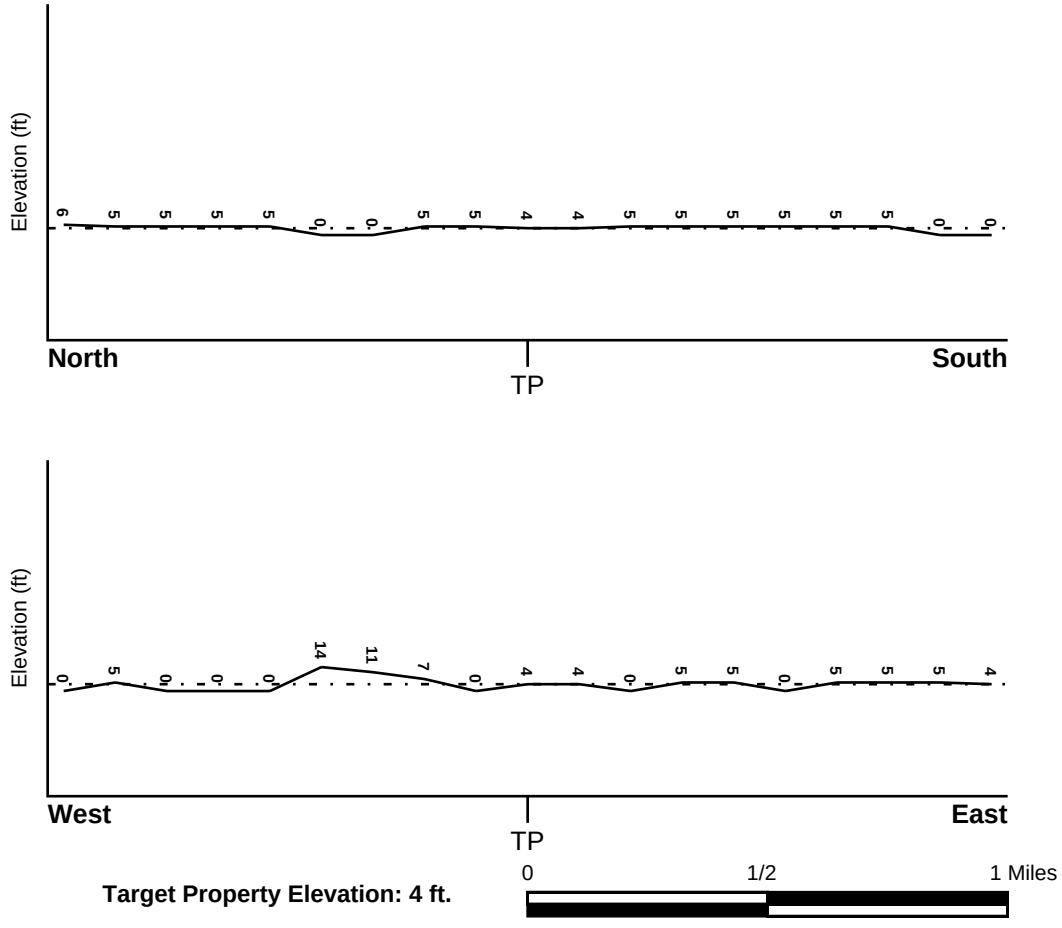
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General NE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
53061C0720F	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
53061C0715F	FEMA FIRM Flood data
53061C0716F	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
MARYSVILLE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Location Relative to TP:	1/2 - 1 Mile SW
Site Name:	WEYERHAEUSER SULFITE-PULP MILL
Site EPA ID Number:	WAD009273129
Groundwater Flow Direction:	W
Inferred Depth to Water:	15 feet
Hydraulic Connection:	The near-surface aquifer is tidally influenced and is situated within fill material.
Sole Source Aquifer:	A sole source aquifer is not persent at or near the site
Data Quality:	Information is inferred in the CERCLIS investigation report(s)

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

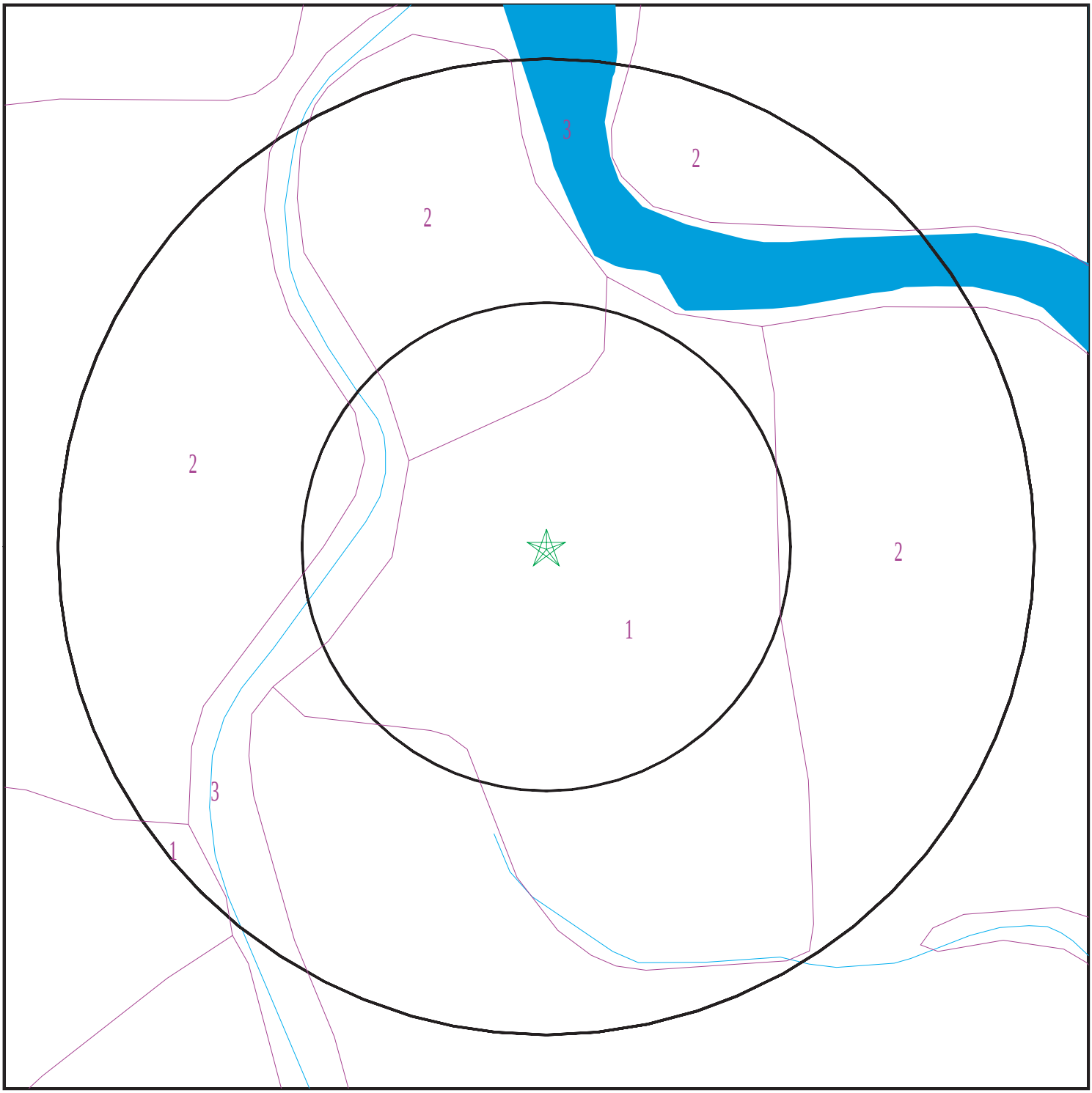
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 5319024.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Buse Timber & Sales	CLIENT:	Terracon
ADDRESS:	3812 28th Pl NE Everett WA 98201	CONTACT:	Taylor Blackbourn
LAT/LONG:	48.021797 / 122.178336	INQUIRY #:	5319024.2s
		DATE:	June 01, 2018 1:39 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name:	Urban land
Soil Surface Texture:	
Hydrologic Group:	Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.
Soil Drainage Class:	
Hydric Status: Not hydric	
Corrosion Potential - Uncoated Steel:	Not Reported
Depth to Bedrock Min:	> 0 inches
Depth to Watertable Min:	> 0 inches

No Layer Information available.

Soil Map ID: 2

Soil Component Name:	Puget
Soil Surface Texture:	silty clay loam
Hydrologic Group:	Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.
Soil Drainage Class:	Poorly drained
Hydric Status: All hydric	
Corrosion Potential - Uncoated Steel:	High
Depth to Bedrock Min:	> 0 inches
Depth to Watertable Min:	> 92 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 7.3 Min: 6.1
2	9 inches	37 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 6.5 Min: 5.6
3	37 inches	59 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 1.4 Min: 0.42	Max: 6.5 Min: 5.6

Soil Map ID: 3

Soil Component Name: Water

Soil Surface Texture: silty clay loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class:
Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	USGS40001280342	1/4 - 1/2 Mile West
2	USGS40001280539	1/2 - 1 Mile NW
3	USGS40001280077	1/2 - 1 Mile SW
4	USGS40001279902	1/2 - 1 Mile SSW
5	USGS40001280792	1/2 - 1 Mile North
A6	USGS40001279859	1/2 - 1 Mile South
A7	USGS40001279860	1/2 - 1 Mile South

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

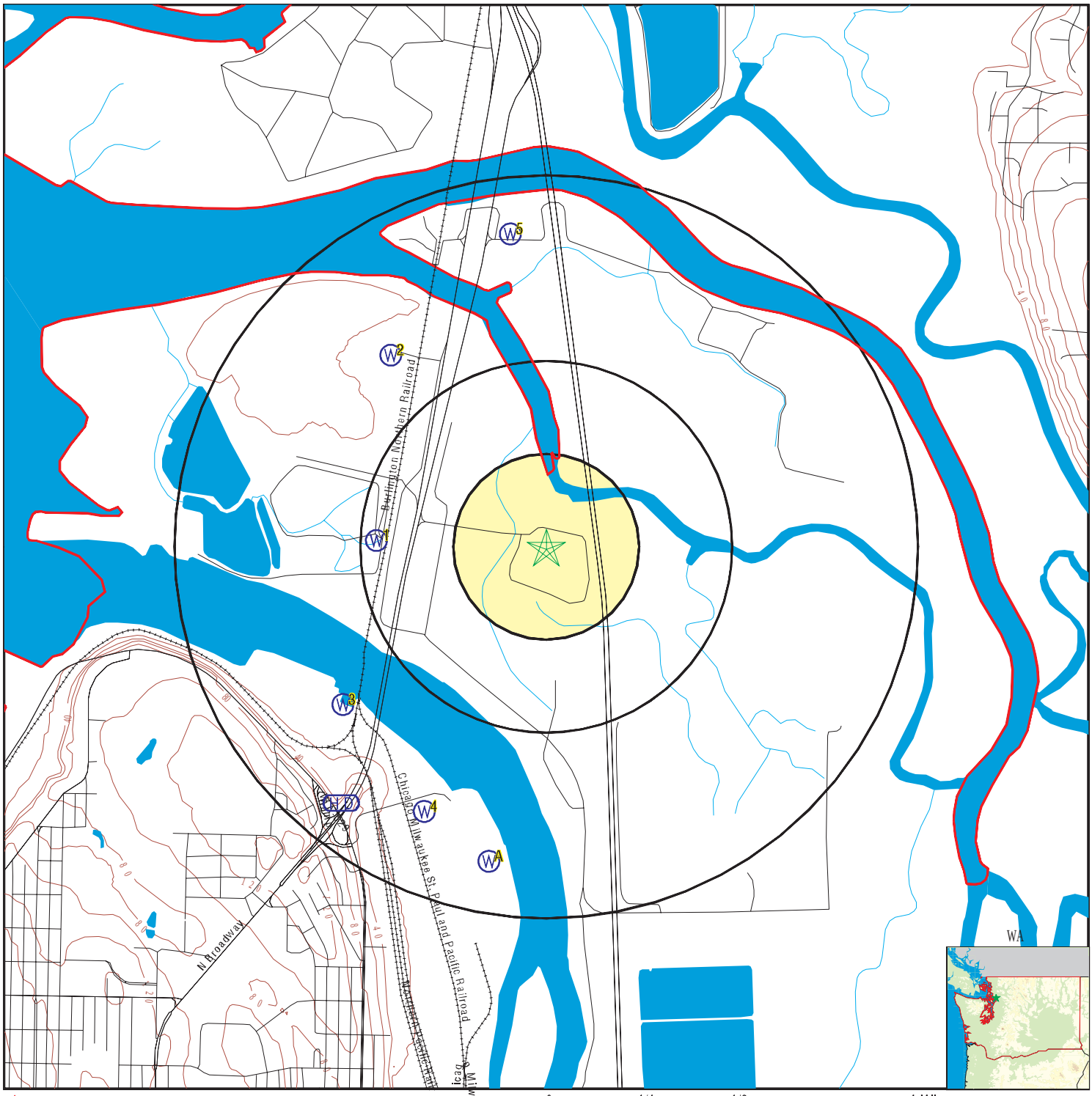
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 5319024.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Buse Timber & Sales	CLIENT:	Terracon
ADDRESS:	3812 28th Pl NE Everett WA 98201	CONTACT:	Taylor Blackbourn
LAT/LONG:	48.021797 / 122.178336	INQUIRY #:	5319024.2s
		DATE:	June 01, 2018 1:38 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

1
West
1/4 - 1/2 Mile
Higher | **FED USGS** | **USGS40001280342**

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-480120122111301		
Monloc name:	29N/05E-05R01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17110011	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.0220407
Longitude:	-122.188192	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	10
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19921216	Welldepth:	12
Welldepth units:	ft	Wellholedepth:	12
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1993-06-23	5.4	

2
NW
1/2 - 1 Mile
Higher | **FED USGS** | **USGS40001280539**

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-480146122111001		
Monloc name:	29N/05E-05H01		
Monloc type:	Well		
Monloc desc:	ENVIRONMENTAL PARTNERS CONSULTING FIRM		
Huc code:	17110011	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.0292631
Longitude:	-122.187359	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	200
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	19930512	Welldepth:	15
Welldepth units:	ft	Wellholedepth:	15
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1993-08-17	4.56	

3
SW
1/2 - 1 Mile
Higher

FED USGS **USGS40001280077**

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-480057122112001		
Monloc name:	29N/05E-08G01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17110019	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.0156517
Longitude:	-122.1901362	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	10
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19930610	Welldepth:	18
Welldepth units:	ft	Wellholedepth:	18
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1993-06-23	4.99		1993-06-10	4	

4
SSW
1/2 - 1 Mile
Higher

FED USGS **USGS40001279902**

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-480042122110301		
Monloc name:	29N/05E-08R01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17110008	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.011485
Longitude:	-122.1854136	Sourcemap scale:	24000

Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	10
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19291101	Welldepth:	1540
Welldepth units:	ft	Wellholedepth:	1545
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

5
North **FED USGS** **USGS40001280792**
1/2 - 1 Mile
Higher

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-480203122104501		
Monloc name:	29N/05E-04D01		
Monloc type:	Well		
Monloc desc:	TOM LANDAU AND ASSOCIATES CONSULTING FIRM		
Huc code:	17110011	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.0339855
Longitude:	-122.1804145	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	10
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19911104	Welldepth:	20
Welldepth units:	ft	Wellholedepth:	20
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

A6
South **FED USGS** **USGS40001279859**
1/2 - 1 Mile
Higher

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-480035122104901		
Monloc name:	29N/05E-09N01		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17110011	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.0095406
Longitude:	-122.1815245	Sourcemap scale:	24000

Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	10
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19921222	Welldepth:	9.5
Welldepth units:	ft	Wellholedepth:	9.5
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1993-06-23	8.22		1992-12-22	8	

A7
South
1/2 - 1 Mile
Higher

FED USGS **USGS40001279860**

Org. Identifier:	USGS-WA		
Formal name:	USGS Washington Water Science Center		
Monloc Identifier:	USGS-480035122105001		
Monloc name:	29N/05E-09N02		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	17110011	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	48.0095406
Longitude:	-122.1818023	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	10
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19921222	Welldepth:	25
Welldepth units:	ft	Wellholedepth:	25
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1993-06-23	8.43		1992-12-22	8	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for SNOHOMISH County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 98205

Number of sites tested: 2

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.050 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Ecology
Telephone: 360-407-6121

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Wells
Source: Department of Health
Telephone: 360-236-3148
Group A and B well locations.

Water Well Listing
Source: Public Utility District
Telephone: 206-779-7656
A listing of water well locations in Kitsap County.

OTHER STATE DATABASE INFORMATION

Oil and Gas Well Listing
Source: Department of Natural Resources
Telephone: 360-902-1450
Locations that represent oil and gas test well sites in Washington State from 1890 to present.

RADON

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

APPENDIX E
CREDENTIALS

Taylor Blackbourn

ENVIRONMENTAL SCIENTIST

PROFESSIONAL EXPERIENCE

Ms. Blackbourn is an environmental scientist, based in Terracon's Seattle (Mountlake Terrace), Washington office. She has experience completing environmental assessments, for telecommunications, commercial, industrial, retail, residential, and undeveloped properties.

In addition, Ms. Blackbourn has experience preparing NEPA reports for federal undertakings.

Environmental Site Assessments (ESAs)

Ms. Blackbourn has performed numerous Phase I environmental site assessments of various commercial, retail, agricultural, residential and undeveloped properties in Washington and Idaho. She is familiar with ASTM 1527 requirements and has evaluated issues such as asbestos, lead, PCBs, radon, mold, threatened and endangered species, and wetlands issues in conjunction with Phase I assessments. She has researched site history and performed file research, and performed sample collection and data analysis. Projects have included industrial facilities, commercial properties, large agricultural parcels, residential developments and various automotive facilities.

Various Telecommunication Sites

Ms. Blackbourn has managed and assisted with projects for telecommunication carriers in Washington, Oregon, Idaho and Alaska. Project activities included performing Tribal consultation, Federal and State Fish and Wildlife Consultation (including endangered and threatened species research), performing Phase I ESAs, NEPA and Section 106 Reviews, and writing final reports.

Organizational Development

Ms. Blackbourn has assisted with projects for clients in need of leadership organization, change management, team development and safety culture. She has experience in reorganization of visual materials and coordination of multiple parties for collaboration. Projects have included Sound Transit Safety and the Indian Health Service Sustainability Program.

EDUCATION

Bachelor of Arts, Environmental Studies, 2014, Gonzaga University

WORK HISTORY

Terracon Consultants, Inc., Seattle, Washington, Environmental Scientist, 2015 – Present

CERTIFICATIONS

Environmental Protection Agency (EPA) approved AHERA Building Inspector, No. 167220

Matt Wheaton, L.G., P.E.

ENVIRONMENTAL DEPARTMENT MANAGER

PROFESSIONAL EXPERIENCE

Mr. Wheaton is Terracon's Seattle (Mountlake Terrace) office Environmental Department Manager. His duties include the management of all phases of environmental site assessments (ESAs), business environmental risk reviews, site characterizations, and National Environmental Policy Act (NEPA) compliance assessments for wireless telecommunications providers. He also performs technical review of all environmental service projects in the Seattle office. Over the course of his 17 years of professional environmental and geotechnical engineering experience, Mr. Wheaton has performed site characterizations of soil and groundwater for regulatory compliance, and for remediation design projects throughout North America.

Environmental Site Assessments (ESAs)

Mr. Wheaton has managed and performed hundreds of ESAs nationwide for industrial, commercial, residential, and agricultural properties. He manages long-term national accounts for financial institutions (equity and loan portfolios), real estate investment trusts, developers, and other real property owners. Mr. Wheaton fully understands facility operating systems; state and federal regulations; and fate and transport of chemicals through air, soil, vapor, surface water, and groundwater. He has extensive experience and expertise in the performance of ESAs under the All Appropriate Inquiry rules (ASTM 1527-13), and meets the requirements of an Environmental Professional as defined by this rule.

Limited Subsurface Investigations (LSIs)

Mr. Wheaton has managed and performed hundreds of LSIs throughout Washington, Oregon, Idaho, Alaska, Nevada and California. He has investigated environmental conditions in soils and groundwater because of releases from a variety of sources, including service stations, dry cleaners, and a wide range of industrial and manufacturing operations.

Remedial Investigation/Remedial Action

Mr. Wheaton has managed numerous Remedial Investigation (RI) and Remedial Action (RA) projects in Washington State, either through an Independent Remedial Action or in coordination with the Washington State Department of Ecology's Voluntary Cleanup Program (VCP). He has significant expertise in the collection and interpretation of data to pursue closure through the Washington and Oregon State VCP programs. Mr. Wheaton has provided oversight on RA projects utilizing multiple cleanup remedies, including in-situ chemical oxidation, the installation of granular activated carbon, zero-valent iron injections, and large-scale dig-and-haul methods on a variety of industrial and commercial properties.

National Environmental Policy Act (NEPA) Reviews

Mr. Wheaton has managed the completion of hundreds of NEPA reviews for telecommunications sites in Washington, Oregon, Idaho, Nevada, Montana, Alaska and Wyoming. The reviews included the completion of FCC Form 620/621 for Section 106 reviews by State Historic Preservation Offices, historic resource surveys, tribal coordination, US Fish and Wildlife Service (USFWS) Section 7 consultations, and assessment for the presence of wetlands, floodplains, and federal lands.

Asbestos-Containing Material (ACM) and Lead-Based Paint (LBP) Surveys

Mr. Wheaton has managed, performed and provided quality assurance for numerous ACM and LBP surveys in Washington and Oregon. ACM surveys were performed in accordance with AHERA and NESHAP guidelines on commercial, multi-family residential and educational properties slated for renovation or demolition.

EDUCATION

Master of Science, Civil and Environmental Engineering, 2006, University of Maryland

Bachelor of Science, Geology, 1996, Colorado State University

REGISTRATIONS

Licensed Geologist: Washington, 2010, No. 2872

Registered Geologist: Oregon, 2011, No. G2323

Professional Civil Engineer: Washington, 2017, No. 55647

Washington State Department of Ecology Registered Site Assessor, May 2008

State of Nevada, Certified Environmental Manager, CEM No. 1985

CERTIFICATIONS

OSHA 40-Hour Hazardous Waste Site Operations

EPA approved AHERA Building Inspector (License # 00-0076)

WORK HISTORY

Terracon Consultants, Inc., Seattle, Washington, Environmental Dept. Manager, 2012 – Present;
Sr. Project Manager, 1997 – 2012

APPENDIX F
DESCRIPTION OF TERMS AND ACRONYMS

Description of Selected General Terms and Acronyms

Term/Acronym	Description
ACM	Asbestos Containing Material. Asbestos is a naturally occurring mineral, three varieties of which (chrysotile, amosite, crocidolite) have been commonly used as fireproofing or binding agents in construction materials. Exposure to asbestos, as well as ACM, has been documented to cause lung diseases including asbestosis (scarring of the lung), lung cancer and mesothelioma (a cancer of the lung lining). Regulatory agencies have generally defined ACM as a material containing greater that one (1) percent asbestos, however some states (e.g. California) define ACM as materials having 0.1% asbestos. In order to define a homogenous material as non-ACM, a minimum number of samples must be collected from the material dependent upon its type and quantity. Homogenous materials defined as non-ACM must either have 1) no asbestos identified in all of its samples or 2) an identified asbestos concentration below the appropriate regulatory threshold. Asbestos concentrations are generally determined using polarized light microscopy or transmission electron microscopy. Point counting is an analytical method to statistically quantify the percentage of asbestos in a sample. The asbestos component of ACM may either be friable or non-friable. Friable materials, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure and have a higher potential for a fiber release than non-friable ACM. Non-friable ACM are materials that are firmly bound in a matrix by plastic, cement, etc. and, if handled carefully, will not become friable. Federal and state regulations require that either all suspect building materials be presumed ACM or that an asbestos survey be performed prior to renovation, dismantling, demolition, or other activities that may disturb potential ACM. Notifications are required prior to demolition and/or renovation activities that may impact the condition of ACM in a building. ACM removal may be required if the ACM is likely to be disturbed or damaged during the demolition or renovation. Abatement of friable or potentially friable ACM must be performed by a licensed abatement contractor in accordance with state rules and NESHAP. Additionally, OSHA regulations for work classification, worker training and worker protection will apply.
AHERA	Asbestos Hazard Emergency Response Act
AST	Aboveground Storage Tanks. ASTs are generally described as storage tanks less than 10% of which are below ground (i.e., buried). Tanks located in a basement, but not buried, are also considered ASTs. Whether, and the extent to which, an AST is regulated, is determined on a case-by-case basis and depends upon tank size, its contents and the jurisdiction of its location.
BGS	Below Ground Surface
Brownfields	State and/or tribal listing of Brownfield properties addressed by Cooperative Agreement Recipients or Targeted Brownfields Assessments.
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes. BTEX are VOC components found in gasoline and commonly used as analytical indicators of a petroleum hydrocarbon release.
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act (a.k.a. Superfund). CERCLA is the federal act that regulates abandoned or uncontrolled hazardous waste sites. Under this Act, joint and several liability may be imposed on potentially responsible parties for cleanup-related costs.
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System. An EPA compilation of sites having suspected or actual releases of hazardous substances to the environment. CERCLIS also contains information on site inspections, preliminary assessments and remediation of hazardous waste sites. These sites are typically reported to EPA by states and municipalities or by third parties pursuant to CERCLA Section 103.
CESQG	Conditionally Exempt Small Quantity Generators
CFR	Code of Federal Regulations

Description of Selected General Terms and Acronyms

Term/Acronym	Description
CREC	Controlled Recognized Environmental Condition is defined in ASTM E1527-13 as "a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority) , with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). A condition considered by the environmental professional to be a controlled recognized environmental condition shall be listed in the findings section of the Phase I Environmental Site Assessment report, and as a recognized environmental condition in the conclusions section of the Phase I Environmental Site Assessment report."
DOT	U.S. Department of Transportation
EPA	U.S. Environmental Protection Agency
ERNS	Emergency Response Notification System. An EPA-maintained federal database which stores information on notifications of oil discharges and hazardous substance releases in quantities greater than the applicable reportable quantity under CERCLA. ERNS is a cooperative data-sharing effort between EPA, DOT, and the National Response Center.
ESA	Environmental Site Assessment
FRP	Fiberglass Reinforced Plastic
Hazardous Substance	As defined under CERCLA, this is (A) any substance designated pursuant to section 1321(b)(2)(A) of Title 33, (B) any element, compound, mixture, solution, or substance designated pursuant to section 9602 of this title; (C) any hazardous waste having characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act (with some exclusions); (D) any toxic pollutant listed under section 1317(a) of Title 33; (E) any hazardous air pollutant listed under section 112 of the Clean Air Act; and (F) any imminently hazardous chemical substance or mixture with respect to which the EPA Administrator has taken action under section 2606 of Title 15. This term does not include petroleum, including crude oil or any fraction thereof which is not otherwise listed as a hazardous substance under subparagraphs (A) through (F) above, and the term include natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).
Hazardous Waste	This is defined as having characteristics identified or listed under section 3001 of the Solid Waste Disposal Act (with some exceptions). RCRA, as amended by the Solid Waste Disposal Act of 1980, defines this term as a "solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed."
HREC	Historical Recognized Environmental Condition is defined in ASTM E1527-13 as "a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted residential use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). Before calling the past release a historical recognized environmental condition, the environmental professional must determine whether the past release is a recognized environmental condition at the time of the Phase I Environmental Site Assessment is conducted (for example, if there has been a change in the regulatory criteria). If the EP considers the past release to be a recognized environmental condition at the time the Phase I ESA is conducted, the condition shall be included in the conclusions section of the report as a recognized environmental condition."

Description of Selected General Terms and Acronyms

Term/Acronym	Description
IC/EC	A listing of sites with institutional and/or engineering controls in place. IC include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls. EC include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.
ILP	Innocent Landowner/Operator Program
LQG	Large Quantity Generators
LUST	Leaking Underground Storage Tank. This is a federal term set forth under RCRA for leaking USTs. Some states also utilize this term.
MCL	Maximum Contaminant Level. This Safe Drinking Water concept (and also used by many states as a ground water cleanup criteria) refers to the limit on drinking water contamination that determines whether a supplier can deliver water from a specific source without treatment.
MSDS	Material Safety Data Sheets. Written/printed forms prepared by chemical manufacturers, importers and employers which identify the physical and chemical traits of hazardous chemicals under OSHA's Hazard Communication Standard.
NESHAP	National Emissions Standard for Hazardous Air Pollutants (Federal Clean Air Act). This part of the Clean Air Act regulates emissions of hazardous air pollutants.
NFRAP	Facilities where there is "No Further Remedial Action Planned," as more particularly described under the Records Review section of this report.
NOV	Notice of Violation. A notice of violation or similar citation issued to an entity, company or individual by a state or federal regulatory body indicating a violation of applicable rule or regulations has been identified.
NPDES	National Pollutant Discharge Elimination System (Clean Water Act). The federal permit system for discharges of polluted water.
NPL	The NPL is the EPA's database of uncontrolled or abandoned hazardous waste facilities that have been listed for priority remedial actions under the Superfund Program.
OSHA	Occupational Safety and Health Administration or Occupational Safety and Health Act
PACM	Presumed Asbestos-Containing Material. A material that is suspected of containing or presumed to contain asbestos but which has not been analyzed to confirm the presence or absence of asbestos.
PCB	Polychlorinated Biphenyl. A halogenated organic compound commonly in the form of a viscous liquid or resin, a flowing yellow oil, or a waxy solid. This compound was historically used as dielectric fluid in electrical equipment (such as electrical transformers and capacitors, electrical ballasts, hydraulic and heat transfer fluids), and for numerous heat and fire sensitive applications. PCB was preferred due to its durability, stability (even at high temperatures), good chemical resistance, low volatility, flammability, and conductivity. PCBs, however, do not break down in the environment and are classified by the EPA as a suspected carcinogen. 1978 regulations, under the Toxic Substances Control Act, prohibit manufacturing of PCB-containing equipment; however, some of this equipment may still be in use today.
pCi/L	picoCuries per Liter of Air. Unit of measurement for Radon and similar radioactive materials.
PLM	Polarized Light Microscopy (see ACM section of the report, if included in the scope of services)
PST	Petroleum Storage Tank. An AST or UST that contains a petroleum product.

Description of Selected General Terms and Acronyms

Term/Acronym	Description
Radon	A radioactive gas resulting from radioactive decay of naturally-occurring radioactive materials in rocks and soils containing uranium, granite, shale, phosphate, and pitchblende. Radon concentrations are measured in picoCuries per Liter of Air. Exposure to elevated levels of radon creates a risk of lung cancer; this risk generally increases as the level of radon and the duration of exposure increases. Outdoors, radon is diluted to such low concentrations that it usually does not present a health concern. However, radon can accumulate in building basements or similar enclosed spaces to levels that can pose a risk to human health. Indoor radon concentrations depend primarily upon the building's construction, design and the concentration of radon in the underlying soil and ground water. The EPA recommended annual average indoor "action level" concentration for residential structures is 4.0 pCi/l.
RCRA	Resource Conservation and Recovery Act. Federal act regulating solid and hazardous wastes from point of generation to time of disposal ('cradle to grave"). 42 U.S.C. 6901 et seq.
RCRA Generators	The RCRA Generators database, maintained by the EPA, lists facilities that generate hazardous waste as part of their normal business practices. Generators are listed as either large (LQG), small (SQG), or conditionally exempt (CESQG). LQG produce at least 1000 kg/month of non-acutely hazardous waste or 1 kg/month of acutely hazardous waste. SQG produce 100-1000 kg/month of non-acutely hazardous waste. CESQG are those that generate less than 100 kg/month of non-acutely hazardous waste.
RCRA CORRACTS/TSDs	The USEPA maintains a database of RCRA facilities associated with treatment, storage, and disposal (TSD) of hazardous materials which are undergoing "corrective action". A "corrective action" order is issued when there is a release of hazardous waste or constituents into the environment from a RCRA facility.
RCRA Non-CORRACTS/TSDs	The RCRA Non-CORRACTS/TSD Database is a compilation by the USEPA of facilities which report storage, transportation, treatment, or disposal of hazardous waste. Unlike the RCRA CORRACTS/TSD database, the RCRA Non-CORRACTS/TSD database does not include RCRA facilities where corrective action is required.
RCRA Violators List	RAATS. RCRA Administrative Actions Taken. RAATS information is now contained in the RCRIS database and includes records of administrative enforcement actions against facilities for noncompliance.
RCRIS	Resource Conservation and Recovery Information System, as defined in the Records Review section of this report.
REC	Recognized Environmental Conditions are defined by ASTM E1527-13 as "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: 1) due to any release to the environment; 2) under conditions indicative of a release to the environment. De minimis conditions are not recognized environmental conditions."
SCL	State "CERCLIS" List (see SPL /State Priority List, below).
SPCC	Spill Prevention, Control and Countermeasures. SPCC plans are required under federal law (Clean Water Act and Oil Pollution Act) for any facility storing petroleum in tanks and/or containers of 55-gallons or more that when taken in aggregate exceed 1,320 gallons. SPCC plans are also required for facilities with underground petroleum storage tanks with capacities of over 42,000 gallons. Many states have similar spill prevention programs, which may have additional requirements.
SPL	State Priority List. State list of confirmed sites having contamination in which the state is actively involved in clean up activities or is actively pursuing potentially responsible parties for clean up. Sometimes referred to as a State "CERCLIS" List.
SQG	Small Quantity Generator
SWF/LF	State and/or Tribal database of Solid Waste/Landfill facilities. The database information may include the facility name, class, operation type, area, estimated operational life, and owner.
TPH	Total Petroleum Hydrocarbons
TRI	Toxic Release Inventory. Routine EPA report on releases of toxic chemicals to the environment based upon information submitted by entities subject to reporting under the Emergency Planning and Community Right to Know Act.

Description of Selected General Terms and Acronyms

Term/Acronym	Description
TSCA	Toxic Substances Control Act. A federal law regulating manufacture, import, processing and distribution of chemical substances not specifically regulated by other federal laws (such as asbestos, PCBs, lead-based paint and radon). 15 U.S.C 2601 et seq.
USACE	United States Army Corps of Engineers
USC	United States Code
USGS	United States Geological Survey
USNRCS	United States Department of Agriculture-Natural Resource Conservation Service
UST	Underground Storage Tank. Most federal and state regulations, as well as ASTM E1527-13, define this as any tank, incl., underground piping connected to the tank, that is or has been used to contain hazardous substances or petroleum products and the volume of which is 10% or more beneath the surface of the ground (i.e., buried).
VCP	State and/or Tribal facilities included as Voluntary Cleanup Program sites.
VOC	Volatile Organic Compound
Wetlands	Areas that are typically saturated with surface or ground water that creates an environment supportive of wetland vegetation (i.e., swamps, marshes, bogs). The Corps of Engineers Wetlands Delineation Manual (Technical Report Y-87-1) defines wetlands as areas inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. For an area to be considered a jurisdictional wetland, it must meet the following criteria: more than 50 percent of the dominant plant species must be categorized as Obligate, Facultative Wetland, or Facultative on lists of plant species that occur in wetlands; the soil must be hydric; and, wetland hydrology must be present. The federal Clean Water Act which regulates “waters of the US,” also regulates wetlands, a program jointly administered by the USACE and the EPA. Waters of the U.S. are defined as: (1) waters used in interstate or foreign commerce, including all waters subject to the ebb and flow of tides; (2) all interstate waters including interstate wetlands; (3) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, etc., which the use, degradation, or destruction could affect interstate/ foreign commerce; (4) all impoundments of waters otherwise defined as waters of the U. S., (5) tributaries of waters identified in 1 through 4 above; (6) the territorial seas; and (7) wetlands adjacent to waters identified in 1 through 6 above. Only the USACE has the authority to make a final wetlands jurisdictional determination.

APPENDIX G
ENVIRONMENTAL TASK ORDER & MASTER ENVIRONMENTAL SERVICES AGREEMENT

Environmental Services Task Order

This Environmental Service Task Order ("Order") is made on **5/29/2018**, between Umpqua Bank ("Umpqua") and **Terracon Consultants, Inc *** ("Consultant"). By their execution of this Order, Umpqua Bank retains, and Consultant agrees to provide services as requested and according to the terms and conditions of the executed Environmental Services Agreement.

RIMS Project Number:	**18-002488-02**
Property/Project Name:	Buse Timber & Sales
Loan Purpose:	Refinance
Borrower:	Buse Timber & Sales, Inc.
Property Address:	3812 28th Pl NE Everett, WA98205
Property Type:	Industrial- Saw Mill/Lumberyard
Property Description:	64.16 acres, 7 buildings totaling 54,973 gross building area
Access/Contact Info:	Diana Martin 425-258-5844
Due Date:	6/20/2018
Agreed Fee:	$2,100.00, inclusive of all costs necessary to complete the report. Any costs not included in the fee must be approved in advance by Michael S Pereira.
Delivery & Invoice Instructions:	Please upload a Final Report and Invoice in PDF format for review to RIMSCentral. Hard copies are not required unless specifically requested.
Address Report & Questions to:	Michael Pereira, VP Environmental Risk Officer Umpqua Bank 509-842-9178 michaelpereira@umpquabank.com 1233 Northwood Center Ct Coeur D Alene, ID83814
Loan Officer Information:	Leslie Somes

Umpqua Bank

LeslieSomes@UmpquaBank.com
425-673-8579

Consultant Information:

Matt Wheaton
Terracon Consultants, Inc *
425-771-3304
21905 64th Avenue W, Suite 100
Mountlake Terrace, WA98043

Scope of Services:

Scope of Work:	ASTM and AAI compliant Phase I ESA. Reliance by Umpqua Bank.
Additional Scope of Work & Comments:	None.

Changes to Scope:
Umpqua Bank and the Consultant may make changes, additions, or deletions from this Task Order by mutual written agreement only (email is acceptable).

By accepting this award electronically, you agree to the terms of this engagement, including terns set forth in documents incorporated herein by reference. Please include a copy of the Task Order in the addenda of the report.

UMPQUA
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ENVIRONMENTAL SERVICES AGREEMENT

This Environmental Services Agreement ("Agreement"), is made effective as of June 10, 2015, between Terracon Consultants, Inc., whose address is 18001 W. 106th Street, Suite 300, Olathe, KS 66061 ("Consultant") and Umpqua Bank ("Umpqua"), an Oregon state chartered bank, whose address is 1 SW Columbia, Suite 1200, Portland OR 97258 (each a "Party" and collectively, the "Parties").

Whereas, Umpqua may require professional environmental services and Consultant is engaged in the business of providing professional environmental services from time to time, and Umpqua will retain control over the subject of the work;

Now, therefore, the parties agree as follows:

1. **Scope of Services**. Umpqua may request services from Consultant regarding a particular property ("Property") in the form of an electronic request for proposal (RFP). Requests may be made electronically and proposals can be submitted electronically. Proposals shall clearly specify the subject Property and shall contain a detailed scope of work, timeline to complete and pricing. In the case of a Phase I Environmental Site Assessment, Consultant's proposal shall comply with U.S. EPA Standards and Practices for All Appropriate Inquiries and the most recent ASTM Standard (currently E1527-13), Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.

Upon electronic approval of proposal by Umpqua, services will be awarded directly to Consultant using an electronic award system or other means. Services to be provided may include, but need not be limited to, the following:

Regulatory Records Review
Environmental Transaction Screen
Site Inspection
Property Condition Assessment
Seismic Studies
Geotechnical Investigation
Asbestos and Lead-based Paint Survey
Phase I Environmental Site Assessment
Phase II Environmental Assessment/Subsurface Investigation
Peer Review/Technical Support
Remediation Cost Estimating/Analysis
Site Remediation/Site Closure

In performing a Phase I Environmental Site Assessment, Consultant shall comply with the most current ASTM Standard (currently E1527-13/AAI Phase I Environmental Site Assessment), and any future ASTM Phase I Standard yet to be released. The services shall include, without limitation, the following: (i) review, within AAI compliant search parameters, of available federal environmental databases and applicable state and local databases, geocoded as available upon area locator map; (ii) visual and physical on-site inspection, as allowed, and observation of the Property for above ground or underground storage tanks, reasonably ascertainable indicators of CERCLA defined environmental contaminants and hazardous materials, generally recognized environmental contaminants and visible pollutants, and railroad right-of-ways; (iii) review of available city directories, Sanborn maps or other available historical information back to at least 1940 or first use, whichever is earlier, local emergency release records, and environmental permits; (iv) visual interior observations, as allowed, for reasonably ascertainable indicators of contamination from airborne emissions, vapor intrusion, asbestos-containing materials, lead

based paint, PCB-containing transformers, radon, underground fuel storage tanks, business operation procedures, regulated materials handling and storage practices, and waste stream disposal; (v) completion as allowed of an environmental screening questionnaire by Key Site Manager; (vi) visual observation of adjoining and adjacent properties for reasonably ascertainable potential environmental hazards and contaminants; (vii) photographic documentation of on-site conditions and adjoining properties; (viii) interviews as allowed with Property owner, past Property owners, occupants and persons knowledgeable about the Property; (ix) review of available title information for potential gaps in past Property use or ownership and search for environmental liens; and (x) geologic and hydrogeologic review to evaluate potential contaminant migration pathways and exposure routes as applicable. Consultant shall not disturb the soil or groundwater, dig holes or wells, or otherwise perform physical tests of or take samples from the Property, without first obtaining Umpqua's written instruction to do so. If Consultant is denied access to the Property for any reason, or is otherwise instructed to leave or vacate the Property, or any portion thereof, Consultant shall comply with such instructions, without argument or other opposition, and shall thereafter promptly notify Umpqua in writing that it was denied access to the Property.

2. **Change Orders.** All services or work, other than as agreed upon in the form of a proposal accepted electronically by Umpqua, but in connection with a specific proposal, shall be done only through a mutually agreed upon electronically or by email ("Change Order"). Change Orders shall contain a detailed scope of work, timeline to complete, and pricing.

3. **Entire Agreement.** Consultant shall provide services as outlined in this Agreement, which constitutes the entire agreement between Umpqua and Consultant, superseding all prior and contemporaneous negotiations, agreements, representations and understandings, either written or oral, of the parties with respect to this Agreement. With respect to each particular Property, this Agreement shall govern the performance of the subject written proposal as originally accepted by Umpqua, and as such proposal may be changed through one or more Change Orders. For clarity, no proposal or Change Order may add, delete, or change any terms of this Agreement.

4. **Changes to this Agreement.** Umpqua and Consultant may make additions, deletions, or changes to this Agreement by mutual written agreement only.

5. **Termination.** This Agreement shall be effective as of the date specified herein and shall continue in effect thereafter, unless terminated as provided herein. Umpqua may terminate this Agreement for convenience or for the default of Consultant upon 30 days written notice to Consultant, and following such notice, Consultant shall: (i) discontinue work as promptly as practicable, (ii) attempt to minimize charges, and (iii) submit to Umpqua a written report of findings up to the date of termination. Consultant may terminate this Agreement upon 30 days written notice to Umpqua, and following such notice, Consultant shall complete any outstanding projects and will be paid for all properly completed work in accordance with this Agreement (provided that Umpqua shall retain the right to terminate this Agreement even after Consultant terminates it, in which case the immediately preceding sentence shall control). Umpqua may terminate any work being done under any particular proposal, in which case Umpqua will pay for the work done thereunder prior to such termination and Consultant will give Umpqua all of the materials and work in process relating to such work.

6. **Umpqua's Responsibilities.** Umpqua will: (1) provide the information reasonably available to Umpqua pertinent to the project, including previous reports and any other pertinent data in Umpqua's possession and (2) arrange rights of access or permission to enter the Property as required for Consultant to perform its services under this Agreement. If access is denied to all or any portion of the Property, Consultant shall notify Umpqua in writing immediately, complete all other portions of the services and provide a reasonable recommendation to Umpqua as to the likelihood of elevated risk of contamination. Umpqua will then make a determination whether to proceed or continue to pursue

Property access. If Umpqua obtains access, Consultant will perform site reconnaissance and complete the assignment as intended in the original scope.

7. **Reliance on Third Parties.** Consultant may rely without confirmation upon information provided by others and federal, state, and local agencies, pertinent to the Property to the extent such reliance is reasonable.

8. **Payment.** Umpqua will pay undisputed invoices within 30 days of Umpqua's receipt thereof.

9. **Insurance and Limitation of Liability.** Consultant shall, during the performance of this Agreement, at its cost, keep in force adequate insurance coverage to protect Umpqua from any losses with respect to Consultant's performance under this Agreement. Such coverage shall include (at a minimum) the following insurance: (1) Worker's Compensation Insurance as required by law, (2) Employer's Liability Insurance with minimum limits of $1,000,000; (3) Comprehensive General Liability Insurance with minimum limits of $1,000,000 per occurrence, $5,000,000 aggregate; (4) Comprehensive Automobile Liability Insurance, including operation of owned, non-owned, and hired automobiles with minimum limits of $1,000,000 per claim; (5) Professional Liability, Errors and Omissions Insurance with minimum limits of $2,000,000 per occurrence; and (6) Contractor Pollution Liability Insurance with minimum limits of $2,000,000 per occurrence.

Consultant will furnish Umpqua, upon request, insurance certificate(s) reflecting Consultant's compliance with the requirements of this section.

All such insurance policies shall be issued by properly licensed insurance companies with a current A.M. Best rating of "A-VII" or better. Consultant shall list Umpqua as an additional insured. Such insurance will be primary and noncontributory to insurance or self-insurance maintained by Umpqua. Consultant, or its insurance company, shall give thirty (30) days prior written notice to Umpqua of cancellation, non-renewal, or material change in coverage, scope or amount of any insurance policy.

10. **Standard of Care / Warranty.** Consultant shall perform its services in accordance with generally accepted national, state and local engineering and technical practices and professional standards prevailing in the locality of the Property, current at the time the services are performed.

11. **Confidentiality.** Any information and documentation Umpqua provides to Consultant is deemed to be Umpqua's confidential information ("Umpqua Confidential Information") unless Umpqua states in writing that it is not Umpqua Confidential Information. Such information does not lose its status as Umpqua Confidential Information merely because it is known by a limited number of persons or entities outside of Umpqua or because it was not originated by Umpqua. With respect to Umpqua Confidential Information, Consultant shall:

(a) Protect and keep such Confidential Information secret and secure from disclosure and unauthorized use with the same degree of precautions and safeguards it uses to protect and keep its own Confidential Information of a similar nature secret and secure, but in no case with less than reasonable care;

(b) Comply with all laws, rules and regulations regarding the sharing of Confidential Information, including all applicable privacy laws;

(c) Disclose such Confidential Information only to its employees, Subcontractors and/or agents who have both: (i) a need to know such information in order to perform under this Agreement, and (ii) a written contractual, fiduciary or other legal duty, at least as restrictive as this Agreement, to maintain the confidentiality of the information they receive. Contractor shall not disclose Confidential Information to any third party without Umpqua's prior written authorization; and

(d) Not use or disclose, or permit any of its employees, Subcontractors and/or agents to use or disclose, any such Confidential Information for any reason other than performance under this Agreement, and in no event will Contractor disclose or use such Confidential Information in any manner that is or has the potential to be adverse or detrimental to the interests of Umpqua;

Required Disclosure. Contractor may disclose Confidential Information as may be required by law, statute, rule or regulation, including any subpoena or other similar form of process. Prior to such disclosure, Consultant shall provide Umpqua with prompt written notice (so long as such notice is not prohibited by law), so that Umpqua may object to the request and/or seek appropriate protective relief. Notwithstanding anything to the contrary, Umpqua may disclose any information, including Consultant's Confidential Information, in response to a request from any federal or state bank examiner, or other regulatory official with authority over Umpqua or its affiliates.

Return or Destruction. Upon termination of this Agreement, or if earlier requested by Umpqua in writing, Contractor shall, within ten (10) business days, at Umpqua's election, destroy or return to Umpqua all Confidential Information, including originals and all duplicates, whether standing alone or as part of any other document or other compilation of information, or in any other form, including hardcopy (paper, micro film, photo, etc.) or softcopy (electronic, optical, or magnetic media such as computer or disk storage, tape recording, e-mail, voicemail, etc.); provided, however, that Contractor may keep a copy if necessary for compliance with legal or regulatory obligations, subject to the continuing confidentiality obligations set forth in this Agreement. Upon request, an officer of Contractor shall promptly provide Umpqua with written certification of such destruction or return.

Intrusions/Disclosures. If Consultant learns of any actual or suspected theft of, accidental disclosure of, loss of, or inability to account for any Confidential Information by Consultant or any of its Subcontractors (collectively "Disclosure") and/or any unauthorized intrusions into Consultant's or any of its Subcontractor's facilities or secure systems used to perform the Services (collectively "Intrusion"), Consultant must, at its own expense, immediately (i) notify Umpqua's information security officer, (ii) specify the corrective action to be taken, (iii) take corrective action to prevent further Disclosure and/or Intrusion. Consultant must, as soon as is reasonably practicable, make a report to Umpqua including details of the Disclosure (including Customer(s)' identities and the nature of the information disclosed) and/or Intrusion and the corrective action Consultant has taken to prevent further Disclosure and/or Intrusion. Consultant shall cooperate and assist Umpqua at no additional cost to minimize any potential adverse impact upon Umpqua. Additionally, Consultant must cooperate fully with all government regulatory agencies and law enforcement agencies having jurisdiction and authority for investigating a Disclosure and any known or suspected criminal activity.

Ownership. Confidential Information shall remain the property of Umpqua.

Marketing, Publicity. Except upon the prior written consent of a Umpqua communications or public relations director, which may be granted or withheld in Umpqua's sole discretion, Consultant shall not: (a) publicly disclose any information regarding the existence or terms of this Agreement, the existence or any aspects of the business relationship between Umpqua and Consultant, whether in a news release, press conference, or otherwise, (b) disclose any of the foregoing information to any person or entity for any purpose other than Consultant's performance under this Agreement, or (c) use any of the Umpqua

trade names, trademarks, trade dress, service marks, logos, branding or other Umpqua Intellectual Property for any purposes (including customer lists, websites, advertisements, releases to professional or trade publications, sales presentations, performance of services for other customers, etc.).

12. **Ownership and Use of the Results of the Services.** All of the results of the services performed by Consultant hereunder, including any such plans, testing, layouts, schematics, data, reports, studies, cost estimates, and other materials created or prepared hereunder, alone or with others, whether created on or off Umpqua's premises, whether or not created during regular work hours, and whether interim or final (collectively, "Work Product") shall be deemed "work made for hire" as defined in 17 U.S.C. §101 & §201(b), and shall be the exclusive property of Umpqua. Umpqua shall be deemed the owner of the Work Product and may, without notice to or permission from Consultant, provide copies of the Work Product as necessary in the course of normal and customary property due diligence, and assign its interest in the Work Product as appropriate to the final property disposition.

13. **Compliance with Laws.** Consultant shall comply with all laws, statutes, rules, regulations and ordinances that are applicable to the services provided.

14. **Independent Contractor.** Consultant is an independent contractor in the performance of the services to be provided under this Agreement and, except as otherwise provided in this Agreement, shall not be or hold itself out, as an agent or employee of the Umpqua. Consultant shall have control of and responsibility for its employees and its subcontractors engaged in the performance of this Agreement.

15. **Indemnity.** Consultant and Umpqua ("Indemnifying Party") agree to defend, indemnify and hold the other Party, its affiliates, and its and their directors, officers, employees, and agents (collectively, "Indemnified Party") harmless from and against any and all claims, liabilities, damages and costs, including without limitation, reasonable attorney's fees, arising out of or in any related, directly or indirectly, to the Indemnifying Party's breach of or failure to perform its duties and/or obligations under this Agreement. In this and all other respects, Consultant shall be fully responsible for the acts and omissions of its subcontractors (i.e., all acts and omissions of Consultant's subcontractors shall be imputed to Consultant).

16. **Severability.** If any part of this Agreement is adjudged as illegal, invalid or unenforceable, it shall be deemed modified in the manner that best advances the spirit of this Agreement.

17. **Attorney's Fees.** If any suit, dispute or action arises from or in connection with this Agreement is commenced, the prevailing party shall be entitled to recover all reasonable attorney fees, costs and expenses incurred, including, but not limited to, any at trial, on appeal, or in a bankruptcy proceeding.

18. **Force Majeure.** Any loss or damage or delays in, or failure of performance of either Party shall not constitute default or give rise to any claims for damages if and to the extent that such loss, damage, delay or failure is caused by occurrences beyond the reasonable control of the Party affected, and which, by the exercise of reasonable diligence, such Party is unable to prevent.

19. **Governing Law & Venue.** This Agreement is made under and shall be governed by and construed and enforced under the laws of the state of Oregon, without giving effect to Oregon's conflicts of laws principles. Any action, suit, or proceeding relating directly or indirectly to this Agreement shall be brought exclusively in the state or federal courts located in Multnomah county, Oregon, and the parties irrevocably submit to the exclusive jurisdiction of that court for any such action, suit or

proceeding, and hereby waive any right to contest such exclusive jurisdiction or change such venue on any grounds.

20. Successors & Assigns. This Agreement shall be binding on the Parties and their successors. Except as provided herein, neither Party may not assign this Agreement, in whole or in part, except upon the other Party's prior written consent.

21. Taxes. Consultant shall pay all applicable sales, use, gross receipts, net income or any labor or employment related taxes or other taxes levied by any taxing authorities on Consultant whose jurisdictions apply to Consultant. Consultant shall invoice Umpqua for sales and use taxes of the type required to be collected from purchasers under applicable law for the services and Consultant shall remit such taxes to the proper taxing authority. If Consultant fails to invoice, collect, remit, or otherwise pay the amount of any taxes required to be collected or paid by Umpqua, Consultant shall be responsible for and shall pay any interest, assessments, fines and penalties which may be assessed against Umpqua or Consultant for Consultant's failure to collect and timely remit or otherwise pay such taxes.

22. Records. Consultant will retain all information obtained or created in the course of performance under this Agreement in accordance with applicable law. Such records will be available for examination and audit by any governmental authority having jurisdiction over Umpqua's business or by Umpqua's internal or external auditors. Consultant will promptly notify Umpqua of any such requests by any governmental authority, if Consultant is permitted to make such a disclosure to Umpqua under applicable law. At Umpqua's request, Consultant shall provide documentation satisfactory to Umpqua of Consultant's internal controls and procedures that are required to ensure compliance with this Agreement and all applicable law. Consultant will reasonably cooperate with Umpqua's periodic risk assessments, if any, including providing physical security, information security, business continuity plan and financial stability information to Umpqua upon request.

23. Performance Threats. Consultant will promptly notify Umpqua in writing in the event of: (a) financial difficulty of Consultant or any of its Subcontractors that may materially impact Consultant's performance hereunder; (b) significant staffing reductions or changes in key staff that may affect Consultant's performance hereunder; (c) a decision by Consultant to outsource, relocate, sell or acquire significant operations or support associated with the services or any critical component of the environment used to provide services hereunder; (d) cessation of business or material adverse change in any business of any key subcontractor used by Consultant in its performance hereunder; (e) any unfavorable change to any credit rating assigned to Consultant by any major credit rating agency; (f) an announced intention or the actual filing for bankruptcy or insolvency law by Consultant or any key subcontractor used by Consultant in its performance hereunder; (g) a labor strike against Consultant or any key subcontractor used by Consultant in its performance hereunder; or the (h) closing of any operational site of Consultant or of any key subcontractor used by Consultant in its performance hereunder.

24. Miscellaneous. No provision of this Agreement, nor any breach thereof, may be waived, deleted, or modified, nor may any provisions be added, in any manner except pursuant to a writing signed by the Party against whom it is to be enforced. Absent such a signed waiver, no failure or delay in enforcing any right or remedy (including, but not limited to, any course of dealing or performance) shall preclude any exercise or further exercise of that or any other right or remedy. The provisions of this Agreement shall survive termination of this Agreement to as their terms may naturally dictate. The rule of interpreting ambiguities against the drafter shall not apply. Umpqua affiliates (i.e., entities directly or indirectly in control of, controlled by, or under common control with, Umpqua) may procure services from Consultant hereunder, in which case such affiliate shall also have all the rights and obligations of Umpqua hereunder with respect to the proposal accepted by such affiliate (i.e., this Agreement shall

govern with respect to the proposal as if the affiliate were Umpqua hereunder). Consultant represents and warrants that it has not and shall not in the future bestow any preferential benefits or treatment upon any Umpqua employee as an inducement to entering into this Agreement or otherwise in relation to this Agreement or in relation to any future proposal to be submitted with respect hereto.

25. Supplemental Terms and Conditions attached hereto and incorporated for reference.

In witness whereof, each of the Parties hereto has executed this Agreement effective as of the date written above.

Umpqua Bank

By: _____
Name: Michael S. Pereira
Title: Env. Risk Officer

Consultant: Terracon Consultants, Inc.

By: _____
Name: Eric D. Kunz
Title: Regional Manager / Sr. Principal

Umpqua Bank, ("Umpqua")
Terracon Consultants, Inc., ("Consultant")

Section 25
Supplemental Terms and Conditions

LIMITATION OF LIABILITY. Notwithstanding anything to the contrary in this Agreement, except for a Party's confidentiality obligations, and willful misconduct or gross negligence of a Party (liabiity for each of which is not limited), the aggregate liability of either Party for any breach or breaches of its obligations under this Agreement or for the negligent act or omisson of such Party or such Party's employees, subcontractors and agents shall be the greater of $500,000 or the Consultant's fee for the specific project proposal in dispute. EXCEPT FOR A PARTY'S CONFIDENTIALITY OBLIGATIONS, AND WILLFUL MISCONDUCT OR GROSS NEGLIGENCE OF A PARTY, IN NO EVENT SHALL EITHER PARTY BE LIABLE TO THE OTHER FOR INDIRECT, INCIDENTAL, CONSEQUENTIAL, SPECIAL OR PUNITIVE DAMAGES OF ANY KIND, EVEN IF ADVISED OF THE POTENTIAL FOR ACCRUAL OF SUCH DAMAGES.

Warranty. Except for the standard of care previously stated, Consultant makes no warranties or guarantees, express or implied, relating to Consultant's services and Consultant disclaims any implied warranties or warranties imposed by law, including warranties of merchantability and fitness for a particular purpose.

Safety. Consultant will be responsible for supervision and site safety measures for its own employees, but shall not be responsible for the supervision or health and safety precautions for any third parties, including Umpqua's contractors, subcontractors, or other parties present at the site.

Limited Site Investigation

Buse Timber & Sales

3812 28th Place Northeast

Everett, Snohomish County, Washington

September 17, 2018

Terracon Project No. 81187331

RIMS Project No. 18-002488-02

Prepared for:
Umpqua Bank
Coeur D Alene, Idaho

Prepared by:
Terracon Consultants, Inc.
Mountlake Terrace, Washington

September 17, 2018

Umpqua Bank
1233 N Northwood Center Ct
Coeur D Alene, ID 83814-6190

Attn: Mr. Michael Pereira

Re: **Limited Site Investigation**
Buse Timber & Sales
3812 28th PL NE
Everett, Snohomish County, Washington 98205
Terracon Project No. 81187362
RIMS Project No. 18-002488-02-1

Dear Mr. Pereira:

Terracon Consultants, Inc. (Terracon) is pleased to submit our report of Limited Site Investigation (LSI) activities completed at the site referenced above. The activities were completed to address the findings of the Phase I Environmental Site Assessment (ESA – Report No. 81187262) of the property dated June 20, 2018. Terracon conducted this LSI in general accordance with our proposal (proposal No. P81187331) dated June 20, 2018 and Master Environmental Services Agreement dated June 10, 2015.

Terracon has no present or contemplated future ownership interest or financial interest in the real estate that is the subject of this Environmental Assessment Report; and Terracon has no personal interest with respect to the subject matter of the Environmental Assessment Report of the parties involved and Terracon has no relationship with the property or the owners thereof which would prevent an independent analysis of the environmental or other conditions of the property.

Unless expressly authorized in writing by Umpqua Bank and Terracon, no one is permitted or intended to rely upon the findings, conclusions or recommendations found herein. This information is provided as a courtesy only and its accuracy has not been verified. The recipient accepts this information understanding that no representations or warranties are made with respect to this information and that recipient must make an independent determination of the accuracy of any information contained herein. The recipient acknowledges that Umpqua Bank has no responsibility for this information and the recipient releases Umpqua Bank from liability for any inaccuracy, mistake or other defect in this information.

Terracon

Terracon appreciates this opportunity to provide environmental services to Umpqua Bank. Should you have any questions or require additional information, please do not hesitate to contact our office.

Sincerely,
Terracon Consultants, Inc.

Kyle Bennett, G.I.T.
Staff Geologist

Matt Wheaton, L.G., P.E.
Department Manager

TABLE OF CONTENTS

Limited Site Investigation

Buse Timber & Sales
3812 28th Place Northeast
Everett, Washington

Terracon Project No. 81187331
September 17, 2018

1.0 SITE DESCRIPTION

The approximate 60-acre site is located at 3812 28th Pl NE in Everett, Snohomish County, Washington (Snohomish County tax parcels 290504-0030-0600 and 290509-0020-1500) and consists of a lumber mill business. The site has been occupied by Buse Timber & Sales, a lumber mill company for approximately 70 years. The site contains eleven buildings and several modular sheds used as office space, storage, vehicle repair, manufacturing, and employee areas. Select lumbers are treated with a water-based anti-stain in an on-site dip tank and/or painted with a water-based end seal. There are several storage areas for the lumber and are shipped off-site by vehicles that are maintained and fueled on site. A Topographic Map showing the site location is included as Exhibit 1 and a Site Diagram is included as Exhibit 2 in Appendix A.

Terracon previously performed a Phase I ESA of the property for Umpqua Bank (Terracon Project No. 81187262, dated June 20, 2018), and identified the following:

- Given the duration of operation of vehicle maintenance at the site and our experience with similar facilities, there is the potential for undocumented releases to have occurred in the maintenance shed area.
- The former UST area has not been assessed for groundwater impacts, however a groundwater sample approximately 100 feet up-gradient of the area identified impacts of diesel-range hydrocarbons above cleanup levels. Given the duration of the UST operations, there is a potential for undocumented subsurface releases to have occurred.
- The historical washdown practices in the vehicle washdown area may have resulted in undocumented releases to the subsurface.
- Given the documented impacts of diesel-range hydrocarbons to soil and groundwater in the former fire pond area, there is a potential for remaining subsurface impacts.
- Based on the previously documented impacts of dioxins and furans in sediment samples common to lumber mills in addition to the duration of approximately 70 years of site operation, there is potential for site-wide impact to groundwater, soil and sediments.

As a part of our ESA, Terracon reviewed a Draft Phase II Environmental Site Assessment performed by Exponent in August 1998. The investigation consisted of sampling sediments in the drainage ditches surrounding the facility, sampling the storm drain system, as well as assessing soil and groundwater impacts. Samples were taken of sediment, storm drains, soil, and groundwater and were analyzed and tested for volatile organic compounds (VOCs), total petroleum hydrocarbons (TPH), and other petroleum compounds. Soil impacts of benzene are above current MTCA Method A cleanup levels were identified, in addition to groundwater impacts of vinyl chloride and diesel-range TPH above their respective current MTCA Method A cleanup levels. Some recommendations were made about AST compliance, OWSs and sediment excavation. A 2010 Phase II update was also provided and performed by Exponent. Investigations were limited only to the identified recommendations of the 1998 report. Exponent further provided recommendations of general practices but recommended no further investigation.

Based on our review of the 1998 and 2010 Exponent subsurface investigations, it appears that limited soil and groundwater sampling performed on-site identified numerous areas of soil, sediment, and groundwater impacts. These areas primarily consist of the former location of the fire pond, maintenance area and former dip tank location. Soil and groundwater appear to be impacted with diesel-range TPH above current Washington State Model Toxics Control Act (MTCA) cleanup levels. The identified 1998 dioxin concentration, expressed as 2,3,7,8 tetrachlorodibenzo-p-dioxin, also appears to be above current (2018) regulatory action levels. Furthermore, numerous other VOC, semi-VOCs (SVOC) and polychlorinated biphenyls have been identified at concentrations below MTCA cleanup levels, but given the limited number of samples collected during previous investigations and that the selected locations may not have been situated in areas sufficient to assess for potential releases, there is the potential for additional impacts to have been present at concentrations above MTCA cleanup levels in other areas of the site. Given the findings of the previous subsurface investigations, the historical site use as a lumber yard and associated impacts identified in soil, sediment and groundwater represent a REC to the site.

Based on the findings of the ESA, Terracon recommended that a subsurface investigation be completed in an effort to assess the above-referenced RECs.

2.0 SCOPE OF SERVICES

Terracon's scope of services included completion of the following tasks:

- Perform pre-mobilization activities including, public and private underground utility clearances and preparation of a site-specific health and safety plan;
- Advance six soil borings and collect soil and/or groundwater samples from each boring;
- Install six temporary groundwater monitoring wells in the borings;

- Complete laboratory analyses of soil and groundwater samples; and
- Prepare this Limited Site Investigation (LSI) summary report.

The objective of the scope of services for this LSI was to assess the potential presence of compounds of concern in subsurface soil and groundwater at the site that may have originated from the above-referenced RECs. The detected sampling results have been compared to the Washington State Department of Ecology (Ecology) Model Toxics Control Program (MTCA) to assess if compounds of concern exceed the applicable standards. The scope of services was not intended to identify every chemical possibly associated with the site or surrounding facilities or to establish corrective action costs.

Groundwater was not encountered or not adequate for sampling at the time of drilling in five of the six borings; therefore, groundwater samples were not collected as a part of this investigation in those five locations. In lieu of groundwater sampling, an additional soil sample was collected near the bottom of soil borings B1, B3, and B5.

2.1 Standard of Care

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time. Terracon makes no warranties, either express or implied, regarding the findings, conclusions, or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies, or other third parties supplying information used in the preparation of the report. These LSI services were performed in accordance with the scope of work agreed with you, our client, as reflected in our proposal and were not restricted by ASTM E1903-11 *Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process*.

2.2 Additional Scope Limitations

Findings, conclusions, and recommendations resulting from these services are based upon information derived from the on-site activities and other services performed under this scope of work; such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, non-detectable, or not present during these services. We cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this LSI. Subsurface conditions may vary from those encountered at specific borings or wells or during other surveys, tests, assessments, investigations, or exploratory services. The data, interpretations, findings, and our recommendations are based solely upon data obtained at the time and within the scope of these services.

2.3 Reliance

This report has been prepared for the exclusive use of Umpqua Bank, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the express written authorization of Umpqua Bank and Terracon. Any unauthorized distribution or reuse is at Umpqua Bank's sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions, and limitations stated in the proposal, LSI report, and Terracon's Master Environmental Service Agreement (MESA). The limitation of liability defined in the terms and conditions is the aggregate limit of Terracon's liability to Umpqua Bank and all relying parties unless otherwise agreed in writing.

3.0 FIELD INVESTIGATION

Terracon has a commitment to the safety of all its employees. As such, and in accordance with our *Incident and Injury Free*® safety goals, Terracon conducted the fieldwork under a site-specific health and safety plan developed for this project. Work was performed using the Occupational Health and Safety Administration (OSHA) Level D work attire consisting of hard hats, safety glasses, protective gloves, and protective boots. In an effort to locate underground utilities in the work area, Terracon contacted the Washington State Utility Notification Center to arrange for public underground utility clearance at the site. In addition, a private utility location service was subcontracted by Terracon to identify the locations and depths of the various utilities located near the proposed borings.

3.1 Soil Sampling

Field activities were performed in four locations: two soil borings, identified as B1 and B2, were near the vehicle maintenance building; two soil borings, identified as B3 and B4, were advanced near the former underground storage tank area and adjacent to the on-site storm drain ditch; one soil boring, identified as B5, was advanced in the location of the former fire pond and dip tank, and; one soil boring, identified as B6, was advanced near the wash-down area and dip tank. Boring locations relative to site features are depicted on Exhibit 2 of Appendix A.

Terracon field representative Jeff Dobbins mobilized to the site on August 17, 2018 to oversee the drilling of soil borings B1 through B6. B1 through B6 were advanced by Holt Services, a Washington State-licensed driller, using a truck-mounted direct-push sampler drill rig equipped with disposable acetate sample sleeves. Throughout the drilling operation, soil samples were obtained continuously (to the extent practical) from five-foot long pushes driven into the ground using a 32 hertz, percussion hammer. The steel sampling tube was extracted from the hole and the liners were removed and split open. Non-disposable sampling equipment was cleaned using a non-phosphate soap wash and potable water rinse prior to the beginning of the project and before collecting each soil sample.

Direct-push borings were advanced to depths of approximately 10 to 20 feet below the ground surface (bgs).

Terracon field-screened soil samples for organic vapors using a calibrated photoionization detector (PID). This device provides a direct reading in parts per million (ppm) isobutylene equivalents. Upon removal of the sampler from the borehole, Terracon placed a portion of each sample in a sealable plastic bag. After a stabilization period, Terracon screened the headspace above the soil using the PID.

In addition, select soils were field-screened by a sheen test by placing soil into a shallow stainless-steel bowl of water and observing to see if a sheen emitted on top the water's surface.

A field log of each boring was maintained, including the thickness and depth of each soil unit encountered and the depth to the uppermost water table. Soil samples were observed to document soil lithology, color, and moisture content. Soils were logged in general accordance with American Society for Testing and Materials (ASTM) Practice Designation D-2488, *Standard Practice for Description of Soils (Visual-Manual Procedure)*. Exploration logs are included in Appendix B. The boring logs also include the field screening results for each soil boring.

In the absence of field indications, soil samples were collected from the depth interval most likely to be impacted, change in lithology, from the upper soil zone, at a depth equal or below the REC and/or the capillary fringe, as determined by Terracon's field representative.

A total of nine soil samples, one from each boring and one additional sample from B1, B3, and B5, were collected and submitted for laboratory analysis. Soil samples were extracted by hand using disposable gloves and placed directly into laboratory-supplied glassware.

Each sample container was labeled with the project number, date, time, boring number, and sample number. Sample containers were placed in a chilled cooler immediately after sampling, and subsequently transported to a Washington State-accredited laboratory under standard chain-of-custody procedures.

The borings were decommissioned using bentonite chips immediately upon the conclusion of field work for this investigation and capped to approximately match the existing ground surface.

3.2 Groundwater Sampling

At the time of drilling, groundwater was only observed in B1 and B2 at a depth of approximately 5 feet bgs. At the time of sampling, B1 did not produce an adequate amount of groundwater for sampling; therefore, a groundwater sample was not collected from B1.

One groundwater sample was collected from the temporary monitoring well B2, using disposable tubing and a peristaltic pump. Sample tubing intake depth was selected based on the screened interval of the well. Purging of the temporary well was attempted, as practical, based on groundwater recharge rates and volumes. Approximately one gallon of development water was removed from the well before groundwater appeared relatively free of sediment.

Please note that during sampling from temporary wells, groundwater often remains turbid and can contain suspended colloids, which may then be detected by the laboratory, potentially resulting in elevated contaminate concentrations. Therefore, without the benefit of permanent groundwater monitoring wells that are properly developed prior to groundwater sampling, groundwater analytical results may not be representative of actual on-site groundwater conditions.

The sample containers were labeled with the project number, date, time, and sample number and placed in a chilled cooler immediately after sampling. The sample containers were subsequently transported to a Washington state-certified laboratory, under standard chain-of-custody procedures.

At the completion of field activities, the temporary wells were removed from each boring and they were decommissioned using bentonite chips and capped to approximately match the existing ground surface.

4.0 RESULTS OF THE FIELD INVESTIGATION

4.1 Geology/Hydrogeology

In general, Terracon encountered gray sandy silt in the upper three feet, followed by gray silt with wood fragments to the boring termination depths. The boring logs attached in Appendix B detail the observed soil stratigraphy.

4.2 Field Screening

PID readings were not detected above 6.9 parts per million (ppm) in soil collected from the borings. Furthermore, sheens or other field indications (e.g., odors) of possible chemical impacts were not noted in any of the soils and/or purge water collected from temporary groundwater monitoring wells. The field screening results are summarized on the boring logs in Appendix B.

5.0 ANALYTICAL RESULTS

The selected soil samples and groundwater samples were analyzed for gasoline-, diesel-, and oil-range total petroleum hydrocarbons (TPH) by Northwest Method NWTPH-Gx/Dx, and volatile organic compounds (VOCs) by EPA Method 8260, semi-VOCs (SVOCs) by EPA Method 8270, polychlorinated biphenyls (PCBs) by EPA Method 8082, metals by EPA Method 6010/6020/200.8, and/or polychlorinated dibenzodioxins and polychlorinated dibenzofurans (dioxins and furans) by EPA Method 1613. Soil samples analyzed for gasoline-range TPH and VOCs were collected using EPA Method 5035 sampling kits.

Reported soil and groundwater concentrations were compared with the Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method A Cleanup Levels for unrestricted land use, as applicable, established under Chapter 70.105D RCW and its implementing regulation, MTCA Chapter 173-340 WAC. Where a MTCA Method A Cleanup level has not been established for a particular compound, the respective MTCA Method B Cleanup Level for cancer/non-cancer direct contact is applied for comparison. Reported soil dioxins/furans concentrations were reported in Toxicity Equivalent Factors (TEF) and compared to the mixtures of dioxins/furans established cleanup levels in accordance with WAC 173-340-708(8).

Data packages were checked for completeness immediately upon receipt from the laboratory to ensure that data and QA/QC information requested were present. Data quality was assessed by considering holding times, surrogate recovery, method blanks, matrix spike and matrix spike duplicate recovery, and detection limits. Based upon our interpretation of quality control information provided by the laboratories, it is our opinion that the overall dataset is useable as qualified for the purposes of this LSI.

5.1 Soil Analytical Results

The soil samples collected from B1-2.5 and B2-3 contained arsenic at concentrations of 35 milligrams per kilograms (mg/kg) and 41 mg/kg respectively. These concentrations exceed the respective MTCA Method A cleanup level of 20 mg/kg for arsenic.

The soil samples collected from B1-2.5, B1-6.5, and B2-3 contained chromium at concentrations of 67 mg/kg, 47 mg/kg, and 70 mg/kg respectively. The concentrations of total chromium in soil samples collected from B1 and B2 ranged from 47 mg/kg to 70 mg/kg; although these concentrations are below the MTCA Method A cleanup level of 2,000 mg/kg for total chromium, the concentration exceeds the hexavalent chromium MTCA Method A cleanup level of 19 mg/kg. The historic site use as a lumber mill indicates the potential for on-site use or source of chromium, and concentrations are most likely attributed to historic use of chromium. The highest concentration of total chromium (B2-3) was additionally analyzed for hexavalent chromium. The concentration of hexavalent chromium in B2-3 was not reported above laboratory MRLs,

therefore chromium concentrations were compared to MTCA Method A cleanup level of 2,000 mg/kg for total chromium.

The soil sample collected from B5-2.5, B5-18, and B6-3 contained concentrations of dioxins and furans. These concentrations were used to calculate the Toxicity Equivalent Factors (TEF). Since Method A cleanup levels have not been established, the TEF concentrations were compared against the MTCA Method B cleanup level for cancer direct contact of 12.8 nanograms per kilogram (ng/kg). The TEF for B5-2.5, B5-18, and B6-3 was 10.8 ng/kg, 0.499 ng/kg, and 0.718 ng/kg respectively. These concentrations were below the respective Method B cleanup level of 12.8 ng/kg.

The remaining soil samples results were either below the laboratory MRLs or below the MTCA Method A or MTCA Method B cleanup levels. The

The soil analytical results are summarized in Table 1 of Appendix C.

5.2 Groundwater Analytical Results

The groundwater sample collected from B2 contained arsenic at a concentration of 77 µg/l, which exceeds the respective MTCA Method A cleanup level of 5 µg/l.

The remaining groundwater sample results were either below the laboratory MRLs or below the MTCA Method A or MTCA Method B cleanup levels.

The groundwater analytical results are summarized in Table 2 of Appendix C.

6.0 INVESTIGATION DERIVED WASTE

One 16-gallon drum of drill cuttings and one 16-gallon drum of monitoring well purge/equipment decontamination water were containerized during the field activities. The drums have been properly disposed by a licensed disposal facility.

7.0 FINDINGS AND CONCLUSIONS

Based on the scope of services described in this report and subject to the limitations described herein, Terracon concludes the following.

Soil samples collected from B1 and B2 had concentrations of arsenic and/or chromium which exceeded their respective MTCA Method A cleanup levels. Chromated arsenicals, which includes chromated copper arsenate (CCA), is a group of pesticides containing chromium, copper, and/or arsenic that protect wood against termites, fungi and other pests that can

degrade or threaten the integrity of wood products. Chromated arsenicals-treated wood is used to produce commercial wood shake, shingles, permanent foundation support beams and other wood products, and is likely attributing to the elevated concentrations of chromium and arsenic. However, based on the additional analysis of the highest chromium concentration, the concentrations of chromium do not appear to be hexavalent chromium. Soil samples collected form B5 and B6 had concentrations of dioxins and furans. Although these concentrations are below their respective MTCA Method B cleanup level, they exceed the natural background concentrations of 5.2 ng/kg for dioxin and furan mixtures in soil per Ecology's *Natural Background for Dioxins/Furans in WA Soils,* Technical Memorandum #8 dated August 9, 2010. According to an Environmental Protection Agency (EPA) discussion on Persistent Bioaccumulative and Toxic (PBT) Chemical Program on Dioxins and Furans dated April 18, 2011, dioxin/furans are transported primarily through the air and are deposited on the surfaces of soils. Most dioxin/furans are introduced to the environment through the air as trace by-products of combustion. The historical site use as a lumber mill and on-site fire pond, it is presumed that the onsite detections in the site soils are attributed to trace by-products through air transportation and/or the direct deposition from on-site activities.

Terracon concludes that the operations at the site with a vehicle maintenance area, wash-down area, diesel UST area, fire pond and documented dioxins and furans appears to have previously contributed and may potentially continue to contribute to the release of select chemicals of concern to soils and/or groundwater; however, with the exception of arsenic in soil and groundwater it does not appear that a significant release to these areas has occurred which has contributed to a large-scale release. Although groundwater impacts were not identified, with the exception of arsenic, at concentrations exceeding the MTCA cleanup level, it should be understood that groundwater samples were not collected from other areas of the site. Regardless, soil sampling did not indicate widespread impacts that could have migrated in the local groundwater aquifer.

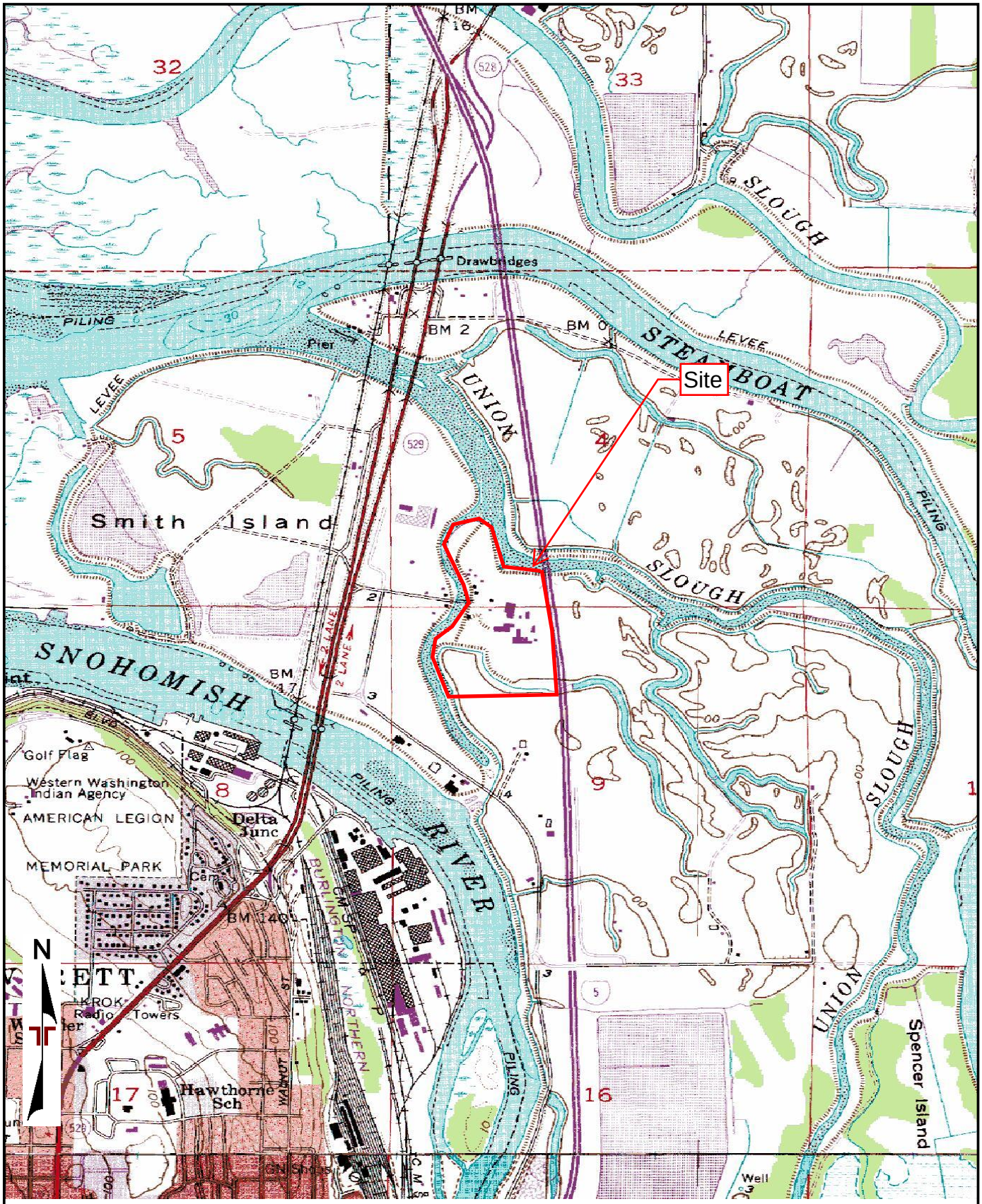
8.0 RECOMMENDATIONS

Based on the findings of this investigation, it appears that the arsenic concentrations identified are consistent with the current site use. While there are arsenic exceedances to the MTCA cleanup level, Terracon infers that they are limited to the site soil and groundwater within the limits of the site boundary. Therefore, unless the site use is proposed to change, Terracon does not recommend any additional investigations at this time. For a further degree of confidence with regard to onsite groundwater conditions, permanent groundwater monitoring wells would be required, although not recommended at this time.

With regards to the identified releases to soil exhibiting arsenic concentrations above MTCA action levels, a release report to Ecology is required per MTCA (Washington Administrative Code (WAC) 173-340-300 (2) (a)), which states: *"Any owner or operator, who has information that a hazardous substance has been released to the environment at the owner's or operator's*

facility and may be a threat to human health or the environment, shall report such information to the department within 90 days of discovery."

APPENDIX A – EXHIBITS



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: MARYSVILLE, WA (1973) and EVERETT, WA (1973).

Project Manager: EAD	Project No. 81187331	Terracon 21905 64th Ave W, Ste 100 Mountlake Terrace, WA 98043-2251	TOPOGRAPHIC MAP Buse Timber & Sales 3812 28th Pl NE Everett, Snohomish County, Washington	Exhibit 1
Drawn by: TRB	Scale: 1"=2,000'			
Checked by: MYW	File Name: Exhibit 1			
Approved by: MYW	Date: Aug 2018			

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

B1 ● Boring number and approximate location

AERIAL PHOTOGRAPHY PROVIDED BY MICROSOFT BING MAPS

Project Manager: EAD	Project No. 81187331	Terracon	SITE DIAGRAM
Drawn by: TRB	Scale: AS SHOWN	21905 64th Ave W, Ste 100	Buse Timber & Sales
Checked by: MYW	File Name: Exhibit 2	Mountlake Terrace, WA 98043-2251	3812 28th Pl NE
Approved by: MYW	Date: Aug 2018		Everett, Snohomish County, Washington

Exhibit 2

APPENDIX B – TABLES

TABLE 1

SUMMARY OF SOIL ANALYTICAL RESULTS
Buse Timber & Sales
3812 28th Place Northeast
Everett, Washington

Terracon Project No. 81187331

All concentrations are in milligrams per kilogram (mg/kg)

Boring ID	Sample ID	Sample Date	Sample Depth (feet)	TPH			Metals[+,1]						VOCs [1]		Dioxins and Furans°
				Gasoline-Range	Diesel-Range	Oil-Range	Mercury	Arsenic	Total Chromium	Hexavalent Chromium (VI)	Lead	Other Metals	Acetone	Other VOCs	
MTCA Method A Cleanup Level				**100**	**2,000**	**2,000**	**2**	**20**	**2,000**	**19**	**250**	**Varies**	**72,000***	**Varies**	**12.8*‡**
B1	B1-2.5	8/17/18	2.5	ND (<3.0)	ND (<28)	ND (<56)	**0.034**	**35**	**67**	--	**57**	ND	**0.23**	ND	--
	B1-6.5	8/17/18	6.5	ND (<3.0)	ND (<25)	**91**	ND (<0.020)	**16**	**47**	--	**13**	ND	ND (<0.050)	ND	--
B2	B2-3	8/17/18	3	ND (<3.0)	ND (<29)	ND (<58)	**0.090**	**41**	**70**	ND (<5.0)	**31**	ND	**0.38**	ND	--
B3	B3-6.5	8/17/18	6.5	ND (<3.0)	ND (<28)	ND (<56)	--	--	--	--	--	--	**0.063**	ND	--
	B3-17.5	8/17/18	17.5	ND (<3.0)	ND (<25)	ND (<50)	--	--	--	--	--	--	ND (<0.050)	ND	--
B4	B4-7	8/17/18	7	ND (<3.0)	ND (<31)	ND (<62)	--	--	--	--	--	--	ND (<0.050)	ND	--
B5	B5-2.5	8/17/18	2.5	**3.5**	ND (<25)	**170**	--	--	--	--	--	--	ND (<0.050)	ND	**10.8**
	B5-18	8/17/18	18	ND (<3.0)	ND (<25)	ND (<50)	--	--	--	--	--	--	ND (<0.050)	ND	**0.499**
B6	B6-3	8/17/18	3	ND (<3.0)	ND (<26)	**58**	--	--	--	--	--	--	**0.23**	ND	**0.718**

Note: Concentrations detected above laboratory reporting limits are in **BOLD** type.
Concentrations detected above MTCA cleanup levels are in **BOLD RED** type and a shaded cell.
Compounds with no MTCA cleanup levels established are not included. See laboratory report for full list of analytes.

TPH - Total petroleum hydrocarbons
VOCs - Volatile organic compounds
MTCA - Model Toxics Control Act
RCRA - Resource Conservation and Recovery Act
ND - Not detected above laboratory reporting limits.
\+ - RCRA 8 Metals
* - MTCA Method B Cleanup Level - cancer/noncancer direct contact.
° - Toxicity equivalent concentrations in nanograms per kilogram (ng/kg)
‡ - Natural background concentration for dioxin and furan mixtures in upland soils (Ecology Technical Memorandum #8, 2010)
1 - See laboratory report for full list of analytes.

TABLE 2

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

Buse Timber & Sales
3812 28th Place Northeast
Everett, Washington

Terracon Project No. 81187331

All concentrations are in micrograms per liter (µg/L)

Sample ID	Sample Date	TPH			Metals[+,1]			VOCs[1]
		Gasoline-Range	Diesel-Range	Oil-Range	Arsenic	Chromium (VI)	Other Metals	
MTCA Method A Cleanup Level		**1,000**	**500**	**500**	**5**	**48**	**Varies**	**Varies**
B2	8/17/18	**260**	**450**	**400**	**77**	**9.2**	ND	ND

Note: Concentrations detected above laboratory reporting limits are in **BOLD** type.
Concentrations above MTCA cleanup levels are in **BOLD RED** and a shaded cell.

TPH - Total petroleum hydrocarbons
VOCs - Volatile organic compounds
RCRA - Resource Conservation and Recovery Act
MTCA - Model Toxics Control Act
ND - Not detected above laboratory reporting limits.
\+ - RCRA 8 metals
1 - See laboratory report for full list of analytes.

APPENDIX C – SOIL BORING LOGS

BORING LOG NO. B1

PROJECT: Buse Timber & Sales

CLIENT: Umpqua Bank
Coeur d'Alene, Idaho

SITE: 3812 28th Place Northeast
Everett, Washington

LOCATION See Exhibit 2.

DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE ID
0.2	**ASPHALT**					
0.8	**FILL - SAND WITH GRAVEL (SP)**, gray, moist					
1.5	**FILL - SAND (SP)**, gray, moist					
	SILT (ML), gray, moist				0.9	B1-2.5
5.0		5	▽			
	SAND (SP), gray, wet				0.0	B1-6.5
6.8						
	SILT (ML), gray, moist, abundant orange wood				0.3	
10.0		10				
	Boring Terminated at 10 Feet					

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Direct push

Abandonment Method:
Boring backfilled with bentonite chips upon completion.

Notes:

WATER LEVEL OBSERVATIONS

▽ *Depth to groundwater while drilling.*

Terracon
21905 64th Ave W, Ste 100
Mountlake Terrace, WA

Boring Started: 08-17-2018 | Boring Completed: 08-17-2018

Drill Rig: Geoprobe | Driller: Holt Services, Inc

Project No.: 81187331 | Exhibit: B-1

BORING LOG NO. B2

PROJECT: Buse Timber & Sales

CLIENT: Umpqua Bank
Coeur d'Alene, Idaho

SITE: 3812 28th Place Northeast
Everett, Washington

LOCATION See Exhibit 2.

GRAPHIC LOG	DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE ID
	0.8	**ASPHALT CONCRETE**					
	2.5	**FILL - SAND (SP)**, gray, moist					
	5.0	**SILT (ML)**, gray, moist				1.6	B2-3
	6.5	**SAND (SP)**, minor silt, gray, wet	5	▽		0.6	
	10.0	**SILT (ML)**, gray, moist, with orange wood				0.1	
		Boring Terminated at 10 Feet	10				

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Direct push

Abandonment Method:
Boring backfilled with bentonite chips upon completion.

Notes:

WATER LEVEL OBSERVATIONS

▽ *Depth to groundwater while drilling.*

Terracon
21905 64th Ave W, Ste 100
Mountlake Terrace, WA

Boring Started: 08-17-2018 | Boring Completed: 08-17-2018

Drill Rig: Geoprobe | Driller: Holt Services, Inc.

Project No.: 81187331 | Exhibit: B-2

BORING LOG NO. B3

PROJECT: Buse Timber & Sales

CLIENT: Umpqua Bank
Coeur d'Alene, Idaho

SITE: 3812 28th Place Northeast
Everett, Washington

LOCATION See Exhibit 2.

DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE ID
0.2	**ASPHALT**					
	FILL - WELL GRADED GRAVEL WITH SAND (GW), tan, slightly moist					
1.8	**SILT (ML)**, gray, moist, smelly				0.8	
		5				
					0.3	B3-6.5
	abundant orange and maroon wood				0.0	
		10			0.4	
	minor wood				1.0	
15.0	**SILT WITH SAND (ML)**, gray, moist	15			0.4	
					0.1	B3-17.5
20.0	***Boring Terminated at 20 Feet***	20				

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Direct push

Abandonment Method:
Boring backfilled with bentonite chips upon completion.

Notes:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
21905 64th Ave W, Ste 100
Mountlake Terrace, WA

Boring Started: 08-17-2018 | Boring Completed: 08-17-2018

Drill Rig: Geoprobe | Driller: Holt Services, Inc.

Project No.: 81187331 | Exhibit: B-3

BORING LOG NO. B4

PROJECT: Buse Timber & Sales

CLIENT: Umpqua Bank
Coeur d'Alene, Idaho

SITE: 3812 28th Place Northeast
Everett, Washington

LOCATION See Exhibit 2.

DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE ID
	TOPSOIL, tan, dry					
1.5	**SILT (ML)**, gray, moist, abundant vegetation				0.0	
					0.0	
	orange mottling					
	smelly, wood	5				
					0.7	B4-7
					0.2	
	no odor, no wood	10				
					0.0	
	trace sand	15			0.0	
					0.0	
20.0	***Boring Terminated at 20 Feet***	20				

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Direct push

Abandonment Method:
Boring backfilled with bentonite chips upon completion.

Notes:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
21905 64th Ave W, Ste 100
Mountlake Terrace, WA

Boring Started: 08-17-2018 | Boring Completed: 08-17-2018

Drill Rig: Geoprobe | Driller: Holt Services, Inc.

Project No.: 81187331 | Exhibit: B-4

BORING LOG NO. B5

PROJECT: Buse Timber & Sales

CLIENT: Umpqua Bank
Coeur d'Alene, Idaho

SITE: 3812 28th Place Northeast
Everett, Washington

LOCATION See Exhibit 2.

DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE ID
0.5	**TOPSOIL**					
	FILL - SAND (SP), tan, dry grading down to moist					
2.0						
	SILT (ML), gray, moist				6.9	B5-2.5
	smelly, abundant wood from 5' to 6'	5			2.9	
	orange wood	10			0.0	
	trace sand, trace orange wood, no odor	15			0.0	B5-18
20.0		20				
	Boring Terminated at 20 Feet					

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Direct push

Abandonment Method:
Boring backfilled with bentonite chips upon completion.

Notes:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
21905 64th Ave W, Ste 100
Mountlake Terrace, WA

Boring Started: 08-17-2018 | Boring Completed: 08-17-2018

Drill Rig: Geoprobe | Driller: Holt Services, Inc.

Project No.: 81187331 | Exhibit: B-5

BORING LOG NO. B6

PROJECT: Buse Timber & Sales

CLIENT: Umpqua Bank
Coeur d'Alene, Idaho

SITE: 3812 28th Place Northeast
Everett, Washington

LOCATION See Exhibit 2.

DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE ID
0.5	**ASPHALT**					
	FILL - SAND WITH GRAVEL (SP), gray, moist				0.7	
2.0						
	SILT (ML), gray, moist, smelly				1.7	B6-3
	abundant wood	5			0.0	
		10			0.2	
11.0						
11.5	**SILTY SAND (SM)**, gray, moist, no wood, no odor					
	SILT (ML), gray, moist				0.0	
		15			1.0	
	some sand				0.0	
20.0		20				
	Boring Terminated at 20 Feet					

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Direct push

Abandonment Method:
Boring backfilled with bentonite chips upon completion.

Notes:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
21905 64th Ave W, Ste 100
Mountlake Terrace, WA

Boring Started: 08-17-2018 | Boring Completed: 08-17-2018

Drill Rig: Geoprobe | Driller: Holt Services, Inc.

Project No.: 81187331 | Exhibit: B-6

APPENDIX D – ANALYTICAL REPORT

September 14, 2018

Mr. Eric Dubcak
Terracon
21905 - 64th Ave W, Suite 100
Mountlake Terrace, WA 98043

Dear Mr. Dubcak,

On August 17th, 10 samples were received by our laboratory and assigned our laboratory project number EV18080100. The project was identified as your 81187331. 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

Glen Perry
Technical Manager

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

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-01
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 8:05:00 AM
CLIENT SAMPLE ID	B6-3	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	08/20/2018	JMK
TPH-Diesel Range	NWTPH-DX	U	26	1	MG/KG	08/22/2018	EBS
TPH-Oil Range	NWTPH-DX	**58**	50	1	MG/KG	08/22/2018	EBS
Dichlorodifluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Vinyl Chloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Tetrachloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trichlorofluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Disulfide	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Acetone	EPA-8260	**0.23**	0.17	1	MG/KG	08/21/2018	DLC
1,1-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Methylene Chloride	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Acrylonitrile	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Methyl T-Butyl Ether	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Butanone	EPA-8260	U	0.13	1	MG/KG	08/21/2018	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Benzene	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Trichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Dibromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromodichloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Methyl-2-Pentanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Toluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Hexanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,3-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC

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ALS Group USA, Corp dba ALS Environmental

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE: ALS JOB#: ALS SAMPLE#:	9/14/2018 EV18080100 EV18080100-01
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 8:05:00 AM
CLIENT SAMPLE ID	B6-3	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Tetrachloroethylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Dibromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromoethane	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Chlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Ethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
m,p-Xylene	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Styrene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
o-Xylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromoform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Isopropylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Propyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
T-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
S-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
P-Isopropyltoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,4-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Butylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Hexachlorobutadiene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Naphthalene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Pyridine	EPA-8270	U	0.20	1	MG/KG	08/23/2018	JMK
N-Nitrosodimethylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Phenol	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Aniline	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	0.26	1	MG/KG	08/23/2018	JMK
2-Chlorophenol	EPA-8270	U	0.26	1	MG/KG	08/23/2018	JMK
1,3-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
1,4-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-01
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 8:05:00 AM
CLIENT SAMPLE ID	B6-3	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzyl Alcohol	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
1,2-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	0.33	1	MG/KG	08/23/2018	JMK
3&4-Methylphenol	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	0.25	1	MG/KG	08/23/2018	JMK
Hexachloroethane	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Nitrobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Isophorone	EPA-8270	U	0.19	1	MG/KG	08/23/2018	JMK
2-Nitrophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dimethylphenol	EPA-8270	U	0.17	1	MG/KG	08/23/2018	JMK
Benzoic Acid	EPA-8270	U	1.9	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	0.32	1	MG/KG	08/23/2018	JMK
2,4-Dichlorophenol	EPA-8270	U	0.65	1	MG/KG	08/23/2018	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	0.19	1	MG/KG	08/23/2018	JMK
Naphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chloroaniline	EPA-8270	U	1.5	1	MG/KG	08/23/2018	JMK
2,6-Dichlorophenol	EPA-8270	U	0.49	1	MG/KG	08/23/2018	JMK
Hexachlorobutadiene	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	0.86	1	MG/KG	08/23/2018	JMK
2-Methylnaphthalene	EPA-8270	U	0.41	1	MG/KG	08/23/2018	JMK
1-Methylnaphthalene	EPA-8270	U	0.47	1	MG/KG	08/23/2018	JMK
Hexachlorocyclopentadiene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4,6-Trichlorophenol	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
2,4,5-Trichlorophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Chloronaphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Nitroaniline	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dimethylphthalate	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
2,6-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3-Nitroaniline	EPA-8270	U	1.5	1	MG/KG	08/23/2018	JMK
2,4-Dinitrophenol	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
4-Nitrophenol	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
Dibenzofuran	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
Diethylphthalate	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Fluorene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK

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ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE: ALS JOB#: ALS SAMPLE#:	9/14/2018 EV18080100 EV18080100-01
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 8:05:00 AM
CLIENT SAMPLE ID	B6-3	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
4-Chlorophenyl-Phenylether	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
4-Nitroaniline	EPA-8270	U	0.34	1	MG/KG	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
N-Nitrosodiphenylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Azobenzene	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Hexachlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pentachlorophenol	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
Phenanthrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Carbazole	EPA-8270	U	0.29	1	MG/KG	08/23/2018	JMK
Di-N-Butylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Butylbenzylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3,3-Dichlorobenzidine	EPA-8270	U	0.45	1	MG/KG	08/23/2018	JMK
Benzo[A]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Chrysene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Di-N-Octylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[B]Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[K]Fluoranthene	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Benzo[A]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**74.9**	08/20/2018	JMK
C25	NWTPH-DX	**78.5**	08/22/2018	EBS
1,2-Dichloroethane-d4	EPA-8260	**99.8**	08/20/2018	DLC
1,2-Dichloroethane-d4	EPA-8260	**96.9**	08/21/2018	DLC
Toluene-d8	EPA-8260	**111**	08/20/2018	DLC
Toluene-d8	EPA-8260	**103**	08/21/2018	DLC
4-Bromofluorobenzene	EPA-8260	**99.7**	08/20/2018	DLC
4-Bromofluorobenzene	EPA-8260	**84.7**	08/21/2018	DLC
2-Fluorophenol	EPA-8270	**108**	08/23/2018	JMK
Phenol-d5	EPA-8270	**104**	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-01
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 8:05:00 AM
CLIENT SAMPLE ID	B6-3	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
Nitrobenzene-d5	EPA-8270	**88.1**	08/23/2018	JMK
2-Fluorobiphenyl	EPA-8270	**84.0**	08/23/2018	JMK
2,4,6-Tribromophenol	EPA-8270	**93.7**	08/23/2018	JMK
Terphenyl-d14	EPA-8270	**93.8**	08/23/2018	JMK

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

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-02
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 9:50:00 AM
CLIENT SAMPLE ID	B4-7	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	08/20/2018	JMK
TPH-Diesel Range	NWTPH-DX	U	31	1	MG/KG	08/22/2018	EBS
TPH-Oil Range	NWTPH-DX	U	62	1	MG/KG	08/22/2018	EBS
Dichlorodifluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Vinyl Chloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Tetrachloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trichlorofluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Disulfide	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Acetone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Methylene Chloride	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Acrylonitrile	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Methyl T-Butyl Ether	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Butanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Benzene	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Trichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Dibromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromodichloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Methyl-2-Pentanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Toluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Hexanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,3-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Tetrachloroethylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-02
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 9:50:00 AM
CLIENT SAMPLE ID	B4-7	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dibromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromoethane	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Chlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Ethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
m,p-Xylene	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Styrene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
o-Xylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromoform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Isopropylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Propyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
T-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
S-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
P-Isopropyltoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,4-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Butylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Hexachlorobutadiene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Naphthalene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Pyridine	EPA-8270	U	0.20	1	MG/KG	08/23/2018	JMK
N-Nitrosodimethylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Phenol	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
Aniline	EPA-8270	U	0.15	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	0.31	1	MG/KG	08/23/2018	JMK
2-Chlorophenol	EPA-8270	U	0.32	1	MG/KG	08/23/2018	JMK
1,3-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
1,4-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzyl Alcohol	EPA-8270	U	0.17	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-02
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 9:50:00 AM
CLIENT SAMPLE ID	B4-7	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,2-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Methylphenol	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	0.41	1	MG/KG	08/23/2018	JMK
3&4-Methylphenol	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	0.31	1	MG/KG	08/23/2018	JMK
Hexachloroethane	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Nitrobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Isophorone	EPA-8270	U	0.23	1	MG/KG	08/23/2018	JMK
2-Nitrophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dimethylphenol	EPA-8270	U	0.21	1	MG/KG	08/23/2018	JMK
Benzoic Acid	EPA-8270	U	2.3	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	0.39	1	MG/KG	08/23/2018	JMK
2,4-Dichlorophenol	EPA-8270	U	0.80	1	MG/KG	08/23/2018	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	0.23	1	MG/KG	08/23/2018	JMK
Naphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chloroaniline	EPA-8270	U	1.8	1	MG/KG	08/23/2018	JMK
2,6-Dichlorophenol	EPA-8270	U	0.60	1	MG/KG	08/23/2018	JMK
Hexachlorobutadiene	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	1.1	1	MG/KG	08/23/2018	JMK
2-Methylnaphthalene	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
1-Methylnaphthalene	EPA-8270	U	0.58	1	MG/KG	08/23/2018	JMK
Hexachlorocyclopentadiene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4,6-Trichlorophenol	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
2,4,5-Trichlorophenol	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
2-Chloronaphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Nitroaniline	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dimethylphthalate	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
2,6-Dinitrotoluene	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
Acenaphthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3-Nitroaniline	EPA-8270	U	1.9	1	MG/KG	08/23/2018	JMK
2,4-Dinitrophenol	EPA-8270	U	0.17	1	MG/KG	08/23/2018	JMK
4-Nitrophenol	EPA-8270	U	0.18	1	MG/KG	08/23/2018	JMK
Dibenzofuran	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
2,4-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	0.16	1	MG/KG	08/23/2018	JMK
Diethylphthalate	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
Fluorene	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE: ALS JOB#: ALS SAMPLE#:	9/14/2018 EV18080100 EV18080100-02
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 9:50:00 AM
CLIENT SAMPLE ID	B4-7	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
4-Nitroaniline	EPA-8270	U	0.41	1	MG/KG	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
N-Nitrosodiphenylamine	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Azobenzene	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
Hexachlorobenzene	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
Pentachlorophenol	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
Phenanthrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Carbazole	EPA-8270	U	0.35	1	MG/KG	08/23/2018	JMK
Di-N-Butylphthalate	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Butylbenzylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3,3-Dichlorobenzidine	EPA-8270	U	0.56	1	MG/KG	08/23/2018	JMK
Benzo[A]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Chrysene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Di-N-Octylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[B]Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[K]Fluoranthene	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
Benzo[A]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**70.3**	08/20/2018	JMK
C25	NWTPH-DX	**70.6**	08/22/2018	EBS
1,2-Dichloroethane-d4	EPA-8260	**95.6**	08/20/2018	DLC
Toluene-d8	EPA-8260	**110**	08/20/2018	DLC
4-Bromofluorobenzene	EPA-8260	**95.2**	08/20/2018	DLC
2-Fluorophenol	EPA-8270	**103**	08/23/2018	JMK
Phenol-d5	EPA-8270	**95.0**	08/23/2018	JMK
Nitrobenzene-d5	EPA-8270	**86.5**	08/23/2018	JMK
2-Fluorobiphenyl	EPA-8270	**83.0**	08/23/2018	JMK
2,4,6-Tribromophenol	EPA-8270	**88.9**	08/23/2018	JMK
Terphenyl-d14	EPA-8270	**89.6**	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-02
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 9:50:00 AM
CLIENT SAMPLE ID	B4-7	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

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

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-03
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 11:05:00 AM
CLIENT SAMPLE ID	B3-6.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	08/20/2018	JMK
TPH-Diesel Range	NWTPH-DX	U	28	1	MG/KG	08/22/2018	EBS
TPH-Oil Range	NWTPH-DX	U	56	1	MG/KG	08/22/2018	EBS
Dichlorodifluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Vinyl Chloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Tetrachloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trichlorofluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Disulfide	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Acetone	EPA-8260	**0.063**	0.050	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Methylene Chloride	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Acrylonitrile	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Methyl T-Butyl Ether	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Butanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Benzene	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Trichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Dibromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromodichloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Methyl-2-Pentanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Toluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Hexanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,3-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Tetrachloroethylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC

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

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-03
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 11:05:00 AM
CLIENT SAMPLE ID	B3-6.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dibromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromoethane	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Chlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Ethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
m,p-Xylene	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Styrene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
o-Xylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromoform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Isopropylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Propyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
T-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
S-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
P-Isopropyltoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,4-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Butylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Hexachlorobutadiene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Naphthalene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Pyridine	EPA-8270	U	0.20	1	MG/KG	08/23/2018	JMK
N-Nitrosodimethylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Phenol	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Aniline	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	0.27	1	MG/KG	08/23/2018	JMK
2-Chlorophenol	EPA-8270	U	0.27	1	MG/KG	08/23/2018	JMK
1,3-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
1,4-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzyl Alcohol	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-03
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 11:05:00 AM
CLIENT SAMPLE ID	B3-6.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,2-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	0.35	1	MG/KG	08/23/2018	JMK
3&4-Methylphenol	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	0.26	1	MG/KG	08/23/2018	JMK
Hexachloroethane	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Nitrobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Isophorone	EPA-8270	U	0.20	1	MG/KG	08/23/2018	JMK
2-Nitrophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dimethylphenol	EPA-8270	U	0.18	1	MG/KG	08/23/2018	JMK
Benzoic Acid	EPA-8270	U	2.0	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	0.34	1	MG/KG	08/23/2018	JMK
2,4-Dichlorophenol	EPA-8270	U	0.68	1	MG/KG	08/23/2018	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	0.20	1	MG/KG	08/23/2018	JMK
Naphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chloroaniline	EPA-8270	U	1.6	1	MG/KG	08/23/2018	JMK
2,6-Dichlorophenol	EPA-8270	U	0.51	1	MG/KG	08/23/2018	JMK
Hexachlorobutadiene	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	0.90	1	MG/KG	08/23/2018	JMK
2-Methylnaphthalene	EPA-8270	U	0.43	1	MG/KG	08/23/2018	JMK
1-Methylnaphthalene	EPA-8270	U	0.49	1	MG/KG	08/23/2018	JMK
Hexachlorocyclopentadiene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4,6-Trichlorophenol	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
2,4,5-Trichlorophenol	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
2-Chloronaphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Nitroaniline	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dimethylphthalate	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
2,6-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3-Nitroaniline	EPA-8270	U	1.6	1	MG/KG	08/23/2018	JMK
2,4-Dinitrophenol	EPA-8270	U	0.15	1	MG/KG	08/23/2018	JMK
4-Nitrophenol	EPA-8270	U	0.15	1	MG/KG	08/23/2018	JMK
Dibenzofuran	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
Diethylphthalate	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
Fluorene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE: ALS JOB#: ALS SAMPLE#:	9/14/2018 EV18080100 EV18080100-03
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 11:05:00 AM
CLIENT SAMPLE ID	B3-6.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
4-Nitroaniline	EPA-8270	U	0.35	1	MG/KG	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
N-Nitrosodiphenylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Azobenzene	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Hexachlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pentachlorophenol	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
Phenanthrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Carbazole	EPA-8270	U	0.30	1	MG/KG	08/23/2018	JMK
Di-N-Butylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Butylbenzylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3,3-Dichlorobenzidine	EPA-8270	U	0.48	1	MG/KG	08/23/2018	JMK
Benzo[A]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Chrysene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Di-N-Octylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[B]Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[K]Fluoranthene	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
Benzo[A]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**68.4**	08/20/2018	JMK
C25	NWTPH-DX	**76.0**	08/22/2018	EBS
1,2-Dichloroethane-d4	EPA-8260	**99.7**	08/20/2018	DLC
Toluene-d8	EPA-8260	**109**	08/20/2018	DLC
4-Bromofluorobenzene	EPA-8260	**93.3**	08/20/2018	DLC
2-Fluorophenol	EPA-8270	**104**	08/23/2018	JMK
Phenol-d5	EPA-8270	**102**	08/23/2018	JMK
Nitrobenzene-d5	EPA-8270	**86.6**	08/23/2018	JMK
2-Fluorobiphenyl	EPA-8270	**81.6**	08/23/2018	JMK
2,4,6-Tribromophenol	EPA-8270	**89.8**	08/23/2018	JMK
Terphenyl-d14	EPA-8270	**89.2**	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-03
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 11:05:00 AM
CLIENT SAMPLE ID	B3-6.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

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

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-04
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 11:25:00 AM
CLIENT SAMPLE ID	B3-17.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	08/20/2018	JMK
TPH-Diesel Range	NWTPH-DX	U	25	1	MG/KG	08/22/2018	EBS
TPH-Oil Range	NWTPH-DX	U	50	1	MG/KG	08/22/2018	EBS
Dichlorodifluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Vinyl Chloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Tetrachloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trichlorofluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Disulfide	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Acetone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Methylene Chloride	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Acrylonitrile	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Methyl T-Butyl Ether	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Butanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Benzene	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Trichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Dibromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromodichloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Methyl-2-Pentanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Toluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Hexanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,3-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Tetrachloroethylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-04
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 11:25:00 AM
CLIENT SAMPLE ID	B3-17.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dibromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromoethane	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Chlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Ethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
m,p-Xylene	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Styrene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
o-Xylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromoform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Isopropylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Propyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
T-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
S-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
P-Isopropyltoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,4-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Butylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Hexachlorobutadiene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Naphthalene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Pyridine	EPA-8270	U	0.20	1	MG/KG	08/23/2018	JMK
N-Nitrosodimethylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Phenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Aniline	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	0.25	1	MG/KG	08/23/2018	JMK
2-Chlorophenol	EPA-8270	U	0.25	1	MG/KG	08/23/2018	JMK
1,3-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
1,4-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzyl Alcohol	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK

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

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-04
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 11:25:00 AM
CLIENT SAMPLE ID	B3-17.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,2-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	0.32	1	MG/KG	08/23/2018	JMK
3&4-Methylphenol	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	0.25	1	MG/KG	08/23/2018	JMK
Hexachloroethane	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Nitrobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Isophorone	EPA-8270	U	0.18	1	MG/KG	08/23/2018	JMK
2-Nitrophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dimethylphenol	EPA-8270	U	0.16	1	MG/KG	08/23/2018	JMK
Benzoic Acid	EPA-8270	U	1.8	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	0.30	1	MG/KG	08/23/2018	JMK
2,4-Dichlorophenol	EPA-8270	U	0.62	1	MG/KG	08/23/2018	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	0.18	1	MG/KG	08/23/2018	JMK
Naphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chloroaniline	EPA-8270	U	1.4	1	MG/KG	08/23/2018	JMK
2,6-Dichlorophenol	EPA-8270	U	0.46	1	MG/KG	08/23/2018	JMK
Hexachlorobutadiene	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	0.81	1	MG/KG	08/23/2018	JMK
2-Methylnaphthalene	EPA-8270	U	0.39	1	MG/KG	08/23/2018	JMK
1-Methylnaphthalene	EPA-8270	U	0.45	1	MG/KG	08/23/2018	JMK
Hexachlorocyclopentadiene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4,6-Trichlorophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4,5-Trichlorophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Chloronaphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Nitroaniline	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dimethylphthalate	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
2,6-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3-Nitroaniline	EPA-8270	U	1.5	1	MG/KG	08/23/2018	JMK
2,4-Dinitrophenol	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
4-Nitrophenol	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
Dibenzofuran	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
Diethylphthalate	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Fluorene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE: ALS JOB#: ALS SAMPLE#:	9/14/2018 EV18080100 EV18080100-04
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 11:25:00 AM
CLIENT SAMPLE ID	B3-17.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
4-Nitroaniline	EPA-8270	U	0.32	1	MG/KG	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
N-Nitrosodiphenylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Azobenzene	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Hexachlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pentachlorophenol	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
Phenanthrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Carbazole	EPA-8270	U	0.27	1	MG/KG	08/23/2018	JMK
Di-N-Butylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Butylbenzylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3,3-Dichlorobenzidine	EPA-8270	U	0.43	1	MG/KG	08/23/2018	JMK
Benzo[A]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Chrysene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Di-N-Octylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[B]Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[K]Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[A]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**77.7**	08/20/2018	JMK
C25	NWTPH-DX	**81.5**	08/22/2018	EBS
1,2-Dichloroethane-d4	EPA-8260	**97.3**	08/20/2018	DLC
Toluene-d8	EPA-8260	**106**	08/20/2018	DLC
4-Bromofluorobenzene	EPA-8260	**91.1**	08/20/2018	DLC
2-Fluorophenol	EPA-8270	**99.7**	08/23/2018	JMK
Phenol-d5	EPA-8270	**96.6**	08/23/2018	JMK
Nitrobenzene-d5	EPA-8270	**83.7**	08/23/2018	JMK
2-Fluorobiphenyl	EPA-8270	**78.6**	08/23/2018	JMK
2,4,6-Tribromophenol	EPA-8270	**82.9**	08/23/2018	JMK
Terphenyl-d14	EPA-8270	**87.3**	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-04
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 11:25:00 AM
CLIENT SAMPLE ID	B3-17.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

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

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-05
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:35:00 PM
CLIENT SAMPLE ID	B1-6.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	08/20/2018	JMK
TPH-Diesel Range	NWTPH-DX	U	25	1	MG/KG	08/22/2018	EBS
TPH-Oil Range	NWTPH-DX	**91**	50	1	MG/KG	08/22/2018	EBS
Dichlorodifluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Vinyl Chloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Tetrachloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trichlorofluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Disulfide	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Acetone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Methylene Chloride	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Acrylonitrile	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Methyl T-Butyl Ether	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Butanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Benzene	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Trichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Dibromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromodichloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Methyl-2-Pentanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Toluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Hexanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,3-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Tetrachloroethylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-05
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:35:00 PM
CLIENT SAMPLE ID	B1-6.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dibromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromoethane	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Chlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Ethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
m,p-Xylene	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Styrene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
o-Xylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromoform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Isopropylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Propyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
T-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
S-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
P-Isopropyltoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,4-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Butylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Hexachlorobutadiene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Naphthalene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Pyridine	EPA-8270	U	0.20	1	MG/KG	08/23/2018	JMK
N-Nitrosodimethylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Phenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Aniline	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	0.25	1	MG/KG	08/23/2018	JMK
2-Chlorophenol	EPA-8270	U	0.25	1	MG/KG	08/23/2018	JMK
1,3-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
1,4-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzyl Alcohol	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
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CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:35:00 PM
CLIENT SAMPLE ID	B1-6.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,2-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	0.30	1	MG/KG	08/23/2018	JMK
3&4-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	0.25	1	MG/KG	08/23/2018	JMK
Hexachloroethane	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Nitrobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Isophorone	EPA-8270	U	0.17	1	MG/KG	08/23/2018	JMK
2-Nitrophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dimethylphenol	EPA-8270	U	0.15	1	MG/KG	08/23/2018	JMK
Benzoic Acid	EPA-8270	U	1.7	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	0.29	1	MG/KG	08/23/2018	JMK
2,4-Dichlorophenol	EPA-8270	U	0.58	1	MG/KG	08/23/2018	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	0.17	1	MG/KG	08/23/2018	JMK
Naphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chloroaniline	EPA-8270	U	1.3	1	MG/KG	08/23/2018	JMK
2,6-Dichlorophenol	EPA-8270	U	0.43	1	MG/KG	08/23/2018	JMK
Hexachlorobutadiene	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	0.76	1	MG/KG	08/23/2018	JMK
2-Methylnaphthalene	EPA-8270	U	0.36	1	MG/KG	08/23/2018	JMK
1-Methylnaphthalene	EPA-8270	U	0.42	1	MG/KG	08/23/2018	JMK
Hexachlorocyclopentadiene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4,6-Trichlorophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4,5-Trichlorophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Chloronaphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Nitroaniline	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dimethylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,6-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3-Nitroaniline	EPA-8270	U	1.4	1	MG/KG	08/23/2018	JMK
2,4-Dinitrophenol	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
4-Nitrophenol	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
Dibenzofuran	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
Diethylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Fluorene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK

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ALS Group USA, Corp dba ALS Environmental

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-05
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:35:00 PM
CLIENT SAMPLE ID	B1-6.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
4-Nitroaniline	EPA-8270	U	0.30	1	MG/KG	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
N-Nitrosodiphenylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Azobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Hexachlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pentachlorophenol	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
Phenanthrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Carbazole	EPA-8270	U	0.25	1	MG/KG	08/23/2018	JMK
Di-N-Butylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Butylbenzylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3,3-Dichlorobenzidine	EPA-8270	U	0.40	1	MG/KG	08/23/2018	JMK
Benzo[A]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Chrysene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Di-N-Octylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[B]Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[K]Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[A]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
PCB-1016	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1221	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1232	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1242	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1248	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1254	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1260	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1268	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
Mercury	EPA-7471	U	0.020	1	MG/KG	08/23/2018	RAL
Arsenic	EPA-6020	**16**	0.78	1	MG/KG	08/22/2018	RAL
Cadmium	EPA-6020	U	0.24	1	MG/KG	08/22/2018	RAL
Chromium	EPA-6020	**47**	0.39	1	MG/KG	08/22/2018	RAL
Lead	EPA-6020	**13**	0.25	1	MG/KG	08/22/2018	RAL

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE: ALS JOB#: ALS SAMPLE#:	9/14/2018 EV18080100 EV18080100-05
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:35:00 PM
CLIENT SAMPLE ID	B1-6.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**61.7**	08/20/2018	JMK
C25	NWTPH-DX	**82.8**	08/22/2018	EBS
1,2-Dichloroethane-d4	EPA-8260	**99.8**	08/20/2018	DLC
Toluene-d8	EPA-8260	**110**	08/20/2018	DLC
4-Bromofluorobenzene	EPA-8260	**96.3**	08/20/2018	DLC
2-Fluorophenol	EPA-8270	**99.2**	08/23/2018	JMK
Phenol-d5	EPA-8270	**97.6**	08/23/2018	JMK
Nitrobenzene-d5	EPA-8270	**84.8**	08/23/2018	JMK
2-Fluorobiphenyl	EPA-8270	**80.6**	08/23/2018	JMK
2,4,6-Tribromophenol	EPA-8270	**88.4**	08/23/2018	JMK
Terphenyl-d14	EPA-8270	**87.5**	08/23/2018	JMK
TCMX	EPA-8082	**97.2**	08/20/2018	JMK
DCB	EPA-8082	**85.1**	08/20/2018	JMK

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

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-06
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:30:00 PM
CLIENT SAMPLE ID	B1-2.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	08/20/2018	JMK
TPH-Diesel Range	NWTPH-DX	U	28	1	MG/KG	08/22/2018	EBS
TPH-Oil Range	NWTPH-DX	U	56	1	MG/KG	08/22/2018	EBS
Dichlorodifluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Vinyl Chloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Tetrachloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trichlorofluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Disulfide	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Acetone	EPA-8260	**0.23**	0.20	1	MG/KG	08/21/2018	DLC
1,1-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Methylene Chloride	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Acrylonitrile	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Methyl T-Butyl Ether	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Butanone	EPA-8260	U	0.15	1	MG/KG	08/21/2018	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Benzene	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Trichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Dibromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromodichloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Methyl-2-Pentanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Toluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Hexanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,3-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Tetrachloroethylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-06
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:30:00 PM
CLIENT SAMPLE ID	B1-2.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dibromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromoethane	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Chlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Ethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
m,p-Xylene	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Styrene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
o-Xylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromoform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Isopropylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Propyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
T-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
S-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
P-Isopropyltoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,4-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Butylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Hexachlorobutadiene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Naphthalene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Pyridine	EPA-8270	U	0.20	1	MG/KG	08/23/2018	JMK
N-Nitrosodimethylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Phenol	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
Aniline	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	0.28	1	MG/KG	08/23/2018	JMK
2-Chlorophenol	EPA-8270	U	0.29	1	MG/KG	08/23/2018	JMK
1,3-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
1,4-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzyl Alcohol	EPA-8270	U	0.15	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-06
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:30:00 PM
CLIENT SAMPLE ID	B1-2.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,2-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	0.37	1	MG/KG	08/23/2018	JMK
3&4-Methylphenol	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	0.28	1	MG/KG	08/23/2018	JMK
Hexachloroethane	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Nitrobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Isophorone	EPA-8270	U	0.21	1	MG/KG	08/23/2018	JMK
2-Nitrophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dimethylphenol	EPA-8270	U	0.19	1	MG/KG	08/23/2018	JMK
Benzoic Acid	EPA-8270	U	2.1	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	0.36	1	MG/KG	08/23/2018	JMK
2,4-Dichlorophenol	EPA-8270	U	0.73	1	MG/KG	08/23/2018	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	0.21	1	MG/KG	08/23/2018	JMK
Naphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chloroaniline	EPA-8270	U	1.7	1	MG/KG	08/23/2018	JMK
2,6-Dichlorophenol	EPA-8270	U	0.54	1	MG/KG	08/23/2018	JMK
Hexachlorobutadiene	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	0.95	1	MG/KG	08/23/2018	JMK
2-Methylnaphthalene	EPA-8270	U	0.45	1	MG/KG	08/23/2018	JMK
1-Methylnaphthalene	EPA-8270	U	0.52	1	MG/KG	08/23/2018	JMK
Hexachlorocyclopentadiene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4,6-Trichlorophenol	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
2,4,5-Trichlorophenol	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
2-Chloronaphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Nitroaniline	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dimethylphthalate	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
2,6-Dinitrotoluene	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Acenaphthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3-Nitroaniline	EPA-8270	U	1.7	1	MG/KG	08/23/2018	JMK
2,4-Dinitrophenol	EPA-8270	U	0.16	1	MG/KG	08/23/2018	JMK
4-Nitrophenol	EPA-8270	U	0.16	1	MG/KG	08/23/2018	JMK
Dibenzofuran	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	0.15	1	MG/KG	08/23/2018	JMK
Diethylphthalate	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
Fluorene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK

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

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-06
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:30:00 PM
CLIENT SAMPLE ID	B1-2.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
4-Nitroaniline	EPA-8270	U	0.37	1	MG/KG	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
N-Nitrosodiphenylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Azobenzene	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Hexachlorobenzene	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Pentachlorophenol	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
Phenanthrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Carbazole	EPA-8270	U	0.32	1	MG/KG	08/23/2018	JMK
Di-N-Butylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Butylbenzylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3,3-Dichlorobenzidine	EPA-8270	U	0.51	1	MG/KG	08/23/2018	JMK
Benzo[A]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Chrysene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Di-N-Octylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[B]Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[K]Fluoranthene	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
Benzo[A]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
PCB-1016	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1221	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1232	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1242	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1248	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1254	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1260	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1268	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
Mercury	EPA-7471	**0.034**	0.020	1	MG/KG	08/23/2018	RAL
Arsenic	EPA-6020	**35**	0.94	1	MG/KG	08/22/2018	RAL
Cadmium	EPA-6020	U	0.29	1	MG/KG	08/22/2018	RAL
Chromium	EPA-6020	**67**	0.48	1	MG/KG	08/22/2018	RAL
Lead	EPA-6020	**57**	0.30	1	MG/KG	08/22/2018	RAL

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE: ALS JOB#: ALS SAMPLE#:	9/14/2018 EV18080100 EV18080100-06
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:30:00 PM
CLIENT SAMPLE ID	B1-2.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**52.5 SUR11**	08/20/2018	JMK
C25	NWTPH-DX	**75.7**	08/22/2018	EBS
1,2-Dichloroethane-d4	EPA-8260	**98.7**	08/20/2018	DLC
1,2-Dichloroethane-d4	EPA-8260	**96.1**	08/21/2018	DLC
Toluene-d8	EPA-8260	**109**	08/20/2018	DLC
Toluene-d8	EPA-8260	**104**	08/21/2018	DLC
4-Bromofluorobenzene	EPA-8260	**93.6**	08/20/2018	DLC
4-Bromofluorobenzene	EPA-8260	**84.7**	08/21/2018	DLC
2-Fluorophenol	EPA-8270	**105**	08/23/2018	JMK
Phenol-d5	EPA-8270	**103**	08/23/2018	JMK
Nitrobenzene-d5	EPA-8270	**88.0**	08/23/2018	JMK
2-Fluorobiphenyl	EPA-8270	**83.6**	08/23/2018	JMK
2,4,6-Tribromophenol	EPA-8270	**90.6**	08/23/2018	JMK
Terphenyl-d14	EPA-8270	**89.4**	08/23/2018	JMK
TCMX	EPA-8082	**103**	08/20/2018	JMK
DCB	EPA-8082	**84.8**	08/20/2018	JMK

U - Analyte analyzed for but not detected at level above reporting limit.
SUR11 -Surrogate recovery was below acceptance limits. Re-extraction and/or reanalysis confirm low recovery caused by matrix interferences.

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-07
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 12:55:00 PM
CLIENT SAMPLE ID	B5-2.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	**3.5**	3.0	1	MG/KG	08/20/2018	JMK
TPH-Diesel Range	NWTPH-DX	U	25	1	MG/KG	08/22/2018	EBS
TPH-Oil Range	NWTPH-DX	**170**	50	1	MG/KG	08/22/2018	EBS
Dichlorodifluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Vinyl Chloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Tetrachloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trichlorofluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Disulfide	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Acetone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Methylene Chloride	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Acrylonitrile	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Methyl T-Butyl Ether	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Butanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Benzene	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Trichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Dibromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromodichloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Methyl-2-Pentanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Toluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Hexanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,3-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Tetrachloroethylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-07
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 12:55:00 PM
CLIENT SAMPLE ID	B5-2.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dibromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromoethane	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Chlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Ethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
m,p-Xylene	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Styrene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
o-Xylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromoform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Isopropylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Propyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
T-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,4-Trimethylbenzene	EPA-8260	**0.013**	0.010	1	MG/KG	08/20/2018	DLC
S-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
P-Isopropyltoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,4-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Butylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Hexachlorobutadiene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Naphthalene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Pyridine	EPA-8270	U	0.20	1	MG/KG	08/23/2018	JMK
N-Nitrosodimethylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Phenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Aniline	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	0.25	1	MG/KG	08/23/2018	JMK
2-Chlorophenol	EPA-8270	U	0.26	1	MG/KG	08/23/2018	JMK
1,3-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
1,4-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzyl Alcohol	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-07
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 12:55:00 PM
CLIENT SAMPLE ID	B5-2.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,2-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	0.33	1	MG/KG	08/23/2018	JMK
3&4-Methylphenol	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	0.25	1	MG/KG	08/23/2018	JMK
Hexachloroethane	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Nitrobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Isophorone	EPA-8270	U	0.18	1	MG/KG	08/23/2018	JMK
2-Nitrophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dimethylphenol	EPA-8270	U	0.17	1	MG/KG	08/23/2018	JMK
Benzoic Acid	EPA-8270	U	1.9	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	0.32	1	MG/KG	08/23/2018	JMK
2,4-Dichlorophenol	EPA-8270	U	0.64	1	MG/KG	08/23/2018	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	0.19	1	MG/KG	08/23/2018	JMK
Naphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chloroaniline	EPA-8270	U	1.5	1	MG/KG	08/23/2018	JMK
2,6-Dichlorophenol	EPA-8270	U	0.48	1	MG/KG	08/23/2018	JMK
Hexachlorobutadiene	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	0.85	1	MG/KG	08/23/2018	JMK
2-Methylnaphthalene	EPA-8270	U	0.40	1	MG/KG	08/23/2018	JMK
1-Methylnaphthalene	EPA-8270	U	0.46	1	MG/KG	08/23/2018	JMK
Hexachlorocyclopentadiene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4,6-Trichlorophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4,5-Trichlorophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Chloronaphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Nitroaniline	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dimethylphthalate	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
2,6-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3-Nitroaniline	EPA-8270	U	1.5	1	MG/KG	08/23/2018	JMK
2,4-Dinitrophenol	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
4-Nitrophenol	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
Dibenzofuran	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
Diethylphthalate	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Fluorene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE: ALS JOB#: ALS SAMPLE#:	9/14/2018 EV18080100 EV18080100-07
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 12:55:00 PM
CLIENT SAMPLE ID	B5-2.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
4-Nitroaniline	EPA-8270	U	0.33	1	MG/KG	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
N-Nitrosodiphenylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Azobenzene	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Hexachlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pentachlorophenol	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
Phenanthrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Carbazole	EPA-8270	U	0.28	1	MG/KG	08/23/2018	JMK
Di-N-Butylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Butylbenzylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3,3-Dichlorobenzidine	EPA-8270	U	0.45	1	MG/KG	08/23/2018	JMK
Benzo[A]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Chrysene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Di-N-Octylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[B]Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[K]Fluoranthene	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Benzo[A]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**75.6**	08/20/2018	JMK
C25	NWTPH-DX	**83.6**	08/22/2018	EBS
1,2-Dichloroethane-d4	EPA-8260	**98.4**	08/20/2018	DLC
Toluene-d8	EPA-8260	**109**	08/20/2018	DLC
4-Bromofluorobenzene	EPA-8260	**105**	08/20/2018	DLC
2-Fluorophenol	EPA-8270	**96.7**	08/23/2018	JMK
Phenol-d5	EPA-8270	**93.0**	08/23/2018	JMK
Nitrobenzene-d5	EPA-8270	**81.1**	08/23/2018	JMK
2-Fluorobiphenyl	EPA-8270	**76.1**	08/23/2018	JMK
2,4,6-Tribromophenol	EPA-8270	**85.5**	08/23/2018	JMK
Terphenyl-d14	EPA-8270	**81.3**	08/23/2018	JMK

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

CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-07
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 12:55:00 PM
CLIENT SAMPLE ID	B5-2.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

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

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-08
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 1:05:00 PM
CLIENT SAMPLE ID	B5-18	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	08/20/2018	JMK
TPH-Diesel Range	NWTPH-DX	U	25	1	MG/KG	08/24/2018	EBS
TPH-Oil Range	NWTPH-DX	U	50	1	MG/KG	08/24/2018	EBS
Dichlorodifluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Vinyl Chloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Tetrachloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trichlorofluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Disulfide	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Acetone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Methylene Chloride	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Acrylonitrile	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Methyl T-Butyl Ether	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Butanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Benzene	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Trichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Dibromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromodichloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Methyl-2-Pentanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Toluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Hexanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,3-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Tetrachloroethylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE: ALS JOB#: ALS SAMPLE#:	9/14/2018 EV18080100 EV18080100-08
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 1:05:00 PM
CLIENT SAMPLE ID	B5-18	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dibromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromoethane	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Chlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Ethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
m,p-Xylene	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Styrene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
o-Xylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromoform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Isopropylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Propyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
T-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
S-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
P-Isopropyltoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,4-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Butylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Hexachlorobutadiene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Naphthalene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Pyridine	EPA-8270	U	0.20	1	MG/KG	08/23/2018	JMK
N-Nitrosodimethylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Phenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Aniline	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	0.25	1	MG/KG	08/23/2018	JMK
2-Chlorophenol	EPA-8270	U	0.25	1	MG/KG	08/23/2018	JMK
1,3-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
1,4-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzyl Alcohol	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-08
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 1:05:00 PM
CLIENT SAMPLE ID	B5-18	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,2-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	0.32	1	MG/KG	08/23/2018	JMK
3&4-Methylphenol	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	0.25	1	MG/KG	08/23/2018	JMK
Hexachloroethane	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Nitrobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Isophorone	EPA-8270	U	0.18	1	MG/KG	08/23/2018	JMK
2-Nitrophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dimethylphenol	EPA-8270	U	0.16	1	MG/KG	08/23/2018	JMK
Benzoic Acid	EPA-8270	U	1.8	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	0.31	1	MG/KG	08/23/2018	JMK
2,4-Dichlorophenol	EPA-8270	U	0.63	1	MG/KG	08/23/2018	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	0.18	1	MG/KG	08/23/2018	JMK
Naphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chloroaniline	EPA-8270	U	1.5	1	MG/KG	08/23/2018	JMK
2,6-Dichlorophenol	EPA-8270	U	0.47	1	MG/KG	08/23/2018	JMK
Hexachlorobutadiene	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	0.83	1	MG/KG	08/23/2018	JMK
2-Methylnaphthalene	EPA-8270	U	0.39	1	MG/KG	08/23/2018	JMK
1-Methylnaphthalene	EPA-8270	U	0.45	1	MG/KG	08/23/2018	JMK
Hexachlorocyclopentadiene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4,6-Trichlorophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4,5-Trichlorophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Chloronaphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Nitroaniline	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dimethylphthalate	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
2,6-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3-Nitroaniline	EPA-8270	U	1.5	1	MG/KG	08/23/2018	JMK
2,4-Dinitrophenol	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
4-Nitrophenol	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
Dibenzofuran	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
Diethylphthalate	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Fluorene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE: ALS JOB#: ALS SAMPLE#:	9/14/2018 EV18080100 EV18080100-08
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 1:05:00 PM
CLIENT SAMPLE ID	B5-18	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
4-Nitroaniline	EPA-8270	U	0.33	1	MG/KG	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
N-Nitrosodiphenylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Azobenzene	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Hexachlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pentachlorophenol	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
Phenanthrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Carbazole	EPA-8270	U	0.28	1	MG/KG	08/23/2018	JMK
Di-N-Butylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Butylbenzylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3,3-Dichlorobenzidine	EPA-8270	U	0.44	1	MG/KG	08/23/2018	JMK
Benzo[A]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Chrysene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Di-N-Octylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[B]Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[K]Fluoranthene	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Benzo[A]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**75.9**	08/20/2018	JMK
C25	NWTPH-DX	**84.4**	08/24/2018	EBS
1,2-Dichloroethane-d4	EPA-8260	**100**	08/20/2018	DLC
Toluene-d8	EPA-8260	**106**	08/20/2018	DLC
4-Bromofluorobenzene	EPA-8260	**93.4**	08/20/2018	DLC
2-Fluorophenol	EPA-8270	**95.7**	08/23/2018	JMK
Phenol-d5	EPA-8270	**94.1**	08/23/2018	JMK
Nitrobenzene-d5	EPA-8270	**81.7**	08/23/2018	JMK
2-Fluorobiphenyl	EPA-8270	**80.0**	08/23/2018	JMK
2,4,6-Tribromophenol	EPA-8270	**89.1**	08/23/2018	JMK
Terphenyl-d14	EPA-8270	**94.5**	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-08
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 1:05:00 PM
CLIENT SAMPLE ID	B5-18	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

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
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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-09
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 1:45:00 PM
CLIENT SAMPLE ID	B2-3	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	08/20/2018	JMK
TPH-Diesel Range	NWTPH-DX	U	29	1	MG/KG	08/24/2018	EBS
TPH-Oil Range	NWTPH-DX	U	58	1	MG/KG	08/24/2018	EBS
Dichlorodifluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Vinyl Chloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Tetrachloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trichlorofluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Disulfide	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Acetone	EPA-8260	**0.38**	0.22	1	MG/KG	08/21/2018	DLC
1,1-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Methylene Chloride	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Acrylonitrile	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Methyl T-Butyl Ether	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Butanone	EPA-8260	U	0.17	1	MG/KG	08/21/2018	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Benzene	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Trichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Dibromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromodichloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Methyl-2-Pentanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Toluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Hexanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,3-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Tetrachloroethylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE: ALS JOB#: ALS SAMPLE#:	9/14/2018 EV18080100 EV18080100-09
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 1:45:00 PM
CLIENT SAMPLE ID	B2-3	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dibromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromoethane	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Chlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Ethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
m,p-Xylene	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Styrene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
o-Xylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromoform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Isopropylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Propyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
T-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
S-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
P-Isopropyltoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,4-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Butylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Hexachlorobutadiene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Naphthalene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Pyridine	EPA-8270	U	0.20	1	MG/KG	08/23/2018	JMK
N-Nitrosodimethylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Phenol	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
Aniline	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	0.29	1	MG/KG	08/23/2018	JMK
2-Chlorophenol	EPA-8270	U	0.30	1	MG/KG	08/23/2018	JMK
1,3-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
1,4-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzyl Alcohol	EPA-8270	U	0.15	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-09
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 1:45:00 PM
CLIENT SAMPLE ID	B2-3	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,2-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	0.38	1	MG/KG	08/23/2018	JMK
3&4-Methylphenol	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	0.28	1	MG/KG	08/23/2018	JMK
Hexachloroethane	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Nitrobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Isophorone	EPA-8270	U	0.21	1	MG/KG	08/23/2018	JMK
2-Nitrophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dimethylphenol	EPA-8270	U	0.19	1	MG/KG	08/23/2018	JMK
Benzoic Acid	EPA-8270	U	2.2	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	0.37	1	MG/KG	08/23/2018	JMK
2,4-Dichlorophenol	EPA-8270	U	0.74	1	MG/KG	08/23/2018	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	0.21	1	MG/KG	08/23/2018	JMK
Naphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chloroaniline	EPA-8270	U	1.7	1	MG/KG	08/23/2018	JMK
2,6-Dichlorophenol	EPA-8270	U	0.55	1	MG/KG	08/23/2018	JMK
Hexachlorobutadiene	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	0.98	1	MG/KG	08/23/2018	JMK
2-Methylnaphthalene	EPA-8270	U	0.46	1	MG/KG	08/23/2018	JMK
1-Methylnaphthalene	EPA-8270	U	0.54	1	MG/KG	08/23/2018	JMK
Hexachlorocyclopentadiene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4,6-Trichlorophenol	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
2,4,5-Trichlorophenol	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
2-Chloronaphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Nitroaniline	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dimethylphthalate	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
2,6-Dinitrotoluene	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Acenaphthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3-Nitroaniline	EPA-8270	U	1.8	1	MG/KG	08/23/2018	JMK
2,4-Dinitrophenol	EPA-8270	U	0.16	1	MG/KG	08/23/2018	JMK
4-Nitrophenol	EPA-8270	U	0.16	1	MG/KG	08/23/2018	JMK
Dibenzofuran	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	0.15	1	MG/KG	08/23/2018	JMK
Diethylphthalate	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
Fluorene	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-09
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 1:45:00 PM
CLIENT SAMPLE ID	B2-3	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
4-Nitroaniline	EPA-8270	U	0.38	1	MG/KG	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
N-Nitrosodiphenylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Azobenzene	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Hexachlorobenzene	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Pentachlorophenol	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
Phenanthrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Carbazole	EPA-8270	U	0.32	1	MG/KG	08/23/2018	JMK
Di-N-Butylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Butylbenzylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3,3-Dichlorobenzidine	EPA-8270	U	0.52	1	MG/KG	08/23/2018	JMK
Benzo[A]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Chrysene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Di-N-Octylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[B]Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[K]Fluoranthene	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
Benzo[A]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
PCB-1016	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1221	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1232	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1242	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1248	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1254	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1260	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1268	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
Chromium (VI)	EPA-7196	U	5.0	1	MG/KG	09/14/2018	JMK
Mercury	EPA-7471	**0.090**	0.020	1	MG/KG	08/23/2018	RAL
Arsenic	EPA-6020	**41**	0.97	1	MG/KG	08/22/2018	RAL
Cadmium	EPA-6020	U	0.30	1	MG/KG	08/22/2018	RAL
Chromium	EPA-6020	**70**	0.49	1	MG/KG	08/22/2018	RAL
Lead	EPA-6020	**31**	0.31	1	MG/KG	08/22/2018	RAL

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-09
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 1:45:00 PM
CLIENT SAMPLE ID	B2-3	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**63.4**	08/20/2018	JMK
C25	NWTPH-DX	**73.1**	08/24/2018	EBS
1,2-Dichloroethane-d4	EPA-8260	**99.2**	08/20/2018	DLC
1,2-Dichloroethane-d4	EPA-8260	**95.4**	08/21/2018	DLC
Toluene-d8	EPA-8260	**111**	08/20/2018	DLC
Toluene-d8	EPA-8260	**102**	08/21/2018	DLC
4-Bromofluorobenzene	EPA-8260	**97.1**	08/20/2018	DLC
4-Bromofluorobenzene	EPA-8260	**84.6**	08/21/2018	DLC
2-Fluorophenol	EPA-8270	**104**	08/23/2018	JMK
Phenol-d5	EPA-8270	**102**	08/23/2018	JMK
Nitrobenzene-d5	EPA-8270	**87.8**	08/23/2018	JMK
2-Fluorobiphenyl	EPA-8270	**82.6**	08/23/2018	JMK
2,4,6-Tribromophenol	EPA-8270	**91.9**	08/23/2018	JMK
Terphenyl-d14	EPA-8270	**89.1**	08/23/2018	JMK
TCMX	EPA-8082	**99.4**	08/20/2018	JMK
DCB	EPA-8082	**92.2**	08/20/2018	JMK

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

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-10
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:10:00 PM
CLIENT SAMPLE ID	B2	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	**260**	50	1	UG/L	08/20/2018	DLC
TPH-Diesel Range	NWTPH-DX	**450**	130	1	UG/L	08/21/2018	EBS
TPH-Oil Range	NWTPH-DX	**400**	250	1	UG/L	08/21/2018	EBS
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Chloromethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	08/20/2018	DLC
Bromomethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Chloroethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Carbon Disulfide	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Acetone	EPA-8260	U	25	1	UG/L	08/20/2018	DLC
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	08/20/2018	DLC
Acrylonitrile	EPA-8260	U	10	1	UG/L	08/20/2018	DLC
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
2-Butanone	EPA-8260	U	10	1	UG/L	08/20/2018	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Chloroform	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Benzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Trichloroethene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Dibromomethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
4-Methyl-2-Pentanone	EPA-8260	U	10	1	UG/L	08/20/2018	DLC
Toluene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
2-Hexanone	EPA-8260	U	10	1	UG/L	08/20/2018	DLC
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-10
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:10:00 PM
CLIENT SAMPLE ID	B2	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	08/20/2018	DLC
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	08/20/2018	DLC
Styrene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
o-Xylene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Bromoform	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Isopropylbenzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Bromobenzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
N-Propyl Benzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
T-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
S-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
P-Isopropyltoluene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
N-Butylbenzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	08/20/2018	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Naphthalene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Pyridine	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
N-Nitrosodimethylamine	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Phenol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Aniline	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
2-Chlorophenol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
1,3-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
1,4-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Benzyl Alcohol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-10
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:10:00 PM
CLIENT SAMPLE ID	B2	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,2-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
2-Methylphenol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
3&4-Methylphenol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Hexachloroethane	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Nitrobenzene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Isophorone	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
2-Nitrophenol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
2,4-Dimethylphenol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Benzoic Acid	EPA-8270	U	10	1	UG/L	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
2,4-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Naphthalene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
4-Chloroaniline	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
2,6-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Hexachlorobutadiene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
2-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
1-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Hexachlorocyclopentadiene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
2,4,6-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
2,4,5-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
2-Chloronaphthalene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
2-Nitroaniline	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Acenaphthylene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Dimethylphthalate	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
2,6-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Acenaphthene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
3-Nitroaniline	EPA-8270	U	5.0	1	UG/L	08/23/2018	JMK
2,4-Dinitrophenol	EPA-8270	U	10	1	UG/L	08/23/2018	JMK
4-Nitrophenol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Dibenzofuran	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
2,4-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Diethylphthalate	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Fluorene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-10
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:10:00 PM
CLIENT SAMPLE ID	B2	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
4-Nitroaniline	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
N-Nitrosodiphenylamine	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Azobenzene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Hexachlorobenzene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Pentachlorophenol	EPA-8270	U	5.0	1	UG/L	08/23/2018	JMK
Phenanthrene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Anthracene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Carbazole	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Di-N-Butylphthalate	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Fluoranthene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Pyrene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Butylbenzylphthalate	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
3,3-Dichlorobenzidine	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Benzo[A]Anthracene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Chrysene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Di-N-Octylphthalate	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Benzo[B]Fluoranthene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Benzo[K]Fluoranthene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Benzo[A]Pyrene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
PCB-1016	EPA-8082	U	0.10	1	UG/L	08/22/2018	PAB
PCB-1221	EPA-8082	U	0.10	1	UG/L	08/22/2018	PAB
PCB-1232	EPA-8082	U	0.10	1	UG/L	08/22/2018	PAB
PCB-1242	EPA-8082	U	0.10	1	UG/L	08/22/2018	PAB
PCB-1248	EPA-8082	U	0.10	1	UG/L	08/22/2018	PAB
PCB-1254	EPA-8082	U	0.10	1	UG/L	08/22/2018	PAB
PCB-1260	EPA-8082	U	0.10	1	UG/L	08/22/2018	PAB
PCB-1268	EPA-8082	U	0.10	1	UG/L	08/22/2018	PAB
Mercury	EPA-245.1	U	0.20	1	UG/L	08/23/2018	RAL
Arsenic	EPA-200.8	**77**	1.0	1	UG/L	08/22/2018	RAL
Cadmium	EPA-200.8	U	1.0	1	UG/L	08/22/2018	RAL
Chromium	EPA-200.8	**9.2**	2.0	1	UG/L	08/22/2018	RAL
Lead	EPA-200.8	U	1.0	1	UG/L	08/22/2018	RAL

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE: ALS JOB#: ALS SAMPLE#:	9/14/2018 EV18080100 EV18080100-10
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:10:00 PM
CLIENT SAMPLE ID	B2	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**92.7**	08/20/2018	DLC
C25	NWTPH-DX	**85.4**	08/21/2018	EBS
1,2-Dichloroethane-d4	EPA-8260	**95.5**	08/20/2018	DLC
Toluene-d8	EPA-8260	**104**	08/20/2018	DLC
4-Bromofluorobenzene	EPA-8260	**95.5**	08/20/2018	DLC
2-Fluorophenol	EPA-8270	**53.7**	08/23/2018	JMK
Phenol-d5	EPA-8270	**33.0**	08/23/2018	JMK
Nitrobenzene-d5	EPA-8270	**106**	08/23/2018	JMK
2-Fluorobiphenyl	EPA-8270	**81.9**	08/23/2018	JMK
2,4,6-Tribromophenol	EPA-8270	**111**	08/23/2018	JMK
Terphenyl-d14	EPA-8270	**94.5**	08/23/2018	JMK
TCMX	EPA-8082	**60.1**	08/22/2018	PAB
DCB	EPA-8082	**31.6**	08/22/2018	PAB

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

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CERTIFICATE OF ANALYSIS

CLIENT: Terracon
21905 - 64th Ave W, Suite 100
Mountlake Terrace, WA 98043

CLIENT CONTACT: Eric Dubcak
CLIENT PROJECT: 81187331

DATE: 9/14/2018
ALS SDG#: EV18080100
WDOE ACCREDITATION: C601

LABORATORY BLANK RESULTS

MBG-082018S - Batch 131764 - Soil by NWTPH-GX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	MG/KG	3.0	08/20/2018	JMK

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

MBG-082018W2 - Batch 131717 - Water by NWTPH-GX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	UG/L	50	08/20/2018	DLC

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

MB-082218S - Batch 131767 - Soil by NWTPH-DX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	U	MG/KG	25	08/22/2018	EBS
TPH-Oil Range	NWTPH-DX	U	MG/KG	50	08/22/2018	EBS

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

MB-082018W - Batch 131807 - Water by NWTPH-DX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	U	UG/L	130	08/21/2018	EBS
TPH-Oil Range	NWTPH-DX	U	UG/L	250	08/21/2018	EBS

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

MB-082018S - Batch 131743 - Soil by EPA-8260

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Chloromethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Vinyl Chloride	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Bromomethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Chloroethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Carbon Tetrachloride	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Trichlorofluoromethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Carbon Disulfide	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Acetone	EPA-8260	U	MG/KG	0.050	08/20/2018	DLC
1,1-Dichloroethene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Methylene Chloride	EPA-8260	U	MG/KG	0.020	08/20/2018	DLC
Acrylonitrile	EPA-8260	U	MG/KG	0.050	08/20/2018	DLC

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS SDG#:	EV18080100
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Eric Dubcak		
CLIENT PROJECT:	81187331		

LABORATORY BLANK RESULTS

MB-082018S - Batch 131743 - Soil by EPA-8260

Methyl T-Butyl Ether	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,1-Dichloroethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
2-Butanone	EPA-8260	U	MG/KG	0.050	08/20/2018	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
2,2-Dichloropropane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Bromochloromethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Chloroform	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,1,1-Trichloroethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,1-Dichloropropene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,2-Dichloroethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Benzene	EPA-8260	U	MG/KG	0.0050	08/20/2018	DLC
Trichloroethene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,2-Dichloropropane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Dibromomethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Bromodichloromethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
4-Methyl-2-Pentanone	EPA-8260	U	MG/KG	0.050	08/20/2018	DLC
Toluene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,1,2-Trichloroethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
2-Hexanone	EPA-8260	U	MG/KG	0.050	08/20/2018	DLC
1,3-Dichloropropane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Tetrachloroethylene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Dibromochloromethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,2-Dibromoethane	EPA-8260	U	MG/KG	0.0050	08/20/2018	DLC
Chlorobenzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Ethylbenzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
m,p-Xylene	EPA-8260	U	MG/KG	0.020	08/20/2018	DLC
Styrene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
o-Xylene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Bromoform	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Isopropylbenzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,2,3-Trichloropropane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Bromobenzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
N-Propyl Benzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
2-Chlorotoluene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
4-Chlorotoluene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC

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CERTIFICATE OF ANALYSIS

CLIENT: Terracon
21905 - 64th Ave W, Suite 100
Mountlake Terrace, WA 98043

CLIENT CONTACT: Eric Dubcak
CLIENT PROJECT: 81187331

DATE: 9/14/2018
ALS SDG#: EV18080100
WDOE ACCREDITATION: C601

LABORATORY BLANK RESULTS

MB-082018S - Batch 131743 - Soil by EPA-8260

T-Butyl Benzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
S-Butyl Benzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
P-Isopropyltoluene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,3-Dichlorobenzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,4-Dichlorobenzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
N-Butylbenzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,2-Dichlorobenzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	MG/KG	0.050	08/20/2018	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Hexachlorobutadiene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Naphthalene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC

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

MB-082018W - Batch 131691 - Water by EPA-8260

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Chloromethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Vinyl Chloride	EPA-8260	U	UG/L	0.20	08/20/2018	DLC
Bromomethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Chloroethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Carbon Tetrachloride	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Trichlorofluoromethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Carbon Disulfide	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Acetone	EPA-8260	U	UG/L	25	08/20/2018	DLC
1,1-Dichloroethene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Methylene Chloride	EPA-8260	U	UG/L	5.0	08/20/2018	DLC
Acrylonitrile	EPA-8260	U	UG/L	10	08/20/2018	DLC
Methyl T-Butyl Ether	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,1-Dichloroethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
2-Butanone	EPA-8260	U	UG/L	10	08/20/2018	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
2,2-Dichloropropane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Bromochloromethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Chloroform	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,1,1-Trichloroethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,1-Dichloropropene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,2-Dichloroethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC

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CERTIFICATE OF ANALYSIS

CLIENT: Terracon
21905 - 64th Ave W, Suite 100
Mountlake Terrace, WA 98043

CLIENT CONTACT: Eric Dubcak
CLIENT PROJECT: 81187331

DATE: 9/14/2018
ALS SDG#: EV18080100
WDOE ACCREDITATION: C601

LABORATORY BLANK RESULTS

MB-082018W - Batch 131691 - Water by EPA-8260

Benzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Trichloroethene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,2-Dichloropropane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Dibromomethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Bromodichloromethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
4-Methyl-2-Pentanone	EPA-8260	U	UG/L	10	08/20/2018	DLC
Toluene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,1,2-Trichloroethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
2-Hexanone	EPA-8260	U	UG/L	10	08/20/2018	DLC
1,3-Dichloropropane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Tetrachloroethylene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Dibromochloromethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,2-Dibromoethane	EPA-8260	U	UG/L	0.010	08/20/2018	DLC
Chlorobenzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Ethylbenzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
m,p-Xylene	EPA-8260	U	UG/L	4.0	08/20/2018	DLC
Styrene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
o-Xylene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Bromoform	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Isopropylbenzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,2,3-Trichloropropane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Bromobenzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
N-Propyl Benzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
2-Chlorotoluene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
4-Chlorotoluene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
T-Butyl Benzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
S-Butyl Benzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
P-Isopropyltoluene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,3-Dichlorobenzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,4-Dichlorobenzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
N-Butylbenzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,2-Dichlorobenzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	UG/L	10	08/20/2018	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Hexachlorobutadiene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC

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CERTIFICATE OF ANALYSIS

CLIENT: Terracon
21905 - 64th Ave W, Suite 100
Mountlake Terrace, WA 98043

CLIENT CONTACT: Eric Dubcak
CLIENT PROJECT: 81187331

DATE: 9/14/2018
ALS SDG#: EV18080100
WDOE ACCREDITATION: C601

LABORATORY BLANK RESULTS

MB-082018W - Batch 131691 - Water by EPA-8260

Naphthalene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC

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

MB-082118S - Batch 131827 - Soil by EPA-8270

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Pyridine	EPA-8270	U	MG/KG	0.20	08/23/2018	JMK
N-Nitrosodimethylamine	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Phenol	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Aniline	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	MG/KG	0.25	08/23/2018	JMK
2-Chlorophenol	EPA-8270	U	MG/KG	0.25	08/23/2018	JMK
1,3-Dichlorobenzene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
1,4-Dichlorobenzene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Benzyl Alcohol	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
1,2-Dichlorobenzene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
2-Methylphenol	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	MG/KG	0.25	08/23/2018	JMK
3&4-Methylphenol	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	MG/KG	0.25	08/23/2018	JMK
Hexachloroethane	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Nitrobenzene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Isophorone	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
2-Nitrophenol	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
2,4-Dimethylphenol	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Benzoic Acid	EPA-8270	U	MG/KG	1.0	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	MG/KG	0.25	08/23/2018	JMK
2,4-Dichlorophenol	EPA-8270	U	MG/KG	0.50	08/23/2018	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Naphthalene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
4-Chloroaniline	EPA-8270	U	MG/KG	1.0	08/23/2018	JMK
2,6-Dichlorophenol	EPA-8270	U	MG/KG	0.25	08/23/2018	JMK
Hexachlorobutadiene	EPA-8270	U	MG/KG	0.50	08/23/2018	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	MG/KG	0.50	08/23/2018	JMK
2-Methylnaphthalene	EPA-8270	U	MG/KG	0.25	08/23/2018	JMK
1-Methylnaphthalene	EPA-8270	U	MG/KG	0.25	08/23/2018	JMK
Hexachlorocyclopentadiene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
2,4,6-Trichlorophenol	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
2,4,5-Trichlorophenol	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
2-Chloronaphthalene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS SDG#:	EV18080100
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Eric Dubcak		
CLIENT PROJECT:	81187331		

LABORATORY BLANK RESULTS

MB-082118S - Batch 131827 - Soil by EPA-8270

2-Nitroaniline	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Acenaphthylene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Dimethylphthalate	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
2,6-Dinitrotoluene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Acenaphthene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
3-Nitroaniline	EPA-8270	U	MG/KG	1.0	08/23/2018	JMK
2,4-Dinitrophenol	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
4-Nitrophenol	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Dibenzofuran	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
2,4-Dinitrotoluene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Diethylphthalate	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Fluorene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
4-Nitroaniline	EPA-8270	U	MG/KG	0.25	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
N-Nitrosodiphenylamine	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Azobenzene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Hexachlorobenzene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Pentachlorophenol	EPA-8270	U	MG/KG	0.50	08/23/2018	JMK
Phenanthrene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Anthracene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Carbazole	EPA-8270	U	MG/KG	0.25	08/23/2018	JMK
Di-N-Butylphthalate	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Fluoranthene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Pyrene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Butylbenzylphthalate	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
3,3-Dichlorobenzidine	EPA-8270	U	MG/KG	0.25	08/23/2018	JMK
Benzo[A]Anthracene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Chrysene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Di-N-Octylphthalate	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Benzo[B]Fluoranthene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Benzo[K]Fluoranthene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Benzo[A]Pyrene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK

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

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CERTIFICATE OF ANALYSIS

CLIENT: Terracon
21905 - 64th Ave W, Suite 100
Mountlake Terrace, WA 98043

CLIENT CONTACT: Eric Dubcak
CLIENT PROJECT: 81187331

DATE: 9/14/2018
ALS SDG#: EV18080100
WDOE ACCREDITATION: C601

LABORATORY BLANK RESULTS

MB-082318W - Batch 131851 - Water by EPA-8270

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Pyridine	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
N-Nitrosodimethylamine	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Phenol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Aniline	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
2-Chlorophenol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
1,3-Dichlorobenzene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
1,4-Dichlorobenzene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Benzyl Alcohol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
1,2-Dichlorobenzene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
2-Methylphenol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
3&4-Methylphenol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Hexachloroethane	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Nitrobenzene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Isophorone	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
2-Nitrophenol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
2,4-Dimethylphenol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Benzoic Acid	EPA-8270	U	UG/L	10	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
2,4-Dichlorophenol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Naphthalene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
4-Chloroaniline	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
2,6-Dichlorophenol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Hexachlorobutadiene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
2-Methylnaphthalene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
1-Methylnaphthalene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Hexachlorocyclopentadiene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
2,4,6-Trichlorophenol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
2,4,5-Trichlorophenol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
2-Chloronaphthalene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
2-Nitroaniline	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Acenaphthylene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Dimethylphthalate	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
2,6-Dinitrotoluene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Acenaphthene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK

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LABORATORY BLANK RESULTS

MB-082318W - Batch 131851 - Water by EPA-8270

3-Nitroaniline	EPA-8270	U	UG/L	5.0	08/23/2018	JMK
2,4-Dinitrophenol	EPA-8270	U	UG/L	10	08/23/2018	JMK
4-Nitrophenol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Dibenzofuran	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
2,4-Dinitrotoluene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Diethylphthalate	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Fluorene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
4-Nitroaniline	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
N-Nitrosodiphenylamine	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Azobenzene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Hexachlorobenzene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Pentachlorophenol	EPA-8270	U	UG/L	5.0	08/23/2018	JMK
Phenanthrene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Anthracene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Carbazole	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Di-N-Butylphthalate	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Fluoranthene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Pyrene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Butylbenzylphthalate	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
3,3-Dichlorobenzidine	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Benzo[A]Anthracene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Chrysene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Di-N-Octylphthalate	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Benzo[B]Fluoranthene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Benzo[K]Fluoranthene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Benzo[A]Pyrene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK

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

MB-082018S - Batch 131842 - Soil by EPA-8082

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
PCB-1016	EPA-8082	U	MG/KG	0.10	08/20/2018	JMK
PCB-1221	EPA-8082	U	MG/KG	0.10	08/20/2018	JMK

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LABORATORY BLANK RESULTS

MB-082018S - Batch 131842 - Soil by EPA-8082

PCB-1232	EPA-8082	U	MG/KG	0.10	08/20/2018	JMK
PCB-1242	EPA-8082	U	MG/KG	0.10	08/20/2018	JMK
PCB-1248	EPA-8082	U	MG/KG	0.10	08/20/2018	JMK
PCB-1254	EPA-8082	U	MG/KG	0.10	08/20/2018	JMK
PCB-1260	EPA-8082	U	MG/KG	0.10	08/20/2018	JMK
PCB-1268	EPA-8082	U	MG/KG	0.10	08/20/2018	JMK

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

MB-082018W - Batch 131799 - Water by EPA-8082

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
PCB-1016	EPA-8082	U	UG/L	0.10	08/22/2018	PAB
PCB-1221	EPA-8082	U	UG/L	0.10	08/22/2018	PAB
PCB-1232	EPA-8082	U	UG/L	0.10	08/22/2018	PAB
PCB-1242	EPA-8082	U	UG/L	0.10	08/22/2018	PAB
PCB-1248	EPA-8082	U	UG/L	0.10	08/22/2018	PAB
PCB-1254	EPA-8082	U	UG/L	0.10	08/22/2018	PAB
PCB-1260	EPA-8082	U	UG/L	0.10	08/22/2018	PAB
PCB-1268	EPA-8082	U	UG/L	0.10	08/22/2018	PAB

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

MBLK-R323419 - Batch R323419 - Soil by EPA-7196

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Chromium (VI)	EPA-7196	U	MG/KG	5.0	09/14/2018	JMK

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

MBLK-R322340 - Batch R322340 - Soil by EPA-7471

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Mercury	EPA-7471	U	MG/KG	0.020	08/23/2018	RAL

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

MBLK-R322339 - Batch R322339 - Water by EPA-245.1

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Mercury	EPA-245.1	U	UG/L	0.20	08/23/2018	RAL

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LABORATORY BLANK RESULTS

MB-082118S - Batch 131751 - Soil by EPA-6020

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Arsenic	EPA-6020	U	MG/KG	0.20	08/22/2018	RAL
Cadmium	EPA-6020	U	MG/KG	0.10	08/22/2018	RAL
Chromium	EPA-6020	U	MG/KG	0.10	08/22/2018	RAL
Lead	EPA-6020	U	MG/KG	0.10	08/22/2018	RAL

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

MB-082118W - Batch 131752 - Water by EPA-200.8

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Arsenic	EPA-200.8	U	UG/L	1.0	08/22/2018	RAL
Cadmium	EPA-200.8	U	UG/L	1.0	08/22/2018	RAL
Chromium	EPA-200.8	U	UG/L	2.0	08/22/2018	RAL
Lead	EPA-200.8	U	UG/L	1.0	08/22/2018	RAL

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LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 131764 - Soil by NWTPH-GX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range - BS	NWTPH-GX	**100**			66.5	122.7	08/20/2018	JMK
TPH-Volatile Range - BSD	NWTPH-GX	**97.7**	**3**		66.5	122.7	08/20/2018	JMK

ALS Test Batch ID: 131717 - Water by NWTPH-GX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range - BS	NWTPH-GX	**90.2**			66.5	122.7	08/20/2018	DLC
TPH-Volatile Range - BSD	NWTPH-GX	**103**	**13**		66.5	122.7	08/20/2018	DLC

ALS Test Batch ID: 131767 - Soil by NWTPH-DX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range - BS	NWTPH-DX	**96.1**			75.5	122.1	08/22/2018	EBS
TPH-Diesel Range - BSD	NWTPH-DX	**95.0**	**1**		75.5	122.1	08/22/2018	EBS

ALS Test Batch ID: 131807 - Water by NWTPH-DX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range - BS	NWTPH-DX	**85.9**			67	125.2	08/21/2018	EBS
TPH-Diesel Range - BSD	NWTPH-DX	**81.8**	**5**		67	125.2	08/21/2018	EBS

ALS Test Batch ID: 131743 - Soil by EPA-8260

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane - BS	EPA-8260	**100**			50	150	08/20/2018	DLC
Dichlorodifluoromethane - BSD	EPA-8260	**98.6**	**2**		50	150	08/20/2018	DLC
Chloromethane - BS	EPA-8260	**103**			50	150	08/20/2018	DLC
Chloromethane - BSD	EPA-8260	**100**	**3**		50	150	08/20/2018	DLC
Vinyl Chloride - BS	EPA-8260	**92.4**			50	150	08/20/2018	DLC
Vinyl Chloride - BSD	EPA-8260	**90.9**	**2**		50	150	08/20/2018	DLC
Bromomethane - BS	EPA-8260	**107**			50	150	08/20/2018	DLC
Bromomethane - BSD	EPA-8260	**102**	**5**		50	150	08/20/2018	DLC
Chloroethane - BS	EPA-8260	**104**			50	150	08/20/2018	DLC
Chloroethane - BSD	EPA-8260	**104**	**0**		50	150	08/20/2018	DLC
Carbon Tetrachloride - BS	EPA-8260	**112**			50	150	08/20/2018	DLC
Carbon Tetrachloride - BSD	EPA-8260	**111**	**1**		50	150	08/20/2018	DLC
Trichlorofluoromethane - BS	EPA-8260	**108**			50	150	08/20/2018	DLC
Trichlorofluoromethane - BSD	EPA-8260	**107**	**2**		50	150	08/20/2018	DLC
Carbon Disulfide - BS	EPA-8260	**111**			50	150	08/20/2018	DLC

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LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Carbon Disulfide - BSD	EPA-8260	**108**	**3**		50	150	08/20/2018	DLC
Acetone - BS	EPA-8260	**85.6**			50	150	08/20/2018	DLC
Acetone - BSD	EPA-8260	**83.4**	**3**		50	150	08/20/2018	DLC
1,1-Dichloroethene - BS	EPA-8260	**99.0**			73	138	08/20/2018	DLC
1,1-Dichloroethene - BSD	EPA-8260	**97.3**	**2**		73	138	08/20/2018	DLC
Methylene Chloride - BS	EPA-8260	**111**			50	150	08/20/2018	DLC
Methylene Chloride - BSD	EPA-8260	**114**	**3**		50	150	08/20/2018	DLC
Acrylonitrile - BS	EPA-8260	**97.3**			50	150	08/20/2018	DLC
Acrylonitrile - BSD	EPA-8260	**94.9**	**3**		50	150	08/20/2018	DLC
Methyl T-Butyl Ether - BS	EPA-8260	**108**			50	150	08/20/2018	DLC
Methyl T-Butyl Ether - BSD	EPA-8260	**107**	**2**		50	150	08/20/2018	DLC
Trans-1,2-Dichloroethene - BS	EPA-8260	**108**			50	150	08/20/2018	DLC
Trans-1,2-Dichloroethene - BSD	EPA-8260	**104**	**4**		50	150	08/20/2018	DLC
1,1-Dichloroethane - BS	EPA-8260	**102**			50	150	08/20/2018	DLC
1,1-Dichloroethane - BSD	EPA-8260	**93.1**	**9**		50	150	08/20/2018	DLC
2-Butanone - BS	EPA-8260	**76.7**			50	150	08/20/2018	DLC
2-Butanone - BSD	EPA-8260	**71.0**	**8**		50	150	08/20/2018	DLC
Cis-1,2-Dichloroethene - BS	EPA-8260	**103**			50	150	08/20/2018	DLC
Cis-1,2-Dichloroethene - BSD	EPA-8260	**99.8**	**3**		50	150	08/20/2018	DLC
2,2-Dichloropropane - BS	EPA-8260	**111**			50	150	08/20/2018	DLC
2,2-Dichloropropane - BSD	EPA-8260	**108**	**2**		50	150	08/20/2018	DLC
Bromochloromethane - BS	EPA-8260	**95.2**			50	150	08/20/2018	DLC
Bromochloromethane - BSD	EPA-8260	**94.5**	**1**		50	150	08/20/2018	DLC
Chloroform - BS	EPA-8260	**114**			50	150	08/20/2018	DLC
Chloroform - BSD	EPA-8260	**112**	**2**		50	150	08/20/2018	DLC
1,1,1-Trichloroethane - BS	EPA-8260	**103**			50	150	08/20/2018	DLC
1,1,1-Trichloroethane - BSD	EPA-8260	**101**	**2**		50	150	08/20/2018	DLC
1,1-Dichloropropene - BS	EPA-8260	**100**			50	150	08/20/2018	DLC
1,1-Dichloropropene - BSD	EPA-8260	**98.3**	**2**		50	150	08/20/2018	DLC
1,2-Dichloroethane - BS	EPA-8260	**93.6**			50	150	08/20/2018	DLC
1,2-Dichloroethane - BSD	EPA-8260	**92.1**	**2**		50	150	08/20/2018	DLC
Benzene - BS	EPA-8260	**94.3**			75	138	08/20/2018	DLC
Benzene - BSD	EPA-8260	**92.5**	**2**		75	138	08/20/2018	DLC
Trichloroethene - BS	EPA-8260	**97.0**			75	136	08/20/2018	DLC
Trichloroethene - BSD	EPA-8260	**94.9**	**2**		75	136	08/20/2018	DLC
1,2-Dichloropropane - BS	EPA-8260	**95.0**			50	150	08/20/2018	DLC
1,2-Dichloropropane - BSD	EPA-8260	**92.9**	**2**		50	150	08/20/2018	DLC
Dibromomethane - BS	EPA-8260	**97.5**			50	150	08/20/2018	DLC
Dibromomethane - BSD	EPA-8260	**94.4**	**3**		50	150	08/20/2018	DLC
Bromodichloromethane - BS	EPA-8260	**95.4**			50	150	08/20/2018	DLC

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LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Bromodichloromethane - BSD	EPA-8260	**93.9**	**2**		50	150	08/20/2018	DLC
Trans-1,3-Dichloropropene - BS	EPA-8260	**116**			50	150	08/20/2018	DLC
Trans-1,3-Dichloropropene - BSD	EPA-8260	**116**	**0**		50	150	08/20/2018	DLC
4-Methyl-2-Pentanone - BS	EPA-8260	**79.5**			50	150	08/20/2018	DLC
4-Methyl-2-Pentanone - BSD	EPA-8260	**79.0**	**1**		50	150	08/20/2018	DLC
Toluene - BS	EPA-8260	**97.3**			71.6	122.1	08/20/2018	DLC
Toluene - BSD	EPA-8260	**94.1**	**3**		71.6	122.1	08/20/2018	DLC
Cis-1,3-Dichloropropene - BS	EPA-8260	**106**			50	150	08/20/2018	DLC
Cis-1,3-Dichloropropene - BSD	EPA-8260	**104**	**2**		50	150	08/20/2018	DLC
1,1,2-Trichloroethane - BS	EPA-8260	**100**			50	150	08/20/2018	DLC
1,1,2-Trichloroethane - BSD	EPA-8260	**101**	**0**		50	150	08/20/2018	DLC
2-Hexanone - BS	EPA-8260	**70.4**			50	150	08/20/2018	DLC
2-Hexanone - BSD	EPA-8260	**63.3**	**11**		50	150	08/20/2018	DLC
1,3-Dichloropropane - BS	EPA-8260	**97.1**			50	150	08/20/2018	DLC
1,3-Dichloropropane - BSD	EPA-8260	**96.5**	**1**		50	150	08/20/2018	DLC
Tetrachloroethylene - BS	EPA-8260	**111**			50	150	08/20/2018	DLC
Tetrachloroethylene - BSD	EPA-8260	**111**	**0**		50	150	08/20/2018	DLC
Dibromochloromethane - BS	EPA-8260	**110**			50	150	08/20/2018	DLC
Dibromochloromethane - BSD	EPA-8260	**110**	**1**		50	150	08/20/2018	DLC
1,2-Dibromoethane - BS	EPA-8260	**106**			50	150	08/20/2018	DLC
1,2-Dibromoethane - BSD	EPA-8260	**105**	**0**		50	150	08/20/2018	DLC
Chlorobenzene - BS	EPA-8260	**111**			79	128	08/20/2018	DLC
Chlorobenzene - BSD	EPA-8260	**110**	**1**		79	128	08/20/2018	DLC
1,1,1,2-Tetrachloroethane - BS	EPA-8260	**105**			50	150	08/20/2018	DLC
1,1,1,2-Tetrachloroethane - BSD	EPA-8260	**105**	**0**		50	150	08/20/2018	DLC
Ethylbenzene - BS	EPA-8260	**103**			50	150	08/20/2018	DLC
Ethylbenzene - BSD	EPA-8260	**102**	**1**		50	150	08/20/2018	DLC
m,p-Xylene - BS	EPA-8260	**104**			50	150	08/20/2018	DLC
m,p-Xylene - BSD	EPA-8260	**104**	**1**		50	150	08/20/2018	DLC
Styrene - BS	EPA-8260	**112**			50	150	08/20/2018	DLC
Styrene - BSD	EPA-8260	**113**	**1**		50	150	08/20/2018	DLC
o-Xylene - BS	EPA-8260	**115**			50	150	08/20/2018	DLC
o-Xylene - BSD	EPA-8260	**114**	**0**		50	150	08/20/2018	DLC
Bromoform - BS	EPA-8260	**125**			50	150	08/20/2018	DLC
Bromoform - BSD	EPA-8260	**124**	**1**		50	150	08/20/2018	DLC
Isopropylbenzene - BS	EPA-8260	**112**			50	150	08/20/2018	DLC
Isopropylbenzene - BSD	EPA-8260	**112**	**0**		50	150	08/20/2018	DLC
1,1,2,2-Tetrachloroethane - BS	EPA-8260	**91.3**			50	150	08/20/2018	DLC
1,1,2,2-Tetrachloroethane - BSD	EPA-8260	**91.4**	**0**		50	150	08/20/2018	DLC
1,2,3-Trichloropropane - BS	EPA-8260	**94.5**			50	150	08/20/2018	DLC

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CERTIFICATE OF ANALYSIS

CLIENT: Terracon
21905 - 64th Ave W, Suite 100
Mountlake Terrace, WA 98043

CLIENT CONTACT: Eric Dubcak
CLIENT PROJECT: 81187331

DATE: 9/14/2018
ALS SDG#: EV18080100
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2,3-Trichloropropane - BSD	EPA-8260	**92.8**	**2**		50	150	08/20/2018	DLC
Bromobenzene - BS	EPA-8260	**102**			50	150	08/20/2018	DLC
Bromobenzene - BSD	EPA-8260	**101**	**1**		50	150	08/20/2018	DLC
N-Propyl Benzene - BS	EPA-8260	**93.6**			50	150	08/20/2018	DLC
N-Propyl Benzene - BSD	EPA-8260	**92.0**	**2**		50	150	08/20/2018	DLC
2-Chlorotoluene - BS	EPA-8260	**102**			50	150	08/20/2018	DLC
2-Chlorotoluene - BSD	EPA-8260	**102**	**0**		50	150	08/20/2018	DLC
1,3,5-Trimethylbenzene - BS	EPA-8260	**102**			50	150	08/20/2018	DLC
1,3,5-Trimethylbenzene - BSD	EPA-8260	**100**	**1**		50	150	08/20/2018	DLC
4-Chlorotoluene - BS	EPA-8260	**101**			50	150	08/20/2018	DLC
4-Chlorotoluene - BSD	EPA-8260	**101**	**1**		50	150	08/20/2018	DLC
T-Butyl Benzene - BS	EPA-8260	**126**			50	150	08/20/2018	DLC
T-Butyl Benzene - BSD	EPA-8260	**125**	**1**		50	150	08/20/2018	DLC
1,2,4-Trimethylbenzene - BS	EPA-8260	**102**			50	150	08/20/2018	DLC
1,2,4-Trimethylbenzene - BSD	EPA-8260	**100**	**2**		50	150	08/20/2018	DLC
S-Butyl Benzene - BS	EPA-8260	**100**			50	150	08/20/2018	DLC
S-Butyl Benzene - BSD	EPA-8260	**99.1**	**1**		50	150	08/20/2018	DLC
P-Isopropyltoluene - BS	EPA-8260	**105**			50	150	08/20/2018	DLC
P-Isopropyltoluene - BSD	EPA-8260	**104**	**1**		50	150	08/20/2018	DLC
1,3-Dichlorobenzene - BS	EPA-8260	**98.3**			50	150	08/20/2018	DLC
1,3-Dichlorobenzene - BSD	EPA-8260	**97.6**	**1**		50	150	08/20/2018	DLC
1,4-Dichlorobenzene - BS	EPA-8260	**104**			50	150	08/20/2018	DLC
1,4-Dichlorobenzene - BSD	EPA-8260	**103**	**1**		50	150	08/20/2018	DLC
N-Butylbenzene - BS	EPA-8260	**96.1**			50	150	08/20/2018	DLC
N-Butylbenzene - BSD	EPA-8260	**95.4**	**1**		50	150	08/20/2018	DLC
1,2-Dichlorobenzene - BS	EPA-8260	**96.4**			50	150	08/20/2018	DLC
1,2-Dichlorobenzene - BSD	EPA-8260	**97.0**	**1**		50	150	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane - BS	EPA-8260	**89.5**			50	150	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane - BSD	EPA-8260	**88.4**	**1**		50	150	08/20/2018	DLC
1,2,4-Trichlorobenzene - BS	EPA-8260	**110**			50	150	08/20/2018	DLC
1,2,4-Trichlorobenzene - BSD	EPA-8260	**108**	**2**		50	150	08/20/2018	DLC
Hexachlorobutadiene - BS	EPA-8260	**119**			50	150	08/20/2018	DLC
Hexachlorobutadiene - BSD	EPA-8260	**118**	**1**		50	150	08/20/2018	DLC
Naphthalene - BS	EPA-8260	**106**			50	150	08/20/2018	DLC
Naphthalene - BSD	EPA-8260	**105**	**2**		50	150	08/20/2018	DLC
1,2,3-Trichlorobenzene - BS	EPA-8260	**105**			50	150	08/20/2018	DLC
1,2,3-Trichlorobenzene - BSD	EPA-8260	**105**	**0**		50	150	08/20/2018	DLC

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CLIENT PROJECT: 81187331

DATE: 9/14/2018
ALS SDG#: EV18080100
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 131691 - Water by EPA-8260

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane - BS	EPA-8260	**111**			50	150	08/20/2018	DLC
Dichlorodifluoromethane - BSD	EPA-8260	**111**	**0**		50	150	08/20/2018	DLC
Chloromethane - BS	EPA-8260	**75.6**			50	150	08/20/2018	DLC
Chloromethane - BSD	EPA-8260	**75.8**	**0**		50	150	08/20/2018	DLC
Vinyl Chloride - BS	EPA-8260	**97.0**			50	150	08/20/2018	DLC
Vinyl Chloride - BSD	EPA-8260	**98.7**	**2**		50	150	08/20/2018	DLC
Bromomethane - BS	EPA-8260	**103**			50	150	08/20/2018	DLC
Bromomethane - BSD	EPA-8260	**108**	**4**		50	150	08/20/2018	DLC
Chloroethane - BS	EPA-8260	**105**			50	150	08/20/2018	DLC
Chloroethane - BSD	EPA-8260	**105**	**0**		50	150	08/20/2018	DLC
Carbon Tetrachloride - BS	EPA-8260	**92.1**			50	150	08/20/2018	DLC
Carbon Tetrachloride - BSD	EPA-8260	**94.6**	**3**		50	150	08/20/2018	DLC
Trichlorofluoromethane - BS	EPA-8260	**100**			50	150	08/20/2018	DLC
Trichlorofluoromethane - BSD	EPA-8260	**103**	**3**		50	150	08/20/2018	DLC
Carbon Disulfide - BS	EPA-8260	**102**			50	150	08/20/2018	DLC
Carbon Disulfide - BSD	EPA-8260	**104**	**2**		50	150	08/20/2018	DLC
Acetone - BS	EPA-8260	**71.1**			50	150	08/20/2018	DLC
Acetone - BSD	EPA-8260	**72.3**	**2**		50	150	08/20/2018	DLC
1,1-Dichloroethene - BS	EPA-8260	**99.1**			72.5	136	08/20/2018	DLC
1,1-Dichloroethene - BSD	EPA-8260	**101**	**2**		72.5	136	08/20/2018	DLC
Methylene Chloride - BS	EPA-8260	**87.4**			50	150	08/20/2018	DLC
Methylene Chloride - BSD	EPA-8260	**90.9**	**4**		50	150	08/20/2018	DLC
Acrylonitrile - BS	EPA-8260	**99.9**			50	150	08/20/2018	DLC
Acrylonitrile - BSD	EPA-8260	**102**	**2**		50	150	08/20/2018	DLC
Methyl T-Butyl Ether - BS	EPA-8260	**104**			50	150	08/20/2018	DLC
Methyl T-Butyl Ether - BSD	EPA-8260	**106**	**1**		50	150	08/20/2018	DLC
Trans-1,2-Dichloroethene - BS	EPA-8260	**103**			50	150	08/20/2018	DLC
Trans-1,2-Dichloroethene - BSD	EPA-8260	**104**	**1**		50	150	08/20/2018	DLC
1,1-Dichloroethane - BS	EPA-8260	**103**			50	150	08/20/2018	DLC
1,1-Dichloroethane - BSD	EPA-8260	**104**	**1**		50	150	08/20/2018	DLC
2-Butanone - BS	EPA-8260	**71.4**			50	150	08/20/2018	DLC
2-Butanone - BSD	EPA-8260	**71.9**	**1**		50	150	08/20/2018	DLC
Cis-1,2-Dichloroethene - BS	EPA-8260	**106**			50	150	08/20/2018	DLC
Cis-1,2-Dichloroethene - BSD	EPA-8260	**107**	**1**		50	150	08/20/2018	DLC
2,2-Dichloropropane - BS	EPA-8260	**133**			50	150	08/20/2018	DLC
2,2-Dichloropropane - BSD	EPA-8260	**133**	**0**		50	150	08/20/2018	DLC
Bromochloromethane - BS	EPA-8260	**104**			50	150	08/20/2018	DLC
Bromochloromethane - BSD	EPA-8260	**106**	**1**		50	150	08/20/2018	DLC
Chloroform - BS	EPA-8260	**98.9**			50	150	08/20/2018	DLC

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DATE: 9/14/2018
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WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Chloroform - BSD	EPA-8260	**99.9**	**1**		50	150	08/20/2018	DLC
1,1,1-Trichloroethane - BS	EPA-8260	**102**			50	150	08/20/2018	DLC
1,1,1-Trichloroethane - BSD	EPA-8260	**104**	**2**		50	150	08/20/2018	DLC
1,1-Dichloropropene - BS	EPA-8260	**101**			50	150	08/20/2018	DLC
1,1-Dichloropropene - BSD	EPA-8260	**103**	**1**		50	150	08/20/2018	DLC
1,2-Dichloroethane - BS	EPA-8260	**94.2**			50	150	08/20/2018	DLC
1,2-Dichloroethane - BSD	EPA-8260	**95.7**	**2**		50	150	08/20/2018	DLC
Benzene - BS	EPA-8260	**98.0**			74.7	143	08/20/2018	DLC
Benzene - BSD	EPA-8260	**99.3**	**1**		74.7	143	08/20/2018	DLC
Trichloroethene - BS	EPA-8260	**98.5**			74.4	141	08/20/2018	DLC
Trichloroethene - BSD	EPA-8260	**99.6**	**1**		74.4	141	08/20/2018	DLC
1,2-Dichloropropane - BS	EPA-8260	**102**			50	150	08/20/2018	DLC
1,2-Dichloropropane - BSD	EPA-8260	**103**	**1**		50	150	08/20/2018	DLC
Dibromomethane - BS	EPA-8260	**100**			50	150	08/20/2018	DLC
Dibromomethane - BSD	EPA-8260	**102**	**2**		50	150	08/20/2018	DLC
Bromodichloromethane - BS	EPA-8260	**101**			50	150	08/20/2018	DLC
Bromodichloromethane - BSD	EPA-8260	**102**	**2**		50	150	08/20/2018	DLC
Trans-1,3-Dichloropropene - BS	EPA-8260	**110**			50	150	08/20/2018	DLC
Trans-1,3-Dichloropropene - BSD	EPA-8260	**111**	**1**		50	150	08/20/2018	DLC
4-Methyl-2-Pentanone - BS	EPA-8260	**75.3**			50	150	08/20/2018	DLC
4-Methyl-2-Pentanone - BSD	EPA-8260	**76.0**	**1**		50	150	08/20/2018	DLC
Toluene - BS	EPA-8260	**103**			71.7	139	08/20/2018	DLC
Toluene - BSD	EPA-8260	**104**	**1**		71.7	139	08/20/2018	DLC
Cis-1,3-Dichloropropene - BS	EPA-8260	**106**			50	150	08/20/2018	DLC
Cis-1,3-Dichloropropene - BSD	EPA-8260	**107**	**1**		50	150	08/20/2018	DLC
1,1,2-Trichloroethane - BS	EPA-8260	**107**			50	150	08/20/2018	DLC
1,1,2-Trichloroethane - BSD	EPA-8260	**108**	**1**		50	150	08/20/2018	DLC
2-Hexanone - BS	EPA-8260	**75.3**			50	150	08/20/2018	DLC
2-Hexanone - BSD	EPA-8260	**75.4**	**0**		50	150	08/20/2018	DLC
1,3-Dichloropropane - BS	EPA-8260	**104**			50	150	08/20/2018	DLC
1,3-Dichloropropane - BSD	EPA-8260	**105**	**1**		50	150	08/20/2018	DLC
Tetrachloroethylene - BS	EPA-8260	**109**			50	150	08/20/2018	DLC
Tetrachloroethylene - BSD	EPA-8260	**111**	**2**		50	150	08/20/2018	DLC
Dibromochloromethane - BS	EPA-8260	**111**			50	150	08/20/2018	DLC
Dibromochloromethane - BSD	EPA-8260	**112**	**1**		50	150	08/20/2018	DLC
1,2-Dibromoethane - BS	EPA-8260	**109**			50	150	08/20/2018	DLC
1,2-Dibromoethane - BSD	EPA-8260	**110**	**1**		50	150	08/20/2018	DLC
Chlorobenzene - BS	EPA-8260	**110**			73	131	08/20/2018	DLC
Chlorobenzene - BSD	EPA-8260	**111**	**1**		73	131	08/20/2018	DLC
1,1,1,2-Tetrachloroethane - BS	EPA-8260	**112**			50	150	08/20/2018	DLC

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LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane - BSD	EPA-8260	**112**	**0**		50	150	08/20/2018	DLC
Ethylbenzene - BS	EPA-8260	**108**			50	150	08/20/2018	DLC
Ethylbenzene - BSD	EPA-8260	**109**	**1**		50	150	08/20/2018	DLC
m,p-Xylene - BS	EPA-8260	**110**			50	150	08/20/2018	DLC
m,p-Xylene - BSD	EPA-8260	**110**	**0**		50	150	08/20/2018	DLC
Styrene - BS	EPA-8260	**111**			50	150	08/20/2018	DLC
Styrene - BSD	EPA-8260	**111**	**0**		50	150	08/20/2018	DLC
o-Xylene - BS	EPA-8260	**111**			50	150	08/20/2018	DLC
o-Xylene - BSD	EPA-8260	**111**	**0**		50	150	08/20/2018	DLC
Bromoform - BS	EPA-8260	**110**			50	150	08/20/2018	DLC
Bromoform - BSD	EPA-8260	**111**	**1**		50	150	08/20/2018	DLC
Isopropylbenzene - BS	EPA-8260	**110**			50	150	08/20/2018	DLC
Isopropylbenzene - BSD	EPA-8260	**110**	**0**		50	150	08/20/2018	DLC
1,1,2,2-Tetrachloroethane - BS	EPA-8260	**99.2**			50	150	08/20/2018	DLC
1,1,2,2-Tetrachloroethane - BSD	EPA-8260	**100**	**1**		50	150	08/20/2018	DLC
1,2,3-Trichloropropane - BS	EPA-8260	**100**			50	150	08/20/2018	DLC
1,2,3-Trichloropropane - BSD	EPA-8260	**101**	**1**		50	150	08/20/2018	DLC
Bromobenzene - BS	EPA-8260	**108**			50	150	08/20/2018	DLC
Bromobenzene - BSD	EPA-8260	**110**	**2**		50	150	08/20/2018	DLC
N-Propyl Benzene - BS	EPA-8260	**103**			50	150	08/20/2018	DLC
N-Propyl Benzene - BSD	EPA-8260	**104**	**1**		50	150	08/20/2018	DLC
2-Chlorotoluene - BS	EPA-8260	**103**			50	150	08/20/2018	DLC
2-Chlorotoluene - BSD	EPA-8260	**103**	**1**		50	150	08/20/2018	DLC
1,3,5-Trimethylbenzene - BS	EPA-8260	**105**			50	150	08/20/2018	DLC
1,3,5-Trimethylbenzene - BSD	EPA-8260	**105**	**1**		50	150	08/20/2018	DLC
4-Chlorotoluene - BS	EPA-8260	**103**			50	150	08/20/2018	DLC
4-Chlorotoluene - BSD	EPA-8260	**104**	**1**		50	150	08/20/2018	DLC
T-Butyl Benzene - BS	EPA-8260	**99.4**			50	150	08/20/2018	DLC
T-Butyl Benzene - BSD	EPA-8260	**100**	**1**		50	150	08/20/2018	DLC
1,2,4-Trimethylbenzene - BS	EPA-8260	**104**			50	150	08/20/2018	DLC
1,2,4-Trimethylbenzene - BSD	EPA-8260	**106**	**1**		50	150	08/20/2018	DLC
S-Butyl Benzene - BS	EPA-8260	**104**			50	150	08/20/2018	DLC
S-Butyl Benzene - BSD	EPA-8260	**105**	**1**		50	150	08/20/2018	DLC
P-Isopropyltoluene - BS	EPA-8260	**107**			50	150	08/20/2018	DLC
P-Isopropyltoluene - BSD	EPA-8260	**108**	**1**		50	150	08/20/2018	DLC
1,3-Dichlorobenzene - BS	EPA-8260	**108**			50	150	08/20/2018	DLC
1,3-Dichlorobenzene - BSD	EPA-8260	**110**	**2**		50	150	08/20/2018	DLC
1,4-Dichlorobenzene - BS	EPA-8260	**108**			50	150	08/20/2018	DLC
1,4-Dichlorobenzene - BSD	EPA-8260	**109**	**0**		50	150	08/20/2018	DLC
N-Butylbenzene - BS	EPA-8260	**105**			50	150	08/20/2018	DLC

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LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
N-Butylbenzene - BSD	EPA-8260	**106**	**0**		50	150	08/20/2018	DLC
1,2-Dichlorobenzene - BS	EPA-8260	**108**			50	150	08/20/2018	DLC
1,2-Dichlorobenzene - BSD	EPA-8260	**109**	**1**		50	150	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane - BS	EPA-8260	**96.4**			50	150	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane - BSD	EPA-8260	**97.5**	**1**		50	150	08/20/2018	DLC
1,2,4-Trichlorobenzene - BS	EPA-8260	**113**			50	150	08/20/2018	DLC
1,2,4-Trichlorobenzene - BSD	EPA-8260	**114**	**1**		50	150	08/20/2018	DLC
Hexachlorobutadiene - BS	EPA-8260	**112**			50	150	08/20/2018	DLC
Hexachlorobutadiene - BSD	EPA-8260	**114**	**1**		50	150	08/20/2018	DLC
Naphthalene - BS	EPA-8260	**110**			50	150	08/20/2018	DLC
Naphthalene - BSD	EPA-8260	**111**	**1**		50	150	08/20/2018	DLC
1,2,3-Trichlorobenzene - BS	EPA-8260	**113**			50	150	08/20/2018	DLC
1,2,3-Trichlorobenzene - BSD	EPA-8260	**114**	**1**		50	150	08/20/2018	DLC

ALS Test Batch ID: 131827 - Soil by EPA-8270

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Pyridine - BS	EPA-8270	**62.5**			20	150	08/23/2018	JMK
Pyridine - BSD	EPA-8270	**73.3**	**16**		20	150	08/23/2018	JMK
N-Nitrosodimethylamine - BS	EPA-8270	**91.9**			20	150	08/23/2018	JMK
N-Nitrosodimethylamine - BSD	EPA-8270	**99.8**	**8**		20	150	08/23/2018	JMK
Phenol - BS	EPA-8270	**84.1**			36.1	131	08/23/2018	JMK
Phenol - BSD	EPA-8270	**88.2**	**5**		36.1	131	08/23/2018	JMK
Aniline - BS	EPA-8270	**80.4**			20	150	08/23/2018	JMK
Aniline - BSD	EPA-8270	**84.2**	**5**		20	150	08/23/2018	JMK
Bis(2-Chloroethyl)Ether - BS	EPA-8270	**85.9**			20	150	08/23/2018	JMK
Bis(2-Chloroethyl)Ether - BSD	EPA-8270	**88.3**	**3**		20	150	08/23/2018	JMK
2-Chlorophenol - BS	EPA-8270	**82.1**			59.9	111	08/23/2018	JMK
2-Chlorophenol - BSD	EPA-8270	**85.8**	**4**		59.9	111	08/23/2018	JMK
1,3-Dichlorobenzene - BS	EPA-8270	**76.0**			20	150	08/23/2018	JMK
1,3-Dichlorobenzene - BSD	EPA-8270	**80.3**	**6**		20	150	08/23/2018	JMK
1,4-Dichlorobenzene - BS	EPA-8270	**77.2**			44.3	122	08/23/2018	JMK
1,4-Dichlorobenzene - BSD	EPA-8270	**82.3**	**6**		44.3	122	08/23/2018	JMK
Benzyl Alcohol - BS	EPA-8270	**101**			20	150	08/23/2018	JMK
Benzyl Alcohol - BSD	EPA-8270	**106**	**5**		20	150	08/23/2018	JMK
1,2-Dichlorobenzene - BS	EPA-8270	**78.1**			20	150	08/23/2018	JMK
1,2-Dichlorobenzene - BSD	EPA-8270	**81.7**	**5**		20	150	08/23/2018	JMK
2-Methylphenol - BS	EPA-8270	**80.6**			20	150	08/23/2018	JMK
2-Methylphenol - BSD	EPA-8270	**85.4**	**6**		20	150	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether - BS	EPA-8270	**82.2**			20	150	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT: Terracon
21905 - 64th Ave W, Suite 100
Mountlake Terrace, WA 98043

CLIENT CONTACT: Eric Dubcak
CLIENT PROJECT: 81187331

DATE: 9/14/2018
ALS SDG#: EV18080100
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Bis(2-Chloroisopropyl)Ether - BSD	EPA-8270	**84.5**	**3**		20	150	08/23/2018	JMK
3&4-Methylphenol - BS	EPA-8270	**83.6**			20	150	08/23/2018	JMK
3&4-Methylphenol - BSD	EPA-8270	**86.9**	**4**		20	150	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine - BS	EPA-8270	**95.8**			31.6	134	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine - BSD	EPA-8270	**100**	**5**		31.6	134	08/23/2018	JMK
Hexachloroethane - BS	EPA-8270	**75.2**			20	150	08/23/2018	JMK
Hexachloroethane - BSD	EPA-8270	**79.1**	**5**		20	150	08/23/2018	JMK
Nitrobenzene - BS	EPA-8270	**80.9**			20	150	08/23/2018	JMK
Nitrobenzene - BSD	EPA-8270	**84.2**	**4**		20	150	08/23/2018	JMK
Isophorone - BS	EPA-8270	**61.3**			20	150	08/23/2018	JMK
Isophorone - BSD	EPA-8270	**63.7**	**4**		20	150	08/23/2018	JMK
2-Nitrophenol - BS	EPA-8270	**84.5**			20	150	08/23/2018	JMK
2-Nitrophenol - BSD	EPA-8270	**86.0**	**2**		20	150	08/23/2018	JMK
2,4-Dimethylphenol - BS	EPA-8270	**60.3**			20	150	08/23/2018	JMK
2,4-Dimethylphenol - BSD	EPA-8270	**65.7**	**9**		20	150	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane - BS	EPA-8270	**81.0**			20	150	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane - BSD	EPA-8270	**84.1**	**4**		20	150	08/23/2018	JMK
2,4-Dichlorophenol - BS	EPA-8270	**83.5**			20	150	08/23/2018	JMK
2,4-Dichlorophenol - BSD	EPA-8270	**87.7**	**5**		20	150	08/23/2018	JMK
1,2,4-Trichlorobenzene - BS	EPA-8270	**76.5**			44.6	122	08/23/2018	JMK
1,2,4-Trichlorobenzene - BSD	EPA-8270	**78.8**	**3**		44.6	122	08/23/2018	JMK
Naphthalene - BS	EPA-8270	**78.2**			20	150	08/23/2018	JMK
Naphthalene - BSD	EPA-8270	**81.6**	**4**		20	150	08/23/2018	JMK
4-Chloroaniline - BS	EPA-8270	**76.9**			20	150	08/23/2018	JMK
4-Chloroaniline - BSD	EPA-8270	**81.0**	**5**		20	150	08/23/2018	JMK
Hexachlorobutadiene - BS	EPA-8270	**74.5**			20	150	08/23/2018	JMK
Hexachlorobutadiene - BSD	EPA-8270	**78.0**	**5**		20	150	08/23/2018	JMK
4-Chloro-3-Methylphenol - BS	EPA-8270	**88.0**			49.2	135	08/23/2018	JMK
4-Chloro-3-Methylphenol - BSD	EPA-8270	**91.0**	**3**		49.2	135	08/23/2018	JMK
2-Methylnaphthalene - BS	EPA-8270	**84.1**			20	150	08/23/2018	JMK
2-Methylnaphthalene - BSD	EPA-8270	**86.5**	**3**		20	150	08/23/2018	JMK
1-Methylnaphthalene - BS	EPA-8270	**78.2**			20	150	08/23/2018	JMK
1-Methylnaphthalene - BSD	EPA-8270	**80.7**	**3**		20	150	08/23/2018	JMK
Hexachlorocyclopentadiene - BS	EPA-8270	**83.4**			20	150	08/23/2018	JMK
Hexachlorocyclopentadiene - BSD	EPA-8270	**85.0**	**2**		20	150	08/23/2018	JMK
2,4,6-Trichlorophenol - BS	EPA-8270	**90.4**			20	150	08/23/2018	JMK
2,4,6-Trichlorophenol - BSD	EPA-8270	**91.8**	**2**		20	150	08/23/2018	JMK
2,4,5-Trichlorophenol - BS	EPA-8270	**89.2**			20	150	08/23/2018	JMK
2,4,5-Trichlorophenol - BSD	EPA-8270	**91.1**	**2**		20	150	08/23/2018	JMK
2-Chloronaphthalene - BS	EPA-8270	**82.3**			20	150	08/23/2018	JMK

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LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
2-Chloronaphthalene - BSD	EPA-8270	**82.8**	**1**		20	150	08/23/2018	JMK
2-Nitroaniline - BS	EPA-8270	**163**		S	20	150	08/23/2018	JMK
2-Nitroaniline - BSD	EPA-8270	**167**	**2**	S	20	150	08/23/2018	JMK
Acenaphthylene - BS	EPA-8270	**84.5**			20	150	08/23/2018	JMK
Acenaphthylene - BSD	EPA-8270	**86.1**	**2**		20	150	08/23/2018	JMK
Dimethylphthalate - BS	EPA-8270	**84.8**			20	150	08/23/2018	JMK
Dimethylphthalate - BSD	EPA-8270	**85.4**	**1**		20	150	08/23/2018	JMK
2,6-Dinitrotoluene - BS	EPA-8270	**88.1**			20	150	08/23/2018	JMK
2,6-Dinitrotoluene - BSD	EPA-8270	**89.9**	**2**		20	150	08/23/2018	JMK
Acenaphthene - BS	EPA-8270	**82.9**			49.3	117	08/23/2018	JMK
Acenaphthene - BSD	EPA-8270	**84.0**	**1**		49.3	117	08/23/2018	JMK
3-Nitroaniline - BS	EPA-8270	**163**		S	20	150	08/23/2018	JMK
3-Nitroaniline - BSD	EPA-8270	**167**	**2**	S	20	150	08/23/2018	JMK
2,4-Dinitrophenol - BS	EPA-8270	**85.1**			20	150	08/23/2018	JMK
2,4-Dinitrophenol - BSD	EPA-8270	**86.4**	**2**		20	150	08/23/2018	JMK
4-Nitrophenol - BS	EPA-8270	**102**			29.8	137	08/23/2018	JMK
4-Nitrophenol - BSD	EPA-8270	**104**	**2**		29.8	137	08/23/2018	JMK
Dibenzofuran - BS	EPA-8270	**84.7**			20	150	08/23/2018	JMK
Dibenzofuran - BSD	EPA-8270	**86.0**	**2**		20	150	08/23/2018	JMK
2,4-Dinitrotoluene - BS	EPA-8270	**87.6**			55.3	130	08/23/2018	JMK
2,4-Dinitrotoluene - BSD	EPA-8270	**89.0**	**2**		55.3	130	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol - BS	EPA-8270	**92.6**			20	150	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol - BSD	EPA-8270	**93.8**	**1**		20	150	08/23/2018	JMK
Diethylphthalate - BS	EPA-8270	**84.6**			20	150	08/23/2018	JMK
Diethylphthalate - BSD	EPA-8270	**84.7**	**0**		20	150	08/23/2018	JMK
Fluorene - BS	EPA-8270	**87.0**			20	150	08/23/2018	JMK
Fluorene - BSD	EPA-8270	**86.6**	**0**		20	150	08/23/2018	JMK
4-Chlorophenyl-Phenylether - BS	EPA-8270	**85.8**			20	150	08/23/2018	JMK
4-Chlorophenyl-Phenylether - BSD	EPA-8270	**85.9**	**0**		20	150	08/23/2018	JMK
4-Nitroaniline - BS	EPA-8270	**650**		S	20	150	08/23/2018	JMK
4-Nitroaniline - BSD	EPA-8270	**773**	**17**	S	20	150	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol - BS	EPA-8270	**99.1**			20	150	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol - BSD	EPA-8270	**103**	**4**		20	150	08/23/2018	JMK
Azobenzene - BS	EPA-8270	**83.7**			20	150	08/23/2018	JMK
Azobenzene - BSD	EPA-8270	**86.3**	**3**		20	150	08/23/2018	JMK
4-Bromophenyl-Phenylether - BS	EPA-8270	**86.4**			20	150	08/23/2018	JMK
4-Bromophenyl-Phenylether - BSD	EPA-8270	**88.5**	**2**		20	150	08/23/2018	JMK
Hexachlorobenzene - BS	EPA-8270	**83.1**			20	150	08/23/2018	JMK
Hexachlorobenzene - BSD	EPA-8270	**86.0**	**3**		20	150	08/23/2018	JMK
Pentachlorophenol - BS	EPA-8270	**87.5**			41.3	113	08/23/2018	JMK

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LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Pentachlorophenol - BSD	EPA-8270	**91.7**	**5**		41.3	113	08/23/2018	JMK
Phenanthrene - BS	EPA-8270	**83.3**			20	150	08/23/2018	JMK
Phenanthrene - BSD	EPA-8270	**86.6**	**4**		20	150	08/23/2018	JMK
Anthracene - BS	EPA-8270	**81.6**			20	150	08/23/2018	JMK
Anthracene - BSD	EPA-8270	**85.7**	**5**		20	150	08/23/2018	JMK
Carbazole - BS	EPA-8270	**96.9**			20	150	08/23/2018	JMK
Carbazole - BSD	EPA-8270	**111**	**14**		20	150	08/23/2018	JMK
Di-N-Butylphthalate - BS	EPA-8270	**87.5**			20	150	08/23/2018	JMK
Di-N-Butylphthalate - BSD	EPA-8270	**88.7**	**1**		20	150	08/23/2018	JMK
Fluoranthene - BS	EPA-8270	**87.4**			20	150	08/23/2018	JMK
Fluoranthene - BSD	EPA-8270	**89.2**	**2**		20	150	08/23/2018	JMK
Pyrene - BS	EPA-8270	**84.4**			57.4	145	08/23/2018	JMK
Pyrene - BSD	EPA-8270	**86.8**	**3**		57.4	145	08/23/2018	JMK
Butylbenzylphthalate - BS	EPA-8270	**89.0**			20	150	08/23/2018	JMK
Butylbenzylphthalate - BSD	EPA-8270	**90.4**	**2**		20	150	08/23/2018	JMK
Benzo[A]Anthracene - BS	EPA-8270	**85.3**			20	150	08/23/2018	JMK
Benzo[A]Anthracene - BSD	EPA-8270	**87.0**	**2**		20	150	08/23/2018	JMK
Chrysene - BS	EPA-8270	**81.5**			20	150	08/23/2018	JMK
Chrysene - BSD	EPA-8270	**83.2**	**2**		20	150	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate - BS	EPA-8270	**91.5**			20	150	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate - BSD	EPA-8270	**93.2**	**2**		20	150	08/23/2018	JMK
Di-N-Octylphthalate - BS	EPA-8270	**88.7**			20	150	08/23/2018	JMK
Di-N-Octylphthalate - BSD	EPA-8270	**90.2**	**2**		20	150	08/23/2018	JMK
Benzo[B]Fluoranthene - BS	EPA-8270	**86.7**			20	150	08/23/2018	JMK
Benzo[B]Fluoranthene - BSD	EPA-8270	**88.4**	**2**		20	150	08/23/2018	JMK
Benzo[K]Fluoranthene - BS	EPA-8270	**85.1**			20	150	08/23/2018	JMK
Benzo[K]Fluoranthene - BSD	EPA-8270	**86.5**	**2**		20	150	08/23/2018	JMK
Benzo[A]Pyrene - BS	EPA-8270	**85.6**			20	150	08/23/2018	JMK
Benzo[A]Pyrene - BSD	EPA-8270	**86.9**	**2**		20	150	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene - BS	EPA-8270	**94.6**			20	150	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene - BSD	EPA-8270	**95.0**	**0**		20	150	08/23/2018	JMK
Dibenz[A,H]Anthracene - BS	EPA-8270	**94.7**			20	150	08/23/2018	JMK
Dibenz[A,H]Anthracene - BSD	EPA-8270	**95.0**	**0**		20	150	08/23/2018	JMK
Benzo[G,H,I]Perylene - BS	EPA-8270	**91.3**			20	150	08/23/2018	JMK
Benzo[G,H,I]Perylene - BSD	EPA-8270	**90.7**	**1**		20	150	08/23/2018	JMK

S - Outside of control limits.

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LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 131851 - Water by EPA-8270

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Pyridine - BS	EPA-8270	**18.6**		SQ3	20	150	08/23/2018	JMK
Pyridine - BSD	EPA-8270	**19.6**	**5**	SQ3	20	150	08/23/2018	JMK
N-Nitrosodimethylamine - BS	EPA-8270	**40.8**			20	150	08/23/2018	JMK
N-Nitrosodimethylamine - BSD	EPA-8270	**44.5**	**9**		20	150	08/23/2018	JMK
Phenol - BS	EPA-8270	**26.5**			5	84	08/23/2018	JMK
Phenol - BSD	EPA-8270	**27.3**	**3**		5	84	08/23/2018	JMK
Aniline - BS	EPA-8270	**25.9**			20	150	08/23/2018	JMK
Aniline - BSD	EPA-8270	**26.0**	**0**		20	150	08/23/2018	JMK
Bis(2-Chloroethyl)Ether - BS	EPA-8270	**93.5**			20	150	08/23/2018	JMK
Bis(2-Chloroethyl)Ether - BSD	EPA-8270	**90.6**	**3**		20	150	08/23/2018	JMK
2-Chlorophenol - BS	EPA-8270	**74.0**			45	111	08/23/2018	JMK
2-Chlorophenol - BSD	EPA-8270	**75.1**	**2**		45	111	08/23/2018	JMK
1,3-Dichlorobenzene - BS	EPA-8270	**48.7**			20	150	08/23/2018	JMK
1,3-Dichlorobenzene - BSD	EPA-8270	**75.9**	**44**		20	150	08/23/2018	JMK
1,4-Dichlorobenzene - BS	EPA-8270	**50.7**			27.1	114	08/23/2018	JMK
1,4-Dichlorobenzene - BSD	EPA-8270	**77.8**	**42**		27.1	114	08/23/2018	JMK
Benzyl Alcohol - BS	EPA-8270	**62.2**			20	150	08/23/2018	JMK
Benzyl Alcohol - BSD	EPA-8270	**62.9**	**1**		20	150	08/23/2018	JMK
1,2-Dichlorobenzene - BS	EPA-8270	**52.1**			20	150	08/23/2018	JMK
1,2-Dichlorobenzene - BSD	EPA-8270	**77.3**	**39**		20	150	08/23/2018	JMK
2-Methylphenol - BS	EPA-8270	**63.8**			20	150	08/23/2018	JMK
2-Methylphenol - BSD	EPA-8270	**64.0**	**0**		20	150	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether - BS	EPA-8270	**82.6**			20	150	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether - BSD	EPA-8270	**83.2**	**1**		20	150	08/23/2018	JMK
3&4-Methylphenol - BS	EPA-8270	**58.3**			20	150	08/23/2018	JMK
3&4-Methylphenol - BSD	EPA-8270	**57.7**	**1**		20	150	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine - BS	EPA-8270	**100**			42.2	119	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine - BSD	EPA-8270	**101**	**0**		42.2	119	08/23/2018	JMK
Hexachloroethane - BS	EPA-8270	**44.0**			20	150	08/23/2018	JMK
Hexachloroethane - BSD	EPA-8270	**77.5**	**55**		20	150	08/23/2018	JMK
Nitrobenzene - BS	EPA-8270	**79.7**			20	150	08/23/2018	JMK
Nitrobenzene - BSD	EPA-8270	**85.9**	**7**		20	150	08/23/2018	JMK
Isophorone - BS	EPA-8270	**76.3**			20	150	08/23/2018	JMK
Isophorone - BSD	EPA-8270	**80.1**	**5**		20	150	08/23/2018	JMK
2-Nitrophenol - BS	EPA-8270	**86.4**			20	150	08/23/2018	JMK
2-Nitrophenol - BSD	EPA-8270	**84.7**	**2**		20	150	08/23/2018	JMK
2,4-Dimethylphenol - BS	EPA-8270	**71.7**			20	150	08/23/2018	JMK
2,4-Dimethylphenol - BSD	EPA-8270	**76.3**	**6**		20	150	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane - BS	EPA-8270	**80.1**			20	150	08/23/2018	JMK

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LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Bis(2-Chloroethoxy)Methane - BSD	EPA-8270	**84.9**	**6**		20	150	08/23/2018	JMK
2,4-Dichlorophenol - BS	EPA-8270	**79.8**			20	150	08/23/2018	JMK
2,4-Dichlorophenol - BSD	EPA-8270	**83.2**	**4**		20	150	08/23/2018	JMK
1,2,4-Trichlorobenzene - BS	EPA-8270	**51.5**			29.4	120	08/23/2018	JMK
1,2,4-Trichlorobenzene - BSD	EPA-8270	**76.6**	**39**		29.4	120	08/23/2018	JMK
Naphthalene - BS	EPA-8270	**60.7**			20	150	08/23/2018	JMK
Naphthalene - BSD	EPA-8270	**76.3**	**23**		20	150	08/23/2018	JMK
4-Chloroaniline - BS	EPA-8270	**61.3**			20	150	08/23/2018	JMK
4-Chloroaniline - BSD	EPA-8270	**74.8**	**20**		20	150	08/23/2018	JMK
Hexachlorobutadiene - BS	EPA-8270	**43.0**			20	150	08/23/2018	JMK
Hexachlorobutadiene - BSD	EPA-8270	**75.0**	**54**		20	150	08/23/2018	JMK
4-Chloro-3-Methylphenol - BS	EPA-8270	**81.9**			44	113	08/23/2018	JMK
4-Chloro-3-Methylphenol - BSD	EPA-8270	**85.1**	**4**		44	113	08/23/2018	JMK
2-Methylnaphthalene - BS	EPA-8270	**67.0**			20	150	08/23/2018	JMK
2-Methylnaphthalene - BSD	EPA-8270	**82.5**	**21**		20	150	08/23/2018	JMK
1-Methylnaphthalene - BS	EPA-8270	**65.8**			20	150	08/23/2018	JMK
1-Methylnaphthalene - BSD	EPA-8270	**76.1**	**15**		20	150	08/23/2018	JMK
Hexachlorocyclopentadiene - BS	EPA-8270	**40.1**			20	150	08/23/2018	JMK
Hexachlorocyclopentadiene - BSD	EPA-8270	**73.7**	**59**		20	150	08/23/2018	JMK
2,4,6-Trichlorophenol - BS	EPA-8270	**83.3**			20	150	08/23/2018	JMK
2,4,6-Trichlorophenol - BSD	EPA-8270	**90.0**	**8**		20	150	08/23/2018	JMK
2,4,5-Trichlorophenol - BS	EPA-8270	**82.4**			20	150	08/23/2018	JMK
2,4,5-Trichlorophenol - BSD	EPA-8270	**88.7**	**7**		20	150	08/23/2018	JMK
2-Chloronaphthalene - BS	EPA-8270	**65.4**			20	150	08/23/2018	JMK
2-Chloronaphthalene - BSD	EPA-8270	**81.9**	**22**		20	150	08/23/2018	JMK
2-Nitroaniline - BS	EPA-8270	**163**		SQ1	20	150	08/23/2018	JMK
2-Nitroaniline - BSD	EPA-8270	**169**	**4**	S	20	150	08/23/2018	JMK
Acenaphthylene - BS	EPA-8270	**78.0**			20	150	08/23/2018	JMK
Acenaphthylene - BSD	EPA-8270	**87.9**	**12**		20	150	08/23/2018	JMK
Dimethylphthalate - BS	EPA-8270	**81.9**			20	150	08/23/2018	JMK
Dimethylphthalate - BSD	EPA-8270	**84.2**	**3**		20	150	08/23/2018	JMK
2,6-Dinitrotoluene - BS	EPA-8270	**83.6**			20	150	08/23/2018	JMK
2,6-Dinitrotoluene - BSD	EPA-8270	**87.1**	**4**		20	150	08/23/2018	JMK
Acenaphthene - BS	EPA-8270	**72.4**			41	107	08/23/2018	JMK
Acenaphthene - BSD	EPA-8270	**81.0**	**11**		41	107	08/23/2018	JMK
3-Nitroaniline - BS	EPA-8270	**163**		SQ1	20	150	08/23/2018	JMK
3-Nitroaniline - BSD	EPA-8270	**169**	**4**	S	20	150	08/23/2018	JMK
2,4-Dinitrophenol - BS	EPA-8270	**74.6**			20	150	08/23/2018	JMK
2,4-Dinitrophenol - BSD	EPA-8270	**83.2**	**11**		20	150	08/23/2018	JMK
4-Nitrophenol - BS	EPA-8270	**34.8**			5	63	08/23/2018	JMK

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ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT: Terracon
21905 - 64th Ave W, Suite 100
Mountlake Terrace, WA 98043

CLIENT CONTACT: Eric Dubcak
CLIENT PROJECT: 81187331

DATE: 9/14/2018
ALS SDG#: EV18080100
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
4-Nitrophenol - BSD	EPA-8270	**35.2**	**1**		5	63	08/23/2018	JMK
Dibenzofuran - BS	EPA-8270	**79.1**			20	150	08/23/2018	JMK
Dibenzofuran - BSD	EPA-8270	**85.8**	**8**		20	150	08/23/2018	JMK
2,4-Dinitrotoluene - BS	EPA-8270	**83.2**			53.1	136	08/23/2018	JMK
2,4-Dinitrotoluene - BSD	EPA-8270	**85.1**	**2**		53.1	136	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol - BS	EPA-8270	**84.9**			20	150	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol - BSD	EPA-8270	**86.1**	**1**		20	150	08/23/2018	JMK
Diethylphthalate - BS	EPA-8270	**84.7**			20	150	08/23/2018	JMK
Diethylphthalate - BSD	EPA-8270	**83.4**	**2**		20	150	08/23/2018	JMK
Fluorene - BS	EPA-8270	**79.7**			20	150	08/23/2018	JMK
Fluorene - BSD	EPA-8270	**83.8**	**5**		20	150	08/23/2018	JMK
4-Chlorophenyl-Phenylether - BS	EPA-8270	**77.1**			20	150	08/23/2018	JMK
4-Chlorophenyl-Phenylether - BSD	EPA-8270	**83.1**	**8**		20	150	08/23/2018	JMK
4-Nitroaniline - BS	EPA-8270	**97.4**			20	150	08/23/2018	JMK
4-Nitroaniline - BSD	EPA-8270	**94.7**	**3**		20	150	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol - BS	EPA-8270	**90.3**			20	150	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol - BSD	EPA-8270	**94.7**	**5**		20	150	08/23/2018	JMK
Azobenzene - BS	EPA-8270	**81.7**			20	150	08/23/2018	JMK
Azobenzene - BSD	EPA-8270	**88.0**	**7**		20	150	08/23/2018	JMK
4-Bromophenyl-Phenylether - BS	EPA-8270	**78.8**			20	150	08/23/2018	JMK
4-Bromophenyl-Phenylether - BSD	EPA-8270	**85.8**	**8**		20	150	08/23/2018	JMK
Hexachlorobenzene - BS	EPA-8270	**76.7**			20	150	08/23/2018	JMK
Hexachlorobenzene - BSD	EPA-8270	**81.0**	**5**		20	150	08/23/2018	JMK
Pentachlorophenol - BS	EPA-8270	**77.6**			33	124	08/23/2018	JMK
Pentachlorophenol - BSD	EPA-8270	**81.0**	**4**		33	124	08/23/2018	JMK
Phenanthrene - BS	EPA-8270	**78.8**			20	150	08/23/2018	JMK
Phenanthrene - BSD	EPA-8270	**83.2**	**5**		20	150	08/23/2018	JMK
Anthracene - BS	EPA-8270	**81.3**			20	150	08/23/2018	JMK
Anthracene - BSD	EPA-8270	**85.8**	**5**		20	150	08/23/2018	JMK
Carbazole - BS	EPA-8270	**54.9**			20	150	08/23/2018	JMK
Carbazole - BSD	EPA-8270	**59.9**	**9**		20	150	08/23/2018	JMK
Di-N-Butylphthalate - BS	EPA-8270	**85.3**			20	150	08/23/2018	JMK
Di-N-Butylphthalate - BSD	EPA-8270	**88.2**	**3**		20	150	08/23/2018	JMK
Fluoranthene - BS	EPA-8270	**81.8**			20	150	08/23/2018	JMK
Fluoranthene - BSD	EPA-8270	**84.6**	**3**		20	150	08/23/2018	JMK
Pyrene - BS	EPA-8270	**79.3**			18	136	08/23/2018	JMK
Pyrene - BSD	EPA-8270	**85.3**	**7**		18	136	08/23/2018	JMK
Butylbenzylphthalate - BS	EPA-8270	**87.3**			20	150	08/23/2018	JMK
Butylbenzylphthalate - BSD	EPA-8270	**92.1**	**5**		20	150	08/23/2018	JMK
Benzo[A]Anthracene - BS	EPA-8270	**80.9**			20	150	08/23/2018	JMK

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ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT: Terracon
21905 - 64th Ave W, Suite 100
Mountlake Terrace, WA 98043

CLIENT CONTACT: Eric Dubcak
CLIENT PROJECT: 81187331

DATE: 9/14/2018
ALS SDG#: EV18080100
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Benzo[A]Anthracene - BSD	EPA-8270	**84.0**	**4**		20	150	08/23/2018	JMK
Chrysene - BS	EPA-8270	**76.7**			20	150	08/23/2018	JMK
Chrysene - BSD	EPA-8270	**79.5**	**4**		20	150	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate - BS	EPA-8270	**89.2**			20	150	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate - BSD	EPA-8270	**94.3**	**6**		20	150	08/23/2018	JMK
Di-N-Octylphthalate - BS	EPA-8270	**85.6**			20	150	08/23/2018	JMK
Di-N-Octylphthalate - BSD	EPA-8270	**87.7**	**2**		20	150	08/23/2018	JMK
Benzo[B]Fluoranthene - BS	EPA-8270	**82.0**			20	150	08/23/2018	JMK
Benzo[B]Fluoranthene - BSD	EPA-8270	**87.3**	**6**		20	150	08/23/2018	JMK
Benzo[K]Fluoranthene - BS	EPA-8270	**81.0**			20	150	08/23/2018	JMK
Benzo[K]Fluoranthene - BSD	EPA-8270	**84.3**	**4**		20	150	08/23/2018	JMK
Benzo[A]Pyrene - BS	EPA-8270	**81.4**			20	150	08/23/2018	JMK
Benzo[A]Pyrene - BSD	EPA-8270	**83.9**	**3**		20	150	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene - BS	EPA-8270	**87.0**			20	150	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene - BSD	EPA-8270	**87.0**	**0**		20	150	08/23/2018	JMK
Dibenz[A,H]Anthracene - BS	EPA-8270	**88.2**			20	150	08/23/2018	JMK
Dibenz[A,H]Anthracene - BSD	EPA-8270	**88.4**	**0**		20	150	08/23/2018	JMK
Benzo[G,H,I]Perylene - BS	EPA-8270	**81.9**			20	150	08/23/2018	JMK
Benzo[G,H,I]Perylene - BSD	EPA-8270	**83.3**	**2**		20	150	08/23/2018	JMK

SQ1 - Spike outside of control limits with a high bias. Associated compounds non-detect. No corrective action taken.
SQ3 - Spike outside of control limits due to sporadic marginal failure. All other spikes in extraction fraction within control limits.

ALS Test Batch ID: 131842 - Soil by EPA-8082

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
PCB-1016 - BS	EPA-8082	**80.0**			50	150	08/20/2018	JMK
PCB-1016 - BSD	EPA-8082	**85.1**	**6**		50	150	08/20/2018	JMK
PCB-1260 - BS	EPA-8082	**79.3**			50	150	08/20/2018	JMK
PCB-1260 - BSD	EPA-8082	**86.1**	**8**		50	150	08/20/2018	JMK

ALS Test Batch ID: 131799 - Water by EPA-8082

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
PCB-1016 - BS	EPA-8082	**84.1**			44	152	08/22/2018	PAB
PCB-1016 - BSD	EPA-8082	**101**	**18**		44	152	08/22/2018	PAB
PCB-1260 - BS	EPA-8082	**103**			44	152	08/22/2018	PAB
PCB-1260 - BSD	EPA-8082	**112**	**8**		44	152	08/22/2018	PAB

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ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT: Terracon
21905 - 64th Ave W, Suite 100
Mountlake Terrace, WA 98043

CLIENT CONTACT: Eric Dubcak
CLIENT PROJECT: 81187331

DATE: 9/14/2018
ALS SDG#: EV18080100
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: R323419 - Soil by EPA-7196

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Chromium (VI) - BS	EPA-7196	**98.0**			91	114	09/14/2018	JMK
Chromium (VI) - BSD	EPA-7196	**99.0**	**1**		91	114	09/14/2018	JMK

ALS Test Batch ID: R322340 - Soil by EPA-7471

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Mercury - BS	EPA-7471	**102**			81.8	117	08/23/2018	RAL
Mercury - BSD	EPA-7471	**103**	**1**		81.8	117	08/23/2018	RAL

ALS Test Batch ID: R322339 - Water by EPA-245.1

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Mercury - BS	EPA-245.1	**109**			80.6	118	08/23/2018	RAL
Mercury - BSD	EPA-245.1	**107**	**1**		80.6	118	08/23/2018	RAL

ALS Test Batch ID: 131751 - Soil by EPA-6020

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Arsenic - BS	EPA-6020	**101**			80	120	08/22/2018	RAL
Arsenic - BSD	EPA-6020	**100**	**1**		80	120	08/22/2018	RAL
Cadmium - BS	EPA-6020	**103**			80	120	08/22/2018	RAL
Cadmium - BSD	EPA-6020	**102**	**0**		80	120	08/22/2018	RAL
Chromium - BS	EPA-6020	**103**			80	120	08/22/2018	RAL
Chromium - BSD	EPA-6020	**103**	**0**		80	120	08/22/2018	RAL
Lead - BS	EPA-6020	**104**			80	120	08/22/2018	RAL
Lead - BSD	EPA-6020	**102**	**2**		80	120	08/22/2018	RAL

ALS Test Batch ID: 131752 - Water by EPA-200.8

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Arsenic - BS	EPA-200.8	**104**			89.1	110	08/22/2018	RAL
Arsenic - BSD	EPA-200.8	**102**	**2**		89.1	110	08/22/2018	RAL
Cadmium - BS	EPA-200.8	**106**			89.4	109	08/22/2018	RAL
Cadmium - BSD	EPA-200.8	**104**	**1**		89.4	109	08/22/2018	RAL
Chromium - BS	EPA-200.8	**105**			88.3	110.2	08/22/2018	RAL
Chromium - BSD	EPA-200.8	**103**	**2**		88.3	110.2	08/22/2018	RAL
Lead - BS	EPA-200.8	**103**			87.5	107	08/22/2018	RAL
Lead - BSD	EPA-200.8	**102**	**1**		87.5	107	08/22/2018	RAL

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CERTIFICATE OF ANALYSIS

APPROVED BY

Technical Manager

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ALS Group USA, Corp dba ALS Environmental

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Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only): EV1808000

Date 8/17/18 Page 1 Of 1

PROJECT ID: 81187331
REPORT TO COMPANY: Terracon
PROJECT MANAGER: Eric Dubcak
ADDRESS: 21905 64th Ave W, Ste 100
Mountlake Terrace, WA 98043
PHONE: 425.771.3304 P.O. #:
E-MAIL: eric.dubcak@terracon.com, jeff.dobbins@terracon.com
INVOICE TO COMPANY: Same as above
ATTENTION:
ADDRESS:

ANALYSIS REQUESTED

SAMPLE I.D.	DATE	TIME	TYPE	LAB#	NWTPH-HCID	NWTPH-DX	NWTPH-GX	BTEX by EPA 8021 ☐ BTEX by EPA 8260 ☐	MTBE by EPA 8021 ☐ MTBE by EPA 8260 ☐	Halogenated Volatiles by EPA 8260	Volatile Organic Compounds by EPA 8260	EDB / EDC by EPA 8260 SIM (water)	EDB / EDC by EPA 8260 (soil)	Semivolatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA 8270 SIM	PCB by EPA 8082 ☐ Pesticides by EPA 8081 ☐	Metals-MTCA-5 ☐ RCRA-8 ☐ Pri Pol ☐ TAL ☐	Metals Other (Specify)	TCLP-Metals ☐ VOA ☐ Semi-Vol ☐ Pest ☐ Herbs ☐	OTHER (Specify): Furans/Dioxins			Hexavalent Chromium				NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?
1. B6-3	8/17/18	805	soil	1		X	X				X			X						X								
2. B4-7		950		2		X	X				X			X														
3. B3-6.5		1105		3		X	X				X			X														
4. B3-17.5		1125		4		X	X				X			X														
5. B1-6.5		1435		5		X	X				X			X		X	X											
6. B1-2.5		1430		6		X	X				X			X		X	X											
7. B5-2.5		1255		7		X	X				X			X						X								
8. B5-18		1305		8		X	X				X			X						X								
9. B2-3		1345	↓	9		X	X				X			X		X	X						(X)					
10. B2	↓	1410	Water	10		X	X				X			X		X	X											

SPECIAL INSTRUCTIONS: (X) Added 9/11/18 on 3day TAT

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: Jeff Dobbins, Terracon, 8/17/18 1620
   Received By: Shawn Robinson ALS 8/17/18 1620
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

August 31, 2018 Service Request No:E1800770

Rick Bagan
ALS Environmental
8620 Holly Drive #100
Everett, WA 98208

Laboratory Results for: EV18080100 Dioxins Furans Analysis

Dear Rick,

Enclosed are the results of the sample(s) submitted to our laboratory August 21, 2018
For your reference, these analyses have been assigned our service request number **E1800770.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and except as noted in the laboratory case narrative provided. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the final complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the TNI 2009 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My extension is 2284. You may also contact me via email at Nicole.Brown@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Nicole Brown
Project Manager

ADDRESS 10450 Stancliff Rd., Suite 210, Houston, TX 77099
PHONE +1 713 266 1599 | FAX +1 713 266 0130
ALS Group USA, Corp.
dba ALS Environmental

Certificate of Analysis

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Environmental

Client:	ALS Group USA, Corp – Everett, WA	**Service Request No.:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Received:**	08/21/18
Sample Matrix:	Soil		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Two soil samples were received for analysis at ALS Environmental in Houston on 08/21/18.

The samples were received at 13.8 °C in good condition and are consistent with the accompanying chain of custody form. Dioxin/furan compounds are stable at room temperature. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

B flags – Method Blanks

The Method Blank EQ1800346-01 contained low levels of 1234678-HpCDD, 1234678-HpCDF, OCDD and OCDF below the Method Reporting Limit (MRL). The associated compounds in the samples are flagged with 'B' flags where the sample result is less than ten times the level detected in the method blank.

MS/MSD

EQ1800346: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of an MS/MSD for this extraction batch.

2378-TCDF

Samples analyzed on the DB-5MSUI column were analyzed under conditions where sufficient separation between 2,3,7,8-TCDF and its closest eluter was achieved. Confirmation of this result was not required.

K flags

EMPC - When the ion abundance ratios associated with a particular compound are outside the QC limits, samples are flagged with a 'K' flag. A 'K' flag indicates an estimated maximum possible concentration for the associated compound.

Detection Limits

Detection limits are calculated for each analyte in each sample by measuring the height of the noise level for each quantitation ion for the associated labeled standard. The concentration equivalent to 2.5 times the height of the noise is then calculated using the appropriate response factor and the weight of the sample. The calculated concentration equals the detection limit.

The TEQ Summary results for each sample have been calculated by ALS/Houston to include:

- WHO-2005 TEFs, The 2005 World Health Organization Reevaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-Like Compounds (M. Van den Berg et al., Toxicological Sciences 93(2):223-241, 2006)
- Non-detected compounds are not included in the 'Total'

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS group USA Corp dba ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: ALS Environmental - Everett **Service Request:**E1800770

Project: EV18080100 Dioxins Furans Analysis

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E1800770-001	EV18080100-07 B5-2.5	8/17/2018	1255
E1800770-002	EV18080100-08 B5-18	8/17/2018	1305

Service Request Summary

Folder #: **E1800770**
Client Name: ALS Environmental - Everett
Project Name: EV18080100 Dioxins Furans Analysis
Project Number:

Report To: Rick Bagan
ALS Environmental
8620 Holly Drive #100
Everett, WA 98208
USA
Phone Number: 425-356-2600
Cell Number:
Fax Number:
E-mail: rick.bagan@alsglobal.com

Project Chemist: Nicole Brown
Originating Lab: HOUSTON
Logged By: ALOPEZ
Date Received: 08/21/18
Internal Due Date: 8/31/2018
QAP: LAB QAP
Qualifier Set: HRMS Qualifier Set
Formset: Lab Standard
Merged?: N
Report to MDL?: Y
P.O. Number: 32-EV18080100
EDD: No EDD Specified

2 4 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
Location: EHRMS-WIC 1C
Pressure Gas:

				HOUSTON	
Lab Samp No.	**Client Samp No**	**Matrix**	**Collected**	Dioxins Furans/1613B	Total Solids/ALS SOP
E1800770-001	EV18080100-07	Soil	08/17/18 1255	II	II
E1800770-002	EV18080100-08	Soil	08/17/18 1305	II	II

Folder Comments:

Client requested results by noon 8/31

Data Qualifiers

HRMS Qualifier Set

B Indicates the associated analyte was found in the method blank at >1/10th the reported value.

E Estimated value. The reported concentration is above the calibration range of the instrument.

H Sample extracted and/or analyzed out of suggested holding time.

J Estimated value. The reported concentration is below the MRL.

K The ion abundance ratio between the primary and secondary ions were outside of theoretical acceptance limits.The concentration of this analyte should be considered as an estimate.

P Chlorodiphenyl ether interference was present at the retention time of the target analyte. Reported result should be considered an estimate.

Q Monitored lock-mass indicates matrix-interference. Reported result is estimated.

S Signal saturated detector. Result reported from dilution.

U Compound was analyzed for, but was not detected (ND).

X See Case Narrative.

Y Isotopically Labeled Standard recovery outside of acceptance limits. In all cases, the signal-to-nois ratios are greater than 10:1, making the recoveries acceptable.

i The MDL/MRL have been elevated due to a matrix interference.

ALS Laboratory Group

Acronyms

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01	11/30/2019
Arizona Department of Health Services	AZ0793	5/27/2019
Arkansas Department of Environmental Quality	17-027-0	3/27/2019
California Department of Health Services	2452	4/30/2019
Florida Department of Health	E87611	7/31/2019
Illinois Environmental Protection Agency	004112	5/29/2019
Kansas Department of Health and Environment	E-10406	7/31/2019
Louisiana Department of Environmental Quality	03048	6/30/2019
Louisiana Department of Health and Hospitals	LA150026	12/31/2018
Maine Center for Disease Control and Prevention	2014019	6/5/2020
Minnesota Department of Health	840911	12/31/2018
New Jersey Department of Environmental Protection	NLC140001	6/30/2019
New York Department of Health	11707	4/1/2019
Oklahoma Department of Environmental Quality	2014 124	8/31/2019
Pennsylvania Department of Environmental Protection	68-03441	6/30/2019
Tennessee Department of Environment and Concervation	04016	6/30/2019
Texas Commision on Environmental Quality	TX104704231-17-18	4/30/2019
Utah Department of Health Environmental Laboratory Certification	TX02694	7/3/2019
Washington Department of Health	c819	11/14/2018
West Virginia Department of Environmental Protection	347	6/30/2019

ALS ENVIRONMENTAL – Houston
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID: E1800770 | DB-5MSUI | SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date:	Analyst:	Samples:
08/31/18	[signature]	001, 002

Second Level - Data Review – to be filled by person doing peer review

Date:	Analyst:	Samples:
08/31/18	LM	001, 002

Chain of Custody

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

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

Chain Of Custody/ Laboratory Analysis Request

E1800770 5
ALS Environmental
EV18080100 Dioxins Furans Analysis

Date 8/20/18 Page 1 Of 1

PROJECT ID:	EV18080100
REPORT TO COMPANY:	ALS Environmental
PROJECT MANAGER:	Rick Bagan
ADDRESS:	8620 Holly Drive #100 Everett WA 98208
PHONE:	(425) 356-2600 P.O. #: 32-EV18080100
E-MAIL:	rick.bagan@alsglobal.com
INVOICE TO COMPANY:	
ATTENTION:	Same
ADDRESS:	

SAMPLE I.D.	DATE	TIME	TYPE	LAB#	NWTPH-HCID	NWTPH-DX	NWTPH-GX	BTEX by EPA 8021 ☐	BTEX by EPA 8260 ☐	MTBE by EPA 8021 ☐	MTBE by EPA 8260 ☐	Halogenated Volatiles by EPA 8260	Volatile Organic Compounds by EPA 8260	EDB / EDC by EPA 8260 SIM (water)	EDB / EDC by EPA 8260 (soil)	Semivolatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA 8270 SIM	PCB by EPA 8082 ☐	Pesticides by EPA 8081 ☐	Metals-MTCA-5 ☐	RCRA-8 ☐	Pri Pol ☐	TAL ☐	Metals Other (Specify)	TCLP-Metals ☐	VOA ☐	Semi-Vol ☐	Pest ☐	Herbs ☐	Dioxins/Furans by EPA-1613	NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?
1. EV18080100-07	8/17/18	1255	S																											X	1	
2. EV18080100-08	8/17/18	1305	S																											X	1	
3.																																
4.																																
5.																																
6.																																
7.																																
8.																																
9.																																
10.																																

SPECIAL INSTRUCTIONS Please email results by noon 8/31/18 (ALS National Contract Terracon)

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: Shawn Robinson ALS 8/20/18 9:58 am
   Received By:
2. Relinquished By:
   Received By: ALS 8/21/18 0858

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

Cooler Receipt Form

ALS Environmental

Project Chemist NB

Client/Project ALS Everett, WA / EV180801 00 Thermometer ID SM04

Date/Time Received: 8/21/18 0850 Initials: NB Date/Time Logged in: 8/21/18 Initials NB

1. Method of delivery: ○ US Mail ● Fed Ex ○ UPS ○ DHL ○ Courier ○ Client
2. Samples received in: ● Cooler ○ Box ○ Envelope ○ Other
3. Were custody seals on coolers? ○ Yes ● No — If yes, how many and where?
   Were they intact? ○ Yes ○ No ● N/A
   Were they signed and dated? ○ Yes ○ No ● N/A
4. Packing Material: ○ Inserts ○ Baggies ● Bubble Wrap ● Gel Packs ○ Wet Ice ○ Sleeves ○ Other
5. Foreign or Regulated Soil? ○ Yes ● No Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
8133 8630 1880		8/21/18	1503	NB	13.4/13.8	☐
						☐
						☐
						☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ● Yes ○ No
7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ● Yes ○ No
8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ● Yes ○ No
9. Were appropriate bottles/containers and volumes received for the requested tests? ● Yes ○ No
10. Did sample labels and tags agree with custody documents? ● Yes ○ No

Notes, Discrepancies, & Resolutions:

Service request Label: E1800770 5
ALS Environmental
EV18080100 Dioxins Furans Analysis

10450 Stancliff Rd., Suite 210
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SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sampleThe COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6ºC.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10ºC.
- ✓ Air samples are shipped and stored cold, at 0 to 6ºC
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

Preparation Information Benchsheets

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 320792 **Prep WorkFlow:** OrgExtS(365) **Status:** Prepped
Team: Semivoa GCMS/TWOODS **Prep Method:** Method Soxhlet **Prep Date/Time:** 8/28/18 11:00 AM

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E1800770-001	EV18080100-07	.01	1613B/Dioxins Furans			Soil	10.756g	Brown Mud
2	E1800770-002	EV18080100-08	.01	1613B/Dioxins Furans			Soil	10.596g	Grey Mud
3	E1800777-001	sludge	.01	1613B/Dioxins Furans			Sludge, Solid	10.566g	Brown Mud
4	EQ1800346-01	MB		1613B/Dioxins Furans			Solid	10.213g	
5	EQ1800346-02	LCS		1613B/Dioxins Furans			Solid	10.064g	
6	EQ1800346-03	DLCS		1613B/Dioxins Furans			Solid	10.283g	
7	J1805887-001	71623	.02	1613B/Dioxins Furans			Solid	10.259g	Brown + White Cardboard
8	K1806860-001	NDL38G16001-11 18-0863-001	.01	1613B/Dioxins Furans			Pulp Sheet	10.110g	APOSEY K- BALANCE -48 / White Paper Strips
9	K1807007-001	7/11/2018 18-0833-001	.01	1613B/Dioxins Furans			Paper	10.059g	White Paper Squares
10	K1807307-001	GT 18-030803015	.01	1613B/Dioxins Furans			Pulp Sheet	10.157g	White Paper Strips
11	K1807321-004	Composite	.01	1613B/Dioxins Furans			Paperboard	10.045g	Brown Paper Strips
12	K1807491-001	18-040807003	.02	1613B/Dioxins Furans			Paperboard	10.099g	White Paper Strips

Spiking Solutions

Name: 1613B Matrix Working Standard Inventory ID 192373 Logbook Ref: 192373 AL 8/9/18 2-20 ng/mL Expires On: 02/05/2019

EQ1800346-02	100.00µL	EQ1800346-03	100.00µL

Name: 8290/1613B Cleanup Working Standard Inventory ID 192605 Logbook Ref: TW 08/20/18 192605 8NG/ML Expires On: 10/27/2018

E1800770-001	100.00µL	E1800770-002	100.00µL	E1800777-001	100.00µL	EQ1800346-01	100.00µL	EQ1800346-02	100.00µL	EQ1800346-03	100.00µL
J1805887-001	100.00µL	K1806860-001	100.00µL	K1807007-001	100.00µL	K1807307-001	100.00µL	K1807321-004	100.00µL	K1807491-001	100.00µL

Name: 1613B Labeled Working Standard Inventory ID 192722 Logbook Ref: 192719 JG 8/27/18 2-4ngml Expires On: 01/09/2019

E1800770-001	1,000.00µL	E1800770-002	1,000.00µL	E1800777-001	1,000.00µL	EQ1800346-01	1,000.00µL	EQ1800346-02	1,000.00µL	EQ1800346-03	1,000.00µL
J1805887-001	1,000.00µL	K1806860-001	1,000.00µL	K1807007-001	1,000.00µL	K1807307-001	1,000.00µL	K1807321-004	1,000.00µL	K1807491-001	1,000.00µL

Preparation Materials

Carbon, High Purity	AL 8/10/18 (192392)	Ethyl Acetate 99.9% Minimum EtOAc	tw ethyl acet 080218 (192158)	Glass Wool	GLASS WOOL (190875)
Hexanes 95%	AL 7/30/18 (192056)	Dichloromethane (Methylene Chloride) 99.9% MeCl2	AL 6/28/18 (191236)	Sodium Hydroxide 1N NaOH	TW 6/14/18 (191093)
Sodium Sulfate Anhydrous Reagent Grade Na2SO4	AL 7/30/18 (192040)	Tridecane (n-Tridecane)	AL 7/30/18 (192037)	Silica Gel	AL 7/30/18 (192039)
sulfuric acid	SULFURIC ACID (190871)	Toluene 99.9% Minimum	AL 8/24/18 (192703)		

Preparation Information Benchsheet

Prep Run#: 320792 **Prep WorkFlow:** OrgExtS(365) **Status:** Prepped
Team: Semivoa GCMS/TWOODS **Prep Method:** Method Soxhlet **Prep Date/Time:** 8/28/18 11:00 AM

Preparation Steps

Step:	Extraction	Step:	Acid Clean	Step:	Silica Gel Clean	Step:	Final Volume
Started:	8/28/18 11:00	Started:	8/29/18 13:00	Started:	8/30/18 09:00	Started:	8/30/18 12:00
Finished:	8/29/18 07:00	Finished:	8/29/18 14:00	Finished:	8/30/18 12:00	Finished:	8/30/18 15:00
By:	ALOPEZ	By:	ALOPEZ	By:	ALOPEZ	By:	ALOPEZ
Comments		Comments		Comments		Comments	

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

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Analytical Results

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	08/17/18 12:55
Sample Matrix:	Soil	**Date Received:**	08/21/18 08:58
Sample Name:	EV18080100-07	**Units:**	ng/Kg
Lab Code:	E1800770-001	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 03:48
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.756g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614375	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	0.294	**JK**	0.125	0.677	0.39	1.000	1
1,2,3,7,8-PeCDD	1.40	**J**	0.0641	3.38	1.50	1.001	1
1,2,3,4,7,8-HxCDD	1.58	**J**	0.104	3.38	1.39	1.000	1
1,2,3,6,7,8-HxCDD	14.4		0.115	3.38	1.28	1.000	1
1,2,3,7,8,9-HxCDD	4.04		0.101	3.38	1.23	1.008	1
1,2,3,4,6,7,8-HpCDD	126		0.124	3.38	1.05	1.000	1
OCDD	589		0.234	6.77	0.91	1.000	1
2,3,7,8-TCDF	0.808		0.0695	0.677	0.69	1.001	1
1,2,3,7,8-PeCDF	0.704	**JK**	0.118	3.38	1.89	1.001	1
2,3,4,7,8-PeCDF	2.01	**J**	0.120	3.38	1.66	1.002	1
1,2,3,4,7,8-HxCDF	3.72		0.196	3.38	1.29	1.000	1
1,2,3,6,7,8-HxCDF	3.94		0.201	3.38	1.28	1.000	1
1,2,3,7,8,9-HxCDF	0.988	**J**	0.210	3.38	1.24	1.001	1
2,3,4,6,7,8-HxCDF	8.89		0.201	3.38	1.22	1.000	1
1,2,3,4,6,7,8-HpCDF	294		0.366	3.38	1.06	1.000	1
1,2,3,4,7,8,9-HpCDF	6.41		0.402	3.38	1.02	1.000	1
OCDF	669		0.0762	6.77	0.90	1.004	1

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	08/17/18 12:55
Sample Matrix:	Soil	**Date Received:**	08/21/18 08:58
Sample Name:	EV18080100-07	**Units:**	ng/Kg
Lab Code:	E1800770-001	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 03:48
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.756g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614375	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	11.1		0.125	0.677	0.80		1
Total Penta-Dioxins	15.5		0.0641	3.38	1.59		1
Total Hexa-Dioxins	74.4		0.106	3.38	1.28		1
Total Hepta-Dioxins	164		0.124	3.38	1.08		1
Total Tetra-Furans	15.8		0.0695	0.677	0.70		1
Total Penta-Furans	29.8		0.119	3.38	1.56		1
Total Hexa-Furans	268		0.202	3.38	1.23		1
Total Hepta-Furans	940		0.382	3.38	1.06		1

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	08/17/18 12:55
Sample Matrix:	Soil	**Date Received:**	08/21/18 08:58
Sample Name:	EV18080100-07	**Units:**	Percent
Lab Code:	E1800770-001	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 03:48
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.756g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614375	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	959.592	48		25-164	0.79	1.030
13C-1,2,3,7,8-PeCDD	2000	1291.071	65		25-181	1.58	1.246
13C-1,2,3,4,7,8-HxCDD	2000	1367.171	68		32-141	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1211.423	61		28-130	1.27	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1349.927	67		23-140	1.07	1.071
13C-OCDD	4000	1654.399	41		17-157	0.92	1.141
13C-2,3,7,8-TCDF	2000	1267.534	63		24-169	0.79	0.988
13C-1,2,3,7,8-PeCDF	2000	1513.672	76		24-185	1.60	1.192
13C-2,3,4,7,8-PeCDF	2000	1377.535	69		21-178	1.60	1.233
13C-1,2,3,4,7,8-HxCDF	2000	1549.245	77		26-152	0.54	0.968
13C-1,2,3,6,7,8-HxCDF	2000	1360.346	68		26-123	0.53	0.971
13C-1,2,3,7,8,9-HxCDF	2000	1702.232	85		29-147	0.53	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1456.253	73		28-136	0.54	0.986
13C-1,2,3,4,6,7,8-HpCDF	2000	1332.030	67		28-143	0.46	1.046
13C-1,2,3,4,7,8,9-HpCDF	2000	1566.301	78		26-138	0.46	1.083
37Cl-2,3,7,8-TCDD	800	574.225	72		35-197	NA	1.030

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	08/17/18 12:55
Sample Matrix:	Soil	**Date Received:**	08/21/18 08:58
Sample Name:	EV18080100-07	**Units:**	ng/Kg
Lab Code:	E1800770-001	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Soxhlet

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**0.294**	0.125	0.677	1	1	0.294
1,2,3,7,8-PeCDD	**1.40**	0.0641	3.38	1	1	1.40
1,2,3,4,7,8-HxCDD	**1.58**	0.104	3.38	1	0.1	0.158
1,2,3,6,7,8-HxCDD	**14.4**	0.115	3.38	1	0.1	1.44
1,2,3,7,8,9-HxCDD	**4.04**	0.101	3.38	1	0.1	0.404
1,2,3,4,6,7,8-HpCDD	**126**	0.124	3.38	1	0.01	1.26
OCDD	**589**	0.234	6.77	1	0.0003	0.177
2,3,7,8-TCDF	**0.808**	0.0695	0.677	1	0.1	0.0808
1,2,3,7,8-PeCDF	**0.704**	0.118	3.38	1	0.03	0.0211
2,3,4,7,8-PeCDF	**2.01**	0.120	3.38	1	0.3	0.603
1,2,3,4,7,8-HxCDF	**3.72**	0.196	3.38	1	0.1	0.372
1,2,3,6,7,8-HxCDF	**3.94**	0.201	3.38	1	0.1	0.394
1,2,3,7,8,9-HxCDF	**0.988**	0.210	3.38	1	0.1	0.0988
2,3,4,6,7,8-HxCDF	**8.89**	0.201	3.38	1	0.1	0.889
1,2,3,4,6,7,8-HpCDF	**294**	0.366	3.38	1	0.01	2.94
1,2,3,4,7,8,9-HpCDF	**6.41**	0.402	3.38	1	0.01	0.0641
OCDF	**669**	0.0762	6.77	1	0.0003	0.201
		Total TEQ				10.8

2005 WHO TEFs, ND = 0

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	08/17/18 12:55
Sample Matrix:	Soil	**Date Received:**	08/21/18 08:58
Sample Name:	EV18080100-07	**Units:**	Percent
Lab Code:	E1800770-001	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	08/30/18 10:46
	6.944g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	68.7		-	-			1

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	08/17/18 13:05
Sample Matrix:	Soil	**Date Received:**	08/21/18 08:58
Sample Name:	EV18080100-08	**Units:**	ng/Kg
Lab Code:	E1800770-002	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 04:37
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.596g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614376	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	0.323**JK**		0.166	0.648	0.60	1.001	1
1,2,3,7,8-PeCDD	ND	U	0.0599	3.24			1
1,2,3,4,7,8-HxCDD	ND	U	0.0445	3.24			1
1,2,3,6,7,8-HxCDD	0.0939**JK**		0.0493	3.24	0.73	1.000	1
1,2,3,7,8,9-HxCDD	0.0859**JK**		0.0431	3.24	0.84	1.008	1
1,2,3,4,6,7,8-HpCDD	3.06**J**		0.0608	3.24	1.06	1.001	1
OCDD	44.9		0.130	6.48	0.93	1.000	1
2,3,7,8-TCDF	0.593**J**		0.0423	0.648	0.77	1.001	1
1,2,3,7,8-PeCDF	0.0806**JK**		0.0479	3.24	1.05	1.001	1
2,3,4,7,8-PeCDF	ND	U	0.0480	3.24			1
1,2,3,4,7,8-HxCDF	0.166**JK**		0.0310	3.24	1.60	1.000	1
1,2,3,6,7,8-HxCDF	0.0856**JK**		0.0349	3.24	1.49	1.000	1
1,2,3,7,8,9-HxCDF	0.0980**JK**		0.0335	3.24	1.52	1.000	1
2,3,4,6,7,8-HxCDF	0.0640**J**		0.0300	3.24	1.10	1.000	1
1,2,3,4,6,7,8-HpCDF	0.759**J**		0.0360	3.24	1.02	1.000	1
1,2,3,4,7,8,9-HpCDF	0.110**JK**		0.0402	3.24	1.42	1.000	1
OCDF	7.13		0.108	6.48	0.92	1.004	1

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	08/17/18 13:05
Sample Matrix:	Soil	**Date Received:**	08/21/18 08:58
Sample Name:	EV18080100-08	**Units:**	ng/Kg
Lab Code:	E1800770-002	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 04:37
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.596g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614376	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	1.13		0.166	0.648	0.79		1
Total Penta-Dioxins	ND	U	0.0599	3.24			1
Total Hexa-Dioxins	0.925**J**		0.0456	3.24	1.29		1
Total Hepta-Dioxins	6.99		0.0608	3.24	1.07		1
Total Tetra-Furans	0.679		0.0423	0.648	0.70		1
Total Penta-Furans	ND	U	0.0479	3.24			1
Total Hexa-Furans	1.21**J**		0.0323	3.24	1.14		1
Total Hepta-Furans	0.759**J**		0.0379	3.24	1.02		1

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	08/17/18 13:05
Sample Matrix:	Soil	**Date Received:**	08/21/18 08:58
Sample Name:	EV18080100-08	**Units:**	Percent
Lab Code:	E1800770-002	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 04:37
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.596g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614376	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	683.335	34		25-164	0.78	1.030
13C-1,2,3,7,8-PeCDD	2000	991.517	50		25-181	1.57	1.246
13C-1,2,3,4,7,8-HxCDD	2000	1144.676	57		32-141	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1018.464	51		28-130	1.27	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1100.406	55		23-140	1.09	1.071
13C-OCDD	4000	1350.696	34		17-157	0.92	1.141
13C-2,3,7,8-TCDF	2000	899.459	45		24-169	0.78	0.988
13C-1,2,3,7,8-PeCDF	2000	1137.501	57		24-185	1.60	1.192
13C-2,3,4,7,8-PeCDF	2000	1051.085	53		21-178	1.59	1.233
13C-1,2,3,4,7,8-HxCDF	2000	1252.542	63		26-152	0.55	0.968
13C-1,2,3,6,7,8-HxCDF	2000	1018.803	51		26-123	0.53	0.971
13C-1,2,3,7,8,9-HxCDF	2000	1354.034	68		29-147	0.54	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1203.505	60		28-136	0.53	0.986
13C-1,2,3,4,6,7,8-HpCDF	2000	1108.054	55		28-143	0.46	1.046
13C-1,2,3,4,7,8,9-HpCDF	2000	1294.871	65		26-138	0.46	1.083
37Cl-2,3,7,8-TCDD	800	419.459	52		35-197	NA	1.030

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	08/17/18 13:05
Sample Matrix:	Soil	**Date Received:**	08/21/18 08:58
Sample Name:	EV18080100-08	**Units:**	ng/Kg
Lab Code:	E1800770-002	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Soxhlet

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**0.323**	0.166	0.648	1	1	0.323
1,2,3,7,8-PeCDD	ND	0.0599	3.24	1	1	
1,2,3,4,7,8-HxCDD	ND	0.0445	3.24	1	0.1	
1,2,3,6,7,8-HxCDD	**0.0939**	0.0493	3.24	1	0.1	0.00939
1,2,3,7,8,9-HxCDD	**0.0859**	0.0431	3.24	1	0.1	0.00859
1,2,3,4,6,7,8-HpCDD	**3.06**	0.0608	3.24	1	0.01	0.0306
OCDD	**44.9**	0.130	6.48	1	0.0003	0.0135
2,3,7,8-TCDF	**0.593**	0.0423	0.648	1	0.1	0.0593
1,2,3,7,8-PeCDF	**0.0806**	0.0479	3.24	1	0.03	0.00242
2,3,4,7,8-PeCDF	ND	0.0480	3.24	1	0.3	
1,2,3,4,7,8-HxCDF	**0.166**	0.0310	3.24	1	0.1	0.0166
1,2,3,6,7,8-HxCDF	**0.0856**	0.0349	3.24	1	0.1	0.00856
1,2,3,7,8,9-HxCDF	**0.0980**	0.0335	3.24	1	0.1	0.00980
2,3,4,6,7,8-HxCDF	**0.0640**	0.0300	3.24	1	0.1	0.00640
1,2,3,4,6,7,8-HpCDF	**0.759**	0.0360	3.24	1	0.01	0.00759
1,2,3,4,7,8,9-HpCDF	**0.110**	0.0402	3.24	1	0.01	0.00110
OCDF	**7.13**	0.108	6.48	1	0.0003	0.00214
		Total TEQ				0.499

2005 WHO TEFs, ND = 0

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	08/17/18 13:05
Sample Matrix:	Soil	**Date Received:**	08/21/18 08:58
Sample Name:	EV18080100-08	**Units:**	Percent
Lab Code:	E1800770-002	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	08/30/18 10:46
	5.88g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	72.8		-	-			1

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/Kg
Lab Code:	EQ1800346-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 00:31
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.213g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614371	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.135	0.490			1
1,2,3,7,8-PeCDD	ND	U	0.0371	2.45			1
1,2,3,4,7,8-HxCDD	ND	U	0.0219	2.45			1
1,2,3,6,7,8-HxCDD	ND	U	0.0242	2.45			1
1,2,3,7,8,9-HxCDD	ND	U	0.0211	2.45			1
1,2,3,4,6,7,8-HpCDD	0.104**J**		0.0215	2.45	1.02	1.000	1
OCDD	0.522**JK**		0.0930	4.90	1.29	1.000	1
2,3,7,8-TCDF	ND	U	0.0525	0.490			1
1,2,3,7,8-PeCDF	ND	U	0.0246	2.45			1
2,3,4,7,8-PeCDF	ND	U	0.0254	2.45			1
1,2,3,4,7,8-HxCDF	ND	U	0.0167	2.45			1
1,2,3,6,7,8-HxCDF	ND	U	0.0153	2.45			1
1,2,3,7,8,9-HxCDF	ND	U	0.0194	2.45			1
2,3,4,6,7,8-HxCDF	ND	U	0.0164	2.45			1
1,2,3,4,6,7,8-HpCDF	0.0361**J**		0.0187	2.45	0.95	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.0232	2.45			1
OCDF	0.203**JK**		0.0860	4.90	0.73	1.005	1

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/Kg
Lab Code:	EQ1800346-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 00:31
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.213g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614371	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.135	0.490			1
Total Penta-Dioxins	ND	U	0.0371	2.45			1
Total Hexa-Dioxins	ND	U	0.0223	2.45			1
Total Hepta-Dioxins	0.248**J**		0.0215	2.45	0.95		1
Total Tetra-Furans	ND	U	0.0525	0.490			1
Total Penta-Furans	ND	U	0.0250	2.45			1
Total Hexa-Furans	ND	U	0.0169	2.45			1
Total Hepta-Furans	0.0533**J**		0.0206	2.45	0.95		1

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	Percent
Lab Code:	EQ1800346-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 00:31
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.213g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614371	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	801.114	40		25-164	0.78	1.030
13C-1,2,3,7,8-PeCDD	2000	1120.956	56		25-181	1.57	1.247
13C-1,2,3,4,7,8-HxCDD	2000	1287.564	64		32-141	1.27	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1077.807	54		28-130	1.25	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1218.386	61		23-140	1.08	1.071
13C-OCDD	4000	1454.995	36		17-157	0.92	1.141
13C-2,3,7,8-TCDF	2000	1059.217	53		24-169	0.79	0.988
13C-1,2,3,7,8-PeCDF	2000	1306.856	65		24-185	1.60	1.193
13C-2,3,4,7,8-PeCDF	2000	1189.104	59		21-178	1.59	1.234
13C-1,2,3,4,7,8-HxCDF	2000	1414.797	71		26-152	0.53	0.968
13C-1,2,3,6,7,8-HxCDF	2000	1288.655	64		26-123	0.53	0.971
13C-1,2,3,7,8,9-HxCDF	2000	1368.791	68		29-147	0.54	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1309.666	65		28-136	0.54	0.986
13C-1,2,3,4,6,7,8-HpCDF	2000	1219.753	61		28-143	0.46	1.046
13C-1,2,3,4,7,8,9-HpCDF	2000	1305.279	65		26-138	0.46	1.083
37Cl-2,3,7,8-TCDD	800	457.839	57		35-197	NA	1.031

Accuracy & Precision

ALS Environmental - Houston HRMS
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Phone (713)266-1599 Fax (713)266-0130
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Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Analyzed:**	08/31/18
Sample Matrix:	Soil	**Date Extracted:**	08/28/18

Duplicate Lab Control Sample Summary
Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Units:**	ng/Kg
Prep Method:	Method Soxhlet	**Basis:**	Dry
		Analysis Lot:	604995

	Lab Control Sample EQ1800346-02			Duplicate Lab Control Sample EQ1800346-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2,3,4,6,7,8-HpCDD	89.5	99.4	90	87.3	97.2	90	70-140	2	50
1,2,3,4,7,8-HxCDD	114	99.4	115	102	97.2	105	70-164	11	50
1,2,3,6,7,8-HxCDD	111	99.4	111	109	97.2	112	76-134	2	50
1,2,3,7,8,9-HxCDD	115	99.4	116	93.9	97.2	97	64-162	20	50
1,2,3,7,8-PeCDD	107	99.4	108	106	97.2	109	70-142	1	50
2,3,7,8-TCDD	26.9	19.9	136	26.9	19.4	138	67-158	<1	50
OCDD	208	199	105	206	194	106	78-144	1	50
1,2,3,4,6,7,8-HpCDF	103	99.4	104	103	97.2	106	82-122	<1	50
1,2,3,4,7,8,9-HpCDF	108	99.4	109	106	97.2	109	78-138	2	50
1,2,3,4,7,8-HxCDF	106	99.4	107	107	97.2	110	72-134	<1	50
1,2,3,6,7,8-HxCDF	104	99.4	105	104	97.2	107	84-130	<1	50
1,2,3,7,8,9-HxCDF	103	99.4	104	103	97.2	106	78-130	<1	50
1,2,3,7,8-PeCDF	99.8	99.4	100	99.3	97.2	102	80-134	<1	50
2,3,4,6,7,8-HxCDF	105	99.4	106	106	97.2	109	70-156	<1	50
2,3,4,7,8-PeCDF	109	99.4	110	109	97.2	112	68-160	<1	50
2,3,7,8-TCDF	19.3	19.9	97	19.2	19.4	99	75-158	<1	50
OCDF	259	199	130	273	194	140	63-170	5	50

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1800346-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 05:26
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.064g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614377	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	26.9		0.0885	0.497	0.78	1.001	1
1,2,3,7,8-PeCDD	107		0.0321	2.48	1.55	1.001	1
1,2,3,4,7,8-HxCDD	114		0.0268	2.48	1.24	1.000	1
1,2,3,6,7,8-HxCDD	111		0.0193	2.48	1.28	1.000	1
1,2,3,7,8,9-HxCDD	115		0.0208	2.48	1.25	1.007	1
1,2,3,4,6,7,8-HpCDD	89.5		0.0205	2.48	1.06	1.000	1
OCDD	208		0.141	4.97	0.90	1.000	1
2,3,7,8-TCDF	19.3		0.0296	0.497	0.79	1.001	1
1,2,3,7,8-PeCDF	99.8		0.0240	2.48	1.60	1.000	1
2,3,4,7,8-PeCDF	109		0.0251	2.48	1.59	1.001	1
1,2,3,4,7,8-HxCDF	106		0.0270	2.48	1.26	1.000	1
1,2,3,6,7,8-HxCDF	104		0.0256	2.48	1.26	1.000	1
1,2,3,7,8,9-HxCDF	103		0.0305	2.48	1.27	1.000	1
2,3,4,6,7,8-HxCDF	105		0.0263	2.48	1.25	1.000	1
1,2,3,4,6,7,8-HpCDF	103		0.0913	2.48	1.06	1.000	1
1,2,3,4,7,8,9-HpCDF	108		0.115	2.48	1.07	1.000	1
OCDF	259		0.258	4.97	0.91	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1800346-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 05:26
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.064g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614377	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	26.9		0.0885	0.497	0.78		1
Total Penta-Dioxins	107		0.0321	2.48	1.55		1
Total Hexa-Dioxins	340		0.0220	2.48	1.24		1
Total Hepta-Dioxins	89.5		0.0205	2.48	1.06		1
Total Tetra-Furans	19.5		0.0296	0.497	0.87		1
Total Penta-Furans	211		0.0246	2.48	1.68		1
Total Hexa-Furans	418		0.0272	2.48	1.26		1
Total Hepta-Furans	211		0.102	2.48	1.06		1

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	Percent
Lab Code:	EQ1800346-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 05:26
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.064g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614377	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	933.509	47		25-164	0.78	1.030
13C-1,2,3,7,8-PeCDD	2000	1204.542	60		25-181	1.57	1.247
13C-1,2,3,4,7,8-HxCDD	2000	1054.539	53		32-141	1.26	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1174.258	59		28-130	1.28	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1362.388	68		23-140	1.07	1.071
13C-OCDD	4000	1673.722	42		17-157	0.92	1.141
13C-2,3,7,8-TCDF	2000	1271.012	64		24-169	0.79	0.988
13C-1,2,3,7,8-PeCDF	2000	1450.338	73		24-185	1.59	1.193
13C-2,3,4,7,8-PeCDF	2000	1298.481	65		21-178	1.61	1.234
13C-1,2,3,4,7,8-HxCDF	2000	1548.648	77		26-152	0.53	0.968
13C-1,2,3,6,7,8-HxCDF	2000	1423.211	71		26-123	0.53	0.971
13C-1,2,3,7,8,9-HxCDF	2000	1545.852	77		29-147	0.53	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1491.931	75		28-136	0.53	0.986
13C-1,2,3,4,6,7,8-HpCDF	2000	1350.527	68		28-143	0.46	1.046
13C-1,2,3,4,7,8,9-HpCDF	2000	1456.496	73		26-138	0.46	1.083
37Cl-2,3,7,8-TCDD	800	533.818	67		35-197	NA	1.031

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1800346-03	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 06:16
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.283g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614378	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	26.9		0.134	0.486	0.77	1.001	1
1,2,3,7,8-PeCDD	106		0.0366	2.43	1.56	1.001	1
1,2,3,4,7,8-HxCDD	102		0.0223	2.43	1.28	1.000	1
1,2,3,6,7,8-HxCDD	109		0.0251	2.43	1.29	1.001	1
1,2,3,7,8,9-HxCDD	93.9		0.0217	2.43	1.27	1.008	1
1,2,3,4,6,7,8-HpCDD	87.3		0.0304	2.43	1.09	1.000	1
OCDD	206		0.216	4.86	0.91	1.000	1
2,3,7,8-TCDF	19.2		0.0477	0.486	0.79	1.001	1
1,2,3,7,8-PeCDF	99.3		0.0224	2.43	1.58	1.001	1
2,3,4,7,8-PeCDF	109		0.0228	2.43	1.58	1.001	1
1,2,3,4,7,8-HxCDF	107		0.0232	2.43	1.25	1.000	1
1,2,3,6,7,8-HxCDF	104		0.0224	2.43	1.26	1.000	1
1,2,3,7,8,9-HxCDF	103		0.0315	2.43	1.28	1.000	1
2,3,4,6,7,8-HxCDF	106		0.0244	2.43	1.25	1.000	1
1,2,3,4,6,7,8-HpCDF	103		0.108	2.43	1.05	1.000	1
1,2,3,4,7,8,9-HpCDF	106		0.134	2.43	1.04	1.000	1
OCDF	273		0.0840	4.86	0.92	1.005	1

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1800346-03	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 06:16
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.283g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614378	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	26.9		0.134	0.486	0.77		1
Total Penta-Dioxins	106		0.0366	2.43	1.56		1
Total Hexa-Dioxins	305		0.0230	2.43	1.28		1
Total Hepta-Dioxins	87.3		0.0304	2.43	1.09		1
Total Tetra-Furans	19.7		0.0477	0.486	0.75		1
Total Penta-Furans	210		0.0226	2.43	1.57		1
Total Hexa-Furans	420		0.0249	2.43	1.25		1
Total Hepta-Furans	209		0.119	2.43	1.05		1

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	Percent
Lab Code:	EQ1800346-03	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 06:16
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.283g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614378	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	736.042	37		25-164	0.80	1.030
13C-1,2,3,7,8-PeCDD	2000	1040.857	52		25-181	1.58	1.246
13C-1,2,3,4,7,8-HxCDD	2000	1166.940	58		32-141	1.30	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1042.527	52		28-130	1.27	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1098.275	55		23-140	1.06	1.072
13C-OCDD	4000	1115.351	28		17-157	0.91	1.141
13C-2,3,7,8-TCDF	2000	1026.925	51		24-169	0.79	0.988
13C-1,2,3,7,8-PeCDF	2000	1210.293	61		24-185	1.60	1.192
13C-2,3,4,7,8-PeCDF	2000	1108.816	55		21-178	1.59	1.234
13C-1,2,3,4,7,8-HxCDF	2000	1342.117	67		26-152	0.53	0.968
13C-1,2,3,6,7,8-HxCDF	2000	1238.835	62		26-123	0.54	0.971
13C-1,2,3,7,8,9-HxCDF	2000	1167.654	58		29-147	0.53	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1221.330	61		28-136	0.54	0.986
13C-1,2,3,4,6,7,8-HpCDF	2000	1099.595	55		28-143	0.46	1.046
13C-1,2,3,4,7,8,9-HpCDF	2000	1151.933	58		26-138	0.45	1.083
37Cl-2,3,7,8-TCDD	800	427.768	53		35-197	NA	1.031

September 13, 2018 Service Request No:E1800806

Rick Bagan
ALS Environmental
8620 Holly Drive #100
Everett, WA 98208

Laboratory Results for: EV18080100

Dear Rick,

Enclosed are the results of the sample(s) submitted to our laboratory September 04, 2018
For your reference, these analyses have been assigned our service request number **E1800806.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and except as noted in the laboratory case narrative provided. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the final complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the TNI 2009 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My direct line is 281-575-2146. You may also contact me via email at Corey.Grandits@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Corey Grandits
Project Manager

ADDRESS 10450 Stancliff Rd., Suite 210, Houston, TX 77099
PHONE +1 281 530 5656 | FAX +1 281 561 6125
ALS Group USA, Corp.
dba ALS Environmental

Certificate of Analysis

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Environmental

Client:	ALS Environmental - Everett	**Service Request No.:**	E1800806
Project:	EV18080100	**Date Received:**	09/04/18
Sample Matrix:	Soil		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

One soil sample was received for analysis at ALS Environmental in Houston on 09/04/18.

The sample was received at 23.5°C in good condition and is consistent with the accompanying chain of custody form. Dioxin/furan compounds are stable at room temperature. The sample was stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ1800356: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of a MS/MSD for this extraction batch. The LCS and DLCS recoveries are within control limits.

B flags – Method Blanks

The Method Blank EQ1800356-01 contained low levels of select target compounds above the EDL however below the Method Reporting Limit (MRL).

The associated compounds in the samples are flagged with 'B' flags where the sample result is less than ten times the level detected in the method blank.

Y flag – Cleanup Standard

The recovery for the cleanup standard, 37Cl-2,3,7,8-TCDD is below control limits in the Method Blank. The sample results are not affected since this labeled standard is provided as a means of demonstrating that both the sample extraction and subsequent cleanup steps performed as expected, and is not used in quantitation of target analytes.

Y flags – Labeled Standards

Select labeled standards recovered below control limits in the Method Blank.

Quantification of the native 2,3,7,8-substituted congeners is based on isotopic dilution, which automatically corrects for variation in extraction efficiency and provides accurate values even with poor recovery. Samples that had recoveries of labeled standards outside the acceptance limits are qualified with 'Y' flags on the Labeled Compound summary pages. In all cases, the signal-to-noise ratios are greater than 10:1 and detection limits were below the Method Reporting Limits.

K flags

EMPC - When the ion abundance ratios associated with a particular compound are outside the QC limits, samples are flagged with a 'K' flag. A 'K' flag indicates an estimated maximum possible concentration for the associated compound.

2378-TCDF

Samples analyzed on the DB-5MSUI column were analyzed under conditions where sufficient separation between 2,3,7,8-TCDF and its closest eluter was achieved. Confirmation of this result was not required.

Detection Limits

Detection limits are calculated for each analyte in each sample by measuring the height of the noise level for each quantitation ion for the associated labeled standard. The concentration equivalent to 2.5 times the height of the noise is then calculated using the appropriate response factor and the weight of the sample. The calculated concentration equals the detection limit.

The TEQ Summary results for each sample have been calculated by ALS/Houston to include:

- WHO-2005 TEFs, The 2005 World Health Organization Reevaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-Like Compounds (M. Van den Berg et al., Toxicological Sciences 93(2):223-241, 2006)
- 2378-TCDF from the DB-225 column, when confirmation required
- Non-detected compounds are not included in the 'Total'

Client: ALS Environmental - Everett **Service Request:**E1800806
Project: EV18080100

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E1800806-001	EV18080100-01 B6-3	8/17/2018	0805

Service Request Summary

Folder #: **E1800806**
Client Name: ALS Environmental - Everett
Project Name: EV18080100
Project Number:

Report To: Rick Bagan
ALS Environmental
8620 Holly Drive #100
Everett, WA 98208
USA
Phone Number: 425-356-2600
Cell Number:
Fax Number:
E-mail: rick.bagan@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: ALOPEZ
Date Received: 09/04/18
Internal Due Date: 9/14/2018
QAP: LAB QAP
Qualifier Set: HRMS Qualifier Set
Formset: Lab Standard
Merged?: N, Y
Report to MDL?: Y
P.O. Number: EV18080100
EDD: No EDD Specified

1 4 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
1 -N/A N/A
Location: EHRMS-WIC 9B, SMO
Pressure Gas:

				HOUSTON	
Lab Samp No.	**Client Samp No**	**Matrix**	**Collected**	Dioxins Furans/1613B	Total Solids/ALS SOP
E1800806-001	EV18080100-01	Soil	08/17/18 0805	II	II

Service Request Summary

Folder #:	**E1800806**
Client Name:	ALS Environmental - Everett
Project Name:	EV18080100
Project Number:	

Report To:	Rick Bagan ALS Environmental 8620 Holly Drive #100 Everett, WA 98208 USA
Phone Number:	425-356-2600
Cell Number:	
Fax Number:	
E-mail:	rick.bagan@alsglobal.com

Project Chemist:	Corey Grandits
Originating Lab:	HOUSTON
Logged By:	ALOPEZ
Date Received:	09/04/18
Internal Due Date:	9/14/2018
QAP:	LAB QAP
Qualifier Set:	HRMS Qualifier Set
Formset:	Lab Standard
Merged?:	N, Y
Report to MDL?:	Y
P.O. Number:	EV18080100
EDD:	No EDD Specified

1 4 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
1 -N/A N/A

Location: EHRMS-WIC 9B, SMO

Pressure Gas:

Data Qualifiers

HRMS Qualifier Set

B Indicates the associated analyte was found in the method blank at >1/10th the reported value.

E Estimated value. The reported concentration is above the calibration range of the instrument.

H Sample extracted and/or analyzed out of suggested holding time.

J Estimated value. The reported concentration is below the MRL.

K The ion abundance ratio between the primary and secondary ions were outside of theoretical acceptance limits.The concentration of this analyte should be considered as an estimate.

P Chlorodiphenyl ether interference was present at the retention time of the target analyte. Reported result should be considered an estimate.

Q Monitored lock-mass indicates matrix-interference. Reported result is estimated.

S Signal saturated detector. Result reported from dilution.

U Compound was analyzed for, but was not detected (ND).

X See Case Narrative.

Y Isotopically Labeled Standard recovery outside of acceptance limits. In all cases, the signal-to-nois ratios are greater than 10:1, making the recoveries acceptable.

i The MDL/MRL have been elevated due to a matrix interference.

ALS Laboratory Group

Acronyms

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01	11/30/2019
Arizona Department of Health Services	AZ0793	5/27/2019
Arkansas Department of Environmental Quality	17-027-0	3/27/2019
California Department of Health Services	2452	4/30/2019
Florida Department of Health	E87611	7/31/2019
Illinois Environmental Protection Agency	004112	5/29/2019
Kansas Department of Health and Environment	E-10406	7/31/2019
Louisiana Department of Environmental Quality	03048	6/30/2019
Louisiana Department of Health and Hospitals	LA150026	12/31/2018
Maine Center for Disease Control and Prevention	2014019	6/5/2020
Minnesota Department of Health	840911	12/31/2018
New Jersey Department of Environmental Protection	NLC140001	6/30/2019
New York Department of Health	11707	4/1/2019
Oklahoma Department of Environmental Quality	2014 124	8/31/2019
Pennsylvania Department of Environmental Protection	68-03441	6/30/2019
Tennessee Department of Environment and Concervation	04016	6/30/2019
Texas Commision on Environmental Quality	TX104704231-17-18	4/30/2019
Utah Department of Health Environmental Laboratory Certification	TX02694	7/3/2019
Washington Department of Health	c819	11/14/2018
West Virginia Department of Environmental Protection	347	6/30/2019

ALS ENVIRONMENTAL – Houston
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID: E1800806 | DB-5MSUI | SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date:	Analyst:	Samples:
09/13/18	LKL	001

Second Level - Data Review – to be filled by person doing peer review

Date:	Analyst:	Samples:
9/13/18	LG	001

Chain of Custody

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

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

Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only)

Date 8/31/18 Page 1 Of 1

PROJECT ID:	EV18080100
REPORT TO COMPANY:	ALS Environmental
PROJECT MANAGER:	Rick Bagan
ADDRESS:	8620 Holly Drive #100
	Everett WA 98208
PHONE:	(425) 356-2600 P.O. #: 32-EV18080100-1
E-MAIL:	rick.bagan@alsglobal.com
INVOICE TO COMPANY:	
ATTENTION:	Same
ADDRESS:	

ANALYSIS REQUESTED

OTHER (Specify)

SAMPLE I.D.	DATE	TIME	TYPE	LAB#	NWTPH-HCID	NWTPH-DX	NWTPH-GX	BTEX by EPA 8021 ☐ BTEX by EPA 8260 ☐	MTBE by EPA 8021 ☐ MTBE by EPA 8260 ☐	Halogenated Volatiles by EPA 8260	Volatile Organic Compounds by EPA 8260	EDB / EDC by EPA 8260 SIM (water)	EDB / EDC by EPA 8260 (soil)	Semivolatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA 8270 SIM	PCB by EPA 8082 ☐ Pesticides by EPA 8081 ☐	Metals-MTCA-5 ☐ RCRA-8 ☐ Pri Pol ☐ TAL ☐	Metals Other (Specify)	TCLP-Metals ☐ VOA ☐ Semi-Vol ☐ Pest ☐ Herbs ☐	OTHER (Specify)	NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?
1. EV18080100-01	8/17/18	0805	S																X Dioxins/Furans by EPA-1613	1	
2.																						
3.																						
4.																						
5.																						
6.																						
7.																						
8.																						
9.																						
10.																						

E1800806
ALS Environmental
Dioxin
5

SPECIAL INSTRUCTIONS Please email results by noon 9/11/18 or AS SOON AS POSSIBLE RUSH PLEASE. Thank you. (ALS National Contract for Terracon)

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: Shawn Robinson ALS 8/31/18 2:45pm
   Received By: ALS 9/4/18 11:10
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

Cooler Receipt Form

ALS Environmental

Project Chemist NB

Client/Project ALS Environmental

Thermometer ID SMG 4

Date/Time Received: 9/4/18 11:10 Initials: AL

Date/Time Logged in: 9/4/18 Initials AL

1. Method of delivery: ○ US Mail ✓ Fed Ex ○ UPS ○ DHL ○ Courier ○ Client

2. Samples received in: ✓ Cooler ○ Box ○ Envelope ○ Other _____

3. Were custody seals on coolers? ○ Yes ✓ No

Were they intact? ○ Yes ○ No ✓ N/A

Were they signed and dated? ○ Yes ○ No ✓ N/A

If yes, how many and where? No Seals

4. Packing Material: ○ Inserts ○ Baggies ○ Bubble Wrap ✓ Gel Packs ○ Wet Ice ○ Sleeves ✓ Other Packing Paper

5. Foreign or Regulated Soil? ○ Yes ✓ No Location of Sampling: _____

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
8133 8630 1857		9/4/18	11:30	AL	23.1/23.5	☐
						☐
						☐
						☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ✓ Yes ○ No

7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ✓ Yes ○ No

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ✓ Yes ○ No

9. Were appropriate bottles/containers and volumes received for the requested tests? ✓ Yes ○ No

10. Did sample labels and tags agree with custody documents? ✓ Yes ○ No

Notes, Discrepancies, & Resolutions:

Service request Label:

E1800806
ALS Environmental
Dioxin
5

10450 Stancliff Rd., Suite 210
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SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sampleThe COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6ºC.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10ºC.
- ✓ Air samples are shipped and stored cold, at 0 to 6ºC
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

Preparation Information Benchsheets

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 321237 **Prep WorkFlow:** OrgExtS(365) **Status:** Prepped
Team: Semivoa GCMS/ALOPEZ **Prep Method:** Method Soxhlet **Prep Date/Time:** 9/5/18 11:00 AM

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E1800790-003	SD1808301130JTM	.01	1613B/Dioxins Furans			Sediment	10.172g	Black Mud
2	E1800804-001	18-08018	.01	1613B/Dioxins Furans			Solid	10.468g	Brown Sand + Rocks
3	E1800804-002	18-08019	.01	1613B/Dioxins Furans			Solid	10.852g	Brown Sand + Rocks
4	E1800806-001	EV18080100-01	.01	1613B/Dioxins Furans			Soil	10.020g	Brown Mud
5	E1800807-001	HS18090008-01	.01	1613B/Dioxins Furans			Soil	10.820g	Black Dirt
6	E1800807-002	HS18090008-02	.01	1613B/Dioxins Furans			Soil	10.345g	Black Dirt
7	E1800807-003	HS18090008-03	.01	1613B/Dioxins Furans			Soil	10.599g	Brown Dirt
8	E1800807-004	HS18090008-04	.01	1613B/Dioxins Furans			Soil	10.099g	Black Dirt
9	EQ1800356-01	MB		1613B/Dioxins Furans			Solid	10.438g	
10	EQ1800356-02	LCS		1613B/Dioxins Furans			Solid	10.061g	
11	EQ1800356-03	DLCS		1613B/Dioxins Furans			Solid	10.185g	
12	J1806201-007	72126 8-01-2018 23:21	.03	1613B/Dioxins Furans			Solid	10.684g	Brown + White Cardboard
13	K1808066-001	Clarifier solids, screw press	.01	1613B/Dioxins Furans			Soil	10.167g	Brown Paper Pulp

Spiking Solutions

Name: 1613B Labeled Working Standard Inventory ID 192472 Logbook Ref: 192471 2-4NGML JG 8/15/18 Expires On: 01/09/2019

E1800790-003	1,000.00µL	E1800804-001	1,000.00µL	E1800804-002	1,000.00µL	E1800806-001	1,000.00µL	E1800807-001	1,000.00µL	E1800807-002	1,000.00µL
E1800807-003	1,000.00µL	E1800807-004	1,000.00µL	EQ1800356-01	1,000.00µL	EQ1800356-02	1,000.00µL	EQ1800356-03	1,000.00µL	J1806201-007	1,000.00µL
K1808066-001	1,000.00µL										

Name: 1613B Labeled Working Standard Inventory ID 192719 Logbook Ref: 192719 JG 8/27/18 2-4ngml Expires On: 01/09/2019

E1800807-001	1,000.00µL	E1800807-002	1,000.00µL	E1800807-003	1,000.00µL	E1800807-004	1,000.00µL

Name: 1613B Matrix Working Standard Inventory ID 192792 Logbook Ref: 192792 AL 8/29/18 2-20 ng/mL Expires On: 02/25/2019

EQ1800356-02	100.00µL	EQ1800356-03	100.00µL

Name: 8290/1613B Cleanup Working Standard Inventory ID 192951 Logbook Ref: 192951 tw 090618 8ng/ml Expires On: 10/27/2018

E1800790-003	100.00µL	E1800804-001	100.00µL	E1800804-002	100.00µL	E1800806-001	100.00µL	E1800807-001	100.00µL	E1800807-002	100.00µL
E1800807-003	100.00µL	E1800807-004	100.00µL	EQ1800356-01	100.00µL	EQ1800356-02	100.00µL	EQ1800356-03	100.00µL	J1806201-007	100.00µL
K1808066-001	100.00µL										

Preparation Information Benchsheet

Prep Run#: 321237 **Prep WorkFlow:** OrgExtS(365) **Status:** Prepped
Team: Semivoa GCMS/ALOPEZ **Prep Method:** Method Soxhlet **Prep Date/Time:** 9/5/18 11:00 AM

Preparation Materials

Carbon, High Purity	AL 8/10/18 (192392)	Ethyl Acetate 99.9% Minimum EtOAc	tw ethyl acet 080218 (192158)	Glass Wool	AL 8/20/18 (192604)
Hexanes 95%	AL 9/4/18 (192875)	Dichloromethane (Methylene Chloride) 99.9% MeCl2	AL 9/5/18 (192924)	Sodium Chloride Reagent Grade NaCl	AL 3/23/18 (188853)
Sodium Sulfate Anhydrous Reagent Grade Na2SO4	AL 7/30/18 (192040)	Tridecane (n-Tridecane)	AL 7/30/18 (192037)	Silica Gel	AL 7/30/18 (192039)
Toluene 99.9% Minimum	AL 9/4/18 (192874)	sulfuric acid	SULFURIC ACID (190871)	Sodium Hydroxide 1N NaOH	TW 6/14/18 (191093)

Preparation Steps

Step:	Extraction	Step:	Acid Clean	Step:	Silica Gel Clean	Step:	Final Volume
Started:	9/5/18 11:00	Started:	9/10/18 08:00	Started:	9/10/18 10:00	Started:	9/11/18 11:00
Finished:	9/6/18 07:00	Finished:	9/10/18 09:00	Finished:	9/10/18 13:00	Finished:	9/11/18 14:00
By:	ALOPEZ	By:	ALOPEZ	By:	ALOPEZ	By:	ALOPEZ
Comments		Comments		Comments		Comments	

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Collected:**	08/17/18 08:05
Sample Matrix:	Soil	**Date Received:**	09/04/18 11:10
Sample Name:	EV18080100-01	**Units:**	ng/Kg
Lab Code:	E1800806-001	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/11/18 21:38
Prep Method:	Method Soxhlet	**Date Extracted:**	9/5/18
Sample Amount:	10.020g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P517584	**Blank File Name:**	P614520
ICAL Date:	01/24/18	**Cal Ver. File Name:**	P517575

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.214	0.753			1
1,2,3,7,8-PeCDD	0.271**JK**		0.0961	3.76	0.91	1.001	1
1,2,3,4,7,8-HxCDD	ND	U	0.180	3.76			1
1,2,3,6,7,8-HxCDD	ND	U	0.189	3.76			1
1,2,3,7,8,9-HxCDD	ND	U	0.180	3.76			1
1,2,3,4,6,7,8-HpCDD	2.61**J**		0.0454	3.76	1.08	1.000	1
OCDD	31.8		0.152	7.53	0.87	1.000	1
2,3,7,8-TCDF	0.499**JK**		0.122	0.753	0.59	1.001	1
1,2,3,7,8-PeCDF	0.264**J**		0.152	3.76	1.73	1.000	1
2,3,4,7,8-PeCDF	0.811**J**		0.151	3.76	1.37	1.002	1
1,2,3,4,7,8-HxCDF	0.243**BJ**		0.0446	3.76	1.06	1.000	1
1,2,3,6,7,8-HxCDF	0.281**BJ**		0.0395	3.76	1.12	1.000	1
1,2,3,7,8,9-HxCDF	0.150**BJ**		0.0434	3.76	1.19	1.001	1
2,3,4,6,7,8-HxCDF	0.380**BJ**		0.0401	3.76	1.21	1.000	1
1,2,3,4,6,7,8-HpCDF	0.492**BJ**		0.0640	3.76	0.96	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.0791	3.76			1
OCDF	0.867**BJK**		0.158	7.53	1.23	1.005	1

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Collected:**	08/17/18 08:05
Sample Matrix:	Soil	**Date Received:**	09/04/18 11:10
Sample Name:	EV18080100-01	**Units:**	ng/Kg
Lab Code:	E1800806-001	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/11/18 21:38
Prep Method:	Method Soxhlet	**Date Extracted:**	9/5/18
Sample Amount:	10.020g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P517584	**Blank File Name:**	P614520
ICAL Date:	01/24/18	**Cal Ver. File Name:**	P517575

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	10.4		0.214	0.753	0.75		1
Total Penta-Dioxins	4.72		0.0961	3.76	1.39		1
Total Hexa-Dioxins	1.27**J**		0.183	3.76	1.26		1
Total Hepta-Dioxins	5.88		0.0454	3.76	1.01		1
Total Tetra-Furans	10.2		0.122	0.753	0.69		1
Total Penta-Furans	6.56		0.151	3.76	1.47		1
Total Hexa-Furans	2.45**J**		0.0417	3.76	1.15		1
Total Hepta-Furans	0.930**J**		0.0709	3.76	0.96		1

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Collected:**	08/17/18 08:05
Sample Matrix:	Soil	**Date Received:**	09/04/18 11:10
Sample Name:	EV18080100-01	**Units:**	Percent
Lab Code:	E1800806-001	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/11/18 21:38
Prep Method:	Method Soxhlet	**Date Extracted:**	9/5/18
Sample Amount:	10.020g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P517584	**Blank File Name:**	P614520
ICAL Date:	01/24/18	**Cal Ver. File Name:**	P517575

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	952.472	48		25-164	0.79	1.022
13C-1,2,3,7,8-PeCDD	2000	1637.607	82		25-181	1.58	1.194
13C-1,2,3,4,7,8-HxCDD	2000	1286.584	64		32-141	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1267.622	63		28-130	1.27	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1393.305	70		23-140	1.07	1.067
13C-OCDD	4000	1848.317	46		17-157	0.91	1.141
13C-2,3,7,8-TCDF	2000	1072.508	54		24-169	0.80	0.992
13C-1,2,3,7,8-PeCDF	2000	1364.889	68		24-185	1.58	1.150
13C-2,3,4,7,8-PeCDF	2000	1385.169	69		21-178	1.58	1.183
13C-1,2,3,4,7,8-HxCDF	2000	1042.712	52		26-152	0.51	0.971
13C-1,2,3,6,7,8-HxCDF	2000	1091.914	55		26-123	0.52	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1253.840	63		29-147	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1154.827	58		28-136	0.52	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1111.512	56		28-143	0.45	1.042
13C-1,2,3,4,7,8,9-HpCDF	2000	1206.004	60		26-138	0.45	1.080
37Cl-2,3,7,8-TCDD	800	574.340	72		35-197	NA	1.023

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Collected:**	08/17/18 08:05
Sample Matrix:	Soil	**Date Received:**	09/04/18 11:10
Sample Name:	EV18080100-01	**Units:**	ng/Kg
Lab Code:	E1800806-001	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Soxhlet

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.214	0.753	1	1	
1,2,3,7,8-PeCDD	**0.271**	0.0961	3.76	1	1	0.271
1,2,3,4,7,8-HxCDD	ND	0.180	3.76	1	0.1	
1,2,3,6,7,8-HxCDD	ND	0.189	3.76	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.180	3.76	1	0.1	
1,2,3,4,6,7,8-HpCDD	**2.61**	0.0454	3.76	1	0.01	0.0261
OCDD	**31.8**	0.152	7.53	1	0.0003	0.00954
2,3,7,8-TCDF	**0.499**	0.122	0.753	1	0.1	0.0499
1,2,3,7,8-PeCDF	**0.264**	0.152	3.76	1	0.03	0.00792
2,3,4,7,8-PeCDF	**0.811**	0.151	3.76	1	0.3	0.243
1,2,3,4,7,8-HxCDF	**0.243**	0.0446	3.76	1	0.1	0.0243
1,2,3,6,7,8-HxCDF	**0.281**	0.0395	3.76	1	0.1	0.0281
1,2,3,7,8,9-HxCDF	**0.150**	0.0434	3.76	1	0.1	0.0150
2,3,4,6,7,8-HxCDF	**0.380**	0.0401	3.76	1	0.1	0.0380
1,2,3,4,6,7,8-HpCDF	**0.492**	0.0640	3.76	1	0.01	0.00492
1,2,3,4,7,8,9-HpCDF	ND	0.0791	3.76	1	0.01	
OCDF	**0.867**	0.158	7.53	1	0.0003	0.000260
		Total TEQ				0.718

2005 WHO TEFs, ND = 0

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Collected:**	08/17/18 08:05
Sample Matrix:	Soil	**Date Received:**	09/04/18 11:10
Sample Name:	EV18080100-01	**Units:**	Percent
Lab Code:	E1800806-001	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/10/18 11:59
	6.759g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	66.3		-	-			1

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/Kg
Lab Code:	EQ1800356-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/12/18 06:29
Prep Method:	Method Soxhlet	**Date Extracted:**	9/5/18
Sample Amount:	10.438g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614520	**Blank File Name:**	P614520
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614516

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.189	0.479			1
1,2,3,7,8-PeCDD	ND	U	0.140	2.40			1
1,2,3,4,7,8-HxCDD	0.0921**JK**		0.0484	2.40	1.54	1.000	1
1,2,3,6,7,8-HxCDD	0.111**J**		0.0526	2.40	1.29	1.000	1
1,2,3,7,8,9-HxCDD	ND	U	0.0463	2.40			1
1,2,3,4,6,7,8-HpCDD	0.0745**JK**		0.0252	2.40	0.68	1.000	1
OCDD	0.627**J**		0.124	4.79	0.86	1.000	1
2,3,7,8-TCDF	ND	U	0.103	0.479			1
1,2,3,7,8-PeCDF	ND	U	0.0795	2.40			1
2,3,4,7,8-PeCDF	ND	U	0.0810	2.40			1
1,2,3,4,7,8-HxCDF	0.0743**JK**		0.0243	2.40	1.93	1.000	1
1,2,3,6,7,8-HxCDF	0.0646**JK**		0.0239	2.40	0.81	1.000	1
1,2,3,7,8,9-HxCDF	0.0632**JK**		0.0275	2.40	2.07	1.000	1
2,3,4,6,7,8-HxCDF	0.0680**J**		0.0237	2.40	1.35	1.000	1
1,2,3,4,6,7,8-HpCDF	0.128**JK**		0.0466	2.40	0.77	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.0548	2.40			1
OCDF	0.347**JK**		0.133	4.79	0.70	1.005	1

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/Kg
Lab Code:	EQ1800356-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/12/18 06:29
Prep Method:	Method Soxhlet	**Date Extracted:**	9/5/18
Sample Amount:	10.438g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614520	**Blank File Name:**	P614520
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614516

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.189	0.479			1
Total Penta-Dioxins	ND	U	0.140	2.40			1
Total Hexa-Dioxins	0.111**J**		0.0490	2.40	1.29		1
Total Hepta-Dioxins	ND	U	0.0252	2.40			1
Total Tetra-Furans	ND	U	0.103	0.479			1
Total Penta-Furans	ND	U	0.0803	2.40			1
Total Hexa-Furans	0.0680**J**		0.0248	2.40	1.35		1
Total Hepta-Furans	ND	U	0.0503	2.40			1

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	Percent
Lab Code:	EQ1800356-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/12/18 06:29
Prep Method:	Method Soxhlet	**Date Extracted:**	9/5/18
Sample Amount:	10.438g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614520	**Blank File Name:**	P614520
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614516

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	318.459	16	**Y**	25-164	0.80	1.018
13C-1,2,3,7,8-PeCDD	2000	512.934	26		25-181	1.58	1.164
13C-1,2,3,4,7,8-HxCDD	2000	596.338	30	**Y**	32-141	1.25	0.992
13C-1,2,3,6,7,8-HxCDD	2000	524.930	26	**Y**	28-130	1.28	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	586.797	29		23-140	1.07	1.066
13C-OCDD	4000	780.364	20		17-157	0.90	1.143
13C-2,3,7,8-TCDF	2000	382.702	19	**Y**	24-169	0.80	0.993
13C-1,2,3,7,8-PeCDF	2000	552.064	28		24-185	1.59	1.126
13C-2,3,4,7,8-PeCDF	2000	517.914	26		21-178	1.59	1.155
13C-1,2,3,4,7,8-HxCDF	2000	614.774	31		26-152	0.53	0.973
13C-1,2,3,6,7,8-HxCDF	2000	550.894	28		26-123	0.53	0.976
13C-1,2,3,7,8,9-HxCDF	2000	607.209	30		29-147	0.53	1.008
13C-2,3,4,6,7,8-HxCDF	2000	603.329	30		28-136	0.53	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	448.579	22	**Y**	28-143	0.45	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	545.036	27		26-138	0.46	1.079
37Cl-2,3,7,8-TCDD	800	178.913	22	**Y**	35-197	NA	1.018

Accuracy & Precision

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Analyzed:**	09/12/18
Sample Matrix:	Soil	**Date Extracted:**	09/05/18

Duplicate Lab Control Sample Summary
Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Units:**	ng/Kg
Prep Method:	Method Soxhlet	**Basis:**	Dry
		Analysis Lot:	606581

	Lab Control Sample EQ1800356-02			Duplicate Lab Control Sample EQ1800356-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2,3,4,6,7,8-HpCDD	84.1	99.4	85	83.6	98.2	85	70-140	<1	50
1,2,3,4,7,8-HxCDD	99.0	99.4	100	97.4	98.2	99	70-164	2	50
1,2,3,6,7,8-HxCDD	105	99.4	105	103	98.2	105	76-134	2	50
1,2,3,7,8,9-HxCDD	96.0	99.4	97	101	98.2	103	64-162	6	50
1,2,3,7,8-PeCDD	105	99.4	106	105	98.2	107	70-142	<1	50
2,3,7,8-TCDD	27.0	19.9	136	27.8	19.6	141	67-158	3	50
OCDD	196	199	99	199	196	101	78-144	1	50
1,2,3,4,6,7,8-HpCDF	106	99.4	107	103	98.2	104	82-122	3	50
1,2,3,4,7,8,9-HpCDF	103	99.4	104	104	98.2	105	78-138	<1	50
1,2,3,4,7,8-HxCDF	104	99.4	104	101	98.2	103	72-134	2	50
1,2,3,6,7,8-HxCDF	103	99.4	104	101	98.2	103	84-130	2	50
1,2,3,7,8,9-HxCDF	101	99.4	101	98.8	98.2	101	78-130	2	50
1,2,3,7,8-PeCDF	98.9	99.4	99	100	98.2	102	80-134	1	50
2,3,4,6,7,8-HxCDF	104	99.4	104	102	98.2	104	70-156	2	50
2,3,4,7,8-PeCDF	109	99.4	109	109	98.2	111	68-160	<1	50
2,3,7,8-TCDF	21.8	19.9	110	21.4	19.6	109	75-158	2	50
OCDF	254	199	128	260	196	133	63-170	2	50

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1800356-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/12/18 13:02
Prep Method:	Method Soxhlet	**Date Extracted:**	9/5/18
Sample Amount:	10.061g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614528	**Blank File Name:**	P614520
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614516

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	27.0		0.0887	0.497	0.80	1.001	1
1,2,3,7,8-PeCDD	105		0.0797	2.48	1.59	1.000	1
1,2,3,4,7,8-HxCDD	99.0		0.0215	2.48	1.27	1.000	1
1,2,3,6,7,8-HxCDD	105		0.0229	2.48	1.28	1.000	1
1,2,3,7,8,9-HxCDD	96.0		0.0203	2.48	1.29	1.007	1
1,2,3,4,6,7,8-HpCDD	84.1		0.0244	2.48	1.05	1.000	1
OCDD	196		0.118	4.97	0.89	1.000	1
2,3,7,8-TCDF	21.8		0.0405	0.497	0.77	1.001	1
1,2,3,7,8-PeCDF	98.9		0.0676	2.48	1.58	1.001	1
2,3,4,7,8-PeCDF	109		0.0727	2.48	1.56	1.000	1
1,2,3,4,7,8-HxCDF	104		0.0211	2.48	1.24	1.000	1
1,2,3,6,7,8-HxCDF	103		0.0213	2.48	1.24	1.000	1
1,2,3,7,8,9-HxCDF	101		0.0250	2.48	1.24	1.000	1
2,3,4,6,7,8-HxCDF	104		0.0226	2.48	1.24	1.000	1
1,2,3,4,6,7,8-HpCDF	106		0.0892	2.48	1.05	1.000	1
1,2,3,4,7,8,9-HpCDF	103		0.107	2.48	1.05	1.000	1
OCDF	254		0.118	4.97	0.91	1.005	1

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1800356-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/12/18 13:02
Prep Method:	Method Soxhlet	**Date Extracted:**	9/5/18
Sample Amount:	10.061g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614528	**Blank File Name:**	P614520
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614516

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	27.0		0.0887	0.497	0.80		1
Total Penta-Dioxins	105		0.0797	2.48	1.59		1
Total Hexa-Dioxins	300		0.0215	2.48	1.27		1
Total Hepta-Dioxins	84.1		0.0244	2.48	1.05		1
Total Tetra-Furans	23.2		0.0405	0.497	0.78		1
Total Penta-Furans	212		0.0701	2.48	1.55		1
Total Hexa-Furans	412		0.0224	2.48	1.23		1
Total Hepta-Furans	209		0.0972	2.48	1.05		1

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	Percent
Lab Code:	EQ1800356-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/12/18 13:02
Prep Method:	Method Soxhlet	**Date Extracted:**	9/5/18
Sample Amount:	10.061g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614528	**Blank File Name:**	P614520
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614516

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	822.717	41		25-164	0.81	1.018
13C-1,2,3,7,8-PeCDD	2000	1150.049	58		25-181	1.57	1.164
13C-1,2,3,4,7,8-HxCDD	2000	1262.816	63		32-141	1.26	0.992
13C-1,2,3,6,7,8-HxCDD	2000	1105.996	55		28-130	1.26	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1222.032	61		23-140	1.08	1.066
13C-OCDD	4000	1569.768	39		17-157	0.92	1.143
13C-2,3,7,8-TCDF	2000	1062.097	53		24-169	0.79	0.993
13C-1,2,3,7,8-PeCDF	2000	1292.605	65		24-185	1.59	1.126
13C-2,3,4,7,8-PeCDF	2000	1160.395	58		21-178	1.59	1.155
13C-1,2,3,4,7,8-HxCDF	2000	1407.959	70		26-152	0.53	0.973
13C-1,2,3,6,7,8-HxCDF	2000	1245.900	62		26-123	0.53	0.976
13C-1,2,3,7,8,9-HxCDF	2000	1378.658	69		29-147	0.53	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1269.783	63		28-136	0.53	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1019.217	51		28-143	0.45	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1219.998	61		26-138	0.46	1.079
37Cl-2,3,7,8-TCDD	800	487.389	61		35-197	NA	1.018

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1800356-03	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/12/18 13:51
Prep Method:	Method Soxhlet	**Date Extracted:**	9/5/18
Sample Amount:	10.185g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614529	**Blank File Name:**	P614520
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614516

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	27.8		0.105	0.491	0.79	1.001	1
1,2,3,7,8-PeCDD	105		0.0677	2.45	1.60	1.000	1
1,2,3,4,7,8-HxCDD	97.4		0.0277	2.45	1.26	1.000	1
1,2,3,6,7,8-HxCDD	103		0.0289	2.45	1.26	1.000	1
1,2,3,7,8,9-HxCDD	101		0.0260	2.45	1.26	1.007	1
1,2,3,4,6,7,8-HpCDD	83.6		0.0396	2.45	1.06	1.000	1
OCDD	199		0.0793	4.91	0.90	1.000	1
2,3,7,8-TCDF	21.4		0.0444	0.491	0.79	1.001	1
1,2,3,7,8-PeCDF	100		0.0659	2.45	1.55	1.001	1
2,3,4,7,8-PeCDF	109		0.0667	2.45	1.57	1.000	1
1,2,3,4,7,8-HxCDF	101		0.0171	2.45	1.24	1.000	1
1,2,3,6,7,8-HxCDF	101		0.0173	2.45	1.24	1.000	1
1,2,3,7,8,9-HxCDF	98.8		0.0174	2.45	1.26	1.000	1
2,3,4,6,7,8-HxCDF	102		0.0170	2.45	1.24	1.000	1
1,2,3,4,6,7,8-HpCDF	103		0.0690	2.45	1.06	1.000	1
1,2,3,4,7,8,9-HpCDF	104		0.0761	2.45	1.05	1.000	1
OCDF	260		0.118	4.91	0.91	1.005	1

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1800356-03	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/12/18 13:51
Prep Method:	Method Soxhlet	**Date Extracted:**	9/5/18
Sample Amount:	10.185g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614529	**Blank File Name:**	P614520
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614516

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	27.8		0.105	0.491	0.79		1
Total Penta-Dioxins	105		0.0677	2.45	1.60		1
Total Hexa-Dioxins	302		0.0274	2.45	1.26		1
Total Hepta-Dioxins	83.6		0.0396	2.45	1.06		1
Total Tetra-Furans	21.4		0.0444	0.491	0.79		1
Total Penta-Furans	213		0.0663	2.45	1.66		1
Total Hexa-Furans	404		0.0172	2.45	1.22		1
Total Hepta-Furans	207		0.0722	2.45	1.06		1

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	Percent
Lab Code:	EQ1800356-03	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/12/18 13:51
Prep Method:	Method Soxhlet	**Date Extracted:**	9/5/18
Sample Amount:	10.185g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614529	**Blank File Name:**	P614520
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614516

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	708.586	35		25-164	0.80	1.018
13C-1,2,3,7,8-PeCDD	2000	1024.603	51		25-181	1.56	1.164
13C-1,2,3,4,7,8-HxCDD	2000	1152.654	58		32-141	1.27	0.992
13C-1,2,3,6,7,8-HxCDD	2000	1025.057	51		28-130	1.26	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1103.581	55		23-140	1.06	1.066
13C-OCDD	4000	1393.418	35		17-157	0.91	1.143
13C-2,3,7,8-TCDF	2000	891.464	45		24-169	0.80	0.993
13C-1,2,3,7,8-PeCDF	2000	1141.033	57		24-185	1.59	1.126
13C-2,3,4,7,8-PeCDF	2000	1062.013	53		21-178	1.59	1.155
13C-1,2,3,4,7,8-HxCDF	2000	1251.500	63		26-152	0.53	0.973
13C-1,2,3,6,7,8-HxCDF	2000	1096.450	55		26-123	0.53	0.976
13C-1,2,3,7,8,9-HxCDF	2000	1390.786	70		29-147	0.53	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1201.136	60		28-136	0.54	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	951.475	48		28-143	0.46	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1208.364	60		26-138	0.46	1.079
37Cl-2,3,7,8-TCDD	800	413.877	52		35-197	NA	1.018

APPENDIX E – ENVIRONMENTAL TASK ORDER AND MASTER SERVICES AGREEMENT

Environmental Services Task Order

This Environmental Service Task Order ("Order") is made on **8/1/2018**, between Umpqua Bank ("Umpqua") and **Terracon Consultants, Inc *** ("Consultant"). By their execution of this Order, Umpqua Bank retains, and Consultant agrees to provide services as requested and according to the terms and conditions of the executed Environmental Services Agreement.

RIMS Project Number:	**18-002488-03**
Property/Project Name:	Buse Timber & Sales
Loan Purpose:	Refinance
Borrower:	Diana Buse Timber & Sales
Property Address:	3812 28th Pl NE Everett, WA98205
Property Type:	Industrial- Saw Mill/Lumberyard
Property Description:	The subject consists of 60.54 acres of industrial zoned land located at 3812 28th Place NE in Everett. (Note that a portion of the property that was agriculturally zoned has been sold off). Improvements include seven buildings constructed between 1961 and 1980. Gross building area is estimated at 54,973 SF. No significant improvements have been added to the property recently. Will need an "as is" fee simple value in a "summary-style" format. The report should include insurable replacement cost of the buildings (even if they contribute no value) and the environmental check sheet. The assignment may include some H&BU issues.
Access/Contact Info:	Diana Martin 425-258-5844
Due Date:	9/7/2018
Agreed Fee:	$14,985.00, inclusive of all costs necessary to complete the report. Any costs not included in the fee must be approved in advance by Michael S Pereira.
Delivery & Invoice Instructions:	Please upload a Final Report and Invoice in PDF format for review to RIMSCentral. Hard copies are not required unless specifically requested.
Address Report & Questions to:	Michael Pereira, VP Environmental Risk Officer Umpqua Bank 509-842-9178 michaelpereira@umpquabank.com

1233 Northwood Center Ct

Coeur D Alene, ID83814

Loan Officer Information:

Leslie Somes

Umpqua Bank

LeslieSomes@UmpquaBank.com
425-673-8579

Consultant Information:

Matt Wheaton
Terracon Consultants, Inc *
425-771-3304
21905 64th Avenue W, Suite 100
Mountlake Terrace, WA98043

Scope of Services:

Scope of Work to Follow: Phase II ESA. Reliance by Umpqua Bank.

Changes to Scope:
Umpqua Bank and the Consultant may make changes, additions, or deletions from this Task Order by mutual written agreement only (email is acceptable).

By accepting this award electronically, you agree to the terms of this engagement, including terns set forth in documents incorporated herein by reference. Please include a copy of the Task Order in the addenda of the report.

AMENDING AGREEMENT #1

THIS AMENDING AGREEMENT dated 08/06/2018

BETWEEN:

Umpqua Bank

OF THE FIRST PART

- AND -

Matt Wheaton / Terracon Consultants, Inc *

OF THE SECOND PART

Background

A. Umpqua Bank and Matt Wheaton (the Parties) entered into the contract (the "Contract") dated 08/01/2018, for Environmental services.

B. The Parties desire to amend the Contract on the terms and conditions set forth in the Amending Agreement (the "Agreement").

C. This Agreement is amendment #1 to the Contract.

IN CONSIDERATION OF the Parties agreeing to amend their obligations in the existing Contract, and other valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree to keep, perform, and fulfill the promises, conditions and agreements below:

Amendments

The Contract is amended as follows:

Award Fee (as amended): $14,985.00

Due Date (as amended): 09/14/2018

Scope Comments: Drillers are booked out to 8/17, moved to accommodate schedule.

No Other Change

Except as otherwise expressly provided in this Agreement, all of the terms and conditions of the Contract remain unchanged and in full force and effect.

Miscellaneous Terms

Capitalized terms not otherwise defined in this Agreement will have the meanings ascribed to them in the Contract. Headings are inserted for the convenience of the parties only and are not to be considered when interpreting this Agreement. Words in the singular mena and include the plural and vice versa. Words in the masculine include the feminine and vice versa. No regard for gender is inteded by the language in this Agreement.

Governing Law

Subject to the terms of the Contract, it is the intention of the Parties that this Agreement, and all suits and special proceedings under this Agreement, be construed in accordance with and governed, to the exclusion of the law of any other forum, by the laws of the state of , without

regard to the jurisdiction in which any action or special proceeding may be instituted.

Please include a signed copy of this letter as an addendum to the completed report, *in addition to the original contract and any other amendments.*

Sincerely,

Michael S Pereira

VP Environmental Risk Officer
Umpqua Bank
Environmental Department

Accepted By:

Terracon Consultants, Inc *

Matt Wheaton

8/6/18
Date

AMENDING AGREEMENT #2

THIS AMENDING AGREEMENT dated 09/13/2018

BETWEEN:

Umpqua Bank

OF THE FIRST PART

- AND -

Matt Wheaton / Terracon Consultants, Inc *

OF THE SECOND PART

Background

A. Umpqua Bank and Matt Wheaton (the Parties) entered into the contract (the "Contract") dated 08/01/2018, for Environmental services.

B. The Parties desire to amend the Contract on the terms and conditions set forth in the Amending Agreement (the "Agreement").

C. This Agreement is amendment #2 to the Contract.

IN CONSIDERATION OF the Parties agreeing to amend their obligations in the existing Contract, and other valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree to keep, perform, and fulfill the promises, conditions and agreements below:

Amendments

The Contract is amended as follows:

Award Fee (as amended): $14,985.00

Due Date (as amended): 09/17/2018

Scope Comments: Lab delay, will be completed by close of business on Monday.

No Other Change

Except as otherwise expressly provided in this Agreement, all of the terms and conditions of the Contract remain unchanged and in full force and effect.

Miscellaneous Terms

Capitalized terms not otherwise defined in this Agreement will have the meanings ascribed to them in the Contract. Headings are inserted for the convenience of the parties only and are not to be considered when interpreting this Agreement. Words in the singular mena and include the plural and vice versa. Words in the masculine include the feminine and vice versa. No regard for gender is inteded by the language in this Agreement.

Governing Law

Subject to the terms of the Contract, it is the intention of the Parties that this Agreement, and all suits and special proceedings under this Agreement, be construed in accordance with and governed, to the exclusion of the law of any other forum, by the laws of the state of , without

regard to the jurisdiction in which any action or special proceeding may be instituted.

Please include a signed copy of this letter as an addendum to the completed report, *in addition to the original contract and any other amendments.*

Sincerely,

Michael S Pereira

VP Environmental Risk Officer
Umpqua Bank
Environmental Department

Accepted By:

Terracon Consultants, Inc *

Matt Wheaton

9/13/18
Date

UMPQUA
B·A·N·K

ENVIRONMENTAL SERVICES AGREEMENT

This Environmental Services Agreement ("Agreement"), is made effective as of June 10, 2015, between Terracon Consultants, Inc., whose address is 18001 W. 106th Street, Suite 300, Olathe, KS 66061 ("Consultant") and Umpqua Bank ("Umpqua"), an Oregon state chartered bank, whose address is 1 SW Columbia, Suite 1200, Portland OR 97258 (each a "Party" and collectively, the "Parties").

Whereas, Umpqua may require professional environmental services and Consultant is engaged in the business of providing professional environmental services from time to time, and Umpqua will retain control over the subject of the work;

Now, therefore, the parties agree as follows:

1. **Scope of Services**. Umpqua may request services from Consultant regarding a particular property ("Property") in the form of an electronic request for proposal (RFP). Requests may be made electronically and proposals can be submitted electronically. Proposals shall clearly specify the subject Property and shall contain a detailed scope of work, timeline to complete and pricing. In the case of a Phase I Environmental Site Assessment, Consultant's proposal shall comply with U.S. EPA Standards and Practices for All Appropriate Inquiries and the most recent ASTM Standard (currently E1527-13), Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.

Upon electronic approval of proposal by Umpqua, services will be awarded directly to Consultant using an electronic award system or other means. Services to be provided may include, but need not be limited to, the following:

Regulatory Records Review
Environmental Transaction Screen
Site Inspection
Property Condition Assessment
Seismic Studies
Geotechnical Investigation
Asbestos and Lead-based Paint Survey
Phase I Environmental Site Assessment
Phase II Environmental Assessment/Subsurface Investigation
Peer Review/Technical Support
Remediation Cost Estimating/Analysis
Site Remediation/Site Closure

In performing a Phase I Environmental Site Assessment, Consultant shall comply with the most current ASTM Standard (currently E1527-13/AAI Phase I Environmental Site Assessment), and any future ASTM Phase I Standard yet to be released. The services shall include, without limitation, the following: (i) review, within AAI compliant search parameters, of available federal environmental databases and applicable state and local databases, geocoded as available upon area locator map; (ii) visual and physical on-site inspection, as allowed, and observation of the Property for above ground or underground storage tanks, reasonably ascertainable indicators of CERCLA defined environmental contaminants and hazardous materials, generally recognized environmental contaminants and visible pollutants, and railroad right-of-ways; (iii) review of available city directories, Sanborn maps or other available historical information back to at least 1940 or first use, whichever is earlier, local emergency release records, and environmental permits; (iv) visual interior observations, as allowed, for reasonably ascertainable indicators of contamination from airborne emissions, vapor intrusion, asbestos-containing materials, lead

based paint, PCB-containing transformers, radon, underground fuel storage tanks, business operation procedures, regulated materials handling and storage practices, and waste stream disposal; (v) completion as allowed of an environmental screening questionnaire by Key Site Manager; (vi) visual observation of adjoining and adjacent properties for reasonably ascertainable potential environmental hazards and contaminants; (vii) photographic documentation of on-site conditions and adjoining properties; (viii) interviews as allowed with Property owner, past Property owners, occupants and persons knowledgeable about the Property; (ix) review of available title information for potential gaps in past Property use or ownership and search for environmental liens; and (x) geologic and hydrogeologic review to evaluate potential contaminant migration pathways and exposure routes as applicable. Consultant shall not disturb the soil or groundwater, dig holes or wells, or otherwise perform physical tests of or take samples from the Property, without first obtaining Umpqua's written instruction to do so. If Consultant is denied access to the Property for any reason, or is otherwise instructed to leave or vacate the Property, or any portion thereof, Consultant shall comply with such instructions, without argument or other opposition, and shall thereafter promptly notify Umpqua in writing that it was denied access to the Property.

2. **Change Orders.** All services or work, other than as agreed upon in the form of a proposal accepted electronically by Umpqua, but in connection with a specific proposal, shall be done only through a mutually agreed upon electronically or by email ("Change Order"). Change Orders shall contain a detailed scope of work, timeline to complete, and pricing.

3. **Entire Agreement.** Consultant shall provide services as outlined in this Agreement, which constitutes the entire agreement between Umpqua and Consultant, superseding all prior and contemporaneous negotiations, agreements, representations and understandings, either written or oral, of the parties with respect to this Agreement. With respect to each particular Property, this Agreement shall govern the performance of the subject written proposal as originally accepted by Umpqua, and as such proposal may be changed through one or more Change Orders. For clarity, no proposal or Change Order may add, delete, or change any terms of this Agreement.

4. **Changes to this Agreement.** Umpqua and Consultant may make additions, deletions, or changes to this Agreement by mutual written agreement only.

5. **Termination.** This Agreement shall be effective as of the date specified herein and shall continue in effect thereafter, unless terminated as provided herein. Umpqua may terminate this Agreement for convenience or for the default of Consultant upon 30 days written notice to Consultant, and following such notice, Consultant shall: (i) discontinue work as promptly as practicable, (ii) attempt to minimize charges, and (iii) submit to Umpqua a written report of findings up to the date of termination. Consultant may terminate this Agreement upon 30 days written notice to Umpqua, and following such notice, Consultant shall complete any outstanding projects and will be paid for all properly completed work in accordance with this Agreement (provided that Umpqua shall retain the right to terminate this Agreement even after Consultant terminates it, in which case the immediately preceding sentence shall control). Umpqua may terminate any work being done under any particular proposal, in which case Umpqua will pay for the work done thereunder prior to such termination and Consultant will give Umpqua all of the materials and work in process relating to such work.

6. **Umpqua's Responsibilities.** Umpqua will: (1) provide the information reasonably available to Umpqua pertinent to the project, including previous reports and any other pertinent data in Umpqua's possession and (2) arrange rights of access or permission to enter the Property as required for Consultant to perform its services under this Agreement. If access is denied to all or any portion of the Property, Consultant shall notify Umpqua in writing immediately, complete all other portions of the services and provide a reasonable recommendation to Umpqua as to the likelihood of elevated risk of contamination. Umpqua will then make a determination whether to proceed or continue to pursue

Property access. If Umpqua obtains access, Consultant will perform site reconnaissance and complete the assignment as intended in the original scope.

7. **Reliance on Third Parties.** Consultant may rely without confirmation upon information provided by others and federal, state, and local agencies, pertinent to the Property to the extent such reliance is reasonable.

8. **Payment.** Umpqua will pay undisputed invoices within 30 days of Umpqua's receipt thereof.

9. **Insurance and Limitation of Liability.** Consultant shall, during the performance of this Agreement, at its cost, keep in force adequate insurance coverage to protect Umpqua from any losses with respect to Consultant's performance under this Agreement. Such coverage shall include (at a minimum) the following insurance: (1) Worker's Compensation Insurance as required by law, (2) Employer's Liability Insurance with minimum limits of $1,000,000; (3) Comprehensive General Liability Insurance with minimum limits of $1,000,000 per occurrence, $5,000,000 aggregate; (4) Comprehensive Automobile Liability Insurance, including operation of owned, non-owned, and hired automobiles with minimum limits of $1,000,000 per claim; (5) Professional Liability, Errors and Omissions Insurance with minimum limits of $2,000,000 per occurrence; and (6) Contractor Pollution Liability Insurance with minimum limits of $2,000,000 per occurrence.

Consultant will furnish Umpqua, upon request, insurance certificate(s) reflecting Consultant's compliance with the requirements of this section.

All such insurance policies shall be issued by properly licensed insurance companies with a current A.M. Best rating of "A-VII" or better. Consultant shall list Umpqua as an additional insured. Such insurance will be primary and noncontributory to insurance or self-insurance maintained by Umpqua. Consultant, or its insurance company, shall give thirty (30) days prior written notice to Umpqua of cancellation, non-renewal, or material change in coverage, scope or amount of any insurance policy.

10. **Standard of Care / Warranty.** Consultant shall perform its services in accordance with generally accepted national, state and local engineering and technical practices and professional standards prevailing in the locality of the Property, current at the time the services are performed.

11. **Confidentiality.** Any information and documentation Umpqua provides to Consultant is deemed to be Umpqua's confidential information ("Umpqua Confidential Information") unless Umpqua states in writing that it is not Umpqua Confidential Information. Such information does not lose its status as Umpqua Confidential Information merely because it is known by a limited number of persons or entities outside of Umpqua or because it was not originated by Umpqua. With respect to Umpqua Confidential Information, Consultant shall:

(a) Protect and keep such Confidential Information secret and secure from disclosure and unauthorized use with the same degree of precautions and safeguards it uses to protect and keep its own Confidential Information of a similar nature secret and secure, but in no case with less than reasonable care;

(b) Comply with all laws, rules and regulations regarding the sharing of Confidential Information, including all applicable privacy laws;

(c) Disclose such Confidential Information only to its employees, Subcontractors and/or agents who have both: (i) a need to know such information in order to perform under this Agreement, and (ii) a written contractual, fiduciary or other legal duty, at least as restrictive as this Agreement, to maintain the confidentiality of the information they receive. Contractor shall not disclose Confidential Information to any third party without Umpqua's prior written authorization; and

(d) Not use or disclose, or permit any of its employees, Subcontractors and/or agents to use or disclose, any such Confidential Information for any reason other than performance under this Agreement, and in no event will Contractor disclose or use such Confidential Information in any manner that is or has the potential to be adverse or detrimental to the interests of Umpqua;

Required Disclosure. Contractor may disclose Confidential Information as may be required by law, statute, rule or regulation, including any subpoena or other similar form of process. Prior to such disclosure, Consultant shall provide Umpqua with prompt written notice (so long as such notice is not prohibited by law), so that Umpqua may object to the request and/or seek appropriate protective relief. Notwithstanding anything to the contrary, Umpqua may disclose any information, including Consultant's Confidential Information, in response to a request from any federal or state bank examiner, or other regulatory official with authority over Umpqua or its affiliates.

Return or Destruction. Upon termination of this Agreement, or if earlier requested by Umpqua in writing, Contractor shall, within ten (10) business days, at Umpqua's election, destroy or return to Umpqua all Confidential Information, including originals and all duplicates, whether standing alone or as part of any other document or other compilation of information, or in any other form, including hardcopy (paper, micro film, photo, etc.) or softcopy (electronic, optical, or magnetic media such as computer or disk storage, tape recording, e-mail, voicemail, etc.); provided, however, that Contractor may keep a copy if necessary for compliance with legal or regulatory obligations, subject to the continuing confidentiality obligations set forth in this Agreement. Upon request, an officer of Contractor shall promptly provide Umpqua with written certification of such destruction or return.

Intrusions/Disclosures. If Consultant learns of any actual or suspected theft of, accidental disclosure of, loss of, or inability to account for any Confidential Information by Consultant or any of its Subcontractors (collectively "Disclosure") and/or any unauthorized intrusions into Consultant's or any of its Subcontractor's facilities or secure systems used to perform the Services (collectively "Intrusion"), Consultant must, at its own expense, immediately (i) notify Umpqua's information security officer, (ii) specify the corrective action to be taken, (iii) take corrective action to prevent further Disclosure and/or Intrusion. Consultant must, as soon as is reasonably practicable, make a report to Umpqua including details of the Disclosure (including Customer(s)' identities and the nature of the information disclosed) and/or Intrusion and the corrective action Consultant has taken to prevent further Disclosure and/or Intrusion. Consultant shall cooperate and assist Umpqua at no additional cost to minimize any potential adverse impact upon Umpqua. Additionally, Consultant must cooperate fully with all government regulatory agencies and law enforcement agencies having jurisdiction and authority for investigating a Disclosure and any known or suspected criminal activity.

Ownership. Confidential Information shall remain the property of Umpqua.

Marketing, Publicity. Except upon the prior written consent of a Umpqua communications or public relations director, which may be granted or withheld in Umpqua's sole discretion, Consultant shall not: (a) publicly disclose any information regarding the existence or terms of this Agreement, the existence or any aspects of the business relationship between Umpqua and Consultant, whether in a news release, press conference, or otherwise, (b) disclose any of the foregoing information to any person or entity for any purpose other than Consultant's performance under this Agreement, or (c) use any of the Umpqua

trade names, trademarks, trade dress, service marks, logos, branding or other Umpqua Intellectual Property for any purposes (including customer lists, websites, advertisements, releases to professional or trade publications, sales presentations, performance of services for other customers, etc.).

12. **Ownership and Use of the Results of the Services.** All of the results of the services performed by Consultant hereunder, including any such plans, testing, layouts, schematics, data, reports, studies, cost estimates, and other materials created or prepared hereunder, alone or with others, whether created on or off Umpqua's premises, whether or not created during regular work hours, and whether interim or final (collectively, "Work Product") shall be deemed "work made for hire" as defined in 17 U.S.C. §101 & §201(b), and shall be the exclusive property of Umpqua. Umpqua shall be deemed the owner of the Work Product and may, without notice to or permission from Consultant, provide copies of the Work Product as necessary in the course of normal and customary property due diligence, and assign its interest in the Work Product as appropriate to the final property disposition.

13. **Compliance with Laws.** Consultant shall comply with all laws, statutes, rules, regulations and ordinances that are applicable to the services provided.

14. **Independent Contractor.** Consultant is an independent contractor in the performance of the services to be provided under this Agreement and, except as otherwise provided in this Agreement, shall not be or hold itself out, as an agent or employee of the Umpqua. Consultant shall have control of and responsibility for its employees and its subcontractors engaged in the performance of this Agreement.

15. **Indemnity.** Consultant and Umpqua ("Indemnifying Party") agree to defend, indemnify and hold the other Party, its affiliates, and its and their directors, officers, employees, and agents (collectively, "Indemnified Party") harmless from and against any and all claims, liabilities, damages and costs, including without limitation, reasonable attorney's fees, arising out of or in any related, directly or indirectly, to the Indemnifying Party's breach of or failure to perform its duties and/or obligations under this Agreement. In this and all other respects, Consultant shall be fully responsible for the acts and omissions of its subcontractors (i.e., all acts and omissions of Consultant's subcontractors shall be imputed to Consultant).

16. **Severability.** If any part of this Agreement is adjudged as illegal, invalid or unenforceable, it shall be deemed modified in the manner that best advances the spirit of this Agreement.

17. **Attorney's Fees.** If any suit, dispute or action arises from or in connection with this Agreement is commenced, the prevailing party shall be entitled to recover all reasonable attorney fees, costs and expenses incurred, including, but not limited to, any at trial, on appeal, or in a bankruptcy proceeding.

18. **Force Majeure.** Any loss or damage or delays in, or failure of performance of either Party shall not constitute default or give rise to any claims for damages if and to the extent that such loss, damage, delay or failure is caused by occurrences beyond the reasonable control of the Party affected, and which, by the exercise of reasonable diligence, such Party is unable to prevent.

19. **Governing Law & Venue.** This Agreement is made under and shall be governed by and construed and enforced under the laws of the state of Oregon, without giving effect to Oregon's conflicts of laws principles. Any action, suit, or proceeding relating directly or indirectly to this Agreement shall be brought exclusively in the state or federal courts located in Multnomah county, Oregon, and the parties irrevocably submit to the exclusive jurisdiction of that court for any such action, suit or

proceeding, and hereby waive any right to contest such exclusive jurisdiction or change such venue on any grounds.

20. Successors & Assigns. This Agreement shall be binding on the Parties and their successors. Except as provided herein, neither Party may not assign this Agreement, in whole or in part, except upon the other Party's prior written consent.

21. Taxes. Consultant shall pay all applicable sales, use, gross receipts, net income or any labor or employment related taxes or other taxes levied by any taxing authorities on Consultant whose jurisdictions apply to Consultant. Consultant shall invoice Umpqua for sales and use taxes of the type required to be collected from purchasers under applicable law for the services and Consultant shall remit such taxes to the proper taxing authority. If Consultant fails to invoice, collect, remit, or otherwise pay the amount of any taxes required to be collected or paid by Umpqua, Consultant shall be responsible for and shall pay any interest, assessments, fines and penalties which may be assessed against Umpqua or Consultant for Consultant's failure to collect and timely remit or otherwise pay such taxes.

22. Records. Consultant will retain all information obtained or created in the course of performance under this Agreement in accordance with applicable law. Such records will be available for examination and audit by any governmental authority having jurisdiction over Umpqua's business or by Umpqua's internal or external auditors. Consultant will promptly notify Umpqua of any such requests by any governmental authority, if Consultant is permitted to make such a disclosure to Umpqua under applicable law. At Umpqua's request, Consultant shall provide documentation satisfactory to Umpqua of Consultant's internal controls and procedures that are required to ensure compliance with this Agreement and all applicable law. Consultant will reasonably cooperate with Umpqua's periodic risk assessments, if any, including providing physical security, information security, business continuity plan and financial stability information to Umpqua upon request.

23. Performance Threats. Consultant will promptly notify Umpqua in writing in the event of: (a) financial difficulty of Consultant or any of its Subcontractors that may materially impact Consultant's performance hereunder; (b) significant staffing reductions or changes in key staff that may affect Consultant's performance hereunder; (c) a decision by Consultant to outsource, relocate, sell or acquire significant operations or support associated with the services or any critical component of the environment used to provide services hereunder; (d) cessation of business or material adverse change in any business of any key subcontractor used by Consultant in its performance hereunder; (e) any unfavorable change to any credit rating assigned to Consultant by any major credit rating agency; (f) an announced intention or the actual filing for bankruptcy or insolvency law by Consultant or any key subcontractor used by Consultant in its performance hereunder; (g) a labor strike against Consultant or any key subcontractor used by Consultant in its performance hereunder; or the (h) closing of any operational site of Consultant or of any key subcontractor used by Consultant in its performance hereunder.

24. Miscellaneous. No provision of this Agreement, nor any breach thereof, may be waived, deleted, or modified, nor may any provisions be added, in any manner except pursuant to a writing signed by the Party against whom it is to be enforced. Absent such a signed waiver, no failure or delay in enforcing any right or remedy (including, but not limited to, any course of dealing or performance) shall preclude any exercise or further exercise of that or any other right or remedy. The provisions of this Agreement shall survive termination of this Agreement to as their terms may naturally dictate. The rule of interpreting ambiguities against the drafter shall not apply. Umpqua affiliates (i.e., entities directly or indirectly in control of, controlled by, or under common control with, Umpqua) may procure services from Consultant hereunder, in which case such affiliate shall also have all the rights and obligations of Umpqua hereunder with respect to the proposal accepted by such affiliate (i.e., this Agreement shall

govern with respect to the proposal as if the affiliate were Umpqua hereunder). Consultant represents and warrants that it has not and shall not in the future bestow any preferential benefits or treatment upon any Umpqua employee as an inducement to entering into this Agreement or otherwise in relation to this Agreement or in relation to any future proposal to be submitted with respect hereto.

25. Supplemental Terms and Conditions attached hereto and incorporated for reference.

In witness whereof, each of the Parties hereto has executed this Agreement effective as of the date written above.

Umpqua Bank

By: _____
Name: Michael S. Pereira
Title: Env. Risk Officer

Consultant: Terracon Consultants, Inc.

By: _____
Name: Eric D. Kunz
Title: Regional Manager / Sr. Principal

Umpqua Bank, ("Umpqua")
Terracon Consultants, Inc., ("Consultant")

Section 25
Supplemental Terms and Conditions

LIMITATION OF LIABILITY. Notwithstanding anything to the contrary in this Agreement, except for a Party's confidentiality obligations, and willful misconduct or gross negligence of a Party (liabiity for each of which is not limited), the aggregate liability of either Party for any breach or breaches of its obligations under this Agreement or for the negligent act or omisson of such Party or such Party's employees, subcontractors and agents shall be the greater of $500,000 or the Consultant's fee for the specific project proposal in dispute. EXCEPT FOR A PARTY'S CONFIDENTIALITY OBLIGATIONS, AND WILLFUL MISCONDUCT OR GROSS NEGLIGENCE OF A PARTY, IN NO EVENT SHALL EITHER PARTY BE LIABLE TO THE OTHER FOR INDIRECT, INCIDENTAL, CONSEQUENTIAL, SPECIAL OR PUNITIVE DAMAGES OF ANY KIND, EVEN IF ADVISED OF THE POTENTIAL FOR ACCRUAL OF SUCH DAMAGES.

Warranty. Except for the standard of care previously stated, Consultant makes no warranties or guarantees, express or implied, relating to Consultant's services and Consultant disclaims any implied warranties or warranties imposed by law, including warranties of merchantability and fitness for a particular purpose.

Safety. Consultant will be responsible for supervision and site safety measures for its own employees, but shall not be responsible for the supervision or health and safety precautions for any third parties, including Umpqua's contractors, subcontractors, or other parties present at the site.

APPENDIX F – ACCESS AGREEMENT

Terracon

Reference Number: P81187331

ACCESS AGREEMENT

DEFINITIONS

The property to which access is granted is: Property ("Property").

The legal owner(s) of the Property or person/entity with legal authority to grant access to the Property is: Diana Martin ("Grantor").

The services to be conducted on the Property are generally described as follows: Service ("Services").

The entity granted access for the purposes of performing the Services is Terracon Consultants, Inc., which shall include its employees, agents, and subcontractors ("Grantee").

The Services are performed for the benefit of Umpqua Bank ("Client"), pursuant to the Agreement for Services between Terracon Consultants, Inc. and Client, date and reference number 08/17/2018 P81187331.

AGREEMENTS

By its signature below, Grantor represents it has authority to, and does, grant access to the Property to Grantee for the purpose of performing the Services. Grantor agrees that:

- Grantee may drill exploration borings on the Property, using drill rigs, trucks and other equipment, recover and collect soil, water, and other samples, and perform other actions related to the exploration of surface or subsurface conditions on the Property, as necessary to perform the Services.
- Grantee may use large truck or track-mounted equipment in the performance of the Services, which is normal and customary in the performance of these kinds of Services, and that this equipment may leave depressions, wheel tracks, ruts or other marks in the ground surface.
- Grantor will not interfere with any of the activities of Grantee or undertake any actions regarding the use of Property that would endanger the health, safety, or welfare of the Grantee employees, agents, or subcontractors, or damage their equipment, materials, or property.

By its signature below, Grantee agrees:

- That upon completion of Services and activities authorized by this Access Agreement, Grantee will remove all material and equipment utilized by Grantee from the Property, with the exception of ground markers that may be placed on the premises to designate sampling areas,
- Grantee will remove boring spoils that accumulate around the bore holes, or, where allowable, spread the spoils across the area, if acceptable to Grantor.
- Grantee will make reasonable efforts to restore the property and leave it in a condition suitable for its previous use. Landscaping restoration, including seeding or sodding, will not be performed.

The Services and field activities authorized under this Access Agreement may begin after signature of Grantor. Access is granted until Services are completed, which should not exceed 30 days following commencement of Services, except for period of access necessary for monitoring equipment, if applicable, after which time all rights of access given by Grantor shall cease.

SIGNATURES

Grantee:	**Terracon Consultants, Inc.**		Grantor:	**Diana Martin**	
By:	Kyle S. Bennett	Date: **8/7/2018**	By:	Diana Martin	Date: 8/7/18
Name/Title:	**Kyle S. Bennett / Environmental Technician II**		Name/Title:	**Site Access/Contact**	
Address:	**21905 64th Ave W, Ste 100**		Address:	**3812 28th Place Northeast**	
	Mountlake Terrace, WA 98043-2251				
Phone:	**(425) 771-3304**	Fax: **(425) 771-3549**	Phone:	**(253) 258-5844**	Fax:
Email:	**Kyle.Bennett@terracon.com**		Email:	**dianamartin@busetimber.com**	

Spill Prevention, Control, and Countermeasures Plan (SPCC)
Buse Timber Sales, Inc.
Everett, Washington

August 21, 2020

Prepared for

Buse Timber Sales, Inc.
3812 28th Place NE
Everett, Washington 98201

LANDAU ASSOCIATES
130 2nd Avenue South
Edmonds, WA 98020
(425) 778-0907

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1.0 INTRODUCTION

This Spill Prevention, Control and Countermeasures (SPCC) Plan has been prepared for the Buse Timber & Sales, Inc. sawmill facility in Everett, Washington. The plan has been prepared in accordance with the Federal Oil Pollution Prevention regulations at 40 CFR Part 112. The facility is in conformance with the applicable requirements of 40 CFR Part 112. A regulatory cross reference identifying where applicable sections of 40 CFR 112.7 and 112.8 are addressed in this plan is in Appendix A.

1.1 MANAGEMENT APPROVAL

Name of Facility: Buse Timber & Sales, Inc.
Location: 3812 28th Place NE
Everett, Washington 98201

As a manager and representative of Buse Timber & Sales, Inc., with full authority to commit the necessary resources to implement this plan, I hereby fully approve this Spill Prevention, Control and Countermeasures Plan.

Signature: _____ Date: 8-26-2020

Name: TOM PARKS Title: PRESIDENT

1.2 PROFESSIONAL ENGINEER'S CERTIFICATION

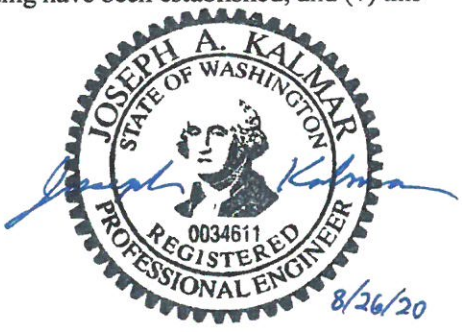
I hereby attest that (i) I am familiar with the requirements of the SPCC rule, (ii) I or my agent has visited and examined the facility, (iii) this SPCC Plan has been prepared in accordance with good engineering practices, including consideration of applicable industry standards, and with the requirements of 40 CFR Part 112, (iv) procedures for required inspections and testing have been established, and (v) this SPCC Plan is adequate for the facility.

Name: Joseph A. Kalmar

Signature: Joseph A. Kalmar

Date: 8/26/20

Washington Registration Number: 34611



1.3 SUBSTANTIAL HARM CERTIFICATION

Section 112.20(e) of the facility response plan regulation requires that all facilities regulated by the Oil Pollution Prevention Regulation (40 CFR part 112) conduct an initial screening to determine whether

they are required to develop a facility response plan. Determination of the applicability of substantial harm criteria for the Buse sawmill facility is made in accordance with the following checklist:

FACILITY NAME: Buse Timber & Sales, Inc.

FACILITY ADDRESS: 3812 28th Place NE, Everett, Washington 98201

1. Does the facility transfer oil over water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?

   Yes ☐ No ☒

2. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground oil storage tank area?

   Yes ☐ No ☒

3. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the formula in Attachment C-III, Appendix C, 40 CFR 112 or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environment? For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Environments" (Section 10, Appendix E, 40 CFR 112 for availability) and the applicable Area Contingency Plan.

   Yes ☐ No ☒

4. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula (Attachment C-III, Appendix C, 40 CFR 112) or a comparable formula) such that a discharge from the facility would shut down a public drinking water intake?

   Yes ☐ No ☒

5. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years?

   Yes ☐ No ☒

Notes:

1. If a comparable formula is used, documentation of the reliability and analytical soundness of the comparable formula must be attached to this form.
2. For the purpose of 40 CFR part 112, public drinking water intakes are analogous to public water systems as described at 40 CFR 143.2(c).

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

Signature: _____ Date: 8-26-2020

Name: Tom Parks, President

2.0 FACILITY DESCRIPTION

2.1 FACILITY LAYOUT

Buse Timber & Sales operates a log yard and sawmill on approximately 60 acres on Smith Island at 3812 28th Place NE in Everett, Washington. The surrounding topography is flat except for the man-made elevation for the freeway to the east. The facility is bounded on the east by Interstate 5 and on the northeast by Union Slough. Adjacent land includes a lumber distributor and agricultural or undeveloped land.

The operating area of the facility is paved with asphalt and covers approximately 40 acres. The log storage is located on the southern end of the property and the lumber processing activities (sawmill, planer, kiln, etc.) and product lumber storage is in the middle of the property. A portion of the southwest corner and the north end of the property is unpaved and undeveloped. A facility parts storage building is located within the north end of the property. The road leading to the parts storage building and the area immediately around the building is paved with asphalt.

2.2 OIL STORAGE

The type of oil, quantity, and storage locations are identified in Table 1. Oil storage tanks exceeding 55 gallons in capacity are also noted on Figure 1. There are no underground fuel transfer lines at the facility.

2.3 DRAINAGE PATHWAYS

The paved operating area of the facility is primarily drained by the facility stormwater collection system. The southern portion of the log storage yard has a perimeter berm and stormwater is able to temporarily pond and infiltrate into the ground (Figure 2). There are no oil storage or transfer activities within this southern portion of the log storage yard. The stormwater collection system contains multiple oil/water separators through which the stormwater must flow before it is discharged to the perimeter drainage ditch on the north end of the property. The drainage ditch is discharged through a tide gate to Union Slough. The discharge point to Union Slough is approximately 800 ft from where the stormwater collection system discharges to the perimeter ditch. Spills within the facility will have to travel between 800 ft and 1,200 ft through the stormwater collection system to the point where the system discharges into the perimeter ditch. Spills occurring in the log yard and entering the perimeter ditch must travel between 2,400 ft and 4,000 ft, depending on where the spill enters the ditch. The stormwater collection system and the perimeter drainage ditch are identified on Figure 1.

2.4 SPILL HISTORY

There are no known spills that reached navigable water. An unknown number of smaller spills from equipment have occurred on the pavement and were cleaned up before they reached the perimeter drainage ditch.

2.5 POTENTIAL SPILL QUANTITIES AND FLOWS

Please refer to Table 2 for a full listing of potential spill quantities and flows.

3.0 DISCHARGE PREVENTION MEASURES

3.1 MAIN ENTRANCE VEHICLE FUELING FACILITY

Fuel is delivered to the main entrance fueling facility by tank truck. Tank truck sizes may vary depending on current inventory of the fuel supplier, but typically the largest single compartment on a fuel truck does not exceed 3,200 gallons of fuel. The delivery trucks are parked on the concrete fueling pad and wheel chocks are placed to prevent the truck from moving prior to completion of the fuel transfer. Before connecting the fuel transfer hoses to the fuel tanks, the driver closes the drain valve from the concrete fuel pad to ensure that any spilled fuel will be contained on the pad.

For diesel delivery, the truck driver connects the transfer hose from the tank truck to the fuel tank using the cam lock fitting located on the storage tank inlet pipe. The storage tank inlet pipe is equipped with a manually-operated valve and a backflow prevention valve. A drip pan is placed below the hose fitting on the truck and at the tank. The fuel truck driver both operates and monitors the fuel transfer and maintains visual contact with the diesel storage tank fuel gage at all times during fuel transfer to ensure the tank is not over filled. When the fuel transfer is complete, the fuel truck driver verifies that all transfer valves are closed, disconnects and secures the transfer hose, inspects the vehicle for leaks, opens the containment pad drain valve, removes the wheel chocks, and drives the truck off the pad.

For gasoline delivery, the fuel is transferred from the truck to the storage tank using the truck transfer hose that is equipped with an automatic shutoff nozzle. Prior to filling the gasoline tank, the truck driver "sticks" the tank to determine the level of gasoline in the tank and the expected quantity of gasoline that is needed. The truck driver then inserts the nozzle into the tank fill port on top of the gasoline tank and opens the valve on the nozzle to start filling the tank. The truck driver remains near the nozzle at all times during gasoline transfer and monitors the quantity of gasoline being delivered. Should the quantity of gasoline needed to fill the tank be less than the expected volume, the nozzle has an automatic shutoff that will stop the flow of gasoline when the tank becomes full. After the fuel transfer is complete, the truck driver retracts and stores the transfer hose in the truck, inspects the vehicle for leaks, opens the pad drain valve, removes the wheel chocks, and drives the truck off the pad.

Vehicles that are being fueled are parked on the concrete fueling pad with the brakes set and the engine turned off. The driver of the vehicle turns on the transfer pump and then inserts the fuel hose into the vehicle. The transfer hose has a manually-operated nozzle with automatic shutoff when high fuel levels are reached in the vehicle. The driver remains at the vehicle at all times during fueling.

3.2 LOG YARD FUELING FACILTY

Fuel is delivered to the log yard fueling facility in a package tank truck with a maximum of 1,500 gallons in a single compartment. The diesel storage tank in the log yard fueling facility has a 2,000 gallon capacity, and this tank has a 4 foot high concrete walled secondary containment structure. The fuel delivery truck is parked adjacent to the concrete secondary containment structure and within the concrete fueling pad area that has a 5 inch high containment curb. The truck brakes are secured prior to fuel transfer. The truck driver unscrews a fitting on the top of the fuel storage tank and secures the truck transfer hose into the opening. The transfer pump is started and the driver opens the valve to transfer fuel into the storage tank. The driver remains at the tank during the fuel transfer to ensure that the tank is not overfilled. When the fuel transfer is completed, the driver closes the transfer valve, shuts down the pump, and removes and stows the transfer hose. The driver is present at all times during fuel transfer.

Vehicles that are being fueled are parked adjacent to the secondary containment with the brakes set and the engine turned off. The driver of the vehicle turns on the transfer pump and then inserts the fuel hose into the vehicle. The transfer hose has a manually-operated nozzle with automatic shutoff when high fuel levels are reached in the vehicle. The driver remains at the vehicle at all times during fueling.

3.3 LUBRICATING OIL AND KEROSENE STATIONARY TANKS

The 275-gal lubricating oil and kerosene tanks are filled from the top of the tank by a package tank truck. The truck driver parks near the tanks and sets the brakes. Oil is transferred to the tanks by inserting the truck transfer hose nozzle, which has an automatic high level shutoff, into the top of the tank. The driver remains at the nozzle during the transfer to monitor the filling and ensure that the tank is not over filled. When filling is complete, the driver drains any free oil from the hose and stows the hose in the truck.

The 1,000 gallon used oil tank in the lube building has a visual level gauge, and it has a steel secondary containment tub that can hold any spillage if accidental over-filling were to occur.

Product is removed from the kerosene and lube oil tanks in the lube building and in the vehicle maintenance bay through a valve at the bottom of the tank. A container is placed under the valve and the oil is gravity drained into the container. A drip pan is kept under the valves whenever they are not in use.

The two 500-gal lubricating oil tanks located at the vehicle maintenance building are connected to dispensing manifolds inside the maintenance bay. The oil is pumped out of the top of the tanks through a pipe that extends into the shop. The pump is operated manually and an operator is present at all times during the transfer to ensure that containers are not over filled.

The 500-gal used oil tank at the vehicle maintenance building is filled by pumping oil from a drum inside the maintenance bay into the top of the tank. Prior to turning on the transfer pump, the person doing

the transfer checks the level in the used oil tank to ensure that there is sufficient space available to hold the amount of oil being transferred. The person transferring the oil is present at all times during the transfer. Used oil is removed from the tank by inserting a "stinger" into the tank and pumping the contents into a small tank truck. The truck driver conducts and monitors the transfer and is present at all times during the transfer.

3.4 DRUM MANAGEMENT

Drums are delivered on pallets by truck. The drums are unloaded by forklift and placed into storage. Drums are kept sealed except when removing product or adding used oil or waste solvent. Drums exposed to weather are stored on pallets to keep them from exposure to water for extended periods of time.

Product is removed from drums using a drum pump secured to the drum bung or by placing the drum in a horizontal rack with a manually-operated valve in the bung. Drip pans are placed under the valve when oil is removed.

3.5 MACHINERY WITH HYDRAULIC OIL

Three hydraulic stationary end stackers are located near the sawmill. The end stackers are serviced in accordance with the manufacturers' recommendations and are checked daily by the operator for hydraulic leaks prior to use. A daily operation center report noting any problems is prepared by the operator. Evidence of leaks is reported to maintenance for repair.

Four mobile log handling machines are used in the log yard and in the river log retrieval area. The machines are serviced regularly in accordance with the manufacturer's recommendation. Prior to each day's use, the operator inspects the machine for oil leaks, and wear or damage to the hydraulic system that could result in a spill or release of hydraulic oil. Leaks are noted on a weekly rolling stock checklist and repair requests are made to maintenance in writing. Significant leaks are immediately reported to maintenance for repair.

4.0 DISCHARGE AND DRAINAGE CONTROLS

4.1 MAIN ENTRANCE VEHICLE FUELING AREA

The main entrance fueling area consists of three fuel storage tanks on a concrete pad with an 8-inch curb. The tanks consist of a 1,000-gal gasoline tank, a 10,000-gal diesel storage tank (which is typically not filled with more than 2,000 gallons), and a 2,280-gal diesel storage tank for off-highway use. All three tanks are "vaulted" tanks with integral steel secondary containment that is sealed against precipitation. Adjacent to the concrete tank pad is a concrete vehicle fueling pad with steel-grated containment sump. The tank area curbed concrete secondary containment structure has a drain valve that is normally maintained in a closed position. That drain valve empties to the concrete vehicle fueling pad, which in turn drains to an oil water separator when the separate drain valve north of the fueling pad is opened. Based on as-built dimensions, the vehicle pad has the capacity to hold 7,000 gallons. A capacity of 5,320 gallons is sufficient to hold the contents of the largest tank truck compartment (3,200 gallons) plus a 10-year storm event of 2.3 inches of rainfall (2,120 gallons). The oil/water separator discharges into the facility stormwater system. The drain valve that controls discharge from the concrete vehicle fueling pad has a posted sign to help identify its location quickly in an emergency. The fueling pad area drain valve is kept closed when fuel is being delivered to the tanks.

4.2 LOG YARD VEHICLE FUELING AREA

4.2.1 SECONDARY CONTAINMENT

The log yard fueling area has a 2,000-gal diesel storage tank with concrete secondary containment. The secondary containment is covered with a roof and has the capacity to hold 3,500 gallons. A manual drain valve is kept closed at all times. The concrete fueling pad area has a 5 inch high containment curb. There was recent damage to this concrete containment curb, which will be repaired within 6 months. The concrete fueling pad drains to a pipe with a shutoff valve that is closed prior to tank truck fuel transfer. The valve can be reopened to drain to the storm drain system and oil/water separator after tank truck fuel transfer has been completed.

4.3 VEHICLE MAINTENANCE BUILDING

4.3.1 SECONDARY CONTAINMENT

Three 500-gal tanks holding lubricating oil and used motor oil are located outside on the north side of the building within secondary containment and beneath an overhanging roof. The capacity of the

concrete masonry secondary containment structure is greater than 550 gallons and it has a manually-operated valve, which is maintained in a closed position.

A 275-gallon tote of used oil was recently identified on top of a spill containment pallet in this outdoor roofed area, with the spill containment just having capacity for a 55-gallon drum. The tote was only partially filled, but that tote will be removed or will be provided with a properly sized secondary containment structure that has a minimum capacity of 275-gallons. One 275-gal tank of gear oil and up to eight drums of solvent and oil are stored inside the maintenance bay of the vehicle maintenance building. Drainage inside the building is either into the lower maintenance bay or toward the building main doorway. An oil containment boom is to be maintained at the doorway to cutoff any leak or oil spillage during transfer.

4.4 LUBE BUILDING

4.4.1 SECONDARY CONTAINMENT

Lubricating oils are stored inside the Lube Building in three 275-gal tanks and up to twenty-five 55-gal drums on a concrete floor. The inside of the building is sloped to drain concrete dead-end sump with top metal grate that is present in the center of the Lube Building to provide the needed spill containment volume. A 1,000 gallon tank of used lubricating oil is located within a steel secondary containment tub that provides full containment volume for the tank contents.

4.5 SAWMILL END STACKERS

Three stationary "end stackers" are located in the sawmill area, mounted outside in the lumber sorting areas. Secondary containment is not practical because of the location, configuration, and range of movement of the machinery. A spill kit containing absorbent material, a shovel, and a catch basin inlet cover is located nearby at the vehicle maintenance building to contain a hydraulic oil spill. The catch basin inlet cover will be used to contain the oil on the asphalt pavement for cleanup.

4.6 LOG HANDLING MACHINES

There are four mobile log handling machines that operate in the log storage yard and the river log retrieval area. Secondary containment is not practical because the machines are mobile. A spill kit containing absorbent material, a shovel, and a catch basin inlet cover is located in the log yard near the log yard vehicle fueling area, the lube building, and the vehicle maintenance area. There are no nearby inlets to the stormwater system in these areas. A spill kit is also maintained at the river log retrieval area. This

kit contains absorbent material, a shovel, and 100 ft of absorbent boom in the event that a spill enters the river.

4.7 DRAINAGE CONTROL

The facility stormwater collection system drains the areas that contain oil storage. Spills from oil storage areas would enter the stormwater collection system at catch basin inlets and then will have to travel through two oil/water separators prior to reaching the surrounding ditch and the tide gate that allows discharge to Union Slough. Oil/water separators in the storm water system will remove oil prior to it reaching the perimeter drainage ditch.

4.8 DRAINAGE OF SECONDARY CONTAINMENT STRUCTURES

For secondary containment structures with drain valves that are normally kept closed, Buse personnel will do the following before draining collected rainwater:

- Inspect the retained rainwater to ensure that there is no oil sheen or oily sludge present.
- Open the drain valve and then close it immediately after drainage.
- Keep a record of the drainage event with comments regarding the water quality, i.e., if the water was clean, or if oil was present and needed to be removed prior to drainage.

5.0 SPILL RESPONSE

5.1 SPILL RESPONSE PROCEDURES

In the event of a spill or other release of oil, the person first observing the release will initiate the spill response procedure in Appendix B. Immediate measures will be taken to stop the release at the source and prevent any spilled oil from entering the facility stormwater collection system, the surrounding drainage ditch, or Union Slough. After the initial response to stop the spill source and prevent discharge to the drainage ditch or Union Slough, the person will immediately contact the facility spill response coordinator to report the spill. The spill response coordinator will assess the spill, initiate cleanup actions (including calling in a cleanup contractor if necessary), and make the required agency contacts and reports. Where a spill presents a safety hazard, such as a large gasoline spill, the person observing the spill will take appropriate measures to stop the source of the spill (where it can be done safely), immediately warn employees of the hazard, and contact both the facility spill coordinator and the fire department.

5.2 FACILITY EMERGENCY CONTACT LIST

All spills will be reported to the spill coordinator or the alternate if the spill coordinator is not available. The spill coordinator will then determine which of the additional facility contacts should be notified.

Title	Name	Phone Number(s)
Spill Coordinator	Will Miller	Office: 425-258-5849 Cell: 425-239-5067
Alternate Spill Coordinator/ President	Tom Parks	Office: 425.258-5840 Cell: 425-239-3862
Operations Manager	Miguel Sanchez	Office: 425-258-5852 Cell: 425-231-7649
Maintenance Supervisor	Kyle Erwin	Office: 425-258-5854 Cell: 425-359-9571

5.3 AGENCY CONTACT LIST

The following agency contacts should be made as soon as possible after discovery of a spill that is reportable (i.e., reaches surface water, reaches groundwater, or presents a safety hazard). Any spill reaching surface water that causes an oil sheen is considered as reportable. Delay in contacting the National Response Center or the Washington State Oil Spill Hotline can result in enforcement action and penalties for non-reporting.

When reporting the spill, be prepared to provide the following information:

- Company address/location: **3812 28th Place NE, Everett, WA**
- Phone number: **425-258-2577**
- Date and time of the spill
- Type of material spilled
- Estimate of total quantity spilled
- Estimate of quantity that reached surface water
- Source of the spill
- Description of media (soil, water, air) that is affected
- Cause of the discharge
- Actions being used to stop, remove, and mitigate the spill
- Whether an evacuation is needed
- Names of other individuals/organizations that have been contacted.

Agency	Spills To Be Reported	Phone Number
National Response Center (covers notification to the U.S. Environmental Protection Agency and the U.S. Coast Guard)	All spills that enter the perimeter ditch or Union Slough	1-800-424-8802
Washington State Oil Spill Hotline (covers Washington Department of Ecology)	All spills that reach or threaten to reach groundwater, the perimeter ditch, or Union Slough	1-800-258-5990
Everett Fire Department	Gasoline spills that present a fire and safety hazard	911

5.4 SPILL RESPONSE CONTRACTORS

The following contractors are available for spill response and cleanup. The cleanup contractor should be called immediately if the spill has reached the perimeter ditch or Union Slough.

Contractor	Type of Response	Phone
NRC Environmental Services	Spill that reaches surface water	800-337-7455
Glacier Environmental Services, Inc.	Contaminated soil cleanup and removal	425-355-2826

5.5 SPILL RESPONSE EQUIPMENT

Spill kits containing absorbent materials are located at all fixed fuels or oil storage location, which include the main entrance fueling station, the vehicle maintenance building, the lube building, and the log yard fueling station. A spill kit that also contains 100 ft of absorbent boom is located at the river log retrieval area. Spill kit locations, including additional locations, are shown on Figure 1. In addition to the spill kits, sawdust from mill operations can be used as absorbent material.

5.6 SPILL RESIDUAL DISPOSAL

Waste materials resulting from a spill and the subsequent cleanup will be disposed in accordance with applicable state and federal laws and regulations. Sawdust and other wood debris contaminated with oil may be sent offsite with the sawdust sent for use as fuel. Material that is not suitable for use as fuel, such as contaminated soil and vegetation, gasoline soaked absorbents, and non-wood absorbents will be disposed of as oil-contaminated solid waste at facilities that are approved to receive such materials. Materials that are hazardous waste will be sent for disposal to facilities that are permitted to manage hazardous waste.

6.0 INSPECTIONS AND MONITORING

6.1 ROUTINE STORAGE AREA AND EQUIPMENT INSPECTIONS

The spill coordinator who is responsible for spill prevention conducts monthly inspections of the oil storage areas. The oil storage area inspections are recorded on the oil storage inspection form (Appendix C). The inspections are designed to identify problems with tanks, containers, equipment, secondary containment, and other areas that may create a potential for release of oil. Containers, including tanks that are found to be leaking will be taken out of service immediately (within 24 hours) and the container repaired or replaced. Containers, including tanks that are exposed to fire or other possible damage will be inspected for serviceability and leaks prior to being put back into service.

Equipment operators perform daily inspections of the log machines and forklifts. The results of these inspections are recorded on the rolling stock weekly checklist that is kept in the operating records.

The equipment operators also perform daily inspections of the end stackers. The results of the inspection are recorded on the daily operations center report and kept in the operating records.

Where potential problems are noted, corrective action will be identified and assigned to a specific person to complete within a specific schedule. Where there has been a release of oil or where there is a significant threat that oil will be released in the near future, corrective action will be taken as soon as possible.

All inspection forms will be retained for three years.

6.2 TANK AND CONTAINER TESTS

6.2.1 PRODUCT DRUMS

Oil and solvents are stored in the 55-gal drums in which the product was delivered. The drums meet the U.S. Department of Transportation (DOT) standard for drums containing oil and solvents and are not reused for oil storage after the product is removed. Routine periodic inspections are conducted by plant personnel, as described in this plan, to determine that the drums are not leaking or damaged. The drums are stored on pavement, building floors, or secondary containment pallets. The drums are moveable and all sides can be made visible for inspection. Because the drums meet the DOT standard and are not reused for extended oil storage, visual inspection provides sufficient environmental protection and integrity testing is not needed.

6.2.2 SMALL SHOP-BUILT TANKS

There are nine small shop-built tanks ranging from 275 gallons to 500 gallons in capacity. These tanks are raised off the floor on cradles or racks in the vehicle maintenance building and the sawmill building and all sides are visible for inspection. These tanks hold lubricating oil (including used oil), hydraulic oil, and kerosene. The tanks are located undercover and are protected from exposure to precipitation. Because of their small size, the nature of the oil they contain, and the frequency they are emptied, it is unlikely that significant water will accumulate inside the tank to create corrosion problems. The tanks are externally inspected monthly as part of the routine inspection. Because there is very little risk of significant corrosion from within or outside the tanks, visual inspection provides sufficient environmental protection and integrity testing is not required.

6.2.3 LARGER SHOP-BUILT TANKS

The 2,000-gal log yard diesel tank and the 1,000-gal gasoline and 10,000-gal diesel tanks at the main entrance fueling area are all shop-built steel tanks. The 1,000-gal gasoline tank and the 10,000-gal diesel tank are shop-built steel tanks with double walled containment and sit on a concrete pad.

In accordance with SPCC Regulations, the facility will test or inspect the aboveground containers on a regular schedule. A visual inspection is considered an integrity test in the SPCC Regulation 40 CFR 112.8(c)(6). According to the Steel Tank Institute's (STI's) SP-001 Standard for the Inspection of Aboveground Storage Tanks, the aboveground tanks at the facility are subject to monthly inspections. Forms for these inspections are included in Appendix C. Informal inspections are performed more frequently as part of routine facility work. Records of inspections and tests are signed by the inspector and kept at the facility for at least 3 years. Prior to inspections, repair and alteration records and special conditions for each tank shall be reviewed. The tanks at the Facility are Category 1 tanks, subject to periodic inspections. Formal external inspections are not required for these tanks, but are recommended to be conducted, at a maximum, every 20 years, according to Chapter 7 of the SPCC Guidance for Regional Inspectors[1] document. However, formal external inspections will be performed in the event that the tank is damaged by fire, natural disaster, excessive settlement, overpressure, or cracking.

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[1] EPA. 2016. Spill Prevention, Control, and Countermeasure (SPCC) Guidance for Regional Inspectors, Chapter 7 Inspection, Evaluation, and Testing. December.

6.2.4 OIL/WATER SEPARATORS

The Facility's oil/water separators in the stormwater drainage system (see Figure 2 for locations) will be inspected and maintained per the maintenance standards outlined in the 2019 Stormwater Management Manual for Western Washington (SWMMWW)[2]. The Facility's oil/water separators will be inspected (see inspection forms in Appendix C) monthly to verify:

- Discharge water is clear with no thick visible sheen
- No sediment deposits greater than 6-inches in depth
- No trash/debris have accumulated in vaults or inlet/outlet pipes
- No oil accumulation greater than 1-inch at the water surface
- Inlet or outlet pipes are not damaged
- Vault structures are free of cracks.

[2] Ecology. 2019. Stormwater Management Manual for Western Washington. Publication No.19-10-021. https://fortress.wa.gov/ecy/ezshare/wq/Permits/Flare/2019SWMMWW/2019SWMMWW.htm Washington State Department of Ecology.

7.0 TRAINING AND PREVENTION

7.1 EMPLOYEE TRAINING

All employees handling oil or working in the immediate vicinity of oil storage locations, the end stacker, or the log handling machines are trained annually in the contents of this SPCC plan and spill response procedures. Appendix D includes the outline of the training content and an attendance form that is used to record the persons attending the training.

7.2 DISCHARGE PREVENTION RESPONSIBILITY

The Buse Timber Manager, and the President are responsible for discharge prevention measures and providing training required in this SPCC plan.

8.0 SECURITY

8.1 FACILITY ACCESS

During operating hours, visitors are required to check in at the main office. Employees are made aware that persons not having business at the facility are not allowed to roam freely. During non-operating hours, including weekends and holidays, at least one (1) person is always onsite doing regular security patrols. The facility is too large for it to be practical to be fully fenced. The presence of personnel at the facility at all times provides equivalent or better security than a fence.

8.2 MAIN ENTRANCE FUELING FACILITY

The dispensing pump is on a timer that shuts off electricity to the pump during non-operating hours. The fuel inlet valves to the gasoline and the diesel fuel tanks are locked in the closed position at all times except when fuel is being transferred to the tanks. Keys to the locks are controlled by the duty truck shop mechanic and the spill coordinator.

8.3 LOG YARD FUELING FACILITY

Electricity to the dispensing pump is turned off during non-operating hours and the switch is locked. Keys to the lock are controlled by the log yard supervisor, the duty truck shop mechanic, and the spill coordinator.

9.0 PLAN AMENDMENT

9.1 FACILITY CHANGES

This SPCC plan will be amended within six months of any change in the facility design, construction, operation, or maintenance that materially affects its potential for a discharge of harmful quantities of oil. Any such amendments will be implemented as soon as possible, but no longer than six months after such facility changes have occurred.

9.2 PERIODIC REVIEW AND EVALUATION

Notwithstanding other amendments, this plan will be reviewed and evaluated at least once every five years from the date the plan was prepared or the facility was last reviewed and evaluated. This plan will be amended to include more effective prevention and control technology if the technology has been field-proven at the time of the review and will significantly reduce the likelihood of a harmful discharge of oil. Any amendment made as a result of this periodic review will be implemented within six months following the preparation of the amendment. Each periodic review of the plan will be documented signed by the facility owner or representative in Appendix E of this plan.

9.3 PROFESSIONAL ENGINEER CERTIFICATION OF AMENDMENTS

A professional engineer will certify any technical amendments to this plan in accordance with 40 CFR 112.3(d).

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Data Source: ESRI 2008

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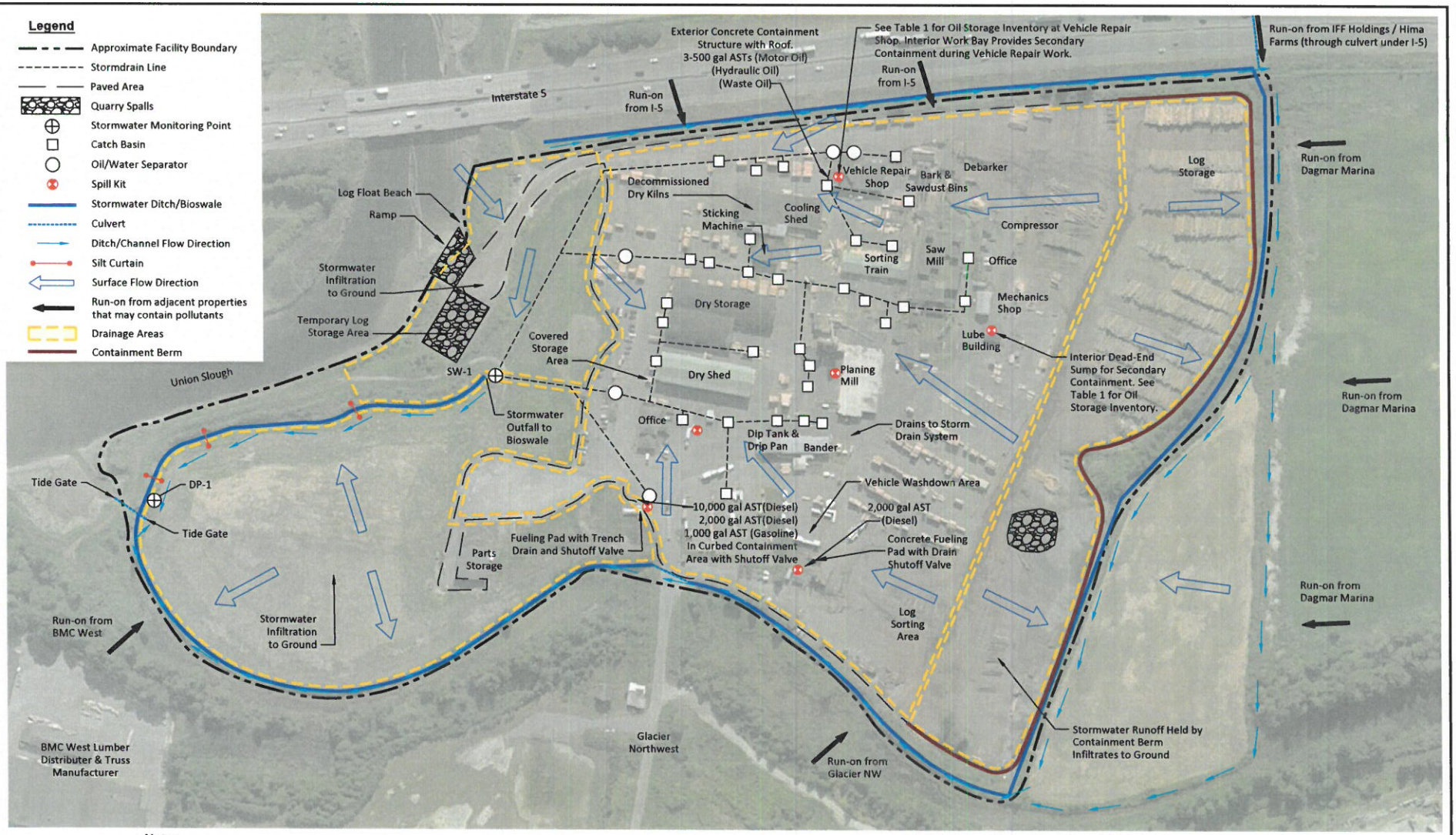
LANDAU ASSOCIATES

Buse Timber Everett, Washington	**Vicinity Map**	Figure 1



LANDAU ASSOCIATES, INC. | G:\Projects\1776\010\030\033\F02 SiteMap.dwg (A) "Figure 2" 6/17/2020

Notes

1. Facility is approximately 60 acres total.
2. Stormwater drain locations are approximate.
3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

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Scale in Feet

Source: Microsoft Corporation, Bing Aerial Imagery, 2015

LANDAU ASSOCIATES

Buse Timber Everett, Washington	**Site Map**	Figure 2

TABLE 1
OIL STORAGE TYPES AND LOCATIONS
SPCC PLAN - BUSE TIMBER SALES, INC.

Oil Type	Location	Quantity and Container
Diesel	Main Entrance Fueling Station	2,280-gallon aboveground tank
	Main Entrance Fueling Station	10,000-gallon aboveground tank
	Log Yard Fueling Area	2,000-gallon aboveground tank
	Log Handling Machines	Five machines containing 110 gallons each and two machines containing 200 gallons each
Kerosene	Lube Building	275-gallon aboveground tank
Lubricating Oil (including used oil)	Lube Building	One 1-000 gallon tank, three 275-gallon aboveground tanks, and up to forty 55-gallon drums
	Vehicle Maintenance Shop	Three 500-gallon aboveground tanks, one 275-gallon aboveground tank, up to twelve 55-gallon drums
	Log Yard Fueling Station	Two 55-gallon drums
Hydraulic Oil	Sawmill End Stackers	Three stackers containing 150 gallons each
	Log Handling Machines	Five machines containing 85 gallons each and two machines containing 250 gallons each
Gasoline	Main Entrance Fueling Area	1,000-gallon aboveground tank
Solvent	Vehicle Maintenance Shop	Two 55-gallon drums

TABLE 2
POTENTIAL SPILL QUANTITIES AND FLOWS
BUSE TIMBER SALES, INC. SPCC

Source and Failure	Quantity and Rate	Direction
Main entrance fuel station (diesel or gasoline tank): fuel line rupture during transfer	Estimated maximum 3,200 gallons diesel or gasoline at 60 gallons per minute (gpm) (assume operator cannot shut down the transfer and the largest compartment in the truck is drained)	Contained in fueling-pad and containment vault. If valve from containment vault is mistakenly opened, the contents are discharged to oil/water separator in the stormwater collection system.
Log yard fuel station: rupture of fuel line during fuel transfer	Estimated maximum of 3,200 gallons diesel at 60 gpm (assumes operator cannot shut down the transfer and the largest compartment in the truck is drained)	Discharge onto exposed ground to the north of the station. Contained in the fueling pad area with the drain valve closed. If drain valve mistakenly not closed, the diesel would drain to the oil water separator in the storm drain system.
Vehicle maintenance: rupture of valve at bottom of gear oil tank	Maximum of 275 gallons of oil at 25 gpm	Discharge onto maintenance room floor drains into lower maintenance bay or to the oil absorbent boom at the doorway. In unlikely event oil flows outside building, it would be captured in oil/water separator in the storm drain system
Lube building: rupture of valve at bottom of tank	Maximum of 275 gallons of oil at 25 gpm	Drainage to the dead-end sump in the center of the Lube Building
Log handling machine: rupture of hydraulic machine	Maximum of 250 gallons of oil at 25 gpm	Discharge onto pavement and/or exposed soil. Oil will flow over pavement to exposed soil or into the stormwater collection system if the spill occurs in the north half of the log yard. A rupture in the river log retrieval area will flow onto exposed soil or into Union Slough, depending on the location of the machine.
End stacker: rupture of hydraulic line	Maximum of 150 gallons at 25 gpm	Discharge onto pavement and then into the stormwater collection system through a catch basin inlet. Then oil/water separator.
Drums in transit: rupture of drum during handling by forklift	Maximum of 55 gallons at 15 gpm	Discharge onto pavement and then into the stormwater collection system with oil/water separators.

APPENDIX A

Oil Pollution Prevention Regulatory Cross Reference

APPENDIX A
OIL POLLUTION PREVENTION REGULATORY CROSS REFERENCE

1.0	INTRODUCTION	40 CFR 112.7(a)(1)
1.1	Management Approval	40 CFR 112.7
1.2	Professional Engineer's Certification	40 CFR 112.3(e)
1.3	Substantial Harm Certification	40 CFR 112.20(e)
2.0	FACILITY DESCRIPTION	
2.1	Facility Layout	40 CFR 112.7(a)(3)
2.2	Oil Storage	40 CFR 112.7(a)(3)(i)
2.3	Drainage Pathways	
2.4	Spill History	
2.5	Potential Spill Quantities and Flows	40 CFR 112.7(b)
3.0	DISCHARGE PREVENTION MEASURES	40 CFR 112.7(a)(3)(ii), 112.8(c)(8), 112.8(d)
3.1	Main Entrance Vehicle Fueling Facility	
3.2	Log Yard Fueling Facility	
3.3	Lubricating Oil and Kerosene Stationary Tanks	
3.4	Diesel Fuel Tank in Boiler Area	
3.5	Drum Management	
3.6	Machinery with Hydraulic Oil	
4.0	DISCHARGE AND DRAINAGE CONTROLS	40 CFR 112.7(a)(3)(iii), 112.7(c), & 112.8(b), 112.8(c)(2), 112.8(c)(3)
4.1	Main Entrance Vehicle Fueling Area	
4.2	Log Yard Vehicle Fueling Area	
4.3	Vehicle Maintenance Building	
4.4	Boiler Diesel Fuel Tank	
4.5	Lube Building	
4.6	Sawmill End Stackers	
4.7	Log Handling Machines	
4.8	Drainage Control	
4.9	Drainage of Secondary Containment Structures	
5.0	SPILL RESPONSE	
5.1	Spill Response Procedures	40 CFR 112.7(a)(3)(iv)
5.2	Facility Emergency Contact List	40 CFR 112.7(a)(3)(vi)
5.3	Agency Contact List	40 CFR 112.7(a)(4)
5.4	Spill Response Contractors	
5.5	Spill Response Equipment	
5.6	Spill Residual Disposal	40 CFR 112.7(a)(3)(v)
6.0	INSPECTIONS AND MONITORING	40 CFR 112.7(e)

APPENDIX B

Spill Response Procedures

APPENDIX B
SPILL RESPONSE PROCEDURES

1. Immediately stop the source of the spill when possible (i.e., shut off a pump or close a valve).

2. Take measures to prevent the spill from escaping the area by covering catch basin inlets, using absorbents to form a berm, and/or making sure that appropriate drain valves are closed. Absorbents are located in the spill kits or use sawdust from mill operations.

3. Contact the spill response coordinator. If the spill is gasoline, contact the fire department if there is sufficient gasoline spilled to create a fire hazard.

4. Warn other employees to stay away from the spill area. In the case of a gasoline spill, keep employees at least 100 feet away from the spill where possible.

5. The spill response coordinator will assess the spill and determine immediate cleanup measures, including whether to contact the spill response contractor and which agency contacts are required.

6. The spill coordinator will report the spill to appropriate agency contacts (providing the information on the agency spill report information sheet), the facility contacts, and the spill response contractor as appropriate.

7. The spill coordinator will oversee cleanup activities and arrange for appropriate disposal of spill cleanup residuals.

8. The spill coordinator will prepare written reports to agencies as required and determine whether this SPCC plan needs revision.

APPENDIX C

Oil Storage Inspection Form

APPENDIX C
FACILITY OIL STORAGE INSPECTION FORM

Month: (circle one)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Day: _____ Year: _____

MAIN ENTRANCE FUELING STATION	YES	NO
Tanks (3) in good condition?		
Tank valves locked?		
Tank containment vaults free of oil and water?		
Electric timer working?		
Evidence of leaks or spills?		
Tank pad in good condition?		
Vehicle fueling pad in good condition?		
Vehicle pad vault drain valve closed when fueling?		
Fueling hose in good condition and properly stowed?		
Spill kit present and stocked?		
LOG YARD FUELING STATION	**YES**	**NO**
Tank in good condition?		
Evidence of leaks or spills?		
Concrete containment in good condition?		
Secondary containment free of water and sediment/debris?		
Fueling hose in good condition and properly stowed?		
Pump switch off?		
Spill kit present and stocked?		

VEHICLE MAINTENANCE BUILDING	YES	NO
Drums in good condition and with secondary containment?		
Drum containment in good condition (no liquid or leaks)?		
Oil tanks in good condition?		
Outside oil tank secondary containment free of liquid?		
Evidence of leaks or spills?		
Drum tops or openings are secured?		
Spill kit present and stocked? Including oil boom at doorway?		
LUBE BUILDING	**YES**	**NO**
Drums in good condition?		
Drum tops or openings are secured?		
Oil tanks in good condition?		
Secondary containment for 1,000-gal tank free of liquids?		
Evidence of spills or leaks?		
Dead-end sump secondary containment free of liquids?		
Spill kit present and stocked, including oil boom at main door?		
END STACKERS AND LOG MACHINES	**YES**	**NO**
Evidence of oil leaks?		
Regular maintenance being performed?		
RIVER LOG RETRIEVAL AREA	**YES**	**NO**
Spill kit present and stocked?		
Evidence of spills or leaks?		
GENERAL YARD AREA	**YES**	**NO**
Visible oil in oil/water separators or sediment > 6 inches?		
Evidence of spills or leaks?		
Evidence of oil in the perimeter ditch?		

Comments: _____

_____

Inspector's Name: _____

Signature: _____ Date: _____

APPENDIX D

SPCC Training Record

APPENDIX D
SPCC PLAN TRAINING COURSE OUTLINE

I. FEDERAL AND STATE LAW PROHIBITING DISCHARGE

A. Definition of "Harmful Quantity"

B. Reporting requirements

C. Requirement to prepare SPCC plan

D. Penalties for noncompliance

II. SPCC PLAN

A. Location of oil storage and storage requirements

B. Operating procedures

   a. Fueling stations

   b. Boiler fuel tank

   c. Removing product from small tanks and drums

C. Inspections

   a. Monthly facility inspections

   b. Daily end stacker inspections and mobile equipment inspections

D. Spill Response

   a. Response procedures

   b. Spill kit locations

   c. Internal notification

   d. Use of spill contractors

   e. Disposal of spilled material

TRAINING RECORD

Training Date: _____

Instructor: _____

Attendee Signatures:

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

APPENDIX E

SPCC Plan Review Log

APPENDIX E
SPCC PLAN REVIEW LOG

The following log is a record of reviews and evaluations of this SPCC plan as required by 40 CFR 112.5 and as described in Section 9.0 of this plan.

DATE OF REVIEW	REVIEWER	REVIEW RESULTS (check one)
	Name: Signature:	This plan requires amendment ___ This plan does not require amendment ___
	Name: Signature:	This plan requires amendment ___ This plan does not require amendment ___
	Name: Signature:	This plan requires amendment ___ This plan does not require amendment ___
	Name: Signature:	This plan requires amendment ___ This plan does not require amendment ___
	Name: Signature:	This plan requires amendment ___ This plan does not require amendment ___

HON. MARSHA J. PECHMAN

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF WASHINGTON
AT SEATTLE

PUGET SOUNDKEEPER ALLIANCE, Plaintiff, v. BUSE TIMBER & SALES, INC., Defendant.	No. 2:15-cv-01460-MJP CONSENT DECREE

I. STIPULATIONS

Plaintiff Puget Soundkeeper Alliance sent a sixty-day notice of intent to sue letter to Defendant Buse Timber & Sales, Inc. on or about June 25, 2015, and filed a complaint on September 11, 2015, alleging violations of the Clean Water Act, 33 U.S.C. § 1251 *et seq.*, relating to discharges of stormwater from Buse's facility in Everett, Washington, and seeking declaratory and injunctive relief, civil penalties and attorneys' fees and costs.

Puget Soundkeeper Alliance recognizes that Buse is an employee-owned company and an important member of the local community, and unable to afford a substantial penalty payment.

Puget Soundkeeper Alliance and Buse agree that settlement of this matter is in the best interest of the parties and the public, and that entry of this Consent Decree is the most appropriate means of resolving this action.

Puget Soundkeeper Alliance and Buse stipulate to the entry of this Consent Decree without

trial, adjudication, or admission of any issues of fact or law regarding Puget Soundkeeper Alliance's claims or allegations set forth in its complaint and its sixty-day notice.

DATED this 10th day of May, 2016.

MONTGOMERY PURDUE BLANKINSHIP & AUSTIN PLLC

By _____
Michael E. Gossler, WSBA #11044
Attorneys for Defendant Buse Timber & Sales, Inc.

SMITH & LOWNEY PLLC

By _____
Richard A. Smith, WSBA #21788
Meredith A. Crafton, WSBA #46558
Attorneys for Plaintiff Puget Soundkeeper Alliance

BUSE TIMBER & SALES, INC.

By _____
Tom Parks
Buse Timber & Sales, Inc., President

PUGET SOUNDKEEPER ALLIANCE

By _____
Chris Wilke
Puget Soundkeeper Alliance, Executive Director

II. ORDER AND DECREE

THIS MATTER came before the Court upon the foregoing Stipulations of the parties. Having considered the Stipulations and the promises set forth below, the Court hereby ORDERS, ADJUDGES, and DECREES as follows:

1. This Court has jurisdiction over the parties and subject matter of this action.

2. Each signatory for the parties certifies for that party that he or she is authorized to enter into the agreements set forth below.

3. This Consent Decree applies to and binds the parties and their successors and assigns.

4. This Consent Decree and any injunctive relief ordered within will apply to the operation, oversight, or both by Buse at its facility located at or about 3812 28th Pl. NE, Everett, WA 98201-8602 ("Facility"), which is subject to National Pollutant Discharge Elimination System Permit No. WAR000097 ("NPDES permit").

5. This Consent Decree is a full and complete settlement and release of all the claims in the complaint, the sixty-day notice and all other claims known and unknown, contingent or otherwise, for any acts or omissions, existing as of the date of entry of this Consent Decree, that could be asserted under the Clean Water Act, 33 U.S.C. §§ 1251-1387, arising from operations of the Facility against Buse, its subsidiaries, employees, agents, successors and assigns. These claims are released and dismissed with prejudice.

6. This Consent Decree is a settlement of disputed facts and law.

7. Buse agrees to the following terms and conditions in full and complete satisfaction of all the claims covered by this Consent Decree:

a. Buse will comply fully with all conditions of its NPDES Permit and any successor, modified, or replacement permit authorizing discharges of stormwater associated with industrial activity from the Facility. Maintaining full compliance with the ISGP includes but is not limited to fully implementing Ecology's "Draft 2013 Implementation Manual for Log Yards" and incorporating the manual as well as its best management practices (BMPs) into the Facility's SWPPP.

b. Within thirty days of the entry of this Consent Decree, Buse will update its SWPPP to include:

i. A description of wash pad and containment vault as well as a prohibition on vehicle washing anywhere except new wash pad;

ii. A site map that represents true site conditions which omits SW grassy area that is not used for industrial activity and which does not drain or connect to any industrial area.

iii. Proper descriptions of site surfaces as paved, unpaved or vegetated.

iv. All other required BMPs in this Consent Decree or applicable from the ISGP.

c. Within thirty days of the entry of this Consent Decree, Buse will remove the accumulation of wood debris resulting from the delivery and offloading of logs on, around, and immediately west of its log float beach on Union Slough, and to dispose of this waste properly with other mill wood waste.

d. Buse will conduct log float beach and ramp, activity in accordance with Buse's Aquatic Lease with Washington State Department of Natural Resources and maintain the ramp and adjacent beach areas as specified in the Aquatic Lease (Attachment A to this Consent Decree) under sections 2.2 Restrictions on Use, 8.2 Use of Hazardous Substances, and 8.6 Cleanup.

e. Within thirty days of the entry of this Consent Decree, Buse will amend its SWPPP to include (1) a description of log float beach and ramp areas and activities, and (2) a listing of potential pollutant sources attributable to activity.

f. Buse will maintain the non-paved temporary log storage area west of the ramp, where stormwater runoff drains into the Buse facility, applicable BMPs specified in the Ecology's "Draft 2013 Implementation Manual for Log Yards."

g. Buse will resume quarterly sampling at DP-1 for all parameters immediately. The sample taken on Jan 19, 2016 may be the first sample.

h. Within thirty days of the entry of this Consent Decree, Buse will revise description of DP-1 sampling point in its SWPPP to note that the sampling point is only appropriate when the sampler employs a substantial reach with a sampling pole approximately 8 feet up the north ditch from the tide gate to avoid comingling of

sample with discharge from the swirling confluence with the south ditch and effluent from the west ditch.

i. Buse will properly maintain, replace and dispose of soiled surface booms and include in its SWPPP a schedule for replacing the boom as necessary, but no less frequently than every year, and properly disposing of soiled booms.

j. Within thirty days of the entry of this Consent Decree, Buse will update the Facility's SWPPP to include a description of the berm on the southern border of the facility and engineer approval of the berm. Buse will include in its SWPPP and at a minimum employ the following berm-specific BMPs to ensure that no runoff from Buse's yard enters the south ditch:

i. Closely inspect the south log yard and berm monthly for signs of deterioration and/or seepage to ensure berm is maintained and vegetated/stabilized;

ii. Keep equipment and facility operations a safe distance away from the berm to prevent impacting or damaging the berm;

iii. Repair berm immediately if damaged or inspections reveal signs of deterioration;

iv. Maintain full vegetative coverage or other form of stabilization of berm and buffer area. Replant vegetation as needed in the event of damage or die-off;

v. Maintain berm at a sufficient height to prevent overflow and seepage.

k. Within thirty days of the entry of this Consent Decree, Buse will replace the silt curtains and update its SWPPP to include regular silt curtain inspection and the following BMPs:

i. Clean or replace silt curtains immediately if inspection and/or benchmark exceedance reveals the need to do so;

ii. Include detailed silt curtain cleaning and replacement procedures in SWPPP to adequately protect against illicit discharge of solids in north ditch during silt curtain cleaning and replacement and require proper disposal of used silt curtains.

l. Within thirty days of the entry of this Consent Decree, Buse will provide a copy of the updated SWPPP to Soundkeeper for comments. Within thirty (30) days receipt of Soundkeeper's comments, Buse will make a good faith effort to respond and further revise the SWPPP as Buse's stormwater consultant deems appropriate.

m. Buse will, for a period of three (3) years beginning on the date that this Consent Decree is entered by the Court, forward copies to Soundkeeper of all written or electronic communications between it and Ecology related to the NPDES permit, the Clean Water Act, and stormwater discharges from the Facility. During this same period, Buse shall forward copies to Soundkeeper of all inspection reports and/or checklists of all visual monitoring conducted at the Facility pursuant to the terms and conditions of the NPDES permit. All copies shall be forwarded electronically to Soundkeeper on a quarterly basis and not later than the forty-fifth (45th) day following the end of each calendar quarter.

8. Not later than seven (7) days after the entry of this Consent Decree by this Court, Buse will pay four thousand dollars ($4,000) to the Rose Foundation for Communities and the Environment for a project or projects to improve or protect the water quality of Puget Sound as described in **Attachment B** this Consent Decree. Checks will be made to the order of and delivered to: The Rose Foundation for Communities and the Environment. Payment will include the following reference in a cover letter or on the check: "Consent Decree, Puget Soundkeeper Alliance v. Buse Timber & Sales, Inc." A copy of the check and cover letter, if any, will be sent simultaneously to Puget Soundkeeper Alliance and its counsel.

9. Within seven (7) days of entry of this Consent Decree by the Court, Buse shall pay Puget Soundkeeper Alliance's actual litigation fees, expenses, and costs (including reasonable attorney and expert witness fees) incurred in this matter in the amount of forty thousand dollars ($40,000) by check payable and mailed to Smith & Lowney, PLLC, 2317 East John St., Seattle, WA 98112, attn: Richard A. Smith. Buse's payment shall be in full and complete satisfaction of any claims Puget Soundkeeper Alliance has or may have, either legal or equitable, and of any kind or nature whatsoever, for fees, expenses, and costs incurred in the litigation.

10. A force majeure event is any event outside the reasonable control of Buse that causes a delay in performing tasks required by this decree that cannot be cured by due diligence. Delay in performance of a task required by this decree caused by a force majeure event is not a failure to comply with the terms of this decree, provided that Buse notifies Puget Soundkeeper Alliance of the event; the steps that Buse will take to perform the task; the projected time that will be needed to complete the task; and the measures that have been taken or will be taken to

prevent or minimize any impacts to stormwater quality resulting from delay in completing the task.

Buse will notify Puget Soundkeeper Alliance of the occurrence of a force majeure event as soon as reasonably possible but, in any case, no later than thirty days after the occurrence of the event. In such event, the time for performance of the task will be extended for a reasonable period of time following the force majeure event.

By way of example and not limitation, force majeure events include

a. Acts of God, war, insurrection, or civil disturbance;

b. Earthquakes, landslides, fire, floods;

c. Actions or inactions of third parties over which Buse has no control;

d. Unusually adverse weather conditions;

e. Restraint by court order or order of public authority;

f. Strikes;

g. Any permit or other approval sought by Buse from a government authority to implement any of the actions required by this consent decree where such approval is not granted or is delayed, and where Buse has timely and in good faith sought the permit or approval; and

h. Litigation, arbitration, or mediation that causes delay.

11. This Court retains jurisdiction over this matter. And, while this Decree remains in force, this case may be reopened without filing fee so that the parties may apply to the Court for any further order that may be necessary to enforce compliance with this decree or to resolve any dispute regarding the terms or conditions of this Decree. In the event of a dispute regarding implementation of, or compliance with, this Decree, the parties must first attempt to resolve the dispute by meeting to

discuss the dispute and any suggested measures for resolving the dispute as provided in section 17 of this Decree. The provisions of section 505(d) of the Clean Water Act, 33 U.S.C. § 1365(d), regarding awards of costs of litigation (including reasonable attorney and expert witness fees) to any prevailing or substantially prevailing party, will apply to any proceedings seeking to enforce the terms and conditions of this Consent Decree.

12. The parties recognize that, pursuant to 33 U.S.C. § 1365(c)(3), no consent judgment can be entered in a Clean Water Act suit in which the United States is not a party prior to 45 days following the receipt of a copy of the proposed consent judgment by the U.S. Attorney General and the Administrator of the U.S. Environmental Protection Agency (EPA). Therefore, upon the filing of this Consent Decree by the parties, Puget Soundkeeper Alliance will serve copies of it upon the Administrator of the EPA and the Attorney General, with copy to Buse.

13. This Consent Decree will take effect upon entry by this Court. It terminates three (3) years after that date, or 90 days after the parties' completion of all obligations imposed by this Decree, whichever is later.

14. Both parties have participated in drafting this decree.

15. This Consent Decree may be modified only upon the approval of the Court.

16. If for any reason the court should decline to approve this Consent Decree in the form presented, this Consent Decree is voidable at the discretion of either party. The parties agree to continue negotiations in good faith in an attempt to cure any objection raised by the court to entry of this Consent Decree.

17. Notifications required by this Consent Decree must be in writing. The sending party may use any of the following methods of delivery: (1) personal delivery; (2) registered or certified mail, in each case return receipt requested and postage prepaid; (3) a nationally recognized overnight

courier, with all fees prepaid; or (4) e-mail. For a notice or other communication regarding this decree to be valid, it must be delivered to the receiving party at the one or more addresses listed below or to any other address designated by the receiving party in a notice in accordance with this paragraph 17.

if to Puget Soundkeeper Alliance:
Katelyn Kinn

and to:
Richard Smith
Smith & Lowney PLLC
2317 East John St.
Seattle, WA 98112
email: rasmithwa@igc.org

if to Buse:
Tom Parks

and to:
Mike Gossler
Montgomery Purdue Blankinship & Austin PLLC
701 Fifth Avenue, Suite 5500
Seattle, Washington 98104

A notice or other communication regarding this Consent Decree will be effective when received unless the notice or other communication is received after 5:00 p.m. on a business day, or on a day that is not a business day, then the notice will be deemed received at 9:00 a.m. on the next business day. A notice or other communication will be deemed to have been received: (a) if it is delivered in person or sent by registered or certified mail or by nationally recognized overnight courier, upon receipt as indicated by the date on the signed receipt; or (b) if the receiving party rejects or otherwise refuses to accept it, or if it cannot be delivered because of a change in address for which no notice was given, then upon that rejection, refusal, or inability to deliver; or (c) for notice provided via e-mail, upon receipt of a response by the party providing notice or other communication regarding this Consent Decree.

DATED this 6th day of ___July___, 2016.

Marsha J. Pechman
United States District Judge

Presented by:

MONTGOMERY PURDUE BLANKINSHIP & AUSTIN PLLC

By _____
Michael E. Gossler WSBA #11044
Attorneys for Defendant Buse Timber & Sales, Inc.

SMITH & LOWNEY, PLLC

By _____
Richard A. Smith WSBA #21788
Meredith A. Crafton WSBA #46558
Attorneys for Plaintiff
Puget Soundkeeper Alliance

Appendix E: Environmental Database Report

DATABASE REPORT

Project Property:	*Alterra - Buse* *Buse* *Everett WA 98201*
Project No:	*Alterra - Everett*
Report Type:	*Database Report*
Order No:	*21061500391*
Requested by:	*Apex Companies, LLC*
Date Completed:	*June 17, 2021*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

Table of Contents

Executive Summary

Property Information:

Project Property:	*Alterra - Buse* *Buse Everett WA 98201*
Project No:	*Alterra - Everett*

Coordinates:

Latitude:	*48.02127966*
Longitude:	*-122.17840849*
UTM Northing:	*5,318,991.91*
UTM Easting:	*561,261.61*
UTM Zone:	*UTM Zone 10U*

Elevation: *1 FT*

Order Information:

Order No:	*21061500391*
Date Requested:	*June 15, 2021*
Requested by:	*Apex Companies, LLC*
Report Type:	*Database Report*

Historicals/Products:

Aerial Photographs	*Historical Aerials (Boundaries)*
City Directory Search	*CD - 2 Street Search*
ERIS Xplorer	*ERIS Xplorer*
Excel Add-On	*Excel Add-On*
Fire Insurance Maps	*US Fire Insurance Maps*
Physical Setting Report (PSR)	*Physical Setting Report (PSR)*
Topographic Map	*Topographic Maps*

Executive Summary: Report Summary

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Standard Environmental Records								
Federal								
DOE FUSRAP	Y	1	0	0	0	0	0	0
NPL	Y	1	0	0	0	0	0	0
PROPOSED NPL	Y	1	0	0	0	0	0	0
DELETED NPL	Y	0.5	0	0	0	0	-	0
SEMS	Y	0.5	0	0	0	0	-	0
ODI	Y	0.5	0	0	0	0	-	0
SEMS ARCHIVE	Y	0.5	**1**	0	0	0	-	**1**
CERCLIS	Y	0.5	**1**	0	0	0	-	**1**
IODI	Y	0.5	0	0	0	0	-	0
CERCLIS NFRAP	Y	0.5	**1**	0	0	0	-	**1**
CERCLIS LIENS	Y	PO	0	-	-	-	-	0
RCRA CORRACTS	Y	1	0	0	0	0	0	0
RCRA TSD	Y	0.5	0	0	0	0	-	0
RCRA LQG	Y	0.25	0	0	0	-	-	0
RCRA SQG	Y	0.25	0	0	0	-	-	0
RCRA VSQG	Y	0.25	0	0	0	-	-	0
RCRA NON GEN	Y	0.25	**1**	0	**2**	-	-	**3**
FED ENG	Y	0.5	0	0	0	0	-	0
FED INST	Y	0.5	0	0	0	0	-	0
LUCIS	Y	0.5	0	0	0	0	-	0
ERNS 1982 TO 1986	Y	PO	0	-	-	-	-	0
ERNS 1987 TO 1989	Y	PO	0	-	-	-	-	0
ERNS	Y	PO	**1**	-	-	-	-	**1**
FED BROWNFIELDS	Y	0.5	0	0	0	0	-	0
FEMA UST	Y	0.25	0	0	0	-	-	0
FRP	Y	0.25	0	0	0	-	-	0
HIST GAS STATIONS	Y	0.25	0	0	0	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
REFN	Y	0.25	0	0	0	-	-	0
BULK TERMINAL	Y	0.25	0	0	0	-	-	0
SEMS LIEN	Y	PO	0	-	-	-	-	0
SUPERFUND ROD	Y	1	0	0	0	0	0	0
State								
HSL	Y	1	0	0	0	0	**3**	**3**
CSCSL	Y	1	0	0	**1**	0	**6**	**7**
DELISTED SHWS	Y	1	0	0	0	0	**1**	**1**
CSCSL NFA	Y	0.5	**1**	0	**1**	0	-	**2**
SWF/LF	Y	0.5	0	0	**3**	**1**	-	**4**
RECYCLERS	Y	0.5	0	0	0	**1**	-	**1**
WASTE TIRE	Y	0.5	0	0	0	0	-	0
LUST	Y	0.5	0	0	**1**	0	-	**1**
LUST PTAP	Y	0.5	0	0	0	0	-	0
UST LOAN	Y	0.5	0	0	0	0	-	0
LST HOT	Y	0.5	0	0	0	0	-	0
UST	Y	0.25	**1**	0	**2**	-	-	**3**
DELISTED LST	Y	0.5	0	0	0	0	-	0
AST	Y	0.25	0	0	0	-	-	0
AST SPL PREV	Y	0.25	0	0	0	-	-	0
DELISTED TNK	Y	0.25	0	0	0	-	-	0
INST	Y	0.5	0	0	0	0	-	0
VCP	Y	0.5	**1**	0	**1**	0	-	**2**
BROWNFIELDS	Y	0.5	0	0	0	0	-	0
Tribal								
INDIAN LUST	Y	0.5	0	0	0	0	-	0
INDIAN UST	Y	0.25	0	0	0	-	-	0
DELISTED ILST	Y	0.5	0	0	0	0	-	0
DELISTED IUST	Y	0.25	0	0	0	-	-	0
County								
SNO SWF/LF	Y	0.5	**1**	0	**6**	**2**	-	**9**

Additional Environmental Records

Federal

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
PFAS NPL	Y	0.5	0	0	0	0	-	0
FINDS/FRS	Y	PO	**1**	**1**	-	-	-	**2**
TRIS	Y	PO	0	-	-	-	-	0
PFAS TRI	Y	0.5	0	0	0	0	-	0
PFAS WATER	Y	0.5	0	0	0	0	-	0
HMIRS	Y	0.125	0	0	-	-	-	0
NCDL	Y	0.125	0	0	-	-	-	0
TSCA	Y	0.125	0	0	-	-	-	0
HIST TSCA	Y	0.125	0	0	-	-	-	0
FTTS ADMIN	Y	PO	**1**	-	-	-	-	**1**
FTTS INSP	Y	PO	**1**	-	-	-	-	**1**
PRP	Y	PO	0	-	-	-	-	0
SCRD DRYCLEANER	Y	0.5	0	0	0	0	-	0
ICIS	Y	PO	**1**	-	-	-	-	**1**
FED DRYCLEANERS	Y	0.25	0	0	0	-	-	0
DELISTED FED DRY	Y	0.25	0	0	0	-	-	0
FUDS	Y	1	0	0	0	0	0	0
FORMER NIKE	Y	1	0	0	0	0	0	0
PIPELINE INCIDENT	Y	PO	0	-	-	-	-	0
MLTS	Y	PO	0	-	-	-	-	0
HIST MLTS	Y	PO	0	-	-	-	-	0
MINES	Y	0.25	0	0	0	-	-	0
SMCRA	Y	1	0	0	0	0	0	0
MRDS	Y	1	0	0	0	0	**1**	**1**
URANIUM	Y	1	0	0	0	0	0	0
ALT FUELS	Y	0.25	0	0	0	-	-	0
SSTS	Y	0.25	0	0	0	-	-	0
PCB	Y	0.5	0	0	0	0	-	0
State								
SPILLS	Y	0.125	**1**	0	-	-	-	**1**
SPILLS WATER	Y	0.125	0	0	-	-	-	0
ALL SITES	Y	0.5	**1**	**1**	**9**	**7**	-	**18**
ERTS	Y	0.125	**1**	0	-	-	-	**1**
ICR	Y	0.5	**1**	0	**2**	**1**	-	**4**
DRYCLEANERS	Y	0.25	0	0	0	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
DELISTED DRYCLEANERS	Y	0.25	0	0	0	-	-	0
TIER 2	Y	0.125	0	0	-	-	-	0
CDL	Y	PO	0	-	-	-	-	0
HIST CDL	Y	PO	0	-	-	-	-	0
AIR PERMITS	Y	0.25	0	0	0	-	-	0
UIC	Y	PO	0	-	-	-	-	0

Tribal ***No Tribal additional environmental record sources available for this State.***

County ***No County additional environmental databases were selected to be included in the search.***

Total:	***17***	***2***	***28***	***12***	***11***	***70***

**** PO – Property Only***
**** 'Property and adjoining properties' database search radii are set at 0.25 miles.***

Executive Summary: Site Report Summary - Project Property

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
1	CERCLIS	BUSE TIMBER & SALES INC	3812 28TH PLACE NE EVERETT WA 98206 ***Site EPA ID:*** *WAD009480542*	NNW	0.00 / 0.00	0	29
1	CERCLIS NFRAP	BUSE TIMBER & SALES INC	3812 28TH PLACE NE EVERETT WA 98206 ***Site EPA ID:*** *WAD009480542*	NNW	0.00 / 0.00	0	30
1	RCRA NON GEN	BUSE TIMBER & SALES INC	3812 28TH PL NE EVERETT WA 98206 ***EPA Handler ID:*** *WAD009480542*	NNW	0.00 / 0.00	0	32
1	FINDS/FRS	BUSE TIMBER & SALES INC	3812 28TH PL NE EVERETT WA 98205-3209	NNW	0.00 / 0.00	0	37
1	CSCSL NFA	BUSE TIMBER & SALES INC	3812 28TH PL NE EVERETT WA 98205	NNW	0.00 / 0.00	0	38
1	UST	BUSE TIMBER & SALES INC	3812 28TH PL NE PO BOX 5226 Everett WA 98206 ***UST ID | Site Active:*** *11428 | No* ***Tank Name | Tank Status:*** *EAST TANK | Removed, DIP TANK | Exempt - Removed, WEST TANK | Removed, GAS TANK | Removed*	NNW	0.00 / 0.00	0	39
1	ALL SITES	BUSE TIMBER & SALES INC	3812 28TH PL NE EVERETT WA 98205-3209	NNW	0.00 / 0.00	0	41
1	ERNS		3812 28TH PLACE NE EVERETT WA	NNW	0.00 / 0.00	0	42
1	FTTS ADMIN	BUSE TIMBER & SALES	3812 28TH PL NE EVERETT WA 98206-	NNW	0.00 / 0.00	0	44
1	FTTS INSP	BUSE TIMBER & SALES	3812 28TH PL NE EVERETT WA 98206-	NNW	0.00 / 0.00	0	44
1	ICR	BUSE TIMBER & SALES INC	3812 28TH PL NE EVERETT WA 98205-3209	NNW	0.00 / 0.00	0	44
1	ICIS	BUSE TIMBER & SALES INC	3812 28TH PL NE EVERETT WA 98205-3209	NNW	0.00 / 0.00	0	45
1	SEMS ARCHIVE	BUSE TIMBER & SALES INC	3812 28TH PLACE NE EVERETT WA 98206 ***EPA ID:*** *WAD009480542*	NNW	0.00 / 0.00	0	45

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
1	VCP	BUSE TIMBER & SALES INC	3812 28TH PL NE EVERETT WA 98205	NNW	0.00 / 0.00	0	46
1	SNO SWF/LF	BUSE Timber (EPA Super Fund)	3812 28th Pl NE Everett WA 98205	NNW	0.00 / 0.00	0	46
1	ERTS	Buse Timber & Sales	3812 28th Pl NE Everett WA 98201	NNW	0.00 / 0.00	0	47
1	SPILLS		3812 28TH PL NE EVERETT WA ***Incident ID*	*Incident Date:*** *653218*	NNW	0.00 / 0.00	0	47

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
2	FINDS/FRS	SOUTH PARCEL FILL	28TH PLACE SE EVERETT WA 98201	WNW	0.01 / 31.58	0	48
3	ALL SITES	I-5/NB Marine View Drive to SR 529	WA 98205	ESE	0.04 / 227.25	0	48
4	ALL SITES	South Parcel Fill	28th Place SE Everett WA 98201	W	0.13 / 703.01	9	49
5	ALL SITES	NORTHWEST GRANITE EVERETT SITE	2111 ROSS AVE EVERETT WA 98205	SW	0.14 / 744.39	3	49
5	SNO SWF/LF	Granite Construction - Smith Island hot mix & recycle facility	2111 Ross Ave Everett WA 98201	SW	0.14 / 744.39	3	50
5	SNO SWF/LF	Granite Construction - Smith Island Asphalt Plant (RAS)	2111 Ross Ave Everett WA 98205	SW	0.14 / 744.39	3	50
6	SWF/LF	Granite Construction Company - Smith Island Plant	2111 Ross Ave NE Everett WA 98205	SW	0.15 / 768.07	2	50
7	ALL SITES	MCCLEAN IRON WORKS STEEL FAB FAC	2102 ROSS AVE EVERETT WA 98201	SW	0.15 / 815.69	2	51
7	SNO SWF/LF	McClean Iron Works	2102 Ross Ave Everett WA 98201	SW	0.15 / 815.69	2	51
8	ALL SITES	BMC West Truss & Components	3200 35TH AVE NE EVERETT WA 98201	NW	0.17 / 903.51	12	51
9	UST	HENRY BACON BUILDING MATERIALS INC	3200 35TH NE Everett WA 98201	NW	0.17 / 906.59	12	52

UST ID | Site Active: 9630 | No
Tank Name | Tank Status: 4 | Closed in Place, 3 | Closed in Place, 1 | Removed, 2 | Removed

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
9	ALL SITES	HENRY BACON BLDG MATERIALS INC UST 9630	3200 35TH NE EVERETT WA 98201	NW	0.17 / 906.59	12	54
10	RCRA NON GEN	GLACIER NORTHWEST INC EVERETT	2222 ROSS AVE NE EVERETT WA 98205 ***EPA Handler ID:*** WAR000001503	WSW	0.19 / 989.86	8	54
10	CSCSL NFA	Glacier Northwest Inc Everett	2222 ROSS AVE NE EVERETT WA 98205	WSW	0.19 / 989.86	8	58
10	UST	LONE STAR NORTHWEST	2222 ROSS AVE NE Marysville WA 98205 ***UST ID | Site Active:*** 101259 | No ***Tank Name | Tank Status:*** 1 | Removed	WSW	0.19 / 989.86	8	59
10	ALL SITES	Glacier Northwest Inc Everett	2222 ROSS AVE NE EVERETT WA 98205	WSW	0.19 / 989.86	8	59
10	ICR	Glacier Northwest Inc Everett	2222 ROSS AVE NE EVERETT WA 98205	WSW	0.19 / 989.86	8	61
10	VCP	Glacier Northwest Inc Everett	2222 ROSS AVE NE EVERETT WA 98205	WSW	0.19 / 989.86	8	62
10	LUST	Glacier Northwest Inc Everett	2222 ROSS AVE NE EVERETT WA 98205 ***Facility Site ID:*** 1343693	WSW	0.19 / 989.86	8	63
11	RCRA NON GEN	MERCER MARINE AT DAGMARS	2010 ROSS AVE MARYSVILLE WA 98270 ***EPA Handler ID:*** WAD988503041	SSW	0.19 / 1,004.58	2	64
11	ALL SITES	Mercer Marine AT Dagmars	2010 ROSS AVE MARYSVILLE WA 98270-9183	SSW	0.19 / 1,004.58	2	66
12	SWF/LF	Heritage Environmental Services, LLC	2323 Ross Ave Everett WA 98205	WSW	0.19 / 1,013.92	9	67
12	SNO SWF/LF	CALPORTLAND CO	2323 Ross Ave Everett WA 98205	WSW	0.19 / 1,013.92	9	67
13	SWF/LF	Dagmars Marina	1871 Ross Ave Everett WA 98801	SSW	0.22 / 1,181.43	2	67

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
13	CSCSL	DAGMARS MARINA	1871 ROSS AVE EVERETT WA 98205	SSW	0.22 / 1,181.43	2	68
13	ALL SITES	DAGMARS MARINA	1871 ROSS AVE EVERETT WA 98205	SSW	0.22 / 1,181.43	2	68
13	ICR	DAGMARS MARINA	1871 ROSS AVE EVERETT WA 98205	SSW	0.22 / 1,181.43	2	69
13	SNO SWF/LF	Dagmars Marina	1871 Ross Ave Everett WA 98205	SSW	0.22 / 1,181.43	2	70
13	SNO SWF/LF	Dagmars Marina Moderate Risk Waste	1871 Ross Ave Everett WA 98201	SSW	0.22 / 1,181.43	2	70
14	ALL SITES	GLACIER NW N & S PARCEL FILL	W OF SR 529 & N OF 28TH PL NE EVERETT WA 98201-4044	W	0.24 / 1,287.68	13	70
15	ALL SITES	SMITH ISLAND FACILITY CONST	36TH PL NE & SR 529 EVERETT WA 98205	NW	0.33 / 1,745.97	13	71
16	ALL SITES	UNION SLOUGH LEVEE	WA	E	0.37 / 1,951.68	-1	71
17	SWF/LF	Pacific Topsoils Inc - Smith Island	3000 Frontage Road Everett WA 98205	WNW	0.38 / 2,032.37	14	71
17	ALL SITES	Tulalip Water Pipeline Segment 4	3000 34th Ave NE Everett WA 98205	WNW	0.38 / 2,032.37	14	72
17	SNO SWF/LF	PACIFIC TOPSOILS WASTE RECYCLING (formerly Weyerhaeuser Woodwaste)	3000 Frontage Rd Everett WA 98205	WNW	0.38 / 2,032.37	14	72
17	RECYCLERS	PACIFIC TOPSOILS - SMITH ISLAND	3000 FRONTAGE ROAD EVERETT WA 98205	WNW	0.38 / 2,032.37	14	72

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
18	ALL SITES	CONCRETE NORWEST SMITH ISLAND	3210 36TH PL NE EVERETT WA 98205	NW	0.39 / 2,040.08	13	76
19	ALL SITES	IFF Holding LLC Hima Farms	WA	SE	0.41 / 2,168.84	0	76
20	ICR	CEDAR GROVE COMPOSTING INC EVERETT	3620 36TH PL NE EVERETT WA 98201	NW	0.44 / 2,316.95	15	76
20	SNO SWF/LF	CEDAR GROVE COMPOSTING - EVERETT	3620 36th Pl NE Everett WA 982018641	NW	0.44 / 2,316.95	15	79
21	ALL SITES	Blue Heron Slough	WA	ENE	0.48 / 2,517.49	0	79
22	ALL SITES	Riverside Business Park II	Riverside Rd Everett WA 98201	SW	0.49 / 2,577.30	11	79
23	CSCSL	Weyerhaeuser Everett East	101 E MARINE VIEW DR EVERETT WA 98201	WSW	0.66 / 3,458.61	48	80
23	HSL	Weyerhaeuser Everett East	101 E MARINE VIEW DR EVERETT WA 98201	WSW	0.66 / 3,458.61	48	81
24	CSCSL	Everett Smelter	SR 529 & E MARINE VIEW DR EVERETT WA 98201	WSW	0.67 / 3,539.96	49	83
24	HSL	Everett Smelter	SR 529 & E MARINE VIEW DR EVERETT WA 98201	WSW	0.67 / 3,539.96	49	83
25	MRDS	NE EVERETT	SNOHOMISH COUNTY EVERETT WA 98201	SE	0.67 / 3,557.64	-1	84
26	CSCSL	Benson Property	501 E MARINE VIEW DR EVERETT WA 98201	SW	0.76 / 3,986.70	35	85
27	CSCSL	Weyerhaeuser Paper Co Everett	515 E MARINE VIEW DR EVERETT WA 98201-1252	SW	0.76 / 4,017.80	38	85

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
27	CSCSL	Weyerhaeuser Everett Mill E	515 E MARINE VIEW DR EVERETT WA 98201	SW	0.76 / 4,017.80	38	87
27	HSL	Weyerhaeuser Everett Mill E	515 E MARINE VIEW DR EVERETT WA 98201	SW	0.76 / 4,017.80	38	88
28	CSCSL	Legion Memorial Golf Course	144 W Marine View Dr Everett WA 98201	WSW	0.82 / 4,328.70	126	89
29	DELISTED SHWS	Everett Smelter Cleanup Site VOA	722 N BROADWAY EVERETT WA 98201	SW	0.99 / 5,213.88	112	90

Executive Summary: Summary by Data Source

Standard

Federal

SEMS ARCHIVE - SEMS List 8R Archive Sites

A search of the SEMS ARCHIVE database, dated Mar 23, 2021 has found that there are 1 SEMS ARCHIVE site(s) within approximately 0.50 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
BUSE TIMBER & SALES INC	3812 28TH PLACE NE EVERETT WA 98206	NNW	0.00 / 0.00	1
	***EPA ID**: WAD009480542*			

CERCLIS - Comprehensive Environmental Response, Compensation and Liability Information System - CERCLIS

A search of the CERCLIS database, dated Oct 25, 2013 has found that there are 1 CERCLIS site(s) within approximately 0.50 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
BUSE TIMBER & SALES INC	3812 28TH PLACE NE EVERETT WA 98206	NNW	0.00 / 0.00	1
	***Site EPA ID**: WAD009480542*			

CERCLIS NFRAP - CERCLIS - No Further Remedial Action Planned

A search of the CERCLIS NFRAP database, dated Oct 25, 2013 has found that there are 1 CERCLIS NFRAP site(s) within approximately 0.50 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
BUSE TIMBER & SALES INC	3812 28TH PLACE NE EVERETT WA 98206	NNW	0.00 / 0.00	1
	***Site EPA ID**: WAD009480542*			

RCRA NON GEN - RCRA Non-Generators

A search of the RCRA NON GEN database, dated Apr 5, 2021 has found that there are 3 RCRA NON GEN site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
BUSE TIMBER & SALES INC	3812 28TH PL NE EVERETT WA 98206	NNW	0.00 / 0.00	1
	***EPA Handler ID**: WAD009480542*			
GLACIER NORTHWEST INC EVERETT	2222 ROSS AVE NE EVERETT WA 98205	WSW	0.19 / 989.86	10
	***EPA Handler ID**: WAR000001503*			

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
MERCER MARINE AT DAGMARS	2010 ROSS AVE MARYSVILLE WA 98270 ***EPA Handler ID**: WAD988503041*	SSW	0.19 / 1,004.58	11

ERNS - Emergency Response Notification System

A search of the ERNS database, dated Nov 9, 2020 has found that there are 1 ERNS site(s) within approximately 0.02 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
	3812 28TH PLACE NE EVERETT WA	NNW	0.00 / 0.00	1

State

HSL - Hazardous Sites List

A search of the HSL database, dated Apr 12, 2021 has found that there are 3 HSL site(s) within approximately 1.00 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
Weyerhaeuser Everett East	101 E MARINE VIEW DR EVERETT WA 98201	WSW	0.66 / 3,458.61	23
Everett Smelter	SR 529 & E MARINE VIEW DR EVERETT WA 98201	WSW	0.67 / 3,539.96	24
Weyerhaeuser Everett Mill E	515 E MARINE VIEW DR EVERETT WA 98201	SW	0.76 / 4,017.80	27

CSCSL - Confirmed and Suspected Contaminated Sites List

A search of the CSCSL database, dated Apr 12, 2021 has found that there are 7 CSCSL site(s) within approximately 1.00 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
DAGMARS MARINA	1871 ROSS AVE EVERETT WA 98205	SSW	0.22 / 1,181.43	13
Weyerhaeuser Everett East	101 E MARINE VIEW DR EVERETT WA 98201	WSW	0.66 / 3,458.61	23
Everett Smelter	SR 529 & E MARINE VIEW DR EVERETT WA 98201	WSW	0.67 / 3,539.96	24

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
Benson Property	501 E MARINE VIEW DR EVERETT WA 98201	SW	0.76 / 3,986.70	26
Weyerhaeuser Paper Co Everett	515 E MARINE VIEW DR EVERETT WA 98201-1252	SW	0.76 / 4,017.80	27
Weyerhaeuser Everett Mill E	515 E MARINE VIEW DR EVERETT WA 98201	SW	0.76 / 4,017.80	27
Legion Memorial Golf Course	144 W Marine View Dr Everett WA 98201	WSW	0.82 / 4,328.70	28

DELISTED SHWS - Delisted Confirmed and Suspected Contaminated Sites

A search of the DELISTED SHWS database, dated Apr 12, 2021 has found that there are 1 DELISTED SHWS site(s) within approximately 1.00 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
Everett Smelter Cleanup Site VOA	722 N BROADWAY EVERETT WA 98201	SW	0.99 / 5,213.88	29

CSCSL NFA - No Further Action Sites List

A search of the CSCSL NFA database, dated Apr 12, 2021 has found that there are 2 CSCSL NFA site(s) within approximately 0.50 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
BUSE TIMBER & SALES INC	3812 28TH PL NE EVERETT WA 98205	NNW	0.00 / 0.00	1
Glacier Northwest Inc Everett	2222 ROSS AVE NE EVERETT WA 98205	WSW	0.19 / 989.86	10

SWF/LF - Solid Waste Facility Database

A search of the SWF/LF database, dated May 3, 2021 has found that there are 4 SWF/LF site(s) within approximately 0.50 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
Granite Construction Company - Smith Island Plant	2111 Ross Ave NE Everett WA 98205	SW	0.15 / 768.07	6

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
Heritage Environmental Services, LLC	2323 Ross Ave Everett WA 98205	WSW	0.19 / 1,013.92	12
Dagmars Marina	1871 Ross Ave Everett WA 98801	SSW	0.22 / 1,181.43	13
Pacific Topsoils Inc - Smith Island	3000 Frontage Road Everett WA 98205	WNW	0.38 / 2,032.37	17

RECYCLERS - Recycling Facilities

A search of the RECYCLERS database, dated Sep 16, 2020 has found that there are 1 RECYCLERS site(s) within approximately 0.50 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
PACIFIC TOPSOILS - SMITH ISLAND	3000 FRONTAGE ROAD EVERETT WA 98205	WNW	0.38 / 2,032.37	17

LUST - Leaking Underground Storage Tank (LUST) List

A search of the LUST database, dated Apr 12, 2021 has found that there are 1 LUST site(s) within approximately 0.50 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
Glacier Northwest Inc Everett	2222 ROSS AVE NE EVERETT WA 98205 ***Facility Site ID**: 1343693*	WSW	0.19 / 989.86	10

UST - Underground Storage Tanks

A search of the UST database, dated Apr 12, 2021 has found that there are 3 UST site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
BUSE TIMBER & SALES INC	3812 28TH PL NE PO BOX 5226 Everett WA 98206 ***UST ID | Site Active**: 11428 | No* ***Tank Name | Tank Status**: EAST TANK | Removed, DIP TANK | Exempt - Removed, WEST TANK | Removed, GAS TANK | Removed*	NNW	0.00 / 0.00	1
HENRY BACON BUILDING MATERIALS INC	3200 35TH NE Everett WA 98201 ***UST ID | Site Active**: 9630 | No* ***Tank Name | Tank Status**: 4 | Closed in Place, 3 | Closed in Place, 1 | Removed, 2 | Removed*	NW	0.17 / 906.59	9
LONE STAR NORTHWEST	2222 ROSS AVE NE Marysville WA 98205 ***UST ID | Site Active**: 101259 | No* ***Tank Name | Tank Status**: 1 | Removed*	WSW	0.19 / 989.86	10

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key

VCP - Voluntary Cleanup Program

A search of the VCP database, dated Apr 12, 2021 has found that there are 2 VCP site(s) within approximately 0.50 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
BUSE TIMBER & SALES INC	3812 28TH PL NE EVERETT WA 98205	NNW	0.00 / 0.00	1
Glacier Northwest Inc Everett	2222 ROSS AVE NE EVERETT WA 98205	WSW	0.19 / 989.86	10

County

SNO SWF/LF - Snohomish County Solid Waste Sites of Record

A search of the SNO SWF/LF database, dated Apr 27, 2020 has found that there are 9 SNO SWF/LF site(s) within approximately 0.50 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
BUSE Timber (EPA Super Fund)	3812 28th Pl NE Everett WA 98205	NNW	0.00 / 0.00	1
Granite Construction - Smith Island hot mix & recycle facility	2111 Ross Ave Everett WA 98201	SW	0.14 / 744.39	5
Granite Construction - Smith Island Asphalt Plant (RAS)	2111 Ross Ave Everett WA 98205	SW	0.14 / 744.39	5
McClean Iron Works	2102 Ross Ave Everett WA 98201	SW	0.15 / 815.69	7
CALPORTLAND CO	2323 Ross Ave Everett WA 98205	WSW	0.19 / 1,013.92	12
Dagmars Marina Moderate Risk Waste	1871 Ross Ave Everett WA 98201	SSW	0.22 / 1,181.43	13
Dagmars Marina	1871 Ross Ave Everett WA 98205	SSW	0.22 / 1,181.43	13

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
PACIFIC TOPSOILS WASTE RECYCLING (formerly Weyerhaeuser Woodwaste)	3000 Frontage Rd Everett WA 98205	WNW	0.38 / 2,032.37	17
CEDAR GROVE COMPOSTING - EVERETT	3620 36th Pl NE Everett WA 982018641	NW	0.44 / 2,316.95	20

Non Standard

Federal

FINDS/FRS - Facility Registry Service/Facility Index

A search of the FINDS/FRS database, dated Nov 2, 2020 has found that there are 2 FINDS/FRS site(s) within approximately 0.02 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
BUSE TIMBER & SALES INC	3812 28TH PL NE EVERETT WA 98205-3209	NNW	0.00 / 0.00	1

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
SOUTH PARCEL FILL	28TH PLACE SE EVERETT WA 98201	WNW	0.01 / 31.58	2

FTTS ADMIN - FTTS Administrative Case Listing

A search of the FTTS ADMIN database, dated Jan 19, 2007 has found that there are 1 FTTS ADMIN site(s) within approximately 0.02 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
BUSE TIMBER & SALES	3812 28TH PL NE EVERETT WA 98206-	NNW	0.00 / 0.00	1

FTTS INSP - FTTS Inspection Case Listing

A search of the FTTS INSP database, dated Jan 19, 2007 has found that there are 1 FTTS INSP site(s) within approximately 0.02 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
BUSE TIMBER & SALES	3812 28TH PL NE EVERETT WA 98206-	NNW	0.00 / 0.00	1

ICIS - Integrated Compliance Information System (ICIS)

A search of the ICIS database, dated Mar 24, 2021 has found that there are 1 ICIS site(s) within approximately 0.02 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
BUSE TIMBER & SALES INC	3812 28TH PL NE EVERETT WA 98205-3209	NNW	0.00 / 0.00	1

MRDS - Mineral Resource Data System

A search of the MRDS database, dated Mar 15, 2006 has found that there are 1 MRDS site(s) within approximately 1.00 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
NE EVERETT	SNOHOMISH COUNTY EVERETT WA 98201	SE	0.67 / 3,557.64	25

State

SPILLS - Spills Incidents Sites

A search of the SPILLS database, dated Feb 10, 2021 has found that there are 1 SPILLS site(s) within approximately 0.12 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
	3812 28TH PL NE EVERETT WA	NNW	0.00 / 0.00	1
	Incident ID **|** ***Incident Date****: 653218* |			

ALL SITES - Facility/Site Identification System

A search of the ALL SITES database, dated Apr 16, 2021 has found that there are 18 ALL SITES site(s) within approximately 0.50 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
BUSE TIMBER & SALES INC	3812 28TH PL NE EVERETT WA 98205-3209	NNW	0.00 / 0.00	1
South Parcel Fill	28th Place SE Everett WA 98201	W	0.13 / 703.01	4
NORTHWEST GRANITE EVERETT SITE	2111 ROSS AVE EVERETT WA 98205	SW	0.14 / 744.39	5
MCCLEAN IRON WORKS STEEL FAB FAC	2102 ROSS AVE EVERETT WA 98201	SW	0.15 / 815.69	7

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
BMC West Truss & Components	3200 35TH AVE NE EVERETT WA 98201	NW	0.17 / 903.51	8
HENRY BACON BLDG MATERIALS INC UST 9630	3200 35TH NE EVERETT WA 98201	NW	0.17 / 906.59	9
Glacier Northwest Inc Everett	2222 ROSS AVE NE EVERETT WA 98205	WSW	0.19 / 989.86	10
Mercer Marine AT Dagmars	2010 ROSS AVE MARYSVILLE WA 98270-9183	SSW	0.19 / 1,004.58	11
DAGMARS MARINA	1871 ROSS AVE EVERETT WA 98205	SSW	0.22 / 1,181.43	13
GLACIER NW N & S PARCEL FILL	W OF SR 529 & N OF 28TH PL NE EVERETT WA 98201-4044	W	0.24 / 1,287.68	14
SMITH ISLAND FACILITY CONST	36TH PL NE & SR 529 EVERETT WA 98205	NW	0.33 / 1,745.97	15
Tulalip Water Pipeline Segment 4	3000 34th Ave NE Everett WA 98205	WNW	0.38 / 2,032.37	17
CONCRETE NORWEST SMITH ISLAND	3210 36TH PL NE EVERETT WA 98205	NW	0.39 / 2,040.08	18
IFF Holding LLC Hima Farms	WA	SE	0.41 / 2,168.84	19
Blue Heron Slough	WA	ENE	0.48 / 2,517.49	21
Riverside Business Park II	Riverside Rd Everett WA 98201	SW	0.49 / 2,577.30	22

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
I-5/NB Marine View Drive to SR 529	WA 98205	ESE	0.04 / 227.25	3

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
UNION SLOUGH LEVEE	WA	E	0.37 / 1,951.68	16

ERTS - Environmental Report Tracking System (ERTS)

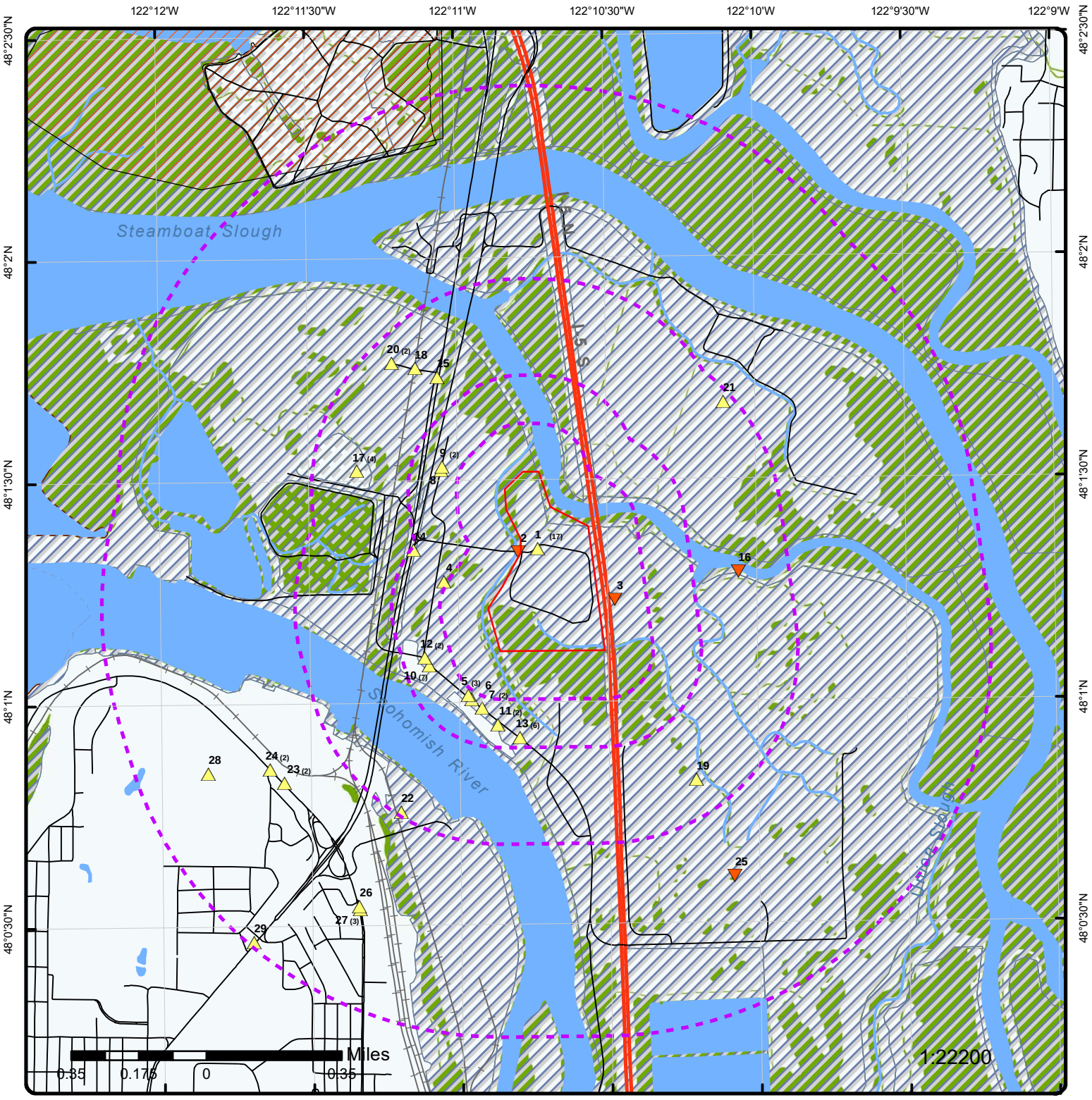
A search of the ERTS database, dated Mar 4, 2021 has found that there are 1 ERTS site(s) within approximately 0.12 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
Buse Timber & Sales	3812 28th Pl NE Everett WA 98201	NNW	0.00 / 0.00	1

ICR - Independent Cleanup Reports

A search of the ICR database, dated Nov 6, 2015 has found that there are 4 ICR site(s) within approximately 0.50 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
BUSE TIMBER & SALES INC	3812 28TH PL NE EVERETT WA 98205-3209	NNW	0.00 / 0.00	1
Glacier Northwest Inc Everett	2222 ROSS AVE NE EVERETT WA 98205	WSW	0.19 / 989.86	10
DAGMARS MARINA	1871 ROSS AVE EVERETT WA 98205	SSW	0.22 / 1,181.43	13
CEDAR GROVE COMPOSTING INC EVERETT	3620 36TH PL NE EVERETT WA 98201	NW	0.44 / 2,316.95	20



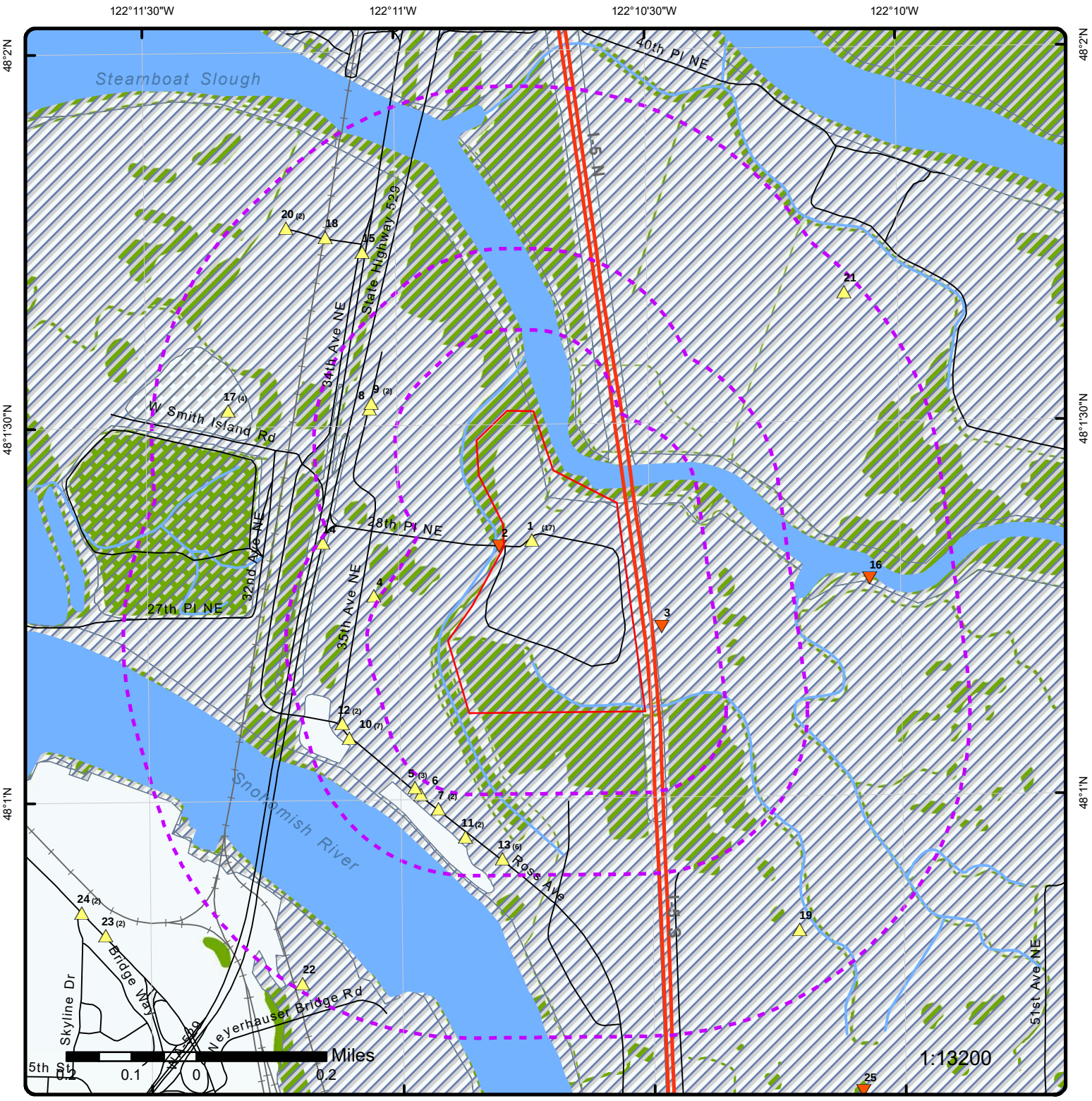
Map: 1.0 Mile Radius

Order Number: 21061500391

Address: Buse, Everett, WA

ERIS

- Buffer Outline
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- County Boundary
- Rails
- Major Highways
- Major Highways Ramps
- Major Roads
- Major Roads Ramps
- Secondary Roads
- Secondary Roads Ramps
- Local Roads and Ramps
- State Boundary
- National Priority List Sites
- National Wetland
- Indian Reserve Land
- 100 Year Flood Zone
- 500 Year Flood Zone
- Historic Fill
- FWS Special Designation Areas
- State Brownfield Sites
- State Brownfield Areas
- State Superfund Areas:Dept. of Defense
- State Superfund Areas:NPL
- WQARF Areas
- Federal Lands: Dept. of Defense (owned/administered areas)
- Plume



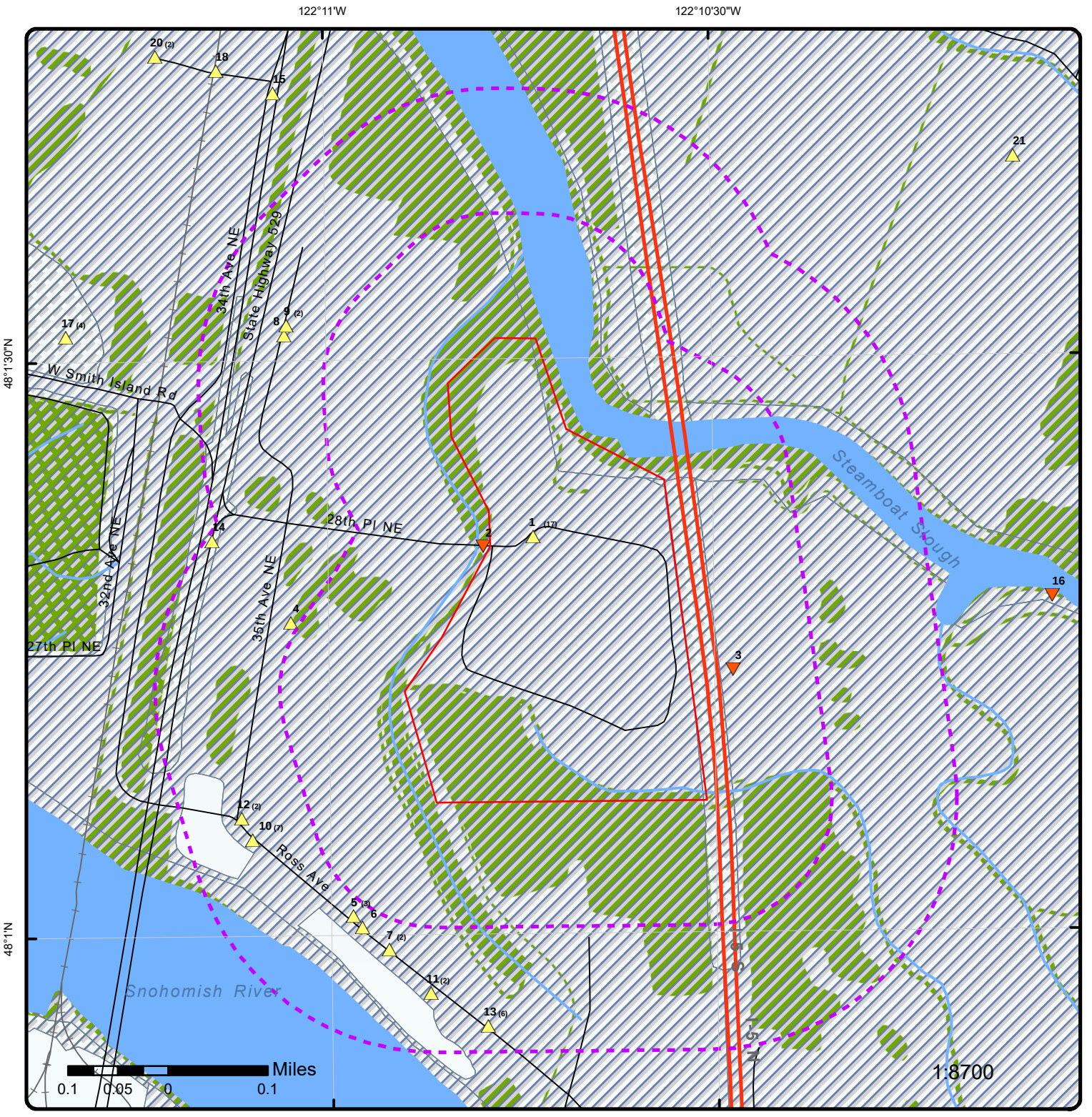
Map: 0.5 Mile Radius

Order Number: 21061500391

Address: Buse, Everett, WA

ERIS

- Buffer Outline
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- County Boundary
- Rails
- Major Highways
- Major Highways Ramps
- Major Roads
- Major Roads Ramps
- Secondary Roads
- Secondary Roads Ramps
- Local Roads and Ramps
- State Boundary
- National Priority List Sites
- National Wetland
- Indian Reserve Land
- 100 Year Flood Zone
- 500 Year Flood Zone
- Historic Fill
- FWS Special Designation Areas
- State Brownfield Sites
- State Brownfield Areas
- State Superfund Areas:Dept. of Defense
- State Superfund Areas:NPL
- WQARF Areas
- Federal Lands: Dept. of Defense (owned/administered areas)
- Plume



Map: 0.25 Mile Radius

Order Number: 21061500391

Address: Buse, Everett, WA

ERIS

- Buffer Outline
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- County Boundary
- Rails
- Major Highways
- Major Highways Ramps
- Major Roads
- Major Roads Ramps
- Secondary Roads
- Secondary Roads Ramps
- Local Roads and Ramps
- State Boundary
- National Priority List Sites
- National Wetland
- Indian Reserve Land
- 100 Year Flood Zone
- 500 Year Flood Zone
- Historic Fill
- FWS Special Designation Areas
- State Brownfield Sites
- State Brownfield Areas
- State Superfund Areas:Dept. of Defense
- State Superfund Areas:NPL
- WQARF Areas
- Federal Lands: Dept. of Defense (owned/administered areas)
- Plume

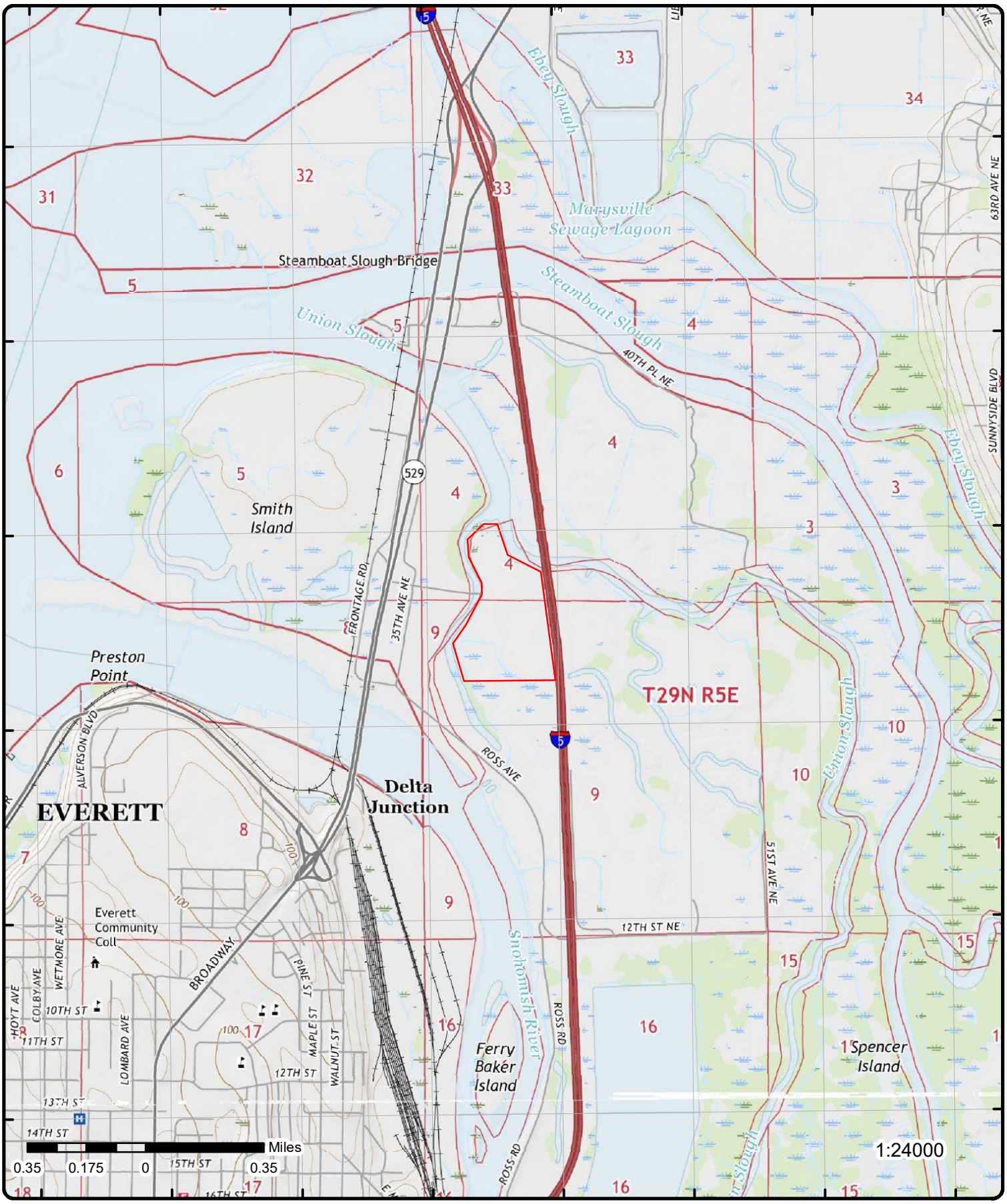
Source: © 2016 ESRI

Aerial **Year: 2020**

Address: Buse, Everett, WA

Source: ESRI World Imagery

Order Number: 21061500391



Topographic Map

Year: 2017

Order Number: 21061500391

Address: Buse, WA

Quadrangle(s): Marysville, WA; Everett, WA

Source: USGS Topographic Map

Detail Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	1 of 17	NNW	0.00 / 0.00	0.98 / 0	BUSE TIMBER & SALES INC 3812 28TH PLACE NE EVERETT WA 98206	CERCLIS

Site ID: 1001313
Site EPA ID: WAD009480542
Site Street Address 2:
Site County Name: SNOHOMISH
Site FIPS Code: 53061
Region Code: 10
Site SMSA No.: 7600
Site Prim. Latitude: 48D01M17S
Site Prim. Longitude: 122D10M00S
Lat Long Source:
RNON NPL Status Desc: NFRAP-Site does not qualify for the NPL based on existing information

RNPL Status Code: N
NPL Status: Not on the NPL
RFED Facility Code: N
RFED Facility Desc: Not a Federal Facility
USGS Hydro Unit No.: 17110011
Site Cong. Dist. Code: 01
ROT Desc: Unknown
FR NPL Update No.:
RFRA Code:

CERCLIS Assess History

OU ID: 00
Act Code ID:
RAT Code:
RAT Short Name:
RAT Name:
RAT Hist. Only Flag:
RAT NSI Indicator:
RAT Level:
RAT DEF OU:
RFBS Code:
SPA Code:
RAT Def:
Site Desc: No description available
.
Site Alias: No alias data available

RALT Short Name:
Act Start Date:
Act Complete Date:
AGT Order No.: 0
SH OU:
SH Code:
SH Seq:
SH Start Date:
SH Complete Date:
SH Lead:

CERCLIS Assess History

OU ID: 00
Act Code ID: 001
RAT Code: SI
RAT Short Name: SI
RAT Name: SITE INSPECTION
RAT Hist. Only Flag:
RAT NSI Indicator: B
RAT Level: 1
RAT DEF OU: 00
RFBS Code: P
SPA Code: 13
RAT Def: The process of collecting site data and samples to characterize the severity of the hazard for the hazard ranking score and/or enforcement support.
Site Desc:
Site Alias:

RALT Short Name: EPA Fund
Act Start Date: 8/31/1994 00:00:00
Act Complete Date: 8/31/1994 00:00:00
AGT Order No.: 160
SH OU:
SH Code:
SH Seq:
SH Start Date:
SH Complete Date:
SH Lead:

CERCLIS Assess History

OU ID: 00
Act Code ID: 001

RALT Short Name: State (Fund)
Act Start Date:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

RAT Code:	DS	**Act Complete Date:**	6/6/1989 00:00:00
RAT Short Name:	DISCVRY	**AGT Order No.:**	10
RAT Name:	DISCOVERY	**SH OU:**	
RAT Hist. Only Flag:		**SH Code:**	
RAT NSI Indicator:	B	**SH Seq:**	
RAT Level:	1	**SH Start Date:**	
RAT DEF OU:	00	**SH Complete Date:**	
RFBS Code:		**SH Lead:**	
SPA Code:	13		
RAT Def:	The process by which a potential hazardous waste site is brought to the attention of the EPA. The process can occur through the use of several mechanisms such as a phone call or referral by another government agency.		
Site Desc:			
Site Alias:			

CERCLIS Assess History

OU ID:	00	**RALT Short Name:**	EPA In-House
Act Code ID:	001	**Act Start Date:**	
RAT Code:	VS	**Act Complete Date:**	8/31/1994 00:00:00
RAT Short Name:	ARCH SITE	**AGT Order No.:**	1500
RAT Name:	ARCHIVE SITE	**SH OU:**	
RAT Hist. Only Flag:		**SH Code:**	
RAT NSI Indicator:	B	**SH Seq:**	
RAT Level:	1	**SH Start Date:**	
RAT DEF OU:	00	**SH Complete Date:**	
RFBS Code:		**SH Lead:**	
SPA Code:	13		
RAT Def:	The decision is made that no further activity is planned at the site.		
Site Desc:			
Site Alias:			

CERCLIS Assess History

OU ID:	00	**RALT Short Name:**	State (Fund)
Act Code ID:	001	**Act Start Date:**	11/21/1990 00:00:00
RAT Code:	PA	**Act Complete Date:**	11/21/1990 00:00:00
RAT Short Name:	PA	**AGT Order No.:**	130
RAT Name:	PRELIMINARY ASSESSMENT	**SH OU:**	
RAT Hist. Only Flag:		**SH Code:**	
RAT NSI Indicator:	B	**SH Seq:**	
RAT Level:	1	**SH Start Date:**	
RAT DEF OU:	00	**SH Complete Date:**	
RFBS Code:	P	**SH Lead:**	
SPA Code:	13		
RAT Def:	Collection of diverse existing information about the source and nature of the site hazard. It is EPA policy to complete the preliminary assessment within one year of site discovery.		
Site Desc:			
Site Alias:			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	2 of 17	NNW	0.00 / 0.00	0.98 / 0	**BUSE TIMBER & SALES INC** **3812 28TH PLACE NE** **EVERETT WA 98206**	CERCLIS NFRAP

Site ID:	1001313	**Site FIPS Code:**	53061
Site EPA ID:	WAD009480542	**Region Code:**	10
Site Parent ID:		**Site Cong. Dist. Code:**	1
Site County Name:	SNOHOMISH	**Federal Facility:**	
Parent Site Name:			

CERCLIS-NFRAP Assess History

OU ID:	0	**Act Start Date:**	11/21/1990
Act Code ID:	1	**Act Complete Date:**	11/21/1990
RAT Code:	PA	**AGT Order No.:**	130
RAT Short Name:	PA	**SH OU:**	

RAT Name:	PRELIMINARY ASSESSMENT	***SH Code:***	
RAT Hist. Only Flag:		***SH Seq:***	
RAT NSI Indicator:	B	***SH Start Date:***	
RAT Level:	1	***SH Complete Date:***	
RAT DEF OU:	00	***SH Lead:***	
RFBS Code:	P	***SH Qual:***	
SPA Code:	13	***RAQ Act. Qual Short:***	Low priority
RALT Short Name:	State (Fund)	***RNPL Status Code:***	N

RAT Def: Collection of diverse existing information about the source and nature of the site hazard. It is EPA policy to complete the preliminary assessment within one year of site discovery.

RNON NPL Status Desc: NFRAP-Site does not qualify for the NPL based on existing information

CERCLIS-NFRAP Assess History

OU ID:	0	***Act Start Date:***	
Act Code ID:	1	***Act Complete Date:***	6/6/1989
RAT Code:	DS	***AGT Order No.:***	10
RAT Short Name:	DISCVRY	***SH OU:***	
RAT Name:	DISCOVERY	***SH Code:***	
RAT Hist. Only Flag:		***SH Seq:***	
RAT NSI Indicator:	B	***SH Start Date:***	
RAT Level:	1	***SH Complete Date:***	
RAT DEF OU:	00	***SH Lead:***	
RFBS Code:		***SH Qual:***	
SPA Code:	13	***RAQ Act. Qual Short:***	
RALT Short Name:	State (Fund)	***RNPL Status Code:***	N

RAT Def: The process by which a potential hazardous waste site is brought to the attention of the EPA. The process can occur through the use of several mechanisms such as a phone call or referral by another government agency.

RNON NPL Status Desc: NFRAP-Site does not qualify for the NPL based on existing information

CERCLIS-NFRAP Assess History

OU ID:	0	***Act Start Date:***	
Act Code ID:	1	***Act Complete Date:***	8/31/1994
RAT Code:	VS	***AGT Order No.:***	1500
RAT Short Name:	ARCH SITE	***SH OU:***	
RAT Name:	ARCHIVE SITE	***SH Code:***	
RAT Hist. Only Flag:		***SH Seq:***	
RAT NSI Indicator:	B	***SH Start Date:***	
RAT Level:	1	***SH Complete Date:***	
RAT DEF OU:	00	***SH Lead:***	
RFBS Code:		***SH Qual:***	
SPA Code:	13	***RAQ Act. Qual Short:***	
RALT Short Name:	EPA In-House	***RNPL Status Code:***	N

RAT Def: The decision is made that no further activity is planned at the site.

RNON NPL Status Desc: NFRAP-Site does not qualify for the NPL based on existing information

CERCLIS-NFRAP Assess History

OU ID:	0	***Act Start Date:***	8/31/1994
Act Code ID:	1	***Act Complete Date:***	8/31/1994
RAT Code:	SI	***AGT Order No.:***	160
RAT Short Name:	SI	***SH OU:***	
RAT Name:	SITE INSPECTION	***SH Code:***	
RAT Hist. Only Flag:		***SH Seq:***	
RAT NSI Indicator:	B	***SH Start Date:***	
RAT Level:	1	***SH Complete Date:***	
RAT DEF OU:	00	***SH Lead:***	
RFBS Code:	P	***SH Qual:***	
SPA Code:	13	***RAQ Act. Qual Short:***	NFRAP
RALT Short Name:	EPA Fund	***RNPL Status Code:***	N

RAT Def: The process of collecting site data and samples to characterize the severity of the hazard for the hazard ranking score and/or enforcement support.

RNON NPL Status Desc: NFRAP-Site does not qualify for the NPL based on existing information

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	3 of 17	NNW	0.00 / 0.00	0.98 / 0	BUSE TIMBER & SALES INC 3812 28TH PL NE EVERETT WA 98206	RCRA NON GEN

EPA Handler ID: WAD009480542
Gen Status Universe: No Report
Contact Name: STEVE FOGG
Contact Address: 3812 28TH PL NE , , EVERETT , WA, 98205 , US
Contact Phone No and Ext: 425-258-2577
Contact Email:
Contact Country: US
County Name: SNOHOMISH
EPA Region: 10
Land Type: Private
Receive Date: 20040402
Location Latitude:
Location Longitude:

Violation/Evaluation Summary

Note: NO RECORDS: As of April 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 2
Receive Date: 19940101
Handler Name: BUSE TIMBER & SALES INC
Source Type: Notification
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 19941231
Handler Name: BUSE TIMBER & SALES INC
Source Type: Notification
Federal Waste Generator Code: 2
Generator Code Description: Small Quantity Generator

Hazardous Waste Handler Details

Sequence No: 3
Receive Date: 19950101

Handler Name: BUSE TIMBER & SALES INC
Source Type: Notification
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified

Hazardous Waste Handler Details

Sequence No: 4
Receive Date: 19960304
Handler Name: BUSE TIMBER & SALES INC
Source Type: Notification
Federal Waste Generator Code: 2
Generator Code Description: Small Quantity Generator

Hazardous Waste Handler Details

Sequence No: 5
Receive Date: 19970522
Handler Name: BUSE TIMBER & SALES INC
Source Type: Notification
Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator

Hazardous Waste Handler Details

Sequence No: 6
Receive Date: 19980317
Handler Name: BUSE TIMBER & SALES INC
Source Type: Notification
Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator

Hazardous Waste Handler Details

Sequence No: 7
Receive Date: 19990818
Handler Name: BUSE TIMBER & SALES INC
Source Type: Notification
Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator

Hazardous Waste Handler Details

Sequence No: 8
Receive Date: 20000606
Handler Name: BUSE TIMBER & SALES INC
Source Type: Notification
Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator

Hazardous Waste Handler Details

Sequence No: 9
Receive Date: 20010227
Handler Name: BUSE TIMBER & SALES INC
Source Type: Notification
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified

Hazardous Waste Handler Details

Sequence No: 10
Receive Date: 20020124
Handler Name: BUSE TIMBER & SALES INC
Source Type: Notification
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified

Hazardous Waste Handler Details

Sequence No: 11
Receive Date: 20030207
Handler Name: BUSE TIMBER & SALES INC
Source Type: Notification
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20040401
Handler Name: BUSE TIMBER & SALES INC
Source Type: Implementer
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified

Hazardous Waste Handler Details

Sequence No: 2
Receive Date: 20040401
Handler Name: BUSE TIMBER & SALES INC
Source Type: Implementer
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified

Hazardous Waste Handler Details

Sequence No: 12
Receive Date: 20040401
Handler Name: BUSE TIMBER & SALES INC
Source Type: Notification
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified

Hazardous Waste Handler Details

Sequence No: 13
Receive Date: 20040402
Handler Name: BUSE TIMBER & SALES INC
Source Type: Implementer
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20041231
Handler Name: BUSE TIMBER & SALES INC
Source Type: Annual/Biennial Report
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Private	***Street 1:***	3812 28TH PL NE
Name:	BUSE TIMBER SALES INC	***Street 2:***	
Date Became Current:		***City:***	EVERETT
Date Ended Current:		***State:***	WA
Phone:	000-000-0000	***Country:***	US
Source Type:	Notification	***Zip Code:***	98205

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Private	***Street 1:***	3812 28TH PL NE
Name:	BUSE TIMBER SALES INC	***Street 2:***	
Date Became Current:		***City:***	EVERETT
Date Ended Current:		***State:***	WA
Phone:	425-258-2577	***Country:***	US
Source Type:	Notification	***Zip Code:***	98205

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Private	***Street 1:***	3812 28TH PL NE
Name:	BUSE TIMBER & SALES INC	***Street 2:***	
Date Became Current:	20010227	***City:***	EVERETT
Date Ended Current:		***State:***	WA
Phone:		***Country:***	US
Source Type:	Annual/Biennial Report	***Zip Code:***	98205-3209

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Private	***Street 1:***	3812 28TH PL NE
Name:	DAVID B	***Street 2:***	
Date Became Current:	20010227	***City:***	EVERETT
Date Ended Current:		***State:***	WA
Phone:	425-258-2577	***Country:***	US
Source Type:	Implementer	***Zip Code:***	98205-3209

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Private	***Street 1:***	3812 28TH PL NE
Name:	BUSE TIMBER SALES INC	***Street 2:***	
Date Became Current:		***City:***	EVERETT
Date Ended Current:		***State:***	WA
Phone:	425-258-2577	***Country:***	US
Source Type:	Implementer	***Zip Code:***	98205

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Private	***Street 1:***	3812 28TH PL NE
Name:	NORM BUSE ESTATE OF DELMAR BUSE	***Street 2:***	
Date Became Current:		***City:***	EVERETT
Date Ended Current:		***State:***	WA
Phone:	425-258-2577	***Country:***	US
Source Type:	Implementer	***Zip Code:***	98205

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Private	***Street 1:***	3812 28TH PL NE
Name:	BUSE TIMBER SALES INC	***Street 2:***	
Date Became Current:		***City:***	EVERETT
Date Ended Current:		***State:***	WA
Phone:	000-000-0000	***Country:***	US
Source Type:	Notification	***Zip Code:***	98206

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Private	***Street 1:***	3812 28TH PL NE
Name:	BUSE TIMBER & S B	***Street 2:***	
Date Became Current:	19970101	***City:***	EVERETT
Date Ended Current:		***State:***	WA
Phone:	425-258-2577	***Country:***	US
Source Type:	Implementer	***Zip Code:***	98205-3209

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Private	***Street 1:***	3812 28TH PL NE
Name:	BUSE TIMBER SALES INC	***Street 2:***	

Date Became Current:	20010227	**City:**	EVERETT
Date Ended Current:		**State:**	WA
Phone:	425-258-2577	**Country:**	US
Source Type:	Implementer	**Zip Code:**	98205
Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Private	**Street 1:**	3812 28TH PL NE
Name:	BUSE TIMBER SALES INC	**Street 2:**	
Date Became Current:		**City:**	EVERETT
Date Ended Current:		**State:**	WA
Phone:	000-000-0000	**Country:**	US
Source Type:	Notification	**Zip Code:**	98206
Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Private	**Street 1:**	3812 28TH PL NE
Name:	NORM BUSE ESTATE OF DELMAR BUSE	**Street 2:**	
Date Became Current:		**City:**	EVERETT
Date Ended Current:		**State:**	WA
Phone:	425-258-2577	**Country:**	US
Source Type:	Notification	**Zip Code:**	98205
Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Private	**Street 1:**	3812 28TH PL NE
Name:	BUSE TIMBER & SALES INC	**Street 2:**	
Date Became Current:	19970101	**City:**	EVERETT
Date Ended Current:		**State:**	WA
Phone:		**Country:**	US
Source Type:	Annual/Biennial Report	**Zip Code:**	98205-3209
Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Private	**Street 1:**	3812 28TH PL NE
Name:	BUSE TIMBER SALES INC	**Street 2:**	
Date Became Current:	20010227	**City:**	EVERETT
Date Ended Current:		**State:**	WA
Phone:	425-258-2577	**Country:**	US
Source Type:	Notification	**Zip Code:**	98205
Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Private	**Street 1:**	3812 28TH PL NE
Name:	NORM BUSE & ESTATE OF DELMAR BUSE	**Street 2:**	
Date Became Current:		**City:**	EVERETT
Date Ended Current:		**State:**	WA
Phone:	425-258-2577	**Country:**	US
Source Type:	Implementer	**Zip Code:**	98205-3209
Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Private	**Street 1:**	3812 28TH PL NE
Name:	BUSE TIMBER & SALES INC	**Street 2:**	
Date Became Current:		**City:**	EVERETT
Date Ended Current:		**State:**	WA
Phone:	425-258-2577	**Country:**	US
Source Type:	Implementer	**Zip Code:**	98205-3209

Historical Handler Details

Receive Dt:	20041231
Generator Code Description:	Not a Generator, Verified
Handler Name:	BUSE TIMBER & SALES INC
Receive Dt:	20040401
Generator Code Description:	Not a Generator, Verified
Handler Name:	BUSE TIMBER & SALES INC
Receive Dt:	20040401
Generator Code Description:	Not a Generator, Verified
Handler Name:	BUSE TIMBER & SALES INC
Receive Dt:	20040401

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Generator Code Description: Not a Generator, Verified
Handler Name: BUSE TIMBER & SALES INC

Receive Dt: 20030207
Generator Code Description: Not a Generator, Verified
Handler Name: BUSE TIMBER & SALES INC

Receive Dt: 20020124
Generator Code Description: Not a Generator, Verified
Handler Name: BUSE TIMBER & SALES INC

Receive Dt: 20010227
Generator Code Description: Not a Generator, Verified
Handler Name: BUSE TIMBER & SALES INC

Receive Dt: 20000606
Generator Code Description: Very Small Quantity Generator
Handler Name: BUSE TIMBER & SALES INC

Receive Dt: 19990818
Generator Code Description: Very Small Quantity Generator
Handler Name: BUSE TIMBER & SALES INC

Receive Dt: 19980317
Generator Code Description: Very Small Quantity Generator
Handler Name: BUSE TIMBER & SALES INC

Receive Dt: 19970522
Generator Code Description: Very Small Quantity Generator
Handler Name: BUSE TIMBER & SALES INC

Receive Dt: 19960304
Generator Code Description: Small Quantity Generator
Handler Name: BUSE TIMBER & SALES INC

Receive Dt: 19950101
Generator Code Description: Not a Generator, Verified
Handler Name: BUSE TIMBER & SALES INC

Receive Dt: 19941231
Generator Code Description: Small Quantity Generator
Handler Name: BUSE TIMBER & SALES INC

Receive Dt: 19940101
Generator Code Description: Not a Generator, Verified
Handler Name: BUSE TIMBER & SALES INC

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	4 of 17	NNW	0.00 / 0.00	0.98 / 0	BUSE TIMBER & SALES INC 3812 28TH PL NE EVERETT WA 98205-3209	FINDS/FRS

Registry ID: 110005314686
FIPS Code: 53061
HUC Code: 17110011
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 01-MAR-00
Update Date: 01-APR-16
Interest Types: COMPLIANCE ACTIVITY, HAZARDOUS WASTE BIENNIAL REPORTER, ICIS-NPDES NON-MAJOR, STATE MASTER, UNSPECIFIED UNIVERSE
SIC Codes: 2421, 2491, 5211
SIC Code Descriptions: LUMBER AND OTHER BUILDING MATERIALS DEALERS, SAWMILLS AND PLANING MILLS, GENERAL, WOOD PRESERVING
NAICS Codes: 321912
NAICS Code Descriptions: CUT STOCK, RESAWING LUMBER, AND PLANING.
Conveyor: ICIS
Federal Facility Code:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No: 02
Census Block Code: 530610521042079
EPA Region Code: 10
County Name: SNOHOMISH
US/Mexico Border Ind:
Latitude: 48.022804
Longitude: -122.182465
Reference Point: POINT WHERE SUBSTANCE IS RELEASED
Coord Collection Method: GPS - UNSPECIFIED
Accuracy Value: 10
Datum: NAD83
Source:
Facility Detail Rprt URL: https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110005314686
Program Acronyms:

BR:WAD009480542, NCDB:D10#1090-10-28-2615, NCDB:I10#19900613WA003 2, NPDES:WAR000097, RCRAINFO:WAD009480542, WA-FSIS: 2786

1	5 of 17	NNW	0.00 / 0.00	0.98 / 0	BUSE TIMBER & SALES INC 3812 28TH PL NE EVERETT WA 98205	CSCSL NFA

Fac Site ID: 2786
Cleanup Site ID: 4340
Site Status: NFA
NFA Date: 08/30/1992
Region: Northwest
Responsible Unit: Northwest
County: Snohomish
Latitude: 48.022804
Longitude: -122.182468
Region (OD): Northwest
Respon Unit (OD): Northwest
County (OD): Snohomish

Fac Site ID (OD): 2786
Cleanup Site ID (OD): 4340
Site Status (OD): No Further Action
Rank (OD):
Has Env Coven (OD):
Site Name (OD): BUSE TIMBER & SALES INC
Address (OD): 3812 28TH PL NE
City (OD): EVERETT
Zipcode (OD): 98205-3209
Latitude (OD): 48.022804
Longitude (OD): -122.182468

NFA Reason: NFA-SHA, IRAP, or VCP
Alternate Site Names: Buse Timber Sales Everett
Location (OD): ""
(48.022804, -122.182468)
Has Institutional Control:
Data Source(s): Department of Ecology - Washington; Open Data Portal - Washington State; Open Data Portal - Media and Contaminants

NFA Contaminants Detail(s)

Contaminant Name: Base/Neutral/Acid Organics
Soil: Remediated
Groundwater:
Sediment:
Surfacewater: Suspected
Air:
Bedrock:

Contaminant Name: Polycyclic Aromatic Hydrocarbons
Soil: Remediated
Groundwater:
Sediment:
Surfacewater: Suspected
Air:
Bedrock:

Open Data Portal - Media and Contaminants as of 2019-07-23

Contaminant Media: Soil
Contaminant: Polycyclic Aromatic Hydrocarbons
Contaminant Status: Remediated

Contaminant Media: Surface Water

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Contaminant: Base/Neutral/Acid Organics
Contaminant Status: Suspected

Contaminant Media: Surface Water
Contaminant: Polycyclic Aromatic Hydrocarbons
Contaminant Status: Suspected

Contaminant Media: Soil
Contaminant: Base/Neutral/Acid Organics
Contaminant Status: Remediated

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	6 of 17	NNW	0.00 / 0.00	0.98 / 0	BUSE TIMBER & SALES INC 3812 28TH PL NE PO BOX 5226 Everett WA 98206	UST

UST ID: 11428
Facility Site ID: 2786
Latitude: 48.022804
Longitude: -122.182468
Responsible Unit: Northwest
Alternate Site Names: Buse Timber Sales Everett

Region: Northwest
County: Snohomish
Site Active: No
Active Tag:

Tank Detail(s)

Tank Name: EAST TANK
Tank Status: Removed
Status Date: 08/06/1996
Install Date: 12/31/1964
Upgrade Date:
Perm Closure Date:
Tank Corrosion Protection:
Tank Manifold:
Tank Release Detection:
Tank Tightness Test:
Tank Spill Prevention:
Tank Overfill Prevention:
Pipe Material: Steel
Pipe Construction:
Pipe Corrosion Protection:
Tank SFC:
Dispenser SFC:
Primary Pipe Release Detection:
Secondary Pipe Rel Detect:
Pipe Pumping System:
Turbine Sump Construction:

Tank Material: Steel
Tank Construction:
Tank Capacity:
Actual Capacity:
Pipe Install Date:
Endorsement Expire:

Compartments

Tank Name: EAST TANK
Compartment No: 1
Compart Capacity:
Stored Substance:
Used Substance:

Tank Detail(s)

Tank Name: DIP TANK
Tank Status: Exempt - Removed
Status Date: 08/06/1996
Install Date: 12/31/1964
Upgrade Date:
Perm Closure Date:
Tank Corrosion Protection:

Tank Material: Steel
Tank Construction:
Tank Capacity:
Actual Capacity:
Pipe Install Date:
Endorsement Expire:

Tank Manifold:
Tank Release Detection:
Tank Tightness Test:
Tank Spill Prevention:
Tank Overfill Prevention:
Pipe Material:
Pipe Construction: Above Ground Piping
Pipe Corrosion Protection:
Tank SFC:
Dispenser SFC:
Primary Pipe Release Detection:
Secondary Pipe Rel Detect:
Pipe Pumping System:
Turbine Sump Construction:

Compartments

Tank Name: DIP TANK
Compartment No: 1
Compart Capacity:
Stored Substance: Hazardous Substance
Used Substance:

Tank Detail(s)

Tank Name: WEST TANK
Tank Status: Removed
Status Date: 08/06/1996
Install Date: 12/31/1964
Upgrade Date:
Perm Closure Date:
Tank Corrosion Protection:
Tank Manifold:
Tank Release Detection:
Tank Tightness Test:
Tank Spill Prevention:
Tank Overfill Prevention:
Pipe Material: Steel
Pipe Construction:
Pipe Corrosion Protection:
Tank SFC:
Dispenser SFC:
Primary Pipe Release Detection:
Secondary Pipe Rel Detect:
Pipe Pumping System:
Turbine Sump Construction:

Tank Material: Steel
Tank Construction:
Tank Capacity:
Actual Capacity:
Pipe Install Date:
Endorsement Expire:

Compartments

Tank Name: WEST TANK
Compartment No: 1
Compart Capacity:
Stored Substance:
Used Substance:

Tank Detail(s)

Tank Name: GAS TANK
Tank Status: Removed
Status Date: 08/06/1996
Install Date: 12/31/1964
Upgrade Date:

Tank Material: Steel
Tank Construction:
Tank Capacity:
Actual Capacity:
Pipe Install Date:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Perm Closure Date: ***Endorsement Expire:***
Tank Corrosion Protection:
Tank Manifold:
Tank Release Detection:
Tank Tightness Test:
Tank Spill Prevention:
Tank Overfill Prevention:
Pipe Material: Steel
Pipe Construction:
Pipe Corrosion Protection:
Tank SFC:
Dispenser SFC:
Primary Pipe Release Detection:
Secondary Pipe Rel Detect:
Pipe Pumping System:
Turbine Sump Construction:

Compartments

Tank Name: GAS TANK
Compartment No: 1
Compart Capacity:
Stored Substance: Leaded Gasoline
Used Substance:

1	7 of 17	NNW	0.00 / 0.00	0.98 / 0	**BUSE TIMBER & SALES INC** **3812 28TH PL NE** **EVERETT WA 98205-3209**	ALL SITES

Facility/Site ID: 2786
Source File: Washington State Department of Ecology Facilties - Sites Interactions; Washington State Department of Ecology Facilties - Sites
Latitude: 48.0228039999024
Longitude: -122.18246800006

Facility/Site Interaction

Interaction ID: 5367
Interaction Status: I
Interac Status Desc: Inactive
Interaction Type: UST
Interaction Desc: Underground Storage Tank
Facility Alternate:
Program Name Desc: Toxics Cleanup Program
Database Name Desc: Underground Storage Tanks
Program ID: 11428
Prog Database Name: UST
Ecology Program: TOXICS
Interact Start Dt: 6/8/1998 0:00:00
Interact End Dt: 5/3/2000 0:00:00

Interaction ID: 81087
Interaction Status: A
Interac Status Desc: Active
Interaction Type: INDSWGP
Interaction Desc: Industrial SW GP
Facility Alternate: BUSE TIMBER & SALES INC
Program Name Desc: Water Quality Program
Database Name Desc: Permitting & Reporting Information System
Program ID: WAR000097
Prog Database Name: PARIS
Ecology Program: WATQUAL
Interact Start Dt: 12/30/1994 0:00:00
Interact End Dt:

Interaction ID: 5365
Interaction Status: I
Interac Status Desc: Inactive
Interaction Type: HWG
Interaction Desc: Hazardous Waste Generator
Facility Alternate:
Program Name Desc: Hazardous Waste & Toxics Reduction Program
Database Name Desc: Hazardous Waste Inf Mgt System
Program ID: WAD009480542
Prog Database Name: TURBOWASTE
Ecology Program: HAZWASTE
Interact Start Dt: 8/27/1991 0:00:00
Interact End Dt: 12/31/2003 0:00:00

Interaction ID: 5366
Interaction Status: I
Program ID:
Prog Database Name: ISIS

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Interac Status Desc:	Inactive	**Ecology Program:**	TOXICS
Interaction Type:	SCS	**Interact Start Dt:**	3/1/1992 0:00:00
Interaction Desc:	State Cleanup Site	**Interact End Dt:**	8/30/1992 0:00:00
Facility Alternate:	BUSE TIMBER & SALES INC		
Program Name Desc:	Toxics Cleanup Program		
Database Name Desc:	Integrated Site Info System		

Facility Location Detail

Loc Verified Cd:	N
GIS Calc Lat Decimal Nr:	48.022804000000001
GIS Calc Long Decimal Nr:	-122.182468000000000

1	8 of 17	NNW	0.00 / 0.00	0.98 / 0	3812 28TH PLACE NE EVERETT WA	ERNS

NRC Report No:	1101782	**Latitude Degrees:**	
Type of Incident:	VESSEL	**Latitude Minutes:**	
Incident Cause:	VESSEL SINKING	**Latitude Seconds:**	
Incident Date:	11/22/2014 4:00:00 PM	**Longitude Degrees:**	
Incident Location:		**Longitude Minutes:**	
Incident Dtg:	DISCOVERED	**Longitude Seconds:**	
Distance from City:		**Lat Quad:**	
Distance Units:		**Long Quad:**	
Direction from City:		**Location Section:**	
Location County:	SNOHOMISH	**Location Township:**	
Potential Flag:	No	**Location Range:**	
Year:	Year 2014 Reports		

Description of Incident: CALLER STATED THAT A BOOM BOAT SUNK IN UNION SLOUGH CAUSING A DISCHARGE OF DIESEL FUEL.

Material Spill Information

Chris Code:	ODS	**Unit of Measure:**	UNKNOWN AMOUNT
CAS No:	000000-00-0	**If Reached Water:**	YES
UN No:		**Amount in Water:**	0
Name of Material:	OIL: DIESEL	**Unit Reach Water:**	UNKNOWN AMOUNT
Amount of Material:	0		

Calls Information

Date Time Received:	11/23/2014 1:58:04 PM	**Responsible City:**	EVERETT
Date Time Complete:	11/23/2014 2:04:19 PM	**Responsible State:**	WA
Call Type:	INC	**Responsible Zip:**	
Resp Company:	BUSE TIMBER AND SALES	**Source:**	TELEPHONE
Resp Org Type:	PRIVATE ENTERPRISE		

Incident Information

Tank ID:		**Building ID:**	
Tank Regulated:	U	**Location Area ID:**	
Tank Regulated By:		**Location Block ID:**	
Capacity of Tank:		**OCSG No:**	
Capacity Tank Units:		**OCSP No:**	
Description of Tank:		**State Lease No:**	
Actual Amount:		**Pier Dock No:**	
Actual Amount Units:		**Berth Slip No:**	
Tank Above Ground:	ABOVE	**Brake Failure:**	U
NPDES:		**Airbag Deployed:**	U
NPDES Compliance:	U	**Transport Contain:**	U
Init Contin Rel No:		**Location Subdiv:**	
Contin Rel Permit:		**Platform Rig Name:**	
Contin Release Type:		**Platform Letter:**	

Aircraft ID:		***Allision:***	U
Aircraft Runway No:		***Type of Structure:***	
Aircraft Spot No:		***Structure Name:***	
Aircraft Type:		***Structure Oper:***	U
Aircraft Model:		***Transit Bus Flag:***	
Aircraft Fuel Cap:		***Date Time Norm Serv:***	
Aircraft Fuel Cap U:		***Serv Disrupt Time:***	
Aircraft Fuel on Brd:		***Serv Disrupt Units:***	
Aircraft Fuel OB U:		***CR Begin Date:***	
Aircraft Hanger:		***CR End Date:***	
Road Mile Marker:		***CR Change Date:***	
Power Gen Facility:	U	***FBI Contact:***	
Generating Capacity:		***FBI Contact Dt Tm:***	
Type of Fixed Obj:		***Passenger Handling:***	
Type of Fuel:		***Passenger Route:***	XXX
DOT Crossing No:		***Passenger Delay:***	XXX
DOT Regulated:	U	***Sub Part C Test Req:***	XXX
Pipeline Type:		***Conductor Test:***	
Pipeline Abv Ground:	ABOVE	***Engineer Test:***	
Pipeline Covered:	U	***Trainman Test:***	
Exposed Underwater:	N	***Yard Foreman Test:***	
Railroad Hotline:		***RCL Operator Test:***	
Railroad Milepost:		***Brakeman Test:***	
Grade Crossing:	U	***Train Dispat Test:***	
Crossing Device Ty:		***Signalman Test:***	
Ty Vehicle Involved:		***Oth Employee Test:***	
Device Operational:	U	***Unknown Test:***	

Incident Details Information

Release Secured:	Y	***State Agen Report No:***	
Release Rate:		***State Agen on Scene:***	
Release Rate Unit:		***State Agen Notified:***	
Release Rate Rate:		***Fed Agency Notified:***	
Est Duration of Rel:		***Oth Agency Notified:***	
Desc Remedial Act:	SORBENTS AND BOOM HAVE BEEN DEPLOYED AND VESSEL HAS ALREADY BEEN SALVAGED.	***Body of Water:***	UNION SLOUGH
Fire Involved:	N	***Tributary of:***	
Fire Extinguished:	U	***Near River Mile Make:***	
Any Evacuations:	N	***Near River Mile Mark:***	
No Evacuated:		***Offshore:***	N
Who Evacuated:		***Weather Conditions:***	PARTLY CLOUDY
Radius of Evacu:		***Air Temperature:***	
Any Injuries:	N	***Wind Direction:***	
No. Injured:		***Wind Speed:***	
No. Hospitalized:		***Wind Speed Unit:***	
No. Fatalities:		***Water Supp Contam:***	U
Any Fatalities:	N	***Water Temperature:***	
Any Damages:	N	***Wave Condition:***	
Damage Amount:		***Current Speed:***	
Air Corridor Closed:	N	***Current Direction:***	
Air Corridor Desc:		***Current Speed Unit:***	
Air Closure Time:		***EMPL Fatality:***	
Waterway Closed:	N	***Pass Fatality:***	
Waterway Desc:		***Community Impact:***	
Waterway Close Time:		***Passengers Transfer:***	NO
Road Closed:	N	***Passenger Injuries:***	
Road Desc:		***Employee Injuries:***	
Road Closure Time:		***Occupant Fatality:***	
Road Closure Units:		***Sheen Size:***	
Closure Direction:		***Sheen Size Units:***	
Major Artery:	No	***Sheen Size Length:***	
Track Closed:	N	***Sheen Size Length U:***	
Track Desc:		***Sheen Size Width:***	
Track Closure Time:		***Sheen Size Width U:***	
Track Closure Units:		***Sheen Color:***	
Track Close Dir:		***Dir of Sheen Travel:***	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Media Interest: UNKNOWN
Medium Desc: WATER
Addl Medium Info: UNION SLOUGH
Sheen Odor Desc:
Duration Unit:
Additional Info:

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1 | 9 of 17 | NNW | 0.00 / 0.00 | 0.98 / 0 | BUSE TIMBER & SALES
3812 28TH PL NE
EVERETT WA 98206- | FTTS ADMIN

Docket NO: 1090-10-28-2615
Case NO:
Issued Date: 11/9/1990
Closed Date: 3/22/1991
Withdrawn Date:
Proposed Penalty: 12000
Final Penalty: 7650
Abatement: 0
Violation Code 1: 6PL
Violation Code 2: 6PU
Violation Code 3:
Violation Code 4:
Violation Code 5:
Violation Code 6:
Region: 10

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1 | 10 of 17 | NNW | 0.00 / 0.00 | 0.98 / 0 | BUSE TIMBER & SALES
3812 28TH PL NE
EVERETT WA 98206- | FTTS INSP

Docket Number: 1090-10-28-2615
Case Number:
Issued Date: 11/9/1990
Closed Date: 3/22/1991
Withdrawn Date:
Proposed Penalty: 12000.0000
Final Penalty: 7650.0000
Abatement: 0.0000
Violation Code 1: 6PL
Violation Code 2: 6PU
Violation Code 3:
Violation Code 4:
Violation Code 5:
Violation Code 6:
Region: 10

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1 | 11 of 17 | NNW | 0.00 / 0.00 | 0.98 / 0 | BUSE TIMBER & SALES INC
3812 28TH PL NE
EVERETT WA 98205-3209 | ICR

Cleanup Site ID: 4340
Facility Site ID: 2786
Site Status: No Further Action Required
Statute: MTCA
Rank:
Rank Description:
Has Env Covenant:
Is Brownfiled Site:
Is PSI Site: Yes
WRIA ID: 7
Is NFA Site: Yes
Responsible Unit: Northwest
Latitude: 48.022804000000001
Longitude: -122.182468
Legislative District: 38
Congr District: 2
County Name: Snohomish

Cleanup Activities

Related ID:
VCP Prj No:
Activity Name: Site Discovery/Release Report Received
Activity Status:
County Name: Snohomish
Applies to: CleanupSite
Applies to Description:
Start Date:
End Date: 1992-03-10
Legal Mechanism:
Performed by:
Project Manager: Aitken, Judy

Related ID:
VCP Prj No:
Activity Name: Site Status Changed to NFA
Activity Status:
County Name: Snohomish
Applies to: CleanupSite
Applies to Description:
Start Date:
End Date: 1992-08-30
Legal Mechanism:
Performed by:
Project Manager:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Media Contaminants

Contaminant Type:	Base/Neutral/Acid Organics	***Sediment:***	
Groundwater:		***Sediment Desc.:***	
Groundwater Desc.:		***Air:***	
Surface Water:	S	***Air Desc.:***	
Surfacewater Desc.:	Suspected	***Bedrock:***	
Soil:	R	***Bedrock Desc.:***	
Soil Desc.:	Remediated	***County Name:***	Snohomish

Contaminant Type:	Polynuclear Aromatic Hydrocarbons	***Sediment:***	
Groundwater:		***Sediment Desc.:***	
Groundwater Desc.:		***Air:***	
Surface Water:	S	***Air Desc.:***	
Surfacewater Desc.:	Suspected	***Bedrock:***	
Soil:	R	***Bedrock Desc.:***	
Soil Desc.:	Remediated	***County Name:***	Snohomish

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	12 of 17	NNW	0.00 / 0.00	0.98 / 0	BUSE TIMBER & SALES INC 3812 28TH PL NE EVERETT WA 98205-3209	ICIS

EPA Region:	10	***Federal Facility ID:***	
Registry ID:	110005314686	***Tribal Land Code:***	
Pgm Sys ID:	WAR000097	***County:***	Snohomish
Pgm Sys Acrnm:	NPDES	***Latitude83:***	48.022804
Permit Type:	General Permit Covered Facility	***Longitude83:***	-122.182468

Record Details

EA Identifier:	WA-229547	***EA Type Desc:***	Agency Enforcement Review
Enf Act Forum Dsc:	Administrative - Informal	***Facility SIC Code:***	
EA Type Code:	AER	***EA Name:***	No enforcement action necessary
Fac NAICS Code:			

Record Details

EA Identifier:		***EA Type Desc:***	
Enf Act Forum Dsc:		***Facility SIC Code:***	
EA Type Code:		***EA Name:***	
Fac NAICS Code:			

Record Details

EA Identifier:	WA-120176	***EA Type Desc:***	Letter of Violation/ Warning Letter
Enf Act Forum Dsc:	Administrative - Informal	***Facility SIC Code:***	
EA Type Code:	LOVWL	***EA Name:***	Informal Action - Letter
Fac NAICS Code:			

Record Details

EA Identifier:	WA-232178	***EA Type Desc:***	Letter of Violation/ Warning Letter
Enf Act Forum Dsc:	Administrative - Informal	***Facility SIC Code:***	
EA Type Code:	LOVWL	***EA Name:***	Informal Action - Letter
Fac NAICS Code:			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	13 of 17	NNW	0.00 / 0.00	0.98 / 0	BUSE TIMBER & SALES INC 3812 28TH PLACE NE EVERETT WA 98206	SEMS ARCHIVE

Site ID:	1001313	***FIPS Code:***	53061
EPA ID:	WAD009480542	***Cong District:***	01

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Superfund Alt Agmt: No
Federal Facility: No
FF Docket: No
NPL: Not on the NPL
Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information
Region: 10
County: SNOHOMISH

Action Information

Operable Units: 00
Action Code: VS
Action Name: ARCH SITE
SEQ: 1
Start Actual:
Finish Actual: 08/30/1994
Qual:
Curr Action Lead: EPA Perf In-Hse

Operable Units: 00
Action Code: PA
Action Name: PA
SEQ: 1
Start Actual: 11/20/1990
Finish Actual: 11/20/1990
Qual: L
Curr Action Lead: St Perf

Operable Units: 00
Action Code: SI
Action Name: SI
SEQ: 1
Start Actual: 08/30/1994
Finish Actual: 08/30/1994
Qual: N
Curr Action Lead: EPA Perf

Operable Units: 00
Action Code: DS
Action Name: DISCVRY
SEQ: 1
Start Actual: 06/05/1989
Finish Actual: 06/05/1989
Qual:
Curr Action Lead: St Perf

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	14 of 17	NNW	0.00 / 0.00	0.98 / 0	BUSE TIMBER & SALES INC 3812 28TH PL NE EVERETT WA 98205	VCP

Facility Site ID: 2786
Cleanup Site ID: 4340
County: Snohomish
Alternate Site Names: Buse Timber Sales Everett
Data Source(s): No Futher Action Sites List
Region: Northwest
Latitude: 48.022804
Longitude: -122.182468

WA ECY Toxics Cleanup Program - No Futher Action Sites List

Site Status: NFA
NFA Date: 08/30/1992
NFA Reason: NFA-SHA, IRAP, or VCP
Responsible Unit: Northwest
Has Inst Control:

WA ECY Toxics Cleanup Program - No Futher Action Sites List - Contaminants Info

Site Name: BUSE TIMBER & SALES INC
Contaminant Name: Base/Neutral/Acid Organics
Groundwater:
Surfacewater: Suspected
Soil: Remediated
Sediment:
Air:
Bedrock:

Site Name: BUSE TIMBER & SALES INC
Contaminant Name: Polycyclic Aromatic Hydrocarbons
Groundwater:
Surfacewater: Suspected
Soil: Remediated
Sediment:
Air:
Bedrock:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	15 of 17	NNW	0.00 / 0.00	0.98 / 0	BUSE Timber (EPA Super Fund) 3812 28th Pl NE Everett WA 98205	SNO SWF/LF

Permit No:
Owner: Buse Timber & Sales Inc
Area:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	16 of 17	NNW	0.00 / 0.00	0.98 / 0	Buse Timber & Sales 3812 28th Pl NE Everett WA 98201	ERTS

Incident ID: 697806
Incident Date:
County: Snohomish
Location: Buse Timber & Sales
Latitude: 48.022779999999997
Longitude: -122.17952

Initial Report Details

Initial Report Substance Name: Other hazardous
Initial Report Subst Catego: Chemical
Initial Report Subst Quanti:
Initial Report Substance Unit:
Initial Report Medium Name: Soil
Initial Report Medium Category: Ground
Initial Report Cause Category:
Initial Report Cause Name:
Initial Report Source Name: Commercial/Industrial facility
Initial Report Source Category: Facility
Initial Report Activity Name: Routine/Normal operations
Initial Report Comment Desc: Notification of an apparent release to the environ

Follow up Details

ERTS Follow up No:
Follow up Substance Name:
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name:
Follow up Medium Name:
Follow up Source Nname:
Follow up Activity Name:

Potential Details

Pot Resp Party First Name:
Pot Resp Prty Last Name:
Potentially Resp Party Org:

Initial Comments

Initial Report Comment:

ERTS Number 697806 - Notification of an apparent release to the environment at the Buse Timber and Sales, Inc facility in Everett, Washington provided by Terracon Consultants, Inc. (Terracon) on behalf of Buse Timber & Sales, Inc. (Buse)

A limited site investigation was performed in 2018 by Terracon, (hired by Umpqua Bank) this information was recently made available to Buse.

Arsenic was found to be in the Soil and Groundwater above MTCA cleanup levels.

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	17 of 17	NNW	0.00 / 0.00	0.98 / 0	3812 28TH PL NE EVERETT WA	SPILLS

Incident ID: 653218
Incident Date:
Location:
Address: 3812 28TH PL NE
City: EVERETT
County: SNOHOMISH
Latitude:
Longitude:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Spill Information

Incident Date:	11/22/2014
Latitude:	NULL
Longitude:	NULL

Spill Details Historical

Material:	PETROLEUM - DIESEL FUEL	***Impact:***	WATER POLLUTION
Qty:	NULL	***Sheen Only:***	0
Medium:	SURFACE WATER-FRESH		
Cause:	NULL		
Source:	Other - Vessel		
Activity:	Stationary/In Port		
Waterway:	UNION SLOUGH		
Prp Business Name:	BUSE TIMBER AND SALES		
Prp First Name:	NULL		
Prp Last Name:	NULL		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
2	*1 of 1*	*WNW*	*0.01 / 31.58*	*0.65 / 0*	*SOUTH PARCEL FILL 28TH PLACE SE EVERETT WA 98201*	*FINDS/FRS*

Registry ID:	110043593572
FIPS Code:	53061
HUC Code:	17110011
Site Type Name:	STATIONARY
Location Description:	
Supplemental Location:	
Create Date:	06-JUL-11
Update Date:	07-OCT-15
Interest Types:	ICIS-NPDES NON-MAJOR, STATE MASTER, STORM WATER CONSTRUCTION
SIC Codes:	
SIC Code Descriptions:	
NAICS Codes:	
NAICS Code Descriptions:	
Conveyor:	FRS-GEOCODE
Federal Facility Code:	
Federal Agency Name:	
Tribal Land Code:	
Tribal Land Name:	
Congressional Dist No:	02
Census Block Code:	530610521042081
EPA Region Code:	10
County Name:	SNOHOMISH
US/Mexico Border Ind:	
Latitude:	48.02228
Longitude:	-122.17999
Reference Point:	ENTRANCE POINT OF A FACILITY OR STATION
Coord Collection Method:	ADDRESS MATCHING-HOUSE NUMBER
Accuracy Value:	50
Datum:	NAD83
Source:	
Facility Detail Rprt URL:	https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110043593572
Program Acronyms:	

NPDES:WAR125060, WA-FSIS:21979

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
3	*1 of 1*	*ESE*	*0.04 / 227.25*	*0.33 / 0*	*I-5/NB Marine View Drive to SR 529 WA 98205*	*ALL SITES*

Facility/Site ID:	25547	***Latitude:***	48.0204657959269

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Source File: Washington State Department of Ecology Facilties - Sites Interactions; Washington State Department of Ecology Facilties - Sites
Longitude: -122.174629957538

Facility/Site Interaction

Interaction ID: 135128
Interaction Status: A
Interac Status Desc: Active
Interaction Type: CONSTSWGP
Interaction Desc: Construction SW GP
Facility Alternate: I-5/NB Marine View Drive to SR 529
Program Name Desc: Water Quality Program
Database Name Desc: Permitting & Reporting Information System
Program ID: WAR309303
Prog Database Name: PARIS
Ecology Program: WATQUAL
Interact Start Dt: 4/21/2020 0:00:00
Interact End Dt:

Facility Location Detail

Loc Verified Cd:
GIS Calc Lat Decimal Nr: 48.020465999999999
GIS Calc Long Decimal Nr: -122.174621999999999

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
4	1 of 1	W	0.13 / 703.01	9.90 / 9	South Parcel Fill 28th Place SE Everett WA 98201	ALL SITES

Facility/Site ID: 21979
Source File: Washington State Department of Ecology Facilties - Sites Interactions; Washington State Department of Ecology Facilties - Sites
Latitude: 48.0212099996906
Longitude: -122.184170000336

Facility/Site Interaction

Interaction ID: 97020
Interaction Status: A
Interac Status Desc: Active
Interaction Type: CONSTSWGP
Interaction Desc: Construction SW GP
Facility Alternate: South Parcel Fill
Program Name Desc: Water Quality Program
Database Name Desc: Permitting & Reporting Information System
Program ID: WAR125060
Prog Database Name: PARIS
Ecology Program: WATQUAL
Interact Start Dt: 6/1/2011 0:00:00
Interact End Dt:

Facility Location Detail

Loc Verified Cd:
GIS Calc Lat Decimal Nr: 48.021210000000004
GIS Calc Long Decimal Nr: -122.184169999999995

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
5	1 of 3	SW	0.14 / 744.39	3.31 / 3	NORTHWEST GRANITE EVERETT SITE 2111 ROSS AVE EVERETT WA 98205	ALL SITES

Facility/Site ID: 271080
Source File: Washington State Department of Ecology Facilties - Sites Interactions; Washington State Department of Ecology Facilties - Sites
Latitude: 48.0172717397644
Longitude: -122.183624527008

Facility/Site Interaction

Interaction ID: 81139
Interaction Status: A
Interac Status Desc: Active
Program ID: WAG503354
Prog Database Name: PARIS
Ecology Program: WATQUAL

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Interaction Type: SANDGP
Interaction Desc: Sand and Gravel GP
Facility Alternate: Granite Construction Smith Island Hot
Program Name Desc: Water Quality Program
Database Name Desc: Permitting & Reporting Information System
Interact Start Dt: 12/9/2002 0:00:00
Interact End Dt:

Interaction ID: 6508
Interaction Status: A
Interac Status Desc: Active
Interaction Type: RECYCLE
Interaction Desc: Recycling
Facility Alternate: Wilder Construction Smith Island Plant
Program Name Desc: Solid Waste Management Program
Database Name Desc: Solid Waste Financial Asst
Program ID:
Prog Database Name: SWFD
Ecology Program: SOLIDWASTE
Interact Start Dt: 5/1/2003 0:00:00
Interact End Dt:

Facility Location Detail

Loc Verified Cd:
GIS Calc Lat Decimal Nr: 48.017271739354300
GIS Calc Long Decimal Nr: -122.183624527530995

5	2 of 3	SW	0.14 / 744.39	3.31 / 3	Granite Construction - Smith Island hot mix & recycle facility 2111 Ross Ave Everett WA 98201	SNO SWF/LF

Permit No:
Owner: Glacier Northwest Inc
Area: AA

5	3 of 3	SW	0.14 / 744.39	3.31 / 3	Granite Construction - Smith Island Asphalt Plant (RAS) 2111 Ross Ave Everett WA 98205	SNO SWF/LF

Permit No:
Owner: Glacier Northwest Inc
Area:

6	1 of 1	SW	0.15 / 768.07	3.21 / 2	Granite Construction Company - Smith Island Plant 2111 Ross Ave NE Everett WA 98205	SWF/LF

ID: 1558
Recycle Survey ID: 5544
Permit Status: Exempt
Operational Status: Operating
Year Closed:
Ann Report Required: Yes
Rec Survey Required: No
Facility Phone: 425-551-3100
Facility Type: Recycling (exempt)
Open to Public: No
Regulation: 173-350-210
Ownership:
Region: Northwest Regional Office
County: Snohomish
Latitude: 48.0172717
Longitude: -122.1836245

Details

Permit No:
Operator First Name:
Operator Last Name:
Operator Title:
Operator Email:
Contact First Name: James
Contact Last Name: Essig
Contact Title:
Contact Address 1: 1525 E Marine View Dr
Contact Address 2:
Contact City: Everett
Contact State: WA
Contact Zip: 98201
Contact Email: james.essig@gcinc.com
Contact Phone: (425) 551-3136
Contact Phone Ext:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Contact Organization: Granite Construction Company
Operator Organization: Granite Construction Company
Web Address:

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7 *1 of 2* **SW** *0.15 / 815.69* *2.93 / 2*

MCCLEAN IRON WORKS STEEL FAB FAC
2102 ROSS AVE
EVERETT WA 98201

ALL SITES

Facility/Site ID: 3593
Source File: Washington State Department of Ecology Facilties - Sites Interactions; Washington State Department of Ecology Facilties - Sites

Latitude: 48.0172000002821
Longitude: -122.183000000226

Facility/Site Interaction

Interaction ID: 87245
Interaction Status: A
Interac Status Desc: Active
Interaction Type: INDSWGP
Interaction Desc: Industrial SW GP
Facility Alternate: MCCLEAN IRON WORKS STEEL FAB FAC
Program Name Desc: Water Quality Program
Database Name Desc: Permitting & Reporting Information System

Program ID: WAR011384
Prog Database Name: PARIS
Ecology Program: WATQUAL
Interact Start Dt: 1/30/2009 0:00:00
Interact End Dt:

Interaction ID: 87797
Interaction Status: I
Interac Status Desc: Inactive
Interaction Type: CONSTSWGP
Interaction Desc: Construction SW GP
Facility Alternate: McClean Iron Works
Program Name Desc: Water Quality Program
Database Name Desc: Permitting & Reporting Information System

Program ID: WAR302407
Prog Database Name: PARIS
Ecology Program: WATQUAL
Interact Start Dt: 7/24/2008 0:00:00
Interact End Dt: 5/9/2013 0:00:00

Facility Location Detail

Loc Verified Cd:
GIS Calc Lat Decimal Nr: 48.017200000000003
GIS Calc Long Decimal Nr: -122.183000000000007

---

7 *2 of 2* **SW** *0.15 / 815.69* *2.93 / 2*

McClean Iron Works
2102 Ross Ave
Everett WA 98201

SNO SWF/LF

Permit No:
Owner: Rich McClean

Area: HW

---

8 *1 of 1* **NW** *0.17 / 903.51* *12.71 / 12*

BMC West Truss & Components
3200 35TH AVE NE
EVERETT WA 98201

ALL SITES

Facility/Site ID: 13326
Source File: Washington State Department of Ecology Facilties - Sites Interactions; Washington State Department of Ecology Facilties - Sites

Latitude: 48.0271670001265
Longitude: -122.181697999904

Facility/Site Interaction

Interaction ID: 81086
Interaction Status: A
Interac Status Desc: Active
Interaction Type: INDSWGP

Program ID: WAR009730
Prog Database Name: PARIS
Ecology Program: WATQUAL
Interact Start Dt: 5/28/2007 0:00:00

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Interaction Desc: Industrial SW GP ***Interact End Dt:***
Facility Alternate: BMC West Truss & Components Everett
Program Name Desc: Water Quality Program
Database Name Desc: Permitting & Reporting Information System

Facility Location Detail

Loc Verified Cd:
GIS Calc Lat Decimal Nr: 48.027166999999999
GIS Calc Long Decimal Nr: -122.181697999999997

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9 | ***1 of 2*** | ***NW*** | ***0.17 / 906.59*** | ***12.70 / 12*** | ***HENRY BACON BUILDING MATERIALS INC 3200 35TH NE Everett WA 98201*** | ***UST***

UST ID: 9630
Facility Site ID: 71625825
Latitude: 47.990651
Longitude: -122.192357
Responsible Unit: Northwest
Alternate Site Names: HENRY BACON BLDG MATERIALS INC UST 9630
Region: Northwest
County: Snohomish
Site Active: No
Active Tag:

Tank Detail(s)

Tank Name: 4
Tank Status: Closed in Place
Status Date: 08/06/1996
Install Date: 12/31/1964
Upgrade Date:
Perm Closure Date:
Tank Corrosion Protection:
Tank Manifold:
Tank Release Detection:
Tank Tightness Test:
Tank Spill Prevention:
Tank Overfill Prevention:
Pipe Material:
Pipe Construction:
Pipe Corrosion Protection:
Tank SFC:
Dispenser SFC:
Primary Pipe Release Detection:
Secondary Pipe Rel Detect:
Pipe Pumping System:
Turbine Sump Construction:
Tank Material:
Tank Construction:
Tank Capacity:
Actual Capacity:
Pipe Install Date:
Endorsement Expire:

Compartments

Tank Name: 4
Compartment No: 1
Compart Capacity:
Stored Substance:
Used Substance:

Tank Detail(s)

Tank Name: 3
Tank Status: Closed in Place
Status Date: 08/06/1996
Install Date: 12/31/1964
Upgrade Date:
Tank Material:
Tank Construction:
Tank Capacity:
Actual Capacity:
Pipe Install Date:

Perm Closure Date: ***Endorsement Expire:***
Tank Corrosion Protection:
Tank Manifold:
Tank Release Detection:
Tank Tightness Test:
Tank Spill Prevention:
Tank Overfill Prevention:
Pipe Material:
Pipe Construction:
Pipe Corrosion Protection:
Tank SFC:
Dispenser SFC:
Primary Pipe Release Detection:
Secondary Pipe Rel Detect:
Pipe Pumping System:
Turbine Sump Construction:

Compartments

Tank Name: 3
Compartment No: 1
Compart Capacity:
Stored Substance:
Used Substance:

Tank Detail(s)

Tank Name: 1 ***Tank Material:***
Tank Status: Removed ***Tank Construction:***
Status Date: 08/06/1996 ***Tank Capacity:***
Install Date: 12/31/1964 ***Actual Capacity:***
Upgrade Date: ***Pipe Install Date:***
Perm Closure Date: ***Endorsement Expire:***
Tank Corrosion Protection:
Tank Manifold:
Tank Release Detection:
Tank Tightness Test:
Tank Spill Prevention:
Tank Overfill Prevention:
Pipe Material:
Pipe Construction:
Pipe Corrosion Protection:
Tank SFC:
Dispenser SFC:
Primary Pipe Release Detection:
Secondary Pipe Rel Detect:
Pipe Pumping System:
Turbine Sump Construction:

Compartments

Tank Name: 1
Compartment No: 1
Compart Capacity:
Stored Substance: Unleaded Gasoline
Used Substance:

Tank Detail(s)

Tank Name: 2 ***Tank Material:***
Tank Status: Removed ***Tank Construction:***
Status Date: 08/06/1996 ***Tank Capacity:***

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Install Date: 12/31/1964
Upgrade Date:
Perm Closure Date:
Tank Corrosion Protection:
Tank Manifold:
Tank Release Detection:
Tank Tightness Test:
Tank Spill Prevention:
Tank Overfill Prevention:
Pipe Material:
Pipe Construction:
Pipe Corrosion Protection:
Tank SFC:
Dispenser SFC:
Primary Pipe Release Detection:
Secondary Pipe Rel Detect:
Pipe Pumping System:
Turbine Sump Construction:
Actual Capacity:
Pipe Install Date:
Endorsement Expire:

Compartments

Tank Name: 2
Compartment No: 1
Compart Capacity:
Stored Substance:
Used Substance:

9	2 of 2	NW	0.17 / 906.59	12.70 / 12	HENRY BACON BLDG MATERIALS INC UST 9630 3200 35TH NE EVERETT WA 98201	ALL SITES

Facility/Site ID: 71625825
Source File: Washington State Department of Ecology Facilties - Sites Interactions; Washington State Department of Ecology Facilties - Sites
Latitude: 47.9906510003782
Longitude: -122.192357000158

Facility/Site Interaction

Interaction ID: 60187
Interaction Status: I
Interac Status Desc: Inactive
Interaction Type: UST
Interaction Desc: Underground Storage Tank
Facility Alternate:
Program Name Desc: Toxics Cleanup Program
Database Name Desc: Underground Storage Tanks
Program ID: 9630
Prog Database Name: UST
Ecology Program: TOXICS
Interact Start Dt: 6/8/1998 0:00:00
Interact End Dt: 5/3/2000 0:00:00

Facility Location Detail

Loc Verified Cd: N
GIS Calc Lat Decimal Nr: 47.990651000000000
GIS Calc Long Decimal Nr: -122.192357000000001

10	1 of 7	WSW	0.19 / 989.86	9.15 / 8	GLACIER NORTHWEST INC EVERETT 2222 ROSS AVE NE EVERETT WA 98205	RCRA NON GEN

EPA Handler ID: WAR000001503
Gen Status Universe: No Report
Contact Name: NED PETTIT
Contact Address: PO BOX 1730 , , SEATTLE , WA, 98111 , US

Contact Phone No and Ext:	206-768-7612
Contact Email:	NPETTIT@GLACIERNW.COM
Contact Country:	US
County Name:	SNOHOMISH
EPA Region:	10
Land Type:	Private
Receive Date:	20050114
Location Latitude:	
Location Longitude:	

Violation/Evaluation Summary

Note:	NO RECORDS: As of April 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	19960229
Handler Name:	GLACIER NORTHWEST INC EVERETT
Source Type:	Notification
Federal Waste Generator Code:	3
Generator Code Description:	Very Small Quantity Generator

Hazardous Waste Handler Details

Sequence No:	2
Receive Date:	19970304
Handler Name:	GLACIER NORTHWEST INC EVERETT
Source Type:	Notification
Federal Waste Generator Code:	3
Generator Code Description:	Very Small Quantity Generator

Hazardous Waste Handler Details

Sequence No:	3
Receive Date:	19980225
Handler Name:	GLACIER NORTHWEST INC EVERETT
Source Type:	Notification
Federal Waste Generator Code:	3
Generator Code Description:	Very Small Quantity Generator

Hazardous Waste Handler Details

Sequence No: 4
Receive Date: 19990301
Handler Name: GLACIER NORTHWEST INC EVERETT
Source Type: Notification
Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator

Hazardous Waste Handler Details

Sequence No: 5
Receive Date: 20000229
Handler Name: GLACIER NORTHWEST INC EVERETT
Source Type: Notification
Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator

Hazardous Waste Handler Details

Sequence No: 6
Receive Date: 20010226
Handler Name: GLACIER NORTHWEST INC EVERETT
Source Type: Notification
Federal Waste Generator Code:
Generator Code Description:

Hazardous Waste Handler Details

Sequence No: 7
Receive Date: 20020305
Handler Name: GLACIER NORTHWEST INC EVERETT
Source Type: Notification
Federal Waste Generator Code:
Generator Code Description:

Hazardous Waste Handler Details

Sequence No: 8
Receive Date: 20030303
Handler Name: GLACIER NORTHWEST INC EVERETT
Source Type: Notification
Federal Waste Generator Code:
Generator Code Description:

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20050113
Handler Name: GLACIER NORTHWEST INC EVERETT
Source Type: Implementer
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified

Hazardous Waste Handler Details

Sequence No: 11
Receive Date: 20050114
Handler Name: GLACIER NORTHWEST INC EVERETT
Source Type: Implementer
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Private	***Street 1:***	PO BOX 1730
Name:	GLACIER NORTHWEST INC	***Street 2:***	
Date Became Current:	20051231	***City:***	SEATTLE
Date Ended Current:		***State:***	WA
Phone:	206-764-3000	***Country:***	US
Source Type:	Implementer	***Zip Code:***	98111

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Other	***Street 1:***	PO BOX 1730
Name:	GLACIER NORTHWEST INC	***Street 2:***	
Date Became Current:	19950327	***City:***	SEATTLE
Date Ended Current:		***State:***	WA
Phone:	206-764-3000	***Country:***	US
Source Type:	Notification	***Zip Code:***	98111-1730

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Private	***Street 1:***	PO BOX 1730
Name:	GLACIER NORTHWEST INC	***Street 2:***	
Date Became Current:	19901001	***City:***	SEATTLE
Date Ended Current:		***State:***	WA
Phone:	206-764-3000	***Country:***	US
Source Type:	Implementer	***Zip Code:***	98111

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Private	***Street 1:***	PO BOX 1730
Name:	GLACIER NORTHWEST INC	***Street 2:***	
Date Became Current:		***City:***	SEATTLE
Date Ended Current:		***State:***	WA
Phone:	206-764-3000	***Country:***	US
Source Type:	Implementer	***Zip Code:***	98111-1730

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Private	***Street 1:***	PO BOX 1730
Name:	GLACIER NORTHWEST INC	***Street 2:***	
Date Became Current:	20011201	***City:***	SEATTLE
Date Ended Current:		***State:***	WA
Phone:	206-764-3000	***Country:***	US
Source Type:	Implementer	***Zip Code:***	98111

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Private	***Street 1:***	PO BOX 1730
Name:	GLACIER NORTHWEST INC	***Street 2:***	
Date Became Current:		***City:***	SEATTLE
Date Ended Current:		***State:***	WA
Phone:	206-764-3000	***Country:***	US
Source Type:	Implementer	***Zip Code:***	98111-1730

Historical Handler Details

Receive Dt:	20050113
Generator Code Description:	Not a Generator, Verified
Handler Name:	GLACIER NORTHWEST INC EVERETT

Receive Dt:	20030303
Generator Code Description:	
Handler Name:	GLACIER NORTHWEST INC EVERETT

Receive Dt:	20020305
Generator Code Description:	
Handler Name:	GLACIER NORTHWEST INC EVERETT

Receive Dt:	20010226
Generator Code Description:	
Handler Name:	GLACIER NORTHWEST INC EVERETT

Receive Dt: 20000229
Generator Code Description: Very Small Quantity Generator
Handler Name: GLACIER NORTHWEST INC EVERETT

Receive Dt: 19990301
Generator Code Description: Very Small Quantity Generator
Handler Name: GLACIER NORTHWEST INC EVERETT

Receive Dt: 19980225
Generator Code Description: Very Small Quantity Generator
Handler Name: GLACIER NORTHWEST INC EVERETT

Receive Dt: 19970304
Generator Code Description: Very Small Quantity Generator
Handler Name: GLACIER NORTHWEST INC EVERETT

Receive Dt: 19960229
Generator Code Description: Very Small Quantity Generator
Handler Name: GLACIER NORTHWEST INC EVERETT

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10 | ***2 of 7*** | ***WSW*** | ***0.19 / 989.86*** | ***9.15 / 8*** | ***Glacier Northwest Inc Everett***
2222 ROSS AVE NE
EVERETT WA 98205 | ***CSCSL NFA***

Fac Site ID: 1343693
Cleanup Site ID: 5247
Site Status: NFA
NFA Date: 12/18/2006
Region: Northwest
Responsible Unit: Northwest
County: Snohomish
Latitude: 48.017738
Longitude: -122.184416
Region (OD): Northwest
Respon Unit (OD): Northwest
County (OD): Snohomish

Fac Site ID (OD): 1343693
Cleanup Site ID (OD): 5247
Site Status (OD): No Further Action
Rank (OD):
Has Env Coven (OD):
Site Name (OD): Glacier Northwest Inc Everett
Address (OD): 2222 ROSS AVE NE
City (OD): EVERETT
Zipcode (OD): 98205
Latitude (OD): 48.017738
Longitude (OD): -122.184416

NFA Reason: NFA-Voluntary Cleanup Program Review
Alternate Site Names: CalPortland Everett Ready Mix,EVERETT PLANT,GLACIER NORTHWEST AGGREGATE SALES YARD, GLACIER NW EVERETT PLANT,LONE STAR CONCRETE PLANT,LONE STAR NORTHWEST
Location (OD): ""
(48.017738, -122.184416)
Has Institutional Control:
Data Source(s): Department of Ecology - Washington; Open Data Portal - Washington State; Open Data Portal - Media and Contaminants

NFA Contaminants Detail(s)

Contaminant Name: LUST - Other Hazardous Substance
Soil: Confirmed Above Cleanup Levels
Groundwater: Confirmed Above Cleanup Levels
Sediment:
Surfacewater:
Air:
Bedrock:

Contaminant Name: Petroleum-Other
Soil: Confirmed Above Cleanup Levels
Groundwater: Confirmed Above Cleanup Levels
Sediment:
Surfacewater:
Air:
Bedrock:

Open Data Portal - Media and Contaminants as of 2019-07-23

Contaminant Media: Soil
Contaminant: Petroleum-Other
Contaminant Status: Confirmed Above Cleanup Levels

Contaminant Media: Groundwater
Contaminant: LUST - Other Hazardous Substance

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Contaminant Status: Confirmed Above Cleanup Levels

Contaminant Media: Groundwater
Contaminant: Petroleum-Other
Contaminant Status: Confirmed Above Cleanup Levels

Contaminant Media: Soil
Contaminant: LUST - Other Hazardous Substance
Contaminant Status: Confirmed Above Cleanup Levels

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10 | **3 of 7** | **WSW** | **0.19 / 989.86** | **9.15 / 8** | **LONE STAR NORTHWEST**
2222 ROSS AVE NE
Marysville WA 98205 | **UST**

UST ID: 101259
Facility Site ID: 1343693
Latitude: 48.017738
Longitude: -122.184416
Responsible Unit: Northwest
Region: Northwest
County: Snohomish
Site Active: No
Active Tag:
Alternate Site Names: CalPortland Everett Ready Mix,EVERETT PLANT,GLACIER NORTHWEST AGGREGATE SALES YARD,Glacier Northwest Inc Everett,GLACIER NW EVERETT PLANT,LONE STAR CONCRETE PLANT

Tank Detail(s)

Tank Name: 1
Tank Status: Removed
Status Date: 08/06/1996
Install Date: 06/15/1987
Upgrade Date:
Perm Closure Date:
Tank Corrosion Protection: Impressed Current
Tank Manifold:
Tank Release Detection: Manual Inventory Control (daily)
Tank Tightness Test: Annual
Tank Spill Prevention: None
Tank Overfill Prevention: None
Pipe Material: Coated Steel
Pipe Construction: Single Wall Pipe
Pipe Corrosion Protection: Corrosion Resistant
Tank SFC:
Dispenser SFC:
Primary Pipe Release Detection: Safe Suction (No Leak Detection)
Secondary Pipe Rel Detect:
Pipe Pumping System:
Turbine Sump Construction:
Tank Material: Dielectric Coated Steel
Tank Construction: Single Wall Tank
Tank Capacity: 10,000 to 19,999 Gallons
Actual Capacity: 10000
Pipe Install Date:
Endorsement Expire:

Compartments

Tank Name: 1
Compartment No: 1
Compart Capacity: 10000
Stored Substance: Diesel
Used Substance: Motor Fuel for Vehicles

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10 | **4 of 7** | **WSW** | **0.19 / 989.86** | **9.15 / 8** | **Glacier Northwest Inc Everett**
2222 ROSS AVE NE
EVERETT WA 98205 | **ALL SITES**

Facility/Site ID: 1343693
Source File: Washington State Department of Ecology Facilties - Sites Interactions; Washington State Department of Ecology Facilties - Sites
Latitude: 48.0177379998077
Longitude: -122.184416000048

Facility/Site Interaction

Interaction ID: 8318
Interaction Status: A
Interac Status Desc: Active
Interaction Type: SEAPROJ
Interaction Desc: SEA Project Site
Facility Alternate:
Program Name Desc: Shorelines & Environmental Assistance Program
Database Name Desc: Aquatics Site System
Program ID: 200300586
Prog Database Name: AQUATICS
Ecology Program: SEA
Interact Start Dt: 6/1/2003 0:00:00
Interact End Dt:

Interaction ID: 8317
Interaction Status: A
Interac Status Desc: Active
Interaction Type: NONENFNL
Interaction Desc: Non Enforcement Final
Facility Alternate:
Program Name Desc: Shorelines & Environmental Assistance Program
Database Name Desc: Docket Management System
Program ID:
Prog Database Name: DMS
Ecology Program: SEA
Interact Start Dt: 4/9/2004 0:00:00
Interact End Dt:

Interaction ID: 102170
Interaction Status: A
Interac Status Desc: Active
Interaction Type: SEAMIT
Interaction Desc: SEA Mitigation Site
Facility Alternate: Glacier Northwest Inc Everett
Program Name Desc: Shorelines & Environmental Assistance Program
Database Name Desc: Aquatics Site System
Program ID: 200300586
Prog Database Name: AQUATICS
Ecology Program: SEA
Interact Start Dt: 4/16/2004 0:00:00
Interact End Dt:

Interaction ID: 8319
Interaction Status: I
Interac Status Desc: Inactive
Interaction Type: VOLCLNST
Interaction Desc: Voluntary Cleanup Sites
Facility Alternate: Glacier Northwest Inc Everett
Program Name Desc: Toxics Cleanup Program
Database Name Desc: Integrated Site Info System
Program ID: NW1671
Prog Database Name: ISIS
Ecology Program: TOXICS
Interact Start Dt: 8/30/2006 0:00:00
Interact End Dt: 12/18/2006 0:00:00

Interaction ID: 8316
Interaction Status: A
Interac Status Desc: Active
Interaction Type: HWP
Interaction Desc: Hazardous Waste Planner
Facility Alternate:
Program Name Desc: Hazardous Waste & Toxics Reduction Program
Database Name Desc: Hazardous Reporting
Program ID: WAR000001503
Prog Database Name: HWPPRT
Ecology Program: HAZWASTE
Interact Start Dt: 1/1/2003 0:00:00
Interact End Dt:

Interaction ID: 8315
Interaction Status: I
Interac Status Desc: Inactive
Interaction Type: LUST
Interaction Desc: LUST Facility
Facility Alternate:
Program Name Desc: Toxics Cleanup Program
Database Name Desc: Integrated Site Info System
Program ID: 101259
Prog Database Name: ISIS
Ecology Program: TOXICS
Interact Start Dt: 8/19/1999 0:00:00
Interact End Dt: 7/27/2006 0:00:00

Interaction ID: 8312
Interaction Status: I
Interac Status Desc: Inactive
Interaction Type: HWG
Interaction Desc: Hazardous Waste Generator
Facility Alternate:
Program Name Desc: Hazardous Waste & Toxics Reduction Program
Database Name Desc: Hazardous Waste Inf Mgt System
Program ID: WAR000001503
Prog Database Name: TURBOWASTE
Ecology Program: HAZWASTE
Interact Start Dt: 3/11/1996 0:00:00
Interact End Dt: 12/31/2003 0:00:00

Interaction ID: 8313
Interaction Status: A
Interac Status Desc: Active
Interaction Type: TIER2
Program ID: WAR000001503
Prog Database Name: EPCRA
Ecology Program: HAZWASTE
Interact Start Dt: 1/1/1997 0:00:00

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Interaction Desc: Emergency/Haz Chem Rpt TIER2 **Interact End Dt:**
Facility Alternate:
Program Name Desc: Hazardous Waste & Toxics Reduction Program
Database Name Desc: Emergency Planning & Community Right-to-Know Act

Interaction ID: 81238 **Program ID:** WAG503206
Interaction Status: A **Prog Database Name:** PARIS
Interac Status Desc: Active **Ecology Program:** WATQUAL
Interaction Type: SANDGP **Interact Start Dt:** 12/9/1994 0:00:00
Interaction Desc: Sand and Gravel GP **Interact End Dt:**
Facility Alternate: Cadman Smith Island
Program Name Desc: Water Quality Program
Database Name Desc: Permitting & Reporting Information System

Interaction ID: 8311 **Program ID:** 101259
Interaction Status: I **Prog Database Name:** UST
Interac Status Desc: Inactive **Ecology Program:** TOXICS
Interaction Type: UST **Interact Start Dt:** 6/15/1987 0:00:00
Interaction Desc: Underground Storage Tank **Interact End Dt:** 1/25/1999 0:00:00
Facility Alternate:
Program Name Desc: Toxics Cleanup Program
Database Name Desc: Underground Storage Tanks

Facility Location Detail

Loc Verified Cd:
GIS Calc Lat Decimal Nr: 48.017738000000001
GIS Calc Long Decimal Nr: -122.184415999999999

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
10	5 of 7	WSW	0.19 / 989.86	9.15 / 8	Glacier Northwest Inc Everett 2222 ROSS AVE NE EVERETT WA 98205	ICR

Cleanup Site ID: 5247 **WRIA ID:** 7
Facility Site ID: 1343693 **Is NFA Site:** Yes
Site Status: No Further Action Required **Responsible Unit:** Northwest
Statute: MTCA **Latitude:** 48.017738000000001
Rank: **Longitude:** -122.184416
Rank Description: **Legislative District:** 38
Has Env Covenant: **Congr District:** 2
Is Brownfiled Site: **County Name:** Snohomish
Is PSI Site: Yes

Cleanup Activities

Related ID: 5354 **Start Date:** 1999-08-18
VCP Prj No: **End Date:** 1999-08-19
Activity Name: LUST - Report Received **Legal Mechanism:**
Activity Status: **Performed by:**
County Name: Snohomish **Project Manager:**
Applies to: LUST
Applies to Description: Leaking Underground Storage Tank

Related ID: **Start Date:**
VCP Prj No: NW1671 **End Date:** 2006-12-18
Activity Name: VCP Termination **Legal Mechanism:**
Activity Status: Completed **Performed by:**
County Name: Snohomish **Project Manager:**
Applies to: VcpProject
Applies to Description: Voluntary Cleanup Program

Related ID: 5354 **Start Date:** 2006-07-27
VCP Prj No: **End Date:** 2006-08-07
Activity Name: LUST - Report Received **Legal Mechanism:**
Activity Status: **Performed by:**
County Name: Snohomish **Project Manager:**

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Applies to: LUST
Applies to Description: Leaking Underground Storage Tank

Related ID:
VCP Prj No: NW1671
Activity Name: VCP Application
Activity Status: Completed
County Name: Snohomish
Applies to: VcpProject
Applies to Description: Voluntary Cleanup Program
Start Date: 2006-08-25
End Date:
Legal Mechanism:
Performed by:
Project Manager:

Related ID:
VCP Prj No: NW1671
Activity Name: VCP Opinion on Remedial Investigation
Activity Status: Canceled
County Name: Snohomish
Applies to: VcpProject
Applies to Description: Voluntary Cleanup Program
Start Date: 2006-08-30
End Date:
Legal Mechanism:
Performed by:
Project Manager: Adams, Mark

Related ID:
VCP Prj No:
Activity Name: Site Status Changed to NFA
Activity Status:
County Name: Snohomish
Applies to: CleanupSite
Applies to Description:
Start Date:
End Date: 2006-12-18
Legal Mechanism:
Performed by:
Project Manager:

Related ID: 5354
VCP Prj No:
Activity Name: LUST - Notification
Activity Status:
County Name: Snohomish
Applies to: LUST
Applies to Description: Leaking Underground Storage Tank
Start Date: 1999-08-19
End Date: 1999-08-19
Legal Mechanism:
Performed by:
Project Manager:

Media Contaminants

Contaminant Type: LUST - Other Hazardous Substance
Groundwater: C
Groundwater Desc.: Confirmed Above Cleanup Level
Surface Water:
Surfacewater Desc.:
Soil: C
Soil Desc.: Confirmed Above Cleanup Level
Sediment:
Sediment Desc.:
Air:
Air Desc.:
Bedrock:
Bedrock Desc.:
County Name: Snohomish

Contaminant Type: Petroleum-Other
Groundwater: C
Groundwater Desc.: Confirmed Above Cleanup Level
Surface Water:
Surfacewater Desc.:
Soil: C
Soil Desc.: Confirmed Above Cleanup Level
Sediment:
Sediment Desc.:
Air:
Air Desc.:
Bedrock:
Bedrock Desc.:
County Name: Snohomish

10	6 of 7	WSW	0.19 / 989.86	9.15 / 8	Glacier Northwest Inc Everett 2222 ROSS AVE NE EVERETT WA 98205	VCP

Facility Site ID: 1343693
Cleanup Site ID: 5247
County: Snohomish
Alternate Site Names: CalPortland Everett Ready Mix,EVERETT PLANT,GLACIER NORTHWEST AGGREGATE SALES YARD, GLACIER NW EVERETT PLANT,LONE STAR CONCRETE PLANT,LONE STAR NORTHWEST
Data Source(s): No Futher Action Sites List; All Cleanup Sites in Washington State
Region: Northwest
Latitude: 48.017738
Longitude: -122.184416

WA ECY Toxics Cleanup Program - No Futher Action Sites List

Site Status: NFA
NFA Date: 12/18/2006
NFA Reason: NFA-Voluntary Cleanup Program Review
Responsible Unit: Northwest
Has Inst Control:

WA ECY Toxics Cleanup Program - No Futher Action Sites List - Contaminants Info

Site Name: Glacier Northwest Inc Everett
Contaminant Name: Petroleum-Other
Groundwater: Confirmed Above Cleanup Levels
Surfacewater:
Soil: Confirmed Above Cleanup Levels
Sediment:
Air:
Bedrock:

Site Name: Glacier Northwest Inc Everett
Contaminant Name: LUST - Other Hazardous Substance
Groundwater: Confirmed Above Cleanup Levels
Surfacewater:
Soil: Confirmed Above Cleanup Levels
Sediment:
Air:
Bedrock:

WA ECY Toxics Cleanup Program - All Statewide Cleanup Sites

Site Status: No Further Action
Site Rank:
Has Inst Control:
Current VCP:
Past VCP: Yes
Responsible Unit: Northwest

WA ECY Toxics Cleanup Program - All Statewide Cleanup Sites - Contaminants

Contaminant Name: Petroleum-Other
Groundwater: Confirmed Above Cleanup Levels
Surfacewater:
Soil: Confirmed Above Cleanup Levels
Sediment:
Air:
Bedrock:

Contaminant Name: LUST - Other Hazardous Substance
Groundwater: Confirmed Above Cleanup Levels
Surfacewater:
Soil: Confirmed Above Cleanup Levels
Sediment:
Air:
Bedrock:

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10 | **7 of 7** | **WSW** | **0.19 / 989.86** | **9.15 / 8** | **Glacier Northwest Inc Everett**
2222 ROSS AVE NE
EVERETT WA 98205 | **LUST**

Facility Site ID: 1343693
Cleanup Site ID: 5247
Responsible Unit: Northwest
Region: Northwest
Alternate Site Names: CalPortland Everett Ready Mix,EVERETT PLANT,GLACIER NORTHWEST AGGREGATE SALES YARD, GLACIER NW EVERETT PLANT,LONE STAR CONCRETE PLANT,LONE STAR NORTHWEST
County: Snohomish
Latitude: 48.017738
Longitude: -122.184416

Tank Detail(s)

UST ID: 101259
LUST ID: 5354
LUST Status: LUST - NFA
Status Date: 12/18/2006
Release Date: 08/19/1999

Contaminants Detail(s)

Contaminant Name: LUST - Other Hazardous Substance
Groundwater: Confirmed Above Cleanup Levels
Surfacewater:
Soil: Confirmed Above Cleanup Levels
Sediment:
Air:
Bedrock:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Contaminants Detail(s)

Contaminant Name:	Petroleum-Other	***Sediment:***	
Groundwater:	Confirmed Above Cleanup Levels	***Air:***	
Surfacewater:		***Bedrock:***	
Soil:	Confirmed Above Cleanup Levels		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
11	*1 of 2*	*SSW*	*0.19 / 1,004.58*	*2.62 / 2*	*MERCER MARINE AT DAGMARS* *2010 ROSS AVE* *MARYSVILLE WA 98270*	*RCRA NON GEN*

EPA Handler ID:	WAD988503041
Gen Status Universe:	No Report
Contact Name:	
Contact Address:	
Contact Phone No and Ext:	
Contact Email:	
Contact Country:	
County Name:	SNOHOMISH
EPA Region:	10
Land Type:	Other
Receive Date:	19950216
Location Latitude:	
Location Longitude:	

Violation/Evaluation Summary

Note:	NO RECORDS: As of April 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	19940101
Handler Name:	MERCER MARINE AT DAGMARS
Source Type:	Notification
Federal Waste Generator Code:	N
Generator Code Description:	Not a Generator, Verified

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	19950215
Handler Name:	MERCER MARINE AT DAGMARS
Source Type:	Implementer

Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified

Hazardous Waste Handler Details

Sequence No: 2
Receive Date: 19950215
Handler Name: MERCER MARINE AT DAGMARS
Source Type: Notification
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified

Hazardous Waste Handler Details

Sequence No: 2
Receive Date: 19950215
Handler Name: MERCER MARINE AT DAGMARS
Source Type: Implementer
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified

Hazardous Waste Handler Details

Sequence No: 3
Receive Date: 19950216
Handler Name: MERCER MARINE AT DAGMARS
Source Type: Implementer
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind: Current Owner
Type: Private
Name: MERCER MARINE AT DAGMARS
Date Became Current:
Date Ended Current:
Phone: 000-000-0000
Source Type: Notification
Street No:
Street 1: 2010 ROSS AVE
Street 2:
City: MARYSVILLE
State: WA
Country: US
Zip Code: 98270

Owner/Operator Ind: Current Owner
Type: Private
Name: MERCER MARINE A M
Date Became Current: 19960503
Date Ended Current:
Phone: 000-000-0000
Source Type: Implementer
Street No:
Street 1: 2010 ROSS AVE
Street 2:
City: MARYSVILLE
State: WA
Country: US
Zip Code: 98270-0000

Owner/Operator Ind: Current Operator
Type: Private
Name: MERCER MARINE AT DAGMARS
Date Became Current:
Date Ended Current:
Phone: 000-000-0000
Source Type: Implementer
Street No:
Street 1: 2010 ROSS AVE
Street 2:
City: MARYSVILLE
State: WA
Country: US
Zip Code: 98270

Owner/Operator Ind: Current Owner
Type: Private
Name: MERCER MARINE AT DAGMARS
Date Became Current: 19960503
Date Ended Current:
Phone: 000-000-0000
Source Type: Notification
Street No:
Street 1: 2010 ROSS AVE
Street 2:
City: MARYSVILLE
State: WA
Country: US
Zip Code: 98270

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Private	**Street 1:**	2010 ROSS AVE
Name:	MERCER MARINE AT DAGMARS	**Street 2:**	
Date Became Current:		**City:**	MARYSVILLE
Date Ended Current:		**State:**	WA
Phone:	000-000-0000	**Country:**	US
Source Type:	Implementer	**Zip Code:**	98270-0000

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Private	**Street 1:**	2010 ROSS AVE
Name:	MERCER MARINE AT DAGMARS	**Street 2:**	
Date Became Current:	19960503	**City:**	MARYSVILLE
Date Ended Current:		**State:**	WA
Phone:	000-000-0000	**Country:**	US
Source Type:	Implementer	**Zip Code:**	98270

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Private	**Street 1:**	2010 ROSS AVE
Name:	SEE PAPER COPY	**Street 2:**	
Date Became Current:		**City:**	MARYSVILLE
Date Ended Current:		**State:**	WA
Phone:	000-000-0000	**Country:**	
Source Type:	Implementer	**Zip Code:**	98270-9183

Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Private	**Street 1:**	2010 ROSS AVE
Name:	MERCER MARINE AT DAGMARS	**Street 2:**	
Date Became Current:		**City:**	MARYSVILLE
Date Ended Current:		**State:**	WA
Phone:	000-000-0000	**Country:**	US
Source Type:	Notification	**Zip Code:**	98270

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Private	**Street 1:**	2010 ROSS AVE
Name:	MERCER MARINE AT DAGMARS	**Street 2:**	
Date Became Current:		**City:**	MARYSVILLE
Date Ended Current:		**State:**	WA
Phone:	000-000-0000	**Country:**	US
Source Type:	Implementer	**Zip Code:**	98270

Historical Handler Details

Receive Dt:	19950215
Generator Code Description:	Not a Generator, Verified
Handler Name:	MERCER MARINE AT DAGMARS

Receive Dt:	19950215
Generator Code Description:	Not a Generator, Verified
Handler Name:	MERCER MARINE AT DAGMARS

Receive Dt:	19940101
Generator Code Description:	Not a Generator, Verified
Handler Name:	MERCER MARINE AT DAGMARS

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11 | ***2 of 2*** | ***SSW*** | ***0.19 / 1,004.58*** | ***2.62 / 2*** | ***Mercer Marine AT Dagmars
2010 ROSS AVE
MARYSVILLE WA 98270-9183*** | ***ALL SITES***

Facility/Site ID:	30237331	**Latitude:**	48.0568800000676
Source File:	Washington State Department of Ecology Facilties - Sites Interactions; Washington State Department of Ecology Facilties - Sites	**Longitude:**	-122.167689999589

Facility/Site Interaction

Interaction ID:	37010	**Program ID:**	WAD988503041

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Interaction Status: I
Interac Status Desc: Inactive
Interaction Type: HWG
Interaction Desc: Hazardous Waste Generator
Facility Alternate:
Program Name Desc: Hazardous Waste & Toxics Reduction Program
Database Name Desc: Hazardous Waste Inf Mgt System
Prog Database Name: TURBOWASTE
Ecology Program: HAZWASTE
Interact Start Dt: 3/16/1992 0:00:00
Interact End Dt: 12/31/1994 0:00:00

Facility Location Detail

Loc Verified Cd: N
GIS Calc Lat Decimal Nr: 48.056880000000000
GIS Calc Long Decimal Nr: -122.167689999999993

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
12	1 of 2	WSW	0.19 / 1,013.92	9.96 / 9	Heritage Environmental Services, LLC 2323 Ross Ave Everett WA 98205	SWF/LF

ID: 1617
Recycle Survey ID:
Permit Status:
Operational Status:
Year Closed:
Ann Report Required: No
Rec Survey Required: No
Facility Phone:
Facility Type: Material Recovery Facility (exempt)
Open to Public: No
Regulation: 173-350-210
Ownership: PR
Region: Northwest Regional Office
County: Snohomish
Latitude:
Longitude:

Details

Permit No:
Operator First Name: Rodney
Operator Last Name: Pierce
Operator Title: Owner/operator
Operator Email: rodney.pierce@hertiage-enviro.com
Contact First Name: Rodney
Contact Last Name: Pierce
Contact Title: Owner/operator
Contact Organization: Heritage Environmental Services, LLC
Operator Organization: Heritage Environmental Services, LLC
Web Address:
Contact Address 1: 7901 W Morris St
Contact Address 2:
Contact City: Indianapolis
Contact State: IN
Contact Zip: 46231
Contact Email: rodney.pierce@hertiage-enviro.com
Contact Phone: (317) 714-8512
Contact Phone Ext:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
12	2 of 2	WSW	0.19 / 1,013.92	9.96 / 9	CALPORTLAND CO 2323 Ross Ave Everett WA 98205	SNO SWF/LF

Permit No:
Owner:
Area:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
13	1 of 6	SSW	0.22 / 1,181.43	2.30 / 2	Dagmars Marina 1871 Ross Ave Everett WA 98801	SWF/LF

ID: 1244
Recycle Survey ID:
Permit Status: Exempt
Operational Status: Operating
Year Closed:
Ann Report Required: Yes
Rec Survey Required: No
Facility Phone:
Facility Type: Moderate Risk Waste Facility
Open to Public: No
Regulation: 173-350-360
Ownership: PR
Region: Northwest Regional Office
County: Snohomish
Latitude:
Longitude:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Details

Permit No:		***Contact Address 1:***	1871 Ross Ave
Operator First Name:		***Contact Address 2:***	
Operator Last Name:		***Contact City:***	Everett
Operator Title:		***Contact State:***	WA
Operator Email:		***Contact Zip:***	98801
Contact First Name:	Kernan	***Contact Email:***	
Contact Last Name:	Manley	***Contact Phone:***	(425) 259-6124
Contact Title:	Operations Manager	***Contact Phone Ext:***	
Contact Organization:	Dagmars Marina		
Operator Organization:	Dagmars Marina		
Web Address:			

13	*2 of 6*	*SSW*	*0.22 / 1,181.43*	*2.30 / 2*	***DAGMARS MARINA 1871 ROSS AVE EVERETT WA 98205***	***CSCSL***

Fac Site ID:	8070274	***Fac Site ID (OD):***	8070274
Cleanup Site ID:	4698	***Cleanup Site ID (OD):***	4698
Site Status:	Awaiting Cleanup	***Site Status (OD):***	Awaiting Cleanup
Site Rank:		***Site Name (OD):***	DAGMARS MARINA
Current VCP:		***Site Rank (OD):***	
Past VCP:		***Respon Unit (OD):***	Northwest
Has Inst Control:		***Has Env Coven (OD):***	
Responsible Unit:	Northwest	***County (OD):***	Snohomish
County:	Snohomish	***Region (OD):***	Northwest
Region:	Northwest	***Address (OD):***	1871 ROSS AVE
Latitude:	48.0139793340649	***City (OD):***	EVERETT
Longitude:	-122.179267001351	***Zipcode (OD):***	98205
Alternate Site Names:			
Location (OD):	"" (48.013979, -122.179267)		
Latitude (OD):	48.013979		
Longitude (OD):	-122.179267		
Data Source(s):	WA ECY Toxics Cleanup Program; Open Data Portal - Washington State; Open Data Portal - Media and Contaminants		

Contaminants Detail(s)

Contaminant Name:	Metals Priority Pollutants	***Sediment:***	
Groundwater:	Confirmed Above Cleanup Levels	***Air:***	
Surfacewater:		***Bedrock:***	
Soil:			

Open Data Portal - Media and Contaminants as of 2019-07-23

Contaminant Status:	Confirmed Above Cleanup Levels
Contaminant:	Metals Priority Pollutants
Contaminant Media:	Groundwater

13	*3 of 6*	*SSW*	*0.22 / 1,181.43*	*2.30 / 2*	***DAGMARS MARINA 1871 ROSS AVE EVERETT WA 98205***	***ALL SITES***

Facility/Site ID:	8070274	***Latitude:***	48.0139793338231
Source File:	Washington State Department of Ecology Facilties - Sites Interactions; Washington State Department of Ecology Facilties - Sites	***Longitude:***	-122.1792670018

Facility/Site Interaction

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Interaction ID:	99287	**Program ID:**	
Interaction Status:	I	**Prog Database Name:**	LSC
Interac Status Desc:	Inactive	**Ecology Program:**	HAZWASTE
Interaction Type:	LSC	**Interact Start Dt:**	7/5/2011 0:00:00
Interaction Desc:	Local Source Cntrl 7/09-3/12	**Interact End Dt:**	7/25/2011 0:00:00
Facility Alternate:	DAGMARS MARINA LLC		
Program Name Desc:	Hazardous Waste & Toxics Reduction Program		
Database Name Desc:	Local Source Control		

Interaction ID:	81934	**Program ID:**	WAG030059
Interaction Status:	A	**Prog Database Name:**	PARIS
Interac Status Desc:	Active	**Ecology Program:**	WATQUAL
Interaction Type:	BOATGP	**Interact Start Dt:**	3/8/1993 0:00:00
Interaction Desc:	Boatyard GP	**Interact End Dt:**	
Facility Alternate:	DAGMARS MARINA		
Program Name Desc:	Water Quality Program		
Database Name Desc:	Permitting & Reporting Information System		

Interaction ID:	21974	**Program ID:**	
Interaction Status:	A	**Prog Database Name:**	ISIS
Interac Status Desc:	Active	**Ecology Program:**	TOXICS
Interaction Type:	SCS	**Interact Start Dt:**	12/8/2008 0:00:00
Interaction Desc:	State Cleanup Site	**Interact End Dt:**	
Facility Alternate:	DAGMARS MARINA		
Program Name Desc:	Toxics Cleanup Program		
Database Name Desc:	Integrated Site Info System		

Interaction ID:	110867	**Program ID:**	
Interaction Status:	A	**Prog Database Name:**	DMS
Interac Status Desc:	Active	**Ecology Program:**	SPILLS
Interaction Type:	ENFORFNL	**Interact Start Dt:**	12/11/2014 0:00:00
Interaction Desc:	Enforcement Final	**Interact End Dt:**	
Facility Alternate:			
Program Name Desc:	Spills Program		
Database Name Desc:	Docket Management System		

Facility Location Detail

Loc Verified Cd:	Y
GIS Calc Lat Decimal Nr:	48.013979334064899
GIS Calc Long Decimal Nr:	-122.179267001350993

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
13	4 of 6	SSW	0.22 / 1,181.43	2.30 / 2	DAGMARS MARINA 1871 ROSS AVE EVERETT WA 98205	ICR

Cleanup Site ID:	4698	**WRIA ID:**	7
Facility Site ID:	8070274	**Is NFA Site:**	
Site Status:	Awaiting Cleanup	**Responsible Unit:**	Northwest
Statute:	MTCA	**Latitude:**	48.013979334064899
Rank:		**Longitude:**	-122.17926700135099
Rank Description:		**Legislative District:**	38
Has Env Covenant:		**Congr District:**	2
Is Brownfiled Site:		**County Name:**	Snohomish
Is PSI Site:	Yes		

Cleanup Activities

Related ID:		**Start Date:**	
VCP Prj No:		**End Date:**	2009-02-02
Activity Name:	Early Notice Letter(s)	**Legal Mechanism:**	
Activity Status:		**Performed by:**	
County Name:	Snohomish	**Project Manager:**	Musa, Donna
Applies to:	CleanupSite		
Applies to Description:			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Related ID:		**Start Date:**	
VCP Prj No:		**End Date:**	2004-04-13
Activity Name:	Site Discovery/Release Report Received	**Legal Mechanism:**	
Activity Status:		**Performed by:**	
County Name:	Snohomish	**Project Manager:**	Northwest Region
Applies to:	CleanupSite		
Applies to Description:			

Related ID:		**Start Date:**	2008-01-15
VCP Prj No:		**End Date:**	2008-09-23
Activity Name:	Initial Investigation / Federal Preliminary Assessment	**Legal Mechanism:**	
Activity Status:	Completed	**Performed by:**	Local Government
County Name:	Snohomish	**Project Manager:**	County Health-NW
Applies to:	CleanupSite		
Applies to Description:			

Media Contaminants

Contaminant Type:	Metals Priority Pollutants	**Sediment:**	
Groundwater:	C	**Sediment Desc.:**	
Groundwater Desc.:	Confirmed Above Cleanup Level	**Air:**	
Surface Water:		**Air Desc.:**	
Surfacewater Desc.:		**Bedrock:**	
Soil:		**Bedrock Desc.:**	
Soil Desc.:		**County Name:**	Snohomish

13	5 of 6	SSW	0.22 / 1,181.43	2.30 / 2	**Dagmars Marina** **1871 Ross Ave** **Everett WA 98205**	SNO SWF/LF

Permit No:		**Area:**	HW
Owner:			

13	6 of 6	SSW	0.22 / 1,181.43	2.30 / 2	**Dagmars Marina Moderate Risk Waste** **1871 Ross Ave** **Everett WA 98201**	SNO SWF/LF

Permit No:		**Area:**	AA
Owner:	Dagmars Marina LLC - fr Assessor's web 10/12/07 sei		

14	1 of 1	W	0.24 / 1,287.68	13.71 / 13	**GLACIER NW N & S PARCEL FILL** **W OF SR 529 & N OF 28TH PL NE** **EVERETT WA 98201-4044**	ALL SITES

Facility/Site ID:	7588	**Latitude:**	48.0224999998366
Source File:	Washington State Department of Ecology Facilties - Sites Interactions; Washington State Department of Ecology Facilties - Sites	**Longitude:**	-122.18300000026

Facility/Site Interaction

Interaction ID:	83826	**Program ID:**	WAR004726
Interaction Status:	I	**Prog Database Name:**	PARIS
Interac Status Desc:	Inactive	**Ecology Program:**	WATQUAL
Interaction Type:	CONSTSWGP	**Interact Start Dt:**	9/3/2002 0:00:00
Interaction Desc:	Construction SW GP	**Interact End Dt:**	2/10/2011 0:00:00
Facility Alternate:	GLACIER NW N & S PARCEL FILL		
Program Name Desc:	Water Quality Program		
Database Name Desc:	Permitting & Reporting Information System		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Facility Location Detail

Loc Verified Cd:
GIS Calc Lat Decimal Nr: 48.022500000000001
GIS Calc Long Decimal Nr: -122.183000000000007

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
15	1 of 1	NW	0.33 / 1,745.97	13.54 / 13	SMITH ISLAND FACILITY CONST 36TH PL NE & SR 529 EVERETT WA 98205	ALL SITES

Facility/Site ID: 16212
Source File: Washington State Department of Ecology Facilties - Sites Interactions; Washington State Department of Ecology Facilties - Sites
Latitude: 48.0292000003372
Longitude: -122.186000000142

Facility/Site Interaction

Interaction ID: 84159
Interaction Status: A
Interac Status Desc: Active
Interaction Type: CONSTSWGP
Interaction Desc: Construction SW GP
Facility Alternate: SMITH ISLAND FACILITY CONST
Program Name Desc: Water Quality Program
Database Name Desc: Permitting & Reporting Information System
Program ID: WAR007352
Prog Database Name: PARIS
Ecology Program: WATQUAL
Interact Start Dt: 5/30/2006 0:00:00
Interact End Dt:

Facility Location Detail

Loc Verified Cd:
GIS Calc Lat Decimal Nr: 48.029200000000003
GIS Calc Long Decimal Nr: -122.186000000000007

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
16	1 of 1	E	0.37 / 1,951.68	0.00 / -1	UNION SLOUGH LEVEE WA	ALL SITES

Facility/Site ID: 9882
Source File: Washington State Department of Ecology Facilties - Sites Interactions; Washington State Department of Ecology Facilties - Sites
Latitude: 48.0214878790584
Longitude: -122.167715967281

Facility/Site Interaction

Interaction ID: 101895
Interaction Status: A
Interac Status Desc: Active
Interaction Type: SEAPROJ
Interaction Desc: SEA Project Site
Facility Alternate: UNION SLOUGH LEVEE
Program Name Desc: Shorelines & Environmental Assistance Program
Database Name Desc: Aquatics Site System
Program ID: PMER127
Prog Database Name: AQUATICS
Ecology Program: SEA
Interact Start Dt: 6/18/2012 0:00:00
Interact End Dt:

Facility Location Detail

Loc Verified Cd:
GIS Calc Lat Decimal Nr: 48.021488888888889
GIS Calc Long Decimal Nr: -122.167699999999996

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
17	1 of 4	WNW	0.38 / 2,032.37	14.90 / 14	Pacific Topsoils Inc - Smith Island 3000 Frontage Road Everett WA 98205	SWF/LF

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

ID: 2262
Recycle Survey ID:
Permit Status: Exempt
Operational Status: Operating
Year Closed:
Ann Report Required: No
Rec Survey Required: No
Facility Phone:
Facility Type: Material Recovery Facility (exempt)

Open to Public: No
Regulation: 173-350-210
Ownership:
Region: Northwest Regional Office
County: Snohomish
Latitude:
Longitude:

Details

Permit No:
Operator First Name: Janusz
Operator Last Name: Bajsarowicz
Operator Title:
Operator Email: januszb@pacifictopsoils.com
Contact First Name: Janusz
Contact Last Name: Bajsarowicz
Contact Title:
Contact Organization: Pacific Topsoils Inc -
Operator Organization: Pacific Topsoils Inc -
Web Address:

Contact Address 1: 805 80th Street SW
Contact Address 2:
Contact City: Everett
Contact State: WA
Contact Zip: 98203
Contact Email: januszb@pacifictopsoils.com
Contact Phone: (425) 485-5086
Contact Phone Ext:

17	2 of 4	WNW	0.38 / 2,032.37	14.90 / 14	Tulalip Water Pipeline Segment 4 3000 34th Ave NE Everett WA 98205	ALL SITES

Facility/Site ID: 7355
Source File: Washington State Department of Ecology Facilties - Sites Interactions; Washington State Department of Ecology Facilties - Sites

Latitude: 48.023705406221
Longitude: -122.186746117888

Facility/Site Interaction

Interaction ID: 103363
Interaction Status: I
Interac Status Desc: Inactive
Interaction Type: CONSTSWGP
Interaction Desc: Construction SW GP
Facility Alternate: Tulalip Water Pipeline Segment 4
Program Name Desc: Water Quality Program
Database Name Desc: Permitting & Reporting Information System

Program ID: WAR126697
Prog Database Name: PARIS
Ecology Program: WATQUAL
Interact Start Dt: 1/3/2013 14:12:04
Interact End Dt: 1/2/2014 0:00:00

Facility Location Detail

Loc Verified Cd:
GIS Calc Lat Decimal Nr: 48.023704000000002
GIS Calc Long Decimal Nr: -122.186762999999999

17	3 of 4	WNW	0.38 / 2,032.37	14.90 / 14	PACIFIC TOPSOILS WASTE RECYCLING (formerly Weyerhaeuser Woodwaste) 3000 Frontage Rd Everett WA 98205	SNO SWF/LF

Permit No:
Owner: Pacific Topsoils, Inc (Sandra Forman)

Area:

17	4 of 4	WNW	0.38 / 2,032.37	14.90 / 14	PACIFIC TOPSOILS - SMITH ISLAND	RECYCLERS

3000 FRONTAGE ROAD
EVERETT WA 98205

Details

Organization ID:	1383	***E-Cycle:***	No
Organization Name:	Pacific Topsoils	***Lightr Recycle:***	No
Organization Contact:	No Longer Tracked	***County:***	KING
Organization Email:	No Longer Tracked	***Latitude:***	
Material Category:	Construction	***Longitude:***	
Material Type:	Concrete	***Residential:***	
Service Type:	Pickup	***Commercial:***	
Customer Type:	Residential	***Phone:***	425-317-8420
Website:	http://www.pacifictopsoils.com/		
Hours:	Mon-Fri, 8am-5pm; Sat, 8am-4pm; Sun, 9am-3pm		
Comments:	Pacific Topsoils, Inc. recycles any type of yard waste. From trees and shrubs to dirt and rock. Even torn up the sidewalk (in small chunks) can be recycled.		

Organization ID:	1383	***E-Cycle:***	No
Organization Name:	Pacific Topsoils	***Lightr Recycle:***	No
Organization Contact:	No Longer Tracked	***County:***	KING
Organization Email:	No Longer Tracked	***Latitude:***	
Material Category:	Home & Garden	***Longitude:***	
Material Type:	Yard Debris	***Residential:***	
Service Type:	Dropoff	***Commercial:***	
Customer Type:	Commercial	***Phone:***	425-317-8420
Website:	http://www.pacifictopsoils.com/		
Hours:	Mon-Fri, 8am-5pm; Sat, 8am-4pm; Sun, 9am-3pm		
Comments:	Pacific Topsoils, Inc. recycles any type of yard waste. From trees and shrubs to dirt and rock. Even torn up the sidewalk (in small chunks) can be recycled.		

Organization ID:	1383	***E-Cycle:***	No
Organization Name:	Pacific Topsoils	***Lightr Recycle:***	No
Organization Contact:	No Longer Tracked	***County:***	KING
Organization Email:	No Longer Tracked	***Latitude:***	
Material Category:	Construction	***Longitude:***	
Material Type:	Concrete	***Residential:***	
Service Type:	Dropoff	***Commercial:***	
Customer Type:	Commercial	***Phone:***	425-317-8420
Website:	http://www.pacifictopsoils.com/		
Hours:	Mon-Fri, 8am-5pm; Sat, 8am-4pm; Sun, 9am-3pm		
Comments:	Pacific Topsoils, Inc. recycles any type of yard waste. From trees and shrubs to dirt and rock. Even torn up the sidewalk (in small chunks) can be recycled.		

Organization ID:	1383	***E-Cycle:***	No
Organization Name:	Pacific Topsoils	***Lightr Recycle:***	No
Organization Contact:	No Longer Tracked	***County:***	KING
Organization Email:	No Longer Tracked	***Latitude:***	
Material Category:	Construction	***Longitude:***	
Material Type:	Concrete	***Residential:***	
Service Type:	Dropoff	***Commercial:***	
Customer Type:	Residential	***Phone:***	425-317-8420
Website:	http://www.pacifictopsoils.com/		
Hours:	Mon-Fri, 8am-5pm; Sat, 8am-4pm; Sun, 9am-3pm		
Comments:	Pacific Topsoils, Inc. recycles any type of yard waste. From trees and shrubs to dirt and rock. Even torn up the sidewalk (in small chunks) can be recycled.		

Organization ID:	1383	***E-Cycle:***	No
Organization Name:	Pacific Topsoils	***Lightr Recycle:***	No
Organization Contact:	No Longer Tracked	***County:***	KING
Organization Email:	No Longer Tracked	***Latitude:***	
Material Category:	Home & Garden	***Longitude:***	
Material Type:	Yard Debris	***Residential:***	
Service Type:	Pickup	***Commercial:***	
Customer Type:	Residential	***Phone:***	425-317-8420
Website:	http://www.pacifictopsoils.com/		
Hours:	Mon-Fri, 8am-5pm; Sat, 8am-4pm; Sun, 9am-3pm		

Comments: Pacific Topsoils, Inc. recycles any type of yard waste. From trees and shrubs to dirt and rock. Even torn up the sidewalk (in small chunks) can be recycled.

Organization ID:	1383	***E-Cycle:***	No
Organization Name:	Pacific Topsoils	***Lightr Recycle:***	No
Organization Contact:	No Longer Tracked	***County:***	KING
Organization Email:	No Longer Tracked	***Latitude:***	
Material Category:	Construction	***Longitude:***	
Material Type:	Brick	***Residential:***	
Service Type:	Dropoff	***Commercial:***	
Customer Type:	Residential	***Phone:***	425-317-8420
Website:	http://www.pacifictopsoils.com/		
Hours:	Mon-Fri, 8am-5pm; Sat, 8am-4pm; Sun, 9am-3pm		
Comments:	Pacific Topsoils, Inc. recycles any type of yard waste. From trees and shrubs to dirt and rock. Even torn up the sidewalk (in small chunks) can be recycled.		

Organization ID:	1383	***E-Cycle:***	No
Organization Name:	Pacific Topsoils	***Lightr Recycle:***	No
Organization Contact:	No Longer Tracked	***County:***	KING
Organization Email:	No Longer Tracked	***Latitude:***	
Material Category:	Home & Garden	***Longitude:***	
Material Type:	Yard Debris	***Residential:***	
Service Type:	Dropoff	***Commercial:***	
Customer Type:	Residential	***Phone:***	425-317-8420
Website:	http://www.pacifictopsoils.com/		
Hours:	Mon-Fri, 8am-5pm; Sat, 8am-4pm; Sun, 9am-3pm		
Comments:	Pacific Topsoils, Inc. recycles any type of yard waste. From trees and shrubs to dirt and rock. Even torn up the sidewalk (in small chunks) can be recycled.		

Organization ID:	1383	***E-Cycle:***	No
Organization Name:	Pacific Topsoils	***Lightr Recycle:***	No
Organization Contact:	No Longer Tracked	***County:***	KING
Organization Email:	No Longer Tracked	***Latitude:***	
Material Category:	Construction	***Longitude:***	
Material Type:	Asphalt	***Residential:***	
Service Type:	Pickup	***Commercial:***	
Customer Type:	Residential	***Phone:***	425-317-8420
Website:	http://www.pacifictopsoils.com/		
Hours:	Mon-Fri, 8am-5pm; Sat, 8am-4pm; Sun, 9am-3pm		
Comments:	Pacific Topsoils, Inc. recycles any type of yard waste. From trees and shrubs to dirt and rock. Even torn up the sidewalk (in small chunks) can be recycled.		

Organization ID:	1383	***E-Cycle:***	No
Organization Name:	Pacific Topsoils	***Lightr Recycle:***	No
Organization Contact:	No Longer Tracked	***County:***	KING
Organization Email:	No Longer Tracked	***Latitude:***	
Material Category:	Construction	***Longitude:***	
Material Type:	Asphalt	***Residential:***	
Service Type:	Dropoff	***Commercial:***	
Customer Type:	Commercial	***Phone:***	425-317-8420
Website:	http://www.pacifictopsoils.com/		
Hours:	Mon-Fri, 8am-5pm; Sat, 8am-4pm; Sun, 9am-3pm		
Comments:	Pacific Topsoils, Inc. recycles any type of yard waste. From trees and shrubs to dirt and rock. Even torn up the sidewalk (in small chunks) can be recycled.		

Organization ID:	1383	***E-Cycle:***	No
Organization Name:	Pacific Topsoils	***Lightr Recycle:***	No
Organization Contact:	No Longer Tracked	***County:***	KING
Organization Email:	No Longer Tracked	***Latitude:***	
Material Category:	Construction	***Longitude:***	
Material Type:	Asphalt	***Residential:***	
Service Type:	Dropoff	***Commercial:***	
Customer Type:	Residential	***Phone:***	425-317-8420
Website:	http://www.pacifictopsoils.com/		
Hours:	Mon-Fri, 8am-5pm; Sat, 8am-4pm; Sun, 9am-3pm		
Comments:	Pacific Topsoils, Inc. recycles any type of yard waste. From trees and shrubs to dirt and rock. Even torn up the sidewalk (in small chunks) can be recycled.		

Organization ID:	1383	***E-Cycle:***	No

Organization Name:	Pacific Topsoils	**Lightr Recycle:**	No
Organization Contact:	No Longer Tracked	**County:**	KING
Organization Email:	No Longer Tracked	**Latitude:**	
Material Category:	Construction	**Longitude:**	
Material Type:	Asphalt	**Residential:**	
Service Type:	Pickup	**Commercial:**	
Customer Type:	Commercial	**Phone:**	425-317-8420
Website:	http://www.pacifictopsoils.com/		
Hours:	Mon-Fri, 8am-5pm; Sat, 8am-4pm; Sun, 9am-3pm		
Comments:	Pacific Topsoils, Inc. recycles any type of yard waste. From trees and shrubs to dirt and rock. Even torn up the sidewalk (in small chunks) can be recycled.		

Organization ID:	1383	**E-Cycle:**	No
Organization Name:	Pacific Topsoils	**Lightr Recycle:**	No
Organization Contact:	No Longer Tracked	**County:**	KING
Organization Email:	No Longer Tracked	**Latitude:**	
Material Category:	Home & Garden	**Longitude:**	
Material Type:	Yard Debris	**Residential:**	
Service Type:	Pickup	**Commercial:**	
Customer Type:	Commercial	**Phone:**	425-317-8420
Website:	http://www.pacifictopsoils.com/		
Hours:	Mon-Fri, 8am-5pm; Sat, 8am-4pm; Sun, 9am-3pm		
Comments:	Pacific Topsoils, Inc. recycles any type of yard waste. From trees and shrubs to dirt and rock. Even torn up the sidewalk (in small chunks) can be recycled.		

Organization ID:	1383	**E-Cycle:**	No
Organization Name:	Pacific Topsoils	**Lightr Recycle:**	No
Organization Contact:	No Longer Tracked	**County:**	KING
Organization Email:	No Longer Tracked	**Latitude:**	
Material Category:	Construction	**Longitude:**	
Material Type:	Brick	**Residential:**	
Service Type:	Pickup	**Commercial:**	
Customer Type:	Commercial	**Phone:**	425-317-8420
Website:	http://www.pacifictopsoils.com/		
Hours:	Mon-Fri, 8am-5pm; Sat, 8am-4pm; Sun, 9am-3pm		
Comments:	Pacific Topsoils, Inc. recycles any type of yard waste. From trees and shrubs to dirt and rock. Even torn up the sidewalk (in small chunks) can be recycled.		

Organization ID:	1383	**E-Cycle:**	No
Organization Name:	Pacific Topsoils	**Lightr Recycle:**	No
Organization Contact:	No Longer Tracked	**County:**	KING
Organization Email:	No Longer Tracked	**Latitude:**	
Material Category:	Construction	**Longitude:**	
Material Type:	Brick	**Residential:**	
Service Type:	Dropoff	**Commercial:**	
Customer Type:	Commercial	**Phone:**	425-317-8420
Website:	http://www.pacifictopsoils.com/		
Hours:	Mon-Fri, 8am-5pm; Sat, 8am-4pm; Sun, 9am-3pm		
Comments:	Pacific Topsoils, Inc. recycles any type of yard waste. From trees and shrubs to dirt and rock. Even torn up the sidewalk (in small chunks) can be recycled.		

Organization ID:	1383	**E-Cycle:**	No
Organization Name:	Pacific Topsoils	**Lightr Recycle:**	No
Organization Contact:	No Longer Tracked	**County:**	KING
Organization Email:	No Longer Tracked	**Latitude:**	
Material Category:	Construction	**Longitude:**	
Material Type:	Concrete	**Residential:**	
Service Type:	Pickup	**Commercial:**	
Customer Type:	Commercial	**Phone:**	425-317-8420
Website:	http://www.pacifictopsoils.com/		
Hours:	Mon-Fri, 8am-5pm; Sat, 8am-4pm; Sun, 9am-3pm		
Comments:	Pacific Topsoils, Inc. recycles any type of yard waste. From trees and shrubs to dirt and rock. Even torn up the sidewalk (in small chunks) can be recycled.		

Organization ID:	1383	**E-Cycle:**	No
Organization Name:	Pacific Topsoils	**Lightr Recycle:**	No
Organization Contact:	No Longer Tracked	**County:**	KING
Organization Email:	No Longer Tracked	**Latitude:**	
Material Category:	Construction	**Longitude:**	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Material Type: Brick
Service Type: Pickup
Customer Type: Residential
Website: http://www.pacifictopsoils.com/
Hours: Mon-Fri, 8am-5pm; Sat, 8am-4pm; Sun, 9am-3pm
Comments: Pacific Topsoils, Inc. recycles any type of yard waste. From trees and shrubs to dirt and rock. Even torn up the sidewalk (in small chunks) can be recycled.
Residential:
Commercial:
Phone: 425-317-8420

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
18	1 of 1	NW	0.39 / 2,040.08	13.81 / 13	CONCRETE NORWEST SMITH ISLAND 3210 36TH PL NE EVERETT WA 98205	ALL SITES

Facility/Site ID: 17334
Source File: Washington State Department of Ecology Facilties - Sites Interactions; Washington State Department of Ecology Facilties - Sites
Latitude: 48.0293084463637
Longitude: -122.186556970343

Facility/Site Interaction

Interaction ID: 87679
Interaction Status: A
Interac Status Desc: Active
Interaction Type: SANDGP
Interaction Desc: Sand and Gravel GP
Facility Alternate: Miles Sand & Gravel Everett Facility
Program Name Desc: Water Quality Program
Database Name Desc: Permitting & Reporting Information System
Program ID: WAG503377
Prog Database Name: PARIS
Ecology Program: WATQUAL
Interact Start Dt: 9/17/2007 0:00:00
Interact End Dt:

Facility Location Detail

Loc Verified Cd:
GIS Calc Lat Decimal Nr: 48.029307623211174
GIS Calc Long Decimal Nr: -122.186557899616716

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
19	1 of 1	SE	0.41 / 2,168.84	0.98 / 0	IFF Holding LLC Hima Farms WA	ALL SITES

Facility/Site ID: 24745
Source File: Washington State Department of Ecology Facilties - Sites
Latitude: 48.0136871844358
Longitude: -122.170166533492

Facility Location Detail

Loc Verified Cd:
GIS Calc Lat Decimal Nr: 48.013686890958212
GIS Calc Long Decimal Nr: -122.170154705002261

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
20	1 of 2	NW	0.44 / 2,316.95	15.71 / 15	CEDAR GROVE COMPOSTING INC EVERETT 3620 36TH PL NE EVERETT WA 98201	ICR

Cleanup Site ID: 5508
Facility Site ID: 9970818
Site Status: No Further Action Required
Statute: MTCA
Rank:
Rank Description:
Has Env Covenant:
Is Brownfiled Site:
Is PSI Site: Yes
WRIA ID: 7
Is NFA Site: Yes
Responsible Unit: Northwest
Latitude: 48.031274000000003
Longitude: -122.191455
Legislative District: 38
Congr District: 2
County Name: Snohomish

Cleanup Activities

Related ID:
VCP Prj No: NW1505
Activity Name: VCP Application
Activity Status: Completed
County Name: Snohomish
Applies to: VcpProject
Applies to Description: Voluntary Cleanup Program
Start Date: 2005-09-29
End Date:
Legal Mechanism:
Performed by:
Project Manager: Northwest Region

Related ID:
VCP Prj No: NW1505
Activity Name: VCP Opinion on Interim Action
Activity Status: Canceled
County Name: Snohomish
Applies to: VcpProject
Applies to Description: Voluntary Cleanup Program
Start Date:
End Date:
Legal Mechanism:
Performed by:
Project Manager: Adams, Mark

Related ID:
VCP Prj No:
Activity Name: Ecology Interim Action
Activity Status: In Process
County Name: Snohomish
Applies to: CleanupSiteMilestoneType
Applies to Description:
Start Date: 2005-09-29
End Date: 2005-12-29
Legal Mechanism:
Performed by: PLP
Project Manager: Northwest Region

Related ID:
VCP Prj No:
Activity Name: Site Status Changed to NFA
Activity Status:
County Name: Snohomish
Applies to: CleanupSite
Applies to Description:
Start Date:
End Date: 2005-11-22
Legal Mechanism:
Performed by:
Project Manager:

Related ID:
VCP Prj No: NW1505
Activity Name: VCP Termination
Activity Status: Completed
County Name: Snohomish
Applies to: VcpProject
Applies to Description: Voluntary Cleanup Program
Start Date:
End Date: 2005-11-30
Legal Mechanism:
Performed by:
Project Manager:

Related ID: 6131
VCP Prj No:
Activity Name: LUST - Report Received
Activity Status:
County Name: Snohomish
Applies to: LUST
Applies to Description: Leaking Underground Storage Tank
Start Date: 2003-09-30
End Date: 2005-11-10
Legal Mechanism:
Performed by:
Project Manager:

Related ID: 6131
VCP Prj No:
Activity Name: LUST - Report Received
Activity Status:
County Name: Snohomish
Applies to: LUST
Applies to Description: Leaking Underground Storage Tank
Start Date: 2005-11-08
End Date: 2005-11-10
Legal Mechanism:
Performed by:
Project Manager:

Related ID: 6131
VCP Prj No:
Activity Name: LUST - Notification
Activity Status:
County Name: Snohomish
Applies to: LUST
Applies to Description: Leaking Underground Storage Tank
Start Date: 2005-11-10
End Date: 2005-11-10
Legal Mechanism:
Performed by:
Project Manager:

Related ID: 6131
Start Date: 2005-06-30

VCP Prj No: ***End Date:*** 2005-11-10
Activity Name: LUST - Report Received ***Legal Mechanism:***
Activity Status: ***Performed by:***
County Name: Snohomish ***Project Manager:***
Applies to: LUST
Applies to Description: Leaking Underground Storage Tank

Related ID: 6131 ***Start Date:*** 2004-02-27
VCP Prj No: ***End Date:*** 2005-11-10
Activity Name: LUST - Report Received ***Legal Mechanism:***
Activity Status: ***Performed by:***
County Name: Snohomish ***Project Manager:***
Applies to: LUST
Applies to Description: Leaking Underground Storage Tank

Related ID: 6131 ***Start Date:*** 2004-05-23
VCP Prj No: ***End Date:*** 2005-11-10
Activity Name: LUST - Report Received ***Legal Mechanism:***
Activity Status: ***Performed by:***
County Name: Snohomish ***Project Manager:***
Applies to: LUST
Applies to Description: Leaking Underground Storage Tank

Related ID: 6131 ***Start Date:*** 2003-12-11
VCP Prj No: ***End Date:*** 2005-11-10
Activity Name: LUST - Report Received ***Legal Mechanism:***
Activity Status: ***Performed by:***
County Name: Snohomish ***Project Manager:***
Applies to: LUST
Applies to Description: Leaking Underground Storage Tank

Related ID: 6131 ***Start Date:*** 2005-01-18
VCP Prj No: ***End Date:*** 2005-11-10
Activity Name: LUST - Report Received ***Legal Mechanism:***
Activity Status: ***Performed by:***
County Name: Snohomish ***Project Manager:***
Applies to: LUST
Applies to Description: Leaking Underground Storage Tank

Media Contaminants

Contaminant Type: Benzene ***Sediment:***
Groundwater: C ***Sediment Desc.:***
Groundwater Desc.: Confirmed Above Cleanup Level ***Air:***
Surface Water: ***Air Desc.:***
Surfacewater Desc.: ***Bedrock:***
Soil: C ***Bedrock Desc.:***
Soil Desc.: Confirmed Above Cleanup Level ***County Name:*** Snohomish

Contaminant Type: Petroleum-Gasoline ***Sediment:***
Groundwater: C ***Sediment Desc.:***
Groundwater Desc.: Confirmed Above Cleanup Level ***Air:***
Surface Water: ***Air Desc.:***
Surfacewater Desc.: ***Bedrock:***
Soil: C ***Bedrock Desc.:***
Soil Desc.: Confirmed Above Cleanup Level ***County Name:*** Snohomish

Contaminant Type: Non-Halogenated Solvents ***Sediment:***
Groundwater: C ***Sediment Desc.:***
Groundwater Desc.: Confirmed Above Cleanup Level ***Air:***
Surface Water: ***Air Desc.:***
Surfacewater Desc.: ***Bedrock:***
Soil: C ***Bedrock Desc.:***
Soil Desc.: Confirmed Above Cleanup Level ***County Name:*** Snohomish

Contaminant Type: Metals Priority Pollutants ***Sediment:***
Groundwater: ***Sediment Desc.:***
Groundwater Desc.: ***Air:***

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Surface Water:
Surfacewater Desc.:
Soil: C
Soil Desc.: Confirmed Above Cleanup Level
Contaminant Type: Metals - Other
Groundwater: S
Groundwater Desc.: Suspected
Surface Water:
Surfacewater Desc.:
Soil:
Soil Desc.:
Air Desc.:
Bedrock:
Bedrock Desc.:
County Name: Snohomish
Sediment:
Sediment Desc.:
Air:
Air Desc.:
Bedrock:
Bedrock Desc.:
County Name: Snohomish

---

20 | **2 of 2** | **NW** | **0.44 / 2,316.95** | **15.71 / 15** | **CEDAR GROVE COMPOSTING - EVERETT**
3620 36th Pl NE
Everett WA 982018641
SNO SWF/LF

Permit No: SW 182
Owner: Cedar Grove, Inc
Area: PJ

---

21 | **1 of 1** | **ENE** | **0.48 / 2,517.49** | **0.98 / 0** | **Blue Heron Slough**
WA
ALL SITES

Facility/Site ID: 6101737
Source File: Washington State Department of Ecology Facilties - Sites Interactions; Washington State Department of Ecology Facilties - Sites
Latitude: 48.0278757138044
Longitude: -122.168469211514

Facility/Site Interaction

Interaction ID: 18133
Interaction Status: A
Interac Status Desc: Active
Interaction Type: SEAPROJ
Interaction Desc: SEA Project Site
Facility Alternate:
Program Name Desc: Shorelines & Environmental Assistance Program
Database Name Desc: Aquatics Site System
Program ID:
Prog Database Name: AQUATICS
Ecology Program: SEA
Interact Start Dt: 11/5/2008 0:00:00
Interact End Dt:

Interaction ID: 18134
Interaction Status: A
Interac Status Desc: Active
Interaction Type: NONENFNL
Interaction Desc: Non Enforcement Final
Facility Alternate:
Program Name Desc: Shorelines & Environmental Assistance Program
Database Name Desc: Docket Management System
Program ID:
Prog Database Name: DMS
Ecology Program: SEA
Interact Start Dt: 11/6/2008 0:00:00
Interact End Dt:

Facility Location Detail

Loc Verified Cd: N
GIS Calc Lat Decimal Nr: 48.027875713776901
GIS Calc Long Decimal Nr: -122.168469210889000

---

22 | **1 of 1** | **SW** | **0.49 / 2,577.30** | **11.40 / 11** | **Riverside Business Park II**
Riverside Rd
Everett WA 98201
ALL SITES

Facility/Site ID: 22175
Source File: Washington State Department of Ecology Facilties - Sites Interactions; Washington State
Latitude: 48.0125988743896
Longitude: -122.186678071295

Department of Ecology Facilties - Sites

Facility/Site Interaction

Interaction ID:	116600	***Program ID:***	WAR303723
Interaction Status:	A	***Prog Database Name:***	PARIS
Interac Status Desc:	Active	***Ecology Program:***	WATQUAL
Interaction Type:	CONSTSWGP	***Interact Start Dt:***	1/27/2016 0:00:00
Interaction Desc:	Construction SW GP	***Interact End Dt:***	
Facility Alternate:	Riverside Business Park II		
Program Name Desc:	Water Quality Program		
Database Name Desc:	Permitting & Reporting Information System		

Facility Location Detail

Loc Verified Cd:	
GIS Calc Lat Decimal Nr:	48.012597832444584
GIS Calc Long Decimal Nr:	-122.186697274321872

23 | ***1 of 2*** | ***WSW*** | ***0.66 / 3,458.61*** | ***48.32 / 48*** | ***Weyerhaeuser Everett East 101 E MARINE VIEW DR EVERETT WA 98201*** | ***CSCSL***

Fac Site ID:	11	***Fac Site ID (OD):***	11
Cleanup Site ID:	2495	***Cleanup Site ID (OD):***	2495
Site Status:	CC-O&M/Monitoring	***Site Status (OD):***	Cleanup Complete-Active O&M/Monitoring
Site Rank:	1 - Highest Assessed Risk	***Site Name (OD):***	Weyerhaeuser Everett East
Current VCP:		***Site Rank (OD):***	1 - Highest Assessed Risk
Past VCP:	Yes	***Respon Unit (OD):***	Northwest
Has Inst Control:	Yes	***Has Env Coven (OD):***	Yes
Responsible Unit:	Northwest	***County (OD):***	Snohomish
County:	Snohomish	***Region (OD):***	Northwest
Region:	Northwest	***Address (OD):***	101 E MARINE VIEW DR
Latitude:	48.0101	***City (OD):***	EVERETT
Longitude:	-122.18458	***Zipcode (OD):***	98201
Alternate Site Names:	Weyerhaeuser Company Everett,WEYERHAEUSER EVERETT EAST SITE		
Location (OD):	"" (48.0101, -122.18458)		
Latitude (OD):	48.0101		
Longitude (OD):	-122.18458		
Data Source(s):	WA ECY Toxics Cleanup Program; Open Data Portal - Washington State; Open Data Portal - Media and Contaminants		

Contaminants Detail(s)

Contaminant Name:	Arsenic	***Sediment:***	
Groundwater:	Confirmed Above Cleanup Levels	***Air:***	
Surfacewater:		***Bedrock:***	
Soil:	Confirmed Above Cleanup Levels		
Contaminant Name:	Other Halogenated Organics	***Sediment:***	
Groundwater:	Remediated-Above	***Air:***	
Surfacewater:		***Bedrock:***	
Soil:			
Contaminant Name:	Petroleum-Other	***Sediment:***	
Groundwater:	Remediated-Above	***Air:***	
Surfacewater:		***Bedrock:***	
Soil:	Remediated-Above		
Contaminant Name:	Polycyclic Aromatic Hydrocarbons	***Sediment:***	
Groundwater:	Remediated-Above	***Air:***	
Surfacewater:		***Bedrock:***	
Soil:	Remediated-Above		

Contaminant Name:	Polychlorinated biPhenyls (PCB)	**Sediment:**	
Groundwater:	Remediated-Above	**Air:**	
Surfacewater:		**Bedrock:**	
Soil:	Remediated-Above		

Open Data Portal - Media and Contaminants as of 2019-07-23

Contaminant Status:	Remediated-Above
Contaminant:	Polycyclic Aromatic Hydrocarbons
Contaminant Media:	Soil
Contaminant Status:	Remediated-Above
Contaminant:	Polychlorinated biPhenyls (PCB)
Contaminant Media:	Soil
Contaminant Status:	Remediated-Above
Contaminant:	Petroleum-Other
Contaminant Media:	Soil
Contaminant Status:	Remediated-Above
Contaminant:	Polycyclic Aromatic Hydrocarbons
Contaminant Media:	Groundwater
Contaminant Status:	Remediated-Above
Contaminant:	Polychlorinated biPhenyls (PCB)
Contaminant Media:	Groundwater
Contaminant Status:	Confirmed Above Cleanup Levels
Contaminant:	Arsenic
Contaminant Media:	Soil
Contaminant Status:	Remediated-Above
Contaminant:	Other Halogenated Organics
Contaminant Media:	Groundwater
Contaminant Status:	Confirmed Above Cleanup Levels
Contaminant:	Arsenic
Contaminant Media:	Groundwater
Contaminant Status:	Remediated-Above
Contaminant:	Petroleum-Other
Contaminant Media:	Groundwater

23	2 of 2	WSW	0.66 / 3,458.61	48.32 / 48	**Weyerhaeuser Everett East** **101 E MARINE VIEW DR** **EVERETT WA 98201**	HSL

Fac Site ID:	11	**Fac Site ID (OD):**	11
Cleanup Site ID:	2495	**Cleanup Site ID (OD):**	2495
Site Status:	CC-O&M/Monitoring	**Site Status (OD):**	Cleanup Complete-Active O&M/Monitoring
Site Rank:	1 - Highest Assessed Risk	**Site Name (OD):**	Weyerhaeuser Everett East
Current VCP:		**Site Rank (OD):**	1 - Highest Assessed Risk
Past VCP:	Yes	**Respon Unit (OD):**	Northwest
Has Inst Control:	Yes	**Has Env Coven (OD):**	Yes
Responsible Unit:	Northwest	**County (OD):**	Snohomish
County:	Snohomish	**Region (OD):**	Northwest
Region:	Northwest	**Address (OD):**	101 E MARINE VIEW DR
Latitude:	48.0101	**City (OD):**	EVERETT
Longitude:	-122.18458	**Zipcode (OD):**	98201
Alternate Site Names:	Weyerhaeuser Company Everett,WEYERHAEUSER EVERETT EAST SITE		
Location (OD):	"" (48.0101, -122.18458)		
Latitude (OD):	48.0101		
Longitude (OD):	-122.18458		
Data Source(s):	WA ECY Toxics Cleanup Program; Open Data Portal - Washington State; Open Data Portal - Media and Contaminants		

Contaminants Detail(s)

Contaminant Name:	Arsenic	***Sediment:***
Groundwater:	Confirmed Above Cleanup Levels	***Air:***
Surfacewater:		***Bedrock:***
Soil:	Confirmed Above Cleanup Levels	
Contaminant Name:	Other Halogenated Organics	***Sediment:***
Groundwater:	Remediated-Above	***Air:***
Surfacewater:		***Bedrock:***
Soil:		
Contaminant Name:	Petroleum-Other	***Sediment:***
Groundwater:	Remediated-Above	***Air:***
Surfacewater:		***Bedrock:***
Soil:	Remediated-Above	
Contaminant Name:	Polychlorinated biPhenyls (PCB)	***Sediment:***
Groundwater:	Remediated-Above	***Air:***
Surfacewater:		***Bedrock:***
Soil:	Remediated-Above	
Contaminant Name:	Polycyclic Aromatic Hydrocarbons	***Sediment:***
Groundwater:	Remediated-Above	***Air:***
Surfacewater:		***Bedrock:***
Soil:	Remediated-Above	

Open Data Portal - Media and Contaminants as of 2019-07-23

Contaminant Status:	Remediated-Above
Contaminant:	Polycyclic Aromatic Hydrocarbons
Contaminant Media:	Groundwater
Contaminant Status:	Remediated-Above
Contaminant:	Polycyclic Aromatic Hydrocarbons
Contaminant Media:	Soil
Contaminant Status:	Remediated-Above
Contaminant:	Polychlorinated biPhenyls (PCB)
Contaminant Media:	Soil
Contaminant Status:	Remediated-Above
Contaminant:	Polychlorinated biPhenyls (PCB)
Contaminant Media:	Groundwater
Contaminant Status:	Remediated-Above
Contaminant:	Petroleum-Other
Contaminant Media:	Soil
Contaminant Status:	Remediated-Above
Contaminant:	Other Halogenated Organics
Contaminant Media:	Groundwater
Contaminant Status:	Confirmed Above Cleanup Levels
Contaminant:	Arsenic
Contaminant Media:	Groundwater
Contaminant Status:	Remediated-Above
Contaminant:	Petroleum-Other
Contaminant Media:	Groundwater
Contaminant Status:	Confirmed Above Cleanup Levels
Contaminant:	Arsenic
Contaminant Media:	Soil

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
24	1 of 2	WSW	0.67 / 3,539.96	49.47 / 49	Everett Smelter SR 529 & E MARINE VIEW DR EVERETT WA 98201	CSCSL

Fac Site ID:	2744	**Fac Site ID (OD):**	2744
Cleanup Site ID:	4298	**Cleanup Site ID (OD):**	4298
Site Status:	Cleanup Started	**Site Status (OD):**	Cleanup Started
Site Rank:	1 - Highest Assessed Risk	**Site Name (OD):**	Everett Smelter
Current VCP:		**Site Rank (OD):**	1 - Highest Assessed Risk
Past VCP:		**Respon Unit (OD):**	Northwest
Has Inst Control:	Yes	**Has Env Coven (OD):**	Yes
Responsible Unit:	Northwest	**County (OD):**	Snohomish
County:	Snohomish	**Region (OD):**	Northwest
Region:	Northwest	**Address (OD):**	SR 529 & E MARINE VIEW DR
Latitude:	48.00989	**City (OD):**	EVERETT
Longitude:	-122.19228	**Zipcode (OD):**	98201

Alternate Site Names: ASARCO EVERETT,EVERETT SMELTER SLAG SITE,PUGET SOUND REDUCTION CO
Location (OD): "" (48.00989, -122.19228)
Latitude (OD): 48.00989
Longitude (OD): -122.19228
Data Source(s): WA ECY Toxics Cleanup Program; Open Data Portal - Washington State; Open Data Portal - Media and Contaminants

Contaminants Detail(s)

Contaminant Name:	Petroleum Products-Unspecified	**Sediment:**	
Groundwater:		**Air:**	
Surfacewater:		**Bedrock:**	
Soil:	Below Cleanup Levels		
Contaminant Name:	Metals Priority Pollutants	**Sediment:**	
Groundwater:	Confirmed Above Cleanup Levels	**Air:**	Below Cleanup Levels
Surfacewater:	Confirmed Above Cleanup Levels	**Bedrock:**	
Soil:	Confirmed Above Cleanup Levels		

Open Data Portal - Media and Contaminants as of 2019-07-23

Contaminant Status: Confirmed Above Cleanup Levels
Contaminant: Metals Priority Pollutants
Contaminant Media: Groundwater

Contaminant Status: Confirmed Above Cleanup Levels
Contaminant: Metals Priority Pollutants
Contaminant Media: Surface Water

Contaminant Status: Below Cleanup Levels
Contaminant: Petroleum Products-Unspecified
Contaminant Media: Soil

Contaminant Status: Below Cleanup Levels
Contaminant: Metals Priority Pollutants
Contaminant Media: Air

Contaminant Status: Confirmed Above Cleanup Levels
Contaminant: Metals Priority Pollutants
Contaminant Media: Soil

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
24	2 of 2	WSW	0.67 / 3,539.96	49.47 / 49	Everett Smelter SR 529 & E MARINE VIEW DR EVERETT WA 98201	HSL

Fac Site ID:	2744	**Fac Site ID (OD):**	2744
Cleanup Site ID:	4298	**Cleanup Site ID (OD):**	4298
Site Status:	Cleanup Started	**Site Status (OD):**	Cleanup Started
Site Rank:	1 - Highest Assessed Risk	**Site Name (OD):**	Everett Smelter

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Current VCP:		**Site Rank (OD):**	1 - Highest Assessed Risk
Past VCP:		**Respon Unit (OD):**	Northwest
Has Inst Control:	Yes	**Has Env Coven (OD):**	Yes
Responsible Unit:	Northwest	**County (OD):**	Snohomish
County:	Snohomish	**Region (OD):**	Northwest
Region:	Northwest	**Address (OD):**	SR 529 & E MARINE VIEW DR
Latitude:	48.00989	**City (OD):**	EVERETT
Longitude:	-122.19228	**Zipcode (OD):**	98201

Alternate Site Names: ASARCO EVERETT,EVERETT SMELTER SLAG SITE,PUGET SOUND REDUCTION CO
Location (OD): ""
(48.00989, -122.19228)
Latitude (OD): 48.00989
Longitude (OD): -122.19228
Data Source(s): WA ECY Toxics Cleanup Program; Open Data Portal - Washington State; Open Data Portal - Media and Contaminants

Contaminants Detail(s)

Contaminant Name:	Metals Priority Pollutants	**Sediment:**	
Groundwater:	Confirmed Above Cleanup Levels	**Air:**	Below Cleanup Levels
Surfacewater:	Confirmed Above Cleanup Levels	**Bedrock:**	
Soil:	Confirmed Above Cleanup Levels		

Contaminant Name:	Petroleum Products-Unspecified	**Sediment:**	
Groundwater:		**Air:**	
Surfacewater:		**Bedrock:**	
Soil:	Below Cleanup Levels		

Open Data Portal - Media and Contaminants as of 2019-07-23

Contaminant Status: Below Cleanup Levels
Contaminant: Petroleum Products-Unspecified
Contaminant Media: Soil

Contaminant Status: Confirmed Above Cleanup Levels
Contaminant: Metals Priority Pollutants
Contaminant Media: Surface Water

Contaminant Status: Confirmed Above Cleanup Levels
Contaminant: Metals Priority Pollutants
Contaminant Media: Soil

Contaminant Status: Confirmed Above Cleanup Levels
Contaminant: Metals Priority Pollutants
Contaminant Media: Groundwater

Contaminant Status: Below Cleanup Levels
Contaminant: Metals Priority Pollutants
Contaminant Media: Air

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
25	1 of 1	SE	0.67 / 3,557.64	0.00 / -1	NE EVERETT SNOHOMISH COUNTY EVERETT WA 98201	MRDS

Dep ID:	10277157	**I1:**	12
Dev Status:	PAST PRODUCER	**Latitude:**	48.010071
Code List:	CLY	**Longitude:**	-122.168091
Url:	http://mrdata.usgs.gov/mrds/show-mrds.php?dep_id=10277157		

Commodity

I1:	13	**Line:**	1
Code:	CLY	**Inserted By:**	MAS migration
Commodity:	Clay	**Insert Date:**	29-OCT-2002 09:00:24
Commodity Type:	Non-metallic	**Updated By:**	USGS

Commodity Group: Clays
Importance: Primary
Update Date: 29-OCT-2002 09:02:25

Names

I1: 17
Status: Current
Site Name: Ne Everett
Line: 1
Inserted By: MAS migration
Insert Date: 29-OCT-02
Updated By: USGS
Update Date: 29-OCT-02

---

26 | 1 of 1 | SW | 0.76 / 3,986.70 | 35.79 / 35 | **Benson Property**
501 E MARINE VIEW DR
EVERETT WA 98201 | CSCSL

Fac Site ID: 49839758
Cleanup Site ID: 3105
Site Status: Cleanup Started
Site Rank:
Current VCP:
Past VCP: Yes
Has Inst Control:
Responsible Unit: Northwest
County: Snohomish
Region: Northwest
Latitude: 48.000163
Longitude: -122.183458
Alternate Site Names:
Location (OD): "" (48.000163, -122.183458)
Latitude (OD): 48.000163
Longitude (OD): -122.183458
Data Source(s): WA ECY Toxics Cleanup Program; Open Data Portal - Washington State; Open Data Portal - Media and Contaminants

Fac Site ID (OD): 49839758
Cleanup Site ID (OD): 3105
Site Status (OD): Cleanup Started
Site Name (OD): Benson Property
Site Rank (OD):
Respon Unit (OD): Northwest
Has Env Coven (OD):
County (OD): Snohomish
Region (OD): Northwest
Address (OD): 501 E MARINE VIEW DR
City (OD): EVERETT
Zipcode (OD): 98201

Contaminants Detail(s)

Contaminant Name: Metals Priority Pollutants
Groundwater: Confirmed Above Cleanup Levels
Surfacewater:
Soil: Confirmed Above Cleanup Levels
Sediment:
Air:
Bedrock:

Open Data Portal - Media and Contaminants as of 2019-07-23

Contaminant Status: Confirmed Above Cleanup Levels
Contaminant: Metals Priority Pollutants
Contaminant Media: Groundwater

Contaminant Status: Confirmed Above Cleanup Levels
Contaminant: Metals Priority Pollutants
Contaminant Media: Soil

---

27 | 1 of 3 | SW | 0.76 / 4,017.80 | 39.10 / 38 | **Weyerhaeuser Paper Co Everett**
515 E MARINE VIEW DR
EVERETT WA 98201-1252 | CSCSL

Fac Site ID:
Cleanup Site ID:
Site Status:
Site Rank:
Current VCP:
Past VCP:
Has Inst Control:
Responsible Unit:
County:

Fac Site ID (OD): 4999496
Cleanup Site ID (OD): 5350
Site Status (OD): Cleanup Started
Site Name (OD): Weyerhaeuser Paper Co Everett
Site Rank (OD):
Respon Unit (OD): Northwest
Has Env Coven (OD):
County (OD): Snohomish
Region (OD): Northwest

Region:		***Address (OD):***	515 E MARINE VIEW DR
Latitude:		***City (OD):***	EVERETT
Longitude:		***Zipcode (OD):***	98201-1252
Alternate Site Names:			
Location (OD):	"" (48.010166, -122.182416)		
Latitude (OD):	48.010166		
Longitude (OD):	-122.182416		
Data Source(s):	Open Data Portal - Washington State; Open Data Portal - Media and Contaminants		

Open Data Portal - Media and Contaminants as of 2019-07-23

Contaminant Status:	Confirmed Above Cleanup Levels
Contaminant:	Phenolic Compounds
Contaminant Media:	Groundwater
Contaminant Status:	Confirmed Above Cleanup Levels
Contaminant:	Pesticides-Unspecified
Contaminant Media:	Soil
Contaminant Status:	Confirmed Above Cleanup Levels
Contaminant:	Polychlorinated biPhenyls (PCB)
Contaminant Media:	Soil
Contaminant Status:	Confirmed Above Cleanup Levels
Contaminant:	Phenolic Compounds
Contaminant Media:	Soil
Contaminant Status:	Confirmed Above Cleanup Levels
Contaminant:	Non-Halogenated Solvents
Contaminant Media:	Groundwater
Contaminant Status:	Confirmed Above Cleanup Levels
Contaminant:	Polycyclic Aromatic Hydrocarbons
Contaminant Media:	Groundwater
Contaminant Status:	Confirmed Above Cleanup Levels
Contaminant:	Metals Priority Pollutants
Contaminant Media:	Soil
Contaminant Status:	Confirmed Above Cleanup Levels
Contaminant:	Polycyclic Aromatic Hydrocarbons
Contaminant Media:	Soil
Contaminant Status:	Confirmed Above Cleanup Levels
Contaminant:	Non-Halogenated Solvents
Contaminant Media:	Soil
Contaminant Status:	Confirmed Above Cleanup Levels
Contaminant:	Petroleum Products-Unspecified
Contaminant Media:	Groundwater
Contaminant Status:	Confirmed Above Cleanup Levels
Contaminant:	Metals Priority Pollutants
Contaminant Media:	Groundwater
Contaminant Status:	Suspected
Contaminant:	Pesticides-Unspecified
Contaminant Media:	Groundwater
Contaminant Status:	Suspected
Contaminant:	Polychlorinated biPhenyls (PCB)
Contaminant Media:	Groundwater
Contaminant Status:	Confirmed Above Cleanup Levels
Contaminant:	Petroleum-Gasoline
Contaminant Media:	Soil

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
27	2 of 3	SW	0.76 / 4,017.80	39.10 / 38	Weyerhaeuser Everett Mill E 515 E MARINE VIEW DR EVERETT WA 98201	CSCSL

Fac Site ID:	12	**Fac Site ID (OD):**	12
Cleanup Site ID:	2903	**Cleanup Site ID (OD):**	2903
Site Status:	CC-Perf. Monitoring	**Site Status (OD):**	Construction Complete-Performance Monitoring
Site Rank:	1 - Highest Assessed Risk	**Site Name (OD):**	Weyerhaeuser Everett Mill E
Current VCP:		**Site Rank (OD):**	1 - Highest Assessed Risk
Past VCP:		**Respon Unit (OD):**	Northwest
Has Inst Control:	Yes	**Has Env Coven (OD):**	Yes
Responsible Unit:	Northwest	**County (OD):**	Snohomish
County:	Snohomish	**Region (OD):**	Northwest
Region:	Northwest	**Address (OD):**	515 E MARINE VIEW DR
Latitude:	48.0101	**City (OD):**	EVERETT
Longitude:	-122.1818	**Zipcode (OD):**	98201

Alternate Site Names: WEYERHAEUSER EVERETT BEAZER
Location (OD): ""
(48.0101, -122.1818)
Latitude (OD): 48.0101
Longitude (OD): -122.1818
Data Source(s): WA ECY Toxics Cleanup Program; Open Data Portal - Washington State; Open Data Portal - Media and Contaminants

Contaminants Detail(s)

Contaminant Name:	Halogenated Organics	**Sediment:**	
Groundwater:	Remediated-Above	**Air:**	
Surfacewater:		**Bedrock:**	
Soil:	Remediated-Above		
Contaminant Name:	Petroleum-Other	**Sediment:**	
Groundwater:	Remediated-Above	**Air:**	
Surfacewater:		**Bedrock:**	
Soil:	Remediated-Above		
Contaminant Name:	Polycyclic Aromatic Hydrocarbons	**Sediment:**	
Groundwater:		**Air:**	
Surfacewater:		**Bedrock:**	
Soil:	Remediated-Above		
Contaminant Name:	Arsenic	**Sediment:**	
Groundwater:	Remediated-Above	**Air:**	
Surfacewater:		**Bedrock:**	
Soil:	Remediated-Above		
Contaminant Name:	Metals - Other	**Sediment:**	
Groundwater:	Remediated-Above	**Air:**	
Surfacewater:		**Bedrock:**	
Soil:	Remediated-Above		

Open Data Portal - Media and Contaminants as of 2019-07-23

Contaminant Status: Remediated-Above
Contaminant: Arsenic
Contaminant Media: Groundwater

Contaminant Status: Remediated-Above
Contaminant: Metals - Other
Contaminant Media: Groundwater

Contaminant Status: Remediated-Above
Contaminant: Petroleum-Other
Contaminant Media: Soil

Contaminant Status: Remediated-Above
Contaminant: Arsenic
Contaminant Media: Soil

Contaminant Status: Remediated-Above
Contaminant: Halogenated Organics
Contaminant Media: Groundwater

Contaminant Status: Remediated-Above
Contaminant: Petroleum-Other
Contaminant Media: Groundwater

Contaminant Status: Remediated-Above
Contaminant: Metals - Other
Contaminant Media: Soil

Contaminant Status: Remediated-Above
Contaminant: Polycyclic Aromatic Hydrocarbons
Contaminant Media: Soil

Contaminant Status: Remediated-Above
Contaminant: Halogenated Organics
Contaminant Media: Soil

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
27	3 of 3	SW	0.76 / 4,017.80	39.10 / 38	Weyerhaeuser Everett Mill E 515 E MARINE VIEW DR EVERETT WA 98201	HSL

Fac Site ID: 12
Cleanup Site ID: 2903
Site Status: CC-Perf. Monitoring
Site Rank: 1 - Highest Assessed Risk
Current VCP:
Past VCP:
Has Inst Control: Yes
Responsible Unit: Northwest
County: Snohomish
Region: Northwest
Latitude: 48.0101
Longitude: -122.1818
Alternate Site Names: WEYERHAEUSER EVERETT BEAZER
Location (OD): "" (48.0101, -122.1818)
Latitude (OD): 48.0101
Longitude (OD): -122.1818
Data Source(s): WA ECY Toxics Cleanup Program; Open Data Portal - Washington State; Open Data Portal - Media and Contaminants

Fac Site ID (OD): 12
Cleanup Site ID (OD): 2903
Site Status (OD): Construction Complete-Performance Monitoring
Site Name (OD): Weyerhaeuser Everett Mill E
Site Rank (OD): 1 - Highest Assessed Risk
Respon Unit (OD): Northwest
Has Env Coven (OD): Yes
County (OD): Snohomish
Region (OD): Northwest
Address (OD): 515 E MARINE VIEW DR
City (OD): EVERETT
Zipcode (OD): 98201

Contaminants Detail(s)

Contaminant Name: Arsenic
Groundwater: Remediated-Above
Surfacewater:
Soil: Remediated-Above
Sediment:
Air:
Bedrock:

Contaminant Name: Polycyclic Aromatic Hydrocarbons
Groundwater:
Surfacewater:
Soil: Remediated-Above
Sediment:
Air:
Bedrock:

Contaminant Name: Petroleum-Other
Groundwater: Remediated-Above
Surfacewater:
Soil: Remediated-Above
Sediment:
Air:
Bedrock:

Contaminant Name: Halogenated Organics
Sediment:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Groundwater:	Remediated-Above	**Air:**	
Surfacewater:		**Bedrock:**	
Soil:	Remediated-Above		
Contaminant Name:	Metals - Other	**Sediment:**	
Groundwater:	Remediated-Above	**Air:**	
Surfacewater:		**Bedrock:**	
Soil:	Remediated-Above		

Open Data Portal - Media and Contaminants as of 2019-07-23

Contaminant Status:	Remediated-Above
Contaminant:	Arsenic
Contaminant Media:	Groundwater
Contaminant Status:	Remediated-Above
Contaminant:	Petroleum-Other
Contaminant Media:	Groundwater
Contaminant Status:	Remediated-Above
Contaminant:	Metals - Other
Contaminant Media:	Soil
Contaminant Status:	Remediated-Above
Contaminant:	Arsenic
Contaminant Media:	Soil
Contaminant Status:	Remediated-Above
Contaminant:	Polycyclic Aromatic Hydrocarbons
Contaminant Media:	Soil
Contaminant Status:	Remediated-Above
Contaminant:	Metals - Other
Contaminant Media:	Groundwater
Contaminant Status:	Remediated-Above
Contaminant:	Petroleum-Other
Contaminant Media:	Soil
Contaminant Status:	Remediated-Above
Contaminant:	Halogenated Organics
Contaminant Media:	Soil
Contaminant Status:	Remediated-Above
Contaminant:	Halogenated Organics
Contaminant Media:	Groundwater

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
28	1 of 1	WSW	0.82 / 4,328.70	126.59 / 126	Legion Memorial Golf Course 144 W Marine View Dr Everett WA 98201	CSCSL

Fac Site ID:	9311679	**Fac Site ID (OD):**	9311679
Cleanup Site ID:	1653	**Cleanup Site ID (OD):**	1653
Site Status:	Cleanup Started	**Site Status (OD):**	Cleanup Started
Site Rank:		**Site Name (OD):**	Legion Memorial Golf Course
Current VCP:	Yes	**Site Rank (OD):**	
Past VCP:	Yes	**Respon Unit (OD):**	Northwest
Has Inst Control:	Yes	**Has Env Coven (OD):**	
Responsible Unit:	Northwest	**County (OD):**	Snohomish
County:	Snohomish	**Region (OD):**	Northwest
Region:	Northwest	**Address (OD):**	144 W Marine View Dr
Latitude:	48.0166482138694	**City (OD):**	Everett
Longitude:	-122.203171385524	**Zipcode (OD):**	98201
Alternate Site Names:	Legion Lots Haack Parcels		
Location (OD):	"" (48.016642, -122.203167)		
Latitude (OD):	48.016642		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Longitude (OD): -122.203167
Data Source(s): WA ECY Toxics Cleanup Program; Open Data Portal - Washington State; Open Data Portal - Media and Contaminants

Contaminants Detail(s)

Contaminant Name: Arsenic
Groundwater:
Surfacewater:
Soil: Confirmed Above Cleanup Levels
Sediment:
Air:
Bedrock:

Contaminant Name: Metals Priority Pollutants
Groundwater:
Surfacewater:
Soil: Confirmed Above Cleanup Levels
Sediment:
Air:
Bedrock:

Open Data Portal - Media and Contaminants as of 2019-07-23

Contaminant Status: Confirmed Above Cleanup Levels
Contaminant: Metals Priority Pollutants
Contaminant Media: Soil

29	1 of 1	SW	0.99 / 5,213.88	112.90 / 112	Everett Smelter Cleanup Site VOA 722 N BROADWAY EVERETT WA 98201	DELISTED SHWS

Delisted Contaminated/Hazardous Sites

Fac Site ID: 23713
Cleanup Site ID: 12968
Site Status: Cleanup Started
Brownfield?:
PSI?:
VCP?: Yes
Past VCP:
Has Inst Control:
Alternate Site Names:
Original Source: CSCS
Record Date: 14-MAR-2016
WARM Rank: N
Warm Rank Desc:
Respon Section: Northwest
County: Snohomish
Region: Northwest
Latitude: 48.00793
Longitude: -122.19533

Unplottable Summary

Total: 51 Unplottable sites

DB	Company Name/Site Name	Address	City	Zip	ERIS ID
ALL SITES	SPENCER ISLAND MOSER PROPERTY	FRONTAGE RD & I5	EVERETT WA	98205	819561018
ALL SITES	DUNLAP TOWING CHIP RELOAD MARYSVILL	615 ROSS AVE	MARYSVILLE WA	98270	819563255
CSCSL	Spencer Island Moser Property	FRONTAGE RD & I5	EVERETT WA	98205	819514407
ERTS		I-5 HOV PROJECT	EVERETT WA		880927117
ERTS		NORTHBOUND I-5	EVERETT WA		880919437
ERTS		I-5 NORTH AT EXIT 200	MARYSVILLE WA		880918160
ERTS	BUSE AND TIMBER SALES	3812 V28TH PL NE	EVERETT WA	98201	880902829
ERTS		I-5 S	MARYSVILLE WA		880900751
ERTS	CAL PORTLAND SAND & GRAVEL	EAST SIDE OF ROSS AVE & 35TH	EVERETT WA		880894906
ERTS		I-5 SOUTHBOUND	EVERETT WA		880892630
ERTS		MP 194 AND I-5	EVERETT WA		880887599
ERTS		NG I-5 MP I.90	EVERETT WA		880883348

ERTS		I-5 & EXIT 206	MARYSVILLE WA	880877448
ERTS	I-5 HOV PROJECT	I-5	EVERETT WA	880931013
ERTS	MILE POST 192.7	I-5 SOUTHBOUND	EVERETT WA	880941828
ERTS		I-5 SOUTH & EXIT 200	MARYSVILLE WA	880945365
ERTS		NB I-5 MP 206	MARYSVILLE WA	880949359
ERTS		28TH PL NE	EVERETT WA	880954390
ERTS		NB I-5 MP 192	EVERETT WA	880955416
ERTS	EVERETT MALL AREA	NB I-5	EVERETT WA	880956697
ERTS	I-5 HOV EXPANSION PROJECT	I-5	EVERETT WA	880957703
ERTS		SB I-5	EVERETT WA	881002748
ERTS		I-5 NORTH BOUND	EVERETT WA	880962464
ERTS		I-5 & EVERETT MALL WAY	EVERETT WA	880962931
ERTS		SB I-5 MP 197	MARYSVILLE WA	880965268
ERTS		I-5 MP 191	Everett WA	880976508

ERTS		I-5 OVERPASS	EVERETT WA		880983169
ERTS	I-5 HOV EXPANSION PROJECT	I-5	EVERETT WA		881028172
ERTS		I-5	WA		883482316
ERTS	Northbound I-5 on-ramp; Everett Avenue	NB I-5	Everett WA		883483327
ERTS		I-5	Marysville WA		886789259
ERTS		NB I-5 MP190	EVERETT WA		880998786
ERTS		NB I-5, MILE POST 210	EVERETT WA		880959579
HMIRS		ON I-5 NORTH AT MARYSVILLE WEI	MARYSVILLE WA		818324346
HMIRS		ON I-5 NORTH AT MARYSVILLE WEI	MARYSVILLE WA		880635024
HSL	Spencer Island Moser Property	FRONTAGE RD & I5	EVERETT WA	98205	819519882
ICR	SPENCER ISLAND MOSER PROPERTY	FRONTAGE RD & I5	EVERETT WA	98205	827259678
SNO SWF/LF	Cedar Grove Organics - Everett	3280 36th Pl NE	Everett WA	98201	882157064
SPILLS	NULL	JUST NORTH OF MP 210 ON I-5	MARYSVILLE WA		891684376
		***Incident ID*	*Incident Date:*** 533277 | 4/20/2003		
SPILLS		28TH PL NE	EVERETT WA		891815734
		***Incident ID*	*Incident Date:*** 651664 |		

SPILLS		JUST NORTH OF MP 210 ON I-5 ***Incident ID*	*Incident Date:*** 533277 |	MARYSVILLE WA	891799479
SPILLS		I-5 NORTH AT EXIT 200 ***Incident ID*	*Incident Date:*** 530020 |	MARYSVILLE WA	891781649
SPILLS		I-5 NORTH BOUND ***Incident ID*	*Incident Date:*** 521261 |	EVERETT WA	891774312
SPILLS		I-5 NORTHBOUND EXIT 189 OFF-RAMP ***Incident ID*	*Incident Date:*** 512226 |	EVERETT WA	891760743
SPILLS		NORTHBOUND I-5 ***Incident ID*	*Incident Date:*** 607683 |	EVERETT WA	891748511
SPILLS		I-5 NORTHBOUND ***Incident ID*	*Incident Date:*** 607838 |	EVERETT WA	891816033
SPILLS		O I-5 NORTHBOUND FROM THE REST AREA ***Incident ID*	*Incident Date:*** 520365 |	MARYSVILLE WA	891854858
SPILLS	NULL	I-5 NORTH AT EXIT 200 ***Incident ID*	*Incident Date:*** 530020 | 11/1/2002	MARYSVILLE WA	891650009
SPILLS	BUSE AND TIMBER SALES	3812 V28TH PL NE ***Incident ID*	*Incident Date:*** 22136 | 11/22/2014	EVERETT WA	891674279
SPILLS	NULL	NORTHBOUND I-5 ***Incident ID*	*Incident Date:*** 607683 | 8/9/2008	EVERETT WA	891731213
SWF/LF	Buse Lumber Dump			Everett WA 98205	859651348

Unplottable Report

Site: ***SPENCER ISLAND MOSER PROPERTY***
FRONTAGE RD & I5 EVERETT WA 98205

ALL SITES

Facility/Site ID:	2785	***Latitude:***	48.0351190002515
Source File:	Washington State Department of Ecology Facilties - Sites Interactions; Washington State Department of Ecology Facilties - Sites	***Longitude:***	-122.18092900026

Facility/Site Interaction

Interaction ID:	5364	***Program ID:***	
Interaction Status:	A	***Prog Database Name:***	ISIS
Interac Status Desc:	Active	***Ecology Program:***	TOXICS
Interaction Type:	SCS	***Interact Start Dt:***	1/1/1900 0:00:00
Interaction Desc:	State Cleanup Site	***Interact End Dt:***	
Facility Alternate:	SPENCER ISLAND MOSER PROPERTY		
Program Name Desc:	Toxics Cleanup Program		
Database Name Desc:	Integrated Site Info System		

Facility Location Detail

Loc Verified Cd:	N
GIS Calc Lat Decimal Nr:	48.035119000000002
GIS Calc Long Decimal Nr:	-122.180929000000006

Site: ***DUNLAP TOWING CHIP RELOAD MARYSVILL***
615 ROSS AVE MARYSVILLE WA 98270

ALL SITES

Facility/Site ID:	16951	***Latitude:***	48.0068999996036
Source File:	Washington State Department of Ecology Facilties - Sites Interactions; Washington State Department of Ecology Facilties - Sites	***Longitude:***	-122.174999999372

Facility/Site Interaction

Interaction ID:	87555	***Program ID:***	WAR000569
Interaction Status:	A	***Prog Database Name:***	PARIS
Interac Status Desc:	Active	***Ecology Program:***	WATQUAL
Interaction Type:	INDSWGP	***Interact Start Dt:***	1/26/1993 0:00:00
Interaction Desc:	Industrial SW GP	***Interact End Dt:***	
Facility Alternate:	Sno-River Chip Reload		
Program Name Desc:	Water Quality Program		
Database Name Desc:	Permitting & Reporting Information System		

Facility Location Detail

Loc Verified Cd:	
GIS Calc Lat Decimal Nr:	48.006900000000002
GIS Calc Long Decimal Nr:	-122.174999999999997

Site: ***Spencer Island Moser Property***
FRONTAGE RD & I5 EVERETT WA 98205

CSCSL

Fac Site ID:	2785	***Fac Site ID (OD):***	2785
Cleanup Site ID:	3830	***Cleanup Site ID (OD):***	3830
Site Status:	Awaiting Cleanup	***Site Status (OD):***	Awaiting Cleanup

Site Rank:	5 - Lowest Assessed Risk	***Site Name (OD):***	Spencer Island Moser Property
Current VCP:		***Site Rank (OD):***	5 - Lowest Assessed Risk
Past VCP:		***Respon Unit (OD):***	Northwest
Has Inst Control:		***Has Env Coven (OD):***	
Responsible Unit:	Northwest	***County (OD):***	Snohomish
County:	Snohomish	***Region (OD):***	Northwest
Region:	Northwest	***Address (OD):***	FRONTAGE RD & I5
Latitude:	48.035119	***City (OD):***	EVERETT
Longitude:	-122.180929	***Zipcode (OD):***	98205
Alternate Site Names:			
Location (OD):	"" (48.035119, -122.180929)		
Latitude (OD):	48.035119		
Longitude (OD):	-122.180929		
Data Source(s):	WA ECY Toxics Cleanup Program; Open Data Portal - Washington State; Open Data Portal - Media and Contaminants		

Contaminants Detail(s)

Contaminant Name:	Non-Halogenated Solvents	***Sediment:***	
Groundwater:	Suspected	***Air:***	
Surfacewater:	Suspected	***Bedrock:***	
Soil:	Suspected		
Contaminant Name:	Petroleum Products-Unspecified	***Sediment:***	
Groundwater:	Suspected	***Air:***	
Surfacewater:	Suspected	***Bedrock:***	
Soil:	Confirmed Above Cleanup Levels		

Open Data Portal - Media and Contaminants as of 2019-07-23

Contaminant Status:	Suspected
Contaminant:	Non-Halogenated Solvents
Contaminant Media:	Surface Water
Contaminant Status:	Suspected
Contaminant:	Non-Halogenated Solvents
Contaminant Media:	Groundwater
Contaminant Status:	Suspected
Contaminant:	Petroleum Products-Unspecified
Contaminant Media:	Groundwater
Contaminant Status:	Confirmed Above Cleanup Levels
Contaminant:	Petroleum Products-Unspecified
Contaminant Media:	Soil
Contaminant Status:	Suspected
Contaminant:	Non-Halogenated Solvents
Contaminant Media:	Soil
Contaminant Status:	Suspected
Contaminant:	Petroleum Products-Unspecified
Contaminant Media:	Surface Water

Site:

I-5 HOV PROJECT EVERETT WA ERTS

Incident ID:	601598	***Latitude:***	
Incident Date:	2007-10-24	***Longitude:***	
County:	SNOHOMISH		
Location:			

Initial Report Details

Initial Report Substance Name:	Mud/Silt
Initial Report Subst Catego:	Debris
Initial Report Subst Quanti:	995

Initial Report Substance Unit: NTU
Initial Report Medium Name: Catch Basin
Initial Report Medium Category: Historical
Initial Report Cause Category: Accident
Initial Report Cause Name: Other
Initial Report Source Name: Construction site
Initial Report Source Category: Facility
Initial Report Activity Name: Construction, other
Initial Report Comment Desc: REPORTING EXCESS TURBIDITY LOCATION 1 - 363 NTU`S

Follow up Details

ERTS Follow up No:
Follow up Substance Name:
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name:
Follow up Medium Name:
Follow up Source Nname:
Follow up Activity Name:

Potential Details

Pot Resp Party First Name: JOHN
Pot Resp Prty Last Name: BIERGIN
Potentially Resp Party Org: DOT

Initial Comments

Initial Report Comment:

ERTS Number 601598 - REPORTING EXCESS TURBIDITY
LOCATION 1 - 363 NTU`S @ 1600
LOCATION 2 - 995 NTU`S @ 1420
LOCATION 3 - 900 NTU`S @ 1550

TURBIDITY WENT TO CATCH BASIN THAT LEADS TO OUTFALL.

NPDS# WAR-006454

Historic Referral Contact Information - ReferralDate: 2007-10-25 FirstName: BOB MiddleName: LastName: PENHALE Email: bpen461@ecy.wa.gov PhoneNumber: (425) 649-7074 OrganizationName: WATER QUALITY WorkLocation: NWRO

Site:
NORTHBOUND I-5 EVERETT WA

ERTS

Incident ID: 607683
Incident Date: 2008-08-09
County: SNOHOMISH
Location:
Latitude:
Longitude:

Initial Report Details

Initial Report Substance Name: Sewage/Sludge
Initial Report Subst Catego: Waste
Initial Report Subst Quanti:
Initial Report Substance Unit:
Initial Report Medium Name: Roadway-paved
Initial Report Medium Category: Impermeable surface
Initial Report Cause Category: Accident
Initial Report Cause Name: Other
Initial Report Source Name: Truck
Initial Report Source Category: Vehicle
Initial Report Activity Name: Other
Initial Report Comment Desc: `MESSY SITUATION`

WSP ON-SCENE. REPORTING

N

Follow up Details

ERTS Follow up No: 90717
Follow up Substance Name: Sewage/Sludge
Follow up Substance Quantity: 25
Follow up Subst Unit of Meas: U.S. gallons
Follow up Cause Name: Other
Follow up Medium Name: Roadway-paved
Follow up Source Nname: Truck
Follow up Activity Name: Other

Potential Details

Pot Resp Party First Name:
Pot Resp Prty Last Name: UNKNOWN
Potentially Resp Party Org:

Follow up Comments

Follow up Comment:

ERTS Number 607683 - Historic Referral Contact Information - ReferralDate: 2008-08-13 FirstName: LORI MiddleName: LastName: LeVANDER AHR Email: LLEV461@ECY.WA.GOV PhoneNumber: (425) 649-7039 OrganizationName: SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE WorkLocation: NWRO

Follow up Comment:

ERTS Number 607683 - LEVANDER CALL BACK.

LOST TRAILER IN CENTER LANE.

20-30 GALLONS SEWAGE SPILLED ONTO I-5

DOT ENROUTE, TO ASSIST WITH CLEAN-UP.

ANY WATER?

TROOPER SKAGEN: 425-232-2062 ON-SCENE

NO PAPER PRODUCTS. IS RAINING. NOT SAFETY ISSUE. WILL HOSE & LET DILUTE ON SIDE OF FREEWAY.

Follow up Comment:

ERTS Number 607683 - Historic Investigator Contact Information - FirstName: LORI MiddleName: LastName: LeVANDER AHR OrganizationName: SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE WorkLocation: NWRO

Initial Comments

Initial Report Comment:

ERTS Number 607683 - `MESSY SITUATION`

WSP ON-SCENE. REPORTING

NORTHBOUND I-5, JUST NORTH OF EVERETT MALL.

PUP TOWING TRAVEL-TRAILER ABANDONED.

LEFT BOTH IN LANE, WITH RAW SEWAGE (SMELL)

DOT ENROUTE. EST. 20 GALLON RAW SEWAGE TO PAVEMENT

Site:

I-5 NORTH AT EXIT 200 MARYSVILLE WA

ERTS

Incident ID: 530020
Incident Date: 2002-11-01
County: SNOHOMISH
Location:

Latitude:
Longitude:

Initial Report Details

Initial Report Substance Name: Diesel oil/Marine gas
Initial Report Subst Catego: Oil
Initial Report Subst Quanti: 30
Initial Report Substance Unit: U.S. gallons
Initial Report Medium Name: Roadway-paved
Initial Report Medium Category: Impermeable surface
Initial Report Cause Category: Accident
Initial Report Cause Name: Other
Initial Report Source Name: Truck
Initial Report Source Category: Vehicle
Initial Report Activity Name: Transporting
Initial Report Comment Desc: FUEL SPILL FROM SEMI - APPROX 25-30 GALLONS.

Follow up Details

ERTS Follow up No: 46256
Follow up Substance Name: Diesel oil/Marine gas
Follow up Substance Quantity: 50
Follow up Subst Unit of Meas: U.S. gallons
Follow up Cause Name: Other
Follow up Medium Name: Roadway-paved
Follow up Source Nname: Truck
Follow up Activity Name: Transporting

Follow up Details

ERTS Follow up No: 47034
Follow up Substance Name: Diesel oil/Marine gas
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name: Other
Follow up Medium Name: Roadway-paved
Follow up Source Nname: Truck
Follow up Activity Name: Transporting

Follow up Details

ERTS Follow up No: 53427
Follow up Substance Name: Diesel oil/Marine gas
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name: Other
Follow up Medium Name: Roadway-paved
Follow up Source Nname: Truck
Follow up Activity Name: Transporting

Potential Details

Pot Resp Party First Name:
Pot Resp Prty Last Name:
Potentially Resp Party Org: PUGET SOUND INTERNATIONAL INC.

Follow up Comments

Follow up Comment:

ERTS Number 530020 - 1/3/03 Call from Butch Underwood (Foss Environmental). He sought advice: take grab sample of soil to see what`s still there, or dig out dirt and then sample? I suggested the latter. He thought that latter would be, logistically, very difficult, given site location. Told him that the choice was his and that sampling first may yield levels below MTCA, given time that`s gone by, shallow depth, and recent rainfall. He agreed and planned to take grab sample and fax me results [Bremer 1/3/03].

Follow up Comment:

ERTS Number 530020 - Historic Investigator Contact Information - FirstName: STEVE MiddleName: LastName: BREMER OrganizationName: TOXICS CLEANUP WorkLocation: NWRO

Follow up Comment:

ERTS Number 530020 - Historic Referral Contact Information - ReferralDate: 2002-11-22 FirstName: STEVE MiddleName: LastName: BREMER Email: STBR461@ECY.WA.GOV PhoneNumber: (425) 649-7136 OrganizationName: TOXICS CLEANUP WorkLocation: NWRO

Follow up Comment:

ERTS Number 530020 - 11/1/2002 called site (253-606-1606) and spoke with Mike Stevens (RP) and Mark Gregory of FOSS (206-730-3123). The source is the fuel tanks from a Semi. The fuel tank crossover was damaged. Approximately 25 to 30 gallons lost. No threat to water. There are 3 stains on soil about 3` by 5`, and 1 stain on soil about 10` by 4`. All staining less then 3 inches deep. The larger stain is by the drainage swale on the side of the road. The swale is dry and weather is forecast to be dry at least through the week end. They want to wait to excavate on Monday. I say OK.

11/4/02 Mark Gregory e-mails me photos of the site.

11/21/02 I call Mark for an up date. The soil was removed with hand shovels (less than 1 ton) and confirmation samples were collected. Should have results in a week or 2.
Refer to TCP.

1/2/2003 I received a call form Butch from Foss. They have results back and they have 3500 ppm diesel. I explained that at this point the immediate threat has been removed and he needs to talk to Steve Bremer in TCP. Provided Steve`s phone number.

1/6/03 1250 Phone message from Butch. They have results back that are below standards.

Follow up Comment:

ERTS Number 530020 - Historic Investigator Contact Information - FirstName: CHARLIE MiddleName: LastName: GREGORY OrganizationName: SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE WorkLocation: NWRO

Follow up Comment:

ERTS Number 530020 - Historic Referral Contact Information - ReferralDate: 2002-11-04 FirstName: CHARLIE MiddleName: LastName: GREGORY Email: CGRE461@ECY.WA.GOV PhoneNumber: (425) 649-7092 OrganizationName: SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE WorkLocation: NWRO

Follow up Comment:

ERTS Number 530020 - FOLLOWING REPEATED ATTEMPTS TO OBTAIN A CLEANUP REPORT FOR THIS INCIDENT, I WAS NOT SUCCESSFUL. ALTHOUGH PARTIES INVOLVED WERE NOT HELPFUL IN THIS MATTER, AT THIS POINT IN TIME IT IS BELIEVED THAT PROLONGING THE INVESTIGATION WOULD NOT YIELD BENEFICIAL RESULTS FOR ANY PARTY. AMOUNT SPILLED AND GENERAL LOCATION (NOT SPECIFIC ENOUGH) IS NOT ENOUGH TO PROCEED WITH LISTING THIS PROPERTY. THEREFORE, TCP RECOMMENDS NFA AT THIS TIME.

Follow up Comment:

ERTS Number 530020 - Historic Investigator Contact Information - FirstName: NEIL MiddleName: LastName: WOOD OrganizationName: TOXICS CLEANUP WorkLocation: NWRO

Initial Comments

Initial Report Comment:

ERTS Number 530020 - FUEL SPILL FROM SEMI - APPROX 25-30 GALLONS.

Site: ***BUSE AND TIMBER SALES***
3812 V28TH PL NE EVERETT WA 98201

ERTS

Incident ID:	653218	***Latitude:***	48.021979000000002
Incident Date:	2014-11-22	***Longitude:***	122.180092
County:	SNOHOMISH		
Location:	BUSE AND TIMBER SALES		

Initial Report Details

Initial Report Substance Name:	Diesel oil/Marine gas
Initial Report Subst Catego:	Oil
Initial Report Subst Quanti:	
Initial Report Substance Unit:	U.S. gallons
Initial Report Medium Name:	Surface water-Fresh
Initial Report Medium Category:	Water
Initial Report Cause Category:	
Initial Report Cause Name:	
Initial Report Source Name:	Other-Vessel
Initial Report Source Category:	Vessel
Initial Report Activity Name:	Stationary/In Port
Initial Report Comment Desc:	REPORT RECEIVED VIA NRC # 1101782: CALLER STATE

Follow up Details

ERTS Follow up No:	142146
Follow up Substance Name:	Diesel oil/Marine gas
Follow up Substance Quantity:	1
Follow up Subst Unit of Meas:	U.S. gallons
Follow up Cause Name:	
Follow up Medium Name:	Surface water-Fresh
Follow up Source Nname:	Other-Vessel
Follow up Activity Name:	Stationary/In Port

Potential Details

Pot Resp Party First Name:	
Pot Resp Prty Last Name:	
Potentially Resp Party Org:	BUSE TIMBER AND SALES

Follow up Comments

Follow up Comment:

ERTS Number 653218 - USCG CONTACTED REPORTING PARTY. CAUSE OF SINKING UNKNOWN. PRP HAD BOAT TOWED TO SHORE. VESSEL IS NOW OUT OF THE WATER. PRP DEPLOYED SAUSAGE BOOM. VESSEL HAD A 30 GALLON TANK, ESTIMATE LESS THAN 1 GALLON SPILLED WHEN VESSEL WAS SWAMPED. RESIDUAL 40FT X 1FT `SHINY` SHEEN ADJACENT TO SHORE. PRODUCT UNRECOVERABLE. A. QUAST AND H. ZORZI NOTIFIED.

Follow up Comment:

ERTS Number 653218 - Historic Investigator Contact Information - FirstName: John MiddleName: LastName: Rose AHR OrganizationName: SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE WorkLocation: NWRO

Follow up Comment:

ERTS Number 653218 - Historic Referral Contact Information - ReferralDate: 2014-11-23 FirstName: John MiddleName: LastName: Rose AHR Email: john461@ecy.wa.gov PhoneNumber: (425) 649-7230 OrganizationName: SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE WorkLocation: NWRO

Initial Comments

Initial Report Comment:

ERTS Number 653218 - REPORT RECEIVED VIA NRC # 1101782:

CALLER STATED THAT A BOOM BOAT SUNK IN UNION SLOUGH CAUSING A DISCHARGE OF DIESEL FUEL.

NRC REPORT AVAILABLE ABLE:
X:\NWRO ERTS\ERTS Online Forms\2014\NRC_REPORTS

Site:
I-5 S MARYSVILLE WA

ERTS

Incident ID: 664144
Incident Date: 2016-04-06
County: SNOHOMISH
Location:
Latitude:
Longitude:

Initial Report Details

Initial Report Substance Name: Exhaust
Initial Report Subst Catego: Gas
Initial Report Subst Quanti:
Initial Report Substance Unit:
Initial Report Medium Name: Vehicle
Initial Report Medium Category: Impermeable surface
Initial Report Cause Category:
Initial Report Cause Name:
Initial Report Source Name: Car
Initial Report Source Category: Vehicle
Initial Report Activity Name: Other
Initial Report Comment Desc: REPORT RECEIVED VIA CONFIDENTIAL ONLINE FORM

Th

Follow up Details

ERTS Follow up No:
Follow up Substance Name:
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name:
Follow up Medium Name:
Follow up Source Nname:
Follow up Activity Name:

Potential Details

Pot Resp Party First Name: U
Pot Resp Prty Last Name: UNKNOWN
Potentially Resp Party Org:

Site: ***CAL PORTLAND SAND & GRAVEL***
EAST SIDE OF ROSS AVE & 35TH EVERETT WA

ERTS

Incident ID: 652429
Incident Date: 2014-10-23
County: SNOHOMISH
Location: CAL PORTLAND SAND & GRAVEL
Latitude:
Longitude:

Initial Report Details

Initial Report Substance Name: Mud/Silt
Initial Report Subst Catego: Debris
Initial Report Subst Quanti:
Initial Report Substance Unit:

Initial Report Medium Name: Storm drain pipe
Initial Report Medium Category: Water
Initial Report Cause Category: Accident
Initial Report Cause Name: Other
Initial Report Source Name: Industrial facility
Initial Report Source Category: Facility
Initial Report Activity Name: Other
Initial Report Comment Desc: Grady Trucking Company has a construction stormwat

Follow up Details

ERTS Follow up No: 141328
Follow up Substance Name: Mud/Silt
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name: Other
Follow up Medium Name: Ditch
Follow up Source Nname: Construction site
Follow up Activity Name: Other

Potential Details

Pot Resp Party First Name:
Pot Resp Prty Last Name: UNKNOWN
Potentially Resp Party Org:

Follow up Comments

Follow up Comment:

ERTS Number 652429 - This ERTS is located on property owned by CalPortland on Ross Avenue, east of 35th (not at CalPortland's batch plant). The site has been permitted by the City of Everett as a fill site and has a Construction Stormwater General Permit No. WAR125060. The Permittee is Grady Excavating. I stopped by there today and took photos. I also spoke to Matt Hinck (CalPortland Environmental Manager) over the phone and he let me know that CalPortland shut down the Grady hauling operation until Grady can get the site into compliance. There were serious noncompliance issues at the site including potential wetland impacts which both Bob Penhale and I let Doug Gresham, Ecology's Wetlands Biologist for Snohomish County, know about.

Follow up Comment:

ERTS Number 652429 - Historic Investigator Contact Information - FirstName: CYNTHIA MiddleName: LastName: WALCKER OrganizationName: WATER QUALITY WorkLocation: NWRO

Follow up Comment:

ERTS Number 652429 - Historic Referral Contact Information - ReferralDate: 2014-10-23 FirstName: 24-HOUR MiddleName: LastName: EVERETT DISPATCH (use for all complaints) Email: EMAIL EVERETT CODE COMPLIANCE UNIT PhoneNumber: (425) 257-8821 OrganizationName: EVERETT PUBLIC WORKS DISPATCH WorkLocation: CITY OF EVERETT PUBLIC WORKS

Follow up Comment:

ERTS Number 652429 - Historic Referral Contact Information - ReferralDate: 2014-10-23 FirstName: RACHEL MiddleName: LastName: MCCREA Email: RMCC461@ECY.WA.GOV PhoneNumber: (425) 649-7223 OrganizationName: WATER QUALITY WorkLocation: NWRO

Follow up Comment:

ERTS Number 652429 - Historic Referral Contact Information - ReferralDate: 2014-10-27 FirstName: TRACIE MiddleName: LastName: WALTERS Email: EMAIL NW STRM H20 PhoneNumber: (425) 649-4484 OrganizationName: WATER QUALITY WorkLocation: NWRO

Follow up Comment:

ERTS Number 652429 - Historic Referral Contact Information - ReferralDate: 2014-10-27 FirstName: CYNTHIA MiddleName: LastName: WALCKER Email: cynt461@ecy.wa.gov PhoneNumber: (425) 649-7276 OrganizationName: WATER QUALITY WorkLocation: NWRO

Initial Comments

Initial Report Comment:

ERTS Number 652429 - Grady Trucking Company has a construction stormwater permit under the Cal Portland facility. Grady Trucking Company contacts are Dave Rivera (# tbd) and Spencer Kull @425-888-9795 x115.

Bob Penhale was at the Roosevelt Sound Transit Light Link Station and noticed Grady Trucking Company trucks coming onto the site. The trucks were so dirty that they were splattering mud and tracking it in from 30 miles away. He then went to the Cal Portland site to assess the situation.

He discovered that the site is in horrible condition with serious erosion problems in the premiere ditch lines. An ERTS was put in about the site by Cynthia Walker about a month ago concerning the same issues. He stressed the conditions were absolutely horrible.
Bob's recommendation is that this is should be referred to our storm water people and the City of Everett. Bob also spoke to an unidentified City of Everett worker who was onsite for the same reason.

ALSO SEE ERTS 651664

Site:
I-5 SOUTHBOUND EVERETT WA

ERTS

Incident ID: 645881
Incident Date: 2013-12-18
County: SNOHOMISH
Location:
Latitude:
Longitude:

Initial Report Details

Initial Report Substance Name: Exhaust
Initial Report Subst Catego: Gas
Initial Report Subst Quanti:
Initial Report Substance Unit:
Initial Report Medium Name: N/A
Initial Report Medium Category: Air
Initial Report Cause Category: Equipment failure
Initial Report Cause Name: Unknown
Initial Report Source Name: Car
Initial Report Source Category: Vehicle
Initial Report Activity Name: Driving
Initial Report Comment Desc: REPORT RECEIVED VIA ONLINE SUBMITTAL FORM:

Driv

Follow up Details

ERTS Follow up No: 133613
Follow up Substance Name: Exhaust
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name: Unknown
Follow up Medium Name: N/A
Follow up Source Nname: Car
Follow up Activity Name: Driving

Potential Details

Pot Resp Party First Name:
Pot Resp Prty Last Name: UNKNOWN
Potentially Resp Party Org:

Follow up Comments

Follow up Comment:

ERTS Number 645881 - Historic Investigator Contact Information - FirstName: NICK MiddleName: LastName: ROACH OrganizationName: AIR QUALITY WorkLocation: NWRO

Follow up Comment:

ERTS Number 645881 - Historic Referral Contact Information - ReferralDate: 2013-12-23 FirstName: NICK MiddleName: LastName: ROACH Email: NROA461@ECY.WA.GOV PhoneNumber: (425) 649-7082 OrganizationName: AIR QUALITY WorkLocation: NWRO

Site:

MP 194 AND I-5 EVERETT WA

ERTS

Incident ID: 666068
Incident Date: 2016-07-07
County: SNOHOMISH
Location:

Latitude:
Longitude:

Initial Report Details

Initial Report Substance Name: Diesel oil/Marine gas
Initial Report Subst Catego: Oil
Initial Report Subst Quanti: 70
Initial Report Substance Unit: U.S. gallons
Initial Report Medium Name: Surface water-Fresh
Initial Report Medium Category: Water
Initial Report Cause Category:
Initial Report Cause Name:
Initial Report Source Name: Truck
Initial Report Source Category: Vehicle
Initial Report Activity Name: Underway or in motion
Initial Report Comment Desc: THE RP IS REPORTING A DISCHARGE OF DIESEL FUEL DUE

Follow up Details

ERTS Follow up No:
Follow up Substance Name:
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name:
Follow up Medium Name:
Follow up Source Nname:
Follow up Activity Name:

Potential Details

Pot Resp Party First Name: JEFF
Pot Resp Prty Last Name: SEXTON
Potentially Resp Party Org: XPO LOGISTICS

Initial Comments

Initial Report Comment:

ERTS Number 666068 - THE RP IS REPORTING A DISCHARGE OF DIESEL FUEL DUE TO A SINGLE VEHICLE ACCIDENT (TRACTOR TRAILER TRUCK). RP STATED THAT DUE TO HEAVY RAINS THE DRIVER JACKKNIFED THE TRUCK DAMAGING THE SADDLE TANK. THE IMPACTS ARE ROADWAY AND INTO STORM DRAIN/ POSSIBLE SOIL.

-----Original Message-----
From: State Emergency Operations Officer (MIL)
Sent: Thursday, July 07, 2016 9:56 PM
To: ECY DL NWRO ERTS <NWROERTS@ECY.WA.GOV>
Subject: FW: NRC#1152711 (Diesel Spill - Everett)

FYI:
-----Original Message-----
From: State Emergency Operations Officer (MIL)
Sent: Thursday, July 7, 2016 9:27 PM
To: Smith, Buck (ECY); '4259417725@onpage.com'
Subject: FW: NRC#1152711 (Diesel Spill - Everett)

Hi Buck! NRC attached and phone call received from the reporting party, Nat. Sent this to your work email too.
Please acknowledge receipt of this.

Earl Dickey
State Emergency Operations Officer
Washington State Emergency Management Division

-----Original Message-----
From: HQS-PF-fldr-NRC@uscg.mil [mailto:HQS-PF-fldr-NRC@uscg.mil]
Sent: Thursday, July 7, 2016 9:19 PM
To: State Emergency Operations Officer (MIL); State Emergency Operations Officer (MIL)
Subject: NRC#1152711

NATIONAL RESPONSE CENTER 1-800-424-8802
GOVERNMENT USE ONLYGOVERNMENT USE ONLY***
Information released to a third party shall comply with any
applicable federal and/or state Freedom of Information and Privacy Laws

Incident Report # 1152711

INCIDENT DESCRIPTION

*Report taken by: CIV BRANDON WEATHERLY at 00:08 on 08-JUL-16
Incident Type: MOBILE
Incident Cause: NATURAL PHENOMENON
Affected Area: STORM DRAIN
Incident occurred on 07-JUL-16 at 20:00 local incident time.
Affected Medium: WATER STORM DRAIN & ROADWAY

REPORTING PARTY
Name: NAT SIMONETTI EX323
Organization: ERTS
Address: FAIRFIELD BLVD
6001 COCHRAN RD
SOLON, OH
Email Address: erts@ertsonline.com
ERTS reported for the responsible party.
PRIMARY Phone: (440)3492700
Type of Organization: PRIVATE ENTERPRISE

SUSPECTED RESPONSIBLE PARTY
Name: JEFF SEXTON
Organization: XPO LOGISTICS
Address: 2211 OLD EARHEART RD. >
SUITE 100
ANN ARBOR, MI 48105
PRIMARY Phone: (734)7571657

INCIDENT LOCATION
I-5 SB County: SNOHOMISH
MM 194
City: EVERETT State: WA

RELEASED MATERIAL(S)
CHRIS Code: ODS Official Material Name: OIL: DIESEL
Also Known As:
Qty Released: 70 GALLON(S) Qty in Water: 0 UNKNOWN AMOUNT

DESCRIPTION OF INCIDENT
THE RP IS REPORTING A DISCHARGE OF DIESEL FUEL DUE TO A SINGLE VEHICLE ACCIDENT (TRACTOR TRAILER TRUCK). RP STATED THAT DUE TO HEAVY RAINS THE DRIVER JACKKNIFED THE TRUCK DAMAGING THE SADDLE TANK. THE IMPACTS ARE ROADWAY AND INTO STORM DRAIN/ POSSIBLE SOIL.

SENSITIVE INFORMATION

INCIDENT DETAILS
Road Mile Marker: 194
Length of Service Disruption:

Airbag Deployed: UNKNOWN
---WATER INFORMATION---
Body of Water: STORM DRAIN
Tributary of: UNKNOWN
Nearest River Mile Marker:
Water Supply Contaminated: UNKNOWN
---MOBILE INFORMATION---
Vehicle Type: TRACTOR TRAILER TRUCK
Vehicle Number: 4325965
Vehicle Fuel Capacity:
Hazmat Carrier: UNKNOWN
Carrier Licensed: UNKNOWN
Suspected Non Compliance: UNKNOWN
Trailer/Tanker Number:
Cargo Capacity:
Cargo On Board:

IMPACT
Fire Involved: NO Fire Extinguished: UNKNOWN

INJURIES: NO Hospitalized: Empl/Crew: Passenger:
FATALITIES: NO Empl/Crew: Passenger: Occupant:
EVACUATIONS:NO Who Evacuated: Radius/Area:

Damages: NO
Hours Direction of
Closure Type Description of Closure Closed Closure
N
Air:
Y PARTIAL RIGHT LANE CLOSURE (I- 1.3 S Major
Road: 5) Artery:Y
N
Waterway:
N
Track:

Environmental Impact: UNKNOWN
Media Interest: UNKNOWN Community Impact due to Material:

REMEDIAL ACTIONS
**RP STATED THEY WILL DISPATCH A CONTRACTOR.
**STATE POLICE ARE ON SCENE.
Release Secured: UNKNOWN
Release Rate:
Estimated Release Duration:

WEATHER
Weather: RAINY, ºF

ADDITIONAL AGENCIES NOTIFIED
Federal:
State/Local:
State/Local On Scene: STATE POLICE
State Agency Number:

NOTIFICATIONS BY NRC
CENTERS FOR DISEASE CONTROL (GRASP)
08-JUL-16 00:18 (770)4887100
DHS NOC (NOC)
08-JUL-16 00:18 (202)2828114
CG INVESTIGATIVE SVC PACIFIC REGION (WATCH DESK)
08-JUL-16 00:18 (510)
CUSTOMS AND BORDER PROTECTION (INTEL BRANCH/BLAINE SECTOR)
08-JUL-16 00:18 (360)4107222
DOT CRISIS MANAGEMENT CENTER (MAIN OFFICE)
08-JUL-16 00:18 (202)3661863
U.S. EPA X SEATTLE (MAIN OFFICE)
(206)5531263
FEDERAL EMERGENCY MANAGEMENT AGENCY (MAIN OFFICE)
08-JUL-16 00:18 (800)6347084
FEMA REGION 10 (MAIN OFFICE)

08-JUL-16 00:18 (425)4874704
FEDERAL MOTOR CARRIER SAFETY ADMIN (MAIN OFFICE)
08-JUL-16 00:18 (202)3665373
INFO ANALYSIS AND INFRA PROTECTION (MAIN OFFICE)
08-JUL-16 00:18
NATIONAL INFRASTRUCTURE COORD CTR (MAIN OFFICE)
08-JUL-16 00:18 (202)2829201
NOAA RPTS FOR WA (MAIN OFFICE)
08-JUL-16 00:18 (206)5264911
NATIONAL RESPONSE CENTER HQ (MAIN OFFICE)
08-JUL-16 00:18
NATIONAL RESPONSE CENTER HQ (AUTOMATIC REPORTS)
08-JUL-16 00:18 (202)2671136
NTSB HIGHWAY (MAIN OFFICE)
08-JUL-16 00:18 (202)3146293
HOMELAND SEC COORDINATION CENTER (MAIN OFFICE)
08-JUL-16 00:18 (202)2828300
OREGON TITAN FUSION CENTER (FUSION COMMAND CENTER)
08-JUL-16 00:18 (877)6204702
PIPELINE & HAZMAT SAFETY ADMIN (OFFICE HAZARDOUS MATERIALS)
(202)3661863
PIPELINE & HAZMAT SAFETY ADMIN (OFFICE HAZARDOUS MATERIALS FAX#2)
08-JUL-16 00:18 (202)3661863
REPORTING PARTY (RP SUBMITTER)
08-JUL-16 00:18
SECTOR PUGET SOUND (COMMAND CENTER)
(206)2176002
WA STATE EMERGENCY MANAGEMENT (MAIN OFFICE)
08-JUL-16 00:18 (800)2585990
SUQUAMISH TRIBE (EMERGENCY MANAGEMENT)
08-JUL-16 00:18 (360)5983311
WASHINGTON STATE FUSION CENTER (FUSION COMMAND CENTER)
08-JUL-16 00:18 (877)8439522
WASHINGTON STATE NATIONAL GUARD (COMMAND CENTER)
08-JUL-16 00:18 (253)5128159

ADDITIONAL INFORMATION
**RP WILL NOTIFY WA DEPT. OF ECOLOGY (DOE) NEXT.

*** END INCIDENT REPORT #1152711 ***
Report any problems by calling 1-800-424-8802
PLEASE VISIT OUR WEB SITE AT http://www.nrc.uscg.mil

Historic Referral Contact Information - ReferralDate: 2016-07-08 FirstName: BUCK MiddleName: LastName: SMITH AHR Email: JSMI461@ECY.WA.GOV;4259417725@OnPage.com PhoneNumber: (425) 649-7147 OrganizationName: SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE WorkLocation: NWRO

Site:

NG I-5 MP I.90 EVERETT WA

ERTS

Incident ID:	558388	***Latitude:***	
Incident Date:	2006-10-19	***Longitude:***	
County:	SNOHOMISH		
Location:			

Initial Report Details

Initial Report Substance Name:	Mud/Silt
Initial Report Subst Catego:	Debris
Initial Report Subst Quanti:	617
Initial Report Substance Unit:	NTU
Initial Report Medium Name:	Surface water-Fresh
Initial Report Medium Category:	Water
Initial Report Cause Category:	Human error
Initial Report Cause Name:	Unknown
Initial Report Source Name:	Construction site
Initial Report Source Category:	Facility
Initial Report Activity Name:	Construction, other
Initial Report Comment Desc:	EVERETT I-5 HOV EXPANSION PROJECT

HIGH TURBIDIT

Follow up Details

ERTS Follow up No:
Follow up Substance Name:
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name:
Follow up Medium Name:
Follow up Source Nname:
Follow up Activity Name:

Potential Details

Pot Resp Party First Name:
Pot Resp Prty Last Name:
Potentially Resp Party Org: ATKINSON CONST.

Initial Comments

Initial Report Comment:

ERTS Number 558388 - EVERETT I-5 HOV EXPANSION PROJECT

HIGH TURBIDITY - DURATION OF ABOUT 2 & 1/2 HOURS.

IT IS NO LONGER DISCHARGING.

Historic Referral Contact Information - ReferralDate: 2006-10-20 FirstName: GERALD MiddleName: LastName: SHERVEY Email: GSHE461@ECY.WA.GOV PhoneNumber: (425) 649-7215 OrganizationName: WATER QUALITY WorkLocation: NWRO

Site:
I-5 & EXIT 206 MARYSVILLE WA

ERTS

Incident ID: 618557
Incident Date: 2010-03-10
County: SNOHOMISH
Location:
Latitude: 48.152172999999998
Longitude: 122.190113

Initial Report Details

Initial Report Substance Name: Gasoline
Initial Report Subst Catego: Oil
Initial Report Subst Quanti:
Initial Report Substance Unit: U.S. gallons
Initial Report Medium Name: Impermeable containment
Initial Report Medium Category: Impermeable surface
Initial Report Cause Category:
Initial Report Cause Name:
Initial Report Source Name: Non-commercial vehicle
Initial Report Source Category: Vehicle
Initial Report Activity Name: Underway or in motion
Initial Report Comment Desc: FUEL OIL AND COOLANT

CAUSED BY A TWO VEHICLE AC

Follow up Details

ERTS Follow up No: 102738
Follow up Substance Name: Gasoline
Follow up Substance Quantity: 2
Follow up Subst Unit of Meas: U.S. gallons
Follow up Cause Name: Other-Human error
Follow up Medium Name: Impermeable containment

Follow up Source Nname: Non-commercial vehicle
Follow up Activity Name: Underway or in motion

Follow up Details

ERTS Follow up No: 102496
Follow up Substance Name: Gasoline
Follow up Substance Quantity: 2
Follow up Subst Unit of Meas: U.S. gallons
Follow up Cause Name: Other-Human error
Follow up Medium Name: Impermeable containment
Follow up Source Nname: Non-commercial vehicle
Follow up Activity Name: Underway or in motion

Potential Details

Pot Resp Party First Name:
Pot Resp Prty Last Name: UNKNOWN
Potentially Resp Party Org:

Follow up Comments

Follow up Comment:

ERTS Number 618557 - Field response. I helped DOT reove kitty litter from roadway and brought the contaminated material back to NWRO for disposal.

Follow up Comment:

ERTS Number 618557 - Historic Investigator Contact Information - FirstName: BRAD MiddleName: LastName: MARTIN OrganizationName: SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE WorkLocation: NWRO

Follow up Comment:

ERTS Number 618557 - Historic Referral Contact Information - ReferralDate: 2010-03-10 FirstName: SHANNON MiddleName: LastName: CLINE Email: SHDI461@ECY.WA.GOV PhoneNumber: (425) 649-7250 OrganizationName: SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE WorkLocation: NWRO

Follow up Comment:

ERTS Number 618557 - 1049am Called Tom Hubbard with WSDOT-left a message. Called on scene contact- Brad Saville (425) 293-8035. Didn`t go into the storm drain. Is only on the pavement. Is on the Southbound I-5 on-ramp. Can meet at Park N Ride. I explained how far away we are and that normally their incident response is on cases like these. He understands and Brad Martin responding to assist.

Please see Brad`s follow-up for more information

Follow up Comment:

ERTS Number 618557 - Historic Investigator Contact Information - FirstName: SHANNON MiddleName: LastName: CLINE OrganizationName: SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE WorkLocation: NWRO

Initial Comments

Initial Report Comment:

ERTS Number 618557 - FUEL OIL AND COOLANT

CAUSED BY A TWO VEHICLE ACCIDENT.

NOT AN AWFUL LOT RELEASED.

RELEASED TO PAVEMENT.

SOUTHBOUND

ON-SCENE CONTACT BRAD SAVILLE 425-293-8035

HAS DIAPERS DOWN

REQUESTING ON-SITE ASSISTANCE, HE NEEDS KITTY LITTER AND MORE OIL ABSORBENT DIAPERS.

-----Original Message-----
From: Duty Officer (EMD)
Sent: Wednesday, March 10, 2010 11:16 AM
To: Sacayanan, Tamara L. (ECY)
Subject: FW: NRC#933527

State Emergency Operations Officer
Washington State Emergency Operations Center
24-hr: 800-258-5990 Fax: 253-512-7203
www.emd.wa.gov

-----Original Message-----
From: HQS-PF-fldr-NRC@uscg.mil [mailto:HQS-PF-fldr-NRC@uscg.mil]
Sent: Wednesday, March 10, 2010 11:00 AM
To: Duty Officer (EMD)
Subject: NRC#933527

NATIONAL RESPONSE CENTER 1-800-424-8802
GOVERNMENT USE ONLYGOVERNMENT USE ONLY***
Information released to a third party shall comply with any
applicable federal and/or state Freedom of Information and Privacy Laws

Incident Report # 933527

INCIDENT DESCRIPTION

*Report taken by: MST1 RICHARD LAYMAN at 13:49 on 10-MAR-10
Incident Type: MOBILE
Incident Cause: UNKNOWN
Affected Area:
Incident occurred on 10-MAR-10 at 09:50 local incident time.
Affected Medium: LAND ASPHALT

REPORTING PARTY
Name: TOM HUBBARD
Organization: WASHINGTON STATE DOT

PRIMARY Phone: (206)4404904
Type of Organization: STATE GOVERNMENT

SUSPECTED RESPONSIBLE PARTY
Name: UNKNOWN

XX

INCIDENT LOCATION
172ND ST SMOKEY POINT BLVD County: SNOHOMISH
City: MARYSVILLE State: WA
INTERSTATE 5// SOUTHBOUND// NEAR EXIT 206

RELEASED MATERIAL(S)
CHRIS Code: EGL Official Material Name: ETHYLENE GLYCOL
Also Known As:
Qty Released: 0 UNKNOWN AMOUNT
CHRIS Code: GAS Official Material Name: GASOLINE: AUTOMOTIVE (UNLEADED)
Also Known As:
Qty Released: 0 UNKNOWN AMOUNT
CHRIS Code: OMT Official Material Name: OIL, MISC: MOTOR
Also Known As:
Qty Released: 0 UNKNOWN AMOUNT

DESCRIPTION OF INCIDENT
CALLER STATED THAT THERE WAS AN ACCIDENT BETWEEN A US POSTAL TRUCK AND A PICK UP TRUCK RESULTING IN A SPILL OF CRANKCASE OIL, FUEL, AND COOLANT.

SPILL IS CONTAINED ON THE ROADWAY, NO WATERWAYS WERE IMPACTED.

SENSITIVE INFORMATION
ON SCENE: BRAD SAVILLE
PHONE: 425-293-8035

INCIDENT DETAILS
Road Mile Marker: 206
Length of Service Disruption:
Airbag Deployed: UNKNOWN
---MOBILE INFORMATION---
Vehicle Type: OTHER
Vehicle Number: UNKNOWN2
Trailer/Tanker Number:
Vehicle Fuel Capacity:
Cargo Capacity:
Cargo On Board:
Hazmat Carrier: UNKNOWN
Carrier Licensed: UNKNOWN
Suspected Non Compliance: UNKNOWN
---MOBILE INFORMATION---
Vehicle Type: PASSENGER TRUCK
Vehicle Number: UNKNOWN
Trailer/Tanker Number:
Vehicle Fuel Capacity:
Cargo Capacity:
Cargo On Board:
Hazmat Carrier: UNKNOWN
Carrier Licensed: UNKNOWN
Suspected Non Compliance: UNKNOWN

IMPACT
Fire Involved: NO Fire Extinguished: UNKNOWN

INJURIES: UNKNOWN Hospitalized: Empl/Crew: Passenger:
FATALITIES: UNKNOWN Empl/Crew: Passenger: Occupant:
EVACUATIONS:NO Who Evacuated: Radius/Area:

Damages: NO
Hours Direction of
Closure Type Description of Closure Closed Closure
N
Air:
Major
Road: Artery:N
N
Waterway:
N
Track:

Environmental Impact: UNKNOWN
Media Interest: NONE Community Impact due to Material:

REMEDIAL ACTIONS
OIL ABSORBENT DIAPERS IN PLACE//WAITING ON CAT LITER OR SAND TO FURTHER CLEAN UP EFFORTS
Release Secured: UNKNOWN
Release Rate:
Estimated Release Duration:

WEATHER
Weather: OVERCAST, ºF

ADDITIONAL AGENCIES NOTIFIED
Federal: NONE
State/Local: DEPT OF ECOLOGY
State/Local On Scene: NONE
State Agency Number: NONE

NOTIFICATIONS BY NRC
DOT CRISIS MANAGEMENT CENTER (MAIN OFFICE)
10-MAR-10 13:59 (202)3661863
U.S. EPA X SEATTLE (MAIN OFFICE)
(206)5531263
FEMA REGION 10 (MAIN OFFICE)
10-MAR-10 13:59 (425)4874704
NATIONAL INFRASTRUCTURE COORD CTR (MAIN OFFICE)
10-MAR-10 13:59 (202)2829201
NOAA RPTS FOR WA (MAIN OFFICE)
10-MAR-10 13:59 (206)5264911
OREGON TITAN FUSION CENTER (COMMAND CENTER)
10-MAR-10 13:59 (877)6204702
SECTOR SEATTLE (COMMAND CENTER)
(206)2176002
WA STATE EMERGENCY MANAGEMENT (MAIN OFFICE)
10-MAR-10 13:59 (800)2585990
STATE OF WA DEPT OF HEALTH (WA DOH)
10-MAR-10 13:59 (360)2363327
WASHINGTON STATE FUSION CENTER (MAIN OFFICE)
10-MAR-10 13:59 (877)

ADDITIONAL INFORMATION
NO ADDITIONAL INFORMATION.

*** END INCIDENT REPORT #933527 ***
Report any problems by calling 1-800-424-8802
PLEASE VISIT OUR WEB SITE AT http://www.nrc.uscg.mil

Site: ***I-5 HOV PROJECT***
I-5 EVERETT WA

ERTS

Incident ID:	561631	***Latitude:***	
Incident Date:	2007-04-02	***Longitude:***	
County:	SNOHOMISH		
Location:	I-5 HOV PROJECT		

Initial Report Details

Initial Report Substance Name:	Mud/Silt
Initial Report Subst Catego:	Debris
Initial Report Subst Quanti:	250
Initial Report Substance Unit:	NTU
Initial Report Medium Name:	Surface water-Fresh
Initial Report Medium Category:	Water
Initial Report Cause Category:	Equipment failure
Initial Report Cause Name:	Unknown
Initial Report Source Name:	Construction site
Initial Report Source Category:	Facility
Initial Report Activity Name:	Construction, other
Initial Report Comment Desc:	A DRAINAGE PIPE MISHAP RESULTING IN TURBIDITY EXCE

Follow up Details

ERTS Follow up No:
Follow up Substance Name:
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name:
Follow up Medium Name:
Follow up Source Nname:
Follow up Activity Name:

Potential Details

Pot Resp Party First Name:
Pot Resp Prty Last Name:

Potentially Resp Party Org: DOT

Initial Comments

Initial Report Comment:

ERTS Number 561631 - A DRAINAGE PIPE MISHAP RESULTING IN TURBIDITY EXCEEDENCE. THE ISSUE HAS BEEN RESOLVED.

Historic Referral Contact Information - ReferralDate: 2007-04-02 FirstName: GREG MiddleName: LastName: STEGMAN Email: gste461@ecy.wa.gov PhoneNumber: (425) 649-7019 OrganizationName: WATER QUALITY WorkLocation: NWRO

Site: ***MILE POST 192.7***
I-5 SOUTHBOUND EVERETT WA

ERTS

Incident ID: 680647
Incident Date: 2018-04-16
County: SNOHOMISH
Location: MILE POST 192.7
Latitude:
Longitude:

Initial Report Details

Initial Report Substance Name: Unknown
Initial Report Subst Catego: Oil
Initial Report Subst Quanti:
Initial Report Substance Unit: U.S. gallons
Initial Report Medium Name: Surface water-Fresh
Initial Report Medium Category: Water
Initial Report Cause Category:
Initial Report Cause Name:
Initial Report Source Name: Truck
Initial Report Source Category: Vehicle
Initial Report Activity Name: Not operating or not performing designed function
Initial Report Comment Desc: DISBATCH REPORTED AN OIL SPILL GOING INTO STORM DR

Follow up Details

ERTS Follow up No: 159980
Follow up Substance Name:
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name:
Follow up Medium Name: Surface water-Fresh
Follow up Source Nname: Truck
Follow up Activity Name: Not operating or not performing designed function

Follow up Details

ERTS Follow up No: 159990
Follow up Substance Name:
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name:
Follow up Medium Name: Surface water-Fresh
Follow up Source Nname: Truck
Follow up Activity Name: Not operating or not performing designed function

Potential Details

Pot Resp Party First Name: U
Pot Resp Prty Last Name: UNKNOWN
Potentially Resp Party Org:

Follow up Comments

Follow up Comment:

ERTS Number 680647 - Historic Referral Contact Information - ReferralDate: 2018-04-16 FirstName: MiddleName: LastName: NWRO WQ Email: nwrowqerts@ecy.wa.gov PhoneNumber: (425) 649-7105 OrganizationName: WATER QUALITY WorkLocation: NWRO

Follow up Comment:

ERTS Number 680647 -

From: Walker, Mike [mailto:WalkeMi@wsdot.wa.gov]
Sent: Monday, April 16, 2018 1:15 PM
To: Fritzen, Madeline (ECY) <MAFR461@ECY.WA.GOV>; Walls, Robert (ECY) <rowa461@ECY.WA.GOV>; ECY RE NWRO WQ ERTS <nwrowqerts@ECY.WA.GOV>; WSDOT NWIDDE <NWIDDE@WSDOT.WA.GOV>; Sax, Stephen <SaxSJ@wsdot.wa.gov>
Subject: RE: You've got ERTS! 680647

Madeline

This spill was forwarded to the WSDOT haz mat reviewer for follow up.

Mike Walker
Washington State Department of Transportation
Northwest Region Environmental Services
Environmental Document and Permit Specialist (EDPS)
Area - King South
Phone: 206-440-5074
Cell Ph. 206-200-3081
Fax: 206:440-4805
E-mail : walkemi@wsdot.wa.gov

From: Fritzen, Madeline (ECY) <MAFR461@ECY.WA.GOV>
Sent: Monday, April 16, 2018 12:41 PM
To: Walls, Robert (ECY) <rowa461@ECY.WA.GOV>; ECY RE NWRO WQ ERTS <nwrowqerts@ECY.WA.GOV>; Walker, Mike <WalkeMi@wsdot.wa.gov>; WSDOT NWIDDE <NWIDDE@WSDOT.WA.GOV>; Sax, Stephen <SaxSJ@wsdot.wa.gov>
Subject: You've got ERTS! 680647
Importance: High

The incident number 680647 has been referred to you. Please follow up.
Note: The initial report information is attached in PDF format. You need to have Adobe Acrobat Reader to read the information.

Thank you,

Madeline Fritzen
NWRO ERTS Coordinator
Washington State Department of Ecology
3190 160th Ave SE | Bellevue, Washington 98008-5452
p: (425) 649-7229 | f: (425) 649-7098 | ms: NB-81

Follow up Comment:

ERTS Number 680647 - Historic Investigator Contact Information - FirstName: NICK ABEDIN MiddleName: LastName: WA DOT - IDDE (STORMWATER) - NW REGION OrganizationName: WS DOT STORMWATER WorkLocation: NWRO

Follow up Comment:

ERTS Number 680647 - Historic Referral Contact Information - ReferralDate: 2018-04-16 FirstName: Robert MiddleName: LastName: Walls Email: rowa461@ecy.wa.gov; 4253955718@onpage.com PhoneNumber: (425) 649-7130 OrganizationName: SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE WorkLocation: NWRO

Follow up Comment:

ERTS Number 680647 - Historic Referral Contact Information - ReferralDate: 2018-04-16 FirstName: NICK ABEDIN MiddleName: LastName: WA DOT - IDDE (STORMWATER) - NW REGION Email: EmEmail WSDOT Stormwater PhoneNumber: (206) 440-4905 OrganizationName: WS DOT STORMWATER WorkLocation: NWRO

Follow up Comment:

ERTS Number 680647 - Historic Referral Contact Information - ReferralDate: 2018-04-16 FirstName: Ben MiddleName: LastName: Billick Email: bbil461@ecy.wa.gov PhoneNumber: (425) 649-7059 OrganizationName: WATER QUALITY WorkLocation: NWRO

Follow up Comment:

ERTS Number 680647 - Historic Referral Contact Information - ReferralDate: 2018-04-17 FirstName: Foroozan MiddleName: LastName: Labib Email: flab461@ecy.wa.gov PhoneNumber: (360) 407-6439 OrganizationName: WATER QUALITY WorkLocation: SWRO

Follow up Comment:

ERTS Number 680647 - From: Sax, Stephen [mailto:SaxSJ@wsdot.wa.gov]
Sent: Monday, April 16, 2018 5:05 PM
To: Walker, Mike <WalkeMi@wsdot.wa.gov>; Fritzen, Madeline (ECY) <MAFR461@ECY.WA.GOV>; Walls, Robert (ECY) <rowa461@ECY.WA.GOV>; ECY RE NWRO WQ ERTS <nwrowqerts@ECY.WA.GOV>; WSDOT NWIDDE <NWIDDE@WSDOT.WA.GOV>
Cc: Maas, John <MaasJA@wsdot.wa.gov>; Morton, Ron <MortonR@wsdot.wa.gov>
Subject: RE: You've got ERTS! 680647

Good afternoon Madeline,

As a follow up to ERTS incident number 680647 that occurred earlier today, the following activities were implemented.
- I notified the Northwest Region Area 3 Maintenance & Operations Superintendent of the incident.

- He designated the section lead who conducted a field visit to determine the status of the spill.

- The results of the field visit indicated that all of the oil appeared to be cleaned up by a third party and no sheen was visible in the catch basin. No further action is required.

If you have additional questions please contact me.

Stephen
Stephen Sax
Stephen Sax
Hazardous Materials Technical Lead
WSDOT NW Region Environmental Program
Office (206) 440-4535|Cell (206) 459-1028
saxsj@wsdot.wa.gov

Follow up Comment:

ERTS Number 680647 - Historic Investigator Contact Information - FirstName: NICK ABEDIN MiddleName: LastName: WA DOT - IDDE (STORMWATER) - NW REGION OrganizationName: WS DOT STORMWATER WorkLocation: NWRO

Initial Comments

Initial Report Comment:

ERTS Number 680647 - DISBATCH REPORTED AN OIL SPILL GOING INTO STORM DRAIN DUE TO SEMI COLLISON AT 12:26. UNKNOWN AMOUNT SPILLED.

POC IS OFFICER WATKINS AT 425-626-0234

STORM DRAINS IMPACTED

Site:
I-5 SOUTH & EXIT 200 MARYSVILLE WA

ERTS

Incident ID: 529414
Incident Date: 2002-10-03
County: SNOHOMISH
Location:
Latitude:
Longitude:

Initial Report Details

Initial Report Substance Name: Diesel oil/Marine gas
Initial Report Subst Catego: Oil
Initial Report Subst Quanti: 20
Initial Report Substance Unit: U.S. gallons
Initial Report Medium Name: Soil

Initial Report Medium Category: Ground
Initial Report Cause Category: Accident
Initial Report Cause Name: Traffic
Initial Report Source Name: Truck
Initial Report Source Category: Vehicle
Initial Report Activity Name: Transporting
Initial Report Comment Desc: REPORTED TO MARK HENDERSON, BFO AT 3:03 PM TODAY.

Follow up Details

ERTS Follow up No: 45336
Follow up Substance Name: Diesel oil/Marine gas
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name: Traffic
Follow up Medium Name: Soil
Follow up Source Nname: Truck
Follow up Activity Name: Transporting

Potential Details

Pot Resp Party First Name: BILL
Pot Resp Prty Last Name: MALESKI
Potentially Resp Party Org: PACIFIC RIM TRANSPORT

Follow up Comments

Follow up Comment:

ERTS Number 529414 - ANDERSEN TALKED WITH RANDY AT EMD. OCCURRED AT ABOUT 930AM AND WAS 20 GALLONS SPILLED TO THE DITCH. HE WAS CALLED BY KEITH BENT 978-568-1922 WHO IS WITH THE SPILLS CENTER. ADDRESS IS 22 KANE INST DRIVE, HUDSON, MASS 01749. ACCIDENT WAS AT EXIT 200 IN MARYSVILL ON I-5. COMPANY IS PACIFIC RIM TRANSPORT. CONTACT IS BILL MALESKI, PO BOX 12983, CHARLOETTEE, NC 28220. 704-571-2243. FIRE REPORTEDLY RESPONDED AND CLEANED UP THE SPILL. TRUCK AND TRAILER WENT INTO THE DITCH. CALL CAME INTO RANDY AT ABOUT 1PM.

ANDERSEN CONTACTED RP. CALLED LOCAL NUMBER BUT THEY SAID THE TRUCK WAS OUT OF THE VANCOUVER OFFICE IN BC. NUMBER IS 604-940-5522. ALTEN SMITH IS THE CONTACT. HIS CELL IS 604-841-5952. I TALKED WITH SANDY AND SHE WILL HAVE ALTEN CALL. ALTEN CALLED ABOUT 325PM. HE SAID LESS THAN 20 GALLONS. SPILL OCCURRED WHEN THE TOW TRUCK WAS PULLING THE TRUCK OUT. ACCIDENT OCCURRED DURING HEAVY RAIN. SINGLE VEHICLE ACCIDENT. HOSE ON TRUCK BROKE. WSDOT DRAINED THE TANKS ABOUT 150 GALLONS TOTAL. DRIVERS NAME IS SAT DEO PRASAD.

TALKED WITH ALTEN ABOUT THE NOTIFICATION REQUIREMENTS AND GAVE HIM THE 800 NUMBER TO CALL.

I CALLED WSP IN EVERETT AND LEFT MESSAGE FOR RESPONDING TROOPER TO CALL. HE CALLED BACK AND SAID LESS THEN ONE GALLON HE THOUGHT. HE HAD ASKED WSDOT TO CALL WDOE. 206-550-5422 IS HIS CELL NUMBER BUT HE IS NOT THERE THAT MUCH. SPILL WAS LOCATED NORTH OF CEDAR CREEK.

RP CALLED BACK AND RE-REPORTED SAYING THAT THE SPILL WAS NOT 20 GALLONS FROM THE ACCIDENT BUT 1 GALLON FROM THE CROSSOVER LINE.

NO DIRECT CALL TO WDOE ONLY TO NRC FROM SPILLS CENTER. NEED TO FOLLOWUP WITH SPILLS CENTER TO HAVE THEM UPDATE WHAT THEY TELL THEIR CLIENT.

WARNING LETTER SENT TO PACIFIC RIM ON 10/22/2002.

NFA

Follow up Comment:

ERTS Number 529414 - Historic Investigator Contact Information - FirstName: CARL MiddleName: LastName: ANDERSEN OrganizationName: SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE WorkLocation: NWRO

Follow up Comment:

ERTS Number 529414 - Historic Referral Contact Information - ReferralDate: 2002-10-07 FirstName: CARL MiddleName: LastName: ANDERSEN Email: CARA461@ECY.WA.GOV PhoneNumber: (425) 649-7250 OrganizationName: SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE WorkLocation: NWRO

Initial Comments

Initial Report Comment:

ERTS Number 529414 - REPORTED TO MARK HENDERSON, BFO AT 3:03 PM TODAY. MARK PASSED INFO TO NWRO ERTS.

TRACTOR TRAILER RAN OFF ROAD. AS IT WAS BEING TOWED, RELEASED 20 GALLONS TO THE SIDE OF THE ROAD FROM SADDLE TANK. SPILL REPORTED TO HAVE BEEN CLEANED UP BY FIRE DEPT.
OCCURRED ON I-5 SOUTH & EXIT 200 @ 9:30 AM THIS MORNING

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

LORI LEVANDER ALSO RECEIVED NOTIFICATION THROUGH EMD:

-----Original Message-----
From: LeVander, Lori
Sent: Friday, October 04, 2002 9:32 AM
To: O`Brien, Paul; Gregory, Charles T.; Musa, Donna K.; Andersen, Carl
Subject: Clarification on I-5 MP 200 diesel spill from 10/3

I just spoke with Colleen at EMD to clarify the reporting discrepencies about the I-5 Mile Post 200 near Marysville, diesel spill on 10/3.

The spill was originally reported as 20 gallons spilled from a saddle tank as a result of an accident. The reporting party reported to NRC and Ecology. The accident occurred around 9:30 am on Thursday, 10/3. The RP later concluded that the spill was NOT from the saddle tank but was from the cross-over line and the spill was revised to one gallon of diesel. The RP notified EMD but also (mistakenly) sent in another NRC report. This resulted in another NRC Fax being sent last night around 9:00 pm.

The events are the same. Donna has assigned ERTS #529414 to this incident.

End of story, there is no more. OK, bye for now.

Lori

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

-----Original Message-----
From: dutyofficer (EMD)
Sent: Thursday, October 03, 2002 9:06 PM
To: Musa, Donna K.
Subject: FW: NRC#624822

-----Original Message-----
From: fldr-NRC@comdt.uscg.mil [mailto:fldr-NRC@comdt.uscg.mil]
Sent: Thursday, October 03, 2002 9:01 PM
To: DUTYOFFICER@EMD.WA.GOV
Subject: NRC#624822

NATIONAL RESPONSE CENTER - FLASH FAX
GOVERNMENT USE ONLYGOVERNMENT USE ONLY***
DO NOT RELEASE this information to the public without
permission from the NATIONAL RESPONSE CENTER 1-800-424-8802

Incident Report # 624822

INCIDENT DESCRIPTION

*Report taken by: CIV BROWN at 23:55 on 03-OCT-02
Incident Type: MOBILE
Incident Cause: UNKNOWN
Affected Area: DITCH
The incident occurred on 03-OCT-02 at 21:30 local time.
Affected Medium: WATER DITCH

REPORTING PARTY
Name: KEITH BENT
Organization: SPILL CENTER
Address: 22 KANE INDUSTRIAL DRIVE
HUDSON, MA 01749
SPILL CENTER called for the responsible party.
PRIMARY Phone: (978)5681922
Type of Organization: PRIVATE ENTERPRISE

SUSPECTED RESPONSIBLE PARTY
Name: BILL MALESKI
Organization: PACIFIC ROOM TRANSPORT
Address: PO BOX 1293
CHARLOTTE, NC
PRIMARY Phone: (704)5712243
Type of Organization: PRIVATE ENTERPRISE

INCIDENT LOCATION
EXIT 200 County: SNOHOMISH
City: MARYSVILLE State: WA
I-5 SOUTH

RELEASED MATERIAL(S)
CHRIS Code: ODS Official Material Name: OIL: DIESEL
Also Known As:
Qty Released: 1 GALLON(S) Qty in Water: 0 UNKNOWN AMOUNT

DESCRIPTION OF INCIDENT
THE CALLER REPORTED DIESEL FUEL SPILL FROM CROSS OVERLINE OF TRACTOR TRAILER AFTER LONE CAR ACCIDENT.

INCIDENT DETAILS

Road Mile Marker:
Length of Service Disruption:
Airbag Deployed:
---WATER INFORMATION---
Body of Water: DITCH
Tributary of:
Nearest River Mile Marker:
Water Supply Contaminated: UNKNOWN

---MOBILE INFORMATION---
Vehicle Type: TRACTOR TRAILER TRUCK
Vehicle Number: 379192
Trailer/Tanker Number:
Vehicle Fuel Capacity:
Cargo Capacity:
Cargo On Board:
Hazmat Carrier: UNKNOWN
Carrier Licensed: UNKNOWN
Suspected Non Compliance: UNKNOWN

DAMAGES
Fire Involved: NO Fire Extinguished: UNKNOWN
INJURIES: Hospitalized: Empl/Crew: Passenger:

FATALITIES: Empl/Crew: Passenger: Occupant:
EVACUATIONS: Who Evacuated: Radius/Area:
Damages:

Hours Direction of
Closure Type Description of Closure Closed Closure
Air: N

Road: N Major N
Artery:
Waterway: N

Track: N

Media Interest: NONE Community Impact due to Material: NO

REMEDIAL ACTIONS
CONTRACTOR HAS BEEN HIRED
Release Secured: YES
Release Rate:
Estimated Release Duration:

WEATHER
Weather: RAINY, ºF

ADDITIONAL AGENCIES NOTIFIED
Federal:
State/Local: STATE, LEPC
State/Local On Scene:
State Agency Number:

NOTIFICATIONS BY NRC
ATSDR WA ATTN: LINDA GUNNELLS
04-OCT-02 00:00 (360)2363387
U.S. EPA X SEATTLE
(206)5531263
NOAA 1ST CLASS BB RPTS FOR WA
04-OCT-02 00:00 (206)5266344
WA STATE EMERGENCY MANAGEMENT
04-OCT-02 00:00 (800)2585990

ADDITIONAL INFORMATION
THE CALLER HAD NO ADDITIONAL INFORMATION.

*** END INCIDENT REPORT 624822 ***
Report any problems or Fax number changes by calling 1-800-424-8802
PLEASE VISIT OUR WEB SITE AT http://www.nrc.uscg.mil

Site:

NB I-5 MP 206 MARYSVILLE WA

ERTS

Incident ID:	556129	***Latitude:***	
Incident Date:	2006-06-28	***Longitude:***	
County:	SNOHOMISH		
Location:			

Initial Report Details

Initial Report Substance Name:	Diesel oil/Marine gas
Initial Report Subst Catego:	Oil
Initial Report Subst Quanti:	2
Initial Report Substance Unit:	Cup
Initial Report Medium Name:	Roadway-paved
Initial Report Medium Category:	Impermeable surface
Initial Report Cause Category:	Equipment failure
Initial Report Cause Name:	Unknown
Initial Report Source Name:	Truck
Initial Report Source Category:	Vehicle
Initial Report Activity Name:	Driving
Initial Report Comment Desc:	TRUCK HAD FUEL LINE PROBLEM. DRIVER HAD SPILL KIT

Follow up Details

ERTS Follow up No:	73788
Follow up Substance Name:	Diesel oil/Marine gas
Follow up Substance Quantity:	2
Follow up Subst Unit of Meas:	Cup
Follow up Cause Name:	Unknown
Follow up Medium Name:	Roadway-paved
Follow up Source Nname:	Truck
Follow up Activity Name:	Driving

Potential Details

Pot Resp Party First Name:	
Pot Resp Prty Last Name:	
Potentially Resp Party Org:	PRAXAIR

Follow up Comments

Follow up Comment:

ERTS Number 556129 - Historic Referral Contact Information - ReferralDate: 2006-06-28 FirstName: CARL MiddleName: LastName: ANDERSEN Email: CARA461@ECY.WA.GOV PhoneNumber: (425) 649-7250 OrganizationName: SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE WorkLocation: NWRO

Follow up Comment:

ERTS Number 556129 - Historic Investigator Contact Information - FirstName: LORI MiddleName: LastName: LeVANDER AHR OrganizationName: SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE WorkLocation: NWRO

Initial Comments

Initial Report Comment:

ERTS Number 556129 - TRUCK HAD FUEL LINE PROBLEM. DRIVER HAD SPILL KIT ON BOARD, CLEANED UP SELF. TO ASPHALT ONLY. BREAK IN FUEL LINE.

REPORTED @ 7:30 AM

Site:
28TH PL NE EVERETT WA

ERTS

Incident ID:	651664	***Latitude:***	
Incident Date:	2014-09-18	***Longitude:***	
County:	SNOHOMISH		
Location:			

Initial Report Details

Initial Report Substance Name:	Mud/Silt
Initial Report Subst Catego:	Debris
Initial Report Subst Quanti:	
Initial Report Substance Unit:	
Initial Report Medium Name:	Ditch
Initial Report Medium Category:	Historical
Initial Report Cause Category:	Human error
Initial Report Cause Name:	Policy/Procedure; Incorrect
Initial Report Source Name:	Construction site
Initial Report Source Category:	Facility
Initial Report Activity Name:	Construction, other
Initial Report Comment Desc:	REPORT RECEIVED VIA ONLINE SUBMITTAL FORM: 11.7

Follow up Details

ERTS Follow up No:	140833
Follow up Substance Name:	Mud/Silt
Follow up Substance Quantity:	
Follow up Subst Unit of Meas:	
Follow up Cause Name:	Policy/Procedure; Incorrect
Follow up Medium Name:	Ditch
Follow up Source Nname:	Construction site
Follow up Activity Name:	Construction, other

Potential Details

Pot Resp Party First Name:	KIM
Pot Resp Prty Last Name:	GRADY
Potentially Resp Party Org:	GRADY EXCAVATION

Follow up Comments

Follow up Comment:

ERTS Number 651664 - Spoke with Dan Grady. He is sending photos of recently installed BMPs to address issues.

Follow up Comment:

ERTS Number 651664 - Historic Investigator Contact Information - FirstName: TRACIE MiddleName: LastName: WALTERS OrganizationName: WATER QUALITY WorkLocation: NWRO

Follow up Comment:

ERTS Number 651664 - Historic Referral Contact Information - ReferralDate: 2014-09-19 FirstName: TRACIE MiddleName: LastName: WALTERS Email: EMAIL NW STRM H20 PhoneNumber: (425) 649-4484 OrganizationName: WATER QUALITY WorkLocation: NWRO

Initial Comments

Initial Report Comment:

ERTS Number 651664 - REPORT RECEIVED VIA ONLINE SUBMITTAL FORM:

11.7 fill site. Contractor has graded the site to the roadside ditch. No BMPs installed to protect ditch which had water in it. Ditch contains wetland plants. Track out extends for 1/4 mile on 28th Pl NE from inadequate construction entrance on north side of site. Construction Stormater General Permit No. WAG125060. Photos will be sent to Tammy once ERTS # has been assigned. Refer to Tracie Walters

ONLINE SUBMITTAL FORM AVAILABLE AT:
X:\NWRO ERTS\ERTS Incident Additional Info\2014\6516644

ALSO SEE ERTS 652429

Site:

NB I-5 MP 192 EVERETT WA

ERTS

Incident ID:	559681	***Latitude:***	
Incident Date:	2006-12-23	***Longitude:***	
County:	SNOHOMISH		
Location:			

Initial Report Details

Initial Report Substance Name:	Diesel oil/Marine gas
Initial Report Subst Catego:	Oil
Initial Report Subst Quanti:	50
Initial Report Substance Unit:	U.S. gallons
Initial Report Medium Name:	Soil
Initial Report Medium Category:	Ground
Initial Report Cause Category:	Accident
Initial Report Cause Name:	Traffic
Initial Report Source Name:	Truck
Initial Report Source Category:	Vehicle
Initial Report Activity Name:	Unknown
Initial Report Comment Desc:	Vehicle accident involving a truck containing 50 g

Follow up Details

ERTS Follow up No:	77576
Follow up Substance Name:	Diesel oil/Marine gas
Follow up Substance Quantity:	50
Follow up Subst Unit of Meas:	U.S. gallons
Follow up Cause Name:	Traffic
Follow up Medium Name:	Soil
Follow up Source Nname:	Truck
Follow up Activity Name:	Unknown

Follow up Details

ERTS Follow up No:	78913
Follow up Substance Name:	Diesel oil/Marine gas
Follow up Substance Quantity:	
Follow up Subst Unit of Meas:	
Follow up Cause Name:	Traffic
Follow up Medium Name:	Soil
Follow up Source Nname:	Truck
Follow up Activity Name:	Unknown

Potential Details

Pot Resp Party First Name:	SCOTT
Pot Resp Prty Last Name:	NIELSEN
Potentially Resp Party Org:	WHITE BUFFALO TRUCKING

Follow up Comments

Follow up Comment:

ERTS Number 559681 - CALLED SCOTT NIELSEN, LEFT MESSAGE. SCOTT CALLED BACK, LEFT MESSAGE. CALLED SCOTT - HE SAYS TO CALL OWNER OF CO. JOE HAVENS, 509-238-4913. CALLED JOE. HE SAYS TO CALL BEN HAVENS, 509-993-9892, OPS MGR. CALLED BEN HAVENS. HE HASN`T RECEIVED AN INVOICE OR CLEANUP REPORT FROM NRCES. I TOLD HIM I`D CONTACT TOM HALLGREN DIRECTLY.

EMAILED TOM (THALLGREN@NRCES.COM) ASKING FOR STATUS ON CLEANUP REPORT.

From: Hallgren, Tom S. [mailto:tshallgren@nrces.com]
Sent: Wednesday, February 28, 2007 8:25 PM
To: Musa, Donna K. (ECY)
Subject: RE: NRCES project, White Buffalo Trucking spill on 12/23/06 (Ecology`s 559681)

Donna,
I just sent a progress invoice to White Buffalo Trucking. I haven`t done a spill report because the project is not done. The spill site is and has been covered with visqueen since the incident. After the weather improved I started working with the WSDOT to get a lane closure. After a few attempts I`ve gotten an approval. I need to close an exit and a lane to accomplish the work safely. I`ve had scheduling issue`s and will complete the project ASAP. You can call me on my cell and we can talk about it.
Sorry I didn`t respond earlier today, I just checked my e-mails. I`ve been on pier 91 on today`s spill in Elliot Bay, I`ll be there tomorrow as well.
Thanks,
Tom

Tom Hallgren
Project Supervisor
NRC Environmental Services
Mobile/Direct: 206-786 -0123
tshallgren@nrces.com
Fax: 253 896 5055
300 Birch St.
Milton, WA 98354

From: Musa, Donna K. (ECY) [mailto:DMUS461@ECY.WA.GOV]
Sent: Tuesday, February 27, 2007 4:49 PM
To: Hallgren, Tom S.
Subject: NRCES project, White Buffalo Trucking spill on 12/23/06 (Ecology`s 559681)

Hi Tom -

I`m trying to find a cleanup report for the spill NRC cleaned up for White Buffalo Trucking at their spill in Everett, NB I-5, MP 192 on 12/23/06. I`ve spoken to Ben Havens (the owner`s son, and ops manager) of White Buffalo Trucking, and he says he hasn`t received an invoice or cleanup report from NRC. Could you let me know the status of the report preparation, and forward me a copy when it`s completed?

Thanks!!

Donna Musa
WA Dept of Ecology
NWRO TCP FS/ISIS &
Initial Investigations
3190 160th Ave SE
Bellevue, WA 98008

Phone: 425-649-7136
Fax: 425-649-7098
dmus461@ecy.wa.gov

==========

7/10/07 emailed Tom Hallgren asking if he had a report ready for this spill yet.

==========

10/22/07 EMAILED TOM AGAIN.

11/28/07 A FILE WILL BE MADE AND SENT TO CENTRAL RECORDS WHEN THE CLEANUP REPORT IS RECEIVED.

Follow up Comment:

ERTS Number 559681 - Historic Investigator Contact Information - FirstName: DONNA MiddleName: K LastName: MUSA TCP OrganizationName: TOXICS CLEANUP WorkLocation: NWRO

Follow up Comment:

ERTS Number 559681 - 4:24 On-scene WSP officer Templeton reported that a box truck was in an accident and the truck was on the side of the road in a grassy area spilling diesel to the soil. The driver had recently filled up the tank, estimating 50 gallon potential. The fire department is on-scene. Spill was on-going, diesel was pooling up under the truck. Spoke with the truck driver and got his information and a contact number for follow up. Advised him to contact his insurance company and tell them to hire a contractor to clean up the spill. His insurance is Century Insurance.
5:02 Called truck driver`s supervisor, Scott Nielson and advised him to call a contractor to clean up spill.
5:08 Left message for Officer Templeton regarding a need for more information about the scene (dimensions of spill, gradient, potential for overland flow etc..)
5:14 Called Scott Nielson to see if he hired a contractor and if so, who he hired and when they will be on-scene.
5:18 Left another message for Officer Templeton regarding a need for more information about the scene (dimensions of spill, gradient, potential for overland flow etc..)
5:20 Called backup David Cline to give him an update and find out next steps.
5:40 Called Scott Nielson again to find out update on hiring contractor. He said that the insurance company was notified and he will call NRC to have them respond to spill. At this point the spill had been stopped and WSDOT was coming to pump the fuel out of the tank before transporting. He said he will call me back with information from NRC.
5:57 Left another message for Officer Templeton regarding a need for more information about the scene (dimensions of spill, gradient, potential for overland flow etc..)
5:50 Scott Nielson called and told me that he filed a report with Patt and the NRC report # was 821889. He told me that they will get a truck out there to respond.
5:55 Called Cline and determined a need to find out what the pooling looked like and get a better description from someone on-scene. After leaving several messages with officer Templeton, he suggested that I try to reach on-scene officer through dispatch.
6:14 Called WSP dispatch and found out officer Templeton no longer on-scene. Spoke with on-scene officer, Sullivan. He reported that WSDOT truck was in the process of off-loading fuel from the gas tank. They were going to empty the tank before moving the truck. Fire said some diesel is pooled in tire tracks under the truck. Fire was able to stop spill from tank. Since he was new to the scene, he had someone else at the scene call me back.
6:20 Spoke to WSDOT Maintenance Supervisor Rich Lawson who told me that WSDOT was transferring fuel into IRC truck, then they were going to move the damaged truck. He confirmed that the leak had been stopped. He estimated 40-50 gallons of diesel spilled, most of which was soaking into the soil. He described the extent of the pooling to be restricted to the truck tire ruts. He estimated the dimensions of the ruts to be 11` wide, 4` deep, and 6` long. He described the area of the spill being in an isolated grassy area near some new construction. It was approximately 50 feet from the construction fence. The construction area was grassy. There is a housing area approximately 300-400 feet beyond the construction fence.
6:43 Called Scott Nielson to find out the NRC project manager name, contact information, and ETA. He said that the report was submitted to EPA. I called EPA and they referred it to the USCG. At this point I realized that he called the National Response Center and thought he was hiring the NRC contractor.
6:59 Called Scott Nielson and told him that he called the National Response Center when he thought he was hiring the NRC contractor. I gave him the phone number for NRC and asked him to call me back with information about NRC project manager name, contact information, and ETA.
7:18 Scott Nielson called me back and told me that the NRC project manager was Tom Holgram, gave me his contact information and told me that Tom was leaving from Enumclaw. His ETA was 9:00.
8:25 Tom from NRC called while en route, he needed more location information an update on situation. I asked him to call me once he had assessed the scene.
10:05 Tom NRC called from the scene. He said that they were unable to get a driver for a Vac Truck until after 12/25/06. He assessed the scene and stated that he was confident that the product was contained within the tire ruts. The pooled product was down gradient from the spill and did not see any potential for migration. The Fire Dept covered the spill with hay. He is covering the spill area with visqueen plastic covering and sealing the top and edges. The covered area was 20ft x 40ft. The contaminated area was 10ft in circumference. They will need a shoulder closure in order to use the vac truck on the narrow shoulder. He will arrange for this next week (12/26/06).
Refer to TCP for follow-up.

Follow up Comment:

ERTS Number 559681 - Historic Investigator Contact Information - FirstName: SARAH MiddleName: LastName: GOOD AHR OrganizationName: SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE WorkLocation: NWRO

Follow up Comment:

ERTS Number 559681 - Historic Referral Contact Information - ReferralDate: 2006-12-23 FirstName: SARAH MiddleName: LastName: GOOD AHR Email: sgoo461@ecy.wa.gov PhoneNumber: (425) 649-7257 OrganizationName: SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE WorkLocation: NWRO

Follow up Comment:

ERTS Number 559681 - Historic Referral Contact Information - ReferralDate: 2006-12-26 FirstName: DONNA MiddleName: K LastName: MUSA TCP Email: dmus461@ecy.wa.gov PhoneNumber: (425) 649-7136 OrganizationName: TOXICS CLEANUP WorkLocation: NWRO

Initial Comments

Initial Report Comment:

ERTS Number 559681 - Vehicle accident involving a truck containing 50 gallons of diesel is spilling onto roadway. Unknown waterways. Fire on-scene.

NATIONAL RESPONSE CENTER - FLASH FAX
GOVERNMENT USE ONLYGOVERNMENT USE ONLY***
DO NOT RELEASE this information to the public without
permission from the NATIONAL RESPONSE CENTER 1-800-424-8802

Incident Report # 821889

INCIDENT DESCRIPTION

*Report taken by: E4 KATIE WILSON at 08:51 on 23-DEC-06
Incident Type: MOBILE
Incident Cause: TRANSPORT ACCIDENT
Affected Area:
The incident occurred on 23-DEC-06 at 04:00 local time.
Affected Medium: SOIL ROADSIDE

REPORTING PARTY
Name: SCOTT NIELSEN
Organization: WHITE BUFFALO TRUCKING
EVERETT, WA 98201
WHITE BUFFALO TRUCKING called for the responsible party.
PRIMARY Phone: (425)9230296
Type of Organization: PRIVATE ENTERPRISE

SUSPECTED RESPONSIBLE PARTY
Name: SCOTT NIELSEN
Organization: WHITE BUFFALO TRUCKING
EVERETT, WA 98201
PRIMARY Phone: (425)9230296
Type of Organization: PRIVATE ENTERPRISE

INCIDENT LOCATION
County: SNOHOMISH
City: EVERETT State: WA
I-5 BEFORE BROADWAY EXIT

RELEASED MATERIAL(S)
CHRIS Code: OOD Official Material Name: OIL, FUEL: NO. 1-D
Also Known As:
Qty Released: 50 GALLON(S)

DESCRIPTION OF INCIDENT
CALLER REPORTS A DISCHARGE OF 50 GALLONS OF DIESEL FUEL FROM THE FUEL TANK OF A 24 FEET STRAIGHT TRUCK; DUE TO THE DRIVER REAR-ENDING A TRACTOR TRAILER.

INCIDENT DETAILS

Road Mile Marker:
Length of Service Disruption:
Airbag Deployed: NO

---MOBILE INFORMATION---
Vehicle Type: COMMERCIAL TRUCK
Vehicle Number: UNKNOWN1
Trailer/Tanker Number:
Vehicle Fuel Capacity: 50 GALLON(S)
Cargo Capacity:
Cargo On Board:
Hazmat Carrier: NO
Carrier Licensed: UNKNOWN
Suspected Non Compliance: UNKNOWN
---MOBILE INFORMATION---
Vehicle Type: TRACTOR TRAILER
Vehicle Number: UNKNOWN2
Trailer/Tanker Number:
Vehicle Fuel Capacity:
Cargo Capacity:
Cargo On Board:
Hazmat Carrier: UNKNOWN
Carrier Licensed: UNKNOWN
Suspected Non Compliance: UNKNOWN

DAMAGES
Fire Involved: NO Fire Extinguished: UNKNOWN
INJURIES: NO Hospitalized: Empl/Crew: Passenger:

FATALITIES: NO Empl/Crew: Passenger: Occupant:
EVACUATIONS:NO Who Evacuated: Radius/Area:
Damages: NO

Hours Direction of
Closure Type Description of Closure Closed Closure
Air: N

Road: N Major N
Artery:
Waterway: N

Track: N

Passengers Transferred: NO
Media Interest: NONE Community Impact due to Material: NO

REMEDIAL ACTIONS
TRUCK UNDERWAY TO PUMP REMAINING FUEL OUT OF TANK
Release Secured: UNKNOWN
Release Rate:
Estimated Release Duration:

WEATHER
Weather: UNKNOWN, ºF

ADDITIONAL AGENCIES NOTIFIED
Federal: NONE
State/Local: STATE PATROL, FD
State/Local On Scene: STATE PATROL, FD
State Agency Number: N/A

NOTIFICATIONS BY NRC
DOT CRISIS MANAGEMENT CENTER (PRIMARY)
23-DEC-06 09:14 (202)3661863
U.S. EPA X SEATTLE (PRIMARY)
(206)5531263
FEMA REGION 10 (PRIMARY)
23-DEC-06 09:14 (425)4874704
NATIONAL INFRASTRUCTURE COORD CTR (PRIMARY)
23-DEC-06 09:14 (202)2829201
NOAA RPTS FOR WA (PRIMARY)
23-DEC-06 09:14 (206)5264911
WA STATE EMERGENCY MANAGEMENT (PRIMARY)
23-DEC-06 09:14 (800)2585990
STATE OF WA DEPT OF HEALTH (ATTN: HOPE HOUGH)

23-DEC-06 09:14 (360)2363327

ADDITIONAL INFORMATION
CALLER HAS NO ADDITIONAL INFORMATION.

*** END INCIDENT REPORT 821889 ***
Report any problems or Fax number changes by calling 1-800-424-8802
PLEASE VISIT OUR WEB SITE AT http://www.nrc.uscg.mil

Initial Report Comment:

ERTS Number 559681 - Vehicle accident involving a truck containing 50 gallons of diesel is spilling onto roadway. Unknown waterways. Fire on-scene.

NATIONAL RESPONSE CENTER - FLASH FAX
GOVERNMENT USE ONLYGOVERNMENT USE ONLY***
DO NOT RELEASE this information to the public without
permission from the NATIONAL RESPONSE CENTER 1-800-424-8802

Incident Report # 821889

INCIDENT DESCRIPTION

*Report taken by: E4 KATIE WILSON at 08:51 on 23-DEC-06
Incident Type: MOBILE
Incident Cause: TRANSPORT ACCIDENT
Affected Area:
The incident occurred on 23-DEC-06 at 04:00 local time.
Affected Medium: SOIL ROADSIDE

REPORTING PARTY
Name: SCOTT NIELSEN
Organization: WHITE BUFFALO TRUCKING
EVERETT, WA 98201
WHITE BUFFALO TRUCKING called for the responsible party.
PRIMARY Phone: (425)9230296
Type of Organization: PRIVATE ENTERPRISE

SUSPECTED RESPONSIBLE PARTY
Name: SCOTT NIELSEN
Organization: WHITE BUFFALO TRUCKING
EVERETT, WA 98201
PRIMARY Phone: (425)9230296
Type of Organization: PRIVATE ENTERPRISE

INCIDENT LOCATION
County: SNOHOMISH
City: EVERETT State: WA
I-5 BEFORE BROADWAY EXIT

RELEASED MATERIAL(S)
CHRIS Code: OOD Official Material Name: OIL, FUEL: NO. 1-D
Also Known As:
Qty Released: 50 GALLON(S)

DESCRIPTION OF INCIDENT
CALLER REPORTS A DISCHARGE OF 50 GALLONS OF DIESEL FUEL FROM THE FUEL TANK OF A 24 FEET STRAIGHT TRUCK; DUE TO THE DRIVER REAR-ENDING A TRACTOR TRAILER.

INCIDENT DETAILS

Road Mile Marker:
Length of Service Disruption:
Airbag Deployed: NO

---MOBILE INFORMATION---
Vehicle Type: COMMERCIAL TRUCK
Vehicle Number: UNKNOWN1
Trailer/Tanker Number:
Vehicle Fuel Capacity: 50 GALLON(S)
Cargo Capacity:

Cargo On Board:
Hazmat Carrier: NO
Carrier Licensed: UNKNOWN
Suspected Non Compliance: UNKNOWN
---MOBILE INFORMATION---
Vehicle Type: TRACTOR TRAILER
Vehicle Number: UNKNOWN2
Trailer/Tanker Number:
Vehicle Fuel Capacity:
Cargo Capacity:
Cargo On Board:
Hazmat Carrier: UNKNOWN
Carrier Licensed: UNKNOWN
Suspected Non Compliance: UNKNOWN

DAMAGES
Fire Involved: NO Fire Extinguished: UNKNOWN
INJURIES: NO Hospitalized: Empl/Crew: Passenger:

FATALITIES: NO Empl/Crew: Passenger: Occupant:
EVACUATIONS:NO Who Evacuated: Radius/Area:
Damages: NO

Hours Direction of
Closure Type Description of Closure Closed Closure
Air: N

Road: N Major N
Artery:
Waterway: N

Track: N

Passengers Transferred: NO
Media Interest: NONE Community Impact due to Material: NO

REMEDIAL ACTIONS
TRUCK UNDERWAY TO PUMP REMAINING FUEL OUT OF TANK
Release Secured: UNKNOWN
Release Rate:
Estimated Release Duration:

WEATHER
Weather: UNKNOWN, ºF

ADDITIONAL AGENCIES NOTIFIED
Federal: NONE
State/Local: STATE PATROL, FD
State/Local On Scene: STATE PATROL, FD
State Agency Number: N/A

NOTIFICATIONS BY NRC
DOT CRISIS MANAGEMENT CENTER (PRIMARY)
23-DEC-06 09:14 (202)3661863
U.S. EPA X SEATTLE (PRIMARY)
(206)5531263
FEMA REGION 10 (PRIMARY)
23-DEC-06 09:14 (425)4874704
NATIONAL INFRASTRUCTURE COORD CTR (PRIMARY)
23-DEC-06 09:14 (202)2829201
NOAA RPTS FOR WA (PRIMARY)
23-DEC-06 09:14 (206)5264911
WA STATE EMERGENCY MANAGEMENT (PRIMARY)
23-DEC-06 09:14 (800)2585990
STATE OF WA DEPT OF HEALTH (ATTN: HOPE HOUGH)
23-DEC-06 09:14 (360)2363327

ADDITIONAL INFORMATION
CALLER HAS NO ADDITIONAL INFORMATION.

*** END INCIDENT REPORT 821889 ***
Report any problems or Fax number changes by calling 1-800-424-8802
PLEASE VISIT OUR WEB SITE AT http://www.nrc.uscg.mil

Site: ***EVERETT MALL AREA***
NB I-5 EVERETT WA

ERTS

Incident ID: 561086
Incident Date: 2007-03-08
County: SNOHOMISH
Location: EVERETT MALL AREA
Latitude:
Longitude:

Initial Report Details

Initial Report Substance Name: Unknown
Initial Report Subst Catego: Oil
Initial Report Subst Quanti: 1
Initial Report Substance Unit: Sheen
Initial Report Medium Name: Roadway-paved
Initial Report Medium Category: Impermeable surface
Initial Report Cause Category: Human error
Initial Report Cause Name: Unknown
Initial Report Source Name: Undetermined
Initial Report Source Category: Historical
Initial Report Activity Name: Unknown
Initial Report Comment Desc: CALLER OBSERVED A SHEEN ON NORTH BOUND I-5. IT EX

Follow up Details

ERTS Follow up No: 79688
Follow up Substance Name: Unknown
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name: Unknown
Follow up Medium Name: Roadway-paved
Follow up Source Nname: Undetermined
Follow up Activity Name: Unknown

Potential Details

Pot Resp Party First Name:
Pot Resp Prty Last Name: UNK
Potentially Resp Party Org:

Follow up Comments

Follow up Comment:

ERTS Number 561086 - STILL TRYING TO DETERMINE WHICH RESPONDER THIS INCIDENT WENT TO

Follow up Comment:

ERTS Number 561086 - Historic Investigator Contact Information - FirstName: TRACIE MiddleName: LastName: WALTERS OrganizationName: ADMINISTRATION (NWRO ERTS COORDINATOR) WorkLocation: NWRO

Follow up Comment:

ERTS Number 561086 - Historic Referral Contact Information - ReferralDate: 2007-04-03 FirstName: TRACIE MiddleName: LastName: WALTERS Email: twal461@ecy.wa.gov PhoneNumber: (425) 649-7229 OrganizationName: ADMINISTRATION (NWRO ERTS COORDINATOR) WorkLocation: NWRO

Initial Comments

Initial Report Comment:

ERTS Number 561086 - CALLER OBSERVED A SHEEN ON NORTH BOUND I-5. IT EXTENDS FROM THE EVERETT MALL EXIT (EXIT 189(DOWN TO 527 TOWARDS SILVER LAKE. HE SAYS HE CAN SEE IT FOR ABOUT 1/2 MILE. THE ROADWAY IS SLIPPERY FROM IT. HE HAS NOTIFIED THE FIRE DEPT.

Site: ***I-5 HOV EXPANSION PROJECT***
I-5 EVERETT WA

ERTS

Incident ID: 602070
Incident Date: 2007-11-15
County: SNOHOMISH
Location: I-5 HOV EXPANSION PROJECT
Latitude:
Longitude:

Initial Report Details

Initial Report Substance Name: Mud/Silt
Initial Report Subst Catego: Debris
Initial Report Subst Quanti: 960
Initial Report Substance Unit: NTU
Initial Report Medium Name: Surface water-Fresh
Initial Report Medium Category: Water
Initial Report Cause Category: Accident
Initial Report Cause Name: Other
Initial Report Source Name: Construction site
Initial Report Source Category: Facility
Initial Report Activity Name: Construction, other
Initial Report Comment Desc: HIGH TURBIDITY.

DISCHARGE OF 960 NTU`S @ I-5 HO

Follow up Details

ERTS Follow up No:
Follow up Substance Name:
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name:
Follow up Medium Name:
Follow up Source Nname:
Follow up Activity Name:

Potential Details

Pot Resp Party First Name: JOHN
Pot Resp Prty Last Name: BURGEN
Potentially Resp Party Org: ATKINS

Initial Comments

Initial Report Comment:

ERTS Number 602070 - HIGH TURBIDITY.

DISCHARGE OF 960 NTU`S @ I-5 HOV EXPANSION PROJECT.

COMING THROUGH THE RISERS OF ONE OF THE CATCH BASINS. DISCHARGED TO A STORM WATER SYSTEM THAT LEADS TO THE SNOHOMISH RIVER.

OCCURRED 15:00 11/15/2007

PERMIT# WAR-006454

Historic Referral Contact Information - ReferralDate: 2007-11-16 FirstName: BOB MiddleName: LastName: PENHALE Email: bpen461@ecy.wa.gov PhoneNumber: (425) 649-7074 OrganizationName: WATER QUALITY WorkLocation: NWRO

Site:
SB I-5 EVERETT WA

ERTS

Incident ID: 532685
Incident Date: 2003-03-26
County: SNOHOMISH
Location:

Latitude:
Longitude:

Initial Report Details

Initial Report Substance Name: Undetermined
Initial Report Subst Catego: Historical
Initial Report Subst Quanti:
Initial Report Substance Unit:
Initial Report Medium Name: Vehicle
Initial Report Medium Category: Impermeable surface
Initial Report Cause Category: Equipment failure
Initial Report Cause Name: Unknown
Initial Report Source Name: Truck
Initial Report Source Category: Vehicle
Initial Report Activity Name: Transporting
Initial Report Comment Desc: CALLER WAS DRIVING BEHIND VEHICLE, SMELLED A CAR W

Follow up Details

ERTS Follow up No: 48758
Follow up Substance Name: Undetermined
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name: Unknown
Follow up Medium Name: Vehicle
Follow up Source Nname: Truck
Follow up Activity Name: Transporting

Potential Details

Pot Resp Party First Name: BUNNY
Pot Resp Prty Last Name:
Potentially Resp Party Org: PRO-PAVING INC

Follow up Comments

Follow up Comment:

ERTS Number 532685 - CALLED REPORTING PARTY AND LEFT A MESSAGE. CALLED COMPANY AND TALKED WITH IRENE HOGLAND. SHE SAID THEY HAD TAKEN CARE OF IT. IT WAS A PESTICIDE TYPE GARDEN SPRAYER THAT HAD DIESEL IN IT. A PIECE OF CONCRETE HAD FALLEN ON IT AND HIT THE HANDLE RELEASE SO IT WAS LEAKING FROM THAT. THEYUSE IT TO SPRAY THE TOOLS WHEN THEY DO ASPHALT SO IT WON`T STICK TO THEM. THE OFFERED TO WASH HER CAR.

CALLER CALLED BACK AND SAID SHE HAD IT WASHED OFF BUT SOME STILL REMAINED. MAYBE WATER DEPOSITS. SHE SAID IT WAS WHITE. DUE TO SPRAY AND RAIN COULD HAVE BEEN MISTED AND WHITE. TOLD HER SHOULD BE NO HEALTH ISSUES BUT EVERYONE REACT DIFFERENTLY TO DIFFERENT CONCENTRATIONS. I GAVE HER THE HEALTH DEPT NUMBER FOR SNO CO HEALTH DIST. I TOLD HER THEY MAY GO OUT AND LOOK IN THE CONTAINER TO VERIFY IT WAS DIESEL. SHE WAS CONCERNED THAT IT MAY BE SOMETHING ELSE THEY USE WHICH A DOT PERSON TOLD HER ABOUT. I SAID IT WAS POSSIBLE IT WAS DIESEL AND STILL WHITE ON HER WINDSHIELD. SHE DIDN`T KNOW WHO WAS GOING TO CHECK IT OUT. I TRIED TO EXPLAIN WORK LOAD ISSUES FOR ALL AND SMALL MIST SPRAY NOT THE ENVIRONMENTAL SPILL WE RESPOND TO. I TOLD HER WE WOULD HAVE TO TRUST THEY WERE TELLING THE TRUTH. SHE UNDERSTOOD AND WOULD CALL THE HEALTH DEPT TO SEE IF THEY MIGHT GO OUT AND CHECK WHAT IT WAS. I CALLED THE COMPANY BACK AND THEY VERIFIED THAT IT WAS STRAIGHT DIESEL IN THE CONTAINER AND NOTHING ELSE.

NFA

Follow up Comment:

ERTS Number 532685 - Historic Investigator Contact Information - FirstName: CARL MiddleName: LastName: ANDERSEN OrganizationName: SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE WorkLocation: NWRO

Follow up Comment:

ERTS Number 532685 - Historic Referral Contact Information - ReferralDate: 2003-03-26 FirstName: CARL MiddleName: LastName: ANDERSEN Email: CARA461@ECY.WA.GOV PhoneNumber: (425) 649-7250 OrganizationName: SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE WorkLocation: NWRO

Initial Comments

Initial Report Comment:

ERTS Number 532685 - CALLER WAS DRIVING BEHIND VEHICLE, SMELLED A CAR WAX TYPE OF SMELL. SHE NOTICED THAT TRUCK HAD WHAT LOOKED LIKE A SYPHON TUBE, THAT THEY SAY WAS A SPRAYER, THAT WAS DRIPPING/SPRAYING INTERMITTENTLY AS THEY DROVE ALONG.
IT HAD A WHITISH CAST TO IT, AND LEFT AN OILY FILM ON HER WINDSHIELD.
SHE PULLED UP NEXT TO THEM AT THE LIGHT AND TOLD HIM THAT SOMETHING WAS LEAKING OUT OF THE BACK OF HIS TRUCK, AND HE SAID HE WOULD PULL OVER AND CHECK IT OUT.
WHEN SHE GOT TO WORK, SHE CALLED STATE PATROL, WHO TOOK INFO FROM HER. WSP DIDN`T SAY WHAT ACTIONS THEY WERE TAKING.
SHE CONTACTED WA DOT WHO DID NOT SEEM VERY CONCERNED.

PLEASE CALL HER BACK TO LET HER KNOW WHAT THE SUBSTANCE WAS AND WHAT ACTIONS (IF ANY) WILL BE TAKEN.

Site:
I-5 NORTH BOUND EVERETT WA

ERTS

Incident ID: 521261
Incident Date: 2001-09-26
County: SNOHOMISH
Location:
Latitude:
Longitude:

Initial Report Details

Initial Report Substance Name: Diesel oil/Marine gas
Initial Report Subst Catego: Oil
Initial Report Subst Quanti:
Initial Report Substance Unit:
Initial Report Medium Name: Roadway-paved
Initial Report Medium Category: Impermeable surface
Initial Report Cause Category: Accident
Initial Report Cause Name: Traffic
Initial Report Source Name: Truck
Initial Report Source Category: Vehicle
Initial Report Activity Name: Routine/Normal operations
Initial Report Comment Desc: HE WAS INVOLVED IN AN ACCIDENT LAST NIGHT AND HE W

Follow up Details

ERTS Follow up No:
Follow up Substance Name:
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name:
Follow up Medium Name:
Follow up Source Nname:
Follow up Activity Name:

Potential Details

Pot Resp Party First Name:
Pot Resp Prty Last Name: UNKNOWN
Potentially Resp Party Org:

Initial Comments

Initial Report Comment:

ERTS Number 521261 - HE WAS INVOLVED IN AN ACCIDENT LAST NIGHT AND HE WAS TOLD THAT THERE WAS A DIESEL SPILL. THERE WAS BLACK ICE, AND THAT IS WHY HE WAS INVOLVED IN THE ACCIDENT. IT WAS I-5 NORTHBOUND, JUST SOUTH OF THE HWY 2 INTERCHANGE THERE. NORTH OF PACIFIC.
HE IS TRYING TO FIND OUT IF THERE WAS A REPORT, AND IF THERE WAS NOT, HE NEEDS TO MAKE ONE SO THAT HE HAS EVIDENCE THAT THERE WAS DIESEL ON THE ROAD.

I DISCUSSED THE SITUATION WITH THE CALLER. HE WAS INVOLVED IN A MULTI CAR ACCIDENT AND WAS HOPING THAT IF THERE HAD BEEN A REPORT OF A DIESEL SPILL AND AN INVESTIGATION, THAT HE WOULD BE CLEARED AND BLAME FOR THE ACCIDENT COULD BE DETERMINED TO BE THE SPILL. WE HAD NO REPORT OF A DIESEL SPILL. HE HAD ALREADY CALLED DOT AND THEY DID NOT GET NOTIFIED EITHER. CALLER SAYS THAT WSP WAS ON SCENE (OFFICER JT JACKSON), AND THAT OFFICER TOLD HIM THERE IS A REPORT OF A DIESEL SPILL. I TOLD THE CALLER THAT IF WSP WAS ON THE SCENE AND DID NOT CALL OUT DOT OR ECOLOGY AT THE TIME THAT IT WOULD PROBABLY NOT WARRANT AN INVESTIGATION AFTER THIS MUCH TIME HAS PASSED. HE UNDERSTOOD.

Historic Referral Contact Information - ReferralDate: 2001-09-27 FirstName: CARL MiddleName: LastName: ANDERSEN Email: CARA461@ECY.WA.GOV PhoneNumber: (425) 649-7250 OrganizationName: SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE WorkLocation: NWRO

Site:
I-5 & EVERETT MALL WAY EVERETT WA

ERTS

Incident ID: 676504
Incident Date: 2017-10-13
County: SNOHOMISH
Location:
Latitude:
Longitude:

Initial Report Details

Initial Report Substance Name: Diesel oil/Marine gas
Initial Report Subst Catego: Oil
Initial Report Subst Quanti:
Initial Report Substance Unit: U.S. gallons
Initial Report Medium Name: Impermeable containment
Initial Report Medium Category: Impermeable surface
Initial Report Cause Category:
Initial Report Cause Name:
Initial Report Source Name: Truck
Initial Report Source Category: Vehicle
Initial Report Activity Name: Underway or in motion
Initial Report Comment Desc: UPDATE 10/13/17 1357:

OVER 50 GALLONS OF FUEL R

Follow up Details

ERTS Follow up No:
Follow up Substance Name:
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name:
Follow up Medium Name:
Follow up Source Nname:
Follow up Activity Name:

Potential Details

Pot Resp Party First Name:
Pot Resp Prty Last Name: UNKNOWN
Potentially Resp Party Org:

Initial Comments

Initial Report Comment:

ERTS Number 676504 - UPDATE 10/13/17 1357:

OVER 50 GALLONS OF FUEL RELEASED TO ROADWAY, NO WATER WAYS NEAR BY.

ORIGINAL CALL 10/13/17 1348:

SEMI TANKER WITH VERY LARGE FUEL SPILL IN SNOHOMISH COUNTY

SOUTH BOUND I-5 EVERETT MALL AREA, BLOCKING 4 LANES OF TRAFFIC

CURRENTLY CONTAINED TO ROADWAY

Historic Referral Contact Information - ReferralDate: 2017-10-13 FirstName: Augustina MiddleName: LastName: Cartagena-McLean Email: agca461@ecy.wa.gov; 3607632230@onpage.com PhoneNumber: (425) 649-4496 OrganizationName: SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE WorkLocation: NWRO

Site:

SB I-5 MP 197 MARYSVILLE WA

ERTS

Incident ID:	563419	***Latitude:***	
Incident Date:	2007-06-25	***Longitude:***	
County:	SNOHOMISH		
Location:			

Initial Report Details

Initial Report Substance Name:	Diesel oil/Marine gas
Initial Report Subst Catego:	Oil
Initial Report Subst Quanti:	4
Initial Report Substance Unit:	U.S. gallons
Initial Report Medium Name:	Soil
Initial Report Medium Category:	Ground
Initial Report Cause Category:	Accident
Initial Report Cause Name:	Traffic
Initial Report Source Name:	Car
Initial Report Source Category:	Vehicle
Initial Report Activity Name:	Driving
Initial Report Comment Desc:	STATE PATROL LEFT VOICEMAIL WHICH WAS TIME STAMPED

Follow up Details

ERTS Follow up No:	83019
Follow up Substance Name:	Diesel oil/Marine gas
Follow up Substance Quantity:	
Follow up Subst Unit of Meas:	
Follow up Cause Name:	Traffic
Follow up Medium Name:	Soil
Follow up Source Nname:	Car
Follow up Activity Name:	Driving

Follow up Details

ERTS Follow up No:	82978
Follow up Substance Name:	Diesel oil/Marine gas
Follow up Substance Quantity:	
Follow up Subst Unit of Meas:	
Follow up Cause Name:	Traffic
Follow up Medium Name:	Soil
Follow up Source Nname:	Car
Follow up Activity Name:	Driving

Follow up Details

ERTS Follow up No:	81949
Follow up Substance Name:	Diesel oil/Marine gas
Follow up Substance Quantity:	
Follow up Subst Unit of Meas:	
Follow up Cause Name:	Traffic
Follow up Medium Name:	Soil
Follow up Source Nname:	Car

Follow up Activity Name: Driving

Follow up Details

ERTS Follow up No: 81589
Follow up Substance Name: Diesel oil/Marine gas
Follow up Substance Quantity: 4
Follow up Subst Unit of Meas: U.S. gallons
Follow up Cause Name: Traffic
Follow up Medium Name: Soil
Follow up Source Nname: Car
Follow up Activity Name: Driving

Potential Details

Pot Resp Party First Name:
Pot Resp Prty Last Name: UNK
Potentially Resp Party Org:

Follow up Comments

Follow up Comment:

ERTS Number 563419 - Jing Liu reviewed the Initial Investigation Field Report prepared by Geoffrey Crofoot at Snohomish Health District. Site is being listed for soil contamination by petroleum products.

Approximately 3-4 gallons of diesel was spilled to the grass and gravel area of highway shoulder of Southbound I-5 @ mile post 197 resulting from a vehicle accident. Approximately five feet by seven feet of soil was contaminated, one soil sample showed diesel concentration of 48,000 ppm. However, the vertical extent of the contamination is not known at this time. The contamination appears to be isolated and relatively easy to dig out.

Jing Liu contacted WSDOT. Doug Pierce, manager of Environemntal Affairs for the Maintenance and Operations Division said that WSDOT will not be cleaning up any roadside fuel resulting from vehicle crashes unless it interferes with their maintenance activities. See Doug`s email dated October 12, 2007.

Follow up Comment:

ERTS Number 563419 - Historic Investigator Contact Information - FirstName: JING MiddleName: LastName: LIU OrganizationName: TOXICS CLEANUP WorkLocation: NWRO

Follow up Comment:

ERTS Number 563419 - REFERRING TO SNOH HEALTH DIST FOR II.
8/24/07 RECEIVED II FIELD REPORT FROM GEOFFREY CROFOOT.

Follow up Comment:

ERTS Number 563419 - Historic Investigator Contact Information - FirstName: DONNA MiddleName: K LastName: MUSA OrganizationName: TOXICS CLEANUP WorkLocation: NWRO

Follow up Comment:

ERTS Number 563419 - WSP is just notifiying of the spill. All of the fuel went to the soil. TCP referral.

Follow up Comment:

ERTS Number 563419 - Historic Investigator Contact Information - FirstName: DICK MiddleName: LastName: WALKER OrganizationName: SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE WorkLocation: NWRO

Follow up Comment:

ERTS Number 563419 - Historic Referral Contact Information - ReferralDate: 2007-06-25 FirstName: DONNA MiddleName: K LastName: MUSA TCP Email: dmus461@ecy.wa.gov PhoneNumber: (425) 649-7136 OrganizationName: TOXICS CLEANUP WorkLocation: NWRO

Follow up Comment:

ERTS Number 563419 - Historic Referral Contact Information - ReferralDate: 2007-07-11 FirstName: Gary Hanada MiddleName: LastName: SNOH HEALTH DIST - ALL ERTS EXCEPT DRUG LAB ISSUES Email: ghanada@shd.snohomish.wa.gov PhoneNumber: (425) 339-5250 OrganizationName: SNOHOMISH COUNTY WorkLocation: ENVIRONMENTAL HEALTH

Follow up Comment:

ERTS Number 563419 - Historic Referral Contact Information - ReferralDate: 2007-06-25 FirstName: DICK MiddleName: LastName: WALKER Email: rwal461@ecy.wa.gov PhoneNumber: (425) 649-7116 OrganizationName: SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE WorkLocation: NWRO

Follow up Comment:

ERTS Number 563419 - Comments: Site visit [7/10/08]. Noted an area approximately five feet by seven feet of impacted soils at the edge of the road. Noted the area on the west side of southbound I-5 just south of the 197 mile marker. Site is clearly marked on road way with a spray painted DOE and arrow pointing to release area. Clear TPH odor in the area. One sample collected. Contamination did not appear to extend further toward the slough. 48,000 ppm diesel range hydrocarbons in soil at the site.
Description of observations: Area is clearly marked from the road. Observed stained soils. Observed impacted grasses. Observed Diesel Oder. Collected one sample from the site. Site appears to be isolated to the area without impacting slough.
Description of past practices likely to be responsible for contamination: Release from an accident involving a diesel range hydrocarbon using truck.
General Comments: Release of Diesel has been confirmed at the site. The staining appears to be isolated and relatively easy to dig out. It is unclear what depth the contamination has moved below ground surface. Recommend interim action to remove contaminated soil. If this does not occur, then the SHD recommends that the site is listed on the CSCS for an eventual SHA.

Follow up Comment:

ERTS Number 563419 - Historic Investigator Contact Information - FirstName: GEOFF MiddleName: LastName: CROFOOT OrganizationName: SNOHOMISH HEALTH DISTRICT WorkLocation: SNOHOMISH HEALTH DISTRICT

Initial Comments

Initial Report Comment:

ERTS Number 563419 - STATE PATROL LEFT VOICEMAIL WHICH WAS TIME STAMPED 10:25.
REPORTING PICK-UP TRUCK WHICH LOST 3 - 4 GALLONS OF DIESEL FUEL ON THE SHOULDER (GRASS & GRAVEL). IT WAS NEXT TO THE SLOUGH, SO TROOPER ON SCENE WANTED ECOLOGY NOTIFICATION MADE.

Site:

I-5 MP 191 Everett WA

ERTS

Incident ID:	694938	***Latitude:***	
Incident Date:	2019-12-13	***Longitude:***	
County:	Snohomish		
Location:			

Initial Report Details

Initial Report Substance Name:	Diesel low sulphur (ULSD)
Initial Report Subst Catego:	Oil
Initial Report Subst Quanti:	
Initial Report Substance Unit:	
Initial Report Medium Name:	Roadway-paved
Initial Report Medium Category:	Impermeable surface
Initial Report Cause Category:	Accident
Initial Report Cause Name:	Collision
Initial Report Source Name:	Commercial truck
Initial Report Source Category:	Vehicle
Initial Report Activity Name:	Driving
Initial Report Comment Desc:	Two semi collision resulted in a fuel release on I

Follow up Details

ERTS Follow up No:	170610

Follow up Substance Name:
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name: Collision
Follow up Medium Name:
Follow up Source Nname:
Follow up Activity Name: Driving

Potential Details

Pot Resp Party First Name:
Pot Resp Prty Last Name:
Potentially Resp Party Org:

Initial Comments

Initial Report Comment:

ERTS Number 694938 - Two semi collision resulted in a fuel release on I-5North at mile post 191. Fuel is currently leaking, WSDOT reported 120 gallons being released. State Patrol reported that no water ways in the area have been impacted, but it is wooded.

Call Dispatch for details to obtain on-scene contact information.

Site:
I-5 OVERPASS EVERETT WA

ERTS

Incident ID: 555705
Incident Date: 2006-06-09
County: SNOHOMISH
Location:
Latitude:
Longitude:

Initial Report Details

Initial Report Substance Name: Unknown
Initial Report Subst Catego: Oil
Initial Report Subst Quanti: 1
Initial Report Substance Unit: Sheen
Initial Report Medium Name: Surface water-Fresh
Initial Report Medium Category: Water
Initial Report Cause Category: Human error
Initial Report Cause Name: Unknown
Initial Report Source Name: Undetermined
Initial Report Source Category: Historical
Initial Report Activity Name: Unknown
Initial Report Comment Desc: OIL ON WATER = ENGINE 2 IS IN THE AREA - NOT SURE

Follow up Details

ERTS Follow up No: 73262
Follow up Substance Name: Unknown
Follow up Substance Quantity: 1
Follow up Subst Unit of Meas: Sheen
Follow up Cause Name: Unknown
Follow up Medium Name: Surface water-Fresh
Follow up Source Nname: Undetermined
Follow up Activity Name: Unknown

Follow up Details

ERTS Follow up No: 73247
Follow up Substance Name: Unknown
Follow up Substance Quantity: 1
Follow up Subst Unit of Meas: Sheen
Follow up Cause Name: Unknown
Follow up Medium Name: Surface water-Fresh

Follow up Source Nname: Undetermined
Follow up Activity Name: Unknown

Potential Details

Pot Resp Party First Name:
Pot Resp Prty Last Name: UNK
Potentially Resp Party Org:

Follow up Comments

Follow up Comment:

ERTS Number 555705 - 06/09/2006
09:58 Received ERTS from Jean and called the initial caller. Spoke to Operator 36 who reported:
1) The sheen was reported by a passing motorist.
2) The sheen is on the Snohomish River, under I-5 going south.
3) Possible sources are a discharge pipe in the area and Burlington Northern`s Delta Yard.
4) The Fire department has cleared the scene.
5) Contact information for Captain Walsh 425-257-8711 who was on site and is now at the station.

Called Cptn Walsh, who reported:
He observed the sheen from the bridge and could see about 200 yards of it.
He described it as bluish and yellowish in color. (I am considering this to be a non-recoverable rainbow sheen)
His view of the sheen, both up stream and down stream, was obstructed by vegetation.
He suggested a passing boat or the drainage pipe in the area as potential sources. He did not think the BN yard was a potential source.
He did not know of any one from Everett WQ on site.
He went to the yard master at BNs yard there and the yard master viewed a video tape of the area and saw a locomotive in the area.

10:07 Called Everett Public Works Dispatch, 425-257-8821, and spoke to Steve. Provided him with information and asked if they had someone who could look at it. I provided my cell number.

10:35 (approx) Dick came over to my cube and handed me his phone. Spoke with Sandy Howard. She is a PIO she had an inquiry form the Everett Harold. I provided her with initial information including:
When we got the call 09:48 this morning description of the sheen, size of sheen viewed, obstructed at ends, and colors its thin. Told her contacts I have made: back to 911, fire department (who were on site), and call into Everett public works requesting some one look at it. She asked me to call her if anything important develops.

10:47 Tried to contact BNSF facility at 425-304-6682 (3429 15th Street, Everett, WA, 98201). Tried 3 times - it was busy (I think I could not get an outside line.)

10:57 Got through at BNSF number above. Brad Hartmann (sp is correct) their hazmat responder, answered the phone and provided me with contact information I requested: the Yard Master 425-304-6636 and their Train Master (who is in charge of the yard) 425-304-6635. He said he was going to go and look at it. I told him he may run into some one form City of Everett WQ since I contacted them.

11:07 Brad Hartmann called me and reported that he is about 100 yards south of I-5 (upstream from 1-5), and he sees no sheen and smells no petroleum. I asked him about the camera the yard master has. He said there is no film (just a live feed). I asked if it was still visible on the camera he said he did not know and suggested I call the yard master directly.

11:12 Called the yard master there was no answer.
11:18 Called the yard master there was no answer.

11:35 Called the yard master. He said this morning the sheen was a couple hundred feet wide. Now he sees it at the west bridge abutment. It`s a couple hundred feet wide again. Its not as distinct as this morning. He can see clean water up stream of the abutment. He can not see the extent of the sheen down stream from the abutment. He said there are two outfalls in the area of the abutment

No further action anticipated by Ecology Spill Response.

Follow up Comment:

ERTS Number 555705 - Historic Investigator Contact Information - FirstName: CHARLIE MiddleName: LastName: GREGORY OrganizationName: SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE WorkLocation: NWRO

Follow up Comment:

ERTS Number 555705 - Historic Referral Contact Information - ReferralDate: 2006-06-09 FirstName: CHARLIE MiddleName: LastName: GREGORY Email: CGRE461@ECY.WA.GOV PhoneNumber: (425) 649-7092 OrganizationName: SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE WorkLocation: NWRO

Follow up Comment:

ERTS Number 555705 - NFA 6/12/06

From: Loren Postma [mailto:LPostma@ci.everett.wa.us]
Sent: Monday, June 12, 2006 2:14 PM
To: Walters, Tracie (ECY)
Cc: Del Nestegard; John McClellan; Don Hallsson; Heather Griffin; Jane Zimmerman; Jeff Kerwin; John Rabenow; Julie Sklare; Loren Postma; Mark Sadler; Marla Carter; Mike Papa; Robert Waddle; Souheil Nasr; Steve Hoffman
Subject: FW: SR 56119 - `Sheen on Snohomish River` - [ERTS # 555705]

Hello all,
1355- 6/12/2006 - I have just spoken with Traci Walters at DOE. Traci says that we did things just right. 1.) we investigated, 2.) we reported quickly to DOE that we didn`t find anything. 3.) We followed up after more time went by, by checking back on things, & including all our employees information.

DOE also responded to this complaint, didn`t find any substantial evidence, & have closed out their response process. They did not have a name for an initial reporting individual, & got the call from SNOPAC, just as they had mentioned in Traci`s response to my e-mail of 6/9 @ 1329, see below. Traci is closing out our City of Everett response process also, showing `no further action` planned.

I believe nothing further needs to be done, as long as any River or `sheen` reports get into our Public Works Service Request system. We will follow up on the complaints in our usual manner, essentially the same as if it were a `sewer spill`, using the same SOP. No `letter of Response` like we do when there is a sewer overflow or spill, will be needed. Thanks.

Loren

_____
From: Loren Postma
Sent: Monday, June 12, 2006 09:54
To: Don Hallsson; Heather Griffin; Jane Zimmerman; Jeff Kerwin; John Rabenow; Julie Sklare; Loren Postma; Mark Sadler; Marla Carter; Mike Papa; Robert Waddle; Souheil Nasr; Steve Hoffman

Subject: FW: SR 56119 - `Sheen on Snohomish River` - [ERTS # 555705]

Hi all,
I am sending this to my Distribution List entitled `Sewer Spills`. If you get this, you are on it. Let me know if you wish to be removed.

I will be contacting DOE this morning, per Mark Sadler`s request, to seek further info from DOE on how they might expect us (the City) to respond, or other agencies for us to call when we get called-in complaints like this. We have gotten a couple in the last month, & responded to them, but were not able to confirm any problem, or relate any cause. Specifically, they were NOT City problems.

I also noted that the Herald carried an article on Saturday, 6/10, noting the `sheen`, but also no specifics, probably because there weren`t any. I have included a .pdf of the article here, copied below.

I also have copied in Mike Papa`s response comments, from msg of 6/9 @ 1451, (below),
`Not that it matters at this point, but if this `sheen` was seen, what would we be expected to do? I don`t think we have a boom big enough to span the Snohomish River, and `sheens` are hard to pick up. And like Darlene observed (in the past), by the time anything is mobilized the river has carried it away.` - Mike P

Thanks.
Loren

<<0494_001.pdf>>

-----Original Message-----
From: Walters, Tracie (ECY) [mailto:TWAL461@ECY.WA.GOV]
Sent: Friday, June 09, 2006 14:19
To: Loren Postma
Subject: RE: SR 56119 - `Sheen on Snohomish River` - [ERTS # 555705]

Hi Loren,
Thank you for the notification. We were called by 911 this morning about the sheen. It has been assigned ERTS 555705, if you need the number for your records.

Tracie Walters
NWRO ERTS Coordinator
3190 160th Ave S.E.
Bellevue, WA 98008
(425) 649-7229 / 7000
twal461@ecy.wa.gov

-----Original Message-----
From: Loren Postma [mailto:LPostma@ci.everett.wa.us]
Sent: Friday, June 09, 2006 1:29 PM

To: Walters, Tracie (ECY)
Cc: Don Hallsson; Jane Zimmerman; John Rabenow; Loren Postma; Mark Sadler; Marla Carter; Mike Papa; Robert Waddle; Steve Hoffman; WPCDayop

Subject: SR # 56119 - `Sheen on Snohomish River`

Hi Traci,
We try our best to respond, even when the information we get is not very specific. There may be an ERTS # generated for this event, or not. We don`t know at this point. At any rate, when we get a call from SNOPAC (our local Emergency Dispatching agent), we do respond, & our personnel at the EWPCF were closest, & most familiar with the River.

My opinion would be to have an agency such as US Coast Guard or other State agency also investigate, as the Snohomish River is `waters of the State`.

There is no indication that any City systems affected the River in any way, & I don`t anticipate any further action by the Utilities Div, unless we get more or better information. I have included an electronic summary of our Service Request below. Please call or e-mail me if there are further questions. Thanks.

Loren H. Postma
M&O Supervisor
City of Everett Public Works
Utilities Div
3200 Cedar St
Everett, WA 98201
(425) 257-8826

-----Original Message-----
From: Loren Postma
Sent: Friday, June 09, 2006 13:01
To: Loren Postma
Subject: SR # 56119 (edited summary)

Request No: 56119 Status: CL

Date: 6/9/2006 Time: 10:09

Recorded By: HSR HOFFMAN, STEVEN R.

Customer Name: WS DEPT OF ECOLOGY

Phone Area Code No: 425 Phone No: 941-7698

Problem Address: Problem Street Name: I-5 BRDG

Problem Details: ALERTING CITY THAT DOE RX NOTICE @ 0948 TODAY FM SNOPAC, OF A SHEEN THAT WAS ON THE SNOH RIVER, A MINIMUM OF 200 YDS LONG IN THE AREA OF THE I-5 BRIDGE.

Problem: DRAIN Problem Desc: DRAINAGE

Assigned To: PLH Assigned To Desc: POSTMA, LOREN H.

Responded Date: 06/09/2006 Responded Time: 10:13

Completed By: PLH POSTMA, LOREN H.
Completed Date: 06/09/2006

Action Taken: 1013-NOTIFIED PLH, 1016-WPCF DAY OP-DARLENE THOMPSON.
1023- M PAPA, 1027-J RABENOW REPORTS FM POSITION ON RIVER BANK, THAT TIDE`S OUT, RIVER IS RUNNING FAST, NO SHEEN VISIBLE @ I-5 BRIDGE.

1040-RJS-NO EVIDENCE OF SHEEN FURTHER DOWNSTREAM FM INITIAL LOCATION OF SITING. NOT A CITY PROBLEM./PLH. 1300- EMAIL CLOSED SR COPY TO DOE-TRACI WALTERS./PLH.

Follow up Comment:

ERTS Number 555705 - Historic Investigator Contact Information - FirstName: 24-HOUR MiddleName: LastName: EVERETT PW DISPATCH (use for all complaints) OrganizationName: EVERETT PUBLIC WORKS DISPATCH WorkLocation: CITY OF EVERETT PUBLIC WORKS

Initial Comments

Initial Report Comment:

ERTS Number 555705 - OIL ON WATER = ENGINE 2 IS IN THE AREA - NOT SURE IF THEY ARE GOING TO STAY OR NOT. THERE IS A TRAIN ON TRACKS - CAN`T TELL IF THIS IS THE SOURCE OR NOT.

SHEEN IS 200 YRDS LONG

BENEATH I-5 IS THE DELTA YARD (BNF) - COULD BE POSSIBLE SOURCE

NO ODOR NOTED.

DIDN`T SAY IF IT LOOKED RECOVERABLE OR NOT.

Site: ***I-5 HOV EXPANSION PROJECT***
I-5 EVERETT WA

ERTS

Incident ID: 601957
Incident Date: 2007-11-13
County: SNOHOMISH
Location: I-5 HOV EXPANSION PROJECT
Latitude:
Longitude:

Initial Report Details

Initial Report Substance Name: Mud/Silt
Initial Report Subst Catego: Debris
Initial Report Subst Quanti: 1000
Initial Report Substance Unit: NTU
Initial Report Medium Name: Undetermined
Initial Report Medium Category: Historical
Initial Report Cause Category: Accident
Initial Report Cause Name: Other
Initial Report Source Name: Construction site
Initial Report Source Category: Facility
Initial Report Activity Name: Construction, other
Initial Report Comment Desc: HIGH TURBIDITY. >1000 ON TWO SAMPLES. WA DOT PRO

Follow up Details

ERTS Follow up No:
Follow up Substance Name:
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name:
Follow up Medium Name:
Follow up Source Nname:
Follow up Activity Name:

Potential Details

Pot Resp Party First Name: JOHN
Pot Resp Prty Last Name: VIRGIN
Potentially Resp Party Org: ATKINSON/CHEM2HILL

Initial Comments

Initial Report Comment:

ERTS Number 601957 - HIGH TURBIDITY. >1000 ON TWO SAMPLES. WA DOT PROJECT I-5 HOV EXPANSION PROJECT. PERMIT # 006454

Historic Referral Contact Information - ReferralDate: 2007-11-13 FirstName: BOB MiddleName: LastName: PENHALE Email: bpen461@ecy.wa.gov PhoneNumber: (425) 649-7074 OrganizationName: WATER QUALITY WorkLocation: NWRO

Site:
I-5 WA

ERTS

Incident ID: 696323
Incident Date:
County: Snohomish
Location:
Latitude:
Longitude:

Initial Report Details

Initial Report Substance Name: Water
Initial Report Subst Catego: Water
Initial Report Subst Quanti: 455
Initial Report Substance Unit: NTU
Initial Report Medium Name: Catch basin - Wet
Initial Report Medium Category: Water
Initial Report Cause Category: External condition
Initial Report Cause Name: Rain
Initial Report Source Name: Construction site
Initial Report Source Category: Facility
Initial Report Activity Name: Construction
Initial Report Comment Desc: To prevent neighborhood flooding crews set up a by

Follow up Details

ERTS Follow up No: 174240
Follow up Substance Name:
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name: Rain
Follow up Medium Name:
Follow up Source Nname:
Follow up Activity Name: Construction

Follow up Details

ERTS Follow up No: 174256
Follow up Substance Name:
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name: Rain
Follow up Medium Name:
Follow up Source Nname:
Follow up Activity Name: Construction

Follow up Details

ERTS Follow up No: 174255
Follow up Substance Name:
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name: Rain
Follow up Medium Name:
Follow up Source Nname:
Follow up Activity Name: Construction

Potential Details

Pot Resp Party First Name:
Pot Resp Prty Last Name:
Potentially Resp Party Org:

Initial Comments

Initial Report Comment:

ERTS Number 696323 - To prevent neighborhood flooding crews set up a by-pass which created 455 NTU water to be discharged to a WSDOT catch basin from 8 pm until 8 am.

Site: ***Northbound I-5 on-ramp; Everett Avenue***
NB I-5 Everett WA

ERTS

Incident ID: 697151 ***Latitude:***
Incident Date: 2020-03-13 ***Longitude:***
County: SNOHOMISH
Location: Northbound I-5 on-ramp; Everett Avenue

Initial Report Details

Initial Report Substance Name: Diesel low sulphur (ULSD)
Initial Report Subst Catego: Oil
Initial Report Subst Quanti: 100
Initial Report Substance Unit: U.S. gallons
Initial Report Medium Name: Drain - Unknown
Initial Report Medium Category: Water
Initial Report Cause Category:
Initial Report Cause Name:
Initial Report Source Name: Other-Vehicle
Initial Report Source Category: Vehicle
Initial Report Activity Name:
Initial Report Comment Desc: Citizen reported 50 – 100 gallons released to pave

Follow up Details

ERTS Follow up No: 175631
Follow up Substance Name:
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name:
Follow up Medium Name:
Follow up Source Nname:
Follow up Activity Name:

Follow up Details

ERTS Follow up No: 175629
Follow up Substance Name:
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name:
Follow up Medium Name:
Follow up Source Nname:
Follow up Activity Name:

Follow up Details

ERTS Follow up No: 175632
Follow up Substance Name:
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name:
Follow up Medium Name:
Follow up Source Nname:
Follow up Activity Name:

Follow up Details

ERTS Follow up No: 175630
Follow up Substance Name:
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name:
Follow up Medium Name: Roadway-paved
Follow up Source Nname:

Follow up Activity Name:

Potential Details

Pot Resp Party First Name:
Pot Resp Prty Last Name:
Potentially Resp Party Org:

Follow up Comments

Follow up Comment:

ERTS Number 697151 - Response received from Kelsie CRAWFORD, WSDOT noting that the incident occurred within the city limits, thus the City of Everett has jurisdiction.

Follow up Comment:

ERTS Number 697151 - Additional information received from Kelsie Crawford that the incident is in WSDOT jurisdiction. Their maintenance crew is investigating.

Initial Comments

Initial Report Comment:

ERTS Number 697151 - Citizen reported 50 – 100 gallons released to pavement from a traveling vehicle. Report provided to Ecology by WA State Patrol. Sargent Leary, 425-760-7637, is on scene, Sargent was unable to verify reported released quantity. Sargent has requested ECY ROTD to call back.

Released to a paved ramp with a drain 600 to 700 feet down hill. impact to drain unknown.

WSDOT is on scene. Absorbent material added to spill.

Site:
I-5 Marysville WA

ERTS

Incident ID: 701285
Incident Date: 2020-10-14
County: Snohomish
Location:
Latitude:
Longitude:

Initial Report Details

Initial Report Substance Name: Diesel low sulphur (ULSD)
Initial Report Subst Catego: Oil
Initial Report Subst Quanti: 70
Initial Report Substance Unit: U.S. gallons
Initial Report Medium Name: Public road right-of-way
Initial Report Medium Category: Ground
Initial Report Cause Category:
Initial Report Cause Name:
Initial Report Source Name: Commercial truck
Initial Report Source Category: Vehicle
Initial Report Activity Name: Underway or in motion
Initial Report Comment Desc: WSP reported a tractor/trailer rolled over on SB I

Follow up Details

ERTS Follow up No: 182203
Follow up Substance Name:
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name:
Follow up Medium Name:
Follow up Source Nname:

Follow up Activity Name: Underway or in motion

Follow up Details

ERTS Follow up No: 182227
Follow up Substance Name:
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name: Undetermined
Follow up Medium Name:
Follow up Source Nname:
Follow up Activity Name: Underway or in motion

Follow up Details

ERTS Follow up No: 182202
Follow up Substance Name:
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name:
Follow up Medium Name:
Follow up Source Nname:
Follow up Activity Name: Underway or in motion

Follow up Details

ERTS Follow up No: 182335
Follow up Substance Name:
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name: Undetermined
Follow up Medium Name:
Follow up Source Nname:
Follow up Activity Name: Driving

Follow up Details

ERTS Follow up No: 182227
Follow up Substance Name:
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name: Undetermined
Follow up Medium Name:
Follow up Source Nname:
Follow up Activity Name: Driving

Follow up Details

ERTS Follow up No: 182335
Follow up Substance Name:
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name: Undetermined
Follow up Medium Name:
Follow up Source Nname:
Follow up Activity Name: Underway or in motion

Potential Details

Pot Resp Party First Name: Jon
Pot Resp Prty Last Name: Bargen
Potentially Resp Party Org: Mail Management Services

Initial Comments

Initial Report Comment:

ERTS Number 701285 - Forwarded from State EOC:

"For your reference, we received a call from Premium Environmental / Adam reporting a 70-gallon diesel spill which occurred at 1645 on 13 October following a tractor trailer accident. The spill occurred near exit 200 on I-5 South in Marysville and resulted in impacts to highway ground and median soil. The roadway was cleared, soil was secured, and a boom was applied to a nearby storm drain. No reported impacts to water.

Reporting party requested to be contacted by Ecology for the ERTZ number. Reporting Party information: Adam / Premium Environmental / (812) 965-9411"

NOTE: Corrected Date: 10/14/2020

Initial Report Comment:

ERTS Number 701285 - WSP reported a tractor/trailer rolled over on SB I-5, blocking all lanes. 50-70 gallons of diesel spilled to pavement and the center median. Most of the diesel is puddled in the median. Quilceda Creek is nearby.

Update from ECY SPPR: WSDOT sanded the pavement & reopened the freeway. The RP has hired US Ecology. They will triage the median tonight and will complete the cleanup when permitted by WSDOT. Walls was notified.

Site:

NB I-5 MP190 EVERETT WA

ERTS

Incident ID: 559532
Incident Date: 2006-12-14
County: SNOHOMISH
Location:
Latitude:
Longitude:

Initial Report Details

Initial Report Substance Name:	Mud/Silt
Initial Report Subst Catego:	Debris
Initial Report Subst Quanti:	250
Initial Report Substance Unit:	NTU
Initial Report Medium Name:	Surface water-Fresh
Initial Report Medium Category:	Water
Initial Report Cause Category:	Accident
Initial Report Cause Name:	Other
Initial Report Source Name:	Construction site
Initial Report Source Category:	Facility
Initial Report Activity Name:	Construction, other
Initial Report Comment Desc:	REPORTING PARTY REALIZED THE EXCEEDENCE ON 12/14 H

Follow up Details

ERTS Follow up No:
Follow up Substance Name:
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name:
Follow up Medium Name:
Follow up Source Nname:
Follow up Activity Name:

Potential Details

Pot Resp Party First Name:
Pot Resp Prty Last Name:
Potentially Resp Party Org: ATKINS CONST.

Initial Comments

Initial Report Comment:

ERTS Number 559532 - REPORTING PARTY REALIZED THE EXCEEDENCE ON 12/14 HAD NOT BEEN REPORTED.

Historic Referral Contact Information - ReferralDate: 2006-12-18 FirstName: BOB MiddleName: LastName: PENHALE Email: bpen461@ecy.wa.gov PhoneNumber: (425) 649-7074 OrganizationName: WATER QUALITY WorkLocation: NWRO

Site:

NB I-5, MILE POST 210 EVERETT WA

ERTS

Incident ID: 560543
Incident Date: 2007-02-03
County: SNOHOMISH
Location:

Latitude:
Longitude:

Initial Report Details

Initial Report Substance Name: Gasoline
Initial Report Subst Catego: Oil
Initial Report Subst Quanti: 10
Initial Report Substance Unit: U.S. gallons
Initial Report Medium Name: Soil
Initial Report Medium Category: Ground
Initial Report Cause Category: Accident
Initial Report Cause Name: Traffic
Initial Report Source Name: Car
Initial Report Source Category: Vehicle
Initial Report Activity Name: Unknown
Initial Report Comment Desc: 10 GALLON GAS SPILL FROM ACCIDENT

Follow up Details

ERTS Follow up No: 78529
Follow up Substance Name: Gasoline
Follow up Substance Quantity: 10
Follow up Subst Unit of Meas: U.S. gallons
Follow up Cause Name: Traffic
Follow up Medium Name: Soil
Follow up Source Nname: Car
Follow up Activity Name: Unknown

Follow up Details

ERTS Follow up No: 78613
Follow up Substance Name: Gasoline
Follow up Substance Quantity:
Follow up Subst Unit of Meas:
Follow up Cause Name: Traffic
Follow up Medium Name: Soil
Follow up Source Nname: Car
Follow up Activity Name: Unknown

Potential Details

Pot Resp Party First Name:
Pot Resp Prty Last Name: UNK
Potentially Resp Party Org:

Follow up Comments

Follow up Comment:

ERTS Number 560543 - Historic Referral Contact Information - ReferralDate: 2007-02-06 FirstName: STAN MiddleName: LastName: RAUH AHR Email: SRAU461@ECY.WA.GOV PhoneNumber: (425) 649-7115 OrganizationName: SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE WorkLocation: NWRO

Follow up Comment:

ERTS Number 560543 - Historic Referral Contact Information - ReferralDate: 2007-02-06 FirstName: DONNA MiddleName: K LastName: MUSA TCP Email: dmus461@ecy.wa.gov PhoneNumber: (425) 649-7136 OrganizationName: TOXICS CLEANUP WorkLocation: NWRO

Follow up Comment:

ERTS Number 560543 - Historic Investigator Contact Information - FirstName: DONNA MiddleName: K LastName: MUSA TCP OrganizationName: TOXICS CLEANUP WorkLocation: NWRO

Follow up Comment:

ERTS Number 560543 - CALLED KATE, ACCIDENT WAS THREE CAR COLLISION IN THE MEDIAN THAT HAPPENED @ 1855. EVERYONE IS NOW OFF SCENE. POSSIBLY 10 GAL OF GAS LEAKED INTO MEDIAN, NO WATER INVOLVED.

Follow up Comment:

ERTS Number 560543 - Historic Investigator Contact Information - FirstName: STAN MiddleName: LastName: RAUH AHR OrganizationName: SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE WorkLocation: NWRO

Initial Comments

Initial Report Comment:

ERTS Number 560543 - 10 GALLON GAS SPILL FROM ACCIDENT

Site:

ON I-5 NORTH AT MARYSVILLE WEI MARYSVILLE WA

HMIRS

Incident County: SNOHOMISH

HMIR Historical Reports

Report No:	I-2002090763	***Fed DOT Agency Nm:***	
Report Type:	A hazardous material incident	***Fed DOT Report No:***	
Date of Incident:	08/14/2002	***Report Submit Src:***	Paper
Time of Incident:	1812	***Inc Multiple Rows:***	No
Haz Class Code:	3	***Inc Non US State:***	
Hazardous Class:	FLAMMABLE - COMBUSTIBLE LIQUID	***Mode Transport:***	Highway
Commodity Short Nm:	RESIN SOLUTION FLAMMABLE	***Transport Phase:***	IN TRANSIT
Commodity Long Nm:	RESIN SOLUTION FLAMMABLE	***Incident Occrrnce:***	
Trade Name:		***Mat Ship Approval?:***	No
ID No:	UN1866	***Mat Ship Approv No:***	
Haz Waste Ind:	No	***Undecl Hazmat Ship?:***	No
Haz Waste EPA No:		***Packaging Type:***	Non-Bulk
HMIS Tox Inhalation?:	No	***Packing Group:***	
TIH Hazard Zone:		***Carrier Reporter:***	USF REDDAWAY INC.
Qty Released:	15	***CR Street Name:***	7720 SW MOHAWK ST BLDG H
Unit of Measure:	Liquid - Gallon	***CR City:***	TUALATIN
What Failed:	103	***CR State:***	OR
What Failed Desc:	Basic Material	***CR Postal Code:***	97062-8120
How Failed Code:	309	***CR Non US State:***	
How Failed Desc:	Punctured	***CR Fed DOT ID:***	62227
Failure Cause Code:		***CR Hazmat Reg ID:***	
Failure Cause Desc:		***CR Country:***	US
Ident. Markings:		***Shipper Name:***	POLYNT COMPOSITES USA INC.
Cont1 Pkging Type:		***Shipper Street Name:***	7220 201ST ST NE
Cont1 Const Mat:		***Shipper City:***	ARLINGTON
Cont1 Head Type:		***Shipper State:***	WA
Cont1 Pkg Capacity:	55	***Shipper Postal:***	98223-7477
C1 Capacity UOM:	LGA	***Shipper Non US St:***	
Cont1 Pkg Amt:		***Shipper Country:***	US
C1 Pkg Amt UOM:		***Shipper Waybill:***	524-396992-2
Cont1 Pkg No:	36	***Ship Hazmat Reg ID:***	

C1 Pkg NO Failed:	1	***Origin City:***	ARLINGTON
Cont1 Pkg Mnfctr:	NOT REPORTED BY CARRIER	***Origin State:***	WASHINGTON
Cont1 Pkg Mnfct Dt:		***Origin Postal:***	98223
Cont1 Pkg Serial NO:		***Origin Non US St:***	
C1 Pkg Last Test Dt:		***Origin Country:***	US
C1 Test Const Mat:		***Destination City:***	YELM
C1 Pkg Dsign Pres.:		***Destination State:***	WASHINGTON
C1 Dsign Press UOM:		***Destination Postal:***	98597
C1 Pkg Shell Thick:		***Destination Non US:***	
C1 Shell Thick UOM:		***Destination Country:***	US
C1 Head Thickness:		***Cont2 Package Type:***	
C1 Head Thick UOM:		***Cont2 Const Mat:***	
C1 Pkg Srvc Pres.:		***Cont2 Pkg Capacity:***	
C1 Srvc Press UOM:		***Cont2 Capacity UOM:***	
C1 Valve/Device Fail?:	No	***Cont2 Pkg Amount:***	
C1 Device Type:		***Cont2 Pkg Amt UOM:***	
C1 Device Mnfctr:		***Cont2 Pkg No:***	
C1 Device Model:		***Cont2 Pkg No Failed:***	
NRC No:			

RAM Pkg Category:		***Haz NonHosp Public:***	0
RAM Pkg Cert.:	FALSE	***Haz NonHosp Old:***	0
RAM Pkg Cert. NBR:		***Tot Haz Non Hosp Inj:***	0
RAM Nuclide S:		***Total Hazmat Injuries:***	0
RAM Transport Index:		***Evacuation Indicator:***	No
RAM UOM:		***Public Evacuated:***	0
RAM Activity Rpted:		***Employees Evac:***	0
RAM UOM Rpted:		***Total Evacuated:***	0
RAM Activity:		***Total Evacuation Hrs:***	0
RAM Activity UOM:		***Major Artery Closed:***	No
RAM Mat Safety:		***Mjr Artery Hrs Closed:***	0
Spillage Result:	Yes	***Material Involved:***	No
Fire Result:	No	***Estimated Speed:***	0
Explosion Result:	No	***Weather Conditions:***	
Water Sewer Result:	No	***Vehicle Overturn:***	No
Gas Dispersion:	No	***Vehicle Left Roadway:***	No
Environment Damage:	No	***Passenger Aircraft:***	No
No Release Result:	No	***Cargo Baggage:***	
Fire EMS Report:	No	***Ship Non Transport:***	No
Fire EMS EMS Report:		***Ship Air First Flight:***	No
Police Report:	No	***Ship Air Subflight:***	No
Police Report No:		***Ship Init Transport:***	No
In House Cleanup:	No	***Ship Phase Transfer:***	No
Other Cleanup:	No	***Contact Name:***	TOM JACKSON
Damage > 500:	Yes	***Contact Title:***	SAFETY SUPERVISOR
Material Loss:	100	***Contact Business:***	
Carrier Damage:	0	***Contact Street:***	
Property Damage:	0	***Contact City:***	
Response Cost:	0	***Contact State:***	
Remediation Cost:	4000	***Contact Postal:***	
Damage Old Form:	0	***Contact Non US St:***	
Total Damages Amt:	4100	***Contact Country:***	US
Hazmat Fatality:	No	***Inc. Report Prepared:***	
Haz Fatal Employees:	0	***HMIS Serious Incidnt:***	No
Haz Fatal Respndrs:	0	***HMIS Serious Fatality:***	No
Haz Fatal Gen Public:	0	***HMIS Serious Injury:***	No
Tot Hazmat Fatalities:	0	***HMIS Flight Plan:***	No
Non Hazmat Fatality:	No	***HMIS Serious Evacs:***	No
Non Hazmat Fatals:	0	***HMIS Major Artery:***	No
Hazmat Injury:	No	***HMIS Bulk Release:***	No
Haz Hospital Empl:	0	***HMIS Marine Pollutnt:***	No
Haz Hospital Resp:	0	***HMIS Radioactive:***	No
Haz Hosp Gen Public:	0	***HMIS Gen Pkg Type:***	OHMIR.Ref_Container.descr_txt
Haz Hosp Old Form:	0	***HMIS Container Code:***	DRUM MTL
Total Haz Hosp Inj:	0	***HMIS Container Desc:***	Metal drum
Haz Non Hosp Empl:	0	***HMIS Bulk Incident:***	No
Haz Non Hosp Resp:	0	***Undeclared Shipment:***	No

Description of Events: ACCORDING TO THE INFORMATION OBTAINED THE FOLLOWING OCCURRED. WHILE AT THE MARYSVILLE WEIGH STATION THE USF REDDAWAY DRIVER OBSERVED FREE PRODUCT INSIDE THE TRAILER. THE MARYSVILLE FIRE DEPARTMENT RESPONDED TO THE INCIDENT. CLEAN UP WAS PERFORMED BY FOSS ENVIRONMENTAL SERVICES INC. OF SEATTLE WASHINGTON. FOSS

ENVIRONMENTAL SERVICES INC. PLACED A PUNCTURED FIFTY-FIVE GALLON DRUM OF PRODUCT INTO A EIGHTY-FIVE GALLON METAL OVERPACK DRUM. FOSS ENVIRONMENTAL SERVICES USED ABSORBENT MATERIAL TO RECOVER THE FREE PRODUCT FROM THE TRAILER FLOOR AND ASPHALT SURFACE. FOSS ENVIRONMENTAL SERVICES INC. PLACED THE USED ABSORBENT MATERIAL INTO AN EIGHTY-FIVE GALLON METAL RECOVERY DRUM FOR DISPOSAL. ONE EIGHTY-FIVE GALLON OVERPACK DRUM AND ONE EIGHTY-FIVE GALLON RECOVERY DRUM WERE TRANSPORTED TO USF REDDAWAY IN KENT WASHINGTON FOR DISPOSAL COORDINATION. NO INJURIES OR EXPOSURES WERE REPORTED AS A RESULT OF THIS INCIDENT.

Recommend Actions Taken:

Site:

ON I-5 NORTH AT MARYSVILLE WEI MARYSVILLE WA

HMIRS

Incident County: SNOHOMISH

HMIR Incident Reports

Report No:	I-2002090763	***Fed DOT Agency Nm:***	
Report Type:	A hazardous material incident	***Fed DOT Report No:***	
Date of Incident:	2002-08-14	***Report Submit Src:***	Paper
Time of Incident:	1812	***Inc Multiple Rows:***	No
Haz Class Code:		***Inc Non US State:***	
Hazardous Class:	3	***Mode Transport:***	Highway
Commodity Short Nm:	RESIN SOLUTION, FLAMMABLE	***Transport Phase:***	In Transit
Commodity Long Nm:	RESIN SOLUTION, FLAMMABLE	***Incident Occrrnce:***	
Trade Name:		***Mat Ship Approval?:***	No
ID No:	UN1866	***Mat Ship Approv No:***	
Haz Waste Ind:	No	***Undecl Hazmat Ship?:***	No
Haz Waste EPA No:		***Packaging Type:***	Non-Bulk
HMIS Tox Inhalation?:	No	***Packing Group:***	
TIH Hazard Zone:		***Carrier Reporter:***	USF REDDAWAY INC
Qty Released:	15	***CR Street Name:***	16277 SOUTHEAST 130TH AVENUE
Unit of Measure:	Liquid - Gallon	***CR City:***	CLACKAMAS
What Failed:	103	***CR State:***	OR
What Failed Desc:	Basic Material	***CR Postal Code:***	97015
How Failed Code:	309	***CR Non US State:***	
How Failed Desc:	Punctured	***CR Fed DOT ID:***	62227
Failure Cause Code:		***CR Hazmat Reg ID:***	
Failure Cause Desc:		***CR Country:***	US
Ident. Markings:		***Shipper Name:***	COOK COMPOSITES & POLYMER
Cont1 Pkging Type:		***Shipper Street Name:***	19113 63RD AVENUE NORTHEAST SU
Cont1 Const Mat:		***Shipper City:***	ARLINGTON
Cont1 Head Type:		***Shipper State:***	WA
Cont1 Pkg Capacity:	55	***Shipper Postal:***	98223
C1 Capacity UOM:	LGA	***Shipper Non US St:***	
Cont1 Pkg Amt:	0	***Shipper Country:***	US
C1 Pkg Amt UOM:		***Shipper Waybill:***	524-396992-2
Cont1 Pkg No:	36	***Ship Hazmat Reg ID:***	
C1 Pkg NO Failed:	1	***Origin City:***	
Cont1 Pkg Mnfctr:	NOT REPORTED BY CARRIER	***Origin State:***	
Cont1 Pkg Mnfct Dt:	0-00-00 00:00:00	***Origin Postal:***	
Cont1 Pkg Serial NO:		***Origin Non US St:***	
C1 Pkg Last Test Dt:	0-00-00 00:00:00	***Origin Country:***	US
C1 Test Const Mat:		***Destination City:***	YELM
C1 Pkg Dsign Pres.:	0	***Destination State:***	WASHINGTON
C1 Dsign Press UOM:		***Destination Postal:***	98597
C1 Pkg Shell Thick:	0	***Destination Non US:***	
C1 Shell Thick UOM:		***Destination Country:***	US
C1 Head Thickness:	0	***Cont2 Package Type:***	
C1 Head Thick UOM:		***Cont2 Const Mat:***	
C1 Pkg Srvc Pres.:	0	***Cont2 Pkg Capacity:***	0
C1 Srvc Press UOM:		***Cont2 Capacity UOM:***	
C1 Valve/Device Fail?:	No	***Cont2 Pkg Amount:***	0
C1 Device Type:		***Cont2 Pkg Amt UOM:***	
C1 Device Mnfctr:		***Cont2 Pkg No:***	0
C1 Device Model:		***Cont2 Pkg No Failed:***	0
NRC No:			
RAM Pkg Category:		***Haz NonHosp Public:***	0

RAM Pkg Cert.:	FALSE	***Haz NonHosp Old:***	
RAM Pkg Cert. NBR:		***Tot Haz Non Hosp Inj:***	
RAM Nuclide S:		***Total Hazmat Injuries:***	0
RAM Transport Index:		***Evacuation Indicator:***	No
RAM UOM:		***Public Evacuated:***	0
RAM Activity Rpted:	0	***Employees Evac:***	0
RAM UOM Rpted:		***Total Evacuated:***	0
RAM Activity:	0	***Total Evacuation Hrs:***	0
RAM Activity UOM:		***Major Artery Closed:***	No
RAM Mat Safety:		***Mjr Artery Hrs Closed:***	0
Spillage Result:	Yes	***Material Involved:***	No
Fire Result:	No	***Estimated Speed:***	0
Explosion Result:	No	***Weather Conditions:***	
Water Sewer Result:	No	***Vehicle Overturn:***	No
Gas Dispersion:	No	***Vehicle Left Roadway:***	No
Environment Damage:	No	***Passenger Aircraft:***	No
No Release Result:	No	***Cargo Baggage:***	
Fire EMS Report:	No	***Ship Non Transport:***	No
Fire EMS EMS Report:		***Ship Air First Flight:***	No
Police Report:	No	***Ship Air Subflight:***	No
Police Report No:		***Ship Init Transport:***	No
In House Cleanup:	No	***Ship Phase Transfer:***	No
Other Cleanup:	No	***Contact Name:***	TOM JACKSON
Damage > 500:	Yes	***Contact Title:***	SAFETY SUPERVISOR
Material Loss:	100	***Contact Business:***	
Carrier Damage:	0	***Contact Street:***	
Property Damage:	0	***Contact City:***	
Response Cost:	0	***Contact State:***	
Remediation Cost:	4000	***Contact Postal:***	
Damage Old Form:	0	***Contact Non US St:***	
Total Damages Amt:	4100	***Contact Country:***	US
Hazmat Fatality:	No	***Inc. Report Prepared:***	
Haz Fatal Employees:	0	***HMIS Serious Incidnt:***	No
Haz Fatal Respndrs:	0	***HMIS Serious Fatality:***	No
Haz Fatal Gen Public:	0	***HMIS Serious Injury:***	No
Tot Hazmat Fatalities:	0	***HMIS Flight Plan:***	No
Non Hazmat Fatality:	No	***HMIS Serious Evacs:***	No
Non Hazmat Fatals:	0	***HMIS Major Artery:***	No
Hazmat Injury:	No	***HMIS Bulk Release:***	No
Haz Hospital Empl:	0	***HMIS Marine Pollutnt:***	No
Haz Hospital Resp:	0	***HMIS Radioactive:***	No
Haz Hosp Gen Public:	0	***HMIS Gen Pkg Type:***	DRUM METAL
Haz Hosp Old Form:	0	***HMIS Container Code:***	DRUM MTL
Total Haz Hosp Inj:	0	***HMIS Container Desc:***	Metal drum
Haz Non Hosp Empl:	0	***HMIS Bulk Incident:***	No
Haz Non Hosp Resp:	0	***Undeclared Shipment:***	No

Description of Events: ACCORDING TO THE INFORMATION OBTAINED, THE FOLLOWING OCCURRED. WHILE AT THE MARYSVILLE WEIGH STATION THE USF REDDAWAY DRIVER OBSERVED FREE PRODUCT INSIDE THE TRAILER. THE MARYSVILLE FIRE DEPARTMENT RESPONDED TO THE INCIDENT. CLEAN UP WAS PERFORMED BY FOSS ENVIRONMENTAL SERVICES, INC. OF SEATTLE, WASHINGTON. FOSS ENVIRONMENTAL SERVICES, INC. PLACED A PUNCTURED FIFTY-FIVE GALLON DRUM OF PRODUCT INTO A EIGHTY-FIVE GALLON METAL OVERPACK DRUM. FOSS ENVIRONMENTAL SERVICES USED ABSORBENT MATERIAL TO RECOVER THE FREE PRODUCT FROM THE TRAILER FLOOR AND ASPHALT SURFACE. FOSS ENVIRONMENTAL SERVICES, INC. PLACED THE USED ABSORBENT MATERIAL INTO AN EIGHTY-FIVE GALLON METAL RECOVERY DRUM FOR DISPOSAL. ONE EIGHTY-FIVE GALLON OVERPACK DRUM AND ONE EIGHTY-FIVE GALLON RECOVERY DRUM WERE TRANSPORTED TO USF REDDAWAY IN KENT, WASHINGTON FOR DISPOSAL COORDINATION. NO INJURIES OR EXPOSURES WERE REPORTED AS A RESULT OF THIS INCIDENT.

Recommend Actions Taken:

Site: ***Spencer Island Moser Property***
FRONTAGE RD & I5 EVERETT WA 98205

HSL

Fac Site ID:	2785	***Fac Site ID (OD):***	2785
Cleanup Site ID:	3830	***Cleanup Site ID (OD):***	3830
Site Status:	Awaiting Cleanup	***Site Status (OD):***	Awaiting Cleanup
Site Rank:	5 - Lowest Assessed Risk	***Site Name (OD):***	Spencer Island Moser Property
Current VCP:		***Site Rank (OD):***	5 - Lowest Assessed Risk
Past VCP:		***Respon Unit (OD):***	Northwest
Has Inst Control:		***Has Env Coven (OD):***	

Responsible Unit: Northwest
County: Snohomish
Region: Northwest
Latitude: 48.035119
Longitude: -122.180929
Alternate Site Names:
Location (OD): ""
(48.035119, -122.180929)
Latitude (OD): 48.035119
Longitude (OD): -122.180929
Data Source(s): WA ECY Toxics Cleanup Program; Open Data Portal - Washington State; Open Data Portal - Media and Contaminants

County (OD): Snohomish
Region (OD): Northwest
Address (OD): FRONTAGE RD & I5
City (OD): EVERETT
Zipcode (OD): 98205

Contaminants Detail(s)

Contaminant Name: Non-Halogenated Solvents
Groundwater: Suspected
Surfacewater: Suspected
Soil: Suspected
Sediment:
Air:
Bedrock:

Contaminant Name: Petroleum Products-Unspecified
Groundwater: Suspected
Surfacewater: Suspected
Soil: Confirmed Above Cleanup Levels
Sediment:
Air:
Bedrock:

Open Data Portal - Media and Contaminants as of 2019-07-23

Contaminant Status: Suspected
Contaminant: Petroleum Products-Unspecified
Contaminant Media: Groundwater

Contaminant Status: Suspected
Contaminant: Non-Halogenated Solvents
Contaminant Media: Soil

Contaminant Status: Suspected
Contaminant: Non-Halogenated Solvents
Contaminant Media: Groundwater

Contaminant Status: Confirmed Above Cleanup Levels
Contaminant: Petroleum Products-Unspecified
Contaminant Media: Soil

Contaminant Status: Suspected
Contaminant: Petroleum Products-Unspecified
Contaminant Media: Surface Water

Contaminant Status: Suspected
Contaminant: Non-Halogenated Solvents
Contaminant Media: Surface Water

Site: ***SPENCER ISLAND MOSER PROPERTY***
FRONTAGE RD & I5 EVERETT WA 98205

ICR

Cleanup Site ID: 3830
Facility Site ID: 2785
Site Status: Awaiting Cleanup
Statute: MTCA
Rank: 5
Rank Description: Lowest assessed risk
Has Env Covenant:
Is Brownfiled Site:
Is PSI Site: Yes

WRIA ID: 7
Is NFA Site:
Responsible Unit: Northwest
Latitude: 48.035119000000002
Longitude: -122.18092900000001
Legislative District: 38
Congr District: 2
County Name: Snohomish

Cleanup Activities

Related ID:
VCP Prj No:

Start Date: 1997-03-07
End Date: 1997-07-10

Activity Name:	Site Hazard Assessment/Federal Site Inspection	***Legal Mechanism:***	
Activity Status:	Completed	***Performed by:***	Local Government
County Name:	Snohomish	***Project Manager:***	County Health-NW
Applies to:	CleanupSite		
Applies to Description:			
Related ID:		***Start Date:***	
VCP Prj No:		***End Date:***	1997-08-19
Activity Name:	Hazardous Sites Listing/NPL	***Legal Mechanism:***	
Activity Status:		***Performed by:***	
County Name:	Snohomish	***Project Manager:***	Northwest Region
Applies to:	CleanupSite		
Applies to Description:			

Media Contaminants

Contaminant Type:	Petroleum Products-Unspecified	***Sediment:***	
Groundwater:	S	***Sediment Desc.:***	
Groundwater Desc.:	Suspected	***Air:***	
Surface Water:	S	***Air Desc.:***	
Surfacewater Desc.:	Suspected	***Bedrock:***	
Soil:	C	***Bedrock Desc.:***	
Soil Desc.:	Confirmed Above Cleanup Level	***County Name:***	Snohomish
Contaminant Type:	Non-Halogenated Solvents	***Sediment:***	
Groundwater:	S	***Sediment Desc.:***	
Groundwater Desc.:	Suspected	***Air:***	
Surface Water:	S	***Air Desc.:***	
Surfacewater Desc.:	Suspected	***Bedrock:***	
Soil:	S	***Bedrock Desc.:***	
Soil Desc.:	Suspected	***County Name:***	Snohomish

Site: ***Cedar Grove Organics - Everett***
3280 36th Pl NE Everett WA 98201

SNO SWF/LF

Permit No:		***Area:***	PJ
Owner:	Cedar Grove, Inc		

Site: ***NULL***
JUST NORTH OF MP 210 ON I-5 MARYSVILLE WA

SPILLS

Incident ID:	533277	***Latitude:***	NULL
Incident Date:	4/20/2003	***Longitude:***	NULL
Location:	NULL		
Address:	JUST NORTH OF MP 210 ON I-5		
City:	MARYSVILLE		
County:	SNOHOMISH		

Site:
28TH PL NE EVERETT WA

SPILLS

Incident ID:	651664	***Latitude:***	
Incident Date:		***Longitude:***	
Location:			
Address:	28TH PL NE		
City:	EVERETT		
County:	SNOHOMISH		

Spill Information

Incident Date:	9/18/2014
Latitude:	NULL
Longitude:	NULL

Spill Details Historical

Material:	MUD/SILT	***Impact:***	WATER POLLUTION
Qty:	NULL	***Sheen Only:***	0
Medium:	DITCH		
Cause:	HUMAN FACTOR - IMPROPER PROCEDURES		
Source:	CONSTRUCTION SITE		
Activity:	OTHER CONSTRUCTION		
Waterway:	NULL		
Prp Business Name:	GRADY EXCAVATION		
Prp First Name:	KIM		
Prp Last Name:	GRADY		

Site:

JUST NORTH OF MP 210 ON I-5 MARYSVILLE WA SPILLS

Incident ID:	533277	***Latitude:***	
Incident Date:		***Longitude:***	
Location:			
Address:	JUST NORTH OF MP 210 ON I-5		
City:	MARYSVILLE		
County:	SNOHOMISH		

Spill Information

Incident Date:	4/20/2003
Latitude:	NULL
Longitude:	NULL

Spill Details Historical

Material:	CHEMICAL	***Impact:***	HUMAN
Qty:	NULL	***Sheen Only:***	0
Medium:	OTHER		
Cause:	HUMAN FACTOR - SUSPECTED CRIMINAL ACTIVITY		
Source:	DRUG LAB		
Activity:	SUSPECTED ILLEGAL ACTIVITY		
Waterway:	NULL		
Prp Business Name:	NULL		
Prp First Name:	NULL		
Prp Last Name:	UNK		

Site:

I-5 NORTH AT EXIT 200 MARYSVILLE WA SPILLS

Incident ID:	530020	***Latitude:***	
Incident Date:		***Longitude:***	
Location:			
Address:	I-5 NORTH AT EXIT 200		
City:	MARYSVILLE		
County:	SNOHOMISH		

Spill Information

Incident Date:	11/1/2002
Latitude:	NULL
Longitude:	NULL

Spill Details Historical

Material:	PETROLEUM - DIESEL FUEL	***Impact:***	UNKNOWN
Qty:	30	***Sheen Only:***	0
Medium:	ROADWAY-PAVED		
Cause:	OTHER		
Source:	TRANSPORTATION-VEHICLE TRUCK		
Activity:	TRANSPORTING		

Waterway: NULL
Prp Business Name: PUGET SOUND INTERNATIONAL INC.
Prp First Name: NULL
Prp Last Name: NULL

Site:
I-5 NORTH BOUND EVERETT WA

SPILLS

Incident ID: 521261
Incident Date:
Location:
Address: I-5 NORTH BOUND
City: EVERETT
County: SNOHOMISH
Latitude:
Longitude:

Spill Information

Incident Date: 9/26/2001
Latitude: NULL
Longitude: NULL

Spill Details Historical

Material: PETROLEUM - DIESEL FUEL
Qty: NULL
Medium: ROADWAY-PAVED
Cause: ACCIDENT-TRAFFIC
Source: TRANSPORTATION-VEHICLE TRUCK
Activity: ROUTINE/NORMAL OPERATIONS
Waterway: NULL
Prp Business Name: NULL
Prp First Name: NULL
Prp Last Name: UNKNOWN
Impact: OTHER
Sheen Only: 0

Site:
I-5 NORTHBOUND EXIT 189 OFF-RAMP EVERETT WA

SPILLS

Incident ID: 512226
Incident Date:
Location:
Address: I-5 NORTHBOUND EXIT 189 OFF-RAMP
City: EVERETT
County: SNOHOMISH
Latitude:
Longitude:

Spill Information

Incident Date: 7/6/2000
Latitude: NULL
Longitude: NULL

Spill Details Historical

Material: PETROLEUM - DIESEL FUEL
Qty: 15
Medium: SOIL
Cause: EQUIPMENT FAILURE
Source: TRANSPORTATION-VEHICLE TRUCK
Activity: ROUTINE/NORMAL OPERATIONS
Waterway: NULL
Prp Business Name: PORTLAND BOTTLING COMPANY
Prp First Name: NULL
Prp Last Name:
Impact: SOIL CONTAMINATION
Sheen Only: 0

Site:
NORTHBOUND I-5 EVERETT WA

SPILLS

Incident ID: 607683 ***Latitude:***
Incident Date: ***Longitude:***
Location:
Address: NORTHBOUND I-5
City: EVERETT
County: SNOHOMISH

Spill Information

Incident Date: 8/9/2008
Latitude: NULL
Longitude: NULL

Spill Details Historical

Material: SEWAGE/SLUDGE ***Impact:*** CONTAMINATED ROADWAY/PARKING LOT
Qty: NULL ***Sheen Only:*** 0
Medium: ROADWAY-PAVED
Cause: OTHER
Source: TRANSPORTATION-VEHICLE TRUCK
Activity: OTHER
Waterway: NULL
Prp Business Name: NULL
Prp First Name: NULL
Prp Last Name: UNKNOWN

Site:
I-5 NORTHBOUND EVERETT WA SPILLS

Incident ID: 607838 ***Latitude:***
Incident Date: ***Longitude:***
Location:
Address: I-5 NORTHBOUND
City: EVERETT
County: SNOHOMISH

Spill Information

Incident Date: 8/20/2008
Latitude: 47.98183
Longitude: 122.18658

Spill Details Historical

Material: PETROLEUM - DIESEL FUEL ***Impact:*** SOIL CONTAMINATION
Qty: 50 ***Sheen Only:*** 0
Medium: SOIL
Cause: NULL
Source: TRANSPORTATION-VEHICLE TRUCK
Activity: Underway/Transiting/Pipeline in Operation
Waterway: NULL
Prp Business Name: NULL
Prp First Name: NULL
Prp Last Name: UNKNOWN

Site:
O I-5 NORTHBOUND FROM THE REST AREA MARYSVILLE WA SPILLS

Incident ID: 520365 ***Latitude:***
Incident Date: ***Longitude:***
Location:
Address: O I-5 NORTHBOUND FROM THE REST AREA
City: MARYSVILLE
County: SNOHOMISH

Spill Information

Incident Date: 8/8/2001
Latitude: NULL
Longitude: NULL

Spill Details Historical

Material: UNKNOWN
Qty: 1
Medium: ROADWAY-PAVED
Cause: DUMPING
Source: ILLEGAL DUMP SITE
Activity: DISPOSING
Waterway: NULL
Prp Business Name: UNKNOWN
Prp First Name: NULL
Prp Last Name:
Impact: UNKNOWN
Sheen Only: 0

Site: ***NULL***
I-5 NORTH AT EXIT 200 MARYSVILLE WA

SPILLS

Incident ID: 530020
Incident Date: 11/1/2002
Location: NULL
Address: I-5 NORTH AT EXIT 200
City: MARYSVILLE
County: SNOHOMISH
Latitude: NULL
Longitude: NULL

Site: ***BUSE AND TIMBER SALES***
3812 V28TH PL NE EVERETT WA

SPILLS

Incident ID: 22136
Incident Date: 11/22/2014
Location: BUSE AND TIMBER SALES
Address: 3812 V28TH PL NE
City: EVERETT
County: SNOHOMISH
Latitude: 48.021979
Longitude: -122.180092

Site: ***NULL***
NORTHBOUND I-5 EVERETT WA

SPILLS

Incident ID: 607683
Incident Date: 8/9/2008
Location: NULL
Address: NORTHBOUND I-5
City: EVERETT
County: SNOHOMISH
Latitude: NULL
Longitude: NULL

Site: ***Buse Lumber Dump***
Everett WA 98205

SWF/LF

ID: 883
Recycle Survey ID:
Permit Status:
Operational Status:
Year Closed:
Ann Report Required: No
Rec Survey Required: No
Facility Phone:
Facility Type: Historic Landfill (non-regulated)
Open to Public: No
Regulation:
Ownership:
Region: Northwest Regional Office
County: Snohomish
Latitude:
Longitude:

Details

Permit No:
Contact Address 1:

Operator First Name:
Operator Last Name:
Operator Title:
Operator Email:
Contact First Name:
Contact Last Name:
Contact Title:
Contact Organization: Unaffiliated Historic Landfills
Operator Organization: Unaffiliated Historic Landfills
Web Address:

Contact Address 2:
Contact City:
Contact State:
Contact Zip:
Contact Email:
Contact Phone:
Contact Phone Ext:

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ERIS updates databases as set out in ASTM Standard E1527-13, Section 8.1.8 Sources of Standard Source Information:

"Government information from nongovernmental sources may be considered current if the source updates the information at least every 90 days, or, for information that is updated less frequently than quarterly by the government agency, within 90 days of the date the government agency makes the information available to the public."

Standard Environmental Record Sources

Federal

Formerly Utilized Sites Remedial Action Program: DOE FUSRAP

The U.S. Department of Energy (DOE) established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from the Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations. The DOE Office of Legacy Management (LM) established long-term surveillance and maintenance (LTS&M) requirements for remediated FUSRAP sites. DOE evaluates the final site conditions of a remediated site on the basis of risk for different future uses. DOE then confirms that LTS&M requirements will maintain protectiveness.

Government Publication Date: Mar 4, 2017

National Priority List: NPL

National Priorities List (Superfund)-NPL: EPA's (United States Environmental Protection Agency) list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. The NPL, which EPA is required to update at least once a year, is based primarily on the score a site receives from EPA's Hazard Ranking System. A site must be on the NPL to receive money from the Superfund Trust Fund for remedial action.

Government Publication Date: Apr 27, 2021

National Priority List - Proposed: PROPOSED NPL

Includes sites proposed (by the EPA, the state, or concerned citizens) for addition to the NPL due to contamination by hazardous waste and identified by the Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment.

Government Publication Date: Apr 27, 2021

Deleted NPL: DELETED NPL

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Government Publication Date: Apr 27, 2021

SEMS List 8R Active Site Inventory: SEMS

The Superfund Program has deployed the Superfund Enterprise Management System (SEMS), which integrates multiple legacy systems into a comprehensive tracking and reporting tool. This inventory contains active sites evaluated by the Superfund program that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The Active Site Inventory Report displays site and location information at active SEMS sites. An active site is one at which site assessment, removal, remedial, enforcement, cost recovery, or oversight activities are being planned or conducted.

Government Publication Date: Mar 23, 2021

Inventory of Open Dumps, June 1985: ODI

The Resource Conservation and Recovery Act (RCRA) provides for publication of an inventory of open dumps. The Act defines "open dumps" as facilities which do not comply with EPA's "Criteria for Classification of Solid Waste Disposal Facilities and Practices" (40 CFR 257).

Government Publication Date: Jun 1985

SEMS List 8R Archive Sites: SEMS ARCHIVE

The Superfund Enterprise Management System (SEMS) Archived Site Inventory displays site and location information at sites archived from SEMS. An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time.

Government Publication Date: Mar 23, 2021

Comprehensive Environmental Response, Compensation and Liability Information System - CERCLIS: CERCLIS

Superfund is a program administered by the United States Environmental Protection Agency (EPA) to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The EPA administers the Superfund program in cooperation with individual states and tribal governments; this database is made available by the EPA.

Government Publication Date: Oct 25, 2013

EPA Report on the Status of Open Dumps on Indian Lands: IODI

Public Law 103-399, The Indian Lands Open Dump Cleanup Act of 1994, enacted October 22, 1994, identified congressional concerns that solid waste open dump sites located on American Indian or Alaska Native (AI/AN) lands threaten the health and safety of residents of those lands and contiguous areas. The purpose of the Act is to identify the location of open dumps on Indian lands, assess the relative health and environment hazards posed by those sites, and provide financial and technical assistance to Indian tribal governments to close such dumps in compliance with Federal standards and regulations or standards promulgated by Indian Tribal governments or Alaska Native entities.

Government Publication Date: Dec 31, 1998

CERCLIS - No Further Remedial Action Planned: CERCLIS NFRAP

An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. The Archive designation means that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Government Publication Date: Oct 25, 2013

CERCLIS Liens: CERCLIS LIENS

A Federal Superfund lien exists at any property where EPA has incurred Superfund costs to address contamination ("Superfund site") and has provided notice of liability to the property owner. A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jan 30, 2014

RCRA CORRACTS-Corrective Action: RCRA CORRACTS

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. At these sites, the Corrective Action Program ensures that cleanups occur. EPA and state regulators work with facilities and communities to design remedies based on the contamination, geology, and anticipated use unique to each site.

Government Publication Date: Apr 5, 2021

RCRA non-CORRACTS TSD Facilities: RCRA TSD

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. This database includes Non-Corrective Action sites listed as treatment, storage and/or disposal facilities of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Government Publication Date: Apr 5, 2021

RCRA Generator List: RCRA LQG

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Large Quantity Generators (LQGs) generate 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste.

Government Publication Date: Apr 5, 2021

RCRA Small Quantity Generators List: RCRA SQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Small Quantity Generators (SQGs) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month.

Government Publication Date: Apr 5, 2021

RCRA Very Small Quantity Generators List: RCRA VSQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Very Small Quantity Generators (VSQG) generate 100 kilograms or less per month of hazardous waste, or one kilogram or less per month of acutely hazardous waste. Additionally, VSQG may not accumulate more than 1,000 kilograms of hazardous waste at any time.

Government Publication Date: Apr 5, 2021

RCRA Non-Generators: RCRA NON GEN

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Non-Generators do not presently generate hazardous waste.

Government Publication Date: Apr 5, 2021

Federal Engineering Controls-ECs: FED ENG

Engineering controls (ECs) encompass a variety of engineered and constructed physical barriers (e.g., soil capping, sub-surface venting systems, mitigation barriers, fences) to contain and/or prevent exposure to contamination on a property. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Feb 23, 2021

Federal Institutional Controls- ICs: FED INST

Institutional controls are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. Although it is EPA's (United States Environmental Protection Agency) expectation that treatment or engineering controls will be used to address principal threat wastes and that groundwater will be returned to its beneficial use whenever practicable, ICs play an important role in site remedies because they reduce exposure to contamination by limiting land or resource use and guide human behavior at a site.

Government Publication Date: Feb 23, 2021

Land Use Control Information System: LUCIS

The LUCIS database is maintained by the U.S. Department of the Navy and contains information for former Base Realignment and Closure (BRAC) properties across the United States.

Government Publication Date: Sep 1, 2006

Emergency Response Notification System: ERNS 1982 TO 1986

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1982-1986

Emergency Response Notification System: ERNS 1987 TO 1989

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1987-1989

Emergency Response Notification System: ERNS

Database of oil and hazardous substances spill reports made available by the United States Coast Guard National Response Center (NRC). The NRC fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. These data contain initial incident data that has not been validated or investigated by a federal/state response agency.

Government Publication Date: Nov 9, 2020

The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database: FED BROWNFIELDS

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jan 6, 2021

FEMA Underground Storage Tank Listing: FEMA UST

The Federal Emergency Management Agency (FEMA) of the Department of Homeland Security maintains a list of FEMA owned underground storage tanks.

Government Publication Date: Dec 31, 2017

Facility Response Plan: FRP

List of facilities that have submitted Facility Response Plans (FRP) to EPA. Facilities that could reasonably be expected to cause "substantial harm" to the environment by discharging oil into or on navigable waters are required to prepare and submit Facility Response Plans (FRPs). Harm is determined based on total oil storage capacity, secondary containment and age of tanks, oil transfer activities, history of discharges, proximity to a public drinking water intake or sensitive environments.

Government Publication Date: Dec 2, 2020

Historical Gas Stations: HIST GAS STATIONS

This historic directory of service stations is provided by the Cities Service Company. The directory includes Cities Service filling stations that were located throughout the United States in 1930.

Government Publication Date: Jul 1, 1930

Petroleum Refineries: REFN

List of petroleum refineries from the U.S. Energy Information Administration (EIA) Refinery Capacity Report. Includes operating and idle petroleum refineries (including new refineries under construction) and refineries shut down during the previous year located in the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, and other U.S. possessions. Survey locations adjusted using public data.

Government Publication Date: Jul 10, 2020

Petroleum Product and Crude Oil Rail Terminals: BULK TERMINAL

List of petroleum product and crude oil rail terminals made available by the U.S. Energy Information Administration (EIA). Includes operable bulk petroleum product terminals located in the 50 States and the District of Columbia with a total bulk shell storage capacity of 50,000 barrels or more, and/or the ability to receive volumes from tanker, barge, or pipeline; also rail terminals handling the loading and unloading of crude oil that were active between 2017 and 2018. Petroleum product terminals comes from the EIA-815 Bulk Terminal and Blender Report, which includes working, shell in operation, and shell idle for several major product groupings. Survey locations adjusted using public data.

Government Publication Date: Apr 28, 2020

LIEN on Property: SEMS LIEN

The EPA Superfund Enterprise Management System (SEMS) provides LIEN information on properties under the EPA Superfund Program.

Government Publication Date: Mar 23, 2021

Superfund Decision Documents: SUPERFUND ROD

This database contains a listing of decision documents for Superfund sites. Decision documents serve to provide the reasoning for the choice of (or) changes to a Superfund Site cleanup plan. The decision documents include Records of Decision (ROD), ROD Amendments, Explanations of Significant Differences (ESD), along with other associated memos and files. This information is maintained and made available by the US EPA (Environmental Protection Agency).

Government Publication Date: Feb 23, 2021

State

Hazardous Sites List: HSL

Washington State Department of Ecology (DEC) records of sites that have been assessed and ranked using the Washington Ranking Method (WARM score) - a number between 1 and 5, where a score of 1 represents the highest level of risk and 5 the lowest. Some factors that enter into site hazard ranking include: the amount and type of contaminants present; how easily contaminants could come into contact with people and the environment; and the level of public concern. This database is state equivalent NPL.

Government Publication Date: Apr 12, 2021

Confirmed and Suspected Contaminated Sites List: CSCSL

Confirmed & Suspected Contaminated Sites List made available by the Washington State Department of Ecology (DEC). This database is state equivalent CERCLIS.

Government Publication Date: Apr 12, 2021

Delisted Confirmed and Suspected Contaminated Sites: DELISTED SHWS

This database contains a list of Confirmed & Suspected Contaminated Sites that were removed from the Washington State Department of Ecology (DEC).

Government Publication Date: Apr 12, 2021

No Further Action Sites List: CSCSL NFA

A list of sites previously on the Washington State Department of Ecology (DEC) Confirmed and Suspected Contaminated Sites List (CSCSL) that have received a No Further Action (NFA) determination.

Government Publication Date: Apr 12, 2021

Solid Waste Facility Database: SWF/LF

List of permitted solid waste and landfill facilities made available by the Washington Department of Ecology (DEC).

Government Publication Date: May 3, 2021

Recycling Facilities: RECYCLERS

The Washington State Department of Ecology maintains this database of recycling opportunities available in Washington State.

Government Publication Date: Sep 16, 2020

Solid Waste Tire Facilities: WASTE TIRE

The Washington State Department of Ecology maintains this database of waste tire recycling opportunities available in Washington State.

Government Publication Date: Jun 9, 2020

Leaking Underground Storage Tank (LUST) List: LUST

Leaking Underground Storage Tank (LUST) list made available by the Washington Department of Ecology (DEC) contains information about underground storage tank facilities that require cleanup and their cleanup history.

Government Publication Date: Apr 12, 2021

Petroleum Technical Assistance Program: LUST PTAP

Under the State of Washington's cleanup law, qualifying petroleum contaminated sites can apply for the Pollution Liability Insurance Agency's (PLIA) Petroleum Technical Assistance Program (PTAP). Sites under the PTAP may be provided with informal advice and technical assistance on the requirements of the Model Toxics Control Act (MTCA), which is the state's cleanup law. PLIA also provides written opinions on independent remedial actions on qualifying petroleum cleanup sites: No Further Action (NFA), Further Action (FA), and Partial Sufficiency (PS).

Government Publication Date: Mar 9, 2021

UST Loan and Grant Program: UST LOAN

List of sites that have applied to the Pollution Liability Insurance Agency's (PLIA) UST Loan and Grant Program. PLIA partners with the Washington State Deparment of Health (DOH) to provide loans or grants to owners or operators of underground storage tank (UST) facilities, who wish to: upgrade/replace infrastructure, clean up contamination, or close a UST. Within the program, PLIA provides oversight and technical assistance, while the DOH operates the lending/repayment process.

Government Publication Date: Mar 9, 2021

Heating Oil Technical Assistance Program: LST HOT

Within the Pollution Liability Insurance Agency's (PLIA) various programs, the Heating Oil Technical Assistance Program (HOTAP) provides assistance to owners and operators of active and abandoned heating oil tanks if there is a suspected release or contamination. PLIA provides services including: written opinions, observations of testing, site assessments, and reviews of the results of reports and other appropriate activities. Information in some records has been redacted by the Pollution Liability Insurance Agency under Washington State Legislature RCW 70.149.080.

Government Publication Date: Mar 9, 2021

Underground Storage Tanks: UST

List of Underground Storage Tanks (USTs) made available by Washington Department of Ecology (DEC). The DEC regulates tanks at facilities including gas stations, industries, commercial properties and governmental entities. The DEC works to ensure these tanks are installed, managed, and monitored in a manner that prevents releases into the environment.

Government Publication Date: Apr 12, 2021

Delisted Leaking Storage Tanks: DELISTED LST

List of leaking storage tanks made available by the Washington Department of Ecology (DEC). A record would be removed if it violated the Facility Oil Handling Standards. This list contains all the records that been removed from the storage tank list.

Government Publication Date: Apr 12, 2021

Aboveground Storage Tanks: AST

List of aboveground storage tanks (ASTs) made available by the Washington Department of Ecology (DEC). This list includes many of the largest petroleum containing ASTs in Washington state, but there are many ASTs in many different types of services (including, for example, hydrocarbon storage), that are not subject to regulation and are not registered by the DEC. There is no inclusive AST regulation in Washington state, and the Department of Ecology ceased maintenance of this list in December 2015.

Government Publication Date: Dec 14, 2015

Spills Program Regulated Facilities: AST SPL PREV

List of Class 1, 2, 3, and 4 regulated facilities. The Washington Department of Ecology regulates the equipment and oil transfer, storage, and handling at facilities to ensure environmental and public health. Depending on their classification (Class 1 Large facilities such as refineries, refueling terminals, and pipelines; Class 2 and Class 3 facilities that transfer oil; and Class 4 Marinas and other facilities that transfer oil to non-recreation vessels with a fuel capacity of less than 10,500 gallons), these facilities are required to have some type of spill prevention plan.

Government Publication Date: Feb 25, 2021

Delisted Storage Tanks: DELISTED TNK

List of aboveground storage tanks made available by the Washington Department of Ecology (DEC). A record would be removed if it violated the Facility Oil Handling Standards. This list contains all the records that been removed from the storage tank list.

Government Publication Date: Apr 12, 2021

Environmental Covenants Institutional Controls: INST

List of sites that have institutional controls or environmental covenants (64.70 RCW Uniform Environmental Covenants Act) made available by the State of Washington Department of Ecology. Institutional controls are administrative or legal measures used to prevent activities that may compromise the integrity of a cleanup action. They are meant to prevent exposure to contamination remaining on site. Institutional controls may include environmental covenants (also known as 'deed restrictions'), zoning restrictions, public health advisories, or other administrative tools. The most common institutional control is an environmental covenant. Environmental covenants are legal recorded documents that typically limit certain uses of the property.

Government Publication Date: Apr 12, 2021

Voluntary Cleanup Program: VCP

List of sites under the Voluntary Cleanup Program (VCP) made available by the Washington Department of Ecology (DEC). The VCP is an option for cleaning up hazardous waste sites under the state's cleanup law.

Government Publication Date: Apr 12, 2021

Brownfields Program: BROWNFIELDS

List of Brownfields sites made available by the Washington Department of Ecology (DEC). Brownfield sites are abandoned or underused properties where potential liability due to environmental contamination and cleanup costs complicate re-development efforts.

Government Publication Date: Apr 12, 2021

Tribal

Leaking Underground Storage Tanks (LUSTs) on Indian Lands: INDIAN LUST

LUSTs on Tribal/Indian Lands in Region 10, which includes Washington.

Government Publication Date: Apr 14, 2020

Underground Storage Tanks (USTs) on Indian Lands: INDIAN UST

USTs on Tribal/Indian Lands in Region 10, which includes Washington.

Government Publication Date: Apr 14, 2020

Delisted Tribal Leaking Storage Tanks: DELISTED ILST

Leaking Underground Storage Tank facilities which have been removed from the Regional Tribal LUST lists made available by the EPA.

Government Publication Date: Apr 14, 2020

Delisted Tribal Underground Storage Tanks: DELISTED IUST

Underground Storage Tank facilities which have been removed from the Regional Tribal UST lists made available by the EPA.

Government Publication Date: Apr 14, 2020

County

Snohomish County Solid Waste Sites of Record: SNO SWF/LF

The Solid Waste and Toxics (SWT) Program in the Snohomish Health District inspects or monitors a number of solid waste disposal or utilization sites and maintains a list of known solid waste sites in Snohomish County.

Government Publication Date: Apr 27, 2020

Additional Environmental Record Sources

Federal

PFOA/PFOS Contaminated Sites: PFAS NPL

List of sites where PFOA or PFOS contaminants have been found in drinking water or soil. Made available by the Federal Environmental Protection Agency (EPA).

Government Publication Date: Mar 1, 2021

Facility Registry Service/Facility Index: FINDS/FRS

The Facility Registry Service (FRS) is a centrally managed database that identifies facilities, sites, or places subject to environmental regulations or of environmental interest. FRS creates high-quality, accurate, and authoritative facility identification records through rigorous verification and management procedures that incorporate information from program national systems, state master facility records, and data collected from EPA's Central Data Exchange registrations and data management personnel. This list is made available by the Environmental Protection Agency (US EPA).

Government Publication Date: Nov 2, 2020

Toxics Release Inventory (TRI) Program: TRIS

The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U. S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment. One of TRI's primary purposes is to inform communities about toxic chemical releases to the environment.

Government Publication Date: Feb 19, 2020

Perfluorinated Alkyl Substances (PFAS) Releases: PFAS TRI

List of Toxics Release Inventory (TRI) facilities at which the reported chemical is a Per- or polyfluorinated alkyl substance (PFAS) included in the Environmental Protection Agency (EPA)'s consolidated PFAS Master List of PFAS Substances. The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment.

Government Publication Date: Feb 19, 2020

Perfluorinated Alkyl Substances (PFAS) Water Quality: PFAS WATER

The Water Quality Portal (WQP) is a cooperative service sponsored by the United States Geological Survey (USGS), the Environmental Protection Agency (EPA), and the National Water Quality Monitoring Council (NWQMC). This listing includes records from the Water Quality Portal where the characteristic (environmental measurement) is in the Environmental Protection Agency (EPA)'s consolidated PFAS Master List of PFAS Substances.

Government Publication Date: Jul 20, 2020

Hazardous Materials Information Reporting System: HMIRS

US DOT - Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) Incidents Reports Database taken from Hazmat Intelligence Portal, U.S. Department of Transportation.

Government Publication Date: Sep 1, 2020

National Clandestine Drug Labs: NCDL

The U.S. Department of Justice ("the Department") provides this data as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy.

Government Publication Date: Oct 5, 2020

Toxic Substances Control Act: TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.

The CDR enables EPA to collect and publish information on the manufacturing, processing, and use of commercial chemical substances and mixtures (referred to hereafter as chemical substances) on the TSCA Chemical Substance Inventory (TSCA Inventory). This includes current information on chemical substance production volumes, manufacturing sites, and how the chemical substances are used. This information helps the Agency determine whether people or the environment are potentially exposed to reported chemical substances. EPA publishes submitted CDR data that is not Confidential Business Information (CBI).

Government Publication Date: Apr 11, 2019

Hist TSCA: HIST TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.

The 2006 IUR data summary report includes information about chemicals manufactured or imported in quantities of 25,000 pounds or more at a single site during calendar year 2005. In addition to the basic manufacturing information collected in previous reporting cycles, the 2006 cycle is the first time EPA collected information to characterize exposure during manufacturing, processing and use of organic chemicals. The 2006 cycle also is the first time manufacturers of inorganic chemicals were required to report basic manufacturing information.

Government Publication Date: Dec 31, 2006

FTTS Administrative Case Listing: FTTS ADMIN

An administrative case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

FTTS Inspection Case Listing: FTTS INSP

An inspection case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

Potentially Responsible Parties List: PRP

Early in the cleanup process, the Environmental Protection Agency (EPA) conducts a search to find the potentially responsible parties (PRPs). EPA looks for evidence to determine liability by matching wastes found at the site with parties that may have contributed wastes to the site.

Government Publication Date: Apr 27, 2021

State Coalition for Remediation of Drycleaners Listing: SCRD DRYCLEANER

The State Coalition for Remediation of Drycleaners (SCRD) was established in 1998, with support from the U.S. Environmental Protection Agency (EPA) Office of Superfund Remediation and Technology Innovation. Coalition members are states with mandated programs and funding for drycleaner site remediation. Current members are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Government Publication Date: Nov 08, 2017

Integrated Compliance Information System (ICIS): ICIS

The Integrated Compliance Information System (ICIS) is a system that provides information for the Federal Enforcement and Compliance (FE&C) and the National Pollutant Discharge Elimination System (NPDES) programs. The FE&C component supports the Environmental Protection Agency's (EPA) Civil Enforcement and Compliance program activities. These activities include Compliance Assistance, Compliance Monitoring and Enforcement. The NPDES program supports tracking of NPDES permits, limits, discharge monitoring data and other program reports.

Government Publication Date: Mar 24, 2021

Drycleaner Facilities: FED DRYCLEANERS

A list of drycleaner facilities from Enforcement and Compliance History Online (ECHO) online search. The Environmental Protection Agency (EPA) tracks facilities that possess NAIC and SIC codes that classify businesses as drycleaner establishments.

Government Publication Date: Feb 17, 2021

Delisted Drycleaner Facilities: DELISTED FED DRY

List of sites removed from the list of Drycleaner Facilities (sites in the EPA's Integrated Compliance Information System (ICIS) with NAIC or SIC codes identifying the business as a drycleaner establishment).

Government Publication Date: Feb 17, 2021

Formerly Used Defense Sites: FUDS

Formerly Used Defense Sites (FUDS) are properties that were formerly owned by, leased to, or otherwise possessed by and under the jurisdiction of the Secretary of Defense prior to October 1986, where the Department of Defense (DoD) is responsible for an environmental restoration. This list is published by the U.S. Army Corps of Engineers.

Government Publication Date: Jan 28, 2020

Former Military Nike Missile Sites: FORMER NIKE

This information was taken from report DRXTH-AS-IA-83A016 (Historical Overview of the Nike Missile System, 12/1984) which was performed by Environmental Science and Engineering, Inc. for the U.S. Army Toxic and Hazardous Materials Agency Assessment Division. The Nike system was deployed between 1954 and the mid-1970's. Among the substances used or stored on Nike sites were liquid missile fuel (JP-4); starter fluids (UDKH, aniline, and furfuryl alcohol); oxidizer (IRFNA); hydrocarbons (motor oil, hydraulic fluid, diesel fuel, gasoline, heating oil); solvents (carbon tetrachloride, trichloroethylene, trichloroethane, stoddard solvent); and battery electrolyte. The quantities of material a disposed of and procedures for disposal are not documented in published reports. Virtually all information concerning the potential for contamination at Nike sites is confined to personnel who were assigned to Nike sites. During deactivation most hardware was shipped to depot-level supply points. There were reportedly instances where excess materials were disposed of on or near the site itself at closure. There was reportedly no routine site decontamination.

Government Publication Date: Dec 1, 1984

PHMSA Pipeline Safety Flagged Incidents: PIPELINE INCIDENT

A list of flagged pipeline incidents made available by the U.S. Department of Transportation (US DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA). PHMSA regulations require incident and accident reports for five different pipeline system types.

Government Publication Date: Jul 7, 2020

Material Licensing Tracking System (MLTS): MLTS

A list of sites that store radioactive material subject to the Nuclear Regulatory Commission (NRC) licensing requirements. This list is maintained by the NRC. As of September 2016, the NRC no longer releases location information for sites. Site locations were last received in July 2016.

Government Publication Date: May 11, 2021

Historic Material Licensing Tracking System (MLTS) sites: HIST MLTS

A historic list of sites that have inactive licenses and/or removed from the Material Licensing Tracking System (MLTS). In some cases, a site is removed from the MLTS when the state becomes an "Agreement State". An Agreement State is a State that has signed an agreement with the Nuclear Regulatory Commission (NRC) authorizing the State to regulate certain uses of radioactive materials within the State.

Government Publication Date: Jan 31, 2010

Mines Master Index File: MINES

The Master Index File (MIF) contains mine identification numbers issued by the Department of Labor Mine Safety and Health Administration (MSHA) for mines active or opened since 1971. Note that addresses may or may not correspond with the physical location of the mine itself.

Government Publication Date: Nov 3, 2020

Surface Mining Control and Reclamation Act Sites: SMCRA

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by the Office of Surface Mining Reclamation and Enforcement (OSMRE) to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of Abandoned Mine Land (AML) impacts, as well as information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Government Publication Date: Dec 18, 2020

Mineral Resource Data System: MRDS

The Mineral Resource Data System (MRDS) is a collection of reports describing metallic and nonmetallic mineral resources throughout the world. Included are deposit name, location, commodity, deposit description, geologic characteristics, production, reserves, resources, and references. This database contains the records previously provided in the Mineral Resource Data System (MRDS) of USGS and the Mineral Availability System/Mineral Industry Locator System (MAS/MILS) originated in the U.S. Bureau of Mines, which is now part of USGS. The USGS has ceased systematic updates of the MRDS database with their focus more recently on deposits of critical minerals while providing a well-documented baseline of historical mine locations from USGS topographic maps.

Government Publication Date: Mar 15, 2006

Uranium Mill Tailings Radiation Control Act Sites: URANIUM

The Legacy Management Office of the Department of Energy (DOE) manages radioactive and chemical waste, environmental contamination, and hazardous material at over 100 sites across the U.S. The L.M. Office manages this database of sites registered under the Uranium Mill Tailings Control Act (UMTRCA).

Government Publication Date: Mar 4, 2017

Alternative Fueling Stations: ALT FUELS

List of alternative fueling stations made available by the US Department of Energy's Office of Energy Efficiency & Renewable Energy. Includes Biodiesel stations, Ethanol (E85) stations, Liquefied Petroleum Gas (Propane) stations, Ethanol (E85) stations, Natural Gas stations, Hydrogen stations, and Electric Vehicle Supply Equipment (EVSE). The National Renewable Energy Laboratory (NREL) obtains information about new stations from trade media, Clean Cities coordinators, a Submit New Station form on the Station Locator website, and through collaborating with infrastructure equipment and fuel providers, original equipment manufacturers (OEMs), and industry groups.

Government Publication Date: Apr 27, 2021

Registered Pesticide Establishments: SSTS

List of active EPA-registered foreign and domestic pesticide-producing and device-producing establishments based on data from the Section Seven Tracking System (SSTS). The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 7 requires that facilities producing pesticides, active ingredients, or devices be registered. The list of establishments is made available by the EPA.

Government Publication Date: Apr 13, 2021

Polychlorinated Biphenyl (PCB) Notifiers: PCB

Facilities included in the national list of facilities that have notified the United States Environmental Protection Agency (EPA) of Polychlorinated Biphenyl (PCB) activities. Any company or person storing, transporting or disposing of PCBs or conducting PCB research and development must notify the EPA and receive an identification number.

Government Publication Date: Nov 19, 2020

State

Spills Incidents Sites: SPILLS

List of spills and/or releases reported to the Washington Department of Ecology (DEC).

Government Publication Date: Feb 10, 2021

Reported Spills to Water: SPILLS WATER

A list of reported spills to water of one gallon or more made available by the Washington Department of Ecology.

Government Publication Date: Apr 2, 2020

Facility/Site Identification System: ALL SITES

The Facility/Site Identification System made available by the Department of Ecology (DEC) provides a central repository of key information for each facility/site of interest to DEC. The DEC has defined a facility/site as an operation at a fixed location that is of interest to the agency because it has an active or potential impact upon the environment.

Government Publication Date: Apr 16, 2021

Environmental Report Tracking System (ERTS): ERTS

A list of incidents from the Environmental Report Tracking System (ERTS), used by various programs within the Washington Department of Ecology (DEC) to track incidents and activities. This list is made available by the Washington Department of Ecology (DEC).

Government Publication Date: Mar 4, 2021

Independent Cleanup Reports: ICR

List of facilities in remedial action reports received by the Washington Department of Ecology (DEC) from either the owner or operator of the site. These actions have been conducted without department oversight or approval and are not under an order or decree. Independent Cleanup is historical terminology for Voluntary Cleanup; this data is no longer updated, current records can be found in Voluntary Cleanup.
Government Publication Date: Nov 6, 2015

Registered Drycleaners List: DRYCLEANERS
A listing of registered drycleaner facilities maintained by the Department of Ecology.
Government Publication Date: May 26, 2021

Delisted Drycleaners: DELISTED DRYCLEANERS
Sites which once appeared on the list of registered drycleaner facilities made available by the Department of Ecology.
Government Publication Date: May 26, 2021

Tier 2 Report: TIER 2
List of facilities that report storage of hazardous chemicals or materials to the Department of Ecology's Hazardous Waste and Toxics Reduction Program under the Emergency Planning and Community Right to Know Act (EPCRA).
Government Publication Date: Jul 9, 2020

Clandestine Drug Lab Sites: CDL
A list of Clandestine Drug Lab sites made available by the Washington Department of Health.
Government Publication Date: Mar 18, 2020

Clandestine Drug Lab Sites - Historical Listing: HIST CDL
List of Clandestine Drug Lab sites reported to the Department of Health from local health departments. This list contains sites that are not in the current list.
Government Publication Date: until 2007

Air Permitted Facilities: AIR PERMITS
This list of air emissions inventory is a point source summary of individual inventories from facilities with air operating permits. This list is maintained by the Washington Department of Ecology.
Government Publication Date: Jun 10, 2019

Underground Injection Control Wells: UIC
The Water Quality Program of the Washington State Department of Ecology (DEC) maintains this water quality permit database that includes Underground Injection Control (UIC) wells. According to the DEC, UIC wells are manmade structures used to discharge fluids into the subsurface. Examples are drywells, infiltration trenches with perforated pipe, and any structure deeper than the widest surface dimension. The majority of UIC wells in Washington are used to manage storm water and sanitary waste, return water to the ground, and help clean up contaminated sites. The potential for groundwater contamination from injection wells depends upon well construction and location; quality of the fluids injected; and the geographic and hydrologic settings in which the injection occurs.
Government Publication Date: Oct 15, 2020

Tribal

No Tribal additional environmental record sources available for this State.

County

No County additional environmental databases were selected to be included in the search.

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

Appendix F: Environmental Liens and Activity and Use Limitations (AUL) Search

None Provided

Appendix G: Aerial Photographs

HISTORICAL AERIALS

Project Property:	Alterra - Buse Buse Everett WA 98201
Requested By:	Apex Companies, LLC
Order No:	21061500391
Data Completed:	June 16,2021

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

Date	Source	Scale	Comments
2019	National Agriculture Information Program	1" to 500'	
2017	National Agriculture Information Program	1" to 500'	
2015	National Agriculture Information Program	1" to 500'	
2013	National Agriculture Information Program	1" to 500'	
2011	National Agriculture Information Program	1" to 500'	
2009	National Agriculture Information Program	1" to 500'	
2005	National Agriculture Information Program	1" to 500'	
1990	US Geological Survey	1" to 500'	
1981	National High Altitude Photography	1" to 500'	
1975	National Aeronautics Space Administration	1" to 500'	
1968	US Geological Survey	1" to 500'	
1956	Army Mapping Service	1" to 500'	Best Copy Available
1952	US Geological Survey	1" to 500'	
1941	US Geological Survey	1" to 500'	

Year: 2019
Source: NAIP
Scale: 1" to 500'
Comment:

Address: Buse, Everett, WA
Approx Center: -122.17840849,48.02127966

Order No: 21061500391

ERIS

Year: 2017
Source: NAIP
Scale: 1" to 500'
Comment:

Address: Buse, Everett, WA
Approx Center: -122.17840849,48.02127966

Order No: 21061500391

ERIS

Year: 2015
Source: NAIP
Scale: 1" to 500'
Comment:

Address: Buse, Everett, WA
Approx Center: -122.17840849,48.02127966

Order No: 21061500391

ERIS

Year: 2013
Source: NAIP
Scale: 1" to 500'
Comment:

Address: Buse, Everett, WA
Approx Center: -122.17840849,48.02127966

Order No: 21061500391

ERIS

Year: 2011
Source: NAIP
Scale: 1" to 500'
Comment:

Address: Buse, Everett, WA
Approx Center: -122.17840849,48.02127966

Order No: 21061500391

ERIS

Year: 2009
Source: NAIP
Scale: 1" to 500'
Comment:

Address: Buse, Everett, WA
Approx Center: -122.17840849,48.02127966

Order No: 21061500391

ERIS

Year: 2005
Source: NAIP
Scale: 1" to 500'
Comment:

Address: Buse, Everett, WA
Approx Center: -122.17840849,48.02127966

Order No: 21061500391

ERIS

Year: 1990
Source: USGS
Scale: 1" to 500'
Comment:

Address: Buse, Everett, WA
Approx Center: -122.17840849,48.02127966

Order No: 21061500391

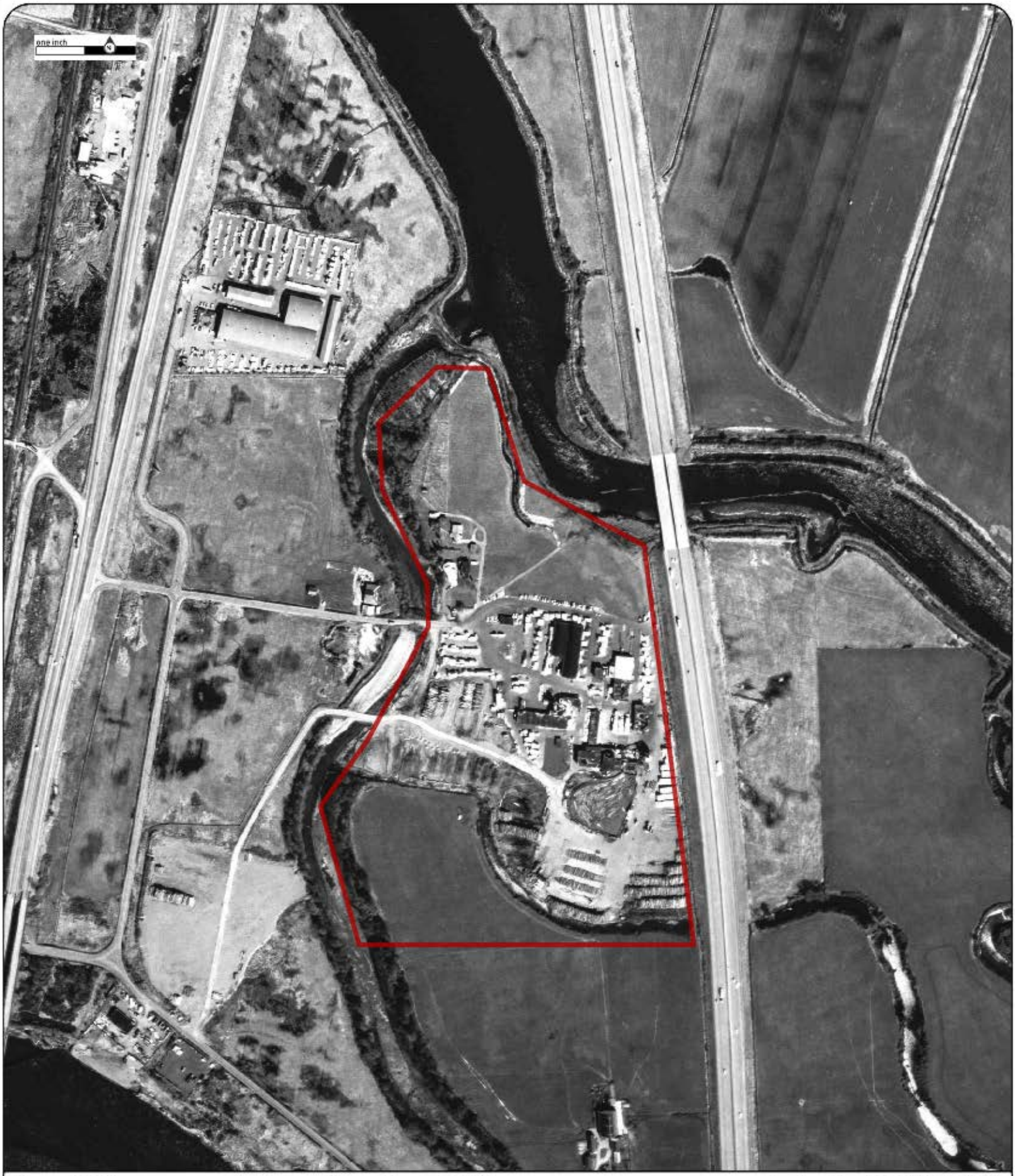
ERIS

Year: 1981
Source: NHAP
Scale: 1" to 500'
Comment:

Address: Buse, Everett, WA
Approx Center: -122.17840849,48.02127966

Order No: 21061500391

ERIS

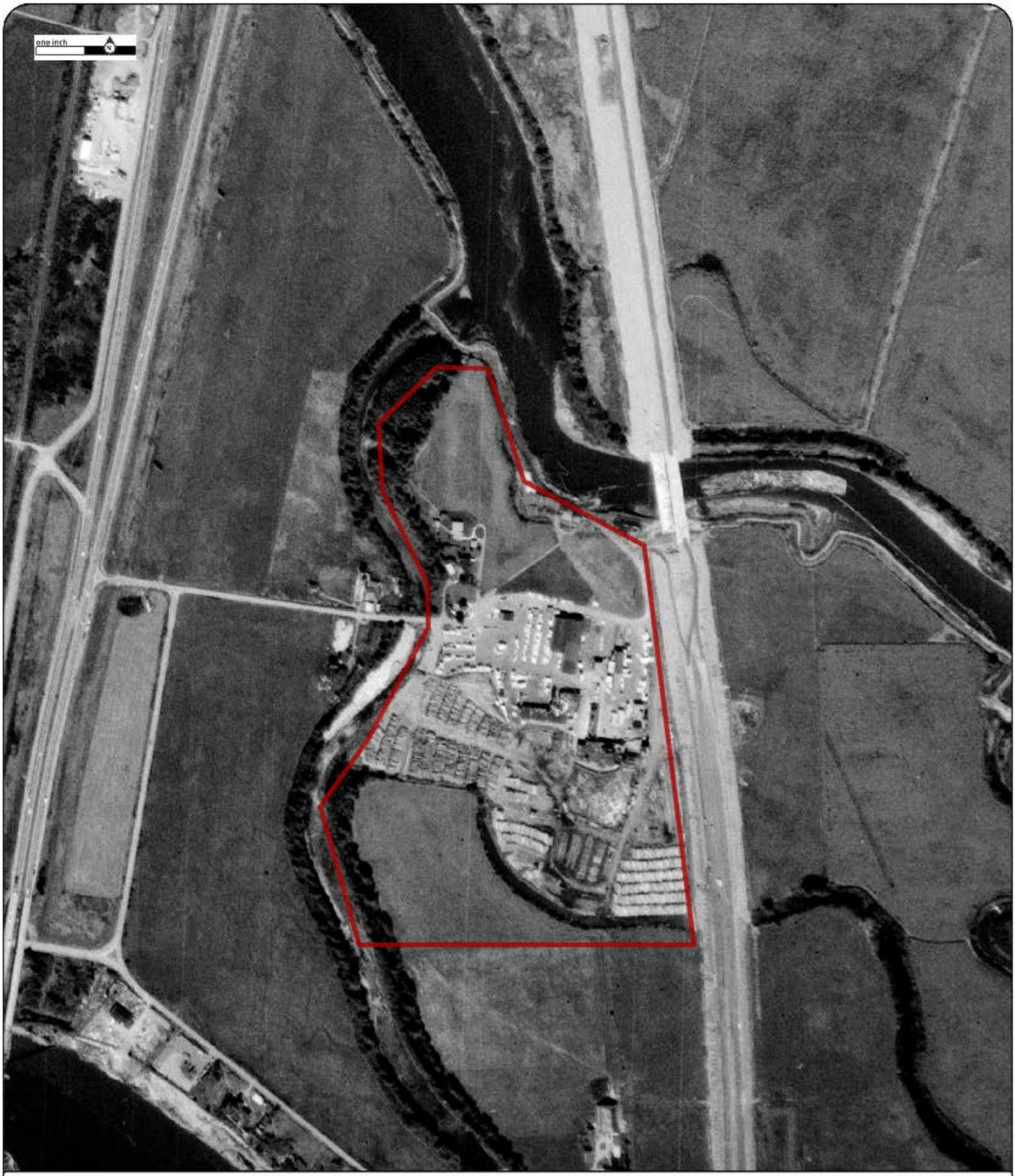


Year: 1975
Source: NASA
Scale: 1" to 500'
Comment:

Address: Buse, Everett, WA
Approx Center: -122.17840849,48.02127966

Order No: 21061500391

ERIS



Year: 1968
Source: USGS
Scale: 1" to 500'
Comment:

Address: Buse, Everett, WA
Approx Center: -122.17840849,48.02127966

Order No: 21061500391

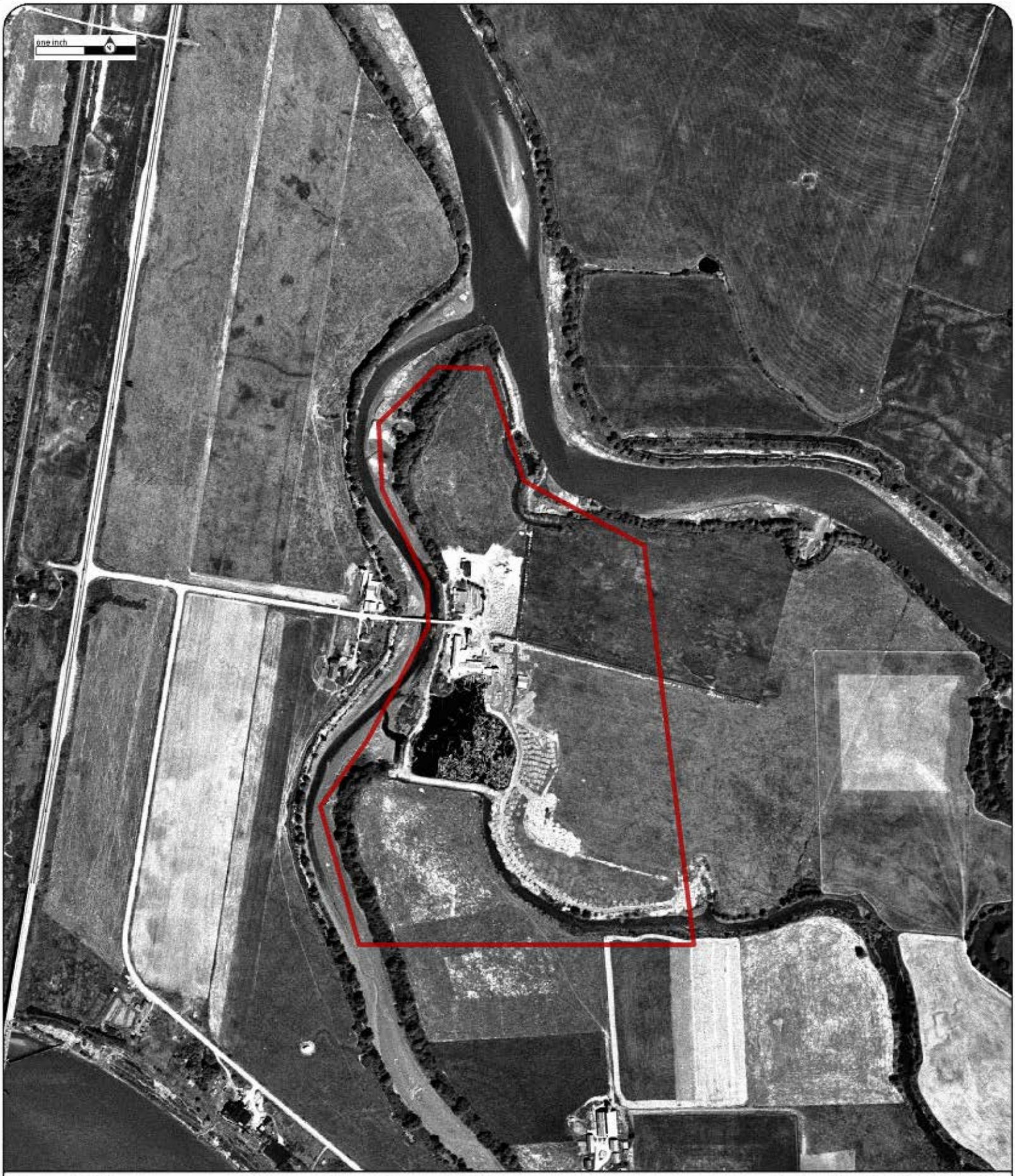
ERIS

Year: 1956
Source: AMS
Scale: 1" to 500'
Comment: Best Copy Available

Address: Buse, Everett, WA
Approx Center: -122.17840849,48.02127966

Order No: 21061500391

ERIS



Year: 1952
Source: USGS
Scale: 1" to 500'
Comment:

Address: Buse, Everett, WA
Approx Center: -122.17840849,48.02127966

Order No: 21061500391

ERIS

Year: 1941
Source: USGS
Scale: 1" to 500'
Comment:

Address: Buse, Everett, WA
Approx Center: -122.17840849,48.02127966

Order No: 21061500391

ERIS

Appendix H: Topographic Maps

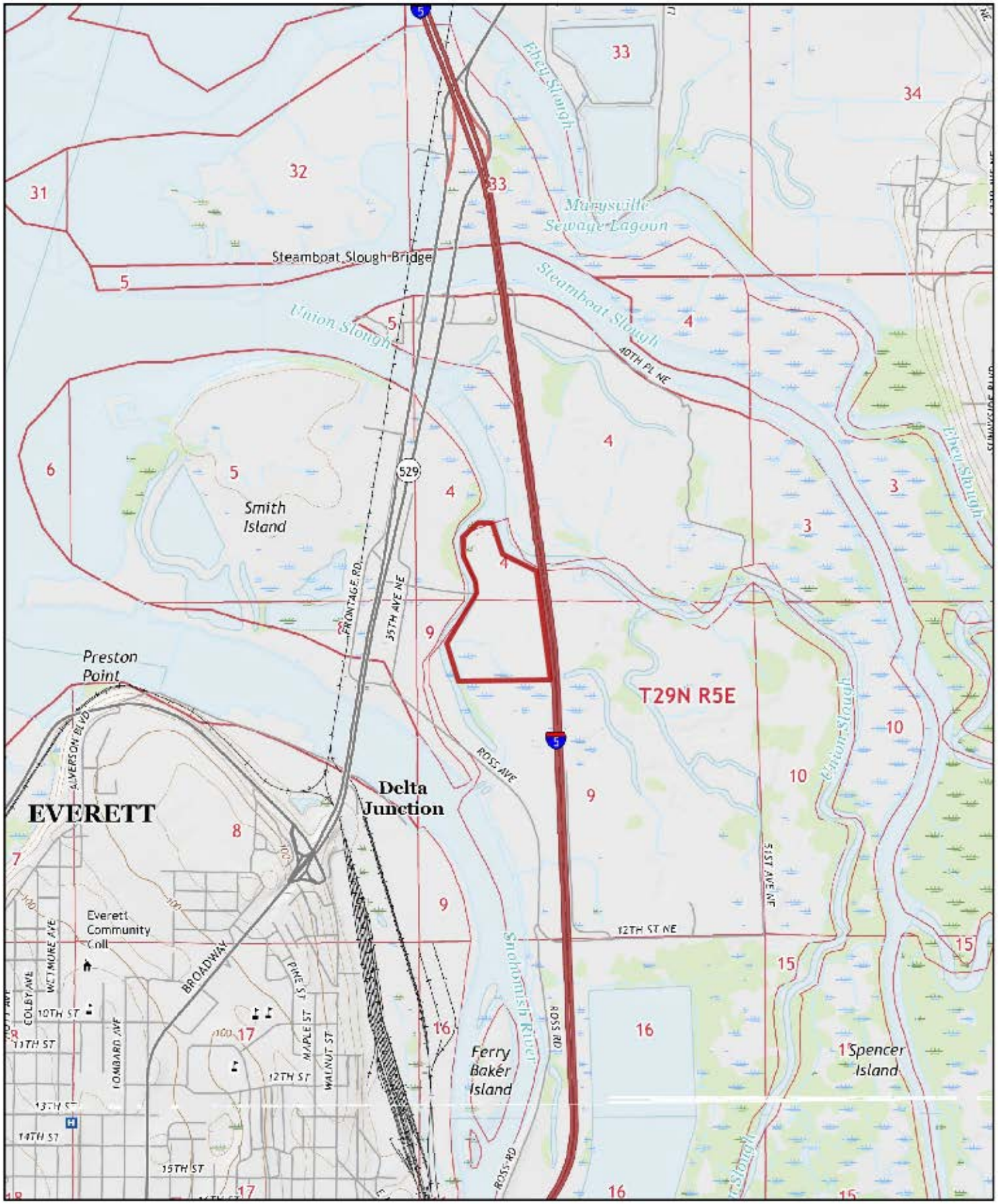
TOPOGRAPHIC MAPS

Project Property:	Alterra - Buse Buse Everett WA 98201
Project No:	Alterra - Everett
Requested By:	Apex Companies, LLC
Order No:	21061500391
Date Completed:	June 16, 2021

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

We have searched USGS collections of current topographic maps and historical topographic maps for the project property. Below is a list of maps found for the project property and adjacent area. Maps are from 7.5 and 15 minute topographic map series, if available.

Year	Map Series
2017	7.5
1973	7.5
1968	7.5
1956	7.5
1943	15
1941	15



2017

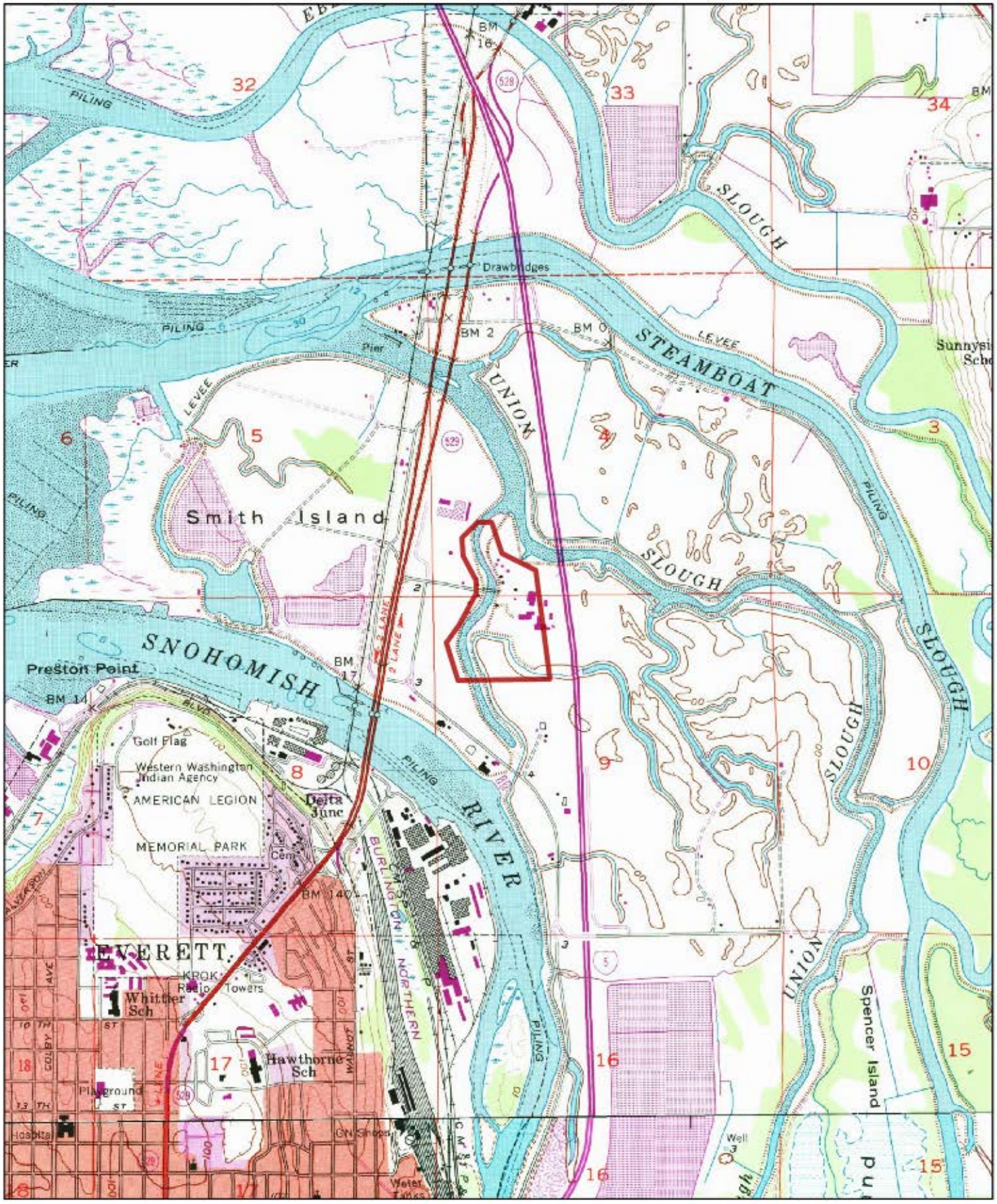
0 0.2 0.4 0.8 Miles

Order No. 21061500391

Quadrangle(s): Marysville,WA

Source: USGS 7.5 Minute Topographic Map

ERIS



1973

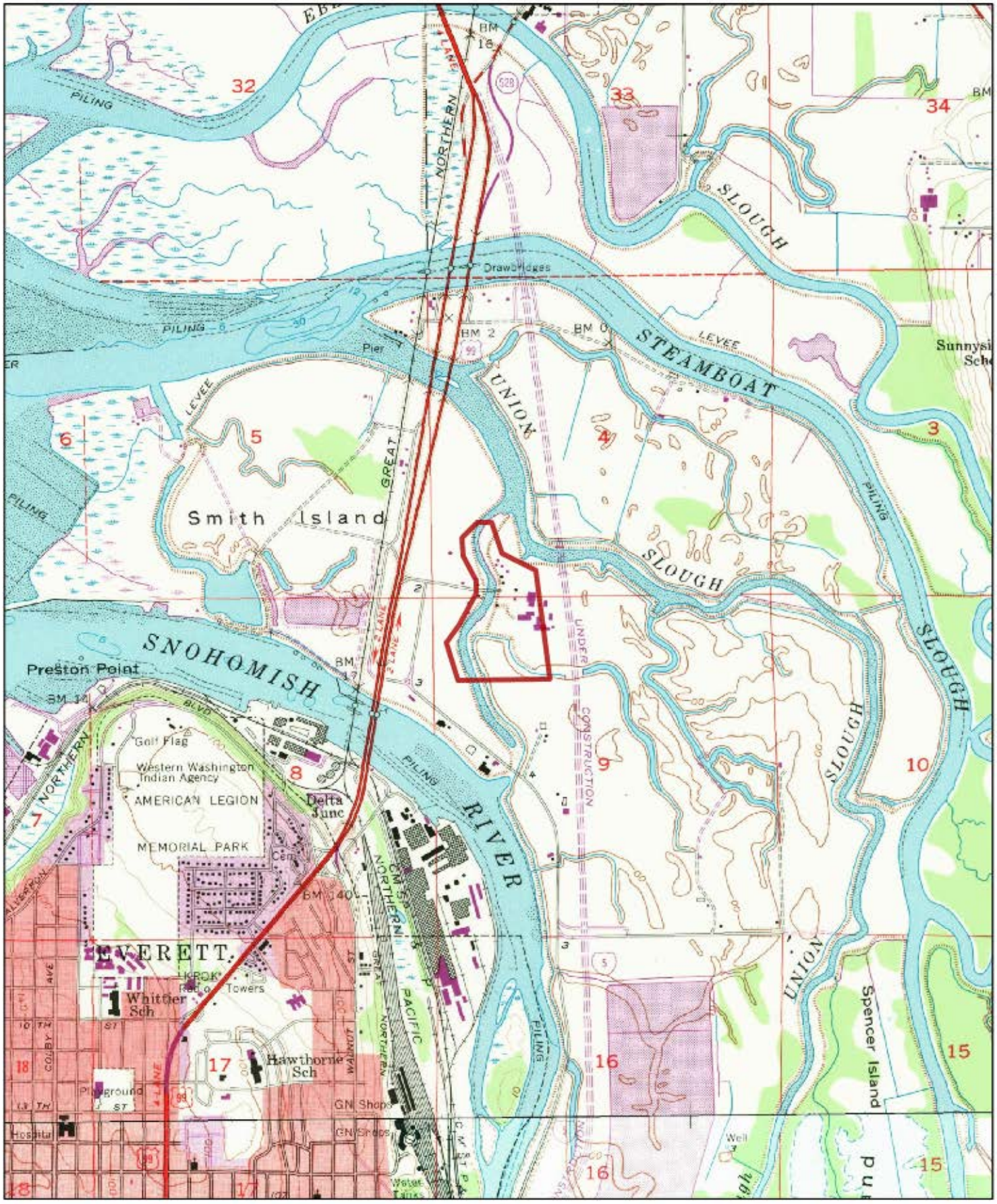
0 0.2 0.4 0.8 Miles

Order No. 21061500391

Quadrangle(s): Marysville,WA

Source: USGS 7.5 Minute Topographic Map

ERIS



1968

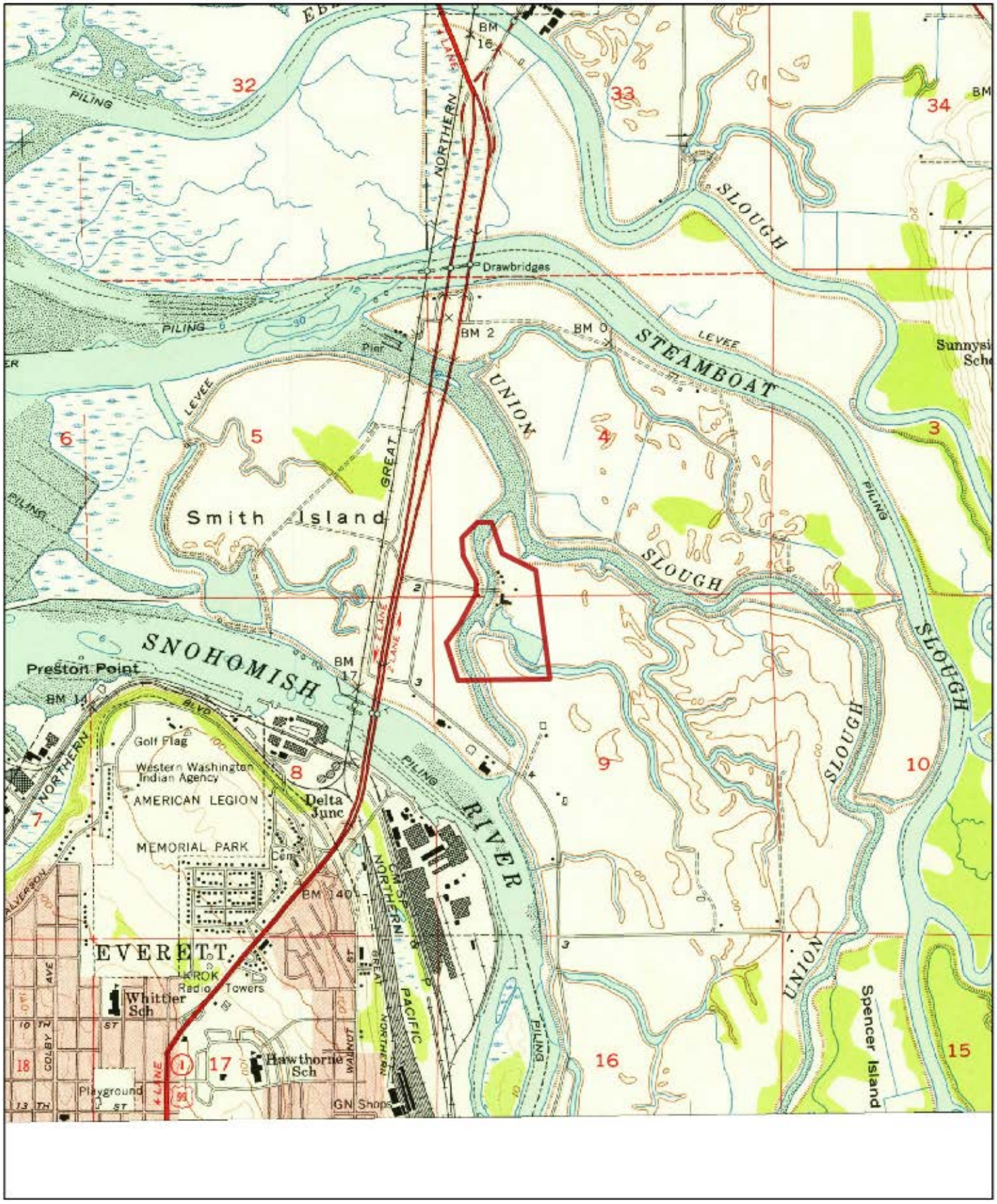
0 0.2 0.4 0.8 Miles

Order No. 21061500391

Quadrangle(s): Marysville,WA

Source: USGS 7.5 Minute Topographic Map

ERIS



1956

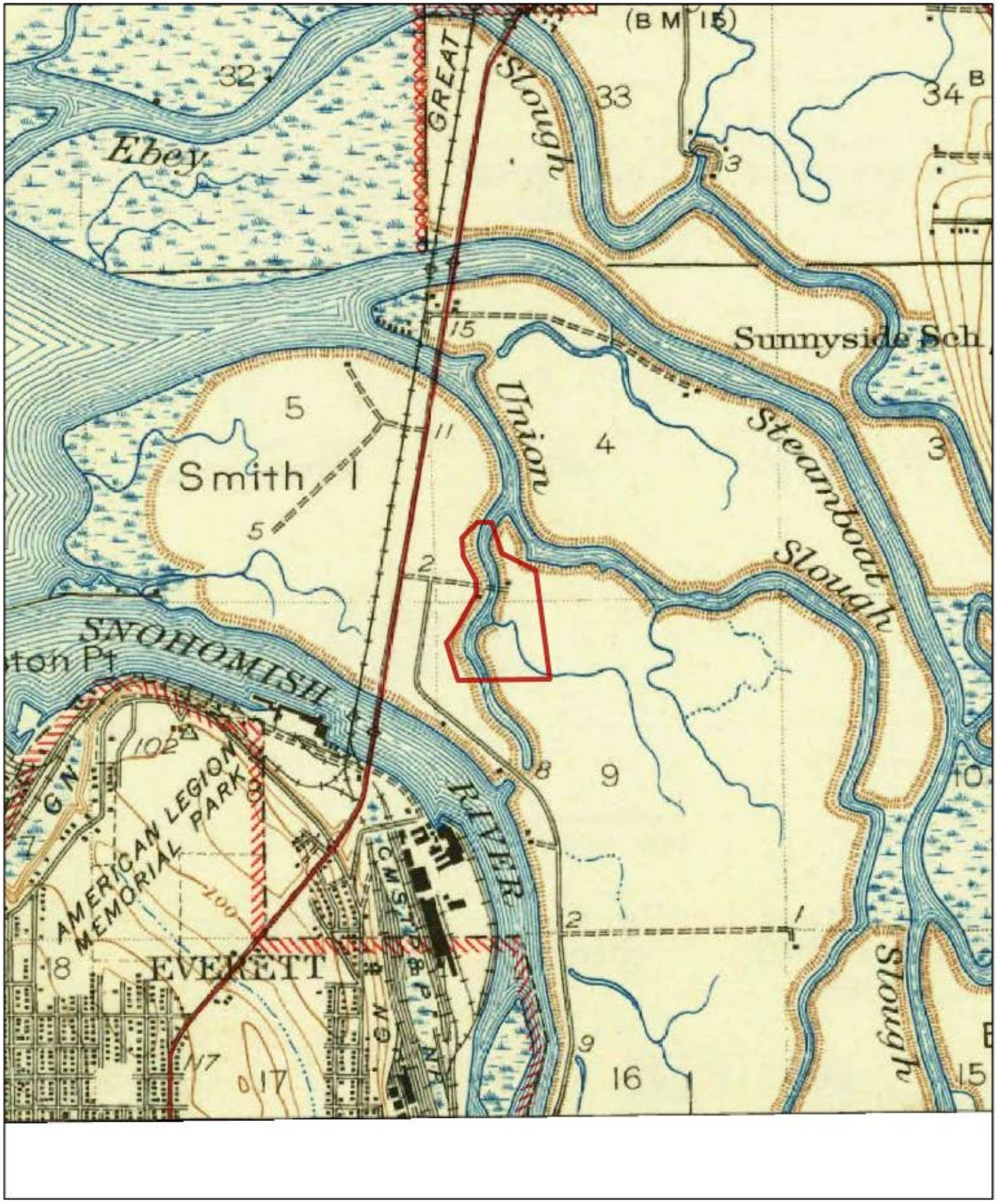
0 0.2 0.4 0.8 Miles

Order No. 21061500391

Quadrangle(s): Marysville,WA

Source: USGS 7.5 Minute Topographic Map

ERIS



1943

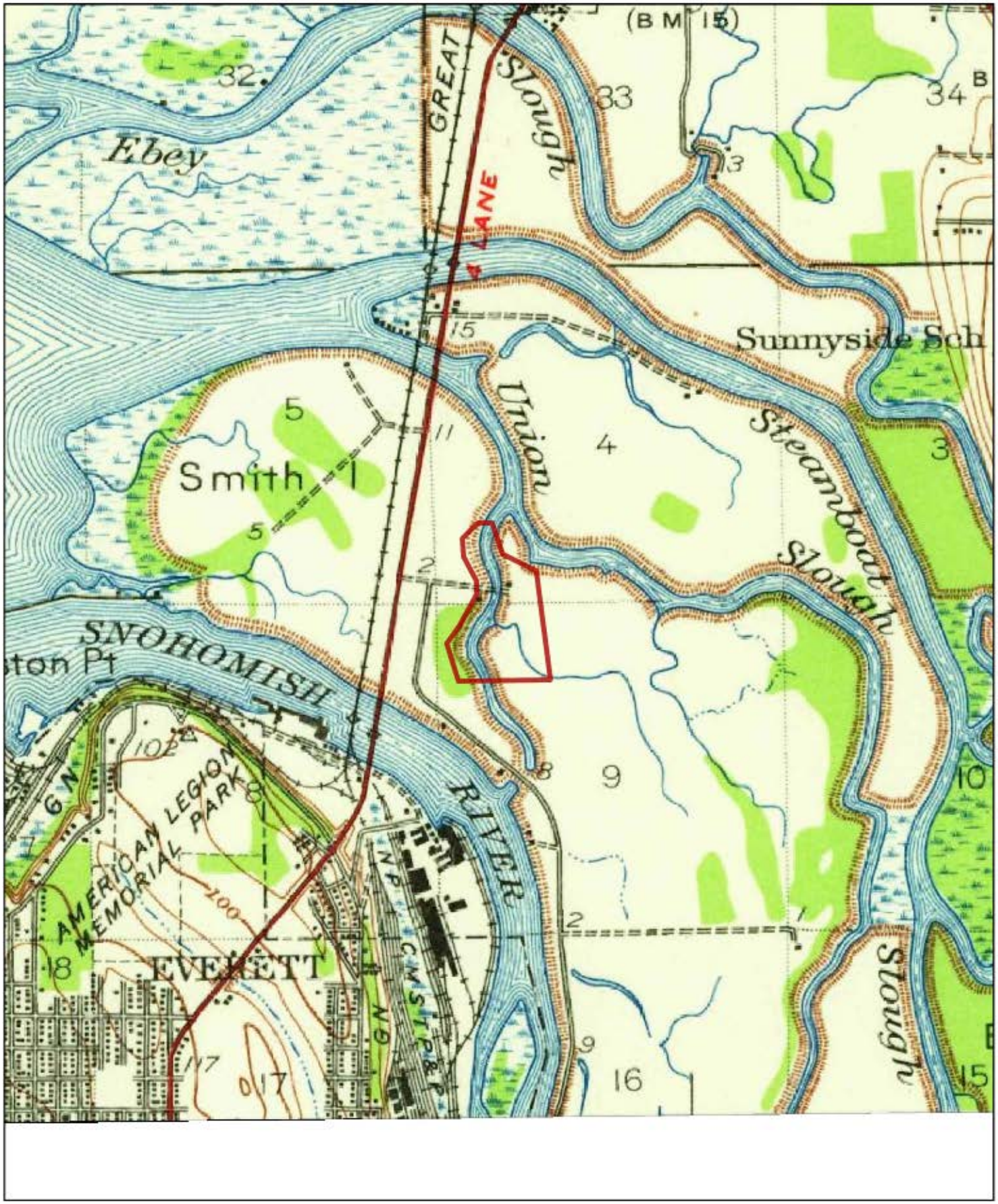
0 0.2 0.4 0.8 Miles

Order No. 21061500391

Quadrangle(s): Marysville,WA

Source: USGS 15 Minute Topographic Map

ERIS



1941

0 0.2 0.4 0.8 Miles

Order No. 21061500391

Quadrangle(s): Marysville,WA

Source: USGS 15 Minute Topographic Map

ERIS

Appendix I: Sanborn Maps

FIRE INSURANCE MAPS

Project Property:	Alterra - Buse Buse Everett WA 98201
Project No:	Alterra - Everett
Requested By:	Apex Companies, LLC
Order No:	21061500391
Date Completed:	June 15, 2021

Please note that no information was found for your site or adjacent properties.

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

Appendix J: City Directories

CITY DIRECTORY

Project Property:	*Alterra - Buse* *Buse* *Evere , WA 98201*
Project No:	*Alterra - Evere*
Requested By:	*Apex Companies, LLC*
Order No:	*21061500391*
Date Completed:	*June 17, 2021*

Environmental Risk Information Services
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June 17, 2021
RE: CITY DIRECTORY RESEARCH
Alterra - Buse
Buse Evere , WA

Thank you for contac ng ERIS for an City Directory Search for the site described above. Our staff has conducted a reverse lis ng City Directory search to determine prior occupants of the subject site and adjacent proper es. We have provided the nearest addresses(s) when adjacent addresses are not listed. If we have searched a range of addresses, all addresses in that range found in the Directory are included.

Note: Reverse Lis ng Directories generally are focused on more highly developed areas. Newly developed areas may be covered in the more recent years, but the older directories will tend to cover only the "central" parts of the city. To complete the search, we have either u lized the ACPL, Library of Congress, State Archives, and/or a regional library or history center as well as mul ple digi zed directories. These do not claim to be a complete collec on of all reverse lis ng city directories produced.

ERIS has made every effort to provide accurate and complete informa on but shall not be held liable for missing, incomplete or inaccurate informa on. To complete this search we used the general range(s) below to search for relevant findings. If you believe there are addi onal addresses or streets that require searching please contact us at 866-517-5204.

Search Criteria:
All of 28th Place Northeast
All of Ross Avenue

Search Results Summary

Date	Source	Comment
2020	DIGITAL BUSINESS DIRECTORY	
2016	DIGITAL BUSINESS DIRECTORY	
2012	DIGITAL BUSINESS DIRECTORY	
2006	COLE	
2000-01	COLE	
1995	COLE	
1990	COLE	
1980	COLE	
1980	COLE	

3812 **BUSE TIMBER SALES INC**...*Lumber-manufacturers*
3812 **BUSE TIMBER & SALES INC**...*Logging (mfrs)*
3812 **BUSE TIMBER & SALES INC**...*Lumber-manufacturers*
3812 **BUSE TIMBER & SALES INC**...*Lumberwholesale*

1870 **DAGMARS MARINA**...*Home Improvements*
1871 **BOAT COUNTRY**...*Boat Dealers Sales & Service*
1871 **BOAT COUNTRY**...*Trailers-boat*
1871 **BOAT COUNTRY**...*Boat Covers Tops & Upholstery*
1871 **BOAT COUNTRY**...*Boat Equipment & Supplies*
1871 **DAGMARS MARINA**...*Heavy Equipmentsales Rental & Service*
1871 **DAGMARS MARINA**...*Moorages*
1871 **SIGNAL TRAILER SVC**...*Trailers-repairing & Service*
1910 **DUNLAP MARINE TOWING CO**...*Towing-marine*
1910 **DUNLAP MARINE TOWING CO**...*Barges (mfrs)*
1910 **DUNLAP MARINE TOWING CO**...*Wrecker Service*
1910 **DUNLAP MARINE TOWING CO**...*Recreational Vehiclestransporting*
2010 **PERFORMANCE MARINE INC**...*Site Preparation Contractors*
2102 **MC CLEAN IRON WORKS**...*Manufacturers*
2102 **MC CLEAN IRON WORKS**...*Photographerscommercial*
2111 **GRANITE CONSTRUCTION CO**...*Driveways*
2111 **GRANITE CONSTRUCTION CO**...*Federal Government Contractors*
2111 **GRANITE CONSTRUCTION CO**...*Asphalt & Asphalt Products*
2111 **GRANITE CONSTRUCTION CO**...*Construction-building Contractors*
2222 **CAL PORTLAND CO**...*Cement-manufacturers*
2222 **CAL PORTLAND CO**...*Nonclassified Establishments*
2323 **CAL PORTLAND CO**...*Cement-manufacturers*
2323 **CAL PORTLAND CO**...*Sand & Gravel (whls)*
2323 **CAL PORTLAND CO**...*Cement-manufacturers*
2323 **CAL PORTLAND CO**...*Sand & Gravel (whls)*

3812 **BUSE TIMBER & SALES INC**...*Logging (mfrs)*
3812 **BUSE TIMBER & SALES INC**...*Lumber-manufacturers*

1871 **BOAT COUNTRY**...*Trailers-boat*
1871 **BOAT COUNTRY**...*Boat Dealers Sales & Service*
1871 **DAGMAR'S MARINA**...*Marinas*
1871 **DAGMARS MARINA**...*Moorages*
1871 **K E ENTERPRISE INC**...*Nonclassified Establishments*
1871 **SIGNAL TRAILER SVC**...*Trailer Hitches*
1871 **SIGNAL TRAILER SVC**...*Trailers-repairing & Service*
1910 **DUNLAP MARINE TOWING CO**...*Wrecker Service*
2010 **PERFORMANCE MARINE INC**...*Site Preparation Contractors*
2102 **IRON MCCLEAN INC**...*Federal Government Contractors*
2102 **MC CLEAN IRON WORKS**...*Manufacturers*
2102 **MC CLEAN IRON WORKS**...*Ironwork*
2111 **GRANITE CONSTRUCTION CO**...*Asphalt & Asphalt Products*
2111 **GRANITE CONSTRUCTION CO**...*Construction-building Contractors*
2323 **CAL PORTLAND CO**...*Sand & Gravel (whls)*
2323 **CAL PORTLAND CO**...*Sand & Gravel (whls)*
2323 **CAL PORTLAND CO**...*Sand & Gravel (whls)*

3812 **BUSE TIMBER & SALES INC**...*Lumber-manufacturers*
3812 **BUSE TIMBER & SALES INC**...*Cut Stock Resawing Lumber & Planing*

1871 **BOAT COUNTRY**...*Boat Dealers Sales & Service*
1871 **BOAT COUNTRY**...*Boat Dealers*
1871 **DAGMAR'S MARINA**...*Marinas*
1871 **DAGMARS MARINA**...*Marinas*
1871 **NORTH WEST PRODUCTS UNLIMITED**...*Misc Indstrl Equip & Supls Nec (whls)*
1871 **SIGNAL TRAILER SVC**...*Trailers-repairing & Service*
1871 **SIGNAL TRAILER & CAMPERS**...*All Other Motor Vehicle Dealers*
1910 **DUNLAP MARINE TOWING CO**...*Towing-marine*
1910 **DUNLAP MARINE TOWING CO**...*Navigational Svcs To Shipping*
2010 **MERCER MARINE AT DAGMARS**...*Marinas*
2102 **IRON MCCLEAN INC**...*Ironwork*
2102 **MC CLEAN IRON WORKS**...*Manufacturers*
2111 **GRANITE CONSTRUCTION CO**...*Construction-building Contractors*
2111 **WILDER CONSTRUCTION**...*Highway Street & Bridge Construction*
2222 **GLACIER NORTHWEST**...*Other Millwork, Including Flooring*
2323 **CAL PORTLAND CO**...*Building Materials-manufacturers*
2323 **CALPORTLAND**...*Sand & Gravel (whls)*

2006
SOURCE: COLE

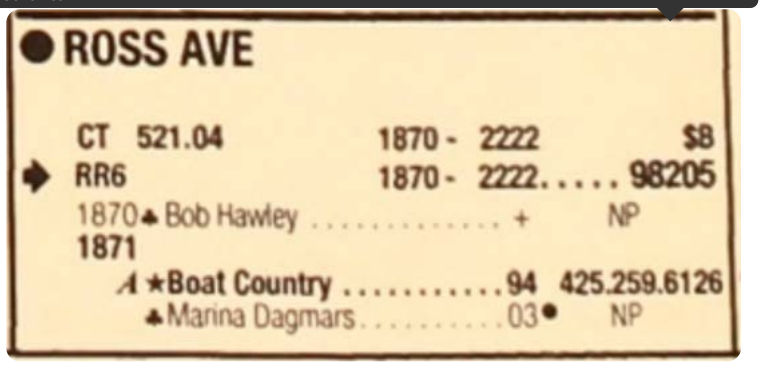
28TH PLACE NORTHEAST

28TH PL NE

CT 521.04 3812 - 3815 $8
RR6 3812 - 3815 98205
35TH AVE NE INTS
3812 ★Buse Timber & Sales Inc . 83 425.258.2577
★West Coast Lumber Inspection Bureau
04 ⊙425.258.2577
3815 ..... NP
1 RESIDENCE 2 BUSINESS

2006
SOURCE: COLE

ROSS AVENUE - A



ROSS AVE

CT 521.04 1870 - 2222 $8
RR6 1870 - 2222 98205
1870 ♣ Bob Hawley ..... + NP
1871
A ★Boat Country 94 425.259.6126
♣Marina Dagmars ..... 03● NP

2006 — ROSS AVENUE - B

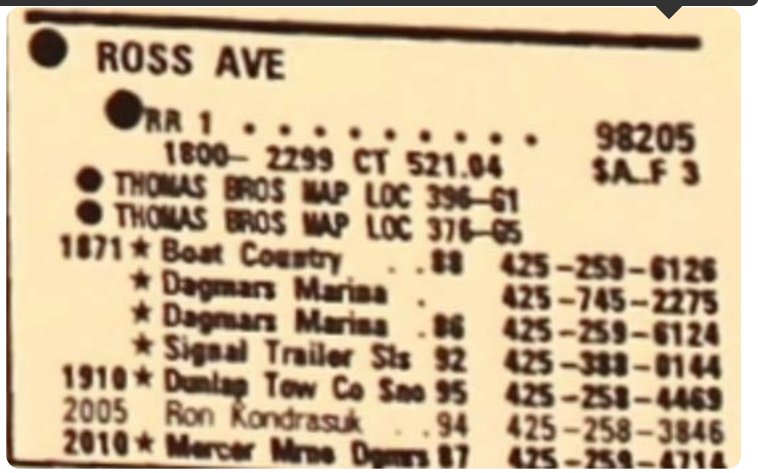
SOURCE: COLE

2000-01 — 28TH PLACE NORTHEAST

SOURCE: COLE

2000-01
SOURCE: COLE

ROSS AVENUE - A

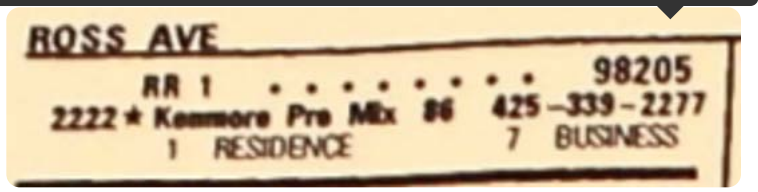


ROSS AVE

RR 1 98205
1800– 2299 CT 521.04 SA_F 3
THOMAS BROS MAP LOC 396–G1
THOMAS BROS MAP LOC 376–G5
1871 ★ Boat Country . . 88 425–259–6126
★ Dagmars Marina . 425–745–2275
★ Dagmars Marina . 86 425–259–6124
★ Signal Trailer Sls 92 425–388–8144
1910 ★ Dunlap Tow Co Sno 95 425–258–4469
2005 Ron Kondrasuk . . 94 425–258–3846
2010 ★ Mercer Mrne Dgnrs 87 425–259–4714

2000-01
SOURCE: COLE

ROSS AVENUE - B

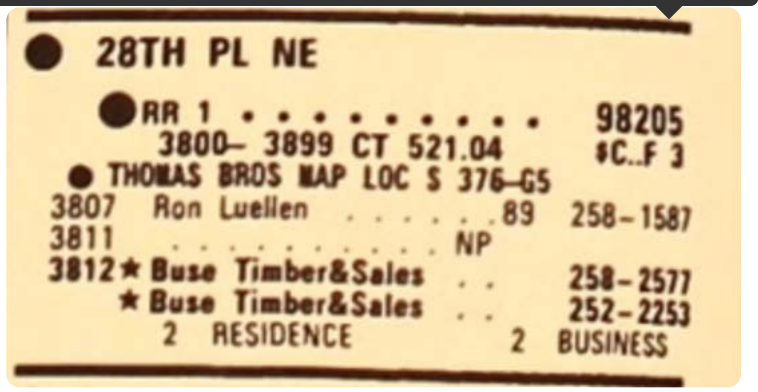


ROSS AVE

RR 1 98205
2222 ★ Kenmore Pre Mix 86 425–339–2277
1 RESIDENCE 7 BUSINESS

1995
SOURCE: COLE

28TH PLACE NORTHEAST

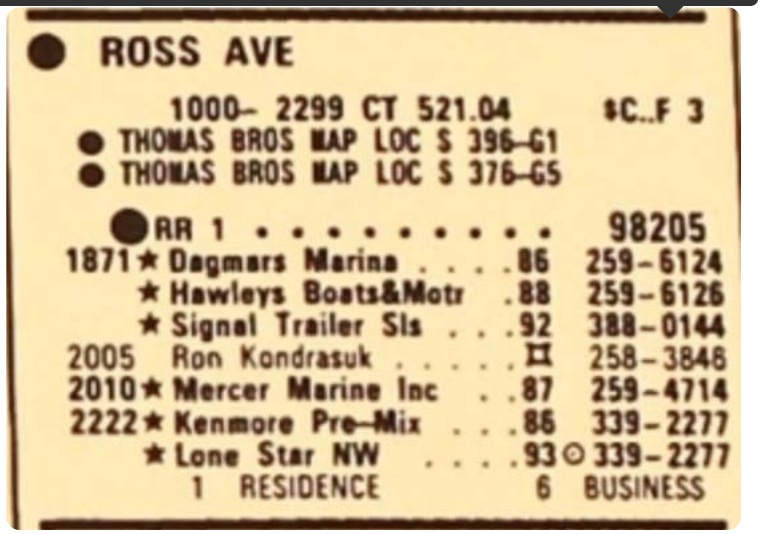


28TH PL NE

RR 1 98205
3800– 3899 CT 521.04 $C..F 3
THOMAS BROS MAP LOC S 376–G5
3807 Ron Luellen 89 258–1587
3811 . . . . . NP
3812 ★ Buse Timber&Sales . . 258–2577
★ Buse Timber&Sales . . 252–2253
2 RESIDENCE 2 BUSINESS

1995
SOURCE: COLE

ROSS AVENUE



ROSS AVE

1000– 2299 CT 521.04 $C..F 3
THOMAS BROS MAP LOC S 396–G1
THOMAS BROS MAP LOC S 376–G5

RR 1 98205
1871 ★ Dagmars Marina 86 259–6124
★ Hawleys Boats&Motr . 88 259–6126
★ Signal Trailer Sls . . . 92 388–0144
2005 Ron Kondrasuk 258–3848
2010 ★ Mercer Marine Inc . . 87 259–4714
2222 ★ Kenmore Pre–Mix . . . 86 339–2277
★ Lone Star NW 93 339–2277
1 RESIDENCE 6 BUSINESS

1990
SOURCE: COLE

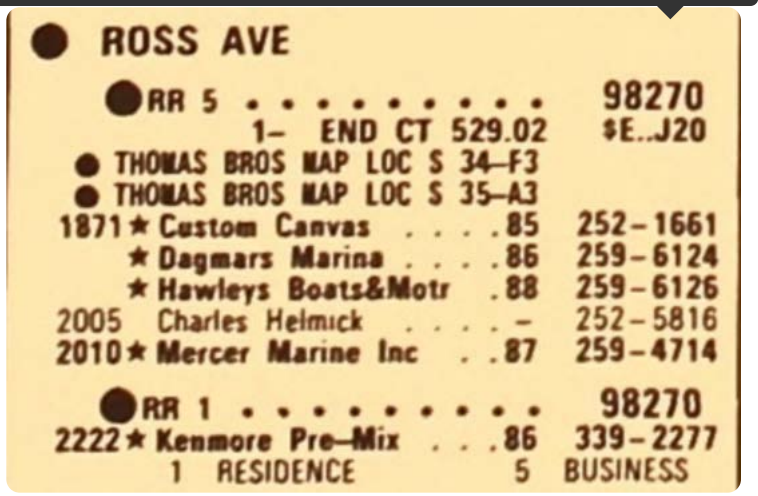
28TH PLACE NORTHEAST

28TH PL NE

RR 5 98270
3800– 3899 CT 521.01 $B..G 3
THOMAS BROS MAP LOC S 34–F2
3807 Ron Luellen . . . . . ¤ 258–1587
3811 . . . . . NP
3812 ★ Buse Timber&Sales . . 258–2577
★ Buse Timber&Sales . . 252–2253
★ Buse Timber&Sales . . 259–6956
2 RESIDENCE 3 BUSINESS

1990
SOURCE: COLE

ROSS AVENUE



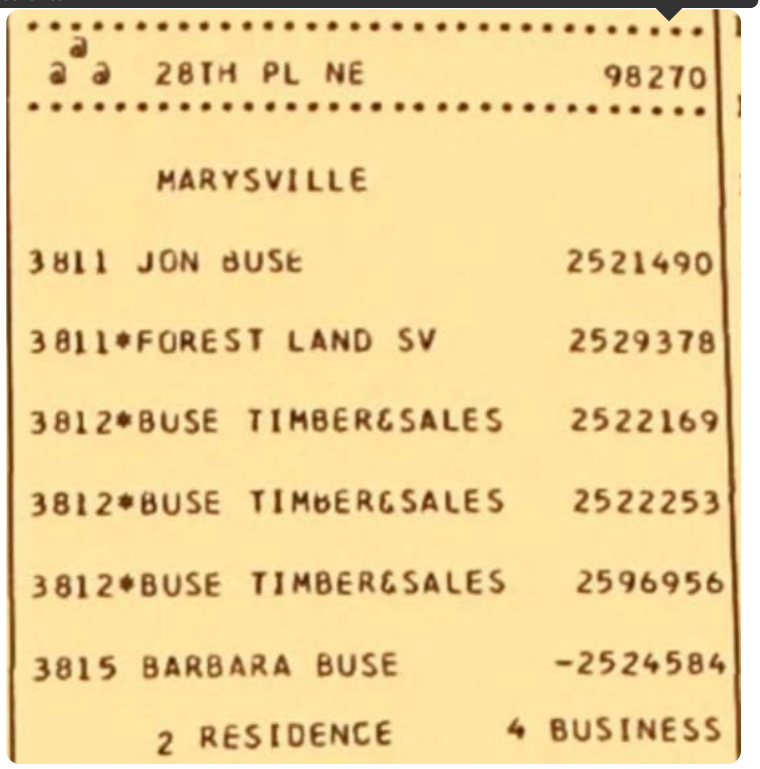
ROSS AVE

RR 5 98270
1– END CT 529.02 $E..J20
THOMAS BROS MAP LOC S 34–F3
THOMAS BROS MAP LOC S 35–A3
1871 ★ Custom Canvas 85 252–1661
★ Dagmars Marina 86 259–6124
★ Hawleys Boats&Motr .88 259–6126
2005 Charles Helmick . . . . – 252–5816
2010 ★ Mercer Marine Inc . .87 259–4714

RR 1 98270
2222 ★ Kenmore Pre–Mix . . .86 339–2277
1 RESIDENCE 5 BUSINESS

1980
SOURCE: COLE

28TH PLACE NORTHEAST



a a 28TH PL NE 98270

MARYSVILLE

3811 JON BUSE 2521490

3811*FOREST LAND SV 2529378

3812*BUSE TIMBER&SALES 2522169

3812*BUSE TIMBER&SALES 2522253

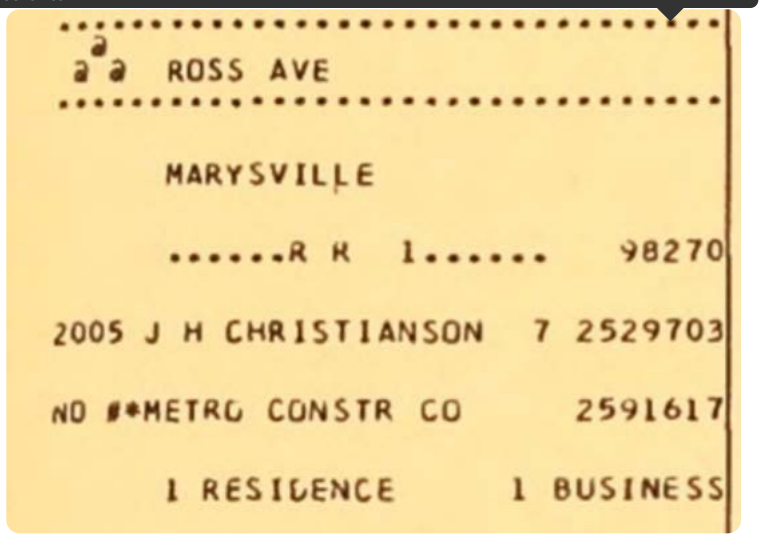
3812*BUSE TIMBER&SALES 2596956

3815 BARBARA BUSE -2524584

2 RESIDENCE 4 BUSINESS

1980
SOURCE: COLE

ROSS AVENUE



a a ROSS AVE

MARYSVILLE

.....R R 1..... 98270

2005 J H CHRISTIANSON 7 2529703

NO #*METRO CONSTR CO 2591617

1 RESIDENCE 1 BUSINESS

--- END REPORT ---

Appendix K: FOIA Responses

WORKSHEET 1
SUMMARY SCORE SHEET

Note: This document currently has no provision for sediment route scoring.

Site Name/Location (City, County, Section/Township/Range):
BUSE TIMBER AND SALES
Everett, Snohomish County

Section 9 of T29N, R5E.

Site Description (Include management areas, compounds of concern, and quantities):
Buse Timber and Sales has operated a saw mill on Smith Island since 1946. They used Pentachlorophenol to treat the lumber until 1986, then changed to "PQ8". Sampling, done in 1986 by consultants for EPA, indicated Pentachlorophenol and Tetrachlorophenol in the soils and sediments at quantities above MTCA Cleanup levels. The site was again sampled at the same points in June 1992 and there was no evidence that either compound or their breakdown compounds were still on the site or in the slough. We did find Pyrene and Bis(2-ethylhexyl)phthalate, but both were below MTCA Cleanup levels.

Pyrene on site = estimated 1.6 ppm Cleanup level = 2,400 ppm
Bis(2-ethylhexyl)phthalate on site = estimated 3.9 ppm and 2.7 ppm
Cleanup level = 71.4 ppm.

Special Considerations (Include limitations in site file data or data which cannot be accommodated in the model, but which are important in evaluating the risk associated with the site, or any other factor(s) over-riding a decision of no further action for the site):
Manchester Laboratory indicated that there are high amounts of petroleum products in Union Slough as evidenced the June 1992 sampling. Further study of the slough is merited. There is no evidence that the petroleum came from Buse and there are several other businesses abutting the slough.

ROUTE SCORES: **NOT SCORED**

Surface Water/Human Health: ND Surface Water/Environ.: ND

Air/Human Health: ND Air/Environmental: ND

Ground Water/Human Health: ND

OVERALL RANK: NFA

Rev. 4/3/92

Table 5-4 (Continued)
Sediment Sampling Results for Buse Timber and Sales, Inc.
May 25, 1994

	Union Slough Background Sediment	Storm Drain Catch Basin Sediment	Storm Drain Outfall Sediment	Storm Drain Outfall Sediment Duplicate	Union Slough Tidal Gate Sediment
Substance Detected	**SDUSBK5**	**SDDRN1**	**SDSD2**	**SDSD3**	**SDUS4**
Semivolatile (ug/kg)					
2-Methylnaphthalene	610 U	4600 U	1900 U	3700 J	610 U
2-Methylphenol	610 U	4600 U	30000 U	2900 J	610 U
4-Methylphenol	140 J	4600 U	2100 J	2900 J	610 U
Benzo(g,h,i)perylene	610 U	380 J	30000 U	29000 U	610 U
Butylbenzylphthalate	610 U	650 J	30000 U	29000 U	610 U
Chrysene	610 U	320 J	30000 U	29000 U	610 U
Di-n-butylphthalate	42 J	4600 U	30000 U	1700 J	610 U
Di-n-octylphthalate	610 U	520 J	30000 U	29000 U	610 U
Diethylphthalate	34 J	4600 U	30000 U	29000 U	610 U
Fluoranthene	110 J	400 J	30000 U	29000 U	610 U
Pentachlorophenol	1500 U	460 J	73000 U	70000 U	1500 U
Phenanthrene	74 J	240 J	30000 U	1800 J	610 U
Pyrene	130 J	750 J	2200 J	1800 J	610 U
Chlorinated Phenols (ug/kg)					
2,4,5-Trichlorophenol	18 U	16 J	43 U	56 U	20 U
2,4,6-Trichlorophenol	18 U	16 U	43 U	56 U	10 J
2,4-Dichlorophenol	18 U	16 J	43 U	56 U	20 U
2,6-Dichlorophenol	18 J	16 J	109 J	56 U	40 J
2-Phenylphenol	18 U	32	43 J	56 U	20 J
4-Chloro-3-methylphenol	18 U	8 J	22 J	56 U	20 U
Pentachlorophenol	18 U	71	109	56 U	10 U

Notes:
Highlighted values indicate sample was detected at significant concentrations based on the criteria in Table 5-1.
J = Value is an estimate
U = Sample was undetected
ug = Microgram (1E-6 gram)

significant. There is no known source for mercury on the Buse site. The only known source of lead on the Buse site is leaded gasoline used in vehicles operated on the site.

5.3.2 PCB Analyses

No PCBs were detected in the off-site background sediment sample.

One PCB compound was detected in one on-site sample at a significant concentration. Aroclor 1254 was detected at 1,000 μg/kg in sample SDDRN1, the storm drain catch basin sample. Ecology noted several PCB violations in a 1990 TSCA inspection performed for the EPA (U.S. EPA 1991b). No other significant detections of PCBs were reported.

5.3.3 Semivolatile Analyses

Six SVs were detected at estimated concentrations in the off-site background sediment sample: 4-methylphenol, di-n-butylphthalate, diethylphthalate, fluoranthene, phenanthrene, and pyrene. See Table 5-4 for concentrations. No significant detections of SVs were reported for any of the on-site sediment samples.

5.3.4 Chlorinated Phenol Analyses

One chlorinated phenol (2,6-dichlorophenol) was detected at an estimated concentration of 18 mg/kg in the background sediment sample (SDUSBK5). All sample detections for chlorinated phenol analyses are reported in Table 5-4.

Pentachlorophenol was detected at significant concentrations in both the storm drain outfall sample (SDSD2) and in the storm drain catch basin sample (SDDRN1). Sample SDSD2 was reported to contain 109 μg/kg pentachlorophenol and sample SDDRN1 was reported to contain 71 μg/kg pentachlorophenol. The duplicate storm drain outfall sediment sample did not have any detections of chlorinated phenols. The detection limit for this duplicate sample was reported as 56 μg/kg for pentachlorophenol. The storm drain catch basin sample (SDDRN1) reported a significant concentration of 2-phenylphenol at 32 μg/kg.

5.4 QUALITY CONTROL SAMPLES

Duplicate samples were collected during this field sampling event to evaluate the environmental variability at a location and the consistency of sample collection. The results from the duplicates collected at the Buse site reported detections of similar compounds. However, none of the significant detections in either sample was confirmed by a significant detection in the other sample. Sample detections and detection limits varied widely. For example, sample SDSD3 has a reported concentration of di-n-butylphthalate of 1,700 (estimated) but the duplicate sample's (SDSD2) result is not detected at a detection limit of 30,000. Apparently, despite sample homogenization residual heterogeneity existed between the sample duplicates.

During the field sampling conducted at Buse Timber and Sales, an equipment rinsate sample (ERO01) was collected. The analytes detected in this sample are provided in Table 5-5. The equipment rinsate sample was collected after the stainless steel auger was decontaminated. None of the analytes detected in the rinsate sample were detected at significant concentrations in any of the environmental samples, indicating that cross contamination is not likely to have occurred.

5.5 SUMMARY

Significant quantities of lead, mercury, and pentachlorophenol were detected in the storm drain catch basin and storm drain outfall samples. One PCB (Aroclor 1254) and 2-phenylphenol were detected at significant quantities in the sediment sample collected from the storm drain catch basin. No other significant quantities of any other compound were detected in any sample.

Table 5-5
Rinsate Sample Results for Buse Timber & Sales
May 25, 1994

	Equipment Rinsate
Substance Detected	**ER01**
Inorganics ug/kg	
Aluminum	5.8 UJ
Iron	9.98 J
Magnesium	25 J
Manganese	0.21 UJ
Sodium	5.4 UJ
PCBs ug/kg	
	ND
Semivolatiles ug/kg	
1,4-Dichlorobenzene	1 J
Naphthalene	6 J
Chlorinated Phenols ug/kg	
4-Chloro-3-methylphenol	0.3 J
Phenol	0.3 J

Notes:
J =value is an estimate
mg/kg = milligrams per kilograms
ND = none detected
U =sampe was undetected
ug = Microgram (1E-6 gram)
UJ = analyte was not detected above the reported ample quantitation limit. However, the reported quantitation limit is an estimate.

6.0 REFERENCES

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APPENDIX A

PHOTODOCUMENTATION OF MAY 24 AND 25, 1994, URS SAMPLING EVENT

URS Consultants	ARCS Photograph Log	DCL # 4162760.17.20.638.27.a	
Project Number 4162760.17	Project/Site Name Buse Marine Construction and Repair, Inc.	Photographer(s) Signatures(s) Thomas Mercer Jeff Kesner	
Camera Type Canon	Film Type/Speed Kodak 200 ASA	Roll Number 1	Date 8/15/94

Frame	Date	Time	Orientation	Subject
1	5-24-94	0940	S	JMK and TAM at Union Slough background
2	5-24-94	0940	N	Sampling the Union Slough background sediment sample
3	5-24-94	0940	N	Sampling the Union Slough background sediment sample
4	5-25-94	0818	N	JMK at SSUR01 sample location
5	5-25-94	0920	SW	BUSE personnel attempting to remove catch basin cover
6	5-25-94	0922	SW	BUSE personnel attempting to remove catch basin cover
7	5-25-94	0926	NW	The catch basin where sample SDRN1 was collected
8	5-25-94	0930	Down	TAM collecting sample SDRN1
9	5-25-94	0946	W	Sample SDSD2 and SDSD3 location
10	5-25-94	0959	NW	JMK sampling SDSD2
11	5-25-94	1024	W	Panorama of tidal gate slough
12	5-25-94	1024	WSW	Panorama of tidal gate slough
13	5-25-94	1024	WSW	Panorama of tidal gate slough
14	5-25-94	1025	SW	Collecting subaqueous tidal gate sediment sample
15	5-25-94	1215	S	SSURBAK3 Abandoned location for background sample
16	5-25-94	1301	SE	JMK preparing to sample background samples SSURBAK3 and SSUBBAK4 at Barbara Lawson's home

Date Delivered to Processor	Date Received from Processor	Comments

1 JMK and TAM at Union Slough background

2 Sampling the Union Slough background sediment sample

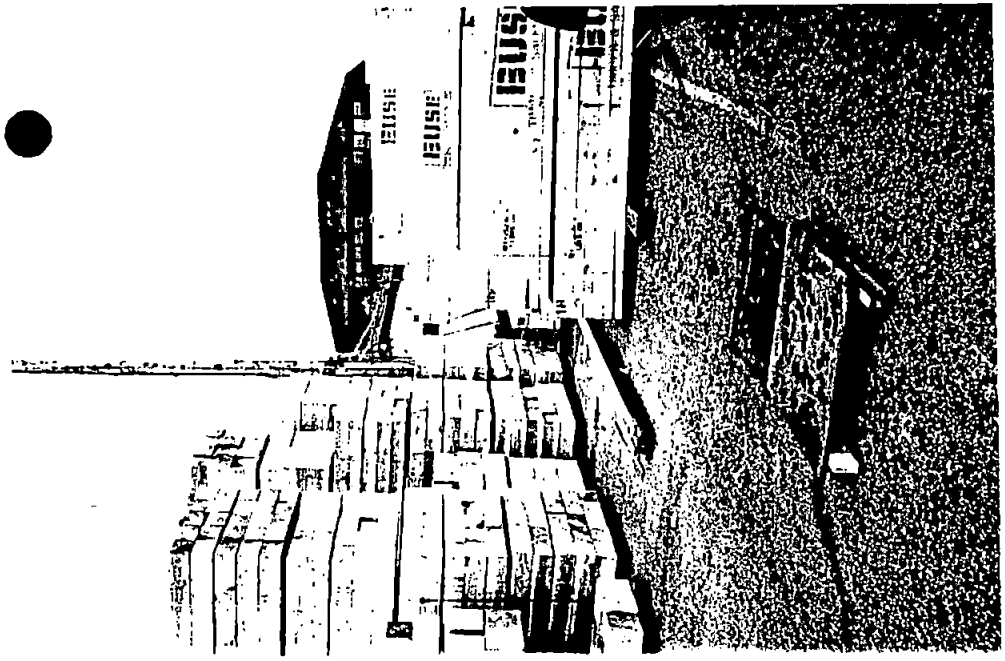
3 Sampling the Union Slough background sediment sample

4 JMK at SSUR01 sample location

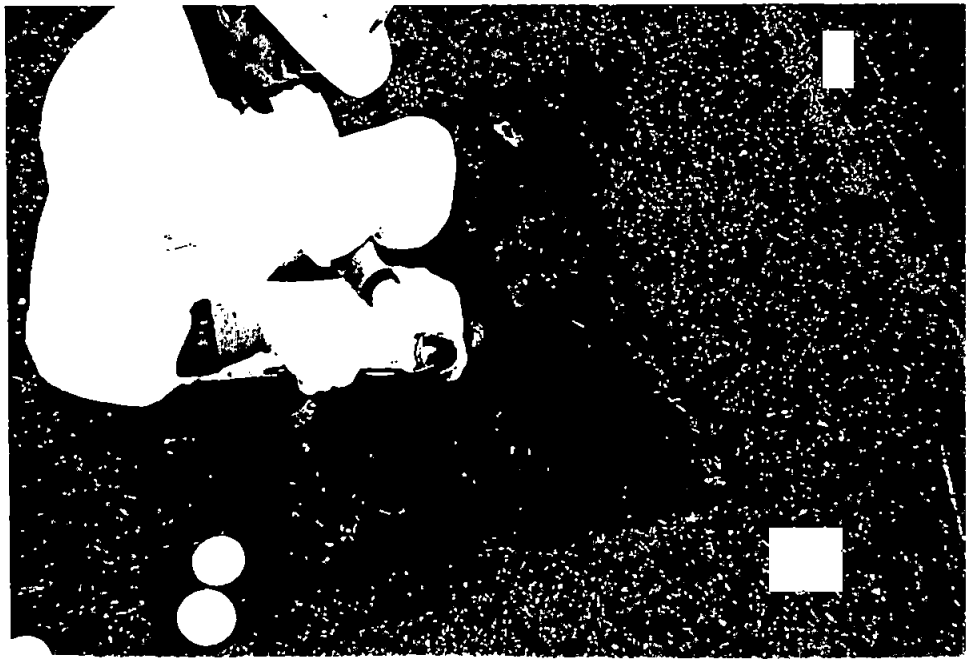
5 BUSE personnel attempting to remove catch basin cover

6 BUSE personnel attempting to remove catch basin cover

7 The catch basin where sample SDRN1 was collected



8 TAM collecting sample SDRN1



9 Sample SDSD2 and SDSD3 location

10 JMK sampling SDSD2

11 Panorama of tidal gate slough

12 Panorama of tidal gate slough

13 Panorama of tidal gate slough

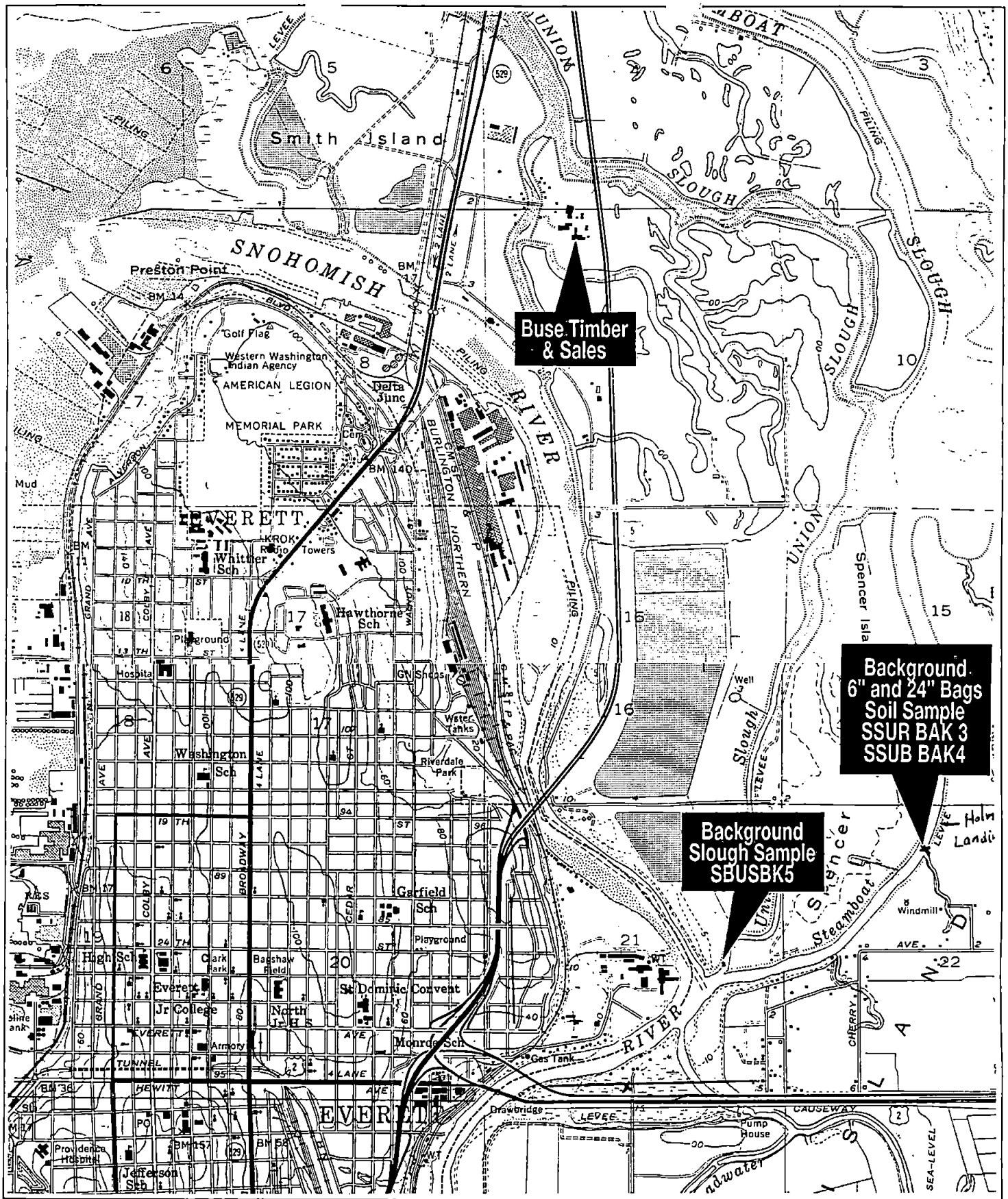
14 Collecting subaqueous tidal gate sediment sample

15 SSURBAK3 Abandoned location for background sample

16 JMK preparing to sample background samples SSURBAK3 and SSUBBAK4 at Barbara Lawson's home

APPENDIX B

BACKGROUND SAMPLE LOCATION MAP



URS CONSULTANTS

Background Sample Location Map

Buse Timber & Sales
Everett, Washington

APPENDIX C

LABORATORY DATA REPORTS AND DATA VALIDATION REPORTS FOR SAMPLES COLLECTED FOR BUSE TIMBER & SALES

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10 LABORATORY
7411 Beach Dr. East
Port Orchard, Washington 98366
June 28, 1994

MEMORANDUM

SUBJECT: Buse Timber (SSI) Total Metals in Soil Analysis
Samples Nos: 94214115 - 94214124

FROM: Isabel Chamberlain, Task Monitor, USEPA, Region 10

TO: David Bennet, Project Manager, USEPA, Region 10

FULL DATA REVIEW

I have reviewed the attached data package and the corresponding raw data. Based on this review, I find that the Self Evaluation Report prepared by the ESAT contractor was conducted in accordance with the Functional Guidelines, and that the data qualifiers recommended in the ESAT contractor's evaluation are appropriate.

ENVIRONMENTAL SERVICE ASSISTANCE TEAMS - ZONE 2

ESAT Region 10
ICF Technology Inc.
7411 Beach Drive East
Port Orchard, WA 98366
Phone (206) 871-8760

ICF Technology Inc.
ManTech Environmental

MEMORANDUM

DATE: June 17, 1994

TO: Jerry Muth, Regional Project Officer, USEPA, Region 10
Isa Chamberlain, Task Monitor, USEPA, Region 10
David Bennett, Project Manager, USEPA, Region 10

THROUGH: Barry Pepich, Team Manager, ESAT, Region 10

FROM: John Alexander, Senior Chemist, ESAT, Region 10

SUBJECT: Quality Assurance Review of Buse Timber (SSI) Total Metals in Soil Analysis
Sample Nos: 94214115 - 94214124
Project Code: TEC-613A; Account Code: 4TFA10PUZZ

TID#: 10-9404-430
DOC#: ESAT-10A-7075
WUD#: 1420

CC: Bruce Woods, USEPA RQAMO, Region 10
Jeff Kesner, URS Consultants Inc., Seattle, WA

The following is a quality assurance review of the total metals analysis of nine soil samples and one field blank sample from the Buse Timber & Sales investigation, Everett, WA. The analysis was performed following CLP and laboratory guidelines by the ESAT Team at the USEPA Manchester Environmental Laboratory, Port Orchard, WA. This quality assurance review was conducted for the following samples:

94214115	94214116	94214117	94214118	94214119	94214120
94214121	94214122	94214123	94214124		

DATA QUALIFICATIONS

The following comments refer to the ESAT Team's performance in meeting quality control specifications outlined in the *CLP Statement of Work (CLP-SOW) for Inorganic Analysis, rev. ILMO3.0*, the *Manchester Environmental Laboratory Quality Assurance Manual, revision 5/88*, and the *Buse Timber & Sales Field Sampling Plan, Rev. 2, 05/04/94*. The recommendations presented herein are based on the information provided for the review.

1.0 TIMELINESS - Acceptable

The suggested holding time from the date of collection for mercury in soil is 28 days and the holding time for remaining metals in soil is 180 days. The samples were collected on 05/24/94 and 05/25/94. Mercury analysis was completed by 06/02/94, nine days from collection. The remaining metals analyses were completed by 06/15/94, twenty-two days from collection. No qualification was recommended based on these holding time criteria.

2.0 SAMPLE PREPARATION - Acceptable

The samples were prepared using hot-plate digestion for total metals on 05/31/94 and for total mercury on 06/01/94. All procedures were in accordance with Manchester Laboratory and CLP protocols. Qualification was not recommended on this basis.

3.0 CALIBRATION - Acceptable

The samples were analyzed by ICP-AES (Inductively Coupled Plasma - Atomic Emission Spectroscopy) on 06/15/94. The instrument was standardized according to the analytical method using a blank and a series of calibration standards.

The samples were analyzed by CVAAS (Cold Vapor Atomic Absorption Spectroscopy) on 06/02/94 for mercury. Initial calibration included a blank and at least four standards, as required. The curve was linear with a correlation coefficient greater than 0.995.

All calibrations met acceptable criteria therefore no qualification was recommended on this basis.

4.0 REFERENCE CONTROL SAMPLES/CALIBRATION VERIFICATION - Acceptable

Laboratory reference control samples are required before and after sample analysis and after every 10 samples during analysis. All control samples met frequency and recovery criteria of 90 - 110% for ICP-AES and 80 - 120% for CVAAS (mercury) analysis except for aluminum in the final ICP-AES control sample (111%) on 06/15/94. However, a second control standard run for initial and final control verification was within limits and was deemed to be more representative of the aluminum concentrations found in the samples. On this basis, no qualification was recommended.

5.0 BLANKS

Procedural blanks were prepared with the samples to indicate potential contamination from the digestion or analysis procedure. If an analyte was found in the associated blank, the sample results were recommended for qualification if the analyte concentration was less than ten times the analytical value in the blank.

Calcium, iron, magnesium, manganese and sodium were detected in the ICP-AES procedural blank. The concentration of these analytes in the samples exceeded the minimum blank criterion except in the field blank sample 94214123. On this basis, (B) qualification was recommended for these analytes in sample 94214123.

6.0 ICP-AES INTERFERENCE CHECK SAMPLE - Acceptable

The interference check sample (ICS) is analyzed by ICP-AES to verify interelement and background correction factors. Analysis is required at the beginning and end of each sample analysis run. The acceptance criterion for the ICS is 80% - 120%. All results met frequency and recovery requirements on the day of analysis.

7.0 DUPLICATE ANALYSIS - Acceptable

Duplicate analysis was performed on samples 94214115 for ICP-AES and CVAAS analyses. All relative percent difference (RPD) were within 20%, as required by the laboratory. No qualification was recommended on this basis.

8.0 FIELD DUPLICATE ANALYSIS - Not Applicable

Field duplicate analysis was not indicated in the field collection documentation.

9.0 MATRIX SPIKE ANALYSIS

Matrix spike sample analyses are performed to provide information about the effect of the sample matrix on digestion and measurement methods. Manchester Laboratory and CLP guidelines specify that the matrix spike recovery must be within the limits of 75 - 125%. Matrix spike/matrix spike duplicate analyses were performed on sample 94214115. All recoveries were within acceptable limits except for antimony (0/0%) in ICP-AES analysis. Low recoveries for antimony are not uncommon in soil matrices, and subsequent post spike analysis demonstrated acceptable recoveries which indicate that matrix interference was not the likely cause of the low matrix spike results. Based on these results, the (N) qualifier was recommended for attachment to all antimony results to denote potential bias due to loss of the analyte during digestion or analysis.

10.0 GRAPHITE FURNACE ATOMIC ABSORPTION SPEC. (GFAAS) QC - Not Applicable

This analytical method was not used for these samples.

11.0 ICP-AES SERIAL DILUTION - Acceptable

Sample 94214115 was analyzed by serial dilution and compared to the original, undiluted analyses in the ICP-AES procedure. All percent differences of analytes above 50 times the detection level were within the required 10% criterion range. No qualification was recommended on this basis.

12.0 DETECTION LIMITS - Acceptable

Sample results which fall below the instrument detection limit (IDL) are assigned the value of the instrument detection limit and the (U) qualifier is recommended for attachment. Any sample result falling between the detection limit and the quantitation limit is recommended for qualification as an estimate (P). This notifies the data user that the

element was detected at the reported value, but below the minimum level of practical quantitation determined to be within precision limits of 10% relative standard deviation.

13.0 OVERALL ASSESSMENT OF THE DATA

The quality assurance review of the data is based on the criteria outlined in the *Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses (7/88).*

The following is a summary of the recommended qualification for soil samples from the Buse Timber site, EPA sample numbers 94214115, 94214116, 94214117, 94214118, 94214119, 94214120, 94214121, 94214122, 94214123 and 94214124. The (U) qualifier was recommended for attachment to sample results below the minimum level of detection. The (P) qualifier was recommended for attachment to sample results less than the laboratory's quantitation limit.

The (N) qualifier was recommended for attachment to antimony results (4.3% of the reported sample data) due to low matrix spike recovery. The (B) qualifier was recommended for calcium, iron, magnesium, manganese and sodium results (2.2%) in the equipment rinsate blank sample.

Definitions of laboratory data qualifiers are attached.

USEPA Region 10 Laboratory

Below are the definitions for the qualifiers used in the metals area when qualifying data from metals analysis.

DATA QUALIFIERS

U	-	Element was analyzed but not detected. The associated numerical value is the instrument detection limit/method detection limit.
P	-	The analyte was detected above the Instrument Detection Limit, but not quantified within expected limits of precision. The laboratory has established minimum quantitation limits having a relative standard deviation of no more than 10%
H	-	The samples were analyzed after the suggested holding time limit.
E	-	The reported value is an estimate because of the presence of interference. An explanatory note will be included with the report.
B	-	Analyte is found in the analytical blank as well as the sample indicating possible/probable blank contamination. If analytes are found in any of the associated procedural blanks the concentration in the samples must be at least ten times the quantity observed in the blank. If the sample result fails these criteria the sample result is qualified (B).
N	-	Spiked sample recovery not within control limits.
NAR	-	There is no analysis result for this analyte.
NA	-	Not Applicable/Not Required.
S	-	Sample was analyzed by method of standard additions.
+	-	Sample was analyzed by method of standard additions and the correlation coefficient was less than 0.995.
*	-	The analyte was present in the sample.
W	-	Post spike out of specified range, and sample was less than 50% the spike added.

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid
SampleNumber : 94214115
Type : Reg sample
Station Description: SSURO01

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	0.0749	mg/kg					
ICP-RAS							
Aluminum	18200	mg/kg		Antimony	3.0	mg/kg	UN
Arsenic	20	mg/kg	P	Barium	50.5	mg/kg	
Beryllium	0.34	mg/kg	P	Cadmium	0.24	mg/kg	P
Calcium	2940	mg/kg		Chromium	54.1	mg/kg	
Cobalt	9.25	mg/kg		Copper	40.1	mg/kg	
Iron	30100	mg/kg		Lead	12	mg/kg	P
Magnesium	8840	mg/kg		Manganese	298	mg/kg	
Nickel	36.2	mg/kg		Potassium	2410	mg/kg	
Selenium	15	mg/kg	P	Silver	0.30	mg/kg	U
Sodium	335	mg/kg		Thallium	5.0	mg/kg	U
Vanadium	68.6	mg/kg		Zinc	57.9	mg/kg	

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix : Solid
SampleNumber : 94214115
Type : Duplicate
Station Description:

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	0.0760	mg/kg					
ICP-RAS							
Aluminum	19700	mg/kg		Antimony	3.0	mg/kg	UN
Arsenic	17	mg/kg	P	Barium	52.9	mg/kg	
Beryllium	0.37	mg/kg	P	Cadmium	0.20	mg/kg	U
Calcium	3280	mg/kg		Chromium	58.1	mg/kg	
Cobalt	9.63	mg/kg		Copper	41.1	mg/kg	
Iron	31300	mg/kg		Lead	14	mg/kg	P
Magnesium	9250	mg/kg		Manganese	311	mg/kg	
Nickel	39.3	mg/kg		Potassium	2500	mg/kg	
Selenium	15	mg/kg	P	Silver	0.30	mg/kg	U
Sodium	362	mg/kg		Thallium	8.0	mg/kg	P
Vanadium	70.3	mg/kg		Zinc	61.2	mg/kg	

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix : Solid
SampleNumber : 94214115
Type : Matrix Spike
Station Description:

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	92	%R					
ICP-RAS							
Aluminum	NA			Antimony	0	%R	
Arsenic	91	%R		Barium	100	%R	
Beryllium	96	%R		Cadmium	89	%R	
Calcium	NA	%R		Chromium	97	%R	
Cobalt	94	%R		Copper	97	%R	
Iron	NA			Lead	91	%R	
Magnesium	NA	%R		Manganese	100	%R	
Nickel	95	%R		Potassium	NA	%R	
Selenium	101	%R		Silver	81	%R	
Sodium	NA	%R		Thallium	97	%R	
Vanadium	100	%R		Zinc	92	%R	

Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix : Solid
SampleNumber : 94214115
Type : Matrix Spike Dupl
Station Description:

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	94	%R					
ICP-RAS							
Aluminum	NA			Antimony	0	%R	
Arsenic	89	%R		Barium	98	%R	
Beryllium	94	%R		Cadmium	90	%R	
Calcium	NA	%R		Chromium	99	%R	
Cobalt	93	%R		Copper	95	%R	
Iron	NA			Lead	90	%R	
Magnesium	NA	%R		Manganese	100	%R	
Nickel	93	%R		Potassium	NA	%R	
Selenium	99	%R		Silver	80	%R	
Sodium	NA	%R		Thallium	94	%R	
Vanadium	98	%R		Zinc	92	%R	

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid
SampleNumber : 94214116
Type : Reg sample
Station Description: SSUBO02

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	0.0668	mg/kg					
ICP-RAS							
Aluminum	18200	mg/kg		Antimony	3.0	mg/kg	UN
Arsenic	25	mg/kg	P	Barium	46.4	mg/kg	
Beryllium	0.30	mg/kg	P	Cadmium	0.20	mg/kg	U
Calcium	2630	mg/kg		Chromium	79.4	mg/kg	
Cobalt	9.92	mg/kg		Copper	41.4	mg/kg	
Iron	26500	mg/kg		Lead	9.8	mg/kg	P
Magnesium	8630	mg/kg		Manganese	248	mg/kg	
Nickel	44.9	mg/kg		Potassium	2230	mg/kg	
Selenium	13	mg/kg	P	Silver	0.30	mg/kg	U
Sodium	543	mg/kg		Thallium	6.2	mg/kg	P
Vanadium	69.6	mg/kg		Zinc	52.7	mg/kg	

Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid
SampleNumber : 94214117
Type : Reg sample
Station Description: SDDRN1

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	1.84	mg/kg					
ICP-RAS							
Aluminum	7410	mg/kg		Antimony	3.0	mg/kg	UN
Arsenic	8.0	mg/kg	P	Barium	51.2	mg/kg	
Beryllium	0.15	mg/kg	P	Cadmium	0.56	mg/kg	P
Calcium	3770	mg/kg		Chromium	182	mg/kg	
Cobalt	238	mg/kg		Copper	108	mg/kg	
Iron	13200	mg/kg		Lead	57.0	mg/kg	
Magnesium	5300	mg/kg		Manganese	188	mg/kg	
Nickel	56.8	mg/kg		Potassium	524	mg/kg	
Selenium	6.0	mg/kg	U	Silver	0.30	mg/kg	U
Sodium	378	mg/kg		Thallium	5.0	mg/kg	U
Vanadium	32.3	mg/kg		Zinc	329	mg/kg	

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid
SampleNumber : 94214118
Type : Reg sample
Station Description: SDSD3

Analyte	Result	Units	Qlfr
MET			
Hg			
Mercury	0.159	mg/kg	
ICP-RAS			
Aluminum	5030	mg/kg	
Arsenic	7.7	mg/kg	P
Beryllium	0.15	mg/kg	P
Calcium	2920	mg/kg	
Cobalt	11.4	mg/kg	
Iron	18000	mg/kg	
Magnesium	2880	mg/kg	
Nickel	60.1	mg/kg	
Selenium	11	mg/kg	P
Sodium	952	mg/kg	
Vanadium	22.7	mg/kg	
Antimony	5.6	mg/kg	PN
Barium	69.3	mg/kg	
Cadmium	2.0	mg/kg	P
Chromium	94.6	mg/kg	
Copper	69.3	mg/kg	
Lead	56.2	mg/kg	
Manganese	153	mg/kg	
Potassium	511	mg/kg	
Silver	0.30	mg/kg	U
Thallium	5.0	mg/kg	U
Zinc	262	mg/kg	

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid
SampleNumber : 94214119
Type : Reg sample
Station Description: SDSD2

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	0.282	mg/kg					
ICP-RAS							
Aluminum	3790	mg/kg		Antimony	3.4	mg/kg	PN
Arsenic	6.7	mg/kg	P	Barium	63.9	mg/kg	
Beryllium	0.13	mg/kg	P	Cadmium	1.9	mg/kg	P
Calcium	2770	mg/kg		Chromium	96.3	mg/kg	
Cobalt	10.6	mg/kg		Copper	57.2	mg/kg	
Iron	16700	mg/kg		Lead	39.9	mg/kg	
Magnesium	2250	mg/kg		Manganese	144	mg/kg	
Nickel	59.0	mg/kg		Potassium	380	mg/kg	P
Selenium	6.0	mg/kg	U	Silver	0.30	mg/kg	U
Sodium	797	mg/kg		Thallium	5.2	mg/kg	P
Vanadium	18.1	mg/kg		Zinc	231	mg/kg	

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid
SampleNumber : 94214120
Type : Reg sample
Station Description: SDUS4

Analyte	Result	Units	Qlfr
MET			
Hg			
Mercury	0.103	mg/kg	
ICP-RAS			
Aluminum	14400	mg/kg	
Arsenic	10	mg/kg	P
Beryllium	0.33	mg/kg	P
Calcium	4540	mg/kg	
Cobalt	29.6	mg/kg	
Iron	26900	mg/kg	
Magnesium	8560	mg/kg	
Nickel	67.9	mg/kg	
Selenium	9.7	mg/kg	P
Sodium	3210	mg/kg	
Vanadium	45.4	mg/kg	
Antimony	3.0	mg/kg	UN
Barium	45.6	mg/kg	
Cadmium	0.23	mg/kg	P
Chromium	102	mg/kg	
Copper	36.2	mg/kg	
Lead	13	mg/kg	P
Manganese	263	mg/kg	
Potassium	1380	mg/kg	
Silver	0.30	mg/kg	U
Thallium	7.4	mg/kg	P
Zinc	62.5	mg/kg	

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid
SampleNumber : 94214121
Type : Reg sample
Station Description: SSURBAK3

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	0.0575	mg/kg					
ICP-RAS							
Aluminum	20900	mg/kg		Antimony	3.0	mg/kg	UN
Arsenic	22	mg/kg	P	Barium	108	mg/kg	
Beryllium	0.49	mg/kg	P	Cadmium	0.35	mg/kg	P
Calcium	3010	mg/kg		Chromium	86.3	mg/kg	
Cobalt	23.6	mg/kg		Copper	45.5	mg/kg	
Iron	30300	mg/kg		Lead	52.3	mg/kg	
Magnesium	8720	mg/kg		Manganese	417	mg/kg	
Nickel	64.1	mg/kg		Potassium	905	mg/kg	
Selenium	6.0	mg/kg	U	Silver	0.30	mg/kg	U
Sodium	299	mg/kg		Thallium	6.0	mg/kg	P
Vanadium	66.0	mg/kg		Zinc	89.6	mg/kg	

Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid
SampleNumber : 94214122
Type : Reg sample
Station Description: SSURBAK4

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	0.0485	mg/kg					
ICP-RAS							
Aluminum	18800	mg/kg		Antimony	3.0	mg/kg	UN
Arsenic	17	mg/kg	P	Barium	70.9	mg/kg	
Beryllium	0.28	mg/kg	P	Cadmium	0.20	mg/kg	U
Calcium	2530	mg/kg		Chromium	61.5	mg/kg	
Cobalt	13.2	mg/kg		Copper	34.0	mg/kg	
Iron	28300	mg/kg		Lead	12	mg/kg	P
Magnesium	7690	mg/kg		Manganese	223	mg/kg	
Nickel	32.7	mg/kg		Potassium	985	mg/kg	
Selenium	6.0	mg/kg	U	Silver	0.30	mg/kg	U
Sodium	269	mg/kg		Thallium	7.0	mg/kg	P
Vanadium	63.3	mg/kg		Zinc	57.4	mg/kg	

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid
SampleNumber : 94214123
Type : Reg sample
Station Description: ER01

Analyte	Result	Units	Qlfr
MET			
Hg			
Mercury	0.020	mg/kg	U
ICP-RAS			
Aluminum	5.8	mg/kg	P
Arsenic	4.0	mg/kg	U
Beryllium	0.050	mg/kg	U
Calcium	18.5	mg/kg	B
Cobalt	0.50	mg/kg	U
Iron	9.98	mg/kg	B
Magnesium	25.0	mg/kg	B
Nickel	1.0	mg/kg	U
Selenium	6.0	mg/kg	U
Sodium	5.4	mg/kg	PB
Vanadium	0.30	mg/kg	U
Antimony	3.0	mg/kg	UN
Barium	0.10	mg/kg	U
Cadmium	0.20	mg/kg	U
Chromium	0.50	mg/kg	U
Copper	0.30	mg/kg	U
Lead	2.5	mg/kg	U
Manganese	0.21	mg/kg	PB
Potassium	45	mg/kg	U
Silver	0.30	mg/kg	U
Thallium	5.0	mg/kg	U
Zinc	0.40	mg/kg	U

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/24/94
Matrix : Solid
SampleNumber : 94214124
Type : Reg sample
Station Description: SBUSBK5

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
MET							
Hg							
Mercury	0.0694	mg/kg					
ICP-RAS							
Aluminum	17600	mg/kg		Antimony	3.2	mg/kg	PN
Arsenic	15	mg/kg	P	Barium	61.2	mg/kg	
Beryllium	0.41	mg/kg	P	Cadmium	0.29	mg/kg	P
Calcium	3770	mg/kg		Chromium	72.5	mg/kg	
Cobalt	16.5	mg/kg		Copper	44.1	mg/kg	
Iron	25900	mg/kg		Lead	11	mg/kg	P
Magnesium	9380	mg/kg		Manganese	385	mg/kg	
Nickel	56.8	mg/kg		Potassium	1380	mg/kg	
Selenium	6.5	mg/kg	P	Silver	0.30	mg/kg	U
Sodium	440	mg/kg		Thallium	5.0	mg/kg	U
Vanadium	53.0	mg/kg		Zinc	76.8	mg/kg	

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix : Solid
SampleNumber : S940531B
Type : Blank
Station Description:

MET

ICP-RAS

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
Aluminum	2.0	mg/kg	U	Antimony	3.0	mg/kg	U
Arsenic	4.0	mg/kg	U	Barium	0.10	mg/kg	U
Beryllium	0.050	mg/kg	U	Cadmium	0.20	mg/kg	U
Calcium	18.7	mg/kg		Chromium	0.50	mg/kg	U
Cobalt	0.50	mg/kg	U	Copper	0.30	mg/kg	U
Iron	2.65	mg/kg		Lead	2.5	mg/kg	U
Magnesium	22.0	mg/kg		Manganese	0.15	mg/kg	P
Nickel	1.0	mg/kg	U	Potassium	45	mg/kg	U
Selenium	6.0	mg/kg	U	Silver	0.30	mg/kg	U
Sodium	2.9	mg/kg	P	Thallium	5.0	mg/kg	U
Vanadium	0.30	mg/kg	U	Zinc	0.40	mg/kg	U

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix : Solid
SampleNumber : S940601B
Type : Blank
Station Description:

Analyte	Result	Units	Qlfr
MET			
Hg			
Mercury	0.020	mg/kg	U

02760.7 60.605
27.b1 Kesner

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10 LABORATORY
7411 Beach Dr. East
Port Orchard, Washington 98366

July 15, 1994

RECEIVED
JUL 25 1994
URS CONSULTANTS

MEMORANDUM

SUBJECT: QA Review for PCBs from Buse Timber, Everett, WA

FROM: R. H. Rieck, Chemist R. H. Rieck

TO: Dave Bennett, Project Officer

LESS THAN FULL DATA REVIEW

I have reviewed the attached data package and spot-checked approximately 10 percent of the corresponding raw data, as requested by the Superfund Project Manager. Based on this review, I find that it appears that the Self Evaluation Report prepared by the ESAT contractor was conducted in accordance with the Functional Guidelines, and that data qualifiers recommended in the evaluation appear to be appropriate.

ENVIRONMENT . SERVICE ASSISTANCE TEAMS - ZONE 2

ESAT Region 10
ICF Technology Inc.
7411 Beach Drive East
Port Orchard, WA 98366
Phone (206) 871-8760

ICF Technology Inc.
ManTech Environmental

MEMORANDUM

DATE: July 14, 1994

TO: Gerald Muth, RPO, USEPA, Region 10
Robert Rieck, GC Supervisor, USEPA, Region 10 accepted 7-15-94 R.W. Rieck
Dave Bennett, Project Officer, USEPA, Region 10

FROM: Linda Karsonovich, Data Reviewer, ESAT, Region 10

THROUGH: Barry Pepich, ESAT Team Manager, Region 10

SUBJECT: Quality Assurance Review of PCB Samples from the Buse Timber, Everett, WA site

TID#: 10-9404-430
DOC#: ESAT 10A-7156
WUD#: 1423

cc: Bruce Woods, USEPA RQAMO
Jeff Kesner, URS Consultants
Sheila Smith, Organic Technical Lead, ESAT, Region 10
John Finke, Chemist, ESAT, Region 10

The quality assurance (QA) review of one water and nine soil samples from the Buse Timber, Everett, WA site has been completed. These samples were analyzed for polychlorinated biphenyls (PCBs) using SW-846 Method 8080 by the USEPA Region 10 Laboratory ESAT Team located in Manchester, WA. This QA review was conducted for the following samples listed by EPA sample codes:

Water	94214123			
Soil	94214115	94214116	94214117	94214118
	94214119	94214120	94214121	94214122
	94214124			

DATA QUALIFICATIONS

The following comments refer to the laboratory performance in meeting the Quality Control Specifications outlined in the SW-846 Method 8080, the CLP Data Review Guidelines Draft 06/91, and the USEPA Region 10 Manchester Environmental Guidelines. The recommendations presented herein are based on the information provided for the review.

TIMELINESS - Acceptable

The technical holding time for the extraction and analysis of soil samples is 14 days and 40 days respectively. The technical holding time for the extraction and analysis of water samples is seven days and 40 days respectively.

All samples were extracted and analyzed within the technical holding times. No qualifiers were recommended on this basis.

INITIAL CALIBRATION

The relative standard deviation (RSD) of the calibration factors of compounds quantified using a linear equation must be ≤20% for target compounds and ≤30% for surrogates. Compounds which are quantified using a quadratic equation must contain a minimum of five calibration levels and have a correlation coefficient of not less than 0.995.

A Perkin Elmer GC with dual columns (a DB-5 on the M channel and a DB-1701 on the N channel) and dual ECD detectors was used for this analysis. Two initial calibration sequences were included with the data set.

The first initial calibration was analyzed on 06/17/94. The sequence included a five point curve for PCB 1260 and single point standards of PCBs 1016, 1221, 1232, 1242, 1248, and 1254. Only the soil samples were analyzed with this sequence.

The soil and water samples were included in the second sequence analyzed on 06/20/94. This initial calibration contained only standards for PCB 1254. The analyst chose to report the sample results using the chromatograms obtained with this sequence. However, in order to obtain quantitation limits for the remaining PCBs the analyst chose to compare the 06/20 analyses to the standards injected on 06/17. A comparison of the PCB 1254 standard analyzed on 06/17/94 with the PCB standard analyzed on 06/02/94 showed that the retention times had remained stable and that the average percent difference of the calibration factors of PCB 1254 ranged from 12.8-13.7 percent. Therefore, the reviewer felt that it was reasonable to assume that the response of the other PCBs had also remained stable, and no qualifiers were recommended on this basis.

CONTINUING CALIBRATION

The percent difference (%D) between the calculated and the true amount for each compound must not exceed ±15%. The absolute retention time of the compounds must be within the windows determined from the initial calibration.

Retention times were within the windows set by the initial calibration. The %D increased over the length of the run to the positive, indicating an increase in sensitivity. However, there were no positive results reported during the affected part of the analytical sequence. No qualifiers were recommended on this basis.

BLANKS - Acceptable

No contamination should be present in the method blanks. Instrument blanks should not display signs of carryover or cross contamination.

No target compounds were detected in the method blanks at or above the practical quantitation limit (PQL). The instrument blanks showed no signs of carryover or cross contamination at or above one half the PQL. No qualifiers were recommended on this basis.

ANALYTICAL SEQUENCE - Acceptable

Samples must be run following an initial calibration. Continuing calibration checks and instrument blanks must be run at least every 12 hours.

The sequence met the criteria for frequency of initial and continuing calibration. No qualifiers were recommended on this basis.

SURROGATES

The acceptance criteria for surrogate recovery is 60% to 150%. Manchester Laboratory Guidelines allow for 50-150% recovery.

Surrogate recoveries for the water samples ranged from 45-96% for tetrachloro-m-xylene (TCMX) and from 84-140% for decachlorobiphenyl (DCB). No qualifiers were recommended on this basis as the DCB recovery was considered to be more indicative of the behavior of the target compounds.

Surrogate recoveries for the soil samples ranged from 55-120% for TCMX and from 48-120% for DCB. Sample 94214118 was recommended for qualification as J/UJ due to a DCB recovery of 48%. No other qualifiers were recommended on this basis.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE - Acceptable

Matrix spike recoveries for PCBs should be between 50% and 150%. Relative percent differences (RPD) should be within ±30%.

The water MS/MSD had recoveries of 96-100%. The RPD was 4.1%. No qualifiers were recommended on this basis.

The soil MS/MSD had recoveries of 120-130% and the RPD was 8%. No qualifiers were recommended on this basis.

COMPOUND IDENTIFICATION - Acceptable

Compound identification is done by retention time matching of sample chromatograms to the chromatograms of authentic standards on dual dissimilar columns. The retention times of surrogates, matrix spikes, and reported compounds in each sample must be within the retention time window determined from the initial calibration.

The retention times of the surrogates and PCBs appeared to be within the windows set by the initial calibration. No qualifiers were recommended on this basis.

COMPOUND QUANTITATION - Acceptable

Reported results must be calculated using the standard curve or average calibration factor. Compounds reported below the detection level must be within 10% of the lowest calibration standard. Detected results should agree within ±30% RPD.

Results were calculated using the standard curve and reported as an average of both channels. PCB 1254 in sample 94214119 was recommended for qualification as JN as it had an 45% RPD between the two channels. No other qualifiers were recommended on this basis.

OVERALL ASSESSMENT

The data was evaluated using the guidelines set out in the quality control specifications outlined in SW-846 Method 8080, the CLP Data Review Guidelines Draft 06/91, and the USEPA Region 10 Manchester Environmental Guidelines. Overall, two percent of the data was recommended for qualification due to the continuing calibration standard and compound quantitation. While no other qualifiers were recommended, the data would have been better presented if a more sound analytical sequence had been followed.

DATA QUALIFIER DEFINITIONS

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

REJ - The data are unusable for all purposes.

N - For organic analyses there is evidence that the analyte is present in the sample.

JN - For organic analyses there is evidence that the analyte is present in the sample. The associated numerical result is an estimate.

UJ - The analyte was not detected at or above the reported estimated result.

NAF - Not analyzed for.

* - The analyte was present in the sample.

EXP - The result is equal to the number before the EXP times 10 to the power of the number after the EXP.

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid (Soil)
SampleNumber : 94214115
Type : Reg sample
Station Description: SSURO01
Depth 0-6 inches bgs

GC

PCB

Analyte	Result	Units	Qlfr
Decachlorobiphenyl	97	%R	
PCB-1221	110	ug/kg	U
PCB-1242	110	ug/kg	U
PCB-1254	55	ug/kg	U
Tetrachlorometaxylen	100	%R	
PCB-1016	110	ug/kg	U
PCB-1232	110	ug/kg	U
PCB-1248	110	ug/kg	U
PCB-1260	110	ug/kg	U

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix : Solid (Soil)
SampleNumber : 94214115
Type : Matrix Spike
Station Description: SSVR01

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
GC							
PCB							
Decachlorobiphenyl	120	%R		PCB-1260	130	%R	
Tetrachlorometaxylen	120	%R					

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix : Solid (Soil)
SampleNumber : 94214115
Type : Matrix Spike Dupl
Station Description: SSUR01

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
GC							
PCB							
Decachlorobiphenyl	105	%R		PCB-1260	120	%R	
Tetrachlorometaxylen	104	%R					

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid Soil
SampleNumber : 94214116
Type : Reg sample
Station Description: SSUBO02
Sample depth 18-24" bgs

Analyte	Result	Units	Qlfr
GC			
PCB			
Decachlorobiphenyl	98	%R	
PCB-1221	120	ug/kg	U
PCB-1242	120	ug/kg	U
PCB-1254	62	ug/kg	U
Tetrachlorometaxylen	102	%R	
PCB-1016	120	ug/kg	U
PCB-1232	120	ug/kg	U
PCB-1248	120	ug/kg	U
PCB-1260	120	ug/kg	U

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid Sediment
SampleNumber : 94214117
Type : Reg sample
Station Description: SDDRN1 Storm Drain

Analyte	Result	Units	Qlfr
GC			
PCB			
Decachlorobiphenyl	110	%R	
PCB-1221	130	ug/kg	U
PCB-1242	130	ug/kg	U
PCB-1254	1000	ug/kg	
Tetrachlorometaxylen	88	%R	
PCB-1016	130	ug/kg	U
PCB-1232	130	ug/kg	U
PCB-1248	130	ug/kg	U
PCB-1260	130	ug/kg	U

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid Sediment
SampleNumber : 94214118
Type : Reg sample duplicate
Station Description: SDSD3 Storm drain outfall

Analyte	Result	Units	Qlfr
GC			
PCB			
Decachlorobiphenyl	48	%R	
PCB-1221	330	ug/kg	UJ
PCB-1242	330	ug/kg	UJ
PCB-1254	600	ug/kg	J
Tetrachlorometaxylen	55	%R	
PCB-1016	330	ug/kg	UJ
PCB-1232	330	ug/kg	UJ
PCB-1248	330	ug/kg	UJ
PCB-1260	330	ug/kg	UJ

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid Sediment
SampleNumber : 94214119
Type : Reg sample
Station Description: SDSD2 Storm drain out fall

GC

PCB

Analyte	Result	Units	Qlfr
Decachlorobiphenyl	57	%R	
PCB-1221	400	ug/kg	U
PCB-1242	400	ug/kg	U
PCB-1254	460	ug/kg	JN
Tetrachlorometaxylen	65	%R	
PCB-1016	400	ug/kg	U
PCB-1232	400	ug/kg	U
PCB-1248	400	ug/kg	U
PCB-1260	400	ug/kg	U

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid Sediment
SampleNumber : 94214120
Type : Reg sample
Station Description: SDUS4 Union Slough

GC

PCB

Analyte	Result	Units	Qlfr
Decachlorobiphenyl	81	%R	
PCB-1221	140	ug/kg	U
PCB-1242	140	ug/kg	U
PCB-1254	75	ug/kg	U
Tetrachlorometaxylen	84	%R	
PCB-1016	140	ug/kg	U
PCB-1232	140	ug/kg	U
PCB-1248	140	ug/kg	U
PCB-1260	140	ug/kg	U

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid Soil
SampleNumber : 94214121
Type : Reg sample Background
Station Description: SSURBAK3 offsite 0-6inch Sys

Analyte	Result	Units	Qlfr
GC			
PCB			
Decachlorobiphenyl	86	%R	
PCB-1221	120	ug/kg	U
PCB-1242	120	ug/kg	U
PCB-1254	62	ug/kg	U
Tetrachlorometaxylen	91	%R	
PCB-1016	120	ug/kg	U
PCB-1232	120	ug/kg	U
PCB-1248	120	ug/kg	U
PCB-1260	120	ug/kg	U

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Solid Soil
SampleNumber : 94214122
Type : Reg sample background
Station Description: SSURBAK4 offsite 18-24" bgs

GC

PCB

Analyte	Result	Units	Qlfr
Decachlorobiphenyl	95	%R	
PCB-1221	150	ug/kg	U
PCB-1242	150	ug/kg	U
PCB-1254	77	ug/kg	U
Tetrachlorometaxylen	100	%R	
PCB-1016	150	ug/kg	U
PCB-1232	150	ug/kg	U
PCB-1248	150	ug/kg	U
PCB-1260	150	ug/kg	U

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/25/94
Matrix : Liquid-Total
SampleNumber : 94214123
Type : Reg sample Rinsate
Station Description: ER01

GC

PCB

Analyte	Result	Units	Qlfr
Decachlorobiphenyl	140	%R	
PCB-1221	0.20	ug/L	U
PCB-1242	0.20	ug/L	U
PCB-1254	0.11	ug/L	U
Tetrachlorometaxylen	96	%R	
PCB-1016	0.20	ug/L	U
PCB-1232	0.20	ug/L	U
PCB-1248	0.20	ug/L	U
PCB-1260	0.20	ug/L	U

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix : Liquid-Total
SampleNumber : 94214123
Type : Matrix Spike
Station Description:

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
GC							
PCB							
Decachlorobiphenyl	110	%R		PCB-1260	100	%R	
Tetrachlorometaxylen	51	%R					

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix : Liquid-Total
SampleNumber : 94214123
Type : Matrix Spike Dupl
Station Description:

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
GC							
PCB							
Decachlorobiphenyl	84	%R		PCB-1260	96	%R	
Tetrachlorometaxylen	45	%R					

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected : 5/24/94
Matrix : Solid Sediment
SampleNumber : 94214124
Type : Reg sample background
Station Description: SBUSBK5 Union Slough

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
GC							
PCB							
Decachlorobiphenyl	92	%R		PCB-1016	140	ug/kg	U
PCB-1221	140	ug/kg	U	PCB-1232	140	ug/kg	U
PCB-1242	140	ug/kg	U	PCB-1248	140	ug/kg	U
PCB-1254	70	ug/kg	U	PCB-1260	140	ug/kg	U
Tetrachlorometaxylen	95	%R					

Manchester Environmental Laboratory
Final Report

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix :
SampleNumber : BW4151
Type : Blank
Station Description:

Analyte	Result	Units	Qlfr
GC			
PCB			
Decachlorobiphenyl	102	%R	
PCB-1221	0.19	ug/L	U
PCB-1242	0.19	ug/L	U
PCB-1254	0.098	ug/L	U
Tetrachlorometaxylen	43	%R	
PCB-1016	0.19	ug/L	U
PCB-1232	0.19	ug/L	U
PCB-1248	0.19	ug/L	U
PCB-1260	0.19	ug/L	U

Project Code : TEC-613A
Project Name : BUSE TIMBER (SSI)
Project Officer : DAVID BENNETT
Account Code : 4TFA10PUZZ

Collected :
Matrix :
SampleNumber : BW4151D
Type : Blank
Station Description:

GC

PCB

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
Decachlorobiphenyl	105	%R		PCB-1016	0.20	ug/L	U
PCB-1221	0.20	ug/L	U	PCB-1232	0.20	ug/L	U
PCB-1242	0.20	ug/L	U	PCB-1248	0.20	ug/L	U
PCB-1254	0.11	ug/L	U	PCB-1260	0.20	ug/L	U
Tetrachlorometaxylen	55	%R					

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27.61

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

RECEIVED
JUL 25 1994
URS CONSULTANTS

REPLY TO
ATTN OF: ES-095

July 21, 19941

MEMORANDUM

SUBJECT: Data Validation for Buse Timber SI, Case No. 22170, SDG No. JL511, Semi-Volatile Organic Analysis

FROM: Donald Matheny, Chemist DM
Quality Assurance Office, ESD

TO: Dave Bennett, Site Manager
Superfund Response & Investigations Branch, HWD

The QA Office has received and is transmitting the above ESAT data validation report.

CC: Porter Lombard, ESAT-RSCC
Jeff Kesner, Site Lead, URS
Bruce Woods, TPO, Region 10
Mike Hiatt, Data Audit Staff, EMSL-LV
QAO, AOB

ESAT Region 10
ICF Technology Inc.
1200 6th Avenue
Seattle, WA 98101
Phone (206) 224-4162

ICF Technology Inc.
ManTech Environmental

MEMORANDUM

DATE: July 19, 1994

TO: Jerry Muth, RPO, USEPA, Region 10

Donald Matheny, Task Monitor, USEPA, Region 10

THROUGH: Barry Pepich, ESAT Team Manager, Region 10

FROM: David J. Lindquist, ESAT Data Reviewer

SUBJECT: Data Validation Report of Semi-Volatile Organic Analyses of Samples from Buse Timber Site Investigation
Case: 22170 SDG: JL511

TID #: 10-9404-430
DOCUMENT #: ESAT-10B-7479
WUD #: 2347

The quality assurance (QA) review of nine (9) low level soil samples and one water sample (rinseate) collected from the above referenced site has been completed. These samples were analyzed for semi-volatile organic compounds in accordance with the USEPA Contract Laboratory Program Statement of Work. The analyses were performed by Southwest Laboratory of Oklahoma located in Broken Arrow, OK. The samples were numbered:

JL511	JL512	JL513	JL514	JL515
JL516	JL517	JL518	JL519	JL520

DATA QUALIFICATIONS

The following comments refer to the laboratory performance in meeting the Quality Control Specifications outlined in the "Contract Laboratory Program Statement of Work for Organics Analysis, 3/90" and the "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, (2/94)".

The conclusions presented herein are based on the information provided for the review.

1. Timeliness - Acceptable

The samples were extracted and analyzed within the contract required and technical (40 CFR 136 water criteria) holding times. The Chain of Custody Form indicates that the rinseate was not preserved with HCl.

Listed below are pertinent collection and analysis dates:

Sample Number	Collection Date	Rec'd. Date	Extraction Date	Analysis Date
JL511	052594	052794	052994	060394
JL512	052594	052794	052994	060394
JL513	052594	052794	052994	062094
JL514	052594	052794	052994	062094
JL515	052594	052794	052994	062094
JL516	052594	052794	052994	060394
JL517	052594	052794	052994	060394
JL518	052594	052794	052994	060394
JL519(r)	052594	052794	052894	060194
JL520	052494	052794	052994	060794

(r) = rinseate

2. GC/MS Tuning - Acceptable

Instrument tuning and system performance criteria were met for all dates of analysis.

Two GC/MS systems were used in the analysis of the samples. All samples were analyzed within the acceptable 12 hour window of decafluorotriphenylphosphine (DFTPP) tunings.

The data presented on each GC/MS Tuning and Mass Calibration Form (Form 5B) was compared with each mass listing and the raw data. Calculations and transcriptions were correct.

3. Initial Calibration - Acceptable

The initial calibrations were performed in accordance with the method. The percent relative standard deviation criterion (%RSD $\leq$ 30%) and the minimum average relative response factor requirements were met for all compounds.

The raw data was compared with the reported values. Calculations were correct and no transcription errors were noted.

4. Continuing Calibration

The continuing calibration standards met the criteria for minimum RRFs and percent difference (%D) relative to the initial calibration, for all target compounds with the following exceptions:

Analysis Date: 06/03/94

	%D	Sensitivity
2,2'-oxybis(1-chloropropane)	-31.4	increase@
hexachlorocyclopenatadiene	41.2	decrease
di-n-octylphthalate	-33.5	increase@

Hexachlorocyclopentadiene results are qualified "UJ" (estimated at the detection limit) for the samples listed below:

JL511 JL512 JL516 JL517 JL518

Analysis Date: 06/07/94

	%D	Sensitivity
4,6-dinitro-2-methylphenol	29.9+	decrease
hexachlorocyclopenatadiene	37.0	decrease
2,4-dinitrophenol	32.9+	decrease

Hexachlorocyclopenatadiene results are qualified "UJ" (estimated at the detection limit) for sample JL520.

Analysis Date: 06/13/94

	%D	Sensitivity
2,4-dimethylphenol	27.8+	decrease
4-chloroaniline	35.7	decrease
hexachlorocyclopenatadiene	56.0	decrease
4-nitrophenol	-31.9	increase@
3,3'-dichlorobenzidine	29.4+	decrease
2,4,6-tribromophenol	-27.0	increase@

Hexachlorocyclopenatadiene and 4-chloroaniline results are qualified "UJ" (estimated at the detection limit) for the samples listed below:

JL513 JL514 JL515

@ - Results do not warrant qualification on the basis of increased instrument sensitivity relative to the initial calibration and the associated results were non-detected.

+ - Results do not warrant qualification on the basis that the associated results were non-detected and the %D < 35%.

The raw data was compared with the reported values. Calculations were correct and no transcription errors were noted.

5. Blanks

Background levels for all target compounds in the method blanks were below the contract required quantitation limits.

Bis(2-ethylhexyl)phthalate was detected in VBLK02. All associated bis(2-ethylhexyl)phthalate results less than 10X the concentration reported in the blank are qualified "U", non-detected. Associated results that were detected at levels less than the CRQL, are raised to the CRQL on the Form 1. Bis(2-ethylhexyl)phthalate is qualified, "U" for the samples listed below:

JL511	JL512	JL513	JL514	JL515
JL516	JL517	JL518	JL520	

Tentatively identified compound (TIC) results reported for the method blanks were deleted from the associated sample Form 1s.

6. Surrogate Recovery - Acceptable

Surrogate recovery criteria were met for all samples, blanks and QC samples.

Listed below are the range of surrogate recoveries:

Surrogate	Recovery Range
nitrobenzene-d5	46-72%
2-fluorobiphenyl	55-85%
terphenyl-d14	58-120%
phenol-d5	39-68%
2-fluorophenol	38-65%
2,4,6-tribromophenol	42-96%
2-chlorophenol-d4	39-68%
1,2-dichlorobenzene-d4	40-71%

The raw data was compared with the data presented in the surrogate recovery forms. Calculations were correct and no transcription errors were noted.

7. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD analysis was performed on sample JL511. The MS/MSD compound recoveries and relative percent differences (%RPD) between values were within the required control limits with one exception noted below.

Compound	MS %R	MSD %R	RPD
acenaphthene	58	75	26*

* QC limit = 19

The data was not qualified on the basis of the MS/MSD results.

8. Internal Standards Performance - Acceptable

The data reported on the Internal Standard Area Summary (Form 8B) was verified with the raw data. Chromatograms, quantitation lists, and transcriptions were examined.

All analyses met the technical acceptance criteria for internal standard area counts (+100% to -50% of the associated continuing calibration internal standard area) and retention time shift (± 0.50 minutes of the associated continuing calibration internal standard RT).

9. Compound Identification - Acceptable

The chromatograms and quantitation lists were inspected. Sample and laboratory generated standard spectra were scrutinized. Calculations were checked with the raw data.

Positive sample results were within relative retention time (RRT) windows and provided spectra meeting USEPA spectral matching criteria.

10. Compound Quantitation and Detection Limits - Acceptable

The raw data was examined to verify the calculations of sample results and the reported detection limits. The sample results were quantitated using an updated continuing calibration standard. The method specified detection limits were achieved. The quantitation ions used were in accordance with the method.

11. Tentatively Identified Compounds (TICs)

The raw data and chromatograms were inspected for tentatively identified compounds. Several hydrocarbon TICs were detected in all of the samples.

12. System Performance - Acceptable

All blanks, samples and QC samples were analyzed on a GC/MS system meeting the technical acceptance criteria.

13. Laboratory Contact

The laboratory was not contacted for this review.

14. Overall Assessment

Approximately five percent of the reported sample results were qualified as non-detects or estimates due to blank contamination and/or continuing calibration criteria.

DATA QUALIFIER DEFINITIONS

U- The analyte was analyzed for and is not present above the level of the associated value. The associated numerical value indicates the approximate concentration necessary to detect the analyte in this sample.

If a decision requires quantitation of the analyte below the associated numerical level, reanalysis or alternative analytical methods should be considered. The technical staff is available to discuss available options.

J- The analyte was analyzed for and was positively identified, but the associated numerical value may not be consistent with the amount actually present in the environmental sample. The data should be seriously considered for decision making and are usable for many purposes.

A subscript may be appended to the "J" that indicates which of the following quality control criteria were not met:

1 Blank contamination: indicates possible high bias and/or false positives.

2 Calibration range exceeded: indicates possible low bias.

3 Holding times not met: indicates low bias for most analytes with the exception of common laboratory contaminants and chlorinated ethenes (i.e.: trichloroethene, 1,1-dichloroethene, vinyl chloride).

4 Other QC outside control limits: bias not readily determined.

R- The data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified.

Resampling and reanalysis are necessary to confirm or deny the presence of the analyte.

UJ - A combination of the "U" and "J" qualifier. The analyte was analyzed for and was not present above the level of the associated value. The associated numerical value may not accurately or precisely represent the concentration necessary to detect the analyte in this sample.

If a decision requires quantitation of the analyte close to the associated numerical level, reanalysis or alternative analytical methods should be considered.

N- The analysis indicates that an analyte is present, and there are strong indications that the identity is correct.

Confirmation of the analyte requires further analysis.

NJ- A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

A subscript may be appended to the "NJ" that indicates which of the following situations applies:

1 DDT/Endrin breakdown evident.

2 Interference from other sample components.

3 Non-Target Compound List (TCL) compounds (Confirmation is necessary using specific target compound methodology to accurately determine the concentration and identity of the detected compound).

4 A confirmation analysis was missing or quality control criteria were not met for the confirmation analysis.

NOTE: Data users are encouraged to contact their Regional representative within ESD to clarify or obtain further information on the appropriate use of analytical data.

DPO: [ ] ACTION [X] FYI

Region 10

ORGANIC REGIONAL DATA ASSESSMENT SUMMARY

CASE NO. 22170 LABORATORY Southwest Laboratory

SDG NO. JL511 DATA USER SUPERFUND

SOW 3/90 REVIEW COMPLETION DATE 7-19-94

NO. OF SAMPLES 1 WATER 9 SOIL ____ OTHER ____

REVIEWER [ ] ESD [X] ESAT [ ] OTHER, CONTRACT/CONTRACTOR ____

	~~VOA~~	BNA	PEST	~~OTHER~~
1. HOLDING TIMES		O		
2. GC-MS TUNE/ GC PERFORMANCE		O		
3. INITIAL CALIBRATIONS		O		
4. CONTINUING CALIBRATIONS		X		
5. FIELD BLANKS ("F" = not applicable)		F		
6. LABORATORY BLANKS		X		
7. SURROGATES		O		
8. MATRIX SPIKE/DUPLICATES		O		
9. REGIONAL QC ("F" = not applicable)		F		
10. INTERNAL STANDARDS		O		
11. COMPOUND IDENTIFICATION		O		
12. COMPOUND QUANTITATION		O		
13. SYSTEM PERFORMANCE		O		
14. OVERALL ASSESSMENT		X		

O = No problems or minor problems that do not affect data usability.
X = No more than *about 5%* of the data points are qualified as either estimated or unusable.
M = More than *about 5%* of the data points are qualified as estimated.
Z = More than *about 5%* of the data points are qualified as unusable.

DPO ACTION ITEMS: ____

AREAS OF CONCERN: ____

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
Surface Soil
JL511

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.01

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0211.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 30 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	470	U
111-44-4	bis(2-Chloroethyl)Ether	470	U
95-57-8	2-Chlorophenol	470	U
541-73-1	1,3-Dichlorobenzene	470	U
106-46-7	1,4-Dichlorobenzene	470	U
95-50-1	1,2-Dichlorobenzene	470	U
95-48-7	2-Methylphenol	470	U
108-60-1	2,2'-oxybis(1-Chloropropane)	470	U
106-44-5	4-Methylphenol	470	U
621-64-7	N-Nitroso-di-n-propylamine	470	U
67-72-1	Hexachloroethane	470	U
98-95-3	Nitrobenzene	470	U
78-59-1	Isophorone	470	U
88-75-5	2-Nitrophenol	470	U
105-67-9	2,4-Dimethylphenol	470	U
111-91-1	bis(2-Chloroethoxy)methane	470	U
120-83-2	2,4-Dichlorophenol	470	U
120-82-1	1,2,4-Trichlorobenzene	470	U
91-20-3	Naphthalene	470	U
106-47-8	4-Chloroaniline	470	U
87-68-3	Hexachlorobutadiene	470	U
59-50-7	4-Chloro-3-Methylphenol	470	U
91-57-6	2-Methylnaphthalene	470	U
77-47-4	Hexachlorocyclopentadiene	470	J U
88-06-2	2,4,6-Trichlorophenol	470	U
95-95-4	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	470	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	470	U
208-96-8	Acenaphthylene	470	U
606-20-2	2,6-Dinitrotoluene	470	U
99-09-2	3-Nitroaniline	1100	U
83-32-9	Acenaphthene	470	U

7-19-94

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET SSURO4 EPA SAMPLE NO.

JL511

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.01

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0211.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 30 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1100	U
100-02-7	4-Nitrophenol	1100	U
132-64-9	Dibenzofuran	470	U
121-14-2	2,4-Dinitrotoluene	470	U
84-66-2	Diethylphthalate	470	U
7005-72-3	4-Chlorophenyl-phenylether	470	U
86-73-7	Fluorene	470	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	N-Nitrosodiphenylamine (1)	470	U
101-55-3	4-Bromophenyl-phenylether	470	U
118-74-1	Hexachlorobenzene	470	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	470	U
120-12-7	Anthracene	470	U
86-74-8	Carbazole	470	U
84-74-2	Di-n-butylphthalate	470	U
206-44-0	Fluoranthene	470	U
129-00-0	Pyrene	470	U
85-68-7	Butylbenzylphthalate	470	U
91-94-1	3,3'-Dichlorobenzidine	470	U
56-55-3	Benzo(a)anthracene	470	U
218-01-9	Chrysene	470	U
117-81-7	bis(2-Ethylhexyl)phthalate	470 98	U JB
117-84-0	Di-n-octylphthalate	470	U
205-99-2	Benzo(b)fluoranthene	470	U
207-08-9	Benzo(k)fluoranthene	470	U
50-32-8	Benzo(a)pyrene	470	U
193-39-5	Indeno(1,2,3-cd)pyrene	470	U
53-70-3	Dibenz(a,h)anthracene	470	U
191-24-2	Benzo(g,h,i)perylene	470	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SYUKUP1
EPA SAMPLE NO.
JL511

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.01

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0211.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 30 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.1

Number TICs found: 25

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
~~1.~~	~~123-42-2~~	~~2-Pentanone, 4-hydroxy-4-met~~	~~3.463~~	~~17000~~	~~NJAB~~
2.		UNKNOWN HYDROCARBON	12.741	580	NJ
3.		UNKNOWN ORGANIC ACID	13.441	750	NJ
4.		UNKNOWN ORGANIC ACID	13.554	950	NJ
5.		UNKNOWN ALKANE	15.715	370	NJ
~~6.~~		~~UNKNOWN AMIDE~~	~~16.181~~	~~740~~	~~JB~~
7.		UNKNOWN HYDROCARBON	16.863	1100	NJ
8.		UNKNOWN CYCLOALKANE	17.945	2800	NJ
9.		UNKNOWN HYDROCARBON	18.127	1100	NJ
10.		UNKNOWN HYDROCARBON	18.321	390	NJ
~~11.~~		~~UNKNOWN AMIDE~~	~~18.435~~	~~1400~~	~~JB~~
12.		UNKNOWN	18.630	500	NJ
13.		UNKNKOWN ALKANE	18.915	1800	NJ
14.		Phosphonic acid, ester	18.961	1800	NJ
15.		UNKNOWN	19.041	480	NJ
16.		UNKNOWN ALKANE	19.865	1800	NJ
17.		UNKNOWN	20.014	500	NJ
18.		UNKNOWN ALKANE	20.918	450	NJ
19.		UNKNOWN	21.033	510	NJ
20.		UNKNOWN	21.113	460	NJ
21.		UNKNOWN	21.354	590	NJ
22.	83-47-6	.gamma.-Sitosterol	21.595	890	NJ
23.		UNKNOWN	21.698	590	NJ
24.		UNKNOWN	22.409	410	NJ
25.	1058-61-3	Stigmast-4-en-3-one	22.489	440	NJ
26.					
27.					
28.					
29.					
30.					

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SSUB002
Subsurface Soil

EPA SAMPLE NO.

JL512

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.02

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0214.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 35 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.8

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	510	U
111-44-4	bis(2-Chloroethyl)Ether	510	U
95-57-8	2-Chlorophenol	510	U
541-73-1	1,3-Dichlorobenzene	510	U
106-46-7	1,4-Dichlorobenzene	510	U
95-50-1	1,2-Dichlorobenzene	510	U
95-48-7	2-Methylphenol	510	U
108-60-1	2,2'-oxybis(1-Chloropropane)	510	U
106-44-5	4-Methylphenol	510	U
621-64-7	N-Nitroso-di-n-propylamine	510	U
67-72-1	Hexachloroethane	510	U
98-95-3	Nitrobenzene	510	U
78-59-1	Isophorone	510	U
88-75-5	2-Nitrophenol	510	U
105-67-9	2,4-Dimethylphenol	510	U
111-91-1	bis(2-Chloroethoxy)methane	510	U
120-83-2	2,4-Dichlorophenol	510	U
120-82-1	1,2,4-Trichlorobenzene	510	U
91-20-3	Naphthalene	510	U
106-47-8	4-Chloroaniline	510	U
87-68-3	Hexachlorobutadiene	510	U
59-50-7	4-Chloro-3-Methylphenol	510	U
91-57-6	2-Methylnaphthalene	510	U
77-47-4	Hexachlorocyclopentadiene	510	U
88-06-2	2,4,6-Trichlorophenol	510	U
95-95-4	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	510	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	510	U
208-96-8	Acenaphthylene	510	U
606-20-2	2,6-Dinitrotoluene	510	U
99-09-2	3-Nitroaniline	1200	U
83-32-9	Acenaphthene	510	U

DL 1-19-94

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL512

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.02

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0214.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 35 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500 (UL) Date Analyzed: 06/03/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.8

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1200	U
100-02-7	4-Nitrophenol	1200	U
132-64-9	Dibenzofuran	510	U
121-14-2	2,4-Dinitrotoluene	510	U
84-66-2	Diethylphthalate	510	U
7005-72-3	4-Chlorophenyl-phenylether	510	U
86-73-7	Fluorene	510	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	N-Nitrosodiphenylamine (1)	510	U
101-55-3	4-Bromophenyl-phenylether	510	U
118-74-1	Hexachlorobenzene	510	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	510	U
120-12-7	Anthracene	510	U
86-74-8	Carbazole	510	U
84-74-2	Di-n-butylphthalate	510	U
206-44-0	Fluoranthene	510	U
129-00-0	Pyrene	510	U
85-68-7	Butylbenzylphthalate	510	U
91-94-1	3,3'-Dichlorobenzidine	510	U
56-55-3	Benzo(a)anthracene	510	U
218-01-9	Chrysene	510	U
117-81-7	bis(2-Ethylhexyl)phthalate	510	U
117-84-0	Di-n-octylphthalate	88	U JB
205-99-2	Benzo(b)fluoranthene	510	U
207-08-9	Benzo(k)fluoranthene	510	U
50-32-8	Benzo(a)pyrene	510	U
193-39-5	Indeno(1,2,3-cd)pyrene	510	U
53-70-3	Dibenz(a,h)anthracene	510	U
191-24-2	Benzo(g,h,i)perylene	510	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO: JL512

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.02

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0214.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 35 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.8

Number TICs found: 25 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123-42-2	2-Pentanone, 4-hydroxy-4-met	3.475	13000	NJA
2.		UNKNOWN ALKANE	15.712	450	NJ
3.		UNKNOWN AMIDE	16.189	2800	J
4.		UNKNOWN ALKANE	16.303	370	J
5.		UNKNOWN ALDEHYDE	16.508	510	J
6.		UNKNOWN ALCOHOL	16.872	1200	J
7.		UNKNOWN	16.975	680	J
8.		UNKNOWN ALKANE	17.408	330	J
9.		UNKNOWN ALKANE	17.933	1500	J
10.		UNKNOWN	18.447	860	J
11.		UNKNOWN ALKANE	18.924	1000	J
12.		UNKNOWN	18.970	580	J
13.		UNKNOWN	19.050	340	J
14.		UNKNOWN	19.680	360	J
15.		UNKNOWN ALKANE	19.864	1500	J
16.		UNKNOWN	19.944	720	J
17.		UNKNOWN	20.013	580	J
18.		UNKNOWN	20.150	370	J
19.		UNKNOWN ALKANE	20.242	330	J
20.		UNKNOWN ALKANE	20.918	340	J
21.		UNKNOWN	21.124	370	J
22.		UNKNOWN	21.365	470	J
23.	83-47-6	.gamma.-Sitosterol	21.606	370	NJ
24.		UNKNOWN	21.721	500	J
25.		UNKNOWN	22.409	260	J
26.					
27.					
28.					
29.					
30.					

DL 7-19-94 60

1B

SDDRN1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Strim Brain Sediment

JL513

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.03

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0448.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 29 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/20/94

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 5.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	4600	U
111-44-4	bis(2-Chloroethyl)Ether	4600	U
95-57-8	2-Chlorophenol	4600	U
541-73-1	1,3-Dichlorobenzene	4600	U
106-46-7	1,4-Dichlorobenzene	4600	U
95-50-1	1,2-Dichlorobenzene	4600	U
95-48-7	2-Methylphenol	4600	U
108-60-1	2,2'-oxybis(1-Chloropropane)	4600	U
106-44-5	4-Methylphenol	4600	U
621-64-7	N-Nitroso-di-n-propylamine	4600	U
67-72-1	Hexachloroethane	4600	U
98-95-3	Nitrobenzene	4600	U
78-59-1	Isophorone	4600	U
88-75-5	2-Nitrophenol	4600	U
105-67-9	2,4-Dimethylphenol	4600	U
111-91-1	bis(2-Chloroethoxy)methane	4600	U
120-83-2	2,4-Dichlorophenol	4600	U
120-82-1	1,2,4-Trichlorobenzene	4600	U
91-20-3	Naphthalene	4600	U
106-47-8	4-Chloroaniline	4600	J U
87-68-3	Hexachlorobutadiene	4600	U
59-50-7	4-Chloro-3-Methylphenol	4600	U
91-57-6	2-Methylnaphthalene	4600	U
77-47-4	Hexachlorocyclopentadiene	4600	J U
88-06-2	2,4,6-Trichlorophenol	4600	U
95-95-4	2,4,5-Trichlorophenol	11000	U
91-58-7	2-Chloronaphthalene	4600	U
88-74-4	2-Nitroaniline	11000	U
131-11-3	Dimethylphthalate	4600	U
208-96-8	Acenaphthylene	4600	U
606-20-2	2,6-Dinitrotoluene	4600	U
99-09-2	3-Nitroaniline	11000	U
83-32-9	Acenaphthene	4600	U

7-19-94

02

1C

SEMIVOLATIL RGANICS ANALYSIS DATA SH SDDRNI EPA SAMPLE NO.

JL513

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.03

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0448.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 29 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/20/94

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 5.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	11000	U
100-02-7	4-Nitrophenol	11000	U
132-64-9	Dibenzofuran	4600	U
121-14-2	2,4-Dinitrotoluene	4600	U
84-66-2	Diethylphthalate	4600	U
7005-72-3	4-Chlorophenyl-phenylether	4600	U
86-73-7	Fluorene	4600	U
100-01-6	4-Nitroaniline	11000	U
534-52-1	4,6-Dinitro-2-methylphenol	11000	U
86-30-6	N-Nitrosodiphenylamine (1)	4600	U
101-55-3	4-Bromophenyl-phenylether	4600	U
118-74-1	Hexachlorobenzene	4600	U
87-86-5	Pentachlorophenol	460	J
85-01-8	Phenanthrene	240	J
120-12-7	Anthracene	4600	U
86-74-8	Carbazole	4600	U
84-74-2	Di-n-butylphthalate	4600	U
206-44-0	Fluoranthene	400	J
129-00-0	Pyrene	750	J
85-68-7	Butylbenzylphthalate	650	J
91-94-1	3,3'-Dichlorobenzidine	4600	U
56-55-3	Benzo(a)anthracene	4600	U
218-01-9	Chrysene	320	J
117-81-7	bis(2-Ethylhexyl)phthalate	4600 ~~2200~~	U ~~JB~~
117-84-0	Di-n-octylphthalate	520	J
205-99-2	Benzo(b)fluoranthene	4600	U
207-08-9	Benzo(k)fluoranthene	4600	U
50-32-8	Benzo(a)pyrene	4600	U
193-39-5	Indeno(1,2,3-cd)pyrene	4600	U
53-70-3	Dibenz(a,h)anthracene	4600	U
191-24-2	Benzo(g,h,i)perylene	380	J

7-19-94

1F

SEMIVOLATII ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL513

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.03

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0448.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 29 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/20/94

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 5.3

Number TICs found: 25

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123-42-2	2-Pentanone, 4-hydroxy-4-met	3.133	28000	NJA
2.		UNKNOWN ALKANE	16.421	12000	NJ
3.		UNKNOWN ALKANE	16.986	5000	J
4.		UNKNOWN ALKANE	17.274	6000	J
5.		UNKNOWN HYDROCARBON	17.494	3800	J
6.		UNKNOWN ALKANE	17.679	5800	J
7.		UNKNOWN HYDROCARBON	18.350	2300	J
8.		UNKNOWN HYDROCARBON	18.558	6400	J
9.		UNKNOWN	18.662	2100	J
10.		UNKNOWN	18.767	1800	J
11.		UNKNOWN ALKANE	18.836	5400	J
12.		UNKNOWN	19.021	2600	J
13.		UNKNOWN	19.091	2400	J
14.		UNKNOWN	19.207	3800	J
15.		UNKNOWN	19.300	5900	J
16.		UNKNOWN	19.392	1300	J
17.		UNKNOWN	19.427	1600	J
18.		UNKNOWN	19.508	3000	J
19.		UNKNOWN	19.636	2600	J
20.		UNKNOWN	19.682	1800	J
21.		UNKNOWN	20.065	2900	J
22.		UNKNOWN ALKANE	20.285	1400	J
23.		UNKNOWN	20.598	1800	J
24.		UNKNOWN ALKANE	20.865	2500	J
25.		UNKNOWN	21.039	2000	J
26.					
27.					
28.					
29.					
30.					

1-19-94

SDSD3

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL514

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.04

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0449.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 77 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 1000(UL) Date Analyzed: 06/20/94

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 6.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	29000	U
111-44-4	bis(2-Chloroethyl)Ether	29000	U
95-57-8	2-Chlorophenol	29000	U
541-73-1	1,3-Dichlorobenzene	29000	U
106-46-7	1,4-Dichlorobenzene	29000	U
95-50-1	1,2-Dichlorobenzene	29000	U
95-48-7	2-Methylphenol	29000	U
108-60-1	2,2'-oxybis(1-Chloropropane)	2900	J
106-44-5	4-Methylphenol	29000	U
621-64-7	N-Nitroso-di-n-propylamine	29000	U
67-72-1	Hexachloroethane	29000	U
98-95-3	Nitrobenzene	29000	U
78-59-1	Isophorone	29000	U
88-75-5	2-Nitrophenol	29000	U
105-67-9	2,4-Dimethylphenol	29000	U
111-91-1	bis(2-Chloroethoxy)methane	29000	U
120-83-2	2,4-Dichlorophenol	29000	U
120-82-1	1,2,4-Trichlorobenzene	29000	U
91-20-3	Naphthalene	29000	U
106-47-8	4-Chloroaniline	29000	U
87-68-3	Hexachlorobutadiene	29000	U
59-50-7	4-Chloro-3-Methylphenol	3700	J
91-57-6	2-Methylnaphthalene	29000	U
77-47-4	Hexachlorocyclopentadiene	29000	U
88-06-2	2,4,6-Trichlorophenol	70000	U
95-95-4	2,4,5-Trichlorophenol	29000	U
91-58-7	2-Chloronaphthalene	70000	U
88-74-4	2-Nitroaniline	29000	U
131-11-3	Dimethylphthalate	29000	U
208-96-8	Acenaphthylene	29000	U
606-20-2	2,6-Dinitrotoluene	70000	U
99-09-2	3-Nitroaniline	29000	U
83-32-9	Acenaphthene		

DV 7-19-94

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHE

SDSD3 EPA SAMPLE NO.

JL514

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.04

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0449.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 77 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 1000(UL) Date Analyzed: 06/20/94

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 6.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	70000	U
100-02-7	4-Nitrophenol	70000	U
132-64-9	Dibenzofuran	29000	U
121-14-2	2,4-Dinitrotoluene	29000	U
84-66-2	Diethylphthalate	29000	U
7005-72-3	4-Chlorophenyl-phenylether	29000	U
86-73-7	Fluorene	29000	U
100-01-6	4-Nitroaniline	70000	U
534-52-1	4,6-Dinitro-2-methylphenol	70000	U
86-30-6	N-Nitrosodiphenylamine (1)	29000	U
101-55-3	4-Bromophenyl-phenylether	29000	U
118-74-1	Hexachlorobenzene	29000	U
87-86-5	Pentachlorophenol	70000	U
85-01-8	Phenanthrene	1800	J
120-12-7	Anthracene	29000	U
86-74-8	Carbazole	29000	U
84-74-2	Di-n-butylphthalate	1700	J
206-44-0	Fluoranthene	29000	U
129-00-0	Pyrene	1800	J
85-68-7	Butylbenzylphthalate	29000	U
91-94-1	3,3'-Dichlorobenzidine	29000	U
56-55-3	Benzo(a)anthracene	29000	U
218-01-9	Chrysene	29000	U
117-81-7	bis(2-Ethylhexyl)phthalate	29000 ~~17000~~	U ~~JB~~
117-84-0	Di-n-octylphthalate	29000	U
205-99-2	Benzo(b)fluoranthene	29000	U
207-08-9	Benzo(k)fluoranthene	29000	U
50-32-8	Benzo(a)pyrene	29000	U
193-39-5	Indeno(1,2,3-cd)pyrene	29000	U
53-70-3	Dibenz(a,h)anthracene	29000	U
191-24-2	Benzo(g,h,i)perylene	29000	U

DL 7-19-94

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

JL514

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.04

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0449.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 77 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/20/94

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 6.5

Number TICs found: 25

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN ALKANE	8.664	66000	NJ
2.		UNKNOWN ALKANE	9.546	69000	J
3.		UNKNOWN ALKANE	13.371	57000	J
4.		UNKNOWN ALKANE	14.033	54000	J
5.		UNKNOWN	15.637	25000	J
6.		UNKNOWN	15.845	25000	J
7.		UNKNOWN ALCOHOL	16.202	19000	J
8.		UNKNOWN HYDROCARBON	16.363	18000	J
9.		UNKNOWN ALKANE	16.432	42000	J
10.		UNKNOWN	16.767	50000	J
11.		UNKNOWN ALKANE	16.986	27000	J
12.		UNKNOWN	17.148	30000	J
13.		UNKNOWN ALKANE	17.275	56000	J
14.		UNKNOWN	17.507	23000	J
15.		UNKNOWN	17.831	75000	J
16.		UNKNOWN ALKANE	18.352	120000	J
17.		UNKNOWN	18.561	120000	J
18.		UNKNOWN ALKANE	18.839	91000	J
19.		UNKNOWN ALKANE	19.210	81000	J
20.		UNKNOWN	19.303	98000	J
21.		UNKNOWN ALKANE	20.023	73000	J
22.	36728-72-0	28-Nor-17.beta.(H)-hopane	20.069	89000	NJ
23.		UNKNOWN ALKANE	20.290	130000	J
24.		UNKNOWN ALKANE	20.870	120000	J
25.	1058-61-3	Stigmast-4-en-3-one	21.854	75000	NJ
26.					
27.					
28.					
29.					
30.					

DL 7-19-94

SDSD2

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL515

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.05

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0450.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 78 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 1000(UL) Date Analyzed: 06/20/94

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 6.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	30000	U
111-44-4	bis(2-Chloroethyl)Ether	30000	U
95-57-8	2-Chlorophenol	30000	U
541-73-1	1,3-Dichlorobenzene	30000	U
106-46-7	1,4-Dichlorobenzene	30000	U
95-50-1	1,2-Dichlorobenzene	30000	U
95-48-7	2-Methylphenol	30000	U
108-60-1	2,2'-oxybis(1-Chloropropane)	30000	U
106-44-5	4-Methylphenol	2100	J
621-64-7	N-Nitroso-di-n-propylamine	30000	U
67-72-1	Hexachloroethane	30000	U
98-95-3	Nitrobenzene	30000	U
78-59-1	Isophorone	30000	U
88-75-5	2-Nitrophenol	30000	U
105-67-9	2,4-Dimethylphenol	30000	U
111-91-1	bis(2-Chloroethoxy)methane	30000	U
120-83-2	2,4-Dichlorophenol	30000	U
120-82-1	1,2,4-Trichlorobenzene	30000	U
91-20-3	Naphthalene	30000	U
106-47-8	4-Chloroaniline	30000	J U
87-68-3	Hexachlorobutadiene	30000	U
59-50-7	4-Chloro-3-Methylphenol	30000	U
91-57-6	2-Methylnaphthalene	1900	J
77-47-4	Hexachlorocyclopentadiene	30000	J U
88-06-2	2,4,6-Trichlorophenol	30000	U
95-95-4	2,4,5-Trichlorophenol	73000	U
91-58-7	2-Chloronaphthalene	30000	U
88-74-4	2-Nitroaniline	73000	U
131-11-3	Dimethylphthalate	30000	U
208-96-8	Acenaphthylene	30000	U
606-20-2	2,6-Dinitrotoluene	30000	U
99-09-2	3-Nitroaniline	73000	U
83-32-9	Acenaphthene	30000	U

JL 1-17-94

1C

SEMIVOLATILE ANICS ANALYSIS DATA SHEE SDS02 EPA SAMPLE NO.

JL515

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.05

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0450.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 78 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 1000(UL) Date Analyzed: 06/20/94

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 6.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	73000	U
100-02-7	4-Nitrophenol	73000	U
132-64-9	Dibenzofuran	30000	U
121-14-2	2,4-Dinitrotoluene	30000	U
84-66-2	Diethylphthalate	30000	U
7005-72-3	4-Chlorophenyl-phenylether	30000	U
86-73-7	Fluorene	30000	U
100-01-6	4-Nitroaniline	73000	U
534-52-1	4,6-Dinitro-2-methylphenol	73000	U
86-30-6	N-Nitrosodiphenylamine (1)	30000	U
101-55-3	4-Bromophenyl-phenylether	30000	U
118-74-1	Hexachlorobenzene	30000	U
87-86-5	Pentachlorophenol	73000	U
85-01-8	Phenanthrene	30000	U
120-12-7	Anthracene	30000	U
86-74-8	Carbazole	30000	U
84-74-2	Di-n-butylphthalate	30000	U
206-44-0	Fluoranthene	30000	U
129-00-0	Pyrene	2200	J
85-68-7	Butylbenzylphthalate	30000	U
91-94-1	3,3'-Dichlorobenzidine	30000	U
56-55-3	Benzo(a)anthracene	30000	U
218-01-9	Chrysene	30000	U
117-81-7	bis(2-Ethylhexyl)phthalate	30000 ~~15000~~	U JB
117-84-0	Di-n-octylphthalate	30000	U
205-99-2	Benzo(b)fluoranthene	30000	U
207-08-9	Benzo(k)fluoranthene	30000	U
50-32-8	Benzo(a)pyrene	30000	U
193-39-5	Indeno(1,2,3-cd)pyrene	30000	U
53-70-3	Dibenz(a,h)anthracene	30000	U
191-24-2	Benzo(g,h,i)perylene	30000	U

JR 7-19-94

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

JL515

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.05

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0450.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 78 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/20/94

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 6.4

Number TICs found: 25

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	~~123-42-2~~	~~2-Pentanone, 4-hydroxy-4-met~~	~~3.124~~	~~110000~~	~~NJA~~
2.		UNKNOWN ALKANE	8.669	60000	NJ
3.		UNKNOWN ALKANE	9.552	53000	J
4.		UNKNOWN ALKANE	13.374	51000	J
5.		UNKNOWN ALKANE	14.037	55000	J
6.		UNKNOWN ALKANE	15.645	26000	J
7.		UNKNOWN	15.853	40000	J
8.		UNKNOWN HYDROCARBON	16.210	30000	J
9.		UNKNOWN	16.383	26000	J
10.		UNKNOWN	16.441	39000	J
11.		UNKNOWN	16.776	63000	J
12.		UNKNOWN ALKANE	17.007	35000	J
13.		UNKNOWN ALKANE	17.157	37000	J
14.		UNKNOWN ALKANE	17.285	59000	J
15.		UNKNOWN	17.516	32000	J
16.		UNKNOWN ALKANE	17.701	62000	J
17.		UNKNOWN ALKANE	18.165	89000	J
18.		UNKNOWN ALKANE	18.362	100000	J
19.		UNKNOWN	18.583	96000	J
20.		UNKNOWN ALKANE	19.221	92000	J
21.		UNKNOWN	19.326	100000	J
22.		UNKNOWN	20.082	82000	J
23.		UNKNOWN ALKANE	20.303	110000	J
24.		UNKNOWN ALKANE	20.885	130000	J
25.	1058-61-3	Stigmast-4-en-3-one	21.873	81000	NJ
26.					
27.					
28.					
29.					
30.					

1B

SDG54

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Division Sleigh

JL516

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.06

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0218.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 46 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	610	U
111-44-4	bis(2-Chloroethyl)Ether	610	U
95-57-8	2-Chlorophenol	610	U
541-73-1	1,3-Dichlorobenzene	610	U
106-46-7	1,4-Dichlorobenzene	610	U
95-50-1	1,2-Dichlorobenzene	610	U
95-48-7	2-Methylphenol	610	U
108-60-1	2,2'-oxybis(1-Chloropropane)	610	U
106-44-5	4-Methylphenol	610	U
621-64-7	N-Nitroso-di-n-propylamine	610	U
67-72-1	Hexachloroethane	610	U
98-95-3	Nitrobenzene	610	U
78-59-1	Isophorone	610	U
88-75-5	2-Nitrophenol	610	U
105-67-9	2,4-Dimethylphenol	610	U
111-91-1	bis(2-Chloroethoxy)methane	610	U
120-83-2	2,4-Dichlorophenol	610	U
120-82-1	1,2,4-Trichlorobenzene	610	U
91-20-3	Naphthalene	610	U
106-47-8	4-Chloroaniline	610	U
87-68-3	Hexachlorobutadiene	610	U
59-50-7	4-Chloro-3-Methylphenol	610	U
91-57-6	2-Methylnaphthalene	610	U
77-47-4	Hexachlorocyclopentadiene	610	J U
88-06-2	2,4,6-Trichlorophenol	610	U
95-95-4	2,4,5-Trichlorophenol	1500	U
91-58-7	2-Chloronaphthalene	610	U
88-74-4	2-Nitroaniline	1500	U
131-11-3	Dimethylphthalate	610	U
208-96-8	Acenaphthylene	610	U
606-20-2	2,6-Dinitrotoluene	610	U
99-09-2	3-Nitroaniline	1500	U
83-32-9	Acenaphthene	610	U

DL 7-19-94

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET SDG54

EPA SAMPLE NO.: JL516

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.06

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0218.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 46 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1500	U
100-02-7	4-Nitrophenol	1500	U
132-64-9	Dibenzofuran	610	U
121-14-2	2,4-Dinitrotoluene	610	U
84-66-2	Diethylphthalate	610	U
7005-72-3	4-Chlorophenyl-phenylether	610	U
86-73-7	Fluorene	610	U
100-01-6	4-Nitroaniline	1500	U
534-52-1	4,6-Dinitro-2-methylphenol	1500	U
86-30-6	N-Nitrosodiphenylamine (1)	610	U
101-55-3	4-Bromophenyl-phenylether	610	U
118-74-1	Hexachlorobenzene	610	U
87-86-5	Pentachlorophenol	1500	U
85-01-8	Phenanthrene	610	U
120-12-7	Anthracene	610	U
86-74-8	Carbazole	610	U
84-74-2	Di-n-butylphthalate	610	U
206-44-0	Fluoranthene	610	U
129-00-0	Pyrene	610	U
85-68-7	Butylbenzylphthalate	610	U
91-94-1	3,3'-Dichlorobenzidine	610	U
56-55-3	Benzo(a)anthracene	610	U
218-01-9	Chrysene	610	U
117-81-7	bis(2-Ethylhexyl)phthalate	610 ~~400~~	U ~~JB~~
117-84-0	Di-n-octylphthalate	610	U
205-99-2	Benzo(b)fluoranthene	610	U
207-08-9	Benzo(k)fluoranthene	610	U
50-32-8	Benzo(a)pyrene	610	U
193-39-5	Indeno(1,2,3-cd)pyrene	610	U
53-70-3	Dibenz(a,h)anthracene	610	U
191-24-2	Benzo(g,h,i)perylene	610	U

1-19-94

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1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

JL516

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.06

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0218.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 46 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

Number TICs found: 19

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123-42-2	2-Pentanone, 4-hydroxy-4-met	3.548	97000	NJAB
2.		UNKNOWN ORGANIC ACID	12.256	770	NJ
3.		UNKNOWN ORGANIC ACID	12.728	720	J
4.		UNKNOWN	12.786	1600	J
5.		UNKNOWN HYDROCARBON	13.616	1700	J
6.		UNKNOWN ORGANIC ACID	13.731	2700	J
7.		UNKNOWN	13.917	880	J
8.		UNKNOWN	14.114	800	J
9.		UNKNOWN	14.357	560	J
10.		UNKNOWN	14.613	1300	J
11.		UNKNOWN	14.846	530	J
12.		UNKNOWN AMIDE	15.232	550	J
13.		UNKNOWN ALKANE	15.852	520	J
14.		UNKNOWN	16.062	1500	J
15.		UNKNOWN	16.203	610	J
16.		UNKNOWN AMIDE	16.367	1600	JB
17.		UNKNOWN	16.648	590	J
18.		UNKNOWN	17.035	1300	J
19.		UNKNOWN ALKANE	18.069	500	J
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

DL 7-19-94

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SSURBAK 3

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Surface background soil

JL517

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.07

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0219.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 24 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 4.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	430	U
111-44-4	bis(2-Chloroethyl)Ether	430	U
95-57-8	2-Chlorophenol	430	U
541-73-1	1,3-Dichlorobenzene	430	U
106-46-7	1,4-Dichlorobenzene	430	U
95-50-1	1,2-Dichlorobenzene	430	U
95-48-7	2-Methylphenol	430	U
108-60-1	2,2'-oxybis(1-Chloropropane)	430	U
106-44-5	4-Methylphenol	430	U
621-64-7	N-Nitroso-di-n-propylamine	430	U
67-72-1	Hexachloroethane	430	U
98-95-3	Nitrobenzene	430	U
78-59-1	Isophorone	430	U
88-75-5	2-Nitrophenol	430	U
105-67-9	2,4-Dimethylphenol	430	U
111-91-1	bis(2-Chloroethoxy)methane	430	U
120-83-2	2,4-Dichlorophenol	430	U
120-82-1	1,2,4-Trichlorobenzene	430	U
91-20-3	Naphthalene	430	U
106-47-8	4-Chloroaniline	430	U
87-68-3	Hexachlorobutadiene	430	U
59-50-7	4-Chloro-3-Methylphenol	430	U
91-57-6	2-Methylnaphthalene	430	U
77-47-4	Hexachlorocyclopentadiene	430	J U
88-06-2	2,4,6-Trichlorophenol	430	U
95-95-4	2,4,5-Trichlorophenol	1000	U
91-58-7	2-Chloronaphthalene	430	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	430	U
208-96-8	Acenaphthylene	430	U
606-20-2	2,6-Dinitrotoluene	430	U
99-09-2	3-Nitroaniline	1000	U
83-32-9	Acenaphthene	430	U

DL 7-11-94

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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SSUR12AR? (background surface soil)

EPA SAMPLE NO.

JL517

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.07

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0219.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 24 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500 (UL) Date Analyzed: 06/03/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 4.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol	1000	U
132-64-9	Dibenzofuran	430	U
121-14-2	2,4-Dinitrotoluene	430	U
84-66-2	Diethylphthalate	430	U
7005-72-3	4-Chlorophenyl-phenylether	430	U
86-73-7	Fluorene	430	U
100-01-6	4-Nitroaniline	1000	U
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	N-Nitrosodiphenylamine (1)	430	U
101-55-3	4-Bromophenyl-phenylether	430	U
118-74-1	Hexachlorobenzene	430	U
87-86-5	Pentachlorophenol	1000	U
85-01-8	Phenanthrene	430	U
120-12-7	Anthracene	430	U
86-74-8	Carbazole	430	U
84-74-2	Di-n-butylphthalate	32	J
206-44-0	Fluoranthene	430	U
129-00-0	Pyrene	430	U
85-68-7	Butylbenzylphthalate	430	U
91-94-1	3,3'-Dichlorobenzidine	430	U
56-55-3	Benzo(a)anthracene	430	U
218-01-9	Chrysene	430	U
117-81-7	bis(2-Ethylhexyl)phthalate	~~160~~ 430	~~JB~~ U
117-84-0	Di-n-octylphthalate	430	U
205-99-2	Benzo(b)fluoranthene	430	U
207-08-9	Benzo(k)fluoranthene	430	U
50-32-8	Benzo(a)pyrene	430	U
193-39-5	Indeno(1,2,3-cd)pyrene	430	U
53-70-3	Dibenz(a,h)anthracene	430	U
191-24-2	Benzo(g,h,i)perylene	430	U

FORM I SV-2

3/90

DL 7-19-94

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

JL517

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.07

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0219.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 24 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 4.4

Number TICs found: 21

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	2.079	1200	J
2.	123-42-2	2-Pentanone, 4-hydroxy-4-met	3.536	12000	NJAB
3.		UNKNOWN CYCLOALKANE	11.656	980	NJ
4.		UNKNOWN AMIDE	15.198	420	J
5.		UNKNOWN	15.742	1200	J
6.		UNKNONW ALKANE	15.823	670	J
7.		UNKNOWN	16.032	420	J
8.		UNKNOWN	16.333	2000	J
9.		UNKNOWN	16.624	480	J
10.		UNKNOWN	16.822	460	J
11.		UNKNOWN ALKANE	16.974	610	J
12.		UNKNOWN	17.020	920	J
13.		UNKNOWN	17.079	550	J
14.		UNKNOWN ALKANE	18.038	920	J
15.		UNKNOWN	18.460	670	J
16.		UNKNOWN AMIDE	18.601	1900	J
17.		UNKNOWN ALKANE	19.036	2100	J
18.		UNKNOWN	19.177	730	J
19.		UNKNOWN	20.000	4400	J
20.		UNKNOWN	21.294	410	J
21.		UNKNOWN	21.976	1200	J
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SSWOOAK4
Background Sub soil

EPA SAMPLE NO.

JL518

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.08

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0220.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 46 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 4.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	610	U
111-44-4	bis(2-Chloroethyl)Ether	610	U
95-57-8	2-Chlorophenol	610	U
541-73-1	1,3-Dichlorobenzene	610	U
106-46-7	1,4-Dichlorobenzene	610	U
95-50-1	1,2-Dichlorobenzene	610	U
95-48-7	2-Methylphenol	610	U
108-60-1	2,2'-oxybis(1-Chloropropane)	610	U
106-44-5	4-Methylphenol	610	U
621-64-7	N-Nitroso-di-n-propylamine	610	U
67-72-1	Hexachloroethane	610	U
98-95-3	Nitrobenzene	610	U
78-59-1	Isophorone	610	U
88-75-5	2-Nitrophenol	610	U
105-67-9	2,4-Dimethylphenol	610	U
111-91-1	bis(2-Chloroethoxy)methane	610	U
120-83-2	2,4-Dichlorophenol	610	U
120-82-1	1,2,4-Trichlorobenzene	610	U
91-20-3	Naphthalene	610	U
106-47-8	4-Chloroaniline	610	U
87-68-3	Hexachlorobutadiene	610	U
59-50-7	4-Chloro-3-Methylphenol	610	U
91-57-6	2-Methylnaphthalene	610	U
77-47-4	Hexachlorocyclopentadiene	610	J U
88-06-2	2,4,6-Trichlorophenol	610	U
95-95-4	2,4,5-Trichlorophenol	1500	U
91-58-7	2-Chloronaphthalene	610	U
88-74-4	2-Nitroaniline	1500	U
131-11-3	Dimethylphthalate	610	U
208-96-8	Acenaphthylene	610	U
606-20-2	2,6-Dinitrotoluene	610	U
99-09-2	3-Nitroaniline	1500	U
83-32-9	Acenaphthene	610	U

1-19-94

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

BS SUBBAK EPA SAMPLE NO.

background subsurface soil JL518

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.08

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0220.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 46 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 4.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1500	U
100-02-7	4-Nitrophenol	1500	U
132-64-9	Dibenzofuran	610	U
121-14-2	2,4-Dinitrotoluene	610	U
84-66-2	Diethylphthalate	610	U
7005-72-3	4-Chlorophenyl-phenylether	610	U
86-73-7	Fluorene	610	U
100-01-6	4-Nitroaniline	1500	U
534-52-1	4,6-Dinitro-2-methylphenol	1500	U
86-30-6	N-Nitrosodiphenylamine (1)	610	U
101-55-3	4-Bromophenyl-phenylether	610	U
118-74-1	Hexachlorobenzene	610	U
87-86-5	Pentachlorophenol	1500	U
85-01-8	Phenanthrene	610	U
120-12-7	Anthracene	610	U
86-74-8	Carbazole	610	U
84-74-2	Di-n-butylphthalate	33	J
206-44-0	Fluoranthene	610	U
129-00-0	Pyrene	610	U
85-68-7	Butylbenzylphthalate	610	U
91-94-1	3,3'-Dichlorobenzidine	610	U
56-55-3	Benzo(a)anthracene	610	U
218-01-9	Chrysene	610	U
117-81-7	bis(2-Ethylhexyl)phthalate	610 ~~140~~	U ~~JB~~
117-84-0	Di-n-octylphthalate	610	U
205-99-2	Benzo(b)fluoranthene	610	U
207-08-9	Benzo(k)fluoranthene	610	U
50-32-8	Benzo(a)pyrene	610	U
193-39-5	Indeno(1,2,3-cd)pyrene	610	U
53-70-3	Dibenz(a,h)anthracene	610	U
191-24-2	Benzo(g,h,i)perylene	610	U

DL 7-17-94

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

JL518

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.08

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0220.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 46 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/03/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 4.5

Number TICs found: 22

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123-42-2	2-Pentanone, 4-hydroxy-4-met	3.615	78000	NJA
2.		UNKNOWN	5.252	860	NJ
3.		UNKNOWN	11.640	1200	J
4.		UNKNOWN ALKANE	14.552	450	J
5.		UNKNOWN CYCLOALKANE	14.908	190	J
6.		UNKNOWN ALKANE	15.806	180	J
7.		UNKNOWN HYDROCARBON	16.025	270	J
8.		UNKNOWN	16.152	440	J
9.		UNKNOWN AMIDE	16.314	570	JB
10.		UNKNOWN ALDEHYDE	16.615	230	J
11.		UNKNOWN	16.870	200	J
12.		UNKNOWN ALKANE	18.031	340	J
13.		UNKNOWN ALKANE	19.035	1100	J
14.		UNKNOWN	19.163	430	J
15.		UNKNOWN ALKANE	19.984	380	J
16.		UNKNOWN	20.148	210	J
17.		UNKNOWN	20.324	270	J
18.		UNKNOWN ALKANE	21.087	220	J
19.		UNKNOWN	21.533	190	J
20.		UNKNOWN	21.873	180	J
21.		UNKNOWN	22.236	360	J
22.		UNKNOWN	22.482	400	J
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

1-19-94

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.: JL519

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) WATER Lab Sample ID: 18854.09

Sample wt/vol: 1000 (g/mL) ML Lab File ID: HH3658.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 05/28/94

Concentrated Extract Volume: 1000(UL) Date Analyzed: 06/01/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
108-95-2	Phenol	10	U	
111-44-4	bis(2-Chloroethyl)Ether	10	U	
95-57-8	2-Chlorophenol	10	U	
541-73-1	1,3-Dichlorobenzene	10	U	
106-46-7	1,4-Dichlorobenzene	1	J	
95-50-1	1,2-Dichlorobenzene	10	U	
95-48-7	2-Methylphenol	10	U	
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U	
106-44-5	4-Methylphenol	10	U	
621-64-7	N-Nitroso-di-n-propylamine	10	U	
67-72-1	Hexachloroethane	10	U	
98-95-3	Nitrobenzene	10	U	
78-59-1	Isophorone	10	U	
88-75-5	2-Nitrophenol	10	U	
105-67-9	2,4-Dimethylphenol	10	U	
111-91-1	bis(2-Chloroethoxy)methane	10	U	
120-83-2	2,4-Dichlorophenol	10	U	
120-82-1	1,2,4-Trichlorobenzene	6	J	
91-20-3	Naphthalene	10	U	
106-47-8	4-Chloroaniline	10	U	
87-68-3	Hexachlorobutadiene	10	U	
59-50-7	4-Chloro-3-Methylphenol	10	U	
91-57-6	2-Methylnaphthalene	10	U	DL
77-47-4	Hexachlorocyclopentadiene	10	U	
88-06-2	2,4,6-Trichlorophenol	25	U	
95-95-4	2,4,5-Trichlorophenol	10	U	
91-58-7	2-Chloronaphthalene	25	U	
88-74-4	2-Nitroaniline	10	U	
131-11-3	Dimethylphthalate	10	U	
208-96-8	Acenaphthylene	10	U	
606-20-2	2,6-Dinitrotoluene	25	U	
99-09-2	3-Nitroaniline	10	U	
83-32-9	Acenaphthene			

DL 7-19-94

1C

SEMIVOLATILE O[illegible] NICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL519

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) WATER Lab Sample ID: 18854.09

Sample wt/vol: 1000 (g/mL) ML Lab File ID: HH3658.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: ______ decanted: (Y/N)___ Date Extracted: 05/28/94

Concentrated Extract Volume: 1000(UL) Date Analyzed: 06/01/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

FORM I SV-2 3/90

7-19-94

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

ER01

EPA SAMPLE NO.

JL519

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) WATER Lab Sample ID: 18854.09

Sample wt/vol: 1000 (g/mL) ML Lab File ID: HH3658.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 05/28/94

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/01/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.4

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	2.042	6	JB
2.		UNKNOWN	2.084	4	JB
3.		UNKNOWN	2.198	2	JB
4.		UNKNOWN	2.229	3	JB
5.		UNKNOWN	2.322	3	JB
6.		UNKNOWN	4.116	8	JB
7.		UNKNOWN	10.326	2	NJ
8.					
9.					
10.					
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7-19-94

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL520

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.10

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0241.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 46 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500 (UL) Date Analyzed: 06/07/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	610	U
111-44-4	bis(2-Chloroethyl)Ether	610	U
95-57-8	2-Chlorophenol	610	U
541-73-1	1,3-Dichlorobenzene	610	U
106-46-7	1,4-Dichlorobenzene	610	U
95-50-1	1,2-Dichlorobenzene	610	U
95-48-7	2-Methylphenol	610	U
108-60-1	2,2'-oxybis(1-Chloropropane)	140	J
106-44-5	4-Methylphenol	610	U
621-64-7	N-Nitroso-di-n-propylamine	610	U
67-72-1	Hexachloroethane	610	U
98-95-3	Nitrobenzene	610	U
78-59-1	Isophorone	610	U
88-75-5	2-Nitrophenol	610	U
105-67-9	2,4-Dimethylphenol	610	U
111-91-1	bis(2-Chloroethoxy)methane	610	U
120-83-2	2,4-Dichlorophenol	610	U
120-82-1	1,2,4-Trichlorobenzene	610	U
91-20-3	Naphthalene	610	U
106-47-8	4-Chloroaniline	610	U
87-68-3	Hexachlorobutadiene	610	U
59-50-7	4-Chloro-3-Methylphenol	610	U
91-57-6	2-Methylnaphthalene	610	U
77-47-4	Hexachlorocyclopentadiene	610	U
88-06-2	2,4,6-Trichlorophenol	1500	U
95-95-4	2,4,5-Trichlorophenol	610	U
91-58-7	2-Chloronaphthalene	1500	U
88-74-4	2-Nitroaniline	610	U
131-11-3	Dimethylphthalate	610	U
208-96-8	Acenaphthylene	610	U
606-20-2	2,6-Dinitrotoluene	1500	U
99-09-2	3-Nitroaniline	610	U
83-32-9	Acenaphthene		

1C

SEMIVOLATILE GANICS ANALYSIS DATA SHE

EPA SAMPLE NO.

SBu03R5

JL520

Lab Name: SWL-TULSA Contract: 68-D2-0013

Clayton Slough background

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.10

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0241.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 46 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500(UL) Date Analyzed: 06/07/94

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1500	U
100-02-7	4-Nitrophenol	1500	U
132-64-9	Dibenzofuran	610	U
121-14-2	2,4-Dinitrotoluene	610	U
84-66-2	Diethylphthalate	34	J
7005-72-3	4-Chlorophenyl-phenylether	610	U
86-73-7	Fluorene	610	U
100-01-6	4-Nitroaniline	1500	U
534-52-1	4,6-Dinitro-2-methylphenol	1500	U
86-30-6	N-Nitrosodiphenylamine (1)	610	U
101-55-3	4-Bromophenyl-phenylether	610	U
118-74-1	Hexachlorobenzene	610	U
87-86-5	Pentachlorophenol	1500	U
85-01-8	Phenanthrene	74	J
120-12-7	Anthracene	610	U
86-74-8	Carbazole	610	U
84-74-2	Di-n-butylphthalate	42	J
206-44-0	Fluoranthene	110	J
129-00-0	Pyrene	130	J
85-68-7	Butylbenzylphthalate	610	U
91-94-1	3,3'-Dichlorobenzidine	610	U
56-55-3	Benzo(a)anthracene	610	U
218-01-9	Chrysene	610	U
117-81-7	bis(2-Ethylhexyl)phthalate	610 540	U JB
117-84-0	Di-n-octylphthalate	610	U
205-99-2	Benzo(b)fluoranthene	610	U
207-08-9	Benzo(k)fluoranthene	610	U
50-32-8	Benzo(a)pyrene	610	U
193-39-5	Indeno(1,2,3-cd)pyrene	610	U
53-70-3	Dibenz(a,h)anthracene	610	U
191-24-2	Benzo(g,h,i)perylene	610	U

7-19-94

1F

EPA SAMPLE NO.

JL520

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: SWL-TULSA Contract: 68-D2-0013

Lab Code: SWOK Case No.: 22170 SAS No.: SDG No.: JL511

Matrix: (soil/water) SOIL Lab Sample ID: 18854.10

Sample wt/vol: 30.0 (g/mL) G Lab File ID: M0241.D

Level: (low/med) LOW Date Received: 05/27/94

% Moisture: 46 decanted: (Y/N) N Date Extracted: 05/29/94

Concentrated Extract Volume: 500 (uL) Date Analyzed: 06/07/94

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 25

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
~~1.~~	~~123-42-2~~	~~2-Pentanone, 4-hydroxy-4-met~~	~~3.745~~	~~18000~~	~~NJA~~
2.		UNKNOWN	13.084	1100	J
3.		UNKNOWN	13.402	1100	J
4.		UNKNOWN ORGANIC ACID	13.846	1300	J
5.		UNKNOWN ORGANIC ACID	13.960	2000	J
6.		UNKNOWN	15.203	1400	J
7.		2-Phenanthrenol, -octa	16.542	1200	J
8.		UNKNOWN	17.954	3200	J
9.		UNKNOWN ALKANE	18.345	4900	J
10.		UNKNOWN AMIDE	18.874	1000	J
11.		UNKNOWN ALDEHYDE	19.081	1700	J
12.		UNKNOWN ALKANE	19.334	1700	J
13.		UNKNOWN ALCOHOL	19.381	1100	J
14.		UNKNOWN ALDEHYDE	20.072	1000	J
15.		UNKNOWN	20.233	680	J
16.		UNKNOWN	20.325	680	J
17.		UNKNOWN	20.394	1400	J
18.		UNKNOWN	20.728	980	J
19.		UNKNOWN	20.982	1200	J
20.		UNKNOWN	21.074	820	J
21.		UNKNOWN	21.269	910	J
22.		UNKNOWN	21.695	1100	J
23.		UNKNOWN	21.891	1100	J
24.		UNKNOWN	22.294	4600	J
25.		UNKNOWN	22.386	1100	J
26.					
27.					
28.					
29.					
30.					

DR 7-19-94

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

RECEIVED
AUG - 5 1994
URS CONSULTANTS

REPLY TO
ATTN OF: ES-095

August 4, 1994

MEMORANDUM

SUBJECT: Data Validation for Buse Timber SI, SAS No. 8404J-01, SDG No. 94214115, Chlorinated Phenols Analysis

FROM: Donald Matheny, Chemist
Quality Assurance Office, ESD

TO: Dave Bennett, Site Manager
Superfund Response & Investigations Branch, HWD

The QA Office has received and is transmitting the above ESAT data validation report.

CC: Porter Lombard, ESAT-RSCC
Jeff Kesner, Site Lead, URS
Bruce Woods, TPO, Region 10

ENVIRONMENTA SERVICE ASSISTANCE EAMS - ZONE 2

ICF Technology Inc.
ManTech Environmental

ESAT Region 10
ICF Technology Inc.
Suite 1510
1200 6th Avenue
Seattle, WA 98101
Phone (206) 224-4161

MEMORANDUM

DATE: July 28, 1994

TO: Jerry Muth, RPO, USEPA, Region 10

Donald Matheny, Task Monitor, USEPA, Region 10

THROUGH: Barry Pepich, ESAT Team Manager, Region 10

FROM: David J. Lindquist, ESAT Data Reviewer

SUBJECT: Data Validation Report of Chlorinated Phenols Analyses of Samples from Buse Timber Site Investigation
SAS: 8404J-01 SDG: 94214115

TID#: 10-9404-430
DOC#: ESAT-10B-7502
WUD#: 2351

The quality assurance (QA) review of nine (9) soil samples and one water sample collected from the above referenced site has been completed. These samples were analyzed for phenol, 2-chlorophenol, 2,6-dichlorophenol, 4-chloro-3-methylphenol, 2,4-dichlorophenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, o-phenylphenol and pentachlorophenol via Method 8040A, "Phenols by Gas Chromatography" by Pacific Analytical, Inc. of Carlsbad, California. The samples were numbered as follows:

94214115	94214116	94214117	94214118	94214119
94214120	94214121	94214122	94214123	94214124

DATA QUALIFICATIONS

The following comments refer to the laboratory performance in meeting the Quality Control Specifications outlined in Method 8040A, "Phenols by Gas Chromatography" found in "Test Methods for Evaluating Solid Waste (SW-846)", the technical instructions specified in Special Analytical Services (SAS) Request 8404J-01 and the "National Functional Guidelines for Organic Data Review, 2/94".

The conclusions presented herein are based on the information provided for the review.

1. Timeliness - Acceptable

All of the samples were extracted and analyzed within the SAS specified holding times. In addition, the water sample met the technical (40 CFR 136 water criteria) holding time criteria.

The Extraction Logs indicate that the samples underwent extraction, acid/base cleanup, pentafluorobenzylbromide derivatization, GPC and silica gel cleanup as specified by the SAS request.

Listed below are pertinent sample collection, extraction and analysis dates.

Sample Number	Collection Date	Rec'd. Date	Extraction Date	Preparation* Date	Sample Analysis
94214115	052594	052794	060694	062794	070794
94214116	052594	052794	060694	062794	070794
94214117	052594	052794	060694	062794	070794
94214118	052594	052794	060694	062794	070794
94214119	052594	052794	060694	062794	070794
94214120	052594	052794	060694	062794	070794
94214121	052594	052794	060694	062794	070794
94214122	052594	052794	060694	062794	070794
94214123	052594	052794	060194	062794	070894
94214124	052594	052794	060694	062794	070794

* Silica gel cleanup. Acid/base partition and derivatization were performed on 062194 and 062394.

2. Initial Calibration

The SAS specified QC criteria were met for the initial calibration.

A five point initial calibration curve was analyzed for all target compounds and surrogates in accordance with the SAS request. The percent relative standard deviations (%RSDs) were within the SAS specified level (<30%) and ranged from 6.7 - 24.8% for all target compounds and surrogates for both of the columns used.

The %RSDs between the retention times of the different standards ranged from 0.05 - 0.12%.

For the surrogate, 2,4,6-tribromophenol, the low standard response factor associated with the DB-608 Megabore column was not used. Therefore, the 2,4,6-tribromophenol quantitation limit warrants elevation for this column.

2,6-Dichlorophenol and 4-chloro-3-methylphenol co-eluted on the DB-608 column (see section 7 for qualifications).

3. Continuing Calibration

The SAS specified the analysis of a continuing calibration verification (CCV) standard every ten samples at a concentration approximately equal to half the instrument calibration range. The relative percent difference (RPD) between the CCV response factors (RFs) and the mean RF associated with the initial calibration was required to be less than 25%.

Two CCVs were performed meeting the above continuing calibration criteria. However, the RPDs were calculated using the mid-range standard (.01 ppm) RF from the initial calibration rather than the mean RF. The data was not qualified on this basis.

2,6-Dichlorophenol and 4-chloro-3-methylphenol co-eluted on the DB-608 column (see section 7 for qualifications) .

The RPDs for all compounds ranged from 3 - 23% on the DB-608 column and 1 - 24% on the DB-5 column.

4. Blanks

The method blank frequency of analysis criterion was met. The target compounds were not detected in the method blanks at levels greater than the detection limits with the following exceptions:

Soil Sample Method Blank	Compound
5394PB	pentachlorophenol

Water Sample Method Blanks	Compound
5370PB	2,6-dichlorophenol
5371PB	

Detected pentachlorophenol and 2,6-dichlorophenol results were qualified as non-detected, "U", if the sample result area integration was below five times that of the associated method blank. The following detected target compound results are qualified as non-detected, "U", based on the associated method blank results:

pentachlorophenol - 94214115 94214116 94214120

2,6-dichlorophenol - 94214123

5. Surrogate Recovery

The raw data was compared with the data presented in the surrogate recovery form. All of the surrogate recoveries were within the control limits (50-150%) with the following exceptions:

Sample	2-fluorophenol %R	2,4,6-tribromophenol %R
94214116	210	160
94214120	240	170
94214123		46

The high surrogate recoveries indicate the possibility of high bias. Therefore, the following compounds detected in samples 94214116 and 94214120 are qualified estimated (J):

Sample		
94214116	-	2,6-dichlorophenol
94214120	-	2,6-dichlorophenol, 2,4,6-trichlorophenol, o-phenylphenol

The reviewer deemed not to qualify compounds associated with the low surrogate recovery of 2,4,6-tribromophenol on the basis that the percent recovery was just slightly lower than the control limit and the 2-fluorophenol percent recovery was within the control limits.

For the remaining samples the 2-fluorophenol recoveries ranged from 70 - 130% and the 2,4,6-tribromophenol recoveries ranged from 60 - 90%.

6. Matrix Spike/Matrix Spike Duplicate (MS/MSD) - Acceptable

The frequency and percent recovery criteria for MS/MSD analysis were met. The values reported on the matrix spike/matrix spike duplicate recovery form were verified with the raw data. The MS and MSD analyses yielded recovery results that were within the SAS specified control limits for all target compounds. The recoveries ranged from 70% to 130% and the RPDs between matrix spike duplicate results ranged 0% to 55%.

7. Compound Identification

The chromatograms and quantitation lists were inspected.

2,6-Dichlorophenol and 4-chloro-3-methylphenol co-eluted on the DB-608 column. Positive results for these compounds cannot be confirmed due to co-elution on the confirmation column. Therefore, the following sample results are qualified, "JN" (tentatively identified at an estimated concentration):

2,6-dichlorophenol	-	94214115	94214116	94214117	94214119
		94214120	94214121	94214122	94214124
p-chloro-m-cresol	-	94214117	94214119	94214123	

Calculations were checked with the raw data. Calculations were correct. There were no transcription errors observed between the raw data and the reported results.

8. Compound Quantitation and Detection Limits

The response factor from the mid-range initial calibration was used for quantitation. Both columns were used for quantitation and confirmation of the compounds.

A method detection limit (MDL) study prior to sample analysis indicated that the SAS specified detection limits were achievable.

The raw data was examined to verify the calculations of sample results and the reported detection limits. The calculations were correct and conformed with the SAS and method required detection limits.

9. Laboratory Contact

The laboratory was contacted on 07/28/94 requesting that the Form 1s be re-submitted with the sample results reported on a dry weight basis.

The Form 1s were received on 08/02/94 and included with the CSF (purge file).

10. Overall Assessment

Approximately fifteen percent of the total data points were qualified as estimated due to high surrogate recoveries and/or identification problems. All of the standards, samples and QC samples were analyzed in accordance with the SAS specified method with exceptions previously noted.

DATA QUALIFIER DEFINITIONS

U- The analyte was analyzed for and is not present above the level of the associated value. The associated numerical value indicates the approximate concentration necessary to detect the analyte in this sample.

If a decision requires quantitation of the analyte below the associated numerical level, reanalysis or alternative analytical methods should be considered. The technical staff is available to discuss available options.

J- The analyte was analyzed for and was positively identified, but the associated numerical value may not be consistent with the amount actually present in the environmental sample. The data should be seriously considered for decision making and are usable for many purposes.

A subscript may be appended to the "J" that indicates which of the following quality control criteria were not met:

1 Blank contamination: indicates possible high bias and/or false positives.

2 Calibration range exceeded: indicates possible low bias.

3 Holding times not met: indicates low bias for most analytes with the exception of common laboratory contaminants and chlorinated ethenes (i.e.: trichloroethene, 1,1-dichloroethene, vinyl chloride).

4 Other QC outside control limits: bias not readily determined.

R- The data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified.

Resampling and reanalysis are necessary to confirm or deny the presence of the analyte.

UJ - A combination of the "U" and "J" qualifier. The analyte was analyzed for and was not present above the level of the associated value. The associated numerical value may not accurately or precisely represent the concentration necessary to detect the analyte in this sample.

If a decision requires quantitation of the analyte close to the associated numerical level, reanalysis or alternative analytical methods should be considered.

N- The analysis indicates that an analyte is present, and there are strong indications that the identity is correct.

Confirmation of the analyte requires further analysis.

NJ- A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

A subscript may be appended to the "NJ" that indicates which of the following situations applies:

1 DDT/Endrin breakdown evident.

2 Interference from other sample components.

3 Non-Target Compound List (TCL) compounds (Confirmation is necessary using specific target compound methodology to accurately determine the concentration and identity of the detected compound).

4 A confirmation analysis was missing or quality control criteria were not met for the confirmation analysis.

NOTE: Data users are encouraged to contact their Regional representative within ESD to clarify or obtain further information on the appropriate use of analytical data.

FORM 1
METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

94214115

SSURO01

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF Case No.: SAS No.: 8404J01 SDG No.: 94214115

Matrix Type: SOIL Lab Sample ID: 89401

Sample weight: 50.0 (G/mL) Grams Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/06/94

Injection Volume: 2 (uL) Date Analyzed: 07/07/94

% Moisture: 26

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/kG	Q
367-12-4	2-Fluorophenol	74	
108-95-2	Phenol	14	U
95-57-8	2-Chlorophenol	14	U
87-65-0	2,6-Dichlorophenol	27	JN
59-50-7	p-Chloro-m-Cresol	14	U
120-83-2	2,4-Dichlorophenol	14	U
88-06-2	2,4,6-Trichlorophenol	14	U
95-95-4	2,4,5-Trichlorophenol	14	U
90-43-7	o-Phenylphenol	14	U
96-11-7	2,4,6-Tribromophenol	61	
87-86-5	Pentachlorophenol	7	~~J~~ U

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

FORM I

8-2-94

FORM 1

METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

94214116

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF Case No.: _____ SAS No.: 8404J01 SDG No.: 94214115

Matrix Type: SOIL Lab Sample ID: 89402

Sample weight: 50.0 (G/mL) Grams Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/06/94

Injection Volume: 2 (uL) Date Analyzed: 07/07/94

% Moisture: 35

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/kG	Q
367-12-4	2-Fluorophenol	162	
108-95-2	Phenol	15	U
95-57-8	2-Chlorophenol	15	U
87-65-0	2,6-Dichlorophenol	8	NJ
59-50-7	p-Chloro-m-Cresol	15	U
120-83-2	2,4-Dichlorophenol	15	U
88-06-2	2,4,6-Trichlorophenol	15	U
95-95-4	2,4,5-Trichlorophenol	15	U
90-43-7	o-Phenylphenol	15	U
96-11-7	2,4,6-Tribromophenol	123	
87-86-5	Pentachlorophenol	8	U

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

FORM 1

METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

94214117

SDPRNT

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF Case No.: _____ SAS No.: 8404J01 SDG No.: 94214115

Matrix Type: SOIL Lab Sample ID: 89403

Sample weight: 50.0 (G/mL) Grams Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/06/94

Injection Volume: 2 (uL) Date Analyzed: 07/07/94

% Moisture: 37

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/kG	Q
367-12-4	2-Fluorophenol	79	
108-95-2	Phenol	16	U
95-57-8	2-Chlorophenol	16	U
87-65-0	2,6-Dichlorophenol	16	J N
59-50-7	p-Chloro-m-Cresol	8	J N
120-83-2	2,4-Dichlorophenol	16	J
88-06-2	2,4,6-Trichlorophenol	16	U
95-95-4	2,4,5-Trichlorophenol	16	J
90-43-7	o-Phenylphenol	32	
96-11-7	2,4,6-Tribromophenol	63	
87-86-5	Pentachlorophenol	71	

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

8-4-94

FORM 1

METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

94214118

SP503

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF Case No.: _____ SAS No.: 8404J01 SDG No.: 94214115

Matrix Type: SOIL Lab Sample ID: 89404

Sample weight: 50.0 (G/mL) Grams Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/06/94

Injection Volume: 2 (uL) Date Analyzed: 07/07/94

% Moisture: 82

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/kG	Q
367-12-4	2-Fluorophenol	194	
108-95-2	Phenol	56	U
95-57-8	2-Chlorophenol	56	U
87-65-0	2,6-Dichlorophenol	56	U
59-50-7	p-Chloro-m-Cresol	56	U
120-83-2	2,4-Dichlorophenol	56	U
88-06-2	2,4,6-Trichlorophenol	56	U
95-95-4	2,4,5-Trichlorophenol	56	U
90-43-7	o-Phenylphenol	56	U
96-11-7	2,4,6-Tribromophenol	167	
87-86-5	Pentachlorophenol	56	U

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

FORM 1

METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

94214119

SDSD2

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF Case No.: ____ SAS No.: 8404J01 SDG No.: 94214115

Matrix Type: SOIL Lab Sample ID: 89405

Sample weight: 50.0 (G/mL) Grams Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/06/94

Injection Volume: 2 (uL) Date Analyzed: 07/07/94

% Moisture: 77

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/kG	Q
367-12-4	2-Fluorophenol	217	
108-95-2	Phenol	43	U
95-57-8	2-Chlorophenol	43	U
87-65-0	2,6-Dichlorophenol	109	J N
59-50-7	p-Chloro-m-Cresol	22	J N
120-83-2	2,4-Dichlorophenol	43	U
88-06-2	2,4,6-Trichlorophenol	43	U
95-95-4	2,4,5-Trichlorophenol	43	U
90-43-7	o-Phenylphenol	43	J
96-11-7	2,4,6-Tribromophenol	130	
87-86-5	Pentachlorophenol	109	

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

8-4-94

FO.... 1

METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

4120
9421~~420~~ pr
SDUS4

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF Case No.: _____ SAS No.: 8404J01 SDG No.: 94214115

Matrix Type: SOIL Lab Sample ID: 89406

Sample weight: 50.0 (G/mL) Grams Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/06/94

Injection Volume: 2 (uL) Date Analyzed: 07/07/94

% Moisture: 50

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/kG	Q
367-12-4	2-Fluorophenol	240	
108-95-2	Phenol	20	U
95-57-8	2-Chlorophenol	20	U
87-65-0	2,6-Dichlorophenol	40	J N
59-50-7	p-Chloro-m-Cresol	20	U
120-83-2	2,4-Dichlorophenol	20	U
88-06-2	2,4,6-Trichlorophenol	10	J
95-95-4	2,4,5-Trichlorophenol	20	U
90-43-7	o-Phenylphenol	20	J
96-11-7	2,4,6-Tribromophenol	170	
87-86-5	Pentachlorophenol	10	J U

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

pr 8-4-94

000040

FO 1

METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

4121
9421~~421~~ DL

SURBAK3

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF Case No.: _____ SAS No.: 8404J01 SDG No.: 94214115

Matrix Type: SOIL Lab Sample ID: 89407

Sample weight: 50.0 (G/mL) Grams Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/06/94

Injection Volume: 2 (uL) Date Analyzed: 07/07/94

% Moisture: 25

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/kG	Q
367-12-4	2-Fluorophenol	73	
108-95-2	Phenol	13	U
95-57-8	2-Chlorophenol	13	U
87-65-0	2,6-Dichlorophenol	27	J N
59-50-7	p-Chloro-m-Cresol	13	U
120-83-2	2,4-Dichlorophenol	13	U
88-06-2	2,4,6-Trichlorophenol	13	U
95-95-4	2,4,5-Trichlorophenol	13	U
90-43-7	o-Phenylphenol	13	U
96-11-7	2,4,6-Tribromophenol	60	
87-86-5	Pentachlorophenol	13	U

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

DL 8-4-94

000047

FC... 1

METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

9421~~422~~ 4122

SuBBAK4

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF Case No.: _____ SAS No.: 8404J01 SDG No.: 94214115

Matrix Type: SOIL Lab Sample ID: 89408

Sample weight: 50.0 (G/mL) Grams Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/06/94

Injection Volume: 2 (uL) Date Analyzed: 07/07/94

% Moisture: 65

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/kG	Q
367-12-4	2-Fluorophenol	129	
108-95-2	Phenol	29	U
95-57-8	2-Chlorophenol	29	U
87-65-0	2,6-Dichlorophenol	14	J N
59-50-7	p-Chloro-m-Cresol	29	U
120-83-2	2,4-Dichlorophenol	29	U
88-06-2	2,4,6-Trichlorophenol	29	U
95-95-4	2,4,5-Trichlorophenol	29	U
90-43-7	o-Phenylphenol	29	U
96-11-7	2,4,6-Tribromophenol	100	
87-86-5	Pentachlorophenol	29	U

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

FORM
METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

4123
9421~~423~~ R
ER01

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF Case No.: _____ SAS No.: 8404J01 SDG No.: 94214115

Matrix Type: WATER Lab Sample ID: 89409

Sample weight: ~~1000~~.0 (G/mL) mL Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/01/94

Injection Volume: 2 (uL) Date Analyzed: 07/0~~6~~/94 CSP

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/L	Q
367-12-4	2-Fluorophenol	~~4.0~~	
108-95-2	Phenol	~~0.3~~	J
95-57-8	2-Chlorophenol	0.5	U
87-65-0	2,6-Dichlorophenol	0.3 ug/L	~~J~~ U
59-50-7	p-Chloro-m-Cresol	0.3	J N
120-83-2	2,4-Dichlorophenol	0.5	U
88-06-2	2,4,6-Trichlorophenol	0.5	U
95-95-4	2,4,5-Trichlorophenol	0.5	U
90-43-7	o-Phenylphenol	0.5	U
76-11-7	2,4,6-Tribromophenol	~~2.3~~	
87-86-5	Pentachlorophenol	0.5	U

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

8-4-94

000058

FORM 1

METHOD 8040A - PFBBr DERIVATIVES OF PHENOLS

EPA SAMPLE NO.

94214124

5 BUS BKS

Lab Name: Pacific Analytical, Inc.

Lab Code: PACIF Case No.: _____ SAS No.: 8404J01 SDG No.: 94214115

Matrix Type: SOIL Lab Sample ID: 89410

Sample weight: 50.0 (G/mL) Grams Date Received: 05/27/94

Final Extract Volume: 250 (mL) Date Extracted: 06/06/94

Injection Volume: 2 (uL) Date Analyzed: 07/07/94

% Moisture: 44

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kG) uG/kG	Q
367-12-4	2-Fluorophenol	89	
108-95-2	Phenol	18	U
95-57-8	2-Chlorophenol	18	U
87-65-0	2,6-Dichlorophenol	18	J N
59-50-7	p-Chloro-m-Cresol	18	U
120-83-2	2,4-Dichlorophenol	18	U
88-06-2	2,4,6-Trichlorophenol	18	U
95-95-4	2,4,5-Trichlorophenol	18	U
90-43-7	o-Phenylphenol	18	U
96-11-7	2,4,6-Tribromophenol	45	
87-86-5	Pentachlorophenol	18	U

Flags: U - Undetected at or above the listed value.
P - Value differs by more than 25% for confirmation analysis.

APPENDIX D

DATA QUALITY OBJECTIVES

Appendix D
Table D-1
Data Quality Objectives for RAS Soil Samples

Analysis	Method[a]	Targeted Detection Limit[b]	Actual Detection Limits	Units[c]	Target Accuracy[d]	Actual Accuracy	Target Precision[e]	Actual Precision	Target Completeness[f]	Actual Completeness
SVs	CLP-RAS	330-800	430-73,000	µg/kg	11-142%	38-120%	50%	26%[i]	90%	90%
PCBs	CLP-RAS	1.7-170	55-150	µg/kg	23-139%	48-170%	50%	8%	90%	90%
Inorganics	CLP-RAS	0.6-100	0.05-6	mg/kg	75-125%	75-125%	20%	20%	90%	90%
Mercury[g]	CLP-RAS	0.10	0.02	mg/kg	75-125%	75-125%	20%	20%	90%	90%

[a]Methods for analyses as defined in U.S. EPA 1990a, 1990b.
[b]Calculated from laboratory reporting limits.
[c]Units reported in mass/mass unless otherwise indicated.
[d]Calculated from laboratory attainable control limits through analytical surrogate or matrix spike recovery and laboratory QC.
[e]Calculated from laboratory relative percent difference between results of field replicate samples or through matrix duplicates.
[f]Calculated from comparing planned and actual analytical results, including analyte rejections and work plan deviations.
[g]Mercury listed separately due to specific target detection limit.
[h]Antimony recovery was 0 percent in both quality assurance samples. Data were qualified appropriately.
[i]Data were not qualified on this basis.

RAS soil sample data quality objectives were met or exceeded for all inorganics and mercury analyses. RAS soil sample data quality objectives for SVs and PCBs were met for completeness and exceeded for precision. Target detection limits were not met by the laboratory for either SVs or PCBs. The detection limits also had high variability within and among samples. Higher than expected detection limits make comparison of relatively low detections with sample results for which analytes were not detected at higher detection limits difficult. PCB accuracy targets were not met for RAS soil samples. Surrogate recoveries were high for some of the samples; however, data quality is not believed to have been affected.

Appendix D
Table D-2
Data Quality Objectives for RAS Water Samples

Analysis	Method[a]	Targeted Detection Limit[b]	Actual Detection Limit	Units[c]	Target Accuracy[d]	Actual Accuracy	Target Precision[e]	Actual Precision	Target Completeness[f]	Actual Completeness
SVs	CLP-RAS	10-25	10-25	µg/L	9-145%	No data quality information provided by laboratory	50%	No data quality information provided by laboratory	90%	No data quality information provided by laboratory
PCBs	CLP-RAS	0.05-1.0	0.11-0.20	µg/L	38-127%	96-100%	30%	4.1%	90%	100%
Inorganics	CLP-RAS	0.003-5.0	0.05-6.0	mg/L	75-125%	75-125%[h]	20%	20%	90%	100%
Mercury[g]	CLP-RAS	0.0002	0.02	mg/L	75-125%	75-125%	20%	20%	90%	100%

[a]Methods for analyses as defined in U.S. EPA 1990a, 1990b.
[b]Calculated from laboratory reporting limits.
[c]Units reported in mass/mass unless otherwise indicated.
[d]Calculated from laboratory attainable control limits through analytical surrogate or matrix spike recovery and laboratory quality control (QC).
[e]Calculated from laboratory relative percent difference between results of field replicate samples or through matrix duplicates.
[f]Calculated from comparing planned and actual analytical results, including analyte rejections and work plan deviations.
[g]Mercury listed separately due to specific target detection limit.
[h]Antimony recovery was 0 percent in both quality assurance samples. Data were qualified appropriately.
Data quality objectives were met for RAS water samples with the exception of the inorganics and mercury detection limits. The laboratory reported all inorganics detection limits within targets except for selenium. The mercury detection limit was reported by the laboratory at 0.020 mg/L, 100 times the target detection limit. Data quality was not apparently affected.

Appendix D
Table D-3
Data Quality Objectives for SAS Soil and Water Samples

Matrix	Analysis	Method	Target Detection Limit[a]	Actual Detection Limit	Target Precision[b]	Actual Precision	Target Accuracy[c]	Actual Accuracy	Target Completion[d]	Actual Completeness
Soil	SV	CLP-SAS	4.0-600 µg/kg	13-56 µg/kg	60%	0-55%	20-140%	46-240%[e]	90%	90%
Water	SV	CLP-SAS	0.6-10 µg/L	0.5 µg/L	60%	No data quality information provided by laboratory	20-140%	No data quality information provided by laboratory	90%	100%

[a]Calculated from laboratory reporting limits.
[b]Calculated from laboratory relative percent difference between results of field duplicate samples or through matrix duplicates.
[c]Calculated from laboratory attainable control limits through analytical surrogate or MS recovery and laboratory QC.
[d]Calculated from comparing planned and actual analytical results, including analyte rejections and work plan deviations.
[e]Data outside laboratory control limits were qualified appropriately.
Data quality objectives were met or exceeded for all soil targets. Water sample data quality objectives were met for detection limit, but information concerning the other aspects of data quality was not provided by the laboratory. Target completeness is exceeded.

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Northwest Regional Office, 3190 - 160th Ave S.E. • Bellevue, Washington 98008-5452 • (206) 649-7000

March 13, 1992

Mr. Dave Buse
Buse Timber & Sales, Inc.
P.O. Box 5226
Everett, WA 98206

Re: EARLY NOTICE LETTER
Buse Timber & Sales #N-31-5065-000

Dear Mr. Buse:

I am writing to send you information the Department of Ecology has gathered regarding the above referenced property. Under the Model Toxics Control Act (Chapter 70.105D RCW) Ecology maintains a database of known or suspected contaminated sites. Based on available information, we have added the above referenced property to our database.

Enclosed is a computer print-out summarizing information which we believe reflects the current status of this site. We are making every effort to ensure that we have accurate information. I encourage you to carefully review this report. If you have any corrections, please send them and any supporting material to me at the above address. A legend has also been enclosed to help you interpret this report.

Please note that inclusion in the database **does not** mean that Ecology has determined you are a potentially liable person under the Model Toxics Control Act or that immediate action is needed. We will be conducting a more detailed inspection of this property, including testing for possible contamination, at a future time. After that, we will be better able to assess whether action will be needed and to establish a priority for this work.

It is Ecology's policy to work cooperatively with persons to accomplish prompt and effective site cleanups. However, due to limited resources and requirements in state law, we are not always able to provide requested assistance in a timely manner. Cooperating with the department in planning or conducting a remedial cleanup action is not admission of guilt or liablity. If you decide to proceed with an independent cleanup, please be aware to adhere to requirements in state law.

Please contact me for a copy of Chapter 70.105D RCW (The Model Toxics Control Act) and the implementing regulations, Chapter 173-340 WAC, which detail these requirements.

If you have any questions regarding this letter, you may call me at (206)649-7209. Thank you in advance for your cooperation.

Sincerely,

Louise Bardy

Louise Bardy
Site Information Coordinator
Toxics Cleanup Program

Enclosures

LB:lb

cc: Mike Gallagher, Supervisor, NWRO/TCP

DEPARTMENT OF ECOLOGY
ERT SYSTEM - INITIAL REPORT/FOLLOWUP

COORDINATOR: LOUISE BARDY UNIQUE RECORD #: N8010 REGION: N

DATE/TIME REC'D: 03/09/92 12:03:12 REPORT TYPE: INITIAL

REPORTER'S NAME: EPA BUSINESS NAME:

ADDRESS: BEST TIME
OR ANONYMOUS: TO CALL:
WORK PHONE: EXT. HOME PHONE:

DETAILS ON INCIDENT:
COUNTY: SNOHOMISH NEAREST CITY: EVERETT
WATERWAY: UNION SLOUGH WRIA #:
LOCATION: SMITH ISLAND

WEATHER: UNKNOWN TIDE:

DETAILS ON ALLEGED VIOLATOR:
CONTACT'S NAME:

NAME & ADDRESS:
BUSE TIMBER & SALES, INC. PHONE NUMBER AND EXT:
3812 28TH PLACE NE
EVERETT WA

VEHICLE INFORMATION:

DESCRIPTION OF CONTAMINANT: (PROVIDED BY REPORTER)
MEDIUM: SOIL
MATERIAL: OIL/PETROLEUM OTHER: PETOL & PENTACHLORO
QUANTITY: UNKNOWN
SOURCE: COMMERCIAL

COMMENTS: THIS IS A HISTORIC WOOD PRESERVING SITE. EPA DID A PRELIMINARY ASSESSMENT IN 1990 AND RECOMMENDED THAT THE STATE PURSUE CLEANUP, AS SOIL AND SURFACE WATER CONTAMINATION EXCEED MTCA STANDARDS. THE PA COUNTS AS AN I.I. SITE WILL GO ON SMIS.

REFERRED TO PROGRAM: HWICP SECTION HEAD: GALLAGHER

EXTERNAL REFERRAL? (Y/N): N

IF EXTERNAL, WHAT AGENCY: _____

INVESTIGATION COMPLETED? (Y/N): N
IF YES, COMPLETE SECOND PAGE OF FORM.

CONTINUED ON PAGE 2

INTERNAL REFERRAL INFORMATION:

NAME OF STAFF PERSON: EPA
DATE RECEIVED:
DATE INVESTIGATED:
ACTION TAKEN: PA
DATE COMPLETED:
CAUSE OF INCIDENT:
IMPACT:
LUST:

NONPOINT: (UNK, GW, SW) POINT: (UNK, SW, PRETMT)

ACTUAL VIOLATOR INFORMATION:

NAME:
CONTACT:
ADDRESS:
CITY: same
HOME:
WORK:

ACTUAL CONTAMINANT:

MEDIUM:
MATERIAL: same
OTHER:
QUANTITY:
SOURCE:

ENFORCEMENT SENSITIVE? (Y/N): N

CROSS-REFERENCES TO OTHER SYSTEMS: SMIS # N-31-5065-000

OTHER RELEVANT INFORMATION:
Ecology did prelim. assess. for EPA. This ~~EPA~~ serves as initial investigation.
Smis referal CI petroleum & phenols.
Source removed but contamination remains in soil.

WRITE ANY ADDITIONAL INFORMATION ON BACK OF FORM:

DEPARTMENT OF ECOLOGY ENVIRONMENTAL REPORT TRACKING FORM
INITIAL REPORT AND FOLLOW-UP FORM 1 OF 2

****

RECORDER : _____ REPORT TYPE: _____ REPORT #: ____

DATE & TIME RECEIVED: _________ ___ : ___

****

REPORTER'S NAME: EPA OR ANONYMOUS: ___(A

ADDRESS _____

_____ PHONE WK(___) ___-___

BUSINESS NAME: _____ HM(___) ___-___

BEST TIME TO CALL _____

****

DETAILS ON INCIDENT:

COUNTY: Snohomish NEAREST CITY: _____

WATERWAY: Union Slough WRIA #: _____

DESCRIPTION OF LOCATION: Smith Island

_____

****

DETAILS ON ALLEDGED VIOLATOR:

NAME: BUSE TIMBER & SALES, INC. PHONE: (___) ___-___

ADDRESS: 3812 28th Place N.E. (___) ___-___

Everett, WA 98206

VEHICLE INFORMATION: _____

****

DESCRIPTION OF CONTAMINANT:

MEDIA: Soil, SW, Sed. QUANTITY: _____

MATERIAL: petroleum & pentachlorophenol

SOURCE: _____ _____

****

COMMENTS: This is a historic wood preserving site. EPA did a Preliminary Assessment in 1990 and recommended that the State pursue cleanup, as soil & surface water contamination exceed MTCA Stds. The PA counts as an I.I. Site will go on SMIS

Buse Timber & Sales

1. Introduction

The Washington State Department of Ecology (Ecology) Preliminary Assessment/Site Inspection (PA/SI) Unit conducted a PA of Buse Timber & Sales in Everett, Snohomish County, Washington (Figure 1). This is one of the sites for which PA's are scheduled to be performed by Ecology under a Cooperative Agreement with the U.S. Environmental Protection Agency, signed July 31, 1989.

A PA represents the second of a three-step pre-remedial assessment process which begins with Site Discovery and concludes, if necessary, with a Screening Site Inspection. The assessment process, in general, is intended to identify, compare, and rank the potential hazards associated with a particular site relative to other sites across the nation for the purpose of identifying priority sites requiring remedial response. It does not include extensive or complete site characterization, containment fate determination or quantitative risk assessment.

The Buse Timber & Sales PA was conducted to identify potential public health and/or environmental hazards related to the site and, if present, then evaluate the need for additional investigations. The PA is based on data derived from available files, literature pertaining to the site, and a drive-by reconnaissance, as observed by the Ecology PA/SI Unit on December 18, 1989.[1]

Buse Timber & Sales is located on Smith Island in the Snohomish River flood plain. It is in the southeast quarter of the southwest quarter of Section 4, Township 29 North, Range 5 East, Willamette Meridian, and the northeast quarter of the northwest quarter of Section 9, Township 29 North, Range 5 East, Willamette Meudian. Buse Timber is at a latitude of 48° 1" 17" North and a longitude of 122° 10' 00" West. The site is adjacent to Union Slough and near the mouth of the Snohomish River, Port Gardner Bay and Possession Sound.

2. Background/Operating History

In 1986 EPA sponsored studies to determine whether wood treatment chemicals were entering the soil in certain lumber mills in Washington. Buse Timber & Sales in Everett was chosen as a likely place where wood treatment chemicals might be found. Sediment samples collected in the lumber yard indicated elevated levels of pentachlorophenol (PCP) and tetrachlorophenol (TCP). A sample taken at the storm drain near the dip tank at Buse Timber showed concentrations of 240.0 mg/kg PCP and 47.5 mg/kg TCP. Another sample near Union Slough had 1.970 mg/kg PCP and 0.890 mg/kg TCP.[2]

PRELIMINARY ASSESSMENT REPORT

BUSE TIMBER & SALES, INC.
EVERETT, SNOHOMISH COUNTY, WASHINGTON

WAD009480542

OCTOBER, 1990

REPORT PREPARED BY:

JUDITH M. AITKEN
WASHINGTON STATE DEPARTMENT OF ECOLOGY
PRELIMINARY ASSESSMENT/SITE INSPECTION UNIT
TOXICS CLEANUP PROGRAM

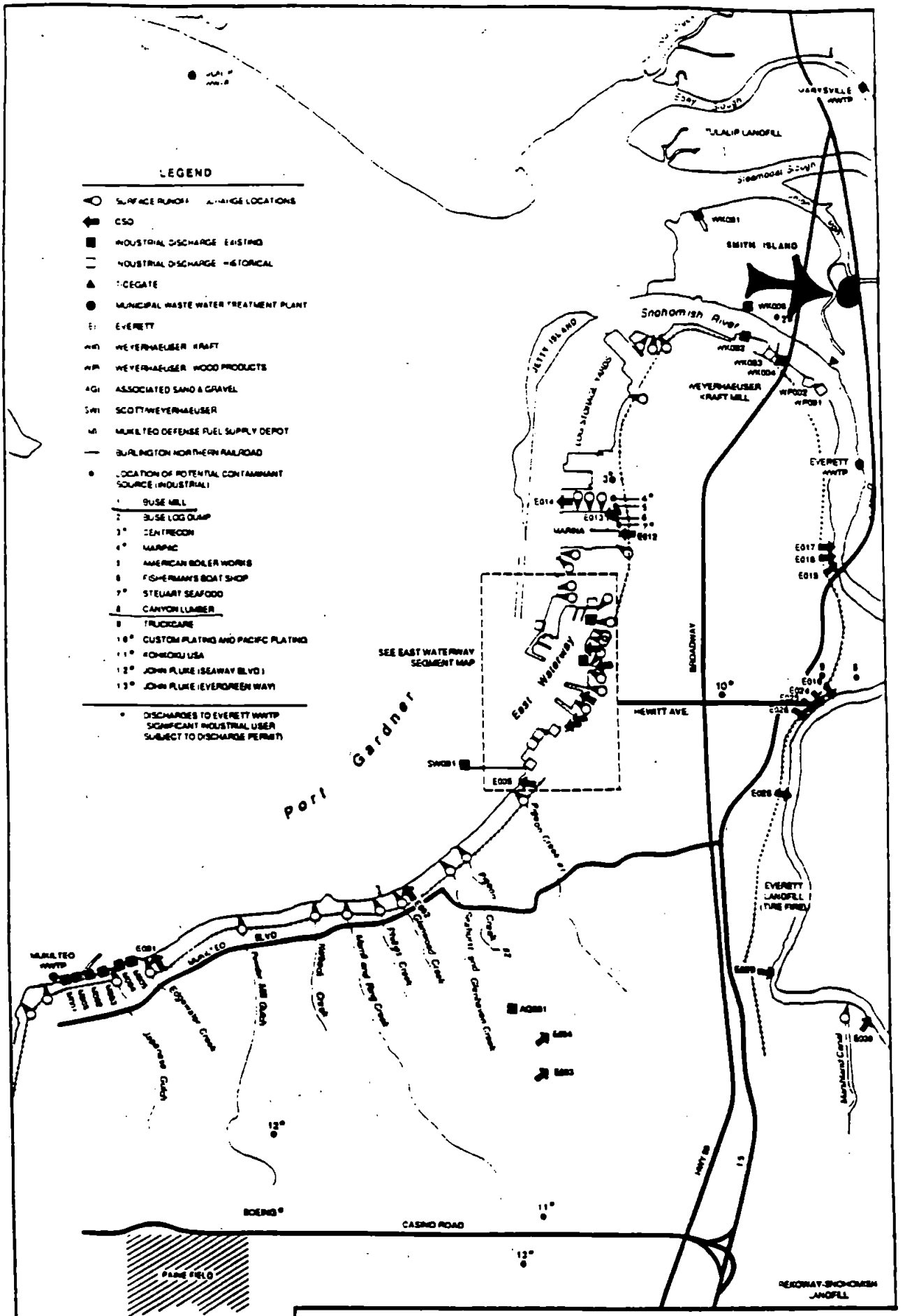

Figure Locations of potential sources of contamination in the Everett Harbor project area.

Buse Timber & Sales has operated a saw mill on Smith Island since 1946. They used PCP or pentachlorophenol to treat the lumber. In 1986, on a complaint from EPA and on the advice of their chemical supplier, Chapman Chemical Company, they changed to "PQ8". At the same time, they moved the dip tank into a shed in an area that is asphalted and bermed. Although the dip tank was moved the contaminated soils were not treated or removed.[3]

Historically, the site was not used by the timber industry until the Buse family purchased the land. Smith Island was originally utilized as an agricultural area. In the early part of the century the island was diked to help prevent the effects of the Snohomish Rivers flooding. A large mansion or estate was built northwest of the property. The railroad then built the rail system across the island; this still crosses the island. A spur was built across the Buse site. Destination of the spur and its use are not mentioned in Everett Library records.[4]

In 1936, the railroad spur had disappeared and the area was platted and a community was planned. There is no record that this development ever actually took place.

The lumber company is partially fenced but it is not a secured fence. The lumber yard is partially paved or asphalted.

The company is owned by a family: Delmar Buse is President and Norm Buse, his brother, is Secretary/Treasurer.

3. Waste Containment/Hazardous Substance Identification

Sediment samples collected at Buse Timber & Sales indicated elevated levels of pentachlorophenol and tetrachlorophenol.

Pentachlorophenol (Penta or PCP) is a needle-like crystalline solid that has a boiling point of 309°-310°F (with decomposition). It has a very pungent odor when hot and is almost insoluble in water (8 mg. in 100 ml.).[5] As a wood preservative it is usually dissolved in heavy petroleum oil or light petroleum solvents. When heavy petroleum oil is used as a carrier, little evaporation takes place; most of the oil remains in the wood permanently. If light petroleum solvents are used as the carrier, most of the solvent evaporates from the wood. When water is used as a carrier, PCP is dispersed in water to form an emulsion.[6]

Generally, PCP is applied as a five (5) percent solution in petroleum oils. Although PCP is normally contaminated with chlorodibenzodioxins (CDDs) and chlorodibenzofurans (CDFs), the presence of dioxin (2,3,7,8-TCDD) in PCP and wood treating mixtures containing PCP has not been reported.

Health risks involving PCP's include severe toxicity by ingestion and inhalation. Ingestion causes increase then decrease of respiration, blood pressure and urinary output; fever; increased bowel action; motor weakness; collapse with convulsions and death. Inhalation causes lung, liver and kidney damage. Contact dermatitis can also occur and PCP's can be absorbed through the skin. PCPs are more toxic in organic or petroleum solvents when heated to decompose, it emits highly toxic fumes of Cl2.[7]

Tetrachlorophenol (TCP) was also found in the soil and water samples taken adjacent to the lumber company. It is a brown solid with a pungent phenol odor. It is found in commercial and purified grades of pentachlorophenol. It is also severely toxic when ingested or absorbed through the skin. When heated to decomposition, TCPs also emit toxic fumes of Cl_2. Tetrachlorophenol is soluble in a sodium hydroxide solution and most organic solvents. It is insolvent in water.[8]

Wood treating processes may be sub-divided into two principal steps: conditioning and impregnation. Conditioning the wood reduces the wood's moisture content and improves the transport of preservatives into the wood cells. If wood is not properly seasoned or is not porous enough, wood conditioning is required. The following processes are usually used for wood conditioning: 1)The Boulton Process (using hot creosote or PCP solution and a vacuum), 2) steaming (open and closed containers), 3) vapor conditioning, 4) natural drying in yards, 5) kiln drying, and 6) incising.

Wood treating consists of drying and impregnating the wood with a preservative by one of the following methods: 1) Brushing and Spraying; 2) Dipping and Steeping; 3) A Thermal Process; and 4) Vacuum-Pressure Methods including the Full Cell Process, the Empty Cell Process, and the Modified Full Cell Process. Buse uses the Dipping and Steeping method.

There are three main types of wastes associated with wood treating: waste water, sludges, and spilled preservatives. Waste water is generated during wood conditioning. Sludges produced in the retort are designated as a hazardous waste.

Waste water can be treated by several different treatment methods. Oil/water separation is the most common primary treatment used by the wood treating industry. Oil/water separators with long detention can also be used for secondary treatment.

Sludges produced in the retort from PCP preservatives are classified as a hazardous waste. Sludges are frequently by-products of wastewater treatment. They contain hazardous components from the preservatives and its by-products. Buse

states that the sludges they produce are not toxic and fall within EPA's range of acceptable wastes. They state that there is very little sludge produced and it is disposed off-site.[9]

Preservatives can be spilled on site during normal operations. When freshly treated wood is removed,excess treating solution can be spilled outside of the retort. If excess treating solution is present on the wood when it is placed in the storage area, the solution can be washed off onto the ground. In some old treating plants, waste oil was sprayed across the entire site. Cracked sumps may also be a potential source of contamination. It is not known if any of these practices took place at Buse Lumber.

4. Pathway Characteristics

A. Air:

No qualitative or quantitative information exists to indicate an observed release to the air at this time. The major complaint was elevated levels of pentachlorophenol (PCP) and tetrachlorophenol (TCP) at the lumber company. Investigations and sampling were done in U.S. EPA sponsored studies in 1986. [10]

B. Ground Water:

Buse Timber is located on the east side of Smith Island in deltaic area at the mouth of the Snohomish River.

There are three aquifer systems of concern in the area: recent alluvial deposits associated with the Snohomish River (10-75 feet depth), the Marysville sand member (100-180 feet depth), and the Esperance sand member (greater than 225 feet).

Ground water levels at the project site are relatively high and are influenced by, and generally follow, the water levels of the river. The ground water in this area is not used for domestic or other water supply.

Ground water is of great importance as a contributor to streamflow, particularly during late summer when rainfall is usually less than at other times.

The Snohomish River estuary is also tidally influenced with salt or marine water intruding as far up the river as the south end of Ebey Island. Salt water or tidal water and fresh water are usually vertically distributed and homogeneous or well mixed.

The closest National Weather Service meteorological station is in Everett, within five miles of the site. Net precipitation, calculated from monthly precipitation and actual evapotranspiration data, is 18.5 inches. [11]

C. Surface Water:

There is no information to document an observed release to the surface water pathway from the site. Staining around the storm drain, on-site, indicates that some of the product has been released to surface water and soils.

Runoff is determined by evaluating three parameters: rainfall, a runoff curve number, and the drainage area. The 2-year, 24-hour rainfall value is 2.3 inches.

The runoff curve number reflects the ability of soils, and the nature of the land surface to retard runoff. The Soil Conservation Service has mapped soils in the project area. General soils in the area are mapped as Puget-Sultan-Pilchuck. These soils are very deep, poorly drained, moderately well drained to somewhat excessively drained, nearly level soils found on flood plains. More specific mapping indicates the site is located on alluvial soils deposited by the Snohomish River.[12]

The flow of surface water runoff is to the east - northeast. The closest surface water is that direction is Union Slough, a branch of the Snohomish River. It is adjacent to Buse Timber. A drainage ditch also runs along the east border of the site. The storm drain drains to the drainage ditch which then drains to Union Slough. The site lies in the 100 year flood plain.

The Snohomish River near Buse Timber is 850 feet wide and Union Slough which is adjacent the site is approximately 120 feet wide. The average mean flow of water is 9,951 ft/sec. Historic flow records are kept at Monroe, Washington, approximately 16 miles upstream.[13]

D. On-Site Pathway:

Samples taken on site indicate contamination of soils. A sample taken near a storm drain that was close to the dip tank showed concentrations of 240.0 mg/kg PCP and 47.5 mg/kg TCP. A sample near Union Slough had 1.970 mg/kg PCP and 0.890 mg/kg TCP.

5. <u>Targets</u>

A. Air Pathway:

As stated, there is no documentation of any release of hazardous constituents to the environment via the air pathway, relative to any off-site control (background). There is a remote potential for release since most PCP that is used as a wood preservative is mixed with petroleum solvents as the carrier. The solvents readily evaporate and could introduce PCP's into the air pathway. It should also be noted that when PCP is heated to decomposition temperature, Cl_2 is released and this product is highly toxic. However, the product, in its normal form would not release to the air pathway.

If a potential release is possible, the following targets could be affected: 1) population - both the maximally exposed and those within a four mile radius; 2) land use; and 3) sensitive environments also within four miles from the site.

It is assumed that the maximally exposed individuals would be the employees of Buse Timber & Supply. It is estimated that 120 people work at this facility.

The population of the surrounding area, within a four mile radius of the site has been calculated by using the 1990 Decennial Census which is a pre-census local review of the preliminary housing unit and special place counts done by the City of Everett Planning Department. [14] For those areas outside the Everett City limits, the most recent USGS 7.5 Minute topographic maps and the latest U.S. Census factor for the number of people per residence for Snohomish County, which is 2.6, were used to calculate the population. For each distance category the population is estimated to be:

Distance (miles)	Population
On-Site	120
0-¼	13
¼-½	10
½-1	702
1-2	4,242
2-3	9,586
3-4	8,753
TOTAL	23,426

Land within four miles of Canyon Lumber is used for a variety of purposes. Land use has been divided into the following categories along with the distance of the

closest occurrence to the site of concern. Land use was determined by studying the City of Everett Planning Department's maps and confirmed drive-by. The categories are:

1. Manufacturing, Industrial/Commercial:

Buse Timber is one of several businesses located on Smith Island. It is adjacent to Dagmar's Landing, a marine equipment and boat sales organization.

2. Single Family Residential:

To the west-northwest of Buse Timber and less than 1/8 mile away there's a single family residence.

3. Multiple Family Residential:

Both duplexes and apartment houses can be found within a one to two miles radius of the site. Most of these housing units are to the south-southwest of Buse Timber.

4. Parks:

Langus Park and The American Legion Memorial Park are within 2 miles of Buse Timber. Langus is a river park and is up stream (to the south), across the river and adjacent to I-5 (Interstate 5). The American Legion Memorial Park is southwest of the site, on top of the bluff. There are at least three other parks within the four mile radius.

5. Prime Agriculture:

There are some prime agricultural lands across the river and/or the interstate. Diking has been used in the area since the 1800's to provide flood protection. This has enhanced the use of these low-lying areas for agricultural grazing and crop production. These lands are 1/2 to four miles from Buse Lumber.

6. Non-Prime Agriculture:

These activities are found within one-half mile of the site. Hobby farms and tree farms are found on this land.

B. Ground Water Pathway:

The population living in Everett and its vicinity are served by public surface water systems that bring water from outside the area and not by ground water wells. Most of the wells are across the river; many are used for irrigation. The nearest well is 0.4 miles north of the site, on Smith Island.

Ground water within four miles of the site is predominately used for irrigation/agriculture and/or commercial industrial purposes.

Distance to nearest drinking well is 0.74 miles from the site. Population rings for "potential" contamination using Department of Health Public Water Supply Listing Information and well logs from the Department of Ecology are estimated as follows for three different aquifers:

Distance (miles)	Well Depth (feet)		
	10-75	100-200	>225
0-¼	0	0	0
¼-½	0	0	0
½-1	5	2	0
1-2	9	0	0
2-3	7	98	0
3-4	66	105	10

These figures account for only about 1% of the population within four (4) miles of the site.[15]

No well head protection areas have been defined in the State of Washington at this time.

C. Surface Water Pathway:

Surface water from the site drains off the paving into storm drains. The water than drains into drainage ditches on the east and south of the site and eventually into Union Slough, a branch of the Snohomish River that is adjacent to the property.

There is a population of 23,326 that might be affected. It is difficult to estimate the population affected beyond this point - distribution of PCP would be influenced by tides which run north and south depending

on whether they are incoming or out-going tides. (see figures 2 and 3) If you take into account populations within 125 miles of the site you have over 1.5 million people. But you must also account for PCP's insolubility in water and the fact that the petroleum products that would transport it, would evaporate or sink, depositing the PCP in the sediments.

The Snohomish River is a major migratory route for salmon and other sport fisheries and annually produces approximately 1,071,00 pounds of fish. The wetlands at the mouth of the river also serve as nurseries for such commercially valuable fisheries as shrimp, dungeness crab, and hake.[16]

Recreational use of the surface water pathway includes water sports such as boating, kayaking and canoeing. Other uses include fishing and wildlife viewing. There are public boat launches within one mile of the site and kayak launching areas are within two miles. The University of Washington's Women's Crew uses the area of the river for practice.

Wetland ecosystems are found 1/2 mile to the south, adjacent to the site, and throughout the Snohomish River Basin. There are wetland habitats on Smith Island, Jetty Island, and along Steamboat, Union and Ebey Sloughs which are all part of the Snohomish River estuary system and within a four mile radius. No known rare and endangered species breed in the area but Bald Eagles have been seen hunting along the river, the East Waterway, and Port Gardner Bay.

D. On-site Pathway:

On-site pathways include the storm drains that receive runoff from the paved areas. The area surrounding the storm drain by the dip tank was stained and soils in that area indicated contamination. The amount and extent of contamination in the drainage ditches on and adjacent to the site is unkown.

6. <u>Regulatory Involvement</u>

In 1986, the U.S. EPA sponsored studies to determine whether wood treatment chemicals were entering the soils and water surrounding certain lumber mills in Washington. Sediment and water samples were collected and results of the analysis indicated elevated levels of pentachlorophenol and tetrachlorophenol. The results of the analyses were mentioned in the Everett harbor Action Program: Evaluation of Potential Contaminant Sources. [15] In 1989 Ecology recommended that Buse Lumber be placed on the CERCLIS list.

According to Buse, EPA suggested that they move the dip tank and provide more protection for the dipping and steeping process. The tank was moved into a shed with an asphalted floor and a berm to help prevent contamination. Buse did not, however clean up the contaminated soil and did not determine the extent of contamination.

7. Conclusions and Recommendation's

Information gathered through this PA process indicates that, although hazardous contamination had been determined to have occurred on-site through past activities involving wood preservatives, the Buse Timber & Sales site presents no significant threats to nearby human populations and/or the environment, following scoring guidance for the proposed revised federal hazard ranking system (HRS). It is therefore recommended at this time that the Ecology PA/SI Unit pursue no further federally funded action at this site.

Elevated levels of pentachlorophenol and tetrachlorophenol were observed in sediment samples collected from a storm drain near an on-site dip tank and nearby adjacent offsite slough. Although the company changed to a non-hazardous preservative in 1986, it is not known that the soil contaminated from past activities has been cleaned up, nor has there been followup sampling to determine the extent of this contamination. It is thus further recommended that Ecology score this site under the Washington Ranking Method guidelines (WAC 173-340), following a site hazard assessment with appropriate on-site sampling.

Buse Timber

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

August 29, 1994

Reply to
Attn of: HW-114

Norman Buse
Delmar Buse
3812 28th Place NE
Everett, WA 98026

Dear Sirs:

The U.S. Environmental Protection Agency (EPA), through its contractor, URS Consultants, Inc., has completed the site investigation (SI) of the Buse Timber & Sales site. A copy of the report is enclosed.

Based on this SI and other pertinent information, EPA does not anticipate further investigation under the Federal Superfund Program.

If you have any questions, I can be reached at (206) 553-2103.

Sincerely,

David Bennett

David Bennett
Site Assessment Manager
Site Evaluation Section

Enclosure

cc: Michael Spencer, Ecology (w/o Enclosure)
Bob Kievit, EPA-WOO (w/o Enclosure)
Mike Gallagher, Ecology-NWRO
Snohomish County Environmental Health

Att - Buse Timber & Sales
Everett
Snohomish Co.

SCREENING SITE INSPECTION REPORT
FOR
BUSE TIMBER & SALES
EVERETT, WASHINGTON

CERCLIS NO. WAD009480542

Prepared for:

Work Assignment No. 54-17-0JZZ
Contract No. 68-W9-0054
United States Environmental Protection Agency
Region 10 ARCS
1200 Sixth Avenue
Seattle, Washington 98101

Prepared by:

URS Consultants, Inc.
1100 Olive Way, Suite 200
Seattle, Washington 98101

August 19, 1994

URS DOC 62760.17.20.654.27.b1

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TABLES

ABBREVIATIONS AND ACRONYMS

ARCS	Alternative Remedial Contract Strategy
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CFR	Code of Federal Regulations
CLP	Contract Laboratory Program
CRDL	contract-required detection limit (inorganics)
CRQL	contract-required quantitation limit (organics)
EPA	United States Environmental Protection Agency
HRS	Hazard Ranking System
IATA	International Air Transport Association
IDW	investigation-derived waste
NEIC	National Enforcement Investigations Center
NPL	National Priorities List
PA	preliminary assessment
PCB	polychlorinated biphenyl
PCP	pentachlorophenol
QMP	Quality Management Plan
RAS	routine analytical service
RSCC	Regional Sample Coordination Center
SARA	Superfund Amendments and Reauthorization Act of 1986
SAS	special analytical services
SDL	sample detection limit
SI	site inspection
SM	site manager (URS)
SQL	sample quantitation limit
SV	semivolatile
SVOC	semivolatile organic compound
TCP	tetrachlorophenol
TSCA	Toxic Substance Control Act
TSOP	technical standard operating procedures
URS	URS Consultants, Inc.

1.0 INTRODUCTION

Pursuant to United States Environmental Protection Agency (EPA) Contract No. 68-W9-0054 and Work Assignment No. 54-17-0JZZ, URS Consultants, Inc., (URS) conducted a site inspection (SI) of Buse Timber & Sales located at 3812 28th Place N.E. in Everett, Washington. This SI was conducted under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA). The SI process is intended to document a threat or potential threat to public health or the environment posed by a site, identify whether a potential emergency situation exists that may require an immediate response, document the presence or absence of uncontained or uncontrolled hazardous substances on a site, and confirm site characteristics and area receptor information collected during past studies. The SI is intended to collect sufficient data to enable evaluation of the site's potential for inclusion on the National Priorities List (NPL) and, for those sites determined to be NPL candidates, establish priorities for additional action. The SI process and this SI do not include extensive or complete site characterization, contaminant fate determination, or quantitative risk assessment.

This document presents the Buse Timber & Sales SI in the following manner:

- Section 1.0 Introduction—description of authority and purpose
- Section 2.0 Site Background—site-related information
- Section 3.0 Exposure Pathways and Potential Targets—evaluation of specific pathways and their possible targets
- Section 4.0 Sampling Program—synopsis of sampling conducted
- Section 5.0 Sampling Results—discussion of sampling results and those substances determined to be "significant"
- Section 6.0 Bibliography—list of references

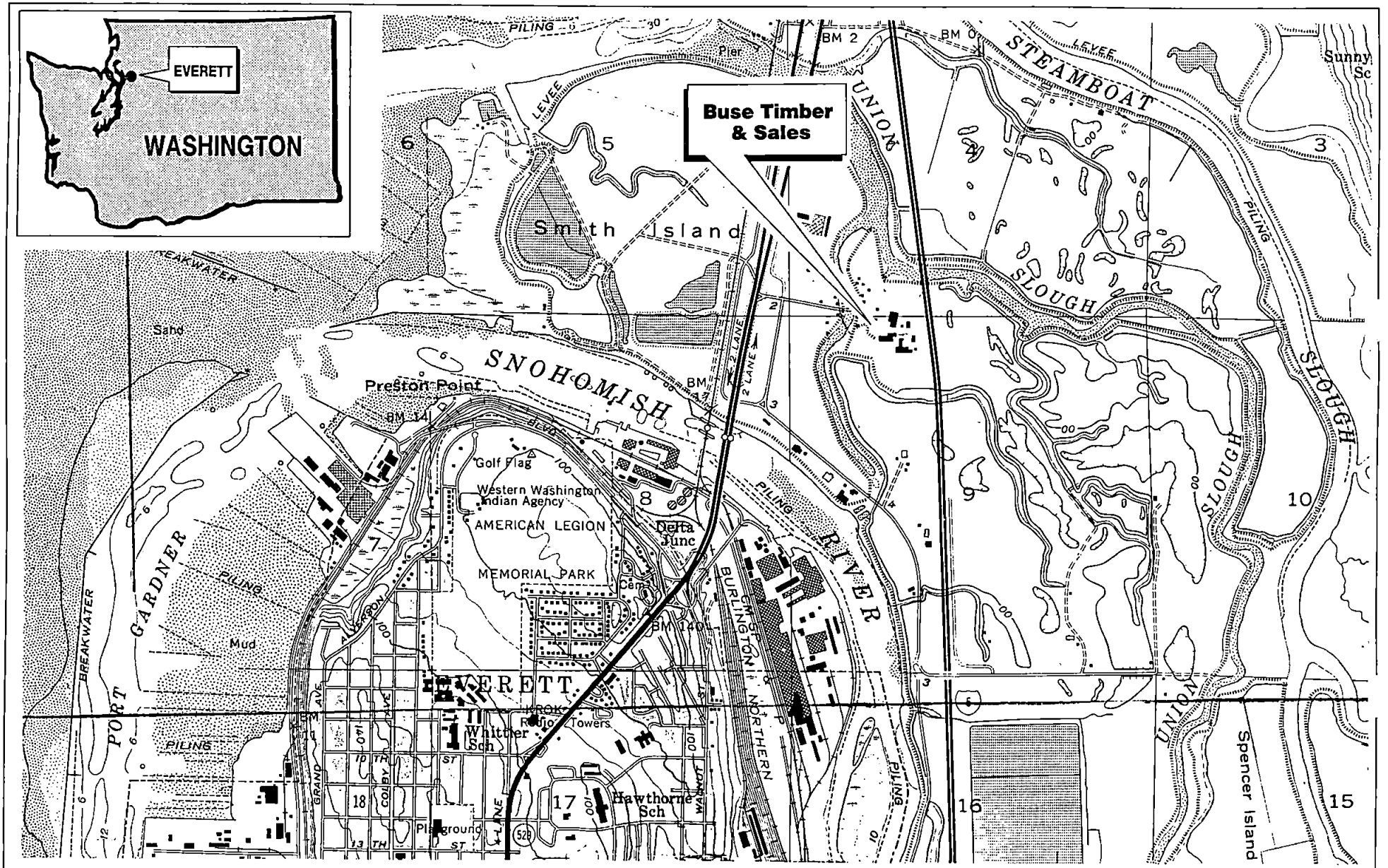
- Appendix A Photodocumentation of May 24 and 25, 1994, URS Sampling Event
- Appendix B Background sample location map
- Appendix C Laboratory Data Reports and Data Validation Reports for Samples Collected for Buse Timber & Sales
- Appendix D Data Quality Objectives

2.0 SITE BACKGROUND

2.1 SITE LOCATION AND DESCRIPTION

Site Name:	Buse Timber & Sales
CERCLIS No.:	WAD009480542
Location:	3812 28th Place N.E. Everett, Washington
Latitude:	48°1′17.2″ North
Longitude:	122°10′32.5″ West
Legal Description:	Section 4 and Section 9 Township 29, Range 5 East
Site Owner:	Norman and Delmar Buse 3812 28th Place NE Everett, Washington 98206
Site Operator:	Norman and Delmar Buse
Site Contact:	Steve Fogg (206) 258-2577

Buse Timber & Sales, located at 3812 28th Place N.E., is situated on Smith Island in the Snohomish River floodplain. The mill is 1 mile northeast of the city of Everett, in Snohomish County, Washington. The plant and log yard combined occupy approximately 25 acres of land in the southeast quarter of the southwest quarter of section 4, Township 29 North, Range 5 East, Willamette Meridian, and the northeast quarter of the northwest quarter of section 9, Township 29 North, Range 5 East, Willamette Meridian (USGS 1976). The coordinates of the site are 48°1′17.2″ N. latitude 122°10′32.5″ W. longitude. The site is surrounded by sloughs and agricultural lands. Directly to the east of the mill is Interstate 5. Figure 2-1 shows the general location of the Buse mill.



Source: USGS 7.5 Min. Topo Map, MARYSVILLE, WA 1973

URS
CONSULTANTS

NORTH

0 1/2 1
Scale In Miles

Figure 2-1
Buse Timber & Sales Site Location Map

Buse Timber & Sales
Everett, Washington

The mill is adjacent to Union Slough and several backwater arms of the slough. Within ½ mile, the slough discharges into Possession Sound. Because of the proximity to tidally influenced waters, the sloughs surrounding the mill are affected by tidal flooding and ebbing. The water level in an unnamed slough that receives runoff from the northern portion of the mill is controlled by a tidal gate; this slough will be referred to as the tidal gate slough. Because the site is located in the Snohomish River delta, it is underlain by large quantities of alluvial deposits. Tidal influence and Snohomish River water levels have a large influence on groundwater levels in the area. The depth to groundwater is shallow in the area and generally follows the Snohomish River water levels (Ecology 1990).

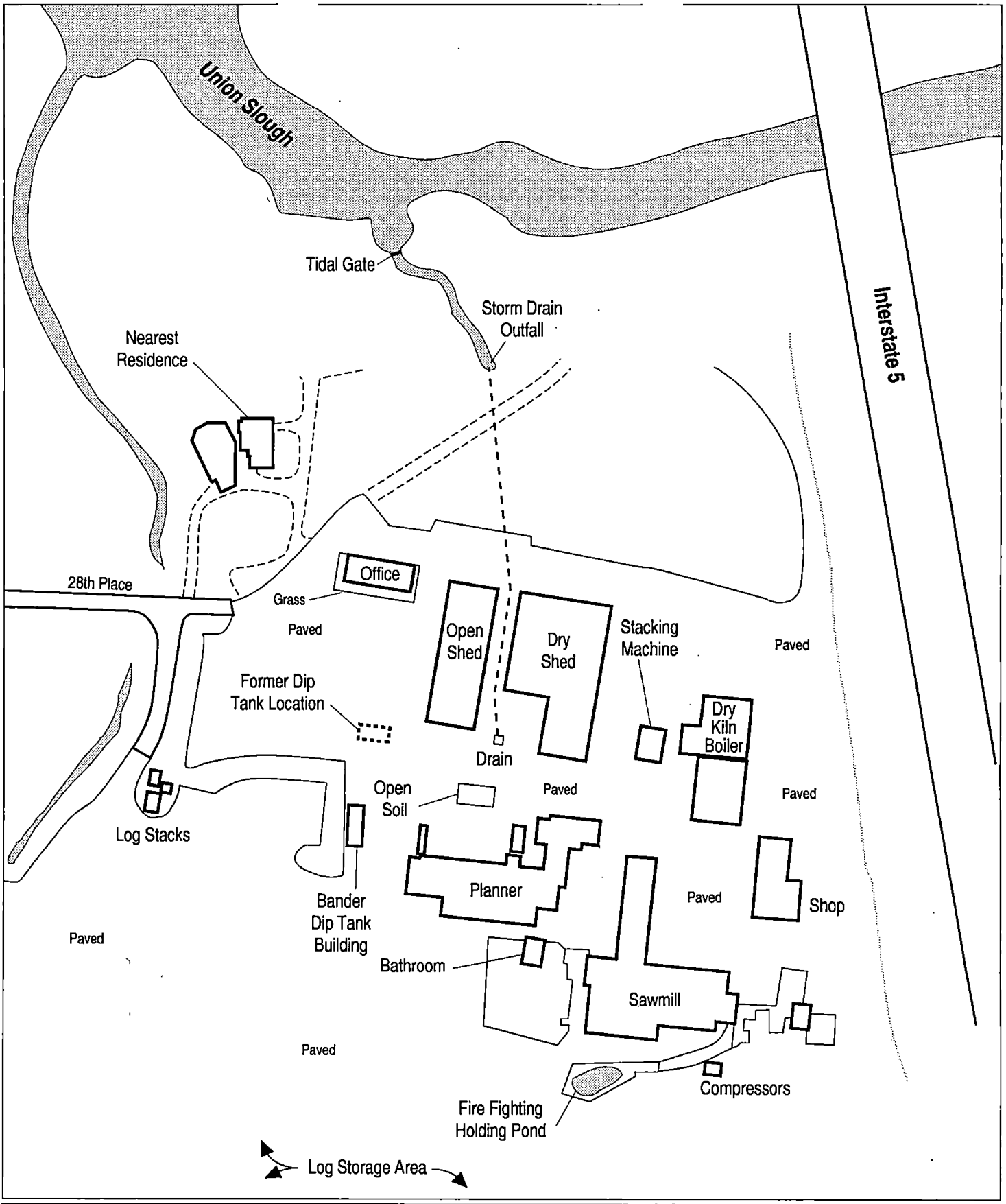
Twenty-eighth Place N.E., leading from State Route 593, provides access to the site via a land bridge which traverses Union Slough. Although the site is not secured by a fence, the property is physically separated from the surrounding areas by sloughs. The property owned by the Buses includes a large quantity of farmland and pasture on Smith Island. The Buses permit local farmers to produce hay to the south of the mill. The nearest residence, situated 300 feet from the mill offices in the northwest corner of the property, is owned by a member of the Buse family. A pasture to the north and west of the residence serves as a small golf course (URS 1994a).

The 20-acre facility comprises nine main buildings and several smaller ancillary structures (see the site map, Figure 2-2). A 5-acre log storage yard is situated south of the mill complex. Raw logs brought in by trucks and beauty bark from the debarking operation are deposited here.

The 20-acre facility has been in operation on this site since 1946. The Buses purchased the land in 1942 (Buse 1994). Originally, at an unknown point in time prior to the Buse's purchase of the land, the area was used as farmland (Buse 1994).

2.2 SITE OPERATIONS AND WASTE CHARACTERISTICS

Buse Timber & Sales produces approximately 60 million board feet per year of finished lumber products of various dimensions for domestic sale and export to Asia or Canada. Production activities include sizing, debarking, trimming, milling, planing, treating, drying, banding, and shipping. The operations employ 120 persons on two 8-hour shifts at the sawmill and one 8-hour shift at the planer mill. Logs are sorted by size because the mill can handle only logs of a certain dimension. Logs that are too large or too small are



URS CONSULTANTS

NORTH

0 130 260

Scale In Feet

Figure 2-2
Buse Timber & Sales
Site Map

Buse Timber & Sales
Everett, Washington

sold to pulp mills (Buse 1994). Appropriately sized logs are sent to the debarking machine. Bark from this machine is then sold as mulch or beauty bark. Debarked logs are transferred to the sawmill where they are trimmed and cut to the required dimensions. Next, the rough-cut wood is sent to the planer for surfacing. Chips and sawdust from sawing and planing are retained and sold to Scott Paper Company in Everett. The lumber is then sorted by hand and sent off to be dipped, dried, or endsealed if necessary. Buse personnel manually spray a product called Light Green Endseal on the ends of the lumber. This water-based paint is a nonhazardous waste defined in RCRA 40 CFR 261. After the endseal has dried, the lumber is banded and wrapped for shipment.

Lumber that is being shipped long distances is sometimes treated in a dip tank with anti-stain chemicals called Britewood S or Britewood Q sapstain control. These are phenolate solutions that contain sodium ortho-phenylphenate. The bundled lumber is dipped into a 28 by 5 by 5-foot-deep steel tank (approximately 5,300 gallons) that contains one of the above products. After the wood is dipped, it rests over a drip pan, which drains back into the tank. The company adds 50 gallons per month to the tank. According to Mr. Buse, because the solution is constantly agitated by compressed air, sludge does not develop at the bottom of the tank. The company has not had to dispose of any sludges since tank installation (Buse 1994). Eighty percent of the tank is underground and is surrounded by a concrete-walled pit, which acts as a secondary containment system. At the bottom of the pit is a sump that pumps the Britewood solution back into the tank. Table 2-1 lists waste-related activities at Buse.

Occasionally, lumber must be kiln dried for special orders. The company has four gas-heated drying kilns for this purpose. Carts of lumber are rolled into the kiln on tracks and heated to 180 degrees under controlled humidity for 3 days (URS 1994a).

Until 1986, the company used pentachlorophenol (PCP) to treat lumber in a dip tank with no cover or secondary containment. On a complaint from EPA and on the advice of the company's chemical supplier, the mill switched to a product called PQ8. At the same time, the dip tank was moved into a shed in an area that is asphalted and bermed. The soils in the former diptank area were simply paved over (Ecology 1990).

In 1986, the EPA sponsored studies to determine whether wood treatment chemicals were entering the soil from lumber mills across the state of Washington. A sediment sample taken from a storm drain near the former dip tank revealed PCP and

Table 2-1
Hazardous-Waste-Related Activities On Site

Activity/Process	Dates	Waste(s) Produced	Storage/Disposal Method(s)	Containment Features	Hazardous Constituents
PCP wood treating	1946-86	PCP sludge	Landfilled	Tank without containment	PCP

Source: URS 1994a, Ecology 1990

trichlorophenol (TCP) at 240 mg/kg, and 47.5 mg/kg respectively. A sediment sample taken from Union Slough revealed 1.97 mg/kg PCP and 0.89 mg/kg TCP.

In 1989, Ecology recommended that Buse Timber & Sales be placed on the EPA CERCLIS list of potential hazardous waste sites. The detection of PCP and TCP in the sediments on and around the site prompted the Washington Department of Ecology to conduct a preliminary assessment (PA), which was completed in November 1990 (Ecology 1990). The Ecology PA recommended that the site be scored using the revised Hazard Ranking System (HRS) before further on-site investigations were conducted.

On June 13, 1990, a Toxic Substance Control Act (TSCA) inspection by Ecology revealed several polychlorinated biphenyl (PCB) violations at the mill. Buse was fined a total of $7,650 (Ecology 1992a).

In June 1992, Ecology again sampled sediments from the same locations as the 1986 EPA sampling effort. Although this round of sampling revealed no evidence of either PCP or TCP in the drain or slough, it revealed petroleum contamination in Union Slough. However, Ecology found no evidence linking the petroleum contamination in the slough with operations at Buse Timber & Sales (Ecology 1992a).

During the URS site visit on March 14, 1994, a rapid immunoassay field screening kit specific for PCP was used to test sediments from the tidal gate slough north of the mill. The results of this screening indicated that PCP was present at concentrations of at least 0.5 ppm in the slough sediments (URS 1994a) (see Table 2-1).

Buse Timber & Sales operates with coverage under the Storm Water Baseline General Permit SO3-000097 (Ecology 1992b).

3.0 EXPOSURE PATHWAYS AND POTENTIAL TARGETS

3.1 GROUNDWATER PATHWAY

3.1.1 Geology and Hydrogeology

Everett is located in the central part of the Puget Sound Lowland, which is a broad, rolling, glacial drift plain of low relief bordered by the Olympic and Cascade Mountains. The geologic features of the Puget Sound Lowland are primarily the result of the Fraser Glaciation, when the Puget glacial lobe made its last advance into the region. The sediments deposited during this time are collectively called "drift" and cover much of the lowland (Haase 1987).

In the Everett area, the glacial history is complicated by repeated advance and retreat episodes of glacial movement. This resulted in the deposition of several drift units, ranging from tills, sands, outwash gravels, silts, and clays to glaciomarine and terrace deposits.

The site is located in the delta region of the Snohomish River. The geology underlying the facility consists mainly of alluvial river deposits derived from glacial sediments and upstream surficial geologic materials. Washington State Department of Transportation boring logs from Interstate 5 bridges across the Snohomish River and the sloughs indicate silts, clays, and sands with small amounts of gravel, shell debris, and decomposing wood debris from the ground surface to more than 130 feet below ground surface (bgs)(DOH 1965).

There are three aquifer systems in the area: recent alluvial deposits associated with the Snohomish River and Union Slough, the Marysville sand member, and the Esperance sand member. The static water level at the site is probably within a range of 10 to 15 feet bgs (Ecology 1990). The depth to the water table varies due to tidal and river flow volume influences. The groundwater in this area is not used for domestic purposes, according to Ecology (Ecology 1990). However, two wells designated as domestic have been identified on Smith Island.

The average annual net precipitation in the Everett area is 18.5 inches (Ecology 1990).

3.1.2 Groundwater Targets

Only about 1 percent of the population within 4 miles of the site uses wells as the primary source of drinking water (Ecology 1990). Everett and the surrounding territory (including Marysville and the Tulalip Indian Reservation) are served by water collected from the 60-square-mile Sultan Basin. The water is stored 30 miles southeast of Everett in the Spada Reservoir, which has a capacity of 50 billion gallons (Wolcott 1994). Approximately 102 domestic and 54 community wells are located within a 4-mile radius of the site. An estimated 1,023 people use these wells for drinking water. However, only two of these wells are on Smith Island. All other wells within 4 miles are separated from the site by either the Snohomish River or the sloughs. Since the river and sloughs are groundwater divides, it is unlikely that contamination from the site could affect groundwater on the other side of these water bodies. A breakdown of groundwater drinking water populations within 4 miles of the site is shown in Table 3-1 (USDC 1990).

Table 3-1
Groundwater Drinking Populations Within 4 Miles of the Buse Timber & Sales Site

Distance from Site (miles)	Number of Domestic Wells	Estimated Domestic Population	Number of Community Wells	Community Well User Population	Total Population
On site	1	2	0	0	2
0 to 0.25	0	0	0	0	0
0.25 to 0.5	0	0	0	0	0
0.5 to 1	1	2	1	10	12
1 to 2	3	7	1	10	17
2 to 3	54	129	18	180	309
3 to 4	102	243	34	340	583
Total	161	383	54	540	923

Note: Domestic well population is based on an estimate of 2.38 people per household to obtain person/household/well except for wells on site. It is known that two persons reside on site (USDC 1990; U.S. EPA 1994a). Community well population assumes 10 persons per well.

3.2 SURFACE WATER PATHWAY

3.2.1 Surface Water Flow

The Buse Timber site is located adjacent to and south of Union Slough on Smith Island north of the Snohomish River. The site is relatively flat, with a general slope less than 5 degrees toward the northeast. The area has a relatively mild and wet climate and a 2-year, 24-hour precipitation of 2.3 inches (Ecology 1990). The site is located within the 100-year flood plain.

The Soil Conservation Service has mapped the soils in the area as Puget-Sultan Pilchuck. These soils are very deep and range from poorly drained to excessively drained, nearly level soils on the floodplain (USDA 1983).

Precipitation accumulating on site would tend to percolate into the ground or flow north; storm sewer drains are located on site to assist in surface water drainage. The on-site surface water flow would eventually reach Union Slough by either the storm sewer or overland flow. The storm sewer has a tidal gate to prevent saltwater from entering the storm sewer system. During the URS 1994 site visit, the stormwater system appeared to be in satisfactory condition.

The flow of Union Slough depends on tidal influences. Union Slough is 120 feet wide adjacent to the site and the Snohomish River is 850 feet wide. Average annual flow of the Union Slough is approximately 5,000 cubic feet per second (cfs). The average discharge in the Snohomish River for the past 29 years is 9,605 cfs (Miles 1992).

3.2.2 Surface Water Quality

As revealed by past sampling events, elevated concentrations of pentachlorophenol (PCP) and trichlorophenol (TCP) have been identified in sediments collected from the tidal gate slough which drains into the Union Slough. These elevated concentrations of contaminants have likely impacted the habitability of the slough for fish and other aqueous species.

3.2.3 Surface Water Targets

There are no surface water intakes for drinking water use within 15 miles downstream of the site. At approximately 1.5 miles downstream from the site, both the Snomomish River and Union Slough empty into Possession Sound.

Two bodies of water in Possession Sound, at Port Gardner and Port Susan, are popular for non-Indian commercial fishing and Indian fishing and shellfish harvesting. The fish species observed in Port Gardner and Port Susan include chinook salmon (*Oncorhynchus tshawytscha*), chum salmon (*Oncorhynchus keta*), pink salmon (*Oncorhynchus gorbuscha*), and coho salmon (*Oncorhynchus kisutch*). The Snohomish River is an important migratory route for all of these anadromous fish species and is also home to the bull trout (*Salvelinus confluentis*) and the olympic mudminnow (*Novumbra hubbsi*), both of which are federal candidates for the endangered species list (WDW 1993). Port Gardner and Port Susan have an average annual harvest of 251,095 pounds of fish (WDF 1991) and an average annual harvest of 162,400 pounds of hardshell clams (WDF 1991).

Wetland frontage was calculated for the 1.5 miles downstream of Buse Timber to the point where both the Snohomish River and Union Slough enter the Pacific Ocean in Possession Sound. The frontage of wetlands in that span is 6 miles. National Wetlands Inventory maps classify this area as palustrine, estuarine, riverine, and forested wetlands. However, riverine and estuarine wetlands are also found in the areas downstream of the Buse site.

3.3 SOIL PATHWAY

3.3.1 Soil Description

The surface soils on site are classified as fill and alluvial soils deposited by the Snohomish River and extend 130 feet below the ground surface. These soils have low-to-moderate permeability estimated at 10^{-5} cm/second (Freeze and Cherry 1979) and often become waterlogged in the winter. The underlying sediments consist of alluvial and glacial deposits.

3.3.2 Soil Targets

The Buse Timber site is located within the city limits of Everett, which has a total population of 69,961 (USDC 1990). Residing within a 1-mile radius of the site are 154 people. Both Snohomish River and Union Slough, popular recreational areas, are located within 1 mile of the site. Although the Buse site is not fenced, it is physically separated from surrounding areas by sloughs and blackberries. There are no day cares or schools within 200 feet of the site. The closest resident lives within 200 feet west of the site. Residential populations identified within a 4-mile radius of the site are summarized in Table 3-2.

Table 3-2
Residential Populations Located Within 4 Miles of the Buse Timber & Sales Site

Distance From Site (miles)	Resident Population
0 to 0.25	7
0.25 to 0.5	10
0.5 to 1	137
1 to 2	7,743
2 to 3	22,792
3 to 4	19,801
Total Population	**50,490**

Source: U.S. EPA 1994a

3.3.3 On-Site Workers

Approximately 120 full-time employees work at the Buse facility.

3.4 AIR PATHWAY

3.4.1 Regional Characteristics

The Buse Timber site is located in the tideflats of the Snohomish River in a primarily industrial and agricultural mixed-use area. Possession Sound is located west of the site.

The area has a relatively mild and wet climate, with a normal annual rainfall of 36.51 inches (NOAA 1992).

3.4.2 Air Targets

The residential population within 4 miles of the site is detailed in Table 3-3. The closest residence (owned by Buse) is located within 200 feet of the Buse Timber & Sales office. Although access to the Buse Timber site is limited by the Snohomish River and the Union Slough, there is a road to the site and the east boundary of the site abuts the Interstate 5 right of way.

Table 3-3
Wetlands Within 4 Miles of the Buse Timber & Sales Site

Distance from Site (miles)	Wetland Acreage (estimated)
Onsite	3
0 - ¼	10
¼ - ½	40
½ - 1	150
1 - 2	560
2 - 3	1,000
3 - 4	580

Source: USDI 1987

There is one wetland of approximately 3 acres located on site. Approximately 200 acres of wetlands are located within 1 mile of the site. Table 3-3 gives a breakdown of wetlands within 4 miles of the site (USDI 1987).

3.4.3 Sensitive Areas

Washington State Department of Wildlife Sensitive Area maps were used to determine the presence of sensitive species within 4 miles of the site. The mouth of the Snohomish River, which is 1.5 miles from the site, is an estuary that supports bull trout and the

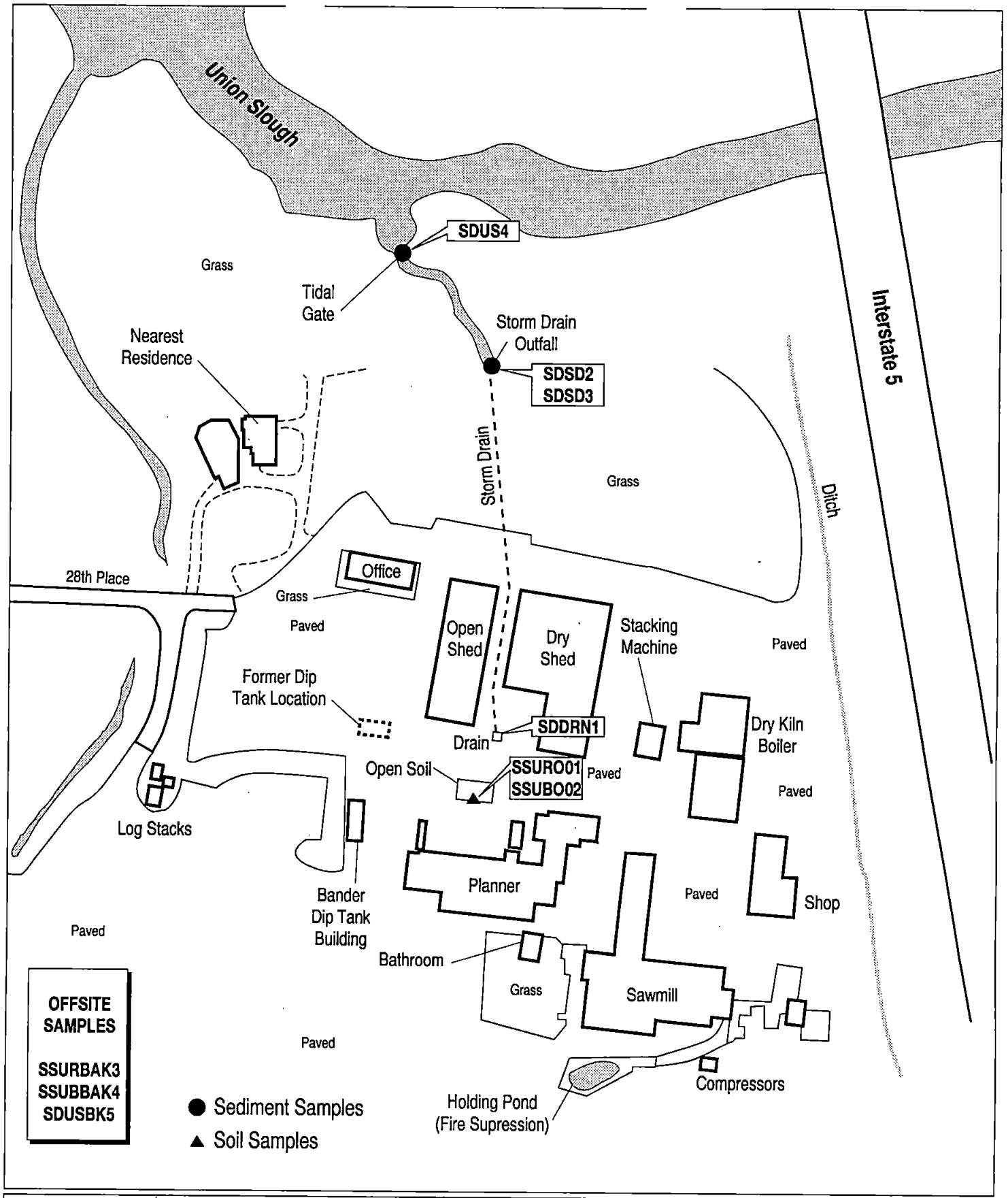
olympic mudminnow. There are three bald eagle nesting sites between 1 and 2 miles from the site, and one nesting site in both the 2- to 3-mile and 3- to 4-mile ranges.

4.0 SAMPLING PROGRAM

The media-specific sampling procedures were consistent with methodologies described in the field sampling plan (URS 1994b) and technical standard operating procedures (TSOP) (URS 1990b) for ARCS contract activity, as well as those described in EPA's *A Compendium of Superfund Field Operations Methods* (U.S. EPA 1987). All sampling equipment was decontaminated before and after use (TSOP 3.7). Four 8-ounce jars of sediment and soil (one each for SVs and PCBs, and two for inorganics and mercury) were collected from each sample station. All sample containers were clearly labeled with the EPA sample number, URS station number, replicate number (if applicable), date, time, type of sample, and sampling personnel (TSOP 2.4). Additionally, EPA sample tags were taped to the sample bottles, and the bottle lids were custody-label sealed. After sample collection, the containers were placed in a cooled ice chest maintained at approximately 4°C, as appropriate, for transport to an analytical laboratory (TSOP 2.3). The routine analytical service (RAS) samples (PCB and inorganics) were shipped to a different laboratory than the SAS samples (SVs). Additional preservation for water samples was conducted at the time of sampling. A chain-of-custody form was filled out and placed in the chest with the samples. The ice chests were sealed for shipment with duct tape and chain-of-custody seals. An accurate log of the sampling conducted and other information pertinent to the sampling were kept in the field logbook (TSOP 2.6). Photographs were taken during the sampling event and tracked in the field logbook (TSOP 2.5). Refer to Figure 4-1 and Table 4-1 for sample locations, rationale, and identifiers.

4.1 SEDIMENT SAMPLES (TSOP 5.5)

Sediments from the storm drain (sample SDDRN1) were characterized to assess the possible release of wood treating chemicals or their components. The sample locations were selected based on historical sampling results and best professional judgment. All sediment samples were collected as grab samples with a stainless steel spoon. The sediment was collected from the surface of the sediment where no water was present. Since no water was present in the catch basin, the catch basin sediment sample was collected from the bottom of the catch basin. The samples were transferred directly into the sample container. Sticks, rocks, and other large organic matter were removed. The on-site sediment sample was collected as close as possible to the area of sediment accumulation.



URS CONSULTANTS

NORTH

0 130 260

Scale In Feet

Figure 4-1
Buse Timber & Sales
Sample Locations

Buse Timber & Sales
Everett, Washington

Table 4-1
Sample Descriptions

Sample Number	Location	Rationale	Date:Time Collected
SSURO01	Treatment tank area surface soil	Characterize on-site surface soil	05/25/94:0820
SSUBO02	Treatment tank area subsurface soil	Characterize on-site subsurface soil	05/25/94:0844
SDDRN1	Storm drain catch basin	Characterize on-site sediments	05/25/94:0930
SDSD2	Storm drain outfall	Characterize outfall sediments	05/25/94:0957
SDSD3	Storm drain outfall	Characterize outfall sediments, quality control duplicate	05/25/94:1003
SDUS4	Tidal gate outfall to slough	Characterize on-site site slough sediments	05/25/94:1025
SSURBAK3	Off-site surface soil	Characterize background soil	05/25/94:1305
SSUBBAK4	Off-site subsurface soil	Characterize background subsurface soils	05/25/94:1310
ER01	Equipment rinsate	Quality assurance	05/25/94:1052
SBUSBK5	Union slough off-site sediment	Characterize background slough sediment	05/24/94:0940

4.2 SURFACE SOIL SAMPLES (TSOP 5.4)

To determine whether past practices have impacted on-site surface soil quality, one surface soil sample (SSURO01) was collected near the drain at the former dip tank location. Only one soil sample was collected because all other locations near the former dip tank location are paved. The sample was collected at a depth of 0 to 6 inches from the surface level at the location where it is suspected that wastes have been placed. An additional surface soil sample was collected off site to characterize background conditions (SSURBAK3). The background soil sampling location was collected from the residence of a home 2.9 miles southeast of the site. The background soils sampled are the alluvial soils in the valley of the Snohomish River. The map in Appendix B shows the exact location.

The surface soil sample was collected using a decontaminated stainless steel trowel. The sample was placed immediately into the sample containers.

4.3 SUBSURFACE SOIL SAMPLES (TSOP 5.4)

To determine whether past site practices have impacted subsurface soil quality, a subsurface soil sample was collected. One subsurface sample (SSUBO02) was collected from the unpaved area southwest of the former dip tank area. The sample was collected at an approximate depth of 2 feet below surface level. An additional subsurface soil sample was collected off site to characterize background conditions (SSUBBAK4). The location of this sample was 2.9 miles southeast of the site (for location of background surface soil sample, see Appendix B). The background soil sample was not collected in an industrial or agricultural area.

The soil was excavated to the predetermined sampling depth by using a decontaminated hand auger at a right angle to the surface. Once the desired depth was reached, the decontaminated hand auger was used to collect a sufficient soil volume. The soil was placed into a decontaminated stainless steel bowl, homogenized, and placed into the sample containers.

The borehole was refilled with the excavated material using a stainless steel trowel.

4.4 TIDAL GATE SLOUGH, UNION SLOUGH, AND SNOHOMISH RIVER SEDIMENT SAMPLING (TSOP 5.5)

One sediment sample and one field duplicate sample were collected from the outfall basin that drains the area near the former dip tank (SDSD2 and SDSD3) to characterize outfall sediments. The sampling event was conducted during a low tide when sediments are exposed and easily accessible. The sample material was placed into the bowl, debris removed, and homogenized. The sediment was then placed into the sample containers.

The sediment samples from Union Slough (SDUS4 and SDUSBK5) were not collected near piers, pilings, or any other obvious source of wood treatment chemicals. Sample SDUS4 was collected from the tidal gate outfall area to characterize sediments that have entered Union Slough. During the low tide, the sample locations were easily accessible from the boat or shore. The sediment samples were collected following the procedure

described for SDSD2. Because the area is located in the Snohomish River delta, a small boat was required for gathering background samples. Exact background sample locations were determined in the field and based on grain size comparison with site samples. The background Union Slough sample (SDUSBK5) was collected at the point where Union Slough joins the Snohomish River at its most upstream point. See the map in Appendix B for exact locations.

5.0 SAMPLING RESULTS

The conditions used to define an "observed release" of a particular substance to any of the matrices sampled during the data evaluation process are summarized in Table 5-1 (U.S. EPA 1990a, 1990b). Discussions of data results in this report use the term "significant" to classify concentrations of detected chemicals based on the criteria described in Table 5-1. The results discussed in the following sections are limited to those substances determined to be significant (as defined in Table 5-1). Based on EPA Region 10 policy, aluminum, calcium, iron, magnesium, potassium, sodium, and zinc (common earth crust metals) generally are employed only in water mass tracing, which is beyond the scope of this report. These elements will not be discussed further.

Table 5-1
Significance Criteria for Chemical Analysis

Sample Measurement < Sample Quantitation Limit[a]
No observed release is established; the result is not identified as "significant"
Sample Measurement ≥ Sample Quantitation Limit[a]
An observed release or "significant" result is established as follows:
If the background concentration is not detected (or is less than the detection limit), an observed release or significant result is established when the sample measurement equals or exceeds the sample quantitation limit.[a]
If the background concentration equals or exceeds the detection limit, an observed release or significant result is established when the sample measurement is three times or more above the background concentration.

Source: U.S. EPA 1994b

[a]If the SQL cannot be established, determine if there is an observed release as follows: If the sample analysis was performed under the EPA CLP, use the EPA CRQL in place of the SQL. If the sample analysis was not performed under the EPA CLP, use the detection limit in place of the SQL.

The tables provided in the following discussion include all reported concentrations of any metals, polychlorinated biphenyls (PCBs), semivolatiles (SVs), and chlorinated phenols detected in at least one sample collected on May 25, 1993. The laboratory data results and data validation reports are provided in Appendix C. A summary table of the target and actual data quality objectives of the Buse Timber field sampling are also presented in Appendix H. Only four chemicals were detected in significant concentrations and only in sediment samples collected from the storm drain catch basin and the storm drain outfall. It should be noted that detection limits varied considerably between and among samples. There were also a high number of qualified results. Only four organics results, three chlorinated phenols results, and one PCB result were unqualified among all SV, PCB, and chlorinated phenol detections.

5.1 ON-SITE SURFACE SOIL

None of the on-site surface soil results meet the criteria listed in Table 5-1 for significant concentrations. Results are summarized in Table 5-2. All samples collected during this investigation were analyzed for metals, PCBs, SVs, and chlorinated phenols as described in the field sampling plan (URS 1994b). No information was available in the data validation reports to assign a bias (high or low) to the qualified ("J") sample results identified in Table 5-2. Because the appropriate comparable sample for determining elevated concentrations in a surface soil sample is a background surface soil sample, SSURO01 was compared to SSURBAK3 (see Table 5-2).

5.1.1 Metals Analyses

Metals detected in the off-site background surface soil sample (SSURBK3) are summarized in Table 5-2. The metals detected represent concentrations for natural soils in the Snohomish River basin.

Metals detected in the on-site surface soil sample collected at the Buse site are summarized in Table 5-2. For the on-site soil sample location, see Figure 4-1.

5.1.2 PCB Analyses

PCBs were not detected in the off-site background surface soil sample or in the on-site surface soil samples.

Table 5-2
Surface Soil Sampling Results for Buse Timber and Sales, Inc.
May 25, 1994

	Off-site Background Soil	Treatment Tank Area Surface Soil	Treatment Tank Area Surface Soil Laboratory Duplicate
Substance Detected	**SSURBAK3**	**SSURO01**	**SSURO01 DS**
Total Metals (mg/kg)			
Aluminum	20900	18200	19700
Arsenic	22 J	20 J	17 J
Barium	108	50.5 J	52.9
Beryllium	0.49 J	0.34 J	0.37 J
Cadmium	0.35 J	0.24 J	0.2 U
Calcium	3010	2940	3280
Chromium	86.3	54.1	58.1
Cobalt	23.6	9.25	9.63
Copper	45.5	40.1	41.1
Iron	30300	30100	31300
Lead	52.3	12 J	14 J
Magnesium	8720	8840	9250
Manganese	417	298	311
Mercury	0.0575	0.0749	0.076
Nickel	64.1	36.2	39.3
Potassium	905	2410	2500
Selenium	6 U	15 J	15 J
Sodium	299	335	362
Thallium	6 J	5 U	8 J
Vanadium	66	68.6	70.3
Zinc	89.6	57.9	61.2
Semivolatiles (ug/kg)			
Di-n-butylphthalate	32 J	470 U	NAF

Notes:
J =value is an estimate
mg/kg = milligrams per kilograms
NAF = not analyzed for
U =sampe was undetected
ug = Microgram (1E-6 gram)

5.1.3 Semivolatile Organic Analyses

Di-n-butylphthalate was detected in the background sample (SSURBAK3) at an estimated concentration of 32 μg/kg. There were no detections of any SVs in the on-site surface soil sample.

5.1.4 Chlorinated Phenol Analyses

There were no significant detections of any chlorinated phenols in any of the surface soil samples.

5.2 SUBSURFACE SOIL

None of the subsurface soil results meet the criteria listed in Table 5-1 for significant concentrations. Results are summarized in Table 5-3. All samples collected during this investigation were analyzed for metals, PCBs, SVs, and chlorinated phenols as described in the field sampling plan (URS 1994b). No information was available in the data validation reports to assign a bias (high or low) to qualified ("J") sample results identified in Table 5-3. Because the appropriate comparable sample for determining elevated concentrations in a subsurface soil sample is a background subsurface soil sample, SSUBO02 was compared to SSUBBAK4 (see Table 5-3).

5.2.1 Metals Analyses

Metals detected in the off-site background subsurface soil sample (SSUBBK4) are summarized in Table 5-3. The metals detected represent concentrations for natural soils in the Snohomish River basin.

Metals detected in the on-site subsurface soil sample collected at the Buse site are summarized in Table 5-3. For the on-site soil sample location, see Figure 4-1.

5.2.2 PCB Analyses

PCBs were not detected in the off-site background subsurface soil sample or in the on-site subsurface soil samples.

Table 5-3
Subsurface Soil Sampling Results for Buse Timber and Sales, Inc.
May 25, 1994

	Offsite Background Subsurface Soil	Treatment Tank Area Subsurface Soil
Substance Detected	**SSURBAK4**	**SSUBO02**
Inorganics (mg/kg)		
Aluminum	18800	18200
Arsenic	17 J	25 J
Barium	70.9	46.4
Beryllium	0.28 J	0.3 J
Calcium	2530	2630
Chromium	61.5	79.4
Cobalt	13.2	9.92
Copper	34	41.4
Iron	28300	26500
Lead	12 J	9.8 J
Magnesium	7690	8630
Manganese	223	248
Mercury	0.0485	0.0668
Nickel	32.7	44.9
Potassium	985	2230
Selenium	6 J	13 J
Sodium	269	543
Thallium	7 J	6.2 J
Vanadium	63.3	69.6
Zinc	57.4	52.7
Semivolatiles (ug/kg)		
Di-n-butylphthalate	33 J	510 U

Notes:
J = value is an estimate
mg/kg = milligrams per kilogram
U = sample was undetected
ug = Microgram (1E-6 gram)

5.2.3 Semivolatile Organic Analyses

Di-n-butylphthalate was detected in the background sample (SSURBAK4) at an estimated concentration of 33 μg/kg. There were no detections of any SVs in any of the on-site subsurface soil samples.

5.2.4 Chlorinated Phenol Analyses

There were no significant detections of any chlorinated phenols in any of the subsurface soil samples.

5.3 STORM DRAIN SEDIMENT

Data results that satisfy the criteria listed in Table 5-1—described in this section to be significant—are highlighted in Table 5-4. All samples collected during this investigation were analyzed for metals, PCBs, SVs, and chlorinated phenols as described in the field sampling plan (URS 1994b). No information was available in the data validation reports to assign a bias (high or low) to qualified ("J") sample results identified in Table 5-3. Because the appropriate comparable sample for determining elevated concentrations in a sediment sample is a background sediment, sediment samples were compared to SDUSBK5 (see Table 5-4, Sediment Soil Sampling Results for Buse Timber & Sales, Inc., May 25, 1994).

5.3.1 Metals Analyses

Metals detected in the off-site background sediment sample represent concentrations expected for sediments in the Snohomish River estuary conditions. Results for all sediment samples are summarized in Table 5-4. For sample locations, see Figure 4-1.

There were several significant detections of metals in the on-site sediment samples. Lead and mercury were detected in the samples collected from the storm drain catch basin (SDDRN1) and the duplicate samples collected at the outfall for that storm drain (SDSD2 and SDSD3). Lead was detected in sample SDDRN1 at 57 mg/kg and in sample SDSD3 at 56.2 mg/kg, but the concentration of lead in duplicate sample SDSD2 was not significant. Mercury was detected in sample SDDRN1 at 1.84 mg/kg and in sample SDSD2 at 0.282 mg/kg, but the result for duplicate sample SDSD3 was not

Table 5-4
Sediment Sampling Results for Buse Timber and Sales, Inc.
May 25, 1994

	Union Slough Background Sediment	Storm Drain Catch Basin Sediment	Storm Drain Outfall Sediment	Storm Drain Outfall Sediment Duplicate	Union Slough Tidal Gate Sediment
Substance Detected	**SDUSBK5**	**SDDRN1**	**SDSD2**	**SDSD3**	**SDUS4**
Total Metals (mg/kg)					
Aluminum	17600	7410	3790	5030	14400
Antimony	3.2 J	3 UJ	3.4 J	5.6 J	3 UJ
Arsenic	15 J	8 J	6.7 J	7.7 J	10 J
Barium	61.2	51.2	63.9	69.3	45.6
Beryllium	0.41 J	0.15 J	0.13 J	0.15 J	0.33 J
Cadmium	0.29 J	0.56 J	1.9 J	2 J	0.23 J
Calcium	3770	3770	2770	2920	4540
Chromium	72.5	182	96.3	94.6	102
Cobalt	16.5	238	10.6	11.4	29.6
Copper	44.1	108	57.2	69.3	36.2
Iron	25900	13200	16700	18000	26900
Lead	11 J	57	39.9	56.2	13 J
Magnesium	9380	5300	2250	2880	8560
Manganese	385	188	144	153	263
Mercury	0.0694	1.84	0.282	0.159	0.103
Nickel	56.8	56.8	59	60.1	67.9
Potassium	1380	524	380 J	511	1380
Selenium	6.5 J	6 U	6 U	11 J	9.7 J
Sodium	440	378	797	952	3210
Thallium	5 U	5 U	5.2 J	5 U	7.4 J
Vanadium	53	32.3	18.1	22.7	45.4
Zinc	76.8	329	231	262	62.5
PCBs (ug/kg)					
Aroclor 1254	70 U	1000	460J	600 J	75 U

Notes:
Highlighted values indicate sample was detected at significant concentrations based on the criteria in Table 5-1.
J = Value is an estimate
U = Sample was undetected
ug = Microgram (1E-6 gram)
UJ = analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is an estimate

BUSE TIMBER SALES

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

Northwest Regional Office, 3190 - 160th Ave S.E. • Bellevue, Washington 98008-5452 • (206) 649-7000

October 19, 1992

Mr. Steve Fogg
Buse Timber and Sales, Incorporated
P.O. Box 5226
Everett, WA 98206

Dear Mr. Fogg:

Enclosed are the two documents we sent to Dave Buse indicating the Site Hazard Ranking of No Further Action by the Department of Ecology. Sometime in the future, there could be other actions or data could reveal that a cleanup is necessary, but at present, we have no intentions of pursuing clean-up activities on-site.

If you have any questions, or want the laboratory results of the sampling we did on-site, please call. My phone number is (206) 649-7135.

Sincerely,

Judith M. Aitken
Pre-Remedial Analyst
Toxics Cleanup Program

JMA:rs
Enclosures

State of Washington Department of Ecology
Manchester Environmental Laboratory
7411 Beach Dr. East Port Orchard WA. 98366

Data Review
August 5, 1992

Project: **Buse Timber & Sales**

Samples: 258030 258031

Laboratory: Columbia Analytical Services 3922

By: Stuart Magoon SM

Case Summary

These samples were received at the Manchester Environmental Laboratory on June 18, 1992, and transported to Columbia Analytical Services on June 22, 1992 for semivolatile (BNA) analysis.

These analyses were reviewed for qualitative and quantitative accuracy, validity, and usefulness.

There is no need to assimilate the "dilution factor" or "sample wt/vol" into the final values reported; these calculations have already been figured into the reported values.

DATA QUALIFIER DEFINITIONS

ND - The analyte was not detected at or above the reported result. (MRL)

NDJ - The analyte was not detected at or above the reported estimated result.

J - The associated numerical result is an estimated quantity.

NJ - There is evidence that the analyte is present. The associated numerical result is an estimate.

NR- Not reported.

Semivolatile analyses (BNA)

Holding Times:

These samples were extracted and analyzed within the SW-846 recommended holding times.

Method Blanks:

No target analytes were detected in the method blank.

GC/MS Tuning and Calibration:

Calibration against Decaflourotriphenylphosphine (DFTPP) is acceptable for the initial calibration, continuing calibration and all associated sample analyses.

Initial Calibration:

The initial calibration met the minimum response criteria of greater than 0.05 for the average relative response, and the percent deviation (%D) of less than 30% between the five different concentrations.

Continuing Calibration:

The average relative response factor (RRF) for all the target analytes were all above the minimums; and the percent deviation (%D) between the initial and continuing calibration standards was within the maximum of 25% , with a few exceptions. No quantitations of detected analytes were affected as a result of these outliers. All non-detected results for the analytes that are above the 25% deviation criteria have been qualified with an "NDJ".

Surrogates:

surrogate recoveries for these samples, and the method blank are acceptable and within quality control limits.

Sample Data:

The results are acceptable for use, with the added qualifiers where appropriate.

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Washington State Dept. of Ecology	**Date Received:**	06/22/92
Project:	Buse Timber & Sales SHA	**Work Order No.:**	K923922
Sample Matrix:	Soil		

CASE NARRATIVE

All analyses were performed in accordance with the quality assurance program of Columbia Analytical Services, Inc. Samples 258030 and 258031 were received for BNA analysis on June 22, 1992. Both samples, received in good condition, were extracted on June 23, 1992. Due to the sample matrix, both were brought to a final volume of 5.0 mL. The samples were initially analyzed on June 25, 1992, at 1:10 dilutions. Based on these analyses, the samples were reanalyzed on July 13, 1992, using no dilution factor past the final volume. Results are reported from the analyses done on July 13, 1992 only. Quantitation reports and chromatograms from the initial analyses are included in the raw data package.* The TIC determinations were difficult in that the unknown peaks were coeluting with a chromatographic "hump". Most TIC determinations were done by hand vs. automated. All surrogate and laboratory control sample QC parameters were within acceptance criteria.

* NO They were not. Sm

Approved by _____ Date 7-21-92

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Washington State Dept. of Ecology	**Date Received:**	06/22/92
Project:	Buse Timber & Sales SHA	**Date Extracted:**	06/23/92
Sample Matrix:	Soil	**Date Analyzed:**	07/13/92
		Work Order No.:	K923922

Base Neutral/Acid Semivolatile Organic Compounds
EPA Methods 3550/8270
mg/Kg (ppm)
Dry Weight Basis

Sample Name: 258030
Lab Code: K3922-1

Base Neutral Analyte	MRL*	Result	Base Neutral Analyte	MRL*	Result
N-Nitrosodimethylamine	1.4	ND	2,6-Dinitrotoluene	1.4	ND
Aniline	1.4	ND	Diethyl Phthalate	1.4	ND
Bis(2-chloroethyl) Ether	1.4	ND	4-Chlorophenyl Phenyl Ether	1.4	ND
1,2-Dichlorobenzene	1.4	ND	Fluorene	1.4	ND
1,3-Dichlorobenzene	1.4	ND	4-Nitroaniline	10	ND
1,4-Dichlorobenzene	1.4	ND	N-Nitrosodiphenylamine	1.4	ND
Bis(2-chloroisopropyl) Ether	1.4	ND	4-Bromophenyl Phenyl Ether	1.4	ND
N-Nitrosodi-n-propylamine	1.4	ND	Hexachlorobenzene	1.4	ND
Hexachloroethane	1.4	ND	Phenanthrene	1.4	ND
Nitrobenzene	1.4	ND	Anthracene	1.4	ND
Isophorone	1.4	ND	Di-n-butyl Phthalate	1.4	ND
Bis(2-chloroethoxy)methane	1.4	ND	Fluoranthene	1.4	ND
1,2,4-Trichlorobenzene	1.4	ND	Pyrene	1.4	ND
Naphthalene	1.4	ND	Butylbenzyl Phthalate	1.4	ND
4-Chloroaniline	1.4	ND	3,3'-Dichlorobenzidine	1.4	ND J
Hexachlorobutadiene	1.4	ND	Benz(a)anthracene	1.4	ND
2-Methylnaphthalene	1.4	ND J	Bis(2-ethylhexyl) Phthalate	1.4	2.7 J
Hexachlorocyclopentadiene	1.4	ND J	Chrysene	1.4	ND
2-Chloronaphthalene	1.4	ND	Di-n-octyl Phthalate	1.4	ND
2-Nitroaniline	10	ND	Benzo(b)fluoranthene	1.4	ND
Dimethyl Phthalate	1.4	ND	Benzo(k)fluoranthene	1.4	ND
Acenaphthylene	1.4	ND	Benzo(a)pyrene	1.4	ND
3-Nitroaniline	10	ND J	Indeno(1,2,3-c,d)pyrene	1.4	ND
Acenaphthene	1.4	ND	Dibenz(a,h)anthracene	1.4	ND
Dibenzofuran	1.4	ND	Benzo(g,h,i)perylene	1.4	ND
2,4-Dinitrotoluene	1.4	ND			

Acid Analyte	MRL*	Result	Acid Analyte	MRL*	Result
Phenol	1.4	ND	2,4-Dichlorophenol	1.4	ND
2-Chlorophenol	1.4	ND J	4-Chloro-3-methylphenol	1.4	ND
Benzyl Alcohol	1.4	ND	2,4,6-Trichlorophenol	1.4	ND
2-Methylphenol	1.4	ND	2,4,5-Trichlorophenol	1.4	ND
3- and 4-Methylphenol♦	1.4	ND	2,4-Dinitrophenol	10	ND
2-Nitrophenol	1.4	ND	4-Nitrophenol	10	ND
2,4-Dimethylphenol	1.4	ND	2-Methyl-4,6-dinitrophenol	10	ND
Benzoic Acid	10	ND	Pentachlorophenol	10	~~ND~~ 1.6 NJ

MRL Method Reporting Limit
* MRLs are elevated because of matrix interferences, because the sample(s) required diluting, and because of the low percent solids in the sample as received.
ND None Detected at or above the method reporting limit
♦ Quantified as 4-methylphenol.

Approved by _____ Date 7-21-92

00062

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Washington State Dept. of Ecology	**Date Received:**	06/22/92
Project:	Buse Timber & Sales SHA	**Date Extracted:**	06/23/92
Sample Matrix:	Soil	**Date Analyzed:**	07/13/92
		Work Order No.:	K923922

Base Neutral/Acid Semivolatile Organic Compounds
EPA Methods 3550/8270
mg/Kg (ppm)
Dry Weight Basis

Sample Name: 258031
Lab Code: K3922-2

Base Neutral Analyte	MRL*	Result	Base Neutral Analyte	MRL*	Result
N-Nitrosodimethylamine	1.6	ND	2,6-Dinitrotoluene	1.6	ND
Aniline	1.6	ND	Diethyl Phthalate	1.6	ND
Bis(2-chloroethyl) Ether	1.6	ND	4-Chlorophenyl Phenyl Ether	1.6	ND
1,2-Dichlorobenzene	1.6	ND	Fluorene	1.6	ND
1,3-Dichlorobenzene	1.6	ND	4-Nitroaniline	11	ND
1,4-Dichlorobenzene	1.6	ND	N-Nitrosodiphenylamine	1.6	ND
Bis(2-chloroisopropyl) Ether	1.6	ND	4-Bromophenyl Phenyl Ether	1.6	ND
N-Nitrosodi-n-propylamine	1.6	ND	Hexachlorobenzene	1.6	ND
Hexachloroethane	1.6	ND	Phenanthrene	1.6	ND
Nitrobenzene	1.6	ND	Anthracene	1.6	ND
Isophorone	1.6	ND	Di-n-butyl Phthalate	1.6	ND
Bis(2-chloroethoxy)methane	1.6	ND	Fluoranthene	1.6	ND
1,2,4-Trichlorobenzene	1.6	ND	Pyrene	1.6	1.6 J
Naphthalene	1.6	ND	Butylbenzyl Phthalate	1.6	ND
4-Chloroaniline	1.6	ND	3,3'-Dichlorobenzidine	1.6	ND J sm
Hexachlorobutadiene	1.6	ND	Benz(a)anthracene	1.6	ND
2-Methylnaphthalene	1.6	ND J sm	Bis(2-ethylhexyl) Phthalate	1.6	3.9 J sm
Hexachlorocyclopentadiene	1.6	ND J sm	Chrysene	1.6	ND
2-Chloronaphthalene	1.6	ND	Di-n-octyl Phthalate	1.6	ND
2-Nitroaniline	11	ND	Benzo(b)fluoranthene	1.6	ND
Dimethyl Phthalate	1.6	ND	Benzo(k)fluoranthene	1.6	ND
Acenaphthylene	1.6	ND	Benzo(a)pyrene	1.6	ND
3-Nitroaniline	11	ND J sm	Indeno(1,2,3-c,d)pyrene	1.6	ND
Acenaphthene	1.6	ND	Dibenz(a,h)anthracene	1.6	ND
Dibenzofuran	1.6	ND	Benzo(g,h,i)perylene	1.6	ND
2,4-Dinitrotoluene	1.6	ND			

Acid Analyte	MRL*	Result	Acid Analyte	MRL*	Result
Phenol	1.6	ND	2,4-Dichlorophenol	1.6	ND
2-Chlorophenol	1.6	ND J sm	4-Chloro-3-methylphenol	1.6	ND
Benzyl Alcohol	1.6	ND	2,4,6-Trichlorophenol	1.6	ND
2-Methylphenol	1.6	ND	2,4,5-Trichlorophenol	1.6	ND
3- and 4-Methylphenol♦	1.6	ND	2,4-Dinitrophenol	11	ND
2-Nitrophenol	1.6	ND	4-Nitrophenol	11	ND
2,4-Dimethylphenol	1.6	ND	2-Methyl-4,6-dinitrophenol	11	ND
Benzoic Acid	11	ND	Pentachlorophenol	11	sm ~~ND~~ 4.1 NJ

MRL Method Reporting Limit
* MRLs are elevated because of matrix interferences, because the sample(s) required diluting, and because of the low percent solids in the sample as received.
ND None Detected at or above the method reporting limit
♦ Quantified as 4-methylphenol.

Approved by _____ Date 7-21-92

00003

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Washington State Dept. of Ecology	**Date Received:**	06/22/92
Project:	Buse Timber & Sales SHA	**Date Extracted:**	06/23/92
Sample Matrix:	Soil	**Date Analyzed:**	07/13/92
		Work Order No.:	K923922

Tentatively Identified Compounds (TIC)

Base Neutral/Acid Semivolatile Organic Compounds
EPA Methods 3550/8270
mg/Kg (ppm)
Dry Weight Basis

Sample Name: 258030
Lab Code: K3922-1

CAS Number	TIC	Retention Time	Estimated Concentration
--	Unknown	9.93	2 NJ
--	Unknown	21.85	3
--	Unknown	23.21	4
--	Unknown	23.40	2
--	Unknown	24.77	10
--	Unknown	27.70	14
--	Unknown	29.84	17
--	Unknown	30.62	19
--	Unknown	31.20	33
--	Unknown	33.31	6
--	Unknown	33.58	28
--	Unknown	33.67	11
--	Unknown	34.25	5
--	Unknown	34.44	15
--	Unknown	34.69	22
--	Unknown	35.57	24
--	Unknown	36.80	14
--	Unknown	36.95	13
--	Unknown	37.85	13

Approved by _____ Date 7-21-92

00004

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Washington State Dept. of Ecology	**Date Received:**	06/22/92
Project:	Buse Timber & Sales SHA	**Date Extracted:**	06/23/92
Sample Matrix:	Soil	**Date Analyzed:**	07/13/92
		Work Order No.:	K923922

Tentatively Identified Compounds (TIC)

Base Neutral/Acid Semivolatile Organic Compounds
EPA Methods 3550/8270
mg/Kg (ppm)
Dry Weight Basis

Sample Name: 258031
Lab Code: K3922-2

CAS Number	TIC	Retention Time	Estimated Concentration
4537115	(1-Butylhexyl)benzene	17.24	7 NJ
4537148	(1-Pentylhexyl)benzene	18.41	14
4537159	(1-Butylheptyl)benzene	18.45	11
4536861	(1-Propyloctyl)benzene	18.57	9
4536672	(1-Ethylnonyl)benzene	18.82	6
--	Unknown Hydrocarbon	19.15	3
4536883	(1-Methyldecyl)benzene	19.26	4
2719622	(1-Pentylheptyl)benzene	19.56	17
2719633	(1-Butyloctyl)benzene	19.62	10
2719644	(1-Propylnonyl)benzene	19.76	9
2719611	(1-Methylundecyl)benzene	20.43	4
--	Unknown Hydrocarbon	20.65	3
--	Unknown	21.92	4
--	Unknown	23.22	4
57114	Octadecanoic Acid	24.10	14
--	Unknown	34.45	17
--	Unknown	35.60	12
--	Unknown	36.82	6
--	Unknown	36.99	4
--	Unknown	38.13	24

Approved by _____ Date 7-21-92

00005

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Washington State Dept. of Ecology	**Date Extracted:**	06/23/92
Project:	Buse Timber & Sales SHA	**Date Analyzed:**	07/01/92
Sample Matrix:	Soil	**Work Order No.:**	K923922

Base Neutral/Acid Semivolatile Organic Compounds
EPA Methods 3550/8270
mg/Kg (ppm)
Dry Weight Basis

Sample Name: Method Blank
Lab Code: K3922-MB

Base Neutral Analyte	MRL	Result	Base Neutral Analyte	MRL	Result
N-Nitrosodimethylamine	0.3	ND	2,6-Dinitrotoluene	0.3	ND
Aniline	0.3	ND	Diethyl Phthalate	0.3	ND
Bis(2-chloroethyl) Ether	0.3	ND	4-Chlorophenyl Phenyl Ether	0.3	ND
1,2-Dichlorobenzene	0.3	ND	Fluorene	0.3	ND
1,3-Dichlorobenzene	0.3	ND	4-Nitroaniline	2	ND
1,4-Dichlorobenzene	0.3	ND	N-Nitrosodiphenylamine	0.3	ND J
Bis(2-chloroisopropyl) Ether	0.3	ND	4-Bromophenyl Phenyl Ether	0.3	ND
N-Nitrosodi-n-propylamine	0.3	ND	Hexachlorobenzene	0.3	ND
Hexachloroethane	0.3	ND	Phenanthrene	0.3	ND
Nitrobenzene	0.3	ND	Anthracene	0.3	ND
Isophorone	0.3	ND	Di-n-butyl Phthalate	0.3	ND
Bis(2-chloroethoxy)methane	0.3	ND	Fluoranthene	0.3	ND
1,2,4-Trichlorobenzene	0.3	ND	Pyrene	0.3	ND
Naphthalene	0.3	ND	Butylbenzyl Phthalate	0.3	ND
4-Chloroaniline	0.3	ND	3,3'-Dichlorobenzidine	0.3	ND
Hexachlorobutadiene	0.3	ND	Benz(a)anthracene	0.3	ND
2-Methylnaphthalene	0.3	ND	Bis(2-ethylhexyl) Phthalate	0.3	ND
Hexachlorocyclopentadiene	0.3	ND	Chrysene	0.3	ND
2-Chloronaphthalene	0.3	ND	Di-n-octyl Phthalate	0.3	ND
2-Nitroaniline	2	ND	Benzo(b)fluoranthene	0.3	ND
Dimethyl Phthalate	0.3	ND	Benzo(k)fluoranthene	0.3	ND
Acenaphthylene	0.3	ND	Benzo(a)pyrene	0.3	ND
3-Nitroaniline	2	ND	Indeno(1,2,3-c,d)pyrene	0.3	ND
Acenaphthene	0.3	ND	Dibenz(a,h)anthracene	0.3	ND
Dibenzofuran	0.3	ND	Benzo(g,h,i)perylene	0.3	ND
2,4-Dinitrotoluene	0.3	ND			

Acid Analyte	MRL	Result	Acid Analyte	MRL	Result
Phenol	0.3	ND	2,4-Dichlorophenol	0.3	ND
2-Chlorophenol	0.3	ND	4-Chloro-3-methylphenol	0.3	ND
Benzyl Alcohol	0.3	ND	2,4,6-Trichlorophenol	0.3	ND
2-Methylphenol	0.3	ND	2,4,5-Trichlorophenol	0.3	ND
3- and 4-Methylphenol♦	0.3	ND	2,4-Dinitrophenol	2	ND
2-Nitrophenol	0.3	ND	4-Nitrophenol	2	ND
2,4-Dimethylphenol	0.3	ND	2-Methyl-4,6-dinitrophenol	2	ND
Benzoic Acid	2	ND	Pentachlorophenol	2	ND

MRL Method Reporting Limit
ND None Detected at or above the method reporting limit
♦ Quantified as 4-methylphenol.

Approved by _____ Date 7-21-92

00006

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Washington State Dept. of Ecology	**Date Received:**	06/22/92
Project:	Buse Timber & Sales SHA	**Date Extracted:**	06/23/92
Sample Matrix:	Soil	**Date Analyzed:**	07/13/92
		Work Order No.:	K923922

Surrogate Recovery Summary
Base Neutral/Acid Semivolatile Organic Compounds
EPA Methods 3550/8270

Sample Name	Lab Code	Percent Recovery					
		2FP	PHL	TBP	NBZ	FBP	TPH
258030	K3922-1	93	102	94	78	87	127
258031	K3922-2	89	97	94	71	86	127
EPA Acceptance Criteria		25-121	24-113	19-122	23-120	30-115	18-137

2FP 2-Fluorophenol
PHL Phenol-D_6
TBP 2,4,6-Tribromophenol
NBZ Nitrobenzene-D_5
FBP 2-Fluorobiphenyl
TPH Terphenyl-D_{14}

Approved by _____ Date 7-21-92

00008

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Washington State Dept. of Ecology	**Date Extracted:**	06/23/92
Project:	Buse Timber & Sales SHA	**Date Analyzed:**	07/01/92
Sample Matrix:	Soil	**Work Order No.:**	K923922

Surrogate Recovery Summary
Base Neutral/Acid Semivolatile Organic Compounds
EPA Methods 3550/8270

Sample Name	Lab Code	Percent Recovery					
		2FP	PHL	TBP	NBZ	FBP	TPH
Method Blank	K3922-MB	70	76	72	75	85	85
Laboratory Control Sample	K3922-LCS	69	71	72	73	83	88
EPA Acceptance Criteria		25-121	24-113	19-122	23-120	30-115	18-137

2FP 2-Fluorophenol
PHL Phenol-D_6
TBP 2,4,6-Tribromophenol
NBZ Nitrobenzene-D_5
FBP 2-Fluorobiphenyl
TPH Terphenyl-D_{14}

Approved by _____ Date 7-21-92

4247 South 12th Avenue • P.O. Box 479 • Kelso, Washington 98626 • Telephone 206/577-7222 • Fax 206/636-1068

EPA V

DATA ENTRY (ENTERED)

File	Date	Init.
STMASTER	3/10/92	BS
STDESC	3/10/92	BS
STADDRES		
STMILE		
EPA # ✓ Ltr f:le	3/13/92	BS

OWNER/OPERATOR SITE INFORMATION — WASHINGTON

Date of Last Update:

I. SITE ID

Region N NORTHWEST
County
Site No
Sub-Site No

HWICP ID N-31-5065-000
EPA ID #WAD009480542

Site Name BUSE TIMBER & Sales, Inc.
Alias Name(s)

II. SITE STATUS (STATE)

Site Status C
State Ranking

P1=HWICP Program Plan P2=Other Program Plan

Site Category:
A = Federal Lead NPL
B = State Lead NPL
C1= Confirmed Haz.Wst.Site
C2= Potential Haz.Wst.Site
L = Long Term Monitoring
N = No Haz.Wst. found
N = Cleanup (Remediation) Complete

III. LOCATION DESCRIPTION X

Site Location Address: 3812 28th Place N.E. Everett, WA 98206 (Smith Island)
Legislative District: 38 Congressional District: 2

Legal Description T/R-
Latitude Longitude

Geographic Location: PS Union Slough

Codes: CBN = Comm Bay Nearshore
CBS = Comm Bay So Tacoma Chnl
EB = Elliot Bay
HA = Hanford
HI = Harbor Island
PS = Other Puget Sound

IV. SITE STATUS (FEDERAL)

EPA HRS Score:
NPL Dates: Nomination Final Deletion
CERCLIS Status: (A = Active, N = No Further Action)

VI. SITE DESCRIPTION

Facility Active? A

Codes: A = Active M = Mixture
I = Inactive U = Unknown

Ownership Type / Operator Type /

Codes:
1= Private
2= Municipal
3= County
4= Federal
5= State
6= Tribal
7= Multiple Sites/Ownership
8= Other
9= Unknown
10= Public Ownership due to bankruptcy
11= Finc'al Inst. owned due to bankruptcy

Standard Industrial Classification (SIC) Code(s):
1. 2491 Lumber treatment + retail Sales
2. 5211 Lumber dealers
3.

Preliminary Assessment Rating:
H = High N = None
M = Medium P = Pending
L = Low Investigation

Site Inspection Recommendation:
Codes:
1=No Further Action
2=Referred to EPA for HRS Score
3=Referred to Ecology
4=Follow-up SI

VII. WASTE DESCRIPTION

Waste Management Practice(s):
1. Handling
2. Spills
3. Tank

Categories:
Landfill
Impoundment
Drum
Tank
Spill
Drug Lab
Pesticide Application
Pesticide Disposal
Land Application (proper)
Improper Handling
Storm Drain

General Waste Categories: (S = Suspected, C = Confirmed)

Halogenated Organic Compounds	
Metals-Priority Pollutants	
Metals-Other	
Polychlorinated Bi-Phenyls (PCB)	
Pesticides (incl. herbicides)	
Petroleum Products	C
Phenolic Compounds	
Non-Chlorinated Solvents	
Dioxin	
Polynuclear Aromatic Hydrocarbons	
Reactive Wastes	
Corrosive Wastes	
Radioactive Wastes	
Conventional Contaminants-Organic	
Conventional Contaminants-Inorganic	

no creosote ?

MJG 3/9/92

Contaminated Environments:

Ground Water	P
Surface Water	~~P~~
Air	U
Soil	
Sediment	
Drinking Water	U

Codes:
T = True
P = Potential
F = False
U = Unknown

Drinking Water Type:

Codes:
1 = Single-Family Residence
2 = Community Water Supply

QA 3/8/92

VIII. AUTHORITY

Legal Authority 1

Codes:
1=RCW 70.105B (Toxics Act)
2=RCW 70.105 (Haz. Wst. Mgmt.)
3=RCW 70.94 (WA Clean Air Act)
4=RCW 70.95 (Solid Wst. Mgmt.)
5=RCW 90.48 (Water Poll. Ctrl.)
6=RCRA
7=CERCLA
8=LUST
9=NPDES
10=TSCA

NW Regional Contact Person (first & last initial) JA
Other Ecology Contacts (initials) _____

VIV. SITE ADDRESSES

Address Type OW
Codes: OW=Owner OP=Operator
GE=Generator TR=Transporter

Former/Current (F/C) C

Site Ownership
Begin ___/___/___
End ___/___/___

Site Responsibility
Owner/Operator Responsible _____
Codes: Y=Yes N=No U=Unknown

Organization _____
Contact Dave Buse
Address P.O. Box 5226
Everett WA 98206
Phone 206/258-2577

Address Type _____
Codes: OW=Owner OP=Operator
GE=Generator TR=Transporter

Former/Current (F/C) _____

Site Ownership
Begin ___/___/___
End ___/___/___

Site Responsibility
Owner/Operator Responsible _____
Codes: Y=Yes N=No U=Unknown

Organization _____
Contact _____
Address _____
_____
Phone _____

Address Type _____
Codes: OW=Owner OP=Operator
GE=Generator TR=Transporter

Former/Current (F/C) _____

Site Ownership
Begin ___/___/___
End ___/___/___

Site Responsibility
Owner/Operator Responsible _____
Codes: Y=Yes N=No U=Unknown

Organization _____
Contact _____
Address _____
_____
Phone _____

OWNER/OPERATOR SITE INFORMATION — WASHINGTON DEPARTMENT OF ECOLOGY

Date of Last Update: —

I. SITE ID

Region	N	NORTHWEST
County	31	Snohomish
Site No	5065	
Sub-Site No	000	

HWICP ID: N-31-5065-000 EPA ID: WAD009480542

Site Name: Buse Timber & Sales, Inc.
Alternate Name(s): _____

II. SITE STATUS (STATE)

Site Status: __ _____ (P1=HWICP Program Plan)

Site Category: C1
A = Federal Lead NPL — C2= Potential Haz Wst Site — M = No Haz Wst Found
B = State Lead NPL — D = RA Complete (70.105B/MTCA) — N = RA Complete (Other Statutes)
C1= Confirmed State Site — L = Long Term Monitoring

III. LOCATION DESCRIPTION

Site Location Address: 3812 28th Place N.E.
Everett WA 98206
Legislative District: 38 Congressional District: 02

Township/Range/Section: T/R-
Latitude _____ Longitude _____

Geographic Location: PS OTHER PUGET SOUND

Codes: CBN = Comm Bay Nearshore; CBS = Comm Bay So Tacoma Chnl; EB = Elliot Bay; HA = Hanford; HI = Harbor Island; PS = Other Puget Sound

IV. SITE STATUS (FEDERAL)

EPA HRS Score: ____
NPL Dates: Nomination _____ Final _____ Deletion _____
CERCLIS Status: ___ (A = Active, N = No Further Action)

VI. SITE DESCRIPTION

Facility Active? A

Codes: A = Active; I = Inactive; M = Mixture; U = Unknown

Ownership Type 1 Operator Type 1

Codes:
1= Private; 2= Municipal; 3= County; 4= Federal; 5= State; 6= Tribal; 7= Multiple Sites/Ownership; 8= Other; 9= Unknown; 10= Public Ownership due to bankruptcy; 11= Fincial Inst. owned due to bankruptcy

Standard Industrial Classification (SIC) Code(s):
1. 2491 WOOD PRESERVING
2. 5211 Lumber Dealers
3. ____ _____

Preliminary Assessment Rating: ___ N/A
H = High; M = Medium; L = Low; N = None; P = Pending Investigation

Site Inspection Recommendation: ___
Codes:
1=No Further Action; 2=Referred to EPA for HRS Score; 3=Referred to Ecology; 4=Follow-up SI

VII. WASTE DESCRIPTION

Waste Management Practice(s):
1. IMPROPER HANDLING
2. SPILL
3. TANK

Categories: Drug Lab; Drum; Impoundment; Improper Handling; Land Application (proper); Landfill; Pesticide Application; Pesticide Disposal; Spill; Storm Drain; Tank

General Waste Categories: (S = Suspected, C = Confirmed, R = Remediated)

Halogenated Organic Compounds	___
Metals-Priority Pollutants	___
Metals-Other	___
Polychlorinated Bi-Phenyls (PCB)	___
Pesticides (incl. herbicides)	___
Petroleum Products	C
Phenolic Compounds	C
Non-Chlorinated Solvents	___
Dioxin	___
Polynuclear Aromatic Hydrocarbons (PAH)	___
Reactive Wastes	___
Corrosive Wastes	___
Radioactive Wastes	___
Conventional Contaminants-Organic	___
Conventional Contaminants-Inorganic	___
Base/Neutral Organics	___

Contaminated Media:

Ground Water	P	Codes: T = True; P = Potential; F = False; R = Remediated; U = Unknown
Surface Water	T	
Air	___	
Soil	T	
Sediment	T	
Drinking Water	___	

Drinking Water Type: ___
Codes: 1 = Single-Family Residence; 2 = Community Water Supply

INCIDENT DETAIL REPORT

Spill Program Integrated Information System - Printed: 06/24/2020

DEPARTMENT OF ECOLOGY State of Washington

INITIAL **INCIDENT#: 22136**

Report# 1 of 1

Incident Info:

Incident Date: 11/22/2014 **Incident#:** 22136 **ERTS#:** 653218
Report Date: 11/22/2014 11:08:00 AM **Incident Category:** Other Vessel Casualty
Received By **Official Notification?** N **After Hour?** N

Caller:

Name: WILL MILLER **Street Address:** 3812 28TH PL NE
Org/Bus. Name: BUSE TIMBER AND SALES **Other Address:**
Phone# (425) 239-5067 **Ext. Ref#** NRC #1101782 **City, State, Zip:** EVERETT, WA 98201
Email: **Is Caller Resp?** N **Confidential?** N

Location:

Location: BUSE AND TIMBER SALES **LAT:** **LONG:**
Street Address: 3812 28TH PL NE **Driving Direction:**
Other Address:
City, State, Zip EVERETT, WA 98201
County: SNOHOMISH **Region:** NWRO

What's happened:

VESSEL CASUALTY:

Involved Vessel	Vessel Type	Vessel IMO#	Other Reg. #	Regulate	Primary
	Other - Vessel			N	Y

***No Vessel Casualty Event Info.

Activity: STATIC OR PERFORMING DESIGNED FUNCTION **Impact:** WATER POLLUTION
Other Acttivity: **Does Not Effect WA:** N

PRP:

Contact Name	Entity Name	Phone Number	Email Address	Street Address	Pri?
	BUSE TIMBER AND SALES			3812 V28TH PL NE EVERETT, WA 98201	Y

Referral:

Name	Org. Name	Ref. Method	Ref. Date	Phone Number	Email Address	Pri?
John Rose AHR	SPILLS, PREVENTION, PREPAREDNESS AND RESPONSE	TELEPHONE	11/23/14	(425) 649-7230	john461@ecy.wa.gov	N

INCIDENT DETAIL REPORT

Spill Program Integrated Information System - Printed: 06/24/2020

Initial Info:

REPORT RECEIVED VIA NRC # 1101782:

CALLER STATED THAT A BOOM BOAT SUNK IN UNION SLOUGH CAUSING A DISCHARGE OF DIESEL FUEL.

NRC REPORT AVAILABLE ABLE:
X:\NWRO ERTS\ERTS Online Forms\2014\NRC_REPORTS

INCIDENT DETAIL REPORT

Spill Program Integrated Information System - Printed: 06/24/2020

DEPARTMENT OF ECOLOGY State of Washington

FOLLOW-UP **INCIDENT#: 22136**

Incident Info:

Case Name ERTS# 653218 - 11/22/2014
Incident Date: 11/22/2014
Inc. Category: Oil Spill,Other Vessel Casualty
Inc. Type#: **Status:** Open

Incident#: 22136
ANT#:
Potential Vessel Emerg? N

ERTS#: 653218
SIC/MIC#:
Tug Deployment? N
ECY Hired Contractor? N

Location:

Location: BUSE AND TIMBER SALES
Street Address: 3812 V28TH PL NE
Other Address:
City, State, Zip EVERETT, WA 98201
County: SNOHOMISH **Region:** NWRO

LAT: 48.02
Driving Direction:

LONG: -122.18

Response:

Name	Role	Action	Start Date	End Date	Overtime?
John Rose AHR	SOSC	TELEPHONE	11/22/14	11/22/14	Y

What's happened:

OIL:

Vessel/Facility	Source	Vessel IMO#	Regulate	Primary	Delvr/Recvr
	Other - Vessel - Other - Vessel		N	Y	

Material	Medium	Spill Qty	Unit	Rec. Qty	Rec. 24Hrs
DIESEL/MARINE GAS OIL	Fresh water	1.00	Gals	0.00	

VESSEL CASUALTY:

Involved Vessel	Vessel Type	Vessel IMO#	Other Reg. #	Regulate	Primary
	Other - Vessel			N	Y

***No Vessel Casualty Event Info.

Cause:

***No Cause Info.

Activity: STATIC OR PERFORMING DESIGNED FUNCTION
Other Activity:

Impact: WATER POLLUTION
Does Not Effect WA: N

INCIDENT DETAIL REPORT

Spill Program Integrated Information System - Printed: 06/24/2020

DEPARTMENT OF ECOLOGY State of Washington

Weather & Tracking:

Weather:		**Wind Speed:**		**Tide Stage:**	
Visibility:		**Wind Direction:**		**Tide Height:**	
Water Temp.		**Current:**		**Swell Height:**	
Temperature:		**Wave Height:**		**Swell Direction:**	
Sample Taken?	N	**Lab Analysis?**	N	**Entry By:**	SACAYANAN, TAMARA
Photo Taken?	N	**Document?**	N	**Entry Date:**	12/01/2014
PIO Involved?	N	**Interview?**	N	**Update By:**	SACAYANAN, TAMARA
Press Release?	N	**NOPLR?**	N	**Last Update:**	12/01/2014

PRP:

Contact Name	Entity Name	Phone Number	Email Address	Street Address	Pri?
	BUSE TIMBER AND SALES			3812 V28TH PL NE EVERETT, WA 98201	Y

Notification:

***No Notification Info.

***No TRAP Info.

Document:

***No Upload Document

Narrative:

Name: John Rose AHR	Last Update: 12/1/2014 1:19:00 PM

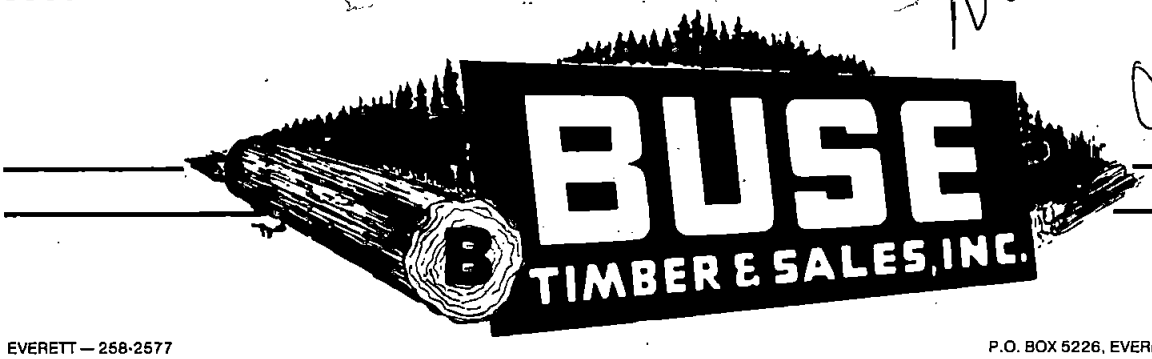
USCG CONTACTED REPORTING PARTY. CAUSE OF SINKING UNKNOWN. PRP HAD BOAT TOWED TO SHORE. VESSEL IS NOW OUT OF THE WATER. PRP DEPLOYED SAUSAGE BOOM. VESSEL HAD A 30 GALLON TANK, ESTIMATE LESS THAN 1 GALLON SPILLED WHEN VESSEL WAS SWAMPED. RESIDUAL 40FT X 1FT `SHINY` SHEEN ADJACENT TO SHORE. PRODUCT UNRECOVERABLE. A. QUAST AND H. ZORZI NOTIFIED.

DOUGLAS FIR HEMLOCK RED CEDAR

NW

011428

4700081



EVERETT — 258-2577

P.O. BOX 5226, EVERETT, WASHINGTON 98206

June 14, 1993

DEPARTMENT OF ECOLOGY
UNDERGROUND STORAGE TANKS
RECEIVED
JUN 22 1993

Department of Ecology
Underground Storage Tank Section
P.O. Box 47655
Olympia, Washington 98504-7655

RE: Site #011428

To whom it concerns:

The above referenced site was closed. The tank has been removed and the area filled prior to 1993.

Please send a tank closure packet.

Dave
PAC

Dave Buse
General Manager

DB:ks

UST COMMENTS SUMMARY FOR UST 11428

11428	BUSE TIMBER & SALES INC	3812 28TH PL NE PO BOX 5226	EVERETT	98206

	Site Comments
1/1/0001	KGB/TANK "DIP TANK" IS EXEMPT

Inspect Dt	Inspection Type	Inspection Comments

Enforce Dt	Enforcement	Enforcement Comments

Enforce Dt	Violation/Citation	Violation Comments

Service Dt	Service Event	Service Comments

Cleanup Site Details

Cleanup Site ID: 4340

Cleanup Site ID: 4340 **Facility/Site ID:** 2786 **UST ID:** 11428 Site Page | Site Documents | View Map

Cleanup Site Name: BUSE TIMBER & SALES INC Glossary

Alternate Names: BUSE TIMBER & SALES INC, Buse Timber Sales Everett

LOCATION

Address: 3812 28TH PL NE **City:** EVERETT **Zip Code:** 98205 **County:** Snohomish

Latitude: 48.02280 **Longitude:** -122.18247 **WRIA:** 7 **Legislative District:** 38 **Congressional District:** 2 **TRS:** 29N 5E 4

DETAIL

Status: No Further Action **NFA Received?** Yes **Is PSI site?** Yes

Statute: MTCA **NFA Date:** 8/30/1992 **Current VCP?** No **Past VCP?** No

Site Rank: N/A **NFA Reason:** SHA, IRAP, or VCP **Brownfield?** No

Site Manager: Aitken, Judy **Responsible Unit:** Northwest **Active Institutional Control?** No

CLEANUP UNITS

Cleanup Unit Name	Unit Type	Unit Status	Resp Unit	Unit Manager	Current Process
BUSE TIMBER & SALES INC	Upland	No Further Action Required	NW	Aitken, Judy	No Process

ACTIVE INSTITUTIONAL CONTROLS

Instrument Type	Restriction Media	Restrictions/Requirements	Date	Recording Number	Recording County	Tax Parcel
There are no current Institutional Controls in effect for this site.						

AFFECTED MEDIA & CONTAMINANTS

	MEDIA					
Contaminant	**Soil**	**Groundwater**	**Surface Water**	**Sediment**	**Air**	**Bedrock**
Base/Neutral/Acid Organics	R		S			
Polycyclic Aromatic Hydrocarbons	R		S			

Key:
B - Below Cleanup Level C - Confirmed Above Cleanup Level RA - Remediated-Above
S - Suspected R - Remediated RB - Remediated-Below

SITE ACTIVITIES

Activity	Status	Start Date	End Date/ Completion Date
Site Discovery/Release Report Received	Completed		3/10/1992
Site Status Changed to NFA	Completed		8/30/1992

Peter Mauk, NWRO, WA Dept of Ecology
4350 150 Ave N.E
Redmond, WA
Lewis - 98052

United States
Environmental Protection
Agency

Region 10
1200 Sixth Avenue
Seattle WA 98101

Alas
Idaho
Oregon
Washington

EPA

RECEIVED
MAR 25 1991
HEARING

RECEIVED
MAR 28 1991
DEPT. OF ECOLOGY

MARCH 25, 1991

Reply to
Attn of: SO-125

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Julian C. Dewell
Anderson Hunter Law Firm
P.O. Box 5397
Everett, Washington 98206

Re: In the Matter of Buse Timber & Sales, Inc.
Toxic Substances Control Act
Docket No. 1090-10-28-2615

Dear Mr. Dewell:

Enclosed is a conformed copy of the Consent Agreement and Consent Order For Payment of Civil Penalties (CACO) which the Regional Administrator signed on March 22, 1991. The original CACO is filed with the Regional Hearing Clerk.

As soon as we receive verification that the payment of $7,650 has been received by the bank in Pittsburgh we will close the case.

The Environmental Protection Agency thanks you for your cooperation in reaching a satisfactory resolution in this matter.

Sincerely,

Margaret B. Silver
Associate Regional Counsel

Enclosure

BEFORE THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

In the Matter of: BUSE TIMBER AND SALES, INC. Respondent.	Docket No. 1090-10-28-2615 CONSENT AGREEMENT AND CONSENT ORDER FOR PAYMENT OF CIVIL PENALTIES

I. PRELIMINARY STATEMENT

1. The United States Environmental Protection Agency ("EPA") initiated this proceeding for the assessment of a civil penalty pursuant to Section 16(a) of the Toxic Substances Control Act ("TSCA"), 15 U.S.C. § 2615(a), by issuing a Complaint against Respondent, Buse Timber and Sales, Inc., on November 9, 1990.

2. The Complaint charged Respondent with fourteen violations of the Polychlorinated Biphenyl ("PCB") provisions of TSCA Section 15 (15 U.S.C. § 2614) and 40 C.F.R. Part 761, and sought the imposition of a penalty of TWELVE THOUSAND DOLLARS ($12,000).

3. As a result of information exchanged during settlement negotiations, EPA and Respondent agreed to resolve

this matter by executing this Consent Agreement and Consent Order.

II. CONSENT AGREEMENT

4. Respondent admits the jurisdictional allegations contained in the Complaint.

5. Respondent neither admits nor denies the factual allegations, findings, or conclusions of law contained in the Complaint.

6. The parties agree that on June 13, 1990, an EPA inspection was performed at Respondent's facility located in Everett, Washington.

7. In conformance with EPA's PCB Penalty Policy, dated April 9, 1990, EPA and Respondent agree to mitigate the penalty proposed in the Complaint as follows:

a. Respondent has been cooperative and took prompt action to respond to the Complaint and settle this matter voluntarily. Accordingly, the proposed penalty is reduced by 15 percent, or ONE THOUSAND EIGHT HUNDRED DOLLARS ($1,800).

b. Respondent removed at least seven PCB Capacitors, incurring disposal costs of at least FIFTY-ONE HUNDRED DOLLARS ($5,100), and provided documentation that this equipment was disposed of in accordance with all applicable laws and regulations. On account of these expenditures, the proposed penalty attributable to the violations associated with the capacitors located in the

Planer Control Center is reduced by 50 percent, or TWO THOUSAND FIVE HUNDRED FIFTY DOLLARS ($2,250). (NOTE: No credit for disposal costs was given towards the proposed penalty attributable to the violations associated with the pole capacitors since use of capacitors in this manner is not authorized.)

8. Respondent waives its right to request an adjudicatory hearing on any issue addressed in this Consent Agreement and Consent Order.

9. Respondent agrees not to claim or attempt to claim a federal income tax deduction or credit covering all or any part of the civil penalty paid to the United States Treasurer.

10. Respondent and EPA agree to the issuance of the Consent Order below, and Respondent consents to the assessment of the civil penalty specified therein.

III. CONSENT ORDER

IT IS HEREBY ORDERED and ADJUDGED as follows:

11. For the reasons set forth above, Respondent is hereby assessed a penalty in the amount of SEVEN THOUSAND SIX HUNDRED FIFTY DOLLARS ($7,650).

12. Respondent shall pay the penalty amount in full no later than 30 days from the entry date of this Consent Order by mailing a certified check or money order, payable to the United States Treasurer, to:

U.S. Environmental Protection Agency, Region 10
(Region 10 Hearing Clerk)
P.O. Box 360903M
Pittsburgh, Pennsylvania 15251

A transmittal letter, giving Respondent's name, complete address, and this case docket number must accompany each payment. A copy of the check and of the transmittal letter shall be delivered or mailed to the Regional Hearing Clerk at the following address:

U.S. Environmental Protection Agency
Region 10 Hearing Clerk
1200 Sixth Avenue, SO-125
Seattle, Washington 98101

13. If Respondent fails to pay the stipulated penalty when due, any unpaid amount may be liquidated and made certain by motion and notice filed with the court to which this Consent Order is submitted for judgment and collection. Such motion and notice may be served on the Respondent or its current legal representative herein and shall be effective if so served. Pursuant to TSCA Section 16(a)(4), 15 U.S.C. § 2615(a)(4), the validity, amount, and appropriateness of the penalty is not subject to review in any judicial collection proceedings.

14. On any amount overdue under this Consent Agreement and Consent Order, interest shall accrue at the rate established by the Secretary of the Treasury pursuant to 31 U.S.C. § 3717. Interest will begin to accrue from the date the payment was due.

15. Each party shall bear its own costs, fees, and disbursements in this action.

16. This document is a "consent order" as that term is used in the PCB Penalty Policy, dated April 9, 1990, for the purposes of demonstrating a "history of prior such violations" as provided in Section 16 of TSCA, 5 U.S.C. § 2615.

DATED this 22 day of March, 1991.

Dana A. Rasmussen

DANA A. RASMUSSEN
Regional Administrator

Stipulated, Agreed, and Approved for Entry, Waiving Notice:

BUSE TIMBER AND SALES, INC.

Dated: _____

David R. Buse

(signature)

David R. Buse

(print or type name and title)

Gen. Mgr.

U.S. ENVIRONMENTAL PROTECTION AGENCY

Dated: March 21, 1991

Deborah E. Hilsman for

MARGARET B. SILVER
Associate Regional Counsel

U.S. EPA REGION 10

NEW FAX NUMBER

AIR AND TOXICS
DIVISION

FAX: (206) 442-0110
FTS 399-0110

TO CONFIRM YOUR FAX, CALL THE PERSON YOUR FAX WAS SENT TO.

TO: Peter Maule
PHONE NUMBER: 867-7015
CITY, STATE / REGION: WDOE Redmond

FAX NUMBER: 867-7098

FROM: Eileen Hayes
PHONE NUMBER: 442-2584
CITY, STATE / REGION: EPA Region 10

TOTAL PAGES: 4

PLEASE CALL ME WHEN YOU RECEIVE A FAX

ADDITIONAL REGION 10 FAX NUMBERS:

FOR FAX INFORMATION CALL (206) 442-4141 FOR THE FAX OPERATOR. GENERAL FAX # (206) 442-4672

Regional Administrator Press Office Congressional Activities Office of Enforcement Office of Criminal Investigation	(206) 442-0149 FTS 399-0149	Management Division	(206) 442-4672 FTS 399-4672
		Office of Regional Counsel	(206) 442-0163 FTS 399-0163
Air and Toxics Division Pesticides Branch	(206) 442-0110 FTS 399-0110	Superfund Branch RCRA Branch Hazardous Waste Policy	(206) 442-0124 FTS 399-0124
Environmental Services	(206) 442-0119 FTS 399-0119	Water Division	(206) 442-0165 FTS 399-0165

U.S. EPA – REGION 10, 1200 - 6TH AVE., SEATTLE WA 98101

Reply To
Attn Of: AT-083

CERTIFIED MAIL

Delbert Buse, President
Buse Timber and Sales, Inc.
P.O. Box 5226
Everett, Washington 98206

Dear Mr. Buse:

This concerns the June 13, 1990 Environmental Protection Agency (EPA) inspection of Buse Timber and Sales, Inc. located at 3812 28th Place N.E., Everett, Washington, which was performed by Peter Maule of the Washington Department of Ecology pursuant to Sections 11 and 28 of the Toxic Substances Control Act (TSCA). This inspection was conducted to determine whether activities at the facility were in compliance with EPA Regulations governing polychlorinated biphenyls (PCBs), 40 C.F.R. Part 761.

A review of the results of the inspection has been completed. On the basis of this review, it appears that certain violations of EPA regulations occurred at the facility. They are as follows:

VIOLATIONS ONE THROUGH SEVEN

REQUIREMENT - ASSUMPTION: Under 40 C.F.R. § 761.60(b)(2), any capacitor, other than one known to be oil-filled, that cannot be shown to be PCB-free by examining label or nameplate information, is assumed to be a PCB Capacitor. See also 44 Fed. Reg. 31522 (May 31, 1979).

REGULATION - MARKING: 40 C.F.R. § 761.40 requires that all PCB Containers, PCB Transformers, Large PCB Capacitors, and PCB storage for disposal areas be marked in accordance with 40 C.F.R. § 761.45. A 6 inch by 6 inch PCB label is required, except when the equipment is too small to accommodate the standard 6 inch by 6 inch label. In such case, the label may be reduced in size proportionately to a minimum of 2 inches by 2 inches.

VIOLATIONS ONE THROUGH FOUR: The four PCB Capacitors located in the Planer Control Center were not marked with the required PCB label.

VIOLATIONS FIVE THROUGH SEVEN: The three imputed PCB Capacitors located in the facility's substation were not marked with the required PCB labels.

VIOLATIONS EIGHT THROUGH FOURTEEN

REGULATION - USE: 40 C.F.R. § 761.30(l)(1)(ii) requires that after October 1, 1988, the use of PCB Large High Voltage Capacitors and PCB Large Low Voltage Capacitors is prohibited unless the capacitor is used within a restricted-access electrical substation or in a contained and restricted-access indoor installation. A restricted-access electrical substation is an outdoor, fenced or walled-in facility that restricts public access and is used in the transmission or distribution of electric power. A contained and restricted-access indoor installation does not have public access and has an adequate roof, walls, and floor to contain any release of PCBs within the indoor location.

VIOLATIONS EIGHT THROUGH ELEVEN: The four PCB Capacitors that are the subject of Violations One through Four were not authorized for use in that the area where the capacitors were located did not meet the requirements of a restricted-access indoor installation: the wooden floor beneath the capacitors would not contain any release of PCBs.

VIOLATIONS TWELVE THROUGH FOURTEEN: The three imputed PCB Capacitors that are the subject of Violations Five through Seven were not authorized for use in that the area where the capacitors were in service did not meet the requirements of a restricted-access electrical substation: there was no fence or wall to restrict public access.

The Agency believes that these conditions constitute a potential threat to human health and the environment. For this reason, you should immediately take the following steps, if you have not already done so:

1. Insure that all areas containing in-service PCB Capacitors (known or imputed) meet the requirements of 40 C.F.R. § 761.30(l)(1)(ii).

2. Insure that all Large PCB Capacitors are marked with the required PCB label.

In addition, Mr. Maule's report indicates that your facility owns an untested pole-mounted transformer. You should also be aware that a transformer must be assumed to be a PCB Transformer (500 parts per million PCB or greater) if any one of the following conditions exists:

1. The nameplate indicates the transformer contains PCB dielectric fluid;

2. The owner or operator has reason to believe the transformer contains PCB dielectric fluid; or

3. The transformer has been tested and found to contain greater than 500 ppm PCBs. If a transformer does not have nameplate or if there is no information available to indicate the type of dielectric fluid

in it, the transformer must be assumed to be a PCB Transformer unless it is tested and found to contain less than 500 ppm PCB (emphasis added).

All assumed to be PCB Transformers must meet all of the regulatory requirements for PCB Transformers, including, but not limited to, inclusion on Annual Reports, quarterly inspections, disposal, marking, and response to spills and leaks. However, if the transformer is known to contain mineral oil, it must be assumed to be a PCB-Contaminated Transformer rather than a PCB Transformer.

You should be advised that TSCA authorizes penalties of up to $25,000 per day for each violation. Criminal penalties are authorized for knowing and wilful violations of the law. Correcting the conditions noted in this letter may prevent future violations. However, it will not provide protection from Agency enforcement action for those violations that have already occurred. Nothing in this letter should be construed to waive or limit any remedy available to EPA by virtue of conditions at your facility or the acts or omissions of your company. We are referring this case to EPA's Region 10 Office of Regional Counsel for possible enforcement action. In this regard, you will be receiving further correspondence from EPA.

Please understand that the aforementioned steps are being recommended to avoid risk to health and the environment. Your company bears the ultimate responsibility for taking all steps necessary to comply with the law. If you have any information or test results which bear on this inspection, you should advise us. If you have any questions regarding this letter, please contact Eileen Hayes of my staff. She can be reached at EPA Region 10, 1200 Sixth Avenue, AT-093, Seattle, Washington 98101, telephone (206) 442-2584.

Sincerely,

Gil Haselberger, Chief
Toxic Substances Section

cc: Bill Danson, EPA HQ, EN-342

bcc: Eileen Hayes, Author
Firm File (w/Certified Slip); FTTS Project
Peter Maule, Inspector
Julie Hagenson, Washington Operations Office Director
ORC (goes with Referral Memo)

PTSB:eh/eh/rc:4486k:09/19;10/10/90

		Concurrences					
Initial	[illegible]						
Name	HAYES	HEDGEBETH	MAULE				
Date	10/10/90						

United States
Environmental Protection
Agency

Region 10
1200 Sixth Avenue
Seattle WA 98101

Alaska
Idaho
Orego
Washington

EPA

FILE COPY

Reply To
Attn Of: AT-083

OCT 19 1990

RECEIVED
OCT 23 1990
DEPT. OF ECOLOGY

CERTIFIED MAIL

Delbert Buse, President
Buse Timber and Sales, Inc.
P.O. Box 5226
Everett, Washington 98206

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3. The transformer has been tested and found to contain greater than 500 ppm PCBs. If a transformer does not have nameplate or if there is no information available to indicate the type of dielectric fluid

in it, the transformer must be assumed to be a PCB Transformer unless it is tested and found to contain less than 500 ppm PCB (emphasis added).

All assumed to be PCB Transformers must meet all of the regulatory requirements for PCB Transformers, including, but not limited to, inclusion on Annual Reports, quarterly inspections, disposal, marking, and response to spills and leaks. However, if the transformer is known to contain mineral oil, it must be assumed to be a PCB-Contaminated Transformer rather than a PCB Transformer.

You should be advised that TSCA authorizes penalties of up to $25,000 per day for each violation. Criminal penalties are authorized for knowing and wilful violations of the law. Correcting the conditions noted in this letter may prevent future violations. However, it will not provide protection from Agency enforcement action for those violations that have already occurred. Nothing in this letter should be construed to waive or limit any remedy available to EPA by virtue of conditions at your facility or the acts or omissions of your company. We are referring this case to EPA's Region 10 Office of Regional Counsel for possible enforcement action. In this regard, you will be receiving further correspondence from EPA.

Please understand that the aforementioned steps are being recommended to avoid risk to health and the environment. Your company bears the ultimate responsibility for taking all steps necessary to comply with the law. If you have any information or test results which bear on this inspection, you should advise us. If you have any questions regarding this letter, please contact Eileen Hayes of my staff. She can be reached at EPA Region 10, 1200 Sixth Avenue, AT-093, Seattle, Washington 98101, telephone (206) 442-2584.

Sincerely,

William M. Hedgebeth

for Gil Haselberger, Chief
Toxic Substances Section

cc: Bill Danson, EPA HQ, EN-342

TSCA INSPECTION REPORT
Buse Timber and Sales, Inc.
Everett, Washington
June 13, 1990

MAILING ADDRESS:

Mr. Delbert (Del) Buse, Pres.
Buse Timber and Sales, Inc.
P.O. Box 5226
Everett, WA 98206

SITE ADDRESS:

3812 - 28th Place NE
Everett, WA 98206

INVESTIGATOR:

Peter Maule, Washington Dept. of Ecology, NWRO (Ecology).

PREVIOUS TSCA ENFORCEMENT ACTIVITY/BACKGROUND:

This facility was targeted by Ecology from a list of primary power customers provided by Snohomish County PUD. That list named the facility as "Smith Street Lumber Mill", further investigation suggested that this facility was misnamed in that list. EPA-X reports that this facility has not received a prior TSCA inspection.

COMMENCEMENT/INTRODUCTION:

I entered the facility at about 1130 hrs, June 13, 1990. I showed my credentials to Mr. Dennis Buckner, Maintenance Supervisor. We arranged to meet after lunch. I returned at 1330 hrs, then he and I attended to the usual inspection forms. He did not want to sign the CBI form. I left it with him to have signed and to be mailed to me, as agreed.

FACILITY'S EXPLANATION:

Mr. Buckner has worked in maintenance for other forest product firms for many years and was involved with a transformer oil spill before working for Buse. He claimed he has since been sensitive to PCB issues. He has worked for Buse for three years. He and his head electrician, Brian Fakenridge, took it upon themselves to recently sample Buse's main transformers, and to have them analyzed for PCBs by Laucks Testing Laboratories, Inc. in Seattle. Coincidentally, those analyses had been received the week prior to my inspection. Six transformers owned by Buse had been sampled. Only two of these proved to have detectable PCBs; they are known as: "West 2 transformer", (G.E.), 3.0 ppm PCBs, and "West 3 transformer", (G.E.), 3.6 ppm PCBs, (see attachment and photos).

These six transformers are clustered on two adjacent raised platforms. Mr. Buckner said one of these six has a small leak from its lid gasket. When I asked about a smaller pole-mount transformer at the same location, he said it was not tested and its contents are unknown (see photos). He also did not know the contents of three new-looking capacitors mounted above these same six transformers. These transformers perhaps dated from the 1946 origin of Buse.

FACILITY'S EXPLANATION: (continued)

Elsewhere, Mr. Buckner later pointed out two other small pole-mount lighting transformers. He did not know if Buse owned these or what their content is.

Snohomish County PUD also has a substation at the facility which is leased by Buse. It has three transformers. Buse is responsible for maintenance of these transformers, but Mr. Buckner had no information regarding them. He said they have required no attention since he has been there (see photos).

Mr. Buckner said the facility was planning a mid-July shut down, in part for G.E. to retrofill and service Buse's transformers. He and the electrician had taken the preliminary samples to prepare for that shutdown.

He said the facility also had a number of other capacitors and two oil-filled "starter switches" (as he called them). Later I saw that one of these "starter switches" was a G.E. voltage regulator transformer (see photos).

Mr. Buckner indicated he enjoyed working for Buse because its management was better and more enlightened towards environmental concerns.

RECORD REVIEW:

No annual reports, quarterly inspections, or manifests were reviewed. It apparently is only very recently that Buse had any files on its transformers, when it received the June 9, 1990, lab analyses (see attachments).

INSPECTION TOUR:

While Mr. Buckner pondered the CBI form and made copies of the lab analyses for me, I took pictures of the PUD's substation three transformers and of Buse's substation (seven transformers and three capacitors). Both substations were a few yards from his office. I noted that the three westerly Buse transformers were old-looking 176 KVA (old looking) G.E. transformers. The three easterly ones were old-looking Allis-Chalmers transformers. The middle Allis-Chalmers transformer appeared to have a weep stain from its lid gasket (see photos).

Mr. Buckner then led me into the main sawmill to show me a free-standing component that he called "the capacitor at the Main Sawmill Distribution Panel". I suspect there may be a number of capacitors housed in this 2 x 2 x 4 foot high housing. Its boiler-plate had been covered with paint and was not readable (see photos).

We then went to see a similar component called "the capacitor at the Head Rig Band Mill Meter". This component's boiler-plate was partly covered with paint.

INSPECTION TOUR: (continued)

When Mr. Buckner, of his own initiative, scraped much of the paint off, the label was only legible enough to read: G.E...Schenectady, New York. I do not believe the word "Pyranol" was on the label (see photos).

We then went around a corner to see the "Chipper Starter", which Mr. Buckner had earlier analyzed for PCBs. He explained that a lower compartment, that appeared to snap onto the starter's base, is oil-filled (see photos).

We then went to the Planer Control Center in another building where another "starter" was shown to me. I photographed a G.E. boiler-plate which read "voltage regulator transformer". I also saw a bank of four old capacitors with paint splattered labels. While I photographed the "starter", Mr. Buckner found some steel wool and cleaned the capacitor labels. They turned out to be G.E. Pyranol Capacitors. They were not labelled with a ML label, nor was the entry to the room labelled, nor were the capacitors contained. Although old, they seemed in good working order without any leaks (see photos).

As I was about to leave, Mr. Buckner pointed out two distant small pole transformers on two poles (see photos). He did not know if Buse or the PUD owned them.

CLOSING REMARKS:

I told Mr. Buckner that EPA would want to know what the unknown contents were of the two floor-mount capacitors components and of the three pole-mount capacitors of the Buse owned substation, and of the three small pole-mount transformers. I failed to mention the labelling requirements on the known PCB (e.g. Pyranol) equipment. I advised him to notify the local fire department about facility PCB equipment. I thanked Mr. Buckner for his assistance and explained EPA-X's usual inspection follow up. I left the facility at about 1515 hrs.

FOLLOW UP:

I called Mr. Buckner on June 14, 1990, but was only able to leave a message for him to call me. On June 19, 1990, I again called him to remind him of the information needs and to send me the CBI form and to discuss possible labelling requirements. I advised him to contact EPA-X directly to get TSCA summaries and further advice.

On July 9, 1990, I called Snohomish County PUD and asked to provide PCB analyses and any related information about its substation at Buse. I called again on July 12, 1990, and learned that the responsible person was on vacation for most of the month. To complete my report, I opted to write a letter to the PUD (see attachments).

WRITTEN:

2315 hrs, June 13, 1990, Kirkland, Washington. Amended July 13, 1990.

Peter A. Maule
Regional TSCA Inspector

ATTACHMENTS:

Notice of Inspection
Inspection Confidentiality Notice
13 Photos
Copy of Laboratory Analysis

PM:sw

PHOTO NO.: 1

DATE: 6/13/90

TIME: 1300-1450 hrs

TAKEN BY:

Peter A. Maule

WITNESS:

D. Buckner

FILM: Kodacolor 400

CAMERA: Canon T-70

LOCATION:

Buse Timber

DESCRIPTION:

Four poles in foreground support seven Buse owned transformers and three capacitors. Three dark transformers at left center are G.E.; three lighter gray transformers at right center are Allis Chalmers, (see photo 2). Note: PUD substation enclosure in lower-right background, (see photo 3).

PHOTO NO.: 2

DATE: 6/13/90

TIME: 1300-1450 hrs

TAKEN BY:

Peter A. Maule

WITNESS:

B. Buckner

FILM: Kodacolor 400

CAMERA: Canon T-70

LOCATION:

Buse Timber

DESCRIPTION:

Near-opposite view of Buse transformers. Also, note small pole-mount transformer at upper-right and three capacitors near center of photo.

PHOTO NO.: 3

DATE: 6/13/90

TIME: 1300-1450 hrs

TAKEN BY:

Peter A. Maule

WITNESS:

D. Buckner

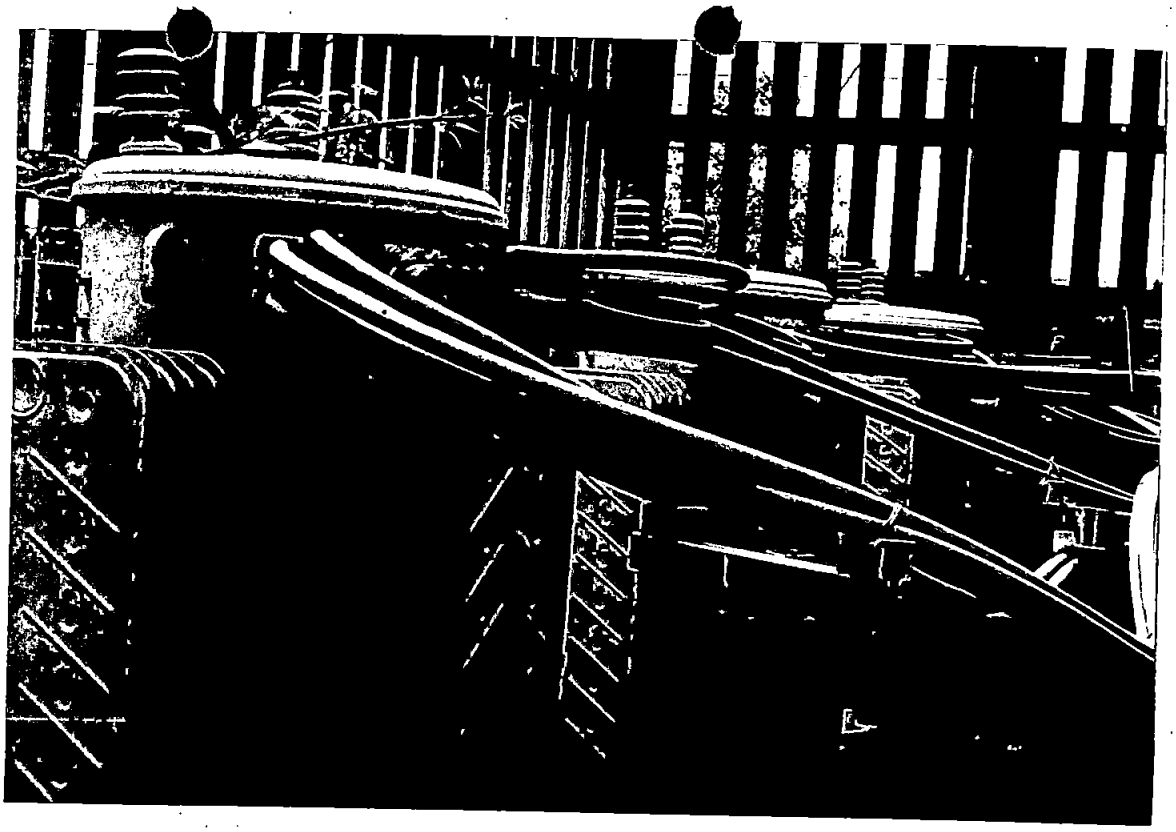
FILM: Kodacolor 400

CAMERA: Canon T-70

LOCATION:

Buse Timber

DESCRIPTION:



Looking into PUD substation, showing three transformers.

PHOTO NO.: 4

DATE: 6/13/90

TIME: 1300-1450 hrs

TAKEN BY:

Peter A. Maule

WITNESS:

D. Buckner

FILM: Kodacolor 400

CAMERA: Canon T-70

LOCATION:

Buse Timber

DESCRIPTION:

Capacitor at the Main Sawmill Distribution Panel" is blue component on short legs near center of photo (see photo 5).

PHOTO NO.: 5

DATE: 6/13/90

TIME: 1300-1450 hrs

TAKEN BY:

Peter A. Maule

WITNESS:

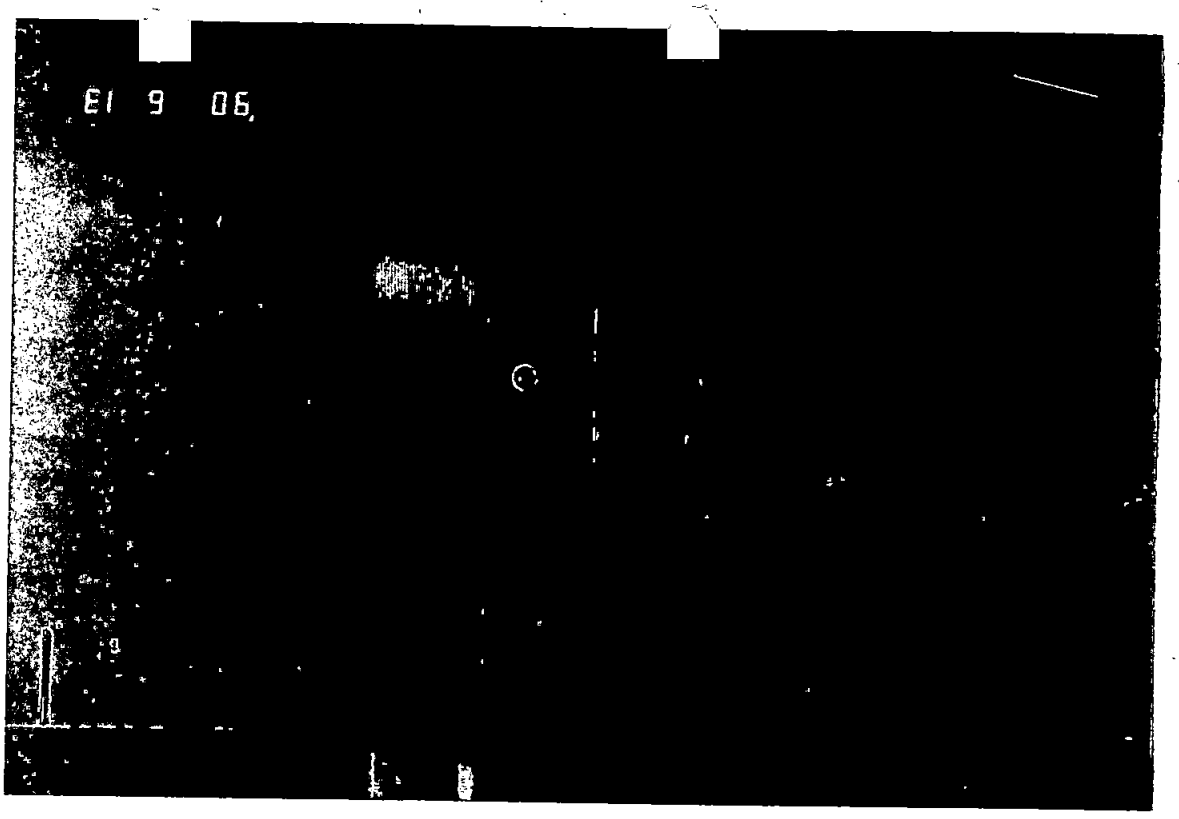
D. Buckner

FILM: Kodacolor 400

CAMERA: Canon T-70

LOCATION:

Buse Timber



DESCRIPTION:

Close-up of same capacitor, at Main Sawmill Distribution Panel. Note painted-over boiler-plate.

PHOTO NO.: 6

DATE: 6/13/90

TIME: 1300-1450 hrs

TAKEN BY:

Peter A. Maule

WITNESS:

B. Buckner

FILM: Kodacolor 400

CAMERA: Canon T-70

LOCATION:

Buse Timber

DESCRIPTION:

"Capacitor at the Head Rig Band Mill Moter" is in background near center of photo. Size and shape is perhaps identical to capacitor shown in Photos 4 and 5 (see photo 7).

PHOTO NO.: 7

DATE: 6/13/90

TIME: 1300-1450 hrs

TAKEN BY:

Peter A. Maule

WITNESS:

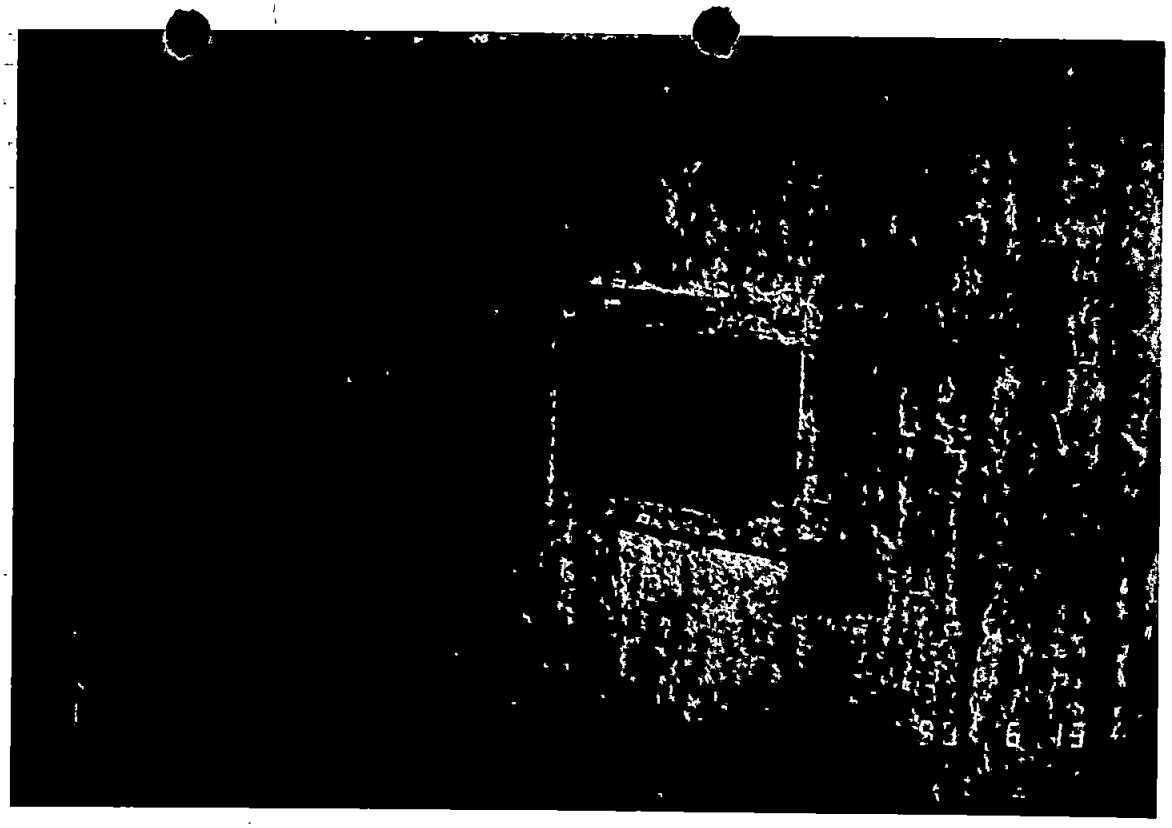
D. Buckner

FILM: Kodacolor 400

CAMERA: Canon T-70

LOCATION:

Buse Timber



DESCRIPTION:

Scraped name-plate of "capacitor at the Head Rig Band Mill Moter." See text.

PHOTO NO.: 8

DATE: 6/13/90

TIME: 1300-1450 hrs

TAKEN BY:

Peter A. Maule

WITNESS:

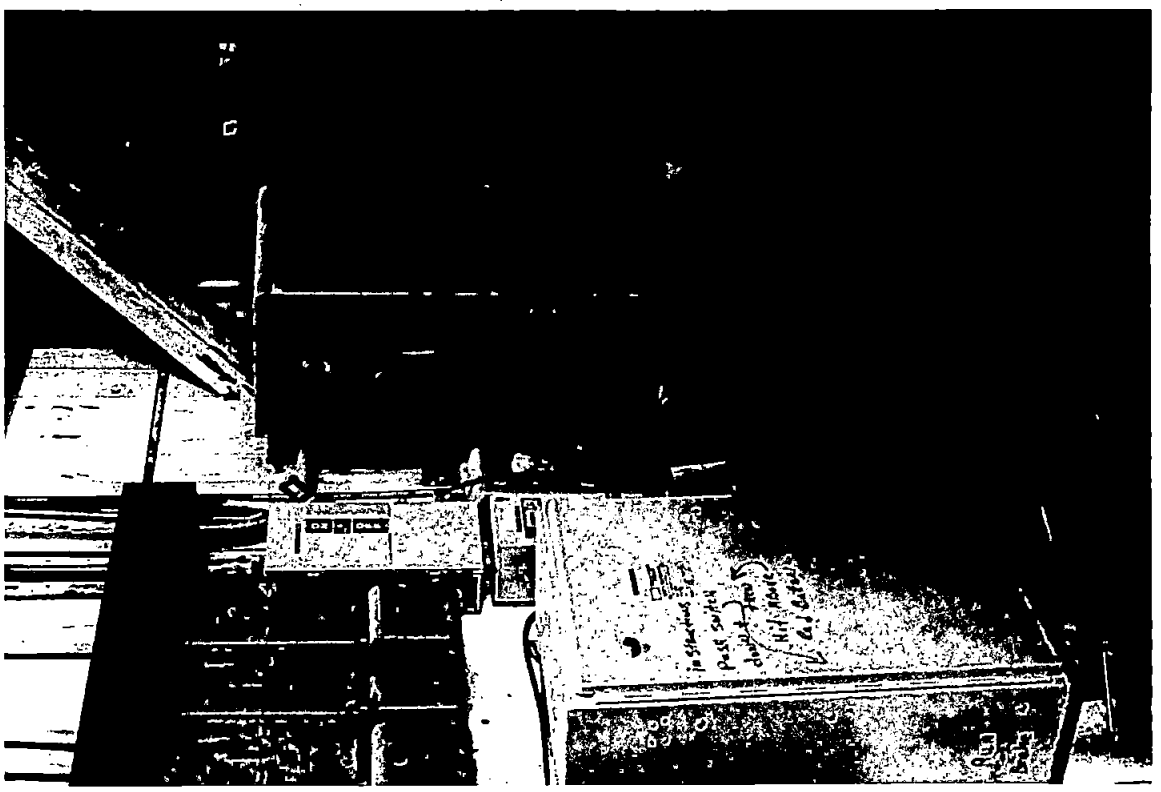
B. Buckner

FILM: Kodacolor 400

CAMERA: Canon T-70

LOCATION:

Buse Timber



DESCRIPTION:

"Chipper Starter", right center. Reported oil bath compartment appears to snap onto bottom of starter.

PHOTO NO.: 9

DATE: 6/13/90

TIME: 1300-1450 hrs

TAKEN BY:

Peter A. Maule

WITNESS:

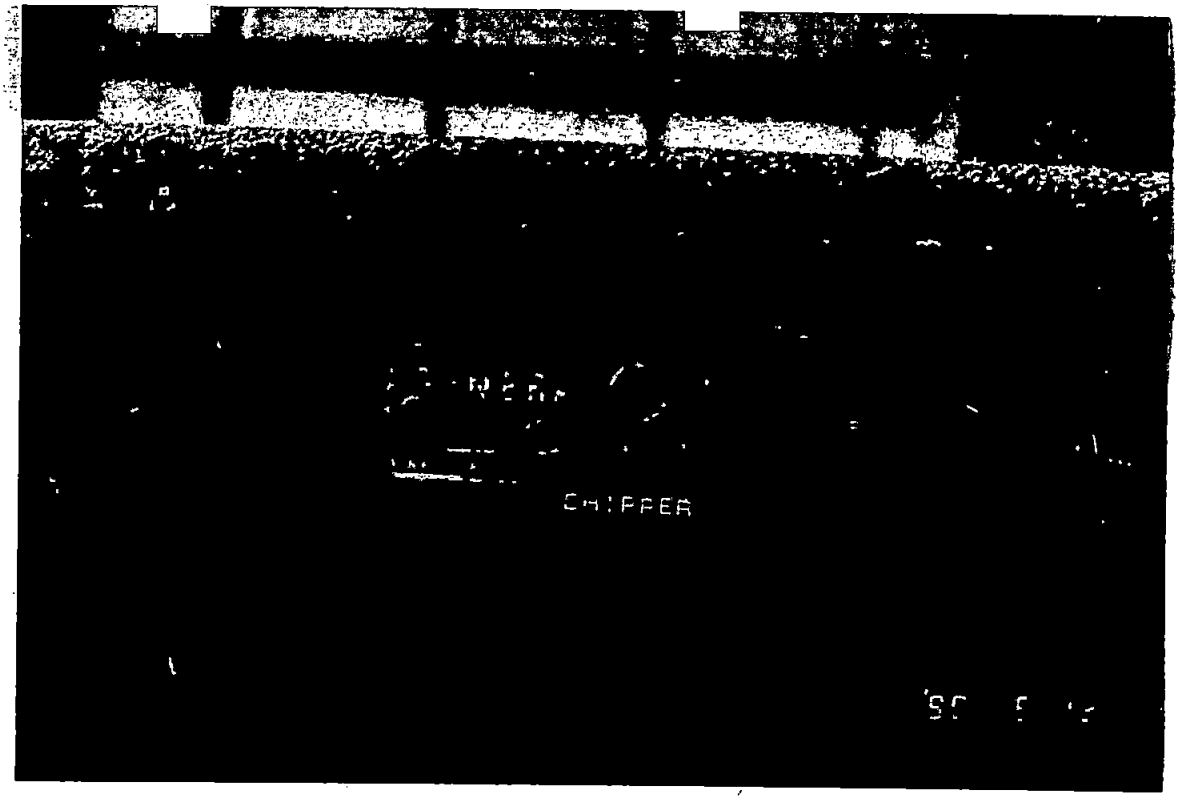
D. Buckner

FILM: Kodacolor 400

CAMERA: Canon T-70

LOCATION:

Buse Timber



DESCRIPTION:

Detail of "Chipper Starter".

PHOTO NO.: 10

DATE: 6/13/90

TIME: 1300-1450 hrs

TAKEN BY:

Peter A. Maule

WITNESS:

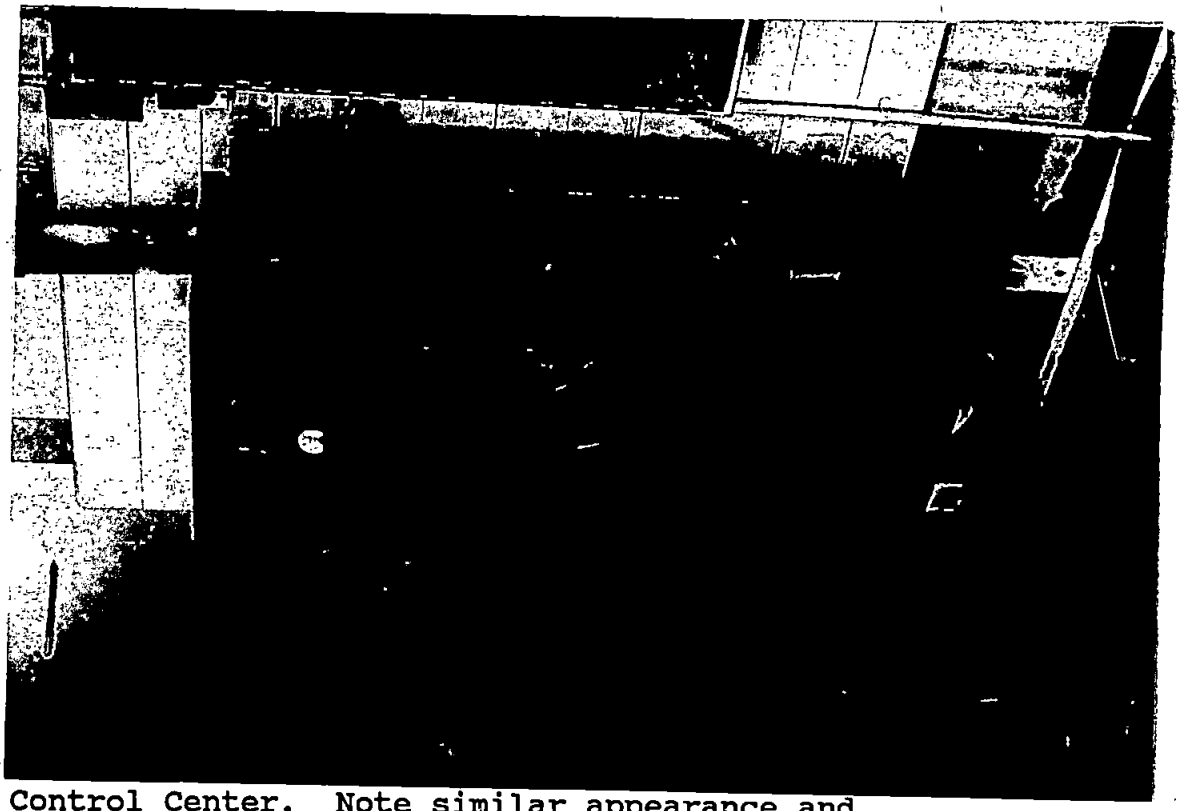
B. Buckner

FILM: Kodacolor 400

CAMERA: Canon T-70

LOCATION:

Buse Timber



DESCRIPTION:

"Starter" at Planer Control Center. Note similar appearance and description as "Chipper Starter" in Photo 8 (see photo 11).

PHOTO NO.: 11

DATE: 6/13/90

TIME: 1300-1450 hrs

TAKEN BY:

Peter A. Maule

WITNESS:

D. Buckner

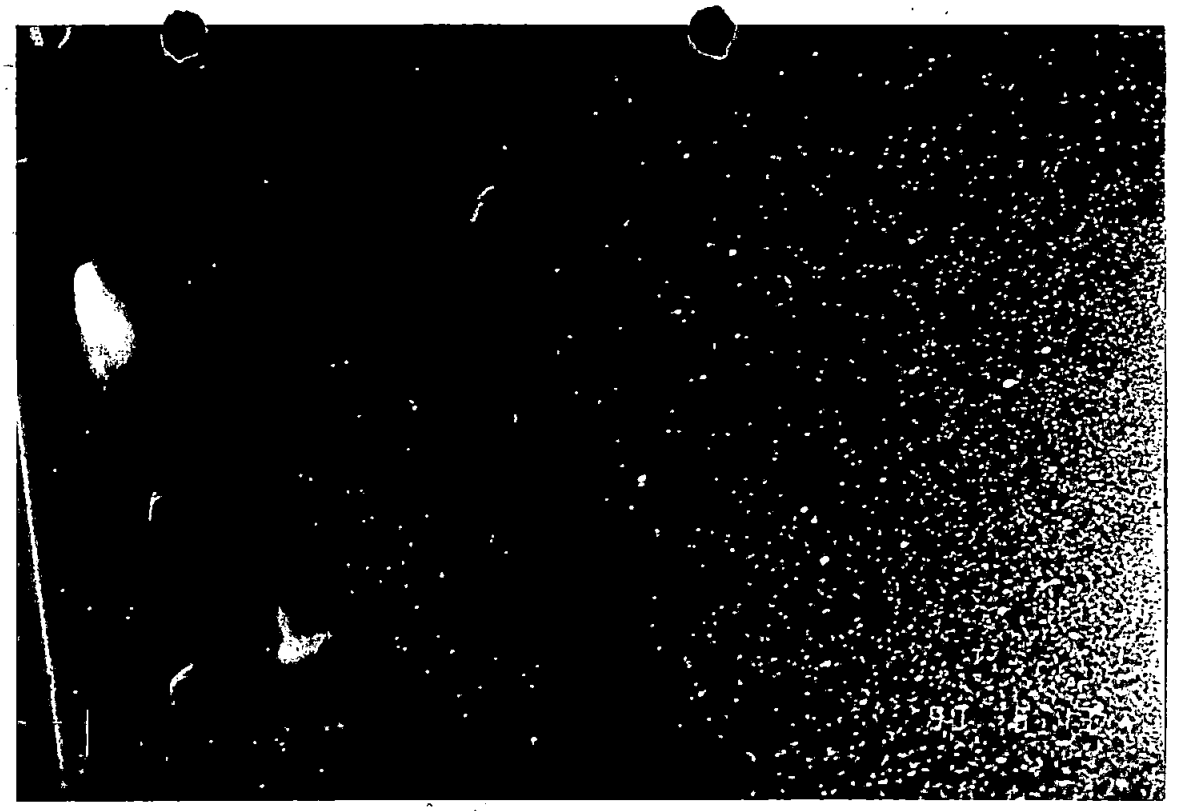
FILM: Kodacolor 400

CAMERA: Canon T-70

LOCATION:

Buse Timber

DESCRIPTION:



Detail of "Planer Starter" name-plate. Legible words include: "...Starting Compensator...current(?) Transformer..."

PHOTO NO.: 12

DATE: 6/13/90

TIME: 1300-1450 hrs

TAKEN BY:

Peter A. Maule

WITNESS:

B. Buckner

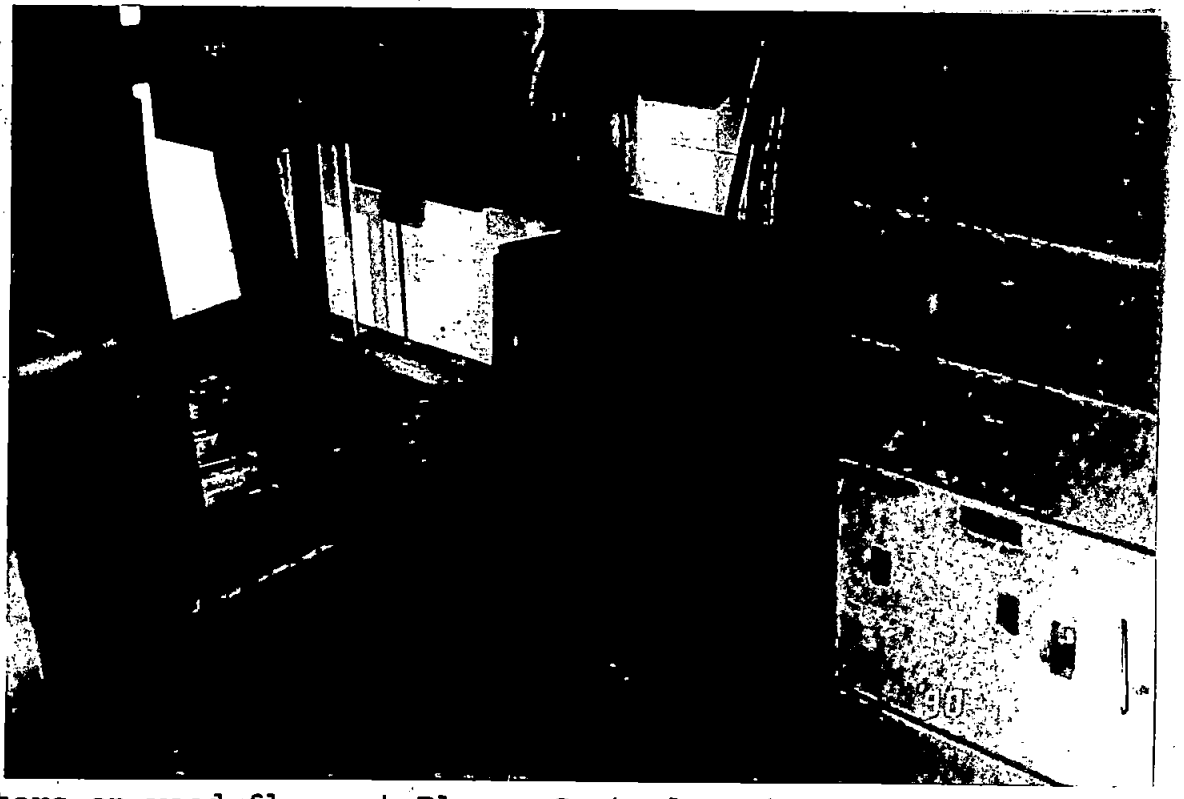
FILM: Kodacolor 400

CAMERA: Canon T-70

LOCATION:

Buse Timber

DESCRIPTION:



Four Pyranol capacitors on wood floor at Planer Control Center. Mr. Buckner cleaned label on right-most capacitor, which revealed the word "Pyranol".

PHOTO NO.: 13

DATE: 6/13/90

TIME: 1300-1450 hrs

TAKEN BY:

Peter A. Maule

WITNESS:

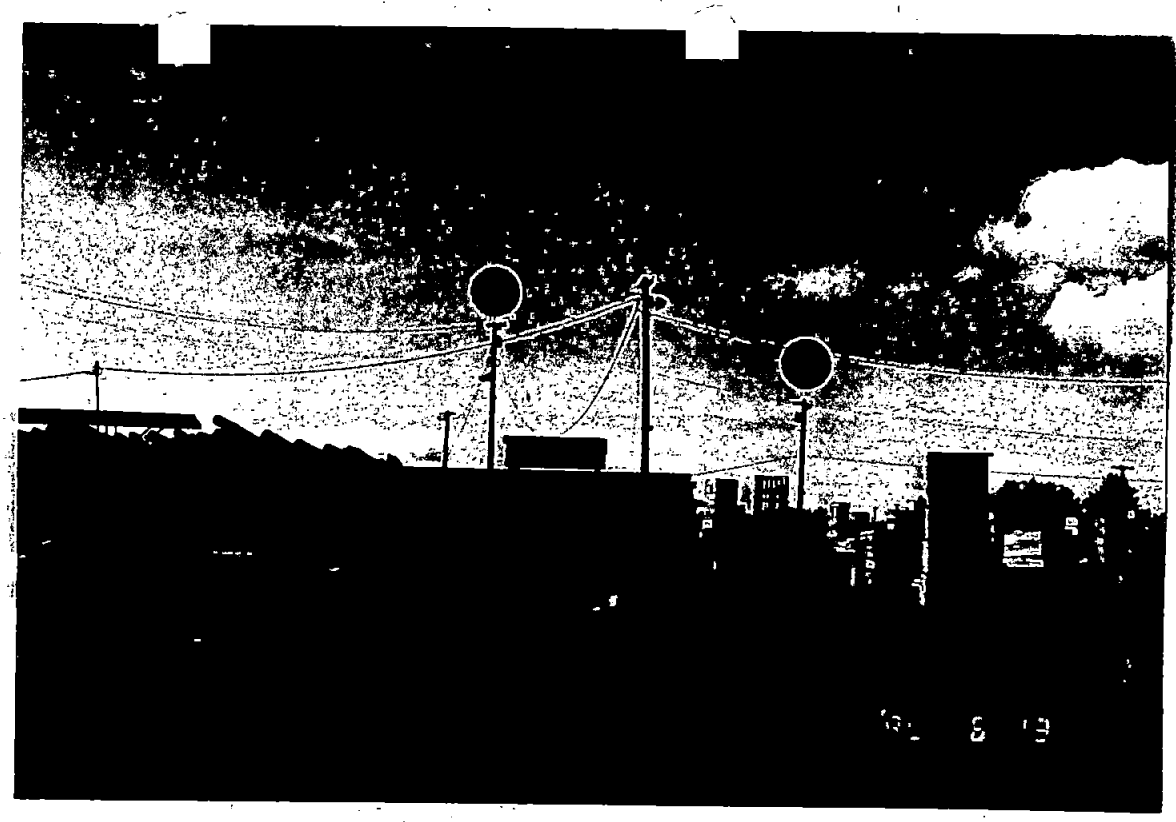
D. Buckner

FILM: Kodacolor 400

CAMERA: Canon T-70

LOCATION:

Buse Timber



DESCRIPTION:

View of lumber yard showing lighting power-poles. Small transformers were on two poles labelled here with the dots.

US ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DO 20460

EPA

TOXIC SUBSTANCES CONTROL ACT

NOTICE OF INSPECTION

Form Approved
OMB No. 2070-0007
Expires 3-31-88

1. INVESTIGATION IDENTIFICATION			2. TIME	3. FIRM NAME
DATE	INSPECTOR NO.	DAILY SEQ. NO.		
6/13/90	#W-023	(1)	1345 hrs	~~Busc~~ Base Timber & Sales, Inc.

4. INSPECTOR ADDRESS	5. FIRM ADDRESS
WA. Dept of Ecology 4350 - 150th Ave NE, Redmond, WA	P.O. Box 5226, Everett, WA 98206 3812-28th Pl. NE, Everett

REASON FOR INSPECTION

Under the authority of Section 11 of the Toxic Substances Control Act:

☒ For the purpose of inspecting (including taking samples, photographs, statements, and other inspection activities) an establishment, facility, or other premises in which chemical substances or mixtures or articles containing same are manufactured, processed or stored, or held before or after their distribution in commerce (including records, files, papers, processes, controls, and facilities) and any conveyance being used to transport chemical substances, mixtures, or articles containing same in connection with their distribution in commerce (including records, files, papers, processes, controls, and facilities) bearing on whether the requirements of the Act applicable to the chemical substances, mixtures, or articles within or associated with such premises or conveyance have been complied with.

☐ In addition, this inspection extends to *(Check appropriate blocks)*:

- ☐ A. Financial data
- ☐ B. Sales data
- ☐ C. Pricing data
- ☐ D. Personnel data
- ☐ E. Research data

The nature and extent of inspection of such data specified in A through E above is as follows:

INSPECTOR SIGNATURE	RECIPIENT SIGNATURE
Peter A. Maule	Dennis Buckner
NAME: Peter A. Maule	NAME: Dennis Buckner
TITLE: Regional TSCA Inspector	TITLE: Maint. Supv.
DATE SIGNED: 6/13/90	DATE SIGNED: 6-13-90

US ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

TOXIC SUBSTANCES CONTROL ACT

TSCA INSPECTION CONFIDENTIALITY NOTICE

Form Approved
OMB No. 2070-0007
Expires 3-31-88

1. INVESTIGATION IDENTIFICATION		
DATE 6/13/90	INSPECTOR NO. W-003	DAILY SEQ. NO. 03

2. FIRM NAME: Base Timber and Sales, Inc.

3. INSPECTOR NAME: Peter Mauk

4. FIRM ADDRESS: 3812-284 Pl. NE. P.O. Box 5226 Everett, WA 98206

RECEIVED JUN 18 1990 DEPT. OF ECOLOGY

5. INSPECTOR ADDRESS: WA Dept. of Ecology, NWRO 4350-150th Ave NE. Redmond, WA 98052-5301

6. CHIEF EXECUTIVE OFFICER NAME: Dale Robert Base

7. TITLE: President

TO ASSERT A CONFIDENTIAL BUSINESS INFORMATION CLAIM

It is possible that EPA will receive public requests for release of the information obtained during inspection of the facility above. Such requests will be handled by EPA in accordance with provisions of the Freedom of Information Act (FOIA), 5 USC 552; EPA regulations issued thereunder, 40 CFR Part 2; and the Toxic Substances Control Act (TSCA), Section 14. EPA is required to make inspection data available in response to FOIA requests unless the Administrator of the Agency determines that the data contain information entitled to confidential treatment or may be withheld from release under other exceptions of FOIA.

Any or all the information collected by EPA during the inspection may be claimed confidential if it relates to trade secrets or commercial or financial matters that you consider to be confidential business information. If you assert a CBI claim, EPA will disclose the information only to the extent, and by means of the procedures set forth in the regulations (cited above) governing EPA's treatment of confidential business information. Among other things, the regulations require that EPA notify you in advance of publicly disclosing any information you have claimed as confidential business information.

A confidential business information (CBI) claim may be asserted at any time. You may assert a CBI claim prior to, during, or after the information is collected. The declaration form was developed by the Agency to assist you in asserting a CBI claim. If it is more convenient for you to assert a CBI claim on your own stationery or by marking the individual documents or samples "TSCA confidential business information," it is not necessary for you to use this form. The inspector will be glad to answer any questions you may have regarding the Agency's CBI procedures.

While you may claim any collected information or sample as confidential business information, such claims are unlikely to be upheld if they are challenged unless the information meets the following criteria:

1. Your company has taken measures to protect the confidentiality of the information, and it intends to continue to take such measures.
2. The information is not, and has not been, reasonably obtainable without your company's consent by other persons (other than governmental bodies) by use of legitimate means (other than discovery based on showing of special need in a judicial or quasi-judicial proceeding).
3. The information is not publicly available elsewhere.
4. Disclosure of the information would cause substantial harm to your company's competitive position.

At the completion of the inspection, you will be given a receipt for all documents, samples, and other materials collected. At that time, you may make claims that some or all of the information is confidential business information.

If you are not authorized by your company to assert a CBI claim, this notice will be sent by certified mail, along with the receipt for documents, samples, and other materials to the Chief Executive Officer of your firm within 2 days of this date. The Chief Executive Officer must return a statement specifying any information which should receive confidential treatment.

The statement from the Chief Executive Officer should be addressed to:

and mailed by registered, return-receipt requested mail within 7 calendar days of receipt of this Notice. Claims may be made any time after the inspection, but inspection data will not be entered into the special security system for TSCA confidential business information until an official confidentiality claim is made. The data will be handled under the agency's routine security system unless and until a claim is made.

TO BE COMPLETED BY FACILITY OFFICIAL RECEIVING THIS NOTICE:	If there is no one on the premises of the facility who is authorized to make business confidentiality claims for the firm, a copy of this Notice and other inspection materials will be sent to the company's chief executive officer. If there is another company official who should also receive this information, please designate below.
I have received and read the notice	
SIGNATURE: David R. Base	NAME
NAME: David R Base	TITLE
TITLE: Gen. Mgr. / DATE SIGNED: 6/14/90	ADDRESS

EPA Form 7740-4 (12-82) INSPECTION FILE FACILITY REGIONAL OFFICE

Laucks 82 years
Testing Laboratories, Inc.
940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
Chemistry, Microbiology and Technical Services

CLIENT: Buse Timber & Sales, Inc
3812-28th Place N.E.
Everett, WA 98201

ATTN : Steve Fogg

Work ID : PCB In Oil
Taken By : Client
Transported by: -
Type : Oil

Certificate of Analysis
Work Order# : 90-06-015
DATE RECEIVED : 06/01/90
DATE OF REPORT: 06/06/90
CLIENT JOB ID : 33465

SAMPLE IDENTIFICATION:

Sample	Description
01	West 1 Transformer
02	West 2 Transformer
03	West 3 Transformer
04	East 1 Transformer
05	East 2 Transformer
06	East 3 Transformer
07	Saw Mill Chipper Starter
08	Duplicate

The flag "U" indicates the analyte of interest was not detected, to the limit of detection shown.

Unless otherwise instructed all samples will be discarded on 07/19/90

Respectfully submitted,
Laucks Testing Laboratories, Inc.

J. M. Owens

Aucks 82
Testing Laboratories, Inc.
940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063

Chemistry, Microbiology, and Technical Services

CLIENT : Buse Timber & Sales, Inc

Certificate of Analysis

Work Order # 90-06-015

TESTS PERFORMED AND RESULTS:

Analyte	Units	01	02	03	04
PCBs	mg/kg	2.0 U	3.0 PCB 1260	3.6 PCB1254/60	1.0 U

Analyte	Units	05	06	07
PCBs	mg/kg	1.0 U	1.0 U	1.0 U

Aucks 82 years
Testing Laboratories, Inc.
940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063

Chemistry, Microbiology, and Technical Services

REPORT ON WORK ORDER 9006015 SAMPLE DUPLICATES

Test	:	PCBs
Relative Percent Difference	:	0
Control Limit	:	30

This duplicate and comments, if any, apply to the following sample(s): 1-7

* = outside control limits
NC = Not able to calculate RPD

CHRISTINE O. GREGOIRE
Director

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
4350-150th Ave. N.E. • Redmond, Washington 98052-5301 • (206) 867-7000

July 16, 1990

Mr. Jeff Short
Environmental Coordinator
Snohomish County PUD
P.O. Box 1107
Everett, WA 98206

Dear Mr. Short:

Hello, no doubt you remember me. Your assistance is needed to complete a recent TSCA inspection at Buse Timber and Sales, Inc., the Buse Mill is located on Smith Island, at 3810 28th Place N.E., Everett.

There is a PUD owned substation at the south east corner of this facility that contains three large cylindrical pad-mount transformers. I did not note any labels as these transformers from the brief vantage point I had, but there should be no confusion about what PUD transformers are our interest. We need to have documentation of the PCB analyses of these three transformers.

It may be that the PUD also owns at least two small light-pole transformers. Please identify these and any other PUD transformers at Buse Timber, if the PUD owns them.

Please send you response directly to Mr. Bill Hedgebeth of EPA-X at the following address:

Mr. William M. Hedgebeth
Environmental Protection Specialist
Toxic Substances Section
U.S. Environmental Protection Agency
1200 6th Avenue, Mail Stop AT-093
Seattle, WA 98101

Thank you for your help. I hope your vacation has been enjoyable. Say hello to Colleen for me please.

Sincerely,

Peter A. Maule
Regional TSCA Inspector

PAM:sw

cc: Bill Hedgebeth, EPA-X

U.S. Environmental Protec on Agency

MyProperty

Environmental Databases Search

The search of EPA's Facility Registry System did not locate any records for the search criteria provided below:

Search Criteria:

Street Address:	3812 28th Pl NE
City, State:	Everett, WV
Query executed on:	06/21/2021 05:13 PM **EST**

Contact the appropriate state, tribal or local agencies if you seek additional information.

COUNTY OF SNOHOMISH — BUILDING DEPARTMENT

CERTIFICATE OF OCCUPANCY

NO. 2027

STREET NO. 3812 - 28th Pl. NE
Marysville, Washington

OWNER Buse Timber & Sales
3812 - 28th Pl. NE, Marysville, Washington

FIRE ZONE III
OCC. GROUP B-2
USE ZONE LI
TYPE OF BLDG VN

BUILDING PERMIT NO. 41144

PLAN NO

HAS BEEN INSPECTED AND THE FOLLOWING OCCUPANCY THEREOF IS HEREBY AUTHORIZED.

FLOORS	OCCUPANCIES	AREA UNDER THIS CERTIF SQUARE FT.	MAXIMUM OCCUPANT LOAD	MAX. ALLOWABLE FLOOR LOADS LBS. PER SQ. FT.
1	B-2 *Lumber Storage	8000		Concrete

REMARKS *Unenclosed.

PLUMBING INSPECTOR No Plumbing DATE 19

BUILDING INSPECTOR Paul Young DATE April 25 19 80

FIRE CHIEF FIRE MARSHAL

FIRE DIST SNO. COUNTY FIRE PREVENTION BUREAU

BY William K Carroll
Director of Building and Plumbing

POSTING. The Certificate of Occupancy shall be posted in a conspicuous place on the premises and shall not be removed except by the Building Official

DOUGLAS FIR HEMLOCK RED CEDAR

BUSE TIMBER & SALES, INC.

EVERETT – 252-2189

3812 20th PLACE N.E., MARYSVILLE, WASHINGTON 98270

May 8, 1973

RECEIVED
MAY
COUNTY BUILDING DEPT.

Snohomish County
Building and Plumbing Code Department
County Court House
Everett, Washington 98201

Attn: Mr. D. F. Thompson
Plans Examiner

Re: Addn. to Existing
Maint. Shop

Dear Mr. Thompson:

We are willing to comply to the plan check letter issued by your office April 12, 1973.

Sincerely yours,

BUSE TIMBER & SALES, INC.

Michael N. Buse

Michael N. Buse
Purchasing Agent

MNBuse
cr

Filed in Folder

STRUCTURAL CALCULATIONS

BUSE TIMBER COMPANY

SNOHOMISH COUNTY WASHINGTON

A. I. GOODFELLOW, ARCHITECT

CONTENTS

Buse 100 buildings [1] & [2]

Roof sheeting — 26ga corrugated (std)

DL → 1.0 $S = 0.0262 in^3$ $M = Sf$
LL 25.0 $f = 20ksi$ ∴ $M = 0.524$ ik
TL 26 $= 0.044$ fk
$= 43.7$ fp

$M = wl^2/8$ ∴ $l^2 = 8M/w = \frac{43.7(8)}{26} = 13.436$
∴ $l = 3.66$ ft use 3ft

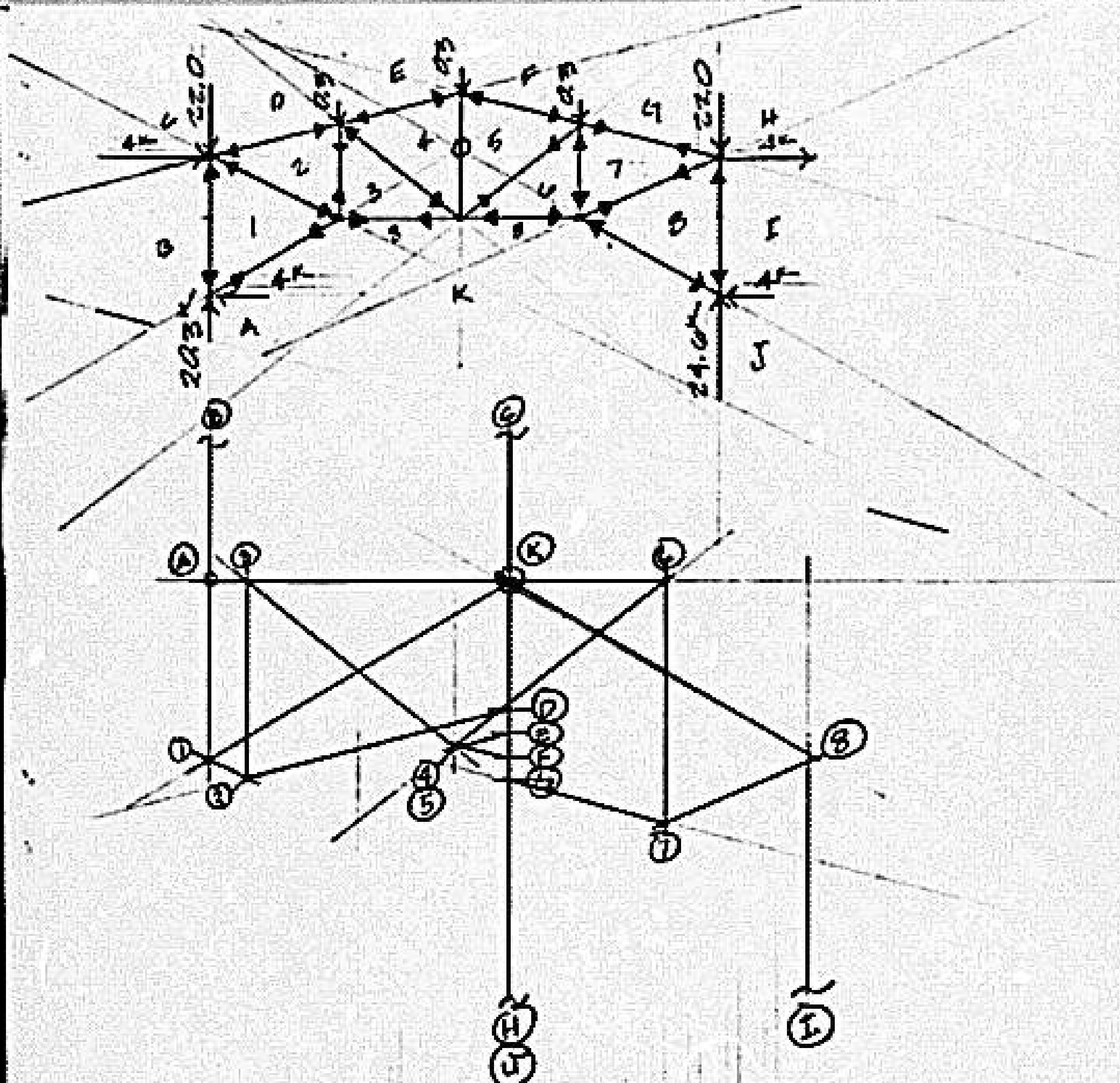
purlins to span 4ft w/ 3ft of load

$w = 26 \times 3 + 2 = 80$ plf

3 span min ⇒ $M = wl^2/10$

DATA ENTERED:
[illegible] | 3ft oc
[illegible] | 4x2
[illegible]
OUTPUT DATA:
[illegible] | No 2 HF
[illegible]

1



MBR	F →		F ←	
B1	22.7	C	22.3	C
D2	3.7	C	2.2	T
2-1	0.6	C	2.1	T
1-K	4.7	T	4.7	C
2-3	2.7	T	3.2	C
E4	0.8	C	0.8	C
4-3	3.5	C	3.6	T
3K	3.5	T	2.1	C
45	0	0		
F5	0.8	C		
56	3.6	T		
6K	2.1	C		
67	3.2	C		
G7	2.2	T		
78	2.1	T		
8K	4.7	C		
8I	22.3	C		

Buse / OC

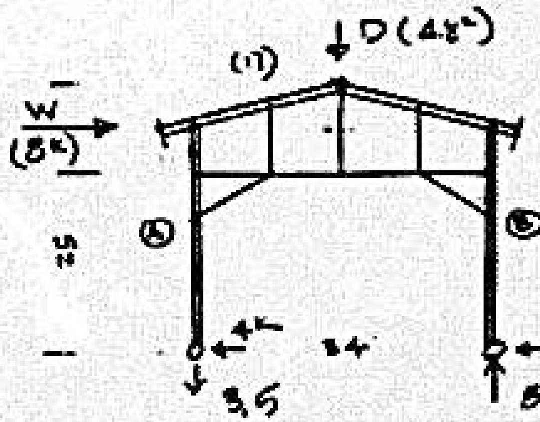
wind - building [1]

against frame -

$W = 10 \times 40 \times 20 = 8^k$

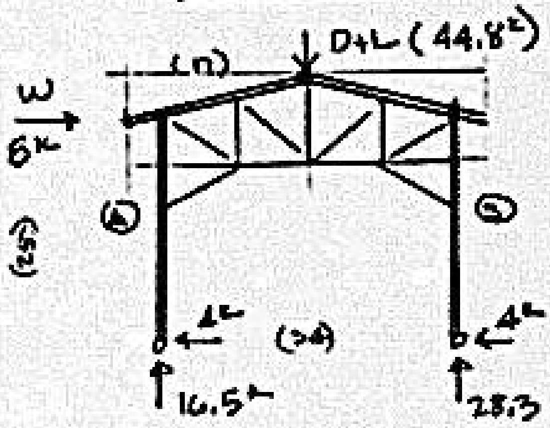
$D = 40 \times 40 \times$ 1.0
0.5
1.5
3.0×40^2

$D = 48^k$



DL + WL

$L = 40 \times 40 \times 25 =$
$= 40^k$



DL + WL + LL

Typical column — [8x20 ft³ | DF rough]

$F_V = 28.3^k$ $\quad F_H = 4^k \times 15' = 60^{ft\text{-}k}$
$= 720^{in\text{-}k}$

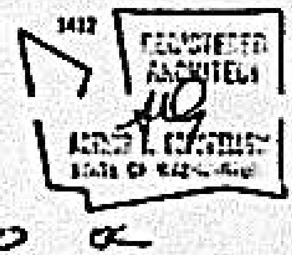
$P/A = .3(E)/(l/d)^2$
$= .3(1600)/(180/20)^2$
$= 5.93$ ksi use 1,000 ksi

(E = 1600 ksi)
($l = 15 \times 12 = 180$ in)
(d = 20 in (rough))

$\therefore P = 1 \times 8 \times 20 = 160$ K

$M_R = Sf = 8(20)^2(1.2 \text{ ksi}) \div 6$
$= 640$ ik

combined → $\dfrac{28.3}{160 \times 1.15} + \dfrac{720}{640(4/3)} =$
$0.15 + 0.84 = 1.00$ ok



Bldg 100

connections

truss T2 to column top —

F = 6.7 K dbl shear, stl. side pl's,

2 bolts = 6.7 / 2 ÷ 1.25 ÷ 4/3 = 2.01 k/bolt
5/8 MB = 2.25 > 2.01

use 2 - 5/8 MB min.

Knee brace — F = 4.7 C 4.7 T

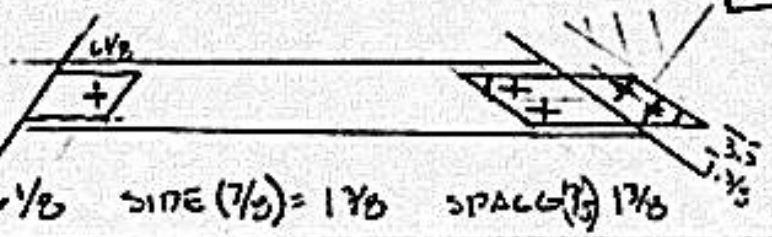
1-4x member P/Δ = 0.3E / (ℓ/d)²
.3(1400) / (118.4/3.0)²
= 0.27 ksi < .55

Amq = 4.7 / 0.27 (4/3)
= 13.7
3.0 x 4.36 use 2-2x6's

connections —

2 bolts = 4.7 K ÷ 2 ÷ 1.25 ÷ 4/3 = 1.41 k/bolt.
1/2 MB = 1.46 > 1.41 OK

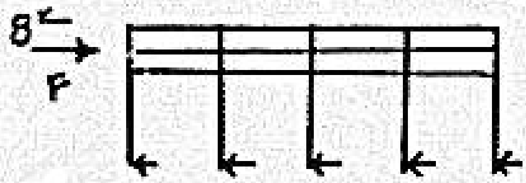
2 bolts = 4.7 ÷ 1.25 ÷ 4/3 = 2.82
3/4 MB = 3.02 > 2.82



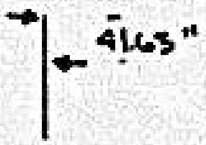
END (7/8) = 6 1/8 SIDE (7/8) = 1 7/8 SPACG (7/8) 1 7/8

Buse 10C

Wind long way



$F = 10 \times 40 \times 20 = 8^k$
per col = $8/10 = 0.8^k$
$M = .8 \times 20 = 16$ fk
192 ik /col



$F = 192/41.63$
$= 4.61^k$

DATA ENTERED
M=[illegible]
V=[illegible]
E=[illegible]
H=[illegible]
[illegible]
OUTPUT DATA
FB=[illegible]
FY=[illegible]

2 bolts → $4.61 \div 2 \div 1.25 \div 4/3$
= 1.38 k/bolt
3/4 MB = 3.30 > 1.38

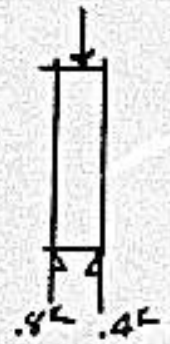
END(3/4) = 5 1/4   ROW (1/2) = 3.0

Bure 10c

building [2]

wind east west to be attached to and not exceed the size of the existing building therefore the existing building will support the new steel in the east-west direction.

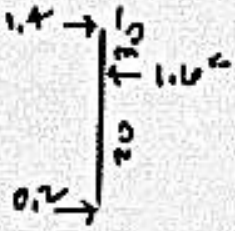
wind north south.



W= 20x3x20 = 1.2k

per col. = 0.8/4 = 0.2k
M = .2x20 = 4.0 ft-k

8x8 column
No 1 HF rough



use connection similar to building [1]

Base / oc

building [2]

column — 8x8

$R_V = .33 \times 34 = 11.2^k$

$R_H = . \quad = 0.2^k$

$M = .2 \times 20 = 4 FK$

$P/\Delta (allow) = 0.3E/(\ell/d)^2$

$= 0.3(1400)/(240/6)^2$

$= 0.26 ksi$

$P(8\times8) = 16.6K$

$M_R (8\times8) = Sf = \frac{8 \times 8^2 \times 120}{6 \times 12} = 8.5 \cdot FK$

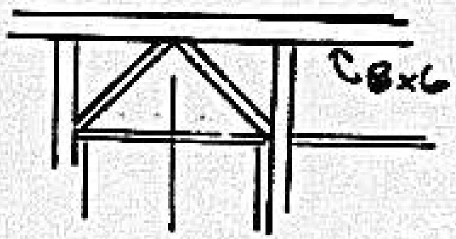
combined — $\frac{4}{8.5 \cdot (4/3)} + \frac{11.2}{16.6 \times 1.15} =$

$0.35 + 0.59 = 0.94$ ok.

Buse loc.

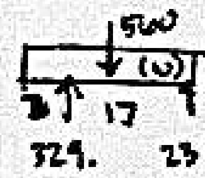
building [2]

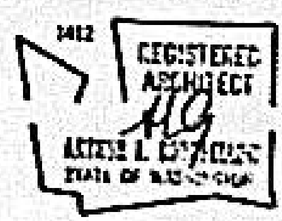
existing plate to support new trusses.




```
>> DATA ENTERED <<
L-FT=5.00
W-PLF=231.00
B-IN=7.50
H-IN=5.50
UNIT FACT.=1.15
D-IN=0.17
<< OUTPUT DATA >>
FB-PSI=[illegible]
FV-PSI=16.5[illegible]
F-PSI=[illegible]
```

ok





Base 10C

building [1]

footing –

$R = 28.1^k$
$R_{ft} = 6.4^k$
$R_T = 34.5^k$
Area = 34.5 sF
size = 5.87 (min)
use = 6.0 x 6.0

$M = R_T/2 \times L/4$
$= 25.9$ fk
As req = 2.06
7 No 5 EW = 2.17 in²
$M_c = 57.5$
$M_s = 27.4 > 25.9$ ok.

building [2]

footing

$R = 329 \times 34 = 11.9^k$
$R_{ft} = 2.4^k$
$R_T = 14.3^k$
Area = 14.3 sF
size = 3.78 sq
use = 4x4

$M = R_T/2 \times L/4$
$= 7.15$ fk
As req = 0.57
3 No 4 EW = 0.6
$M_c = 38.3$
$M_s = 7.6 > 7.15$ ok.

Snohomish County
Administration Building
Everett, Washington 98201
259-9388 or 259-0631

PERMIT NO. 41144

COMMERCIAL BUILDING PERMIT

Application is hereby made by:

Name: Hyde Timber & Sales — Address: 3012-28th Pl. N.E. Marysville, WA 98270 — BY: ch

Builders Name: Olympic Const. — Address: 610 N.W. 44th Seattle, WA — Phone: 784-0111 — License No.: 299

Job Location: 3012-28th Pl. N.E. Marysville, WA 98270

To do the following work: lumber mfg. and storage — Group: — Occupancy:

E.I.S. Required _____ Negative Declaration _____ E.I.S. Prepared _____ Acct. No. 042005-1-004-0000

Sec. 09 Twp. 29 Rge. 05 Lot _____ Blk _____ Subdivision _____ 16th Sec. 00

Lot Size 20 Acres Zoning M1 CU Permit # _____ Sanitation Clearance Clear 3-11-80

Approval from: Planning ok 2-2-2-80 ej Engineering ok 2-13-80 ja Building ok 2-22-80 ab

BUILDING DIMENSIONS: 40 X 200 Sq. Ft. Main Floor 8000 Stories 1

Sq. Ft. Basement _____ Sq. Ft. 2nd Floor _____ Mezzanine _____

MANDATORY INSPECTIONS

1. Foundation 4-1-80
   a. Pilings
   b. Footings
   c. Walls
   Special Concrete Placement
   Grout Pours
2. Framing
   a. Special Framing
   b. Roofing
3. Sheet Rock/Lath Nailing
   a. Flame spread
4. Sprinkler System
5. Fire Alarm System
6. Final ok 4/25/80

NOTE: SEPARATE PERMIT REQUIRED FOR PLUMBING, HEATING AND MECHANICAL SYSTEMS. No plumbing will be approved prior to installation of permanent potable water to building as per Section 318 (1)(H) U.P.C. as amended.

MINIMUM REQUIRED SETBACKS:

Front [illegible]

Side

Rear

Special Conditions:

OK Per plot plan and approved given in SU 23:27-73 and SU 36-78. A final declaration of non-significance was done in 1978. L.J. Planning

Cert O 2027, issued 5-2-80

Valuation [illegible] — Permit Fee $ [illegible]

Date _____ — Penalty Fee $ _____

Signature _____ — Total CK # $ [illegible]

I certify that I am exempted from the requirements of the state contractor's registration law, under Section 3, Chapter 126, laws of 1967.

X _____

This Building Permit is pursuant to Chapter 129, Laws of 1955, State of Washington and resolution adopted Feb. 3, 1975 by Board of County Commissioners of Snohomish County. Permission is hereby granted to do the work described hereon according to the approved plans and specifications pertaining hereto, subject to Compliance with any ordinances or zoning regulations of Snohomish County. Construction must start within 120 days and first inspection called for; otherwise permit becomes null and void. Building permit expires 18 months from date of issuance.

INSPECTOR'S COPY

Building and Plumbing Code Department

TELEPHONE: 259-9388

WILLIAM L. CARROLL
DIRECTOR

- BUILDING
- PLUMBING
- MECHANICAL
- ZONING INSPECTION

February 22, 1980

Buse Timber & Sales
3812 - 28th Place N.E.
Marysville, Washington

Olympic Construction
610 - N.W. 44th
Seattle, Washington

A.I. Goodfellow, Architect
610 - N.W. 44th
Seattle, Washington

RE: Lumber Storage Building
3812 - 28th Place NE, Marysville
One Story - 8000 Square Feet
Unenclosed structure
Type V-N Construction
Group B-2 Occupancy
Fire Zone III

Sir:

The above mentioned plans have been reviewed and approved with no corrections in compliance with the Uniform Building Code, 1976 Edition.

A building permit will not be issued prior to approval of the following Snohomish County Departments: Planning, Sanitation, Engineering, Fire Marshal, Building and Plumbing. All construction is subject to field inspections, corrections and final field approval together with the issuance of a Certificate of Occupancy prior to the building being occupied. No concrete or grout shall be poured without inspection. Notify this Department at least 24 hours in advance. An approved set of plans shall be kept at the job site at all times during construction.

A separate permit shall be required for mechanical heating and venting system as well as for any plumbing work to be done. Please be advised to consult the Snohomish County Public Utility District #1 regarding electrical service to the building.

If I may be of any further assistance to you , please contact me.

Sincerely,

Byron Backstrom

Byron Backstrom, Plans Examiner

cc: Fire Prevention Bureau, Snohomish County
Commercial Inspector
BB:cj

ACKNOWLEDGMENT OF RECEIPT OF PLAN CHECK LETTER

PLAN CHECK LETTER DATED ____________

REPRESENTATING COMPANY OR FIRM ____________ TITLE ____________

NAME ____________ ADDRESS ____________

WITNESSED BY ____________ INSPECTOR ____________ DATE ____________

INSPECTION REPORT

JOB NAME ____________

JOB ADDRESS ____________

OWNER ____________

PERMIT NUMBER ____________ DATE ISSUED ____________ DATE EXPIRES ____________

3/25/80 No work started yet.
4-1-80 Foundation OK
4-16-80 Framing not complete - no problems at this time.
4/25/80 Finaled this date [illegible]

FILE# 042905.3.006.0006

APPLICATION FOR COMMERCIAL BUILDING PERMIT

DATE 2/13/80

BUILDING OWNER Buse Timber & Sales PHONE NUMBER 252-2169

ADDRESS 3812 28 Pl N.E. Marysville WA ZIP CODE 98270

CONTRACTOR Olympic Constructors PHONE NUMBER 784 9111

ADDRESS 610 N.W. 40th Seattle Wa. LICENSE NO. OL-YM-P-C-299 MN

ARCHITECT OR ENGINEER Al Goodfellow LICENSE NO.

ADDRESS 610 NW 40th Seattle WA. PHONE NUMBER 784 9111

ADDRESS OF NEW BUILDING OR CONSTRUCTION 3812 28 Pl. N.E. Marysville WA

THIS BUILDING WILL BE USED FOR lumber manufacture or storage

IF MULTIPLE RESIDENCE, HOW MANY UNITS N.A DRIVEWAY PERMIT NO. NA

SEPTIC TANK PERMIT NUMBER ~~NA~~ Clear ACCOUNT NUMBER 042905-3-006-0006 (D.H. Buse)

****

LEGAL DESCRIPTION: SECTION 9 TOWNSHIP 29 N RANGE 5E ZONE W.M. LI

SUBDIVISION N.A. LOT BLOCK LOT SIZE 20 Acres

CU PERMIT SU PERMIT EIS REQUIRED with SNA N. 2246-81-B (341-36-11-78) 16TH SEC. 9

EIS PREPARED DATE APPROVED NEG. DECLARATION

OTHER BUILDINGS EXISTING ON PROPERTY Storage + Mfg. Bldgs.

Flood Control Ap. # 1-3474-5

****

BUILDING DIMENSIONS: 40 x 200' [redacted]

BASEMENT SQ. FOOTAGE None

FIRST FLOOR SQ. FOOTAGE ~~10,000~~ 8000

SECOND FLOOR SQ. FOOTAGE -0-

THIRD FLOOR SQ. FOOTAGE -0-

FOURTH FLOOR SQ. FOOTAGE -0-

MEZZANINE SQ. FOOTAGE -0-

EXTERIOR DECKS SQ. FOOTAGE -0-

COVERED WALKWAYS SQ. FOOTAGE -0-

****

IF MORE THAN ONE BUILDING, SUBMIT A SEPARATE APPLICATION FOR EACH STRUCTURE. A SEPARATE BUILDING PERMIT MUST BE ISSUED FOR EACH BUILDING.

****

NUMBER OF SETS RECEIVED 4

****

SIGNED BY [signature]

FOR Buse Timber

PLEASE CHECK THE FOLLOWING ITEMS:

Item	YES	NO
FOUNDATION PLAN	✓	
FLOOR PLANS, DETAILED	✓	
NAME ROOMS		
ELECTRICAL PLAN		
PLUMBING PLAN		
HEATING, COOKING PLAN (MECHANICAL)	✓	
STRUCTURAL PLANS		
ELEVATIONS		
COMPUTATIONS & STRESS DIAGRAMS	✓	
STAMPED BY A ENGINEER OR ARCHITECT, LICENSED BY WASHINGTON	✓	
SITE PLAN SHOWING:		
DIMENSIONED PROPERTY LINES	✓	
ABUTTING STREETS		
LOCATION OF SEPTIC FIELDS	✓	
VEHICLE CIRCULATION		
PARKING STALLS	✓	
EXISTING BUILDINGS		
SCREENING, LANDSCAPING		
CURBING	✓	
STORAGE AREAS		
PROPOSED DRAINAGE FLOW WITH GRADES		
SHOW CONTOUR OF FINAL GRADING		

FOR OFFICE USE ONLY

VALUATION: $ 48000.00

PLAN CK. FEE: $ 90.50 51.43

PERMIT FEE: $ 181.00

TOTAL FEE DUE: $ 411.44

BLDG: sent 2-13-80 rcv'd OK 2-22-80 BB

PLNG: sent 2-13-80 rcv'd OK 2-22-80 LJ

SAN: sent N/A rcv'd

ENG: sent 2-13-80 rcv'd OK 2-12-80 JR / GJ

FIRE MARSHAL sent rcv'd OK 2-27-80

PERMIT NUMBER

Snohomish County
Administration Building
Everett, Washington 98201
259-9388 or 259-0631

COMMERCIAL BUILDING PERMIT

PERMIT NO. 41144

Application is hereby made by:

Name: Buse Timber & Sales — Address: 3812-28th Pl. N.E. Marysville, WA 98270 — BY: eh

Builders Name: Olympic Const. — Address: 610 N.W. 84th Seattle, WA — Phone: 784-9111 — License No.: 299 OL YM PP

Job Location: 3812-28th Pl. N.E. Marysville, WA 98270

To do the following work: Lumber mfg. and storage — Group / Occupancy:

E.I.S. Required ______ Negative Declaration ______ E.I.S. Prepared ______ Acct. No. 042905-3-006-0006

Sec 09 Twp 29 Rge 05 Lot ______ Blk ______ Subdivision ______ 16th Sec 00

Lot Size 20 Acres Zoning XXI LI CU Permit # ______ Sanitation Clearance Clear 3-11-90

Approval from: Planning ok 2-2-2-90 ej Engineering ok 2-13-90 ja Building ok 2-22-90 hh

BUILDING DIMENSIONS: 40 X 200 Sq. Ft. Main Floor 8000 Stories 1

Sq. Ft. Basement ______ Sq. Ft. 2nd Floor ______ Mezzanine ______

MANDATORY INSPECTIONS:

1. Foundation ______
   a. Pilings ______
   b. Footings ______
   c. Walls ______
   Special Concrete Placement ______
   Grout Pours ______
2. Framing ______
   a. Special Framing ______
   b. Roofing ______
3. Sheet Rock/Lath Nailing ______
   a. Flame spread ______
4. Sprinkler System ______
5. Fire Alarm System ______
6. Final ______

NOTE: SEPARATE PERMIT REQUIRED FOR PLUMBING, HEATING AND MECHANICAL SYSTEMS. No plumbing will be approved prior to installation of permanent potable water to building as per Section 318 (1) (H) U.P.C. as amended.

MINIMUM REQUIRED SETBACKS:

Front: AS PER PLOT PLAN

Side: " "

Rear: " "

Special Conditions:

OK Per plot plan and x approved given in SH 23:27-73 and SH 36-78. A final declaration of non-significance was done in 1978. E.J. Planning

Valuation $[illegible]

Date [illegible]

Signature ______

009

Permit Fee $ 101.00

Penalty Fee $ ______

Total CK # $ 101.00 [illegible]

I certify that I am exempted from the requirements of the state contractor's registration law, under Section 3, Chapter 126, laws of 1967.

X ______

This Building Permit is pursuant to Chapter 129, Laws of 1955, State of Washington and resolution adopted Feb. 3, 1975 by Board of County Commissioners of Snohomish County. Permission is hereby granted to do the work described hereon according to the approved plans and specifications pertaining hereto, subject to Compliance with any ordinances or zoning resolutions of Snohomish County. Construction must start within 120 days and first inspection called for, otherwise permit becomes null and void. Building permit expires 18 months from date of issuance.

TRIPLICATE - FILE COPY

April 21, 2020

Washington State Department of Ecology
Northwest Regional Office
3190 160th Avenue SE
Bellevue, Washington 98008.5452

Attn: Release Reporting Coordinator

Transmitted via e-mail to: nwroerts@ecy.wa.gov

Re: Notification of Apparent Release
Buse Timber & Sales, Inc. Facility
Everett, Washington

Dear Ecology Release Reporting Coordinator:

This letter is being submitted to notify the Washington State Department of Ecology (Ecology) of an apparent release to the environment at the Buse Timber and Sales, Inc. (Buse) facility in Everett, Washington, in adherence with Ecology's release reporting requirements.

Background

In 2018, Umpqua Bank hired Terracon Consultants, Inc. (Terracon) to perform a limited site investigation (LSI) at the Buse facility. A copy of the LSI[1] report (attached), which includes information related to the apparent release, was only recently made available to Buse. Within the recommendations section of the report, Terracon made the following statement:

> "With regards to the identified releases to soil exhibiting arsenic concentrations above MTCA action levels, a release report to Ecology is required per MTCA (Washington Administrative Code (WAC) 173-340-300 (2) (a)), which states: 'Any owner or operator, who has information that a hazardous substance has been released to the environment at the owner's or operator's facility and may be a threat to human health or the environment, shall report such information to the department within 90 days of discovery'."

It is not clear to Buse that the reported limited finding of arsenic in soil above regulatory cleanup levels represents a threat to human health and the environment; Buse understands that the Ecology - Policy 300 for Site Discovery – Reporting Releases (Policy 300) states:

[1] Terracon Consultants, Inc., Limited Site Investigation, Buse Timber & Sales, 3812 28th Place Northeast, Everett, Snohomish County, Washington. September 17, 2018.

> "When an environmental consultant recommends that a site be reported to Ecology, the owner/operator must report that site to Ecology."

Therefore, per Policy 300, it is Buse's understanding that Terracon's statement in their report obligates Buse to report the apparent release to Ecology. This letter is being provided to Ecology to fulfill Buse's release reporting obligations.

Notification of Apparent Release to Environment

Per Policy 300, Buse provides the following required information related to the apparent release:

- **Name and address of the owner and operator of the site:**

  Name of owner/operator:
  Buse Timber & Sales, Inc.

  Address:
  3812 28th Place NE
  Everett, Washington 98201-8602

  Facility contact:
  Tom Parks, President
  Phone: 425-258-5840
  Fax: 425-259-6956
  Email: tomparks@busetimber.com

- **Location of the site:**

  Address:
  Buse Timber & Sales, Inc.
  3812 28th Place NE
  Everett, Washington 98201-8602

  Latitude: 48° 1'16.75"N

  Longitude: 122°10'35.23"W

- **Hazardous substances released and their location(s):**

  Substance: Arsenic.

  Location: Soil and groundwater at soil borings B1 and B2 (near Vehicle Maintenance Building)

- **Circumstances of the release and the discovery of the release:**

  Circumstances of apparent release: Unknown. Terracon's LSI report suggests that the elevated concentrations of arsenic at the facility are likely attributed to pesticides containing arsenic "that protect wood against termites, fungi and other pests that can degrade or threaten the integrity of wood products" and that wood treated with these pesticides may be "used to produce commercial wood shake, shingles, permanent foundation support beams and other wood products."

  It should also be noted that the facility is located less than 1 mile from the former Everett Smelter Site. While not within the "official" Everett Smelter Cleanup Site, the extent of arsenic-contaminated soil attributed to the former smelter has been identified within similar

distances to the northwest, west, and south of the former smelter's location. Therefore, it is possible that atmospheric deposition originating from the smelter may have contributed to the elevated arsenic concentrations identified at the Buse facility.

Discovery of apparent release: In 2018, Terracon performed an LSI at the Buse facility for Umpqua Bank that included drilling six soil borings (B1 – B6) in various locations at the facility and collecting soil and groundwater grab samples for laboratory analysis. Elevated arsenic concentrations were identified in soil from borings B1 and B2, and in groundwater at soil boring B2. Both borings are located near the Vehicle Maintenance Building on the east side of the facility.

- **Results of all remedial investigations and cleanup actions:**

According to Terracon's LSI report, laboratory analytical results for soil samples collected from soil borings B1 (2.5 feet [ft] below ground surface [bgs]) and B2 (3 ft bgs), contained arsenic at concentrations of 35 milligrams per kilogram (mg/kg) and 41 mg/kg, respectively, which are above the Model Toxics Control Act (MTCA) Method A soil cleanup level (20 mg/kg). Laboratory analytical results for a grab groundwater sample collected from soil boring B2 contained arsenic at a concentration of 77 micrograms per liter (µg/L), which is above the MTCA Method A groundwater cleanup level (5 µg/L). Note, however, that the groundwater sample was collected from a temporary well screen placed in the soil boring, and the results are likely not representative of actual arsenic concentrations in groundwater. This is supported by Terracon's report which states:

> "Please note that during sampling from temporary wells, groundwater often remains turbid and can contain suspended colloids, which may then be detected by the laboratory, potentially resulting in elevated contaminate concentrations. Therefore, without the benefit of permanent groundwater monitoring wells that are properly developed prior to groundwater sampling, groundwater analytical results may not be representative of actual on-site groundwater conditions".

Terracon also made the following conclusions and recommendations:

> "Based on the findings of this investigation, it appears that the arsenic concentrations identified are consistent with the current site use. While there are arsenic exceedances to the MTCA cleanup level, Terracon infers that they are limited to the site soil and groundwater within the limits of the site boundary. Therefore, unless the site use is proposed to change, Terracon does not recommend any additional investigations at this time. For a further degree of confidence with regard to onsite groundwater conditions, permanent groundwater monitoring wells would be required, although not recommended at this time".

No cleanup actions have been performed or are planned related to this apparent release.

- **Results of compliance monitoring planned or underway:**

Consistent with Terracon's LSI report recommendations, no additional investigation, sampling, or monitoring has been performed at the facility.

- **Restrictive covenants:**

No restrictive covenant has been placed on the facility.

Closing

This release notification letter is being provided to Ecology to fulfill Buse's release reporting obligations, based on the statement made in Terracon's LSI report that indicates that such a report is required. However, as indicated in Terracon's LSI report, "it appears that the arsenic concentrations identified are consistent with the current site use" and "Terracon infers that they are limited to the site soil and groundwater within the limits of the site boundary." Therefore, it is not clear to Buse that conditions resulting from the apparent release of arsenic represent a threat to human health and the environment under current site use.

If Ecology has any questions or needs any additional information, please feel free to contact the undersigned at your convenience at tomparks@busetimber.com or 425-258-5840.

Sincerely,
Buse Timber & Sales, Inc.

Tom Parks
President

Attachments: Terracon Consultants, Inc., Limited Site Investigation, Buse Timber & Sales, 3812 28th Place Northeast, Everett, Snohomish County, Washington. September 17, 2018.

Limited Site Investigation

Buse Timber & Sales

3812 28th Place Northeast

Everett, Snohomish County, Washington

September 17, 2018

Terracon Project No. 81187331

RIMS Project No. 18-002488-02

Prepared for:
Umpqua Bank
Coeur D Alene, Idaho

Prepared by:
Terracon Consultants, Inc.
Mountlake Terrace, Washington

September 17, 2018

Umpqua Bank
1233 N Northwood Center Ct
Coeur D Alene, ID 83814-6190

Attn: Mr. Michael Pereira

Re: **Limited Site Investigation**
Buse Timber & Sales
3812 28th PL NE
Everett, Snohomish County, Washington 98205
Terracon Project No. 81187362
RIMS Project No. 18-002488-02-1

Dear Mr. Pereira:

Terracon Consultants, Inc. (Terracon) is pleased to submit our report of Limited Site Investigation (LSI) activities completed at the site referenced above. The activities were completed to address the findings of the Phase I Environmental Site Assessment (ESA – Report No. 81187262) of the property dated June 20, 2018. Terracon conducted this LSI in general accordance with our proposal (proposal No. P81187331) dated June 20, 2018 and Master Environmental Services Agreement dated June 10, 2015.

Terracon has no present or contemplated future ownership interest or financial interest in the real estate that is the subject of this Environmental Assessment Report; and Terracon has no personal interest with respect to the subject matter of the Environmental Assessment Report of the parties involved and Terracon has no relationship with the property or the owners thereof which would prevent an independent analysis of the environmental or other conditions of the property.

Unless expressly authorized in writing by Umpqua Bank and Terracon, no one is permitted or intended to rely upon the findings, conclusions or recommendations found herein. This information is provided as a courtesy only and its accuracy has not been verified. The recipient accepts this information understanding that no representations or warranties are made with respect to this information and that recipient must make an independent determination of the accuracy of any information contained herein. The recipient acknowledges that Umpqua Bank has no responsibility for this information and the recipient releases Umpqua Bank from liability for any inaccuracy, mistake or other defect in this information.

Terracon

Terracon appreciates this opportunity to provide environmental services to Umpqua Bank. Should you have any questions or require additional information, please do not hesitate to contact our office.

Sincerely,
Terracon Consultants, Inc.

Kyle Bennett, G.I.T.
Staff Geologist

Matt Wheaton, L.G., P.E.
Department Manager

TABLE OF CONTENTS

Limited Site Investigation

Buse Timber & Sales
3812 28th Place Northeast
Everett, Washington

Terracon Project No. 81187331
September 17, 2018

1.0 SITE DESCRIPTION

The approximate 60-acre site is located at 3812 28th Pl NE in Everett, Snohomish County, Washington (Snohomish County tax parcels 290504-0030-0600 and 290509-0020-1500) and consists of a lumber mill business. The site has been occupied by Buse Timber & Sales, a lumber mill company for approximately 70 years. The site contains eleven buildings and several modular sheds used as office space, storage, vehicle repair, manufacturing, and employee areas. Select lumbers are treated with a water-based anti-stain in an on-site dip tank and/or painted with a water-based end seal. There are several storage areas for the lumber and are shipped off-site by vehicles that are maintained and fueled on site. A Topographic Map showing the site location is included as Exhibit 1 and a Site Diagram is included as Exhibit 2 in Appendix A.

Terracon previously performed a Phase I ESA of the property for Umpqua Bank (Terracon Project No. 81187262, dated June 20, 2018), and identified the following:

- Given the duration of operation of vehicle maintenance at the site and our experience with similar facilities, there is the potential for undocumented releases to have occurred in the maintenance shed area.
- The former UST area has not been assessed for groundwater impacts, however a groundwater sample approximately 100 feet up-gradient of the area identified impacts of diesel-range hydrocarbons above cleanup levels. Given the duration of the UST operations, there is a potential for undocumented subsurface releases to have occurred.
- The historical washdown practices in the vehicle washdown area may have resulted in undocumented releases to the subsurface.
- Given the documented impacts of diesel-range hydrocarbons to soil and groundwater in the former fire pond area, there is a potential for remaining subsurface impacts.
- Based on the previously documented impacts of dioxins and furans in sediment samples common to lumber mills in addition to the duration of approximately 70 years of site operation, there is potential for site-wide impact to groundwater, soil and sediments.

As a part of our ESA, Terracon reviewed a Draft Phase II Environmental Site Assessment performed by Exponent in August 1998. The investigation consisted of sampling sediments in the drainage ditches surrounding the facility, sampling the storm drain system, as well as assessing soil and groundwater impacts. Samples were taken of sediment, storm drains, soil, and groundwater and were analyzed and tested for volatile organic compounds (VOCs), total petroleum hydrocarbons (TPH), and other petroleum compounds. Soil impacts of benzene are above current MTCA Method A cleanup levels were identified, in addition to groundwater impacts of vinyl chloride and diesel-range TPH above their respective current MTCA Method A cleanup levels. Some recommendations were made about AST compliance, OWSs and sediment excavation. A 2010 Phase II update was also provided and performed by Exponent. Investigations were limited only to the identified recommendations of the 1998 report. Exponent further provided recommendations of general practices but recommended no further investigation.

Based on our review of the 1998 and 2010 Exponent subsurface investigations, it appears that limited soil and groundwater sampling performed on-site identified numerous areas of soil, sediment, and groundwater impacts. These areas primarily consist of the former location of the fire pond, maintenance area and former dip tank location. Soil and groundwater appear to be impacted with diesel-range TPH above current Washington State Model Toxics Control Act (MTCA) cleanup levels. The identified 1998 dioxin concentration, expressed as 2,3,7,8 tetrachlorodibenzo-p-dioxin, also appears to be above current (2018) regulatory action levels. Furthermore, numerous other VOC, semi-VOCs (SVOC) and polychlorinated biphenyls have been identified at concentrations below MTCA cleanup levels, but given the limited number of samples collected during previous investigations and that the selected locations may not have been situated in areas sufficient to assess for potential releases, there is the potential for additional impacts to have been present at concentrations above MTCA cleanup levels in other areas of the site. Given the findings of the previous subsurface investigations, the historical site use as a lumber yard and associated impacts identified in soil, sediment and groundwater represent a REC to the site.

Based on the findings of the ESA, Terracon recommended that a subsurface investigation be completed in an effort to assess the above-referenced RECs.

2.0 SCOPE OF SERVICES

Terracon's scope of services included completion of the following tasks:

- Perform pre-mobilization activities including, public and private underground utility clearances and preparation of a site-specific health and safety plan;
- Advance six soil borings and collect soil and/or groundwater samples from each boring;
- Install six temporary groundwater monitoring wells in the borings;

- Complete laboratory analyses of soil and groundwater samples; and
- Prepare this Limited Site Investigation (LSI) summary report.

The objective of the scope of services for this LSI was to assess the potential presence of compounds of concern in subsurface soil and groundwater at the site that may have originated from the above-referenced RECs. The detected sampling results have been compared to the Washington State Department of Ecology (Ecology) Model Toxics Control Program (MTCA) to assess if compounds of concern exceed the applicable standards. The scope of services was not intended to identify every chemical possibly associated with the site or surrounding facilities or to establish corrective action costs.

Groundwater was not encountered or not adequate for sampling at the time of drilling in five of the six borings; therefore, groundwater samples were not collected as a part of this investigation in those five locations. In lieu of groundwater sampling, an additional soil sample was collected near the bottom of soil borings B1, B3, and B5.

2.1 Standard of Care

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time. Terracon makes no warranties, either express or implied, regarding the findings, conclusions, or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies, or other third parties supplying information used in the preparation of the report. These LSI services were performed in accordance with the scope of work agreed with you, our client, as reflected in our proposal and were not restricted by ASTM E1903-11 *Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process*.

2.2 Additional Scope Limitations

Findings, conclusions, and recommendations resulting from these services are based upon information derived from the on-site activities and other services performed under this scope of work; such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, non-detectable, or not present during these services. We cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this LSI. Subsurface conditions may vary from those encountered at specific borings or wells or during other surveys, tests, assessments, investigations, or exploratory services. The data, interpretations, findings, and our recommendations are based solely upon data obtained at the time and within the scope of these services.

2.3 Reliance

This report has been prepared for the exclusive use of Umpqua Bank, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the express written authorization of Umpqua Bank and Terracon. Any unauthorized distribution or reuse is at Umpqua Bank's sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions, and limitations stated in the proposal, LSI report, and Terracon's Master Environmental Service Agreement (MESA). The limitation of liability defined in the terms and conditions is the aggregate limit of Terracon's liability to Umpqua Bank and all relying parties unless otherwise agreed in writing.

3.0 FIELD INVESTIGATION

Terracon has a commitment to the safety of all its employees. As such, and in accordance with our *Incident and Injury Free*® safety goals, Terracon conducted the fieldwork under a site-specific health and safety plan developed for this project. Work was performed using the Occupational Health and Safety Administration (OSHA) Level D work attire consisting of hard hats, safety glasses, protective gloves, and protective boots. In an effort to locate underground utilities in the work area, Terracon contacted the Washington State Utility Notification Center to arrange for public underground utility clearance at the site. In addition, a private utility location service was subcontracted by Terracon to identify the locations and depths of the various utilities located near the proposed borings.

3.1 Soil Sampling

Field activities were performed in four locations: two soil borings, identified as B1 and B2, were near the vehicle maintenance building; two soil borings, identified as B3 and B4, were advanced near the former underground storage tank area and adjacent to the on-site storm drain ditch; one soil boring, identified as B5, was advanced in the location of the former fire pond and dip tank, and; one soil boring, identified as B6, was advanced near the wash-down area and dip tank. Boring locations relative to site features are depicted on Exhibit 2 of Appendix A.

Terracon field representative Jeff Dobbins mobilized to the site on August 17, 2018 to oversee the drilling of soil borings B1 through B6. B1 through B6 were advanced by Holt Services, a Washington State-licensed driller, using a truck-mounted direct-push sampler drill rig equipped with disposable acetate sample sleeves. Throughout the drilling operation, soil samples were obtained continuously (to the extent practical) from five-foot long pushes driven into the ground using a 32 hertz, percussion hammer. The steel sampling tube was extracted from the hole and the liners were removed and split open. Non-disposable sampling equipment was cleaned using a non-phosphate soap wash and potable water rinse prior to the beginning of the project and before collecting each soil sample.

Direct-push borings were advanced to depths of approximately 10 to 20 feet below the ground surface (bgs).

Terracon field-screened soil samples for organic vapors using a calibrated photoionization detector (PID). This device provides a direct reading in parts per million (ppm) isobutylene equivalents. Upon removal of the sampler from the borehole, Terracon placed a portion of each sample in a sealable plastic bag. After a stabilization period, Terracon screened the headspace above the soil using the PID.

In addition, select soils were field-screened by a sheen test by placing soil into a shallow stainless-steel bowl of water and observing to see if a sheen emitted on top the water's surface.

A field log of each boring was maintained, including the thickness and depth of each soil unit encountered and the depth to the uppermost water table. Soil samples were observed to document soil lithology, color, and moisture content. Soils were logged in general accordance with American Society for Testing and Materials (ASTM) Practice Designation D-2488, *Standard Practice for Description of Soils (Visual-Manual Procedure)*. Exploration logs are included in Appendix B. The boring logs also include the field screening results for each soil boring.

In the absence of field indications, soil samples were collected from the depth interval most likely to be impacted, change in lithology, from the upper soil zone, at a depth equal or below the REC and/or the capillary fringe, as determined by Terracon's field representative.

A total of nine soil samples, one from each boring and one additional sample from B1, B3, and B5, were collected and submitted for laboratory analysis. Soil samples were extracted by hand using disposable gloves and placed directly into laboratory-supplied glassware.

Each sample container was labeled with the project number, date, time, boring number, and sample number. Sample containers were placed in a chilled cooler immediately after sampling, and subsequently transported to a Washington State-accredited laboratory under standard chain-of-custody procedures.

The borings were decommissioned using bentonite chips immediately upon the conclusion of field work for this investigation and capped to approximately match the existing ground surface.

3.2 Groundwater Sampling

At the time of drilling, groundwater was only observed in B1 and B2 at a depth of approximately 5 feet bgs. At the time of sampling, B1 did not produce an adequate amount of groundwater for sampling; therefore, a groundwater sample was not collected from B1.

One groundwater sample was collected from the temporary monitoring well B2, using disposable tubing and a peristaltic pump. Sample tubing intake depth was selected based on the screened interval of the well. Purging of the temporary well was attempted, as practical, based on groundwater recharge rates and volumes. Approximately one gallon of development water was removed from the well before groundwater appeared relatively free of sediment.

Please note that during sampling from temporary wells, groundwater often remains turbid and can contain suspended colloids, which may then be detected by the laboratory, potentially resulting in elevated contaminate concentrations. Therefore, without the benefit of permanent groundwater monitoring wells that are properly developed prior to groundwater sampling, groundwater analytical results may not be representative of actual on-site groundwater conditions.

The sample containers were labeled with the project number, date, time, and sample number and placed in a chilled cooler immediately after sampling. The sample containers were subsequently transported to a Washington state-certified laboratory, under standard chain-of-custody procedures.

At the completion of field activities, the temporary wells were removed from each boring and they were decommissioned using bentonite chips and capped to approximately match the existing ground surface.

4.0 RESULTS OF THE FIELD INVESTIGATION

4.1 Geology/Hydrogeology

In general, Terracon encountered gray sandy silt in the upper three feet, followed by gray silt with wood fragments to the boring termination depths. The boring logs attached in Appendix B detail the observed soil stratigraphy.

4.2 Field Screening

PID readings were not detected above 6.9 parts per million (ppm) in soil collected from the borings. Furthermore, sheens or other field indications (e.g., odors) of possible chemical impacts were not noted in any of the soils and/or purge water collected from temporary groundwater monitoring wells. The field screening results are summarized on the boring logs in Appendix B.

5.0 ANALYTICAL RESULTS

The selected soil samples and groundwater samples were analyzed for gasoline-, diesel-, and oil-range total petroleum hydrocarbons (TPH) by Northwest Method NWTPH-Gx/Dx, and volatile organic compounds (VOCs) by EPA Method 8260, semi-VOCs (SVOCs) by EPA Method 8270, polychlorinated biphenyls (PCBs) by EPA Method 8082, metals by EPA Method 6010/6020/200.8, and/or polychlorinated dibenzodioxins and polychlorinated dibenzofurans (dioxins and furans) by EPA Method 1613. Soil samples analyzed for gasoline-range TPH and VOCs were collected using EPA Method 5035 sampling kits.

Reported soil and groundwater concentrations were compared with the Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method A Cleanup Levels for unrestricted land use, as applicable, established under Chapter 70.105D RCW and its implementing regulation, MTCA Chapter 173-340 WAC. Where a MTCA Method A Cleanup level has not been established for a particular compound, the respective MTCA Method B Cleanup Level for cancer/non-cancer direct contact is applied for comparison. Reported soil dioxins/furans concentrations were reported in Toxicity Equivalent Factors (TEF) and compared to the mixtures of dioxins/furans established cleanup levels in accordance with WAC 173-340-708(8).

Data packages were checked for completeness immediately upon receipt from the laboratory to ensure that data and QA/QC information requested were present. Data quality was assessed by considering holding times, surrogate recovery, method blanks, matrix spike and matrix spike duplicate recovery, and detection limits. Based upon our interpretation of quality control information provided by the laboratories, it is our opinion that the overall dataset is useable as qualified for the purposes of this LSI.

5.1 Soil Analytical Results

The soil samples collected from B1-2.5 and B2-3 contained arsenic at concentrations of 35 milligrams per kilograms (mg/kg) and 41 mg/kg respectively. These concentrations exceed the respective MTCA Method A cleanup level of 20 mg/kg for arsenic.

The soil samples collected from B1-2.5, B1-6.5, and B2-3 contained chromium at concentrations of 67 mg/kg, 47 mg/kg, and 70 mg/kg respectively. The concentrations of total chromium in soil samples collected from B1 and B2 ranged from 47 mg/kg to 70 mg/kg; although these concentrations are below the MTCA Method A cleanup level of 2,000 mg/kg for total chromium, the concentration exceeds the hexavalent chromium MTCA Method A cleanup level of 19 mg/kg. The historic site use as a lumber mill indicates the potential for on-site use or source of chromium, and concentrations are most likely attributed to historic use of chromium. The highest concentration of total chromium (B2-3) was additionally analyzed for hexavalent chromium. The concentration of hexavalent chromium in B2-3 was not reported above laboratory MRLs,

therefore chromium concentrations were compared to MTCA Method A cleanup level of 2,000 mg/kg for total chromium.

The soil sample collected from B5-2.5, B5-18, and B6-3 contained concentrations of dioxins and furans. These concentrations were used to calculate the Toxicity Equivalent Factors (TEF). Since Method A cleanup levels have not been established, the TEF concentrations were compared against the MTCA Method B cleanup level for cancer direct contact of 12.8 nanograms per kilogram (ng/kg). The TEF for B5-2.5, B5-18, and B6-3 was 10.8 ng/kg, 0.499 ng/kg, and 0.718 ng/kg respectively. These concentrations were below the respective Method B cleanup level of 12.8 ng/kg.

The remaining soil samples results were either below the laboratory MRLs or below the MTCA Method A or MTCA Method B cleanup levels. The

The soil analytical results are summarized in Table 1 of Appendix C.

5.2 Groundwater Analytical Results

The groundwater sample collected from B2 contained arsenic at a concentration of 77 µg/l, which exceeds the respective MTCA Method A cleanup level of 5 µg/l.

The remaining groundwater sample results were either below the laboratory MRLs or below the MTCA Method A or MTCA Method B cleanup levels.

The groundwater analytical results are summarized in Table 2 of Appendix C.

6.0 INVESTIGATION DERIVED WASTE

One 16-gallon drum of drill cuttings and one 16-gallon drum of monitoring well purge/equipment decontamination water were containerized during the field activities. The drums have been properly disposed by a licensed disposal facility.

7.0 FINDINGS AND CONCLUSIONS

Based on the scope of services described in this report and subject to the limitations described herein, Terracon concludes the following.

Soil samples collected from B1 and B2 had concentrations of arsenic and/or chromium which exceeded their respective MTCA Method A cleanup levels. Chromated arsenicals, which includes chromated copper arsenate (CCA), is a group of pesticides containing chromium, copper, and/or arsenic that protect wood against termites, fungi and other pests that can

degrade or threaten the integrity of wood products. Chromated arsenicals-treated wood is used to produce commercial wood shake, shingles, permanent foundation support beams and other wood products, and is likely attributing to the elevated concentrations of chromium and arsenic. However, based on the additional analysis of the highest chromium concentration, the concentrations of chromium do not appear to be hexavalent chromium. Soil samples collected form B5 and B6 had concentrations of dioxins and furans. Although these concentrations are below their respective MTCA Method B cleanup level, they exceed the natural background concentrations of 5.2 ng/kg for dioxin and furan mixtures in soil per Ecology's *Natural Background for Dioxins/Furans in WA Soils,* Technical Memorandum #8 dated August 9, 2010. According to an Environmental Protection Agency (EPA) discussion on Persistent Bioaccumulative and Toxic (PBT) Chemical Program on Dioxins and Furans dated April 18, 2011, dioxin/furans are transported primarily through the air and are deposited on the surfaces of soils. Most dioxin/furans are introduced to the environment through the air as trace by-products of combustion. The historical site use as a lumber mill and on-site fire pond, it is presumed that the onsite detections in the site soils are attributed to trace by-products through air transportation and/or the direct deposition from on-site activities.

Terracon concludes that the operations at the site with a vehicle maintenance area, wash-down area, diesel UST area, fire pond and documented dioxins and furans appears to have previously contributed and may potentially continue to contribute to the release of select chemicals of concern to soils and/or groundwater; however, with the exception of arsenic in soil and groundwater it does not appear that a significant release to these areas has occurred which has contributed to a large-scale release. Although groundwater impacts were not identified, with the exception of arsenic, at concentrations exceeding the MTCA cleanup level, it should be understood that groundwater samples were not collected from other areas of the site. Regardless, soil sampling did not indicate widespread impacts that could have migrated in the local groundwater aquifer.

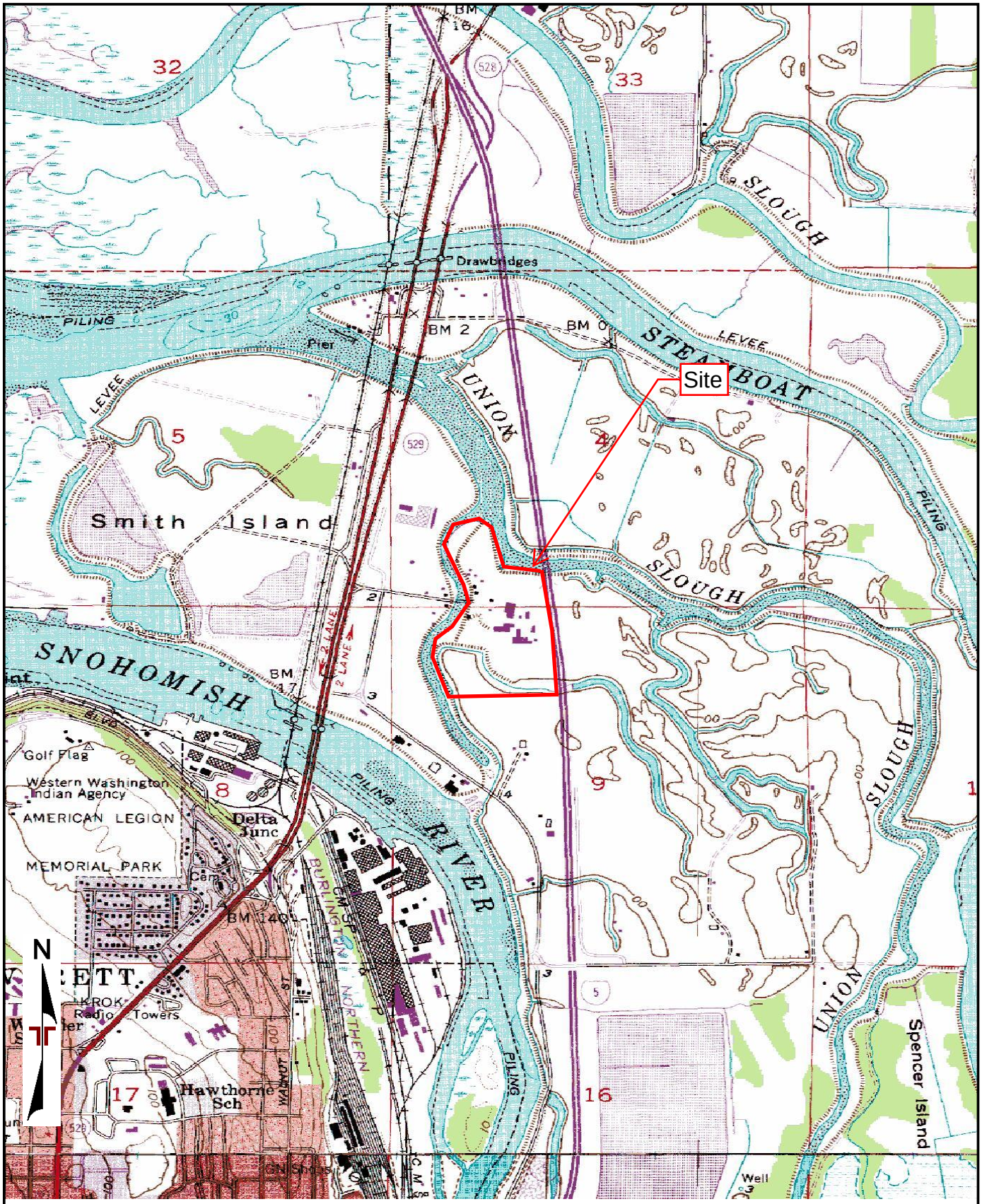
8.0 RECOMMENDATIONS

Based on the findings of this investigation, it appears that the arsenic concentrations identified are consistent with the current site use. While there are arsenic exceedances to the MTCA cleanup level, Terracon infers that they are limited to the site soil and groundwater within the limits of the site boundary. Therefore, unless the site use is proposed to change, Terracon does not recommend any additional investigations at this time. For a further degree of confidence with regard to onsite groundwater conditions, permanent groundwater monitoring wells would be required, although not recommended at this time.

With regards to the identified releases to soil exhibiting arsenic concentrations above MTCA action levels, a release report to Ecology is required per MTCA (Washington Administrative Code (WAC) 173-340-300 (2) (a)), which states: *"Any owner or operator, who has information that a hazardous substance has been released to the environment at the owner's or operator's*

facility and may be a threat to human health or the environment, shall report such information to the department within 90 days of discovery."

APPENDIX A – EXHIBITS



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: MARYSVILLE, WA (1973) and EVERETT, WA (1973).

Project Manager: EAD	Project No. 81187331	Terracon 21905 64th Ave W, Ste 100 Mountlake Terrace, WA 98043-2251	TOPOGRAPHIC MAP Buse Timber & Sales 3812 28th Pl NE Everett, Snohomish County, Washington	Exhibit 1
Drawn by: TRB	Scale: 1"=2,000'			
Checked by: MYW	File Name: Exhibit 1			
Approved by: MYW	Date: Aug 2018			

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

B1 ● Boring number and approximate location

AERIAL PHOTOGRAPHY PROVIDED BY MICROSOFT BING MAPS

Project Manager: EAD	Project No. 81187331	Terracon	SITE DIAGRAM
Drawn by: TRB	Scale: AS SHOWN	21905 64th Ave W, Ste 100	Buse Timber & Sales
Checked by: MYW	File Name: Exhibit 2	Mountlake Terrace, WA 98043-2251	3812 28th Pl NE
Approved by: MYW	Date: Aug 2018		Everett, Snohomish County, Washington

Exhibit 2

APPENDIX B – TABLES

TABLE 1

SUMMARY OF SOIL ANALYTICAL RESULTS
Buse Timber & Sales
3812 28th Place Northeast
Everett, Washington

Terracon Project No. 81187331

All concentrations are in milligrams per kilogram (mg/kg)

Boring ID	Sample ID	Sample Date	Sample Depth (feet)	TPH			Metals[+,1]						VOCs [1]		Dioxins and Furans°
				Gasoline-Range	Diesel-Range	Oil-Range	Mercury	Arsenic	Total Chromium	Hexavalent Chromium (VI)	Lead	Other Metals	Acetone	Other VOCs	
MTCA Method A Cleanup Level				**100**	**2,000**	**2,000**	**2**	**20**	**2,000**	**19**	**250**	**Varies**	**72,000***	**Varies**	**12.8*‡**
B1	B1-2.5	8/17/18	2.5	ND (<3.0)	ND (<28)	ND (<56)	**0.034**	**35**	**67**	--	**57**	ND	**0.23**	ND	--
	B1-6.5	8/17/18	6.5	ND (<3.0)	ND (<25)	**91**	ND (<0.020)	**16**	**47**	--	**13**	ND	ND (<0.050)	ND	--
B2	B2-3	8/17/18	3	ND (<3.0)	ND (<29)	ND (<58)	**0.090**	**41**	**70**	ND (<5.0)	**31**	ND	**0.38**	ND	--
B3	B3-6.5	8/17/18	6.5	ND (<3.0)	ND (<28)	ND (<56)	--	--	--	--	--	--	**0.063**	ND	--
	B3-17.5	8/17/18	17.5	ND (<3.0)	ND (<25)	ND (<50)	--	--	--	--	--	--	ND (<0.050)	ND	--
B4	B4-7	8/17/18	7	ND (<3.0)	ND (<31)	ND (<62)	--	--	--	--	--	--	ND (<0.050)	ND	--
B5	B5-2.5	8/17/18	2.5	**3.5**	ND (<25)	**170**	--	--	--	--	--	--	ND (<0.050)	ND	**10.8**
	B5-18	8/17/18	18	ND (<3.0)	ND (<25)	ND (<50)	--	--	--	--	--	--	ND (<0.050)	ND	**0.499**
B6	B6-3	8/17/18	3	ND (<3.0)	ND (<26)	**58**	--	--	--	--	--	--	**0.23**	ND	**0.718**

Note: Concentrations detected above laboratory reporting limits are in **BOLD** type.
Concentrations detected above MTCA cleanup levels are in **BOLD RED** type and a shaded cell.
Compounds with no MTCA cleanup levels established are not included. See laboratory report for full list of analytes.

TPH - Total petroleum hydrocarbons
VOCs - Volatile organic compounds
MTCA - Model Toxics Control Act
RCRA - Resource Conservation and Recovery Act
ND - Not detected above laboratory reporting limits.
\+ - RCRA 8 Metals
* - MTCA Method B Cleanup Level - cancer/noncancer direct contact.
° - Toxicity equivalent concentrations in nanograms per kilogram (ng/kg)
‡ - Natural background concentration for dioxin and furan mixtures in upland soils (Ecology Technical Memorandum #8, 2010)
1 - See laboratory report for full list of analytes.

TABLE 2

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

Buse Timber & Sales
3812 28th Place Northeast
Everett, Washington

Terracon Project No. 81187331

All concentrations are in micrograms per liter (µg/L)

Sample ID	Sample Date	TPH			Metals[+,1]			VOCs[1]
		Gasoline-Range	Diesel-Range	Oil-Range	Arsenic	Chromium (VI)	Other Metals	
MTCA Method A Cleanup Level		**1,000**	**500**	**500**	**5**	**48**	**Varies**	**Varies**
B2	8/17/18	**260**	**450**	**400**	**77**	**9.2**	ND	ND

Note: Concentrations detected above laboratory reporting limits are in **BOLD** type.
Concentrations above MTCA cleanup levels are in **BOLD RED** and a shaded cell.

TPH - Total petroleum hydrocarbons
VOCs - Volatile organic compounds
RCRA - Resource Conservation and Recovery Act
MTCA - Model Toxics Control Act
ND - Not detected above laboratory reporting limits.
\+ - RCRA 8 metals
1 - See laboratory report for full list of analytes.

APPENDIX C – SOIL BORING LOGS

BORING LOG NO. B1

PROJECT: Buse Timber & Sales

CLIENT: Umpqua Bank
Coeur d'Alene, Idaho

SITE: 3812 28th Place Northeast
Everett, Washington

LOCATION See Exhibit 2.

DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE ID
0.2	**ASPHALT**					
0.8	**FILL - SAND WITH GRAVEL (SP)**, gray, moist					
1.5	**FILL - SAND (SP)**, gray, moist					
	SILT (ML), gray, moist				0.9	B1-2.5
5.0		5	▽			
	SAND (SP), gray, wet				0.0	B1-6.5
6.8						
	SILT (ML), gray, moist, abundant orange wood				0.3	
10.0		10				
	Boring Terminated at 10 Feet					

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Direct push

Abandonment Method:
Boring backfilled with bentonite chips upon completion.

Notes:

WATER LEVEL OBSERVATIONS

▽ *Depth to groundwater while drilling.*

Terracon
21905 64th Ave W, Ste 100
Mountlake Terrace, WA

Boring Started: 08-17-2018 | Boring Completed: 08-17-2018

Drill Rig: Geoprobe | Driller: Holt Services, Inc

Project No.: 81187331 | Exhibit: B-1

BORING LOG NO. B2

PROJECT: Buse Timber & Sales

CLIENT: Umpqua Bank
Coeur d'Alene, Idaho

SITE: 3812 28th Place Northeast
Everett, Washington

LOCATION See Exhibit 2.

GRAPHIC LOG	DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE ID
	0.8	**ASPHALT CONCRETE**					
	2.5	**FILL - SAND (SP)**, gray, moist					
	5.0	**SILT (ML)**, gray, moist				1.6	B2-3
	6.5	**SAND (SP)**, minor silt, gray, wet	5	▽		0.6	
	10.0	**SILT (ML)**, gray, moist, with orange wood				0.1	
		Boring Terminated at 10 Feet	10				

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Direct push

Abandonment Method:
Boring backfilled with bentonite chips upon completion.

Notes:

WATER LEVEL OBSERVATIONS

▽ *Depth to groundwater while drilling.*

Terracon
21905 64th Ave W, Ste 100
Mountlake Terrace, WA

Boring Started: 08-17-2018 | Boring Completed: 08-17-2018

Drill Rig: Geoprobe | Driller: Holt Services, Inc.

Project No.: 81187331 | Exhibit: B-2

BORING LOG NO. B3

PROJECT: Buse Timber & Sales

CLIENT: Umpqua Bank
Coeur d'Alene, Idaho

SITE: 3812 28th Place Northeast
Everett, Washington

LOCATION See Exhibit 2.

DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE ID
0.2	**ASPHALT**					
	FILL - WELL GRADED GRAVEL WITH SAND (GW), tan, slightly moist					
1.8	**SILT (ML)**, gray, moist, smelly				0.8	
		5				
					0.3	B3-6.5
	abundant orange and maroon wood				0.0	
		10			0.4	
	minor wood				1.0	
15.0	**SILT WITH SAND (ML)**, gray, moist	15			0.4	
					0.1	B3-17.5
20.0	***Boring Terminated at 20 Feet***	20				

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Direct push

Abandonment Method:
Boring backfilled with bentonite chips upon completion.

Notes:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
21905 64th Ave W, Ste 100
Mountlake Terrace, WA

Boring Started: 08-17-2018 | Boring Completed: 08-17-2018

Drill Rig: Geoprobe | Driller: Holt Services, Inc.

Project No.: 81187331 | Exhibit: B-3

BORING LOG NO. B4

PROJECT: Buse Timber & Sales

CLIENT: Umpqua Bank
Coeur d'Alene, Idaho

SITE: 3812 28th Place Northeast
Everett, Washington

LOCATION See Exhibit 2.

DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE ID
	TOPSOIL, tan, dry					
1.5	**SILT (ML)**, gray, moist, abundant vegetation				0.0	
					0.0	
	orange mottling					
	smelly, wood	5				
					0.7	B4-7
					0.2	
	no odor, no wood	10				
					0.0	
	trace sand	15			0.0	
					0.0	
20.0	***Boring Terminated at 20 Feet***	20				

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Direct push

Abandonment Method:
Boring backfilled with bentonite chips upon completion.

Notes:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
21905 64th Ave W, Ste 100
Mountlake Terrace, WA

Boring Started: 08-17-2018 | Boring Completed: 08-17-2018

Drill Rig: Geoprobe | Driller: Holt Services, Inc.

Project No.: 81187331 | Exhibit: B-4

BORING LOG NO. B5

PROJECT: Buse Timber & Sales

CLIENT: Umpqua Bank
Coeur d'Alene, Idaho

SITE: 3812 28th Place Northeast
Everett, Washington

LOCATION See Exhibit 2.

DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE ID
0.5	**TOPSOIL**					
	FILL - SAND (SP), tan, dry grading down to moist					
2.0						
	SILT (ML), gray, moist				6.9	B5-2.5
	smelly, abundant wood from 5' to 6'	5			2.9	
	orange wood	10			0.0	
	trace sand, trace orange wood, no odor	15			0.0	B5-18
20.0		20				
	Boring Terminated at 20 Feet					

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Direct push

Abandonment Method:
Boring backfilled with bentonite chips upon completion.

Notes:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
21905 64th Ave W, Ste 100
Mountlake Terrace, WA

Boring Started: 08-17-2018 | Boring Completed: 08-17-2018

Drill Rig: Geoprobe | Driller: Holt Services, Inc.

Project No.: 81187331 | Exhibit: B-5

BORING LOG NO. B6

PROJECT: Buse Timber & Sales

CLIENT: Umpqua Bank
Coeur d'Alene, Idaho

SITE: 3812 28th Place Northeast
Everett, Washington

LOCATION See Exhibit 2.

DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE ID
0.5	**ASPHALT**					
	FILL - SAND WITH GRAVEL (SP), gray, moist				0.7	
2.0						
	SILT (ML), gray, moist, smelly				1.7	B6-3
	abundant wood	5			0.0	
		10			0.2	
11.0						
11.5	**SILTY SAND (SM)**, gray, moist, no wood, no odor					
	SILT (ML), gray, moist				0.0	
		15			1.0	
	some sand				0.0	
20.0		20				
	Boring Terminated at 20 Feet					

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Direct push

Abandonment Method:
Boring backfilled with bentonite chips upon completion.

Notes:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
21905 64th Ave W, Ste 100
Mountlake Terrace, WA

Boring Started: 08-17-2018 | Boring Completed: 08-17-2018

Drill Rig: Geoprobe | Driller: Holt Services, Inc.

Project No.: 81187331 | Exhibit: B-6

APPENDIX D – ANALYTICAL REPORT

September 14, 2018

Mr. Eric Dubcak
Terracon
21905 - 64th Ave W, Suite 100
Mountlake Terrace, WA 98043

Dear Mr. Dubcak,

On August 17th, 10 samples were received by our laboratory and assigned our laboratory project number EV18080100. The project was identified as your 81187331. 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

Glen Perry
Technical Manager

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

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-01
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 8:05:00 AM
CLIENT SAMPLE ID	B6-3	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	08/20/2018	JMK
TPH-Diesel Range	NWTPH-DX	U	26	1	MG/KG	08/22/2018	EBS
TPH-Oil Range	NWTPH-DX	**58**	50	1	MG/KG	08/22/2018	EBS
Dichlorodifluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Vinyl Chloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Tetrachloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trichlorofluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Disulfide	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Acetone	EPA-8260	**0.23**	0.17	1	MG/KG	08/21/2018	DLC
1,1-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Methylene Chloride	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Acrylonitrile	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Methyl T-Butyl Ether	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Butanone	EPA-8260	U	0.13	1	MG/KG	08/21/2018	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Benzene	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Trichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Dibromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromodichloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Methyl-2-Pentanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Toluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Hexanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,3-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC

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ALS Group USA, Corp dba ALS Environmental

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE: ALS JOB#: ALS SAMPLE#:	9/14/2018 EV18080100 EV18080100-01
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 8:05:00 AM
CLIENT SAMPLE ID	B6-3	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Tetrachloroethylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Dibromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromoethane	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Chlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Ethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
m,p-Xylene	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Styrene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
o-Xylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromoform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Isopropylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Propyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
T-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
S-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
P-Isopropyltoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,4-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Butylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Hexachlorobutadiene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Naphthalene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Pyridine	EPA-8270	U	0.20	1	MG/KG	08/23/2018	JMK
N-Nitrosodimethylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Phenol	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Aniline	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	0.26	1	MG/KG	08/23/2018	JMK
2-Chlorophenol	EPA-8270	U	0.26	1	MG/KG	08/23/2018	JMK
1,3-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
1,4-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-01
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 8:05:00 AM
CLIENT SAMPLE ID	B6-3	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzyl Alcohol	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
1,2-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	0.33	1	MG/KG	08/23/2018	JMK
3&4-Methylphenol	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	0.25	1	MG/KG	08/23/2018	JMK
Hexachloroethane	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Nitrobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Isophorone	EPA-8270	U	0.19	1	MG/KG	08/23/2018	JMK
2-Nitrophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dimethylphenol	EPA-8270	U	0.17	1	MG/KG	08/23/2018	JMK
Benzoic Acid	EPA-8270	U	1.9	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	0.32	1	MG/KG	08/23/2018	JMK
2,4-Dichlorophenol	EPA-8270	U	0.65	1	MG/KG	08/23/2018	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	0.19	1	MG/KG	08/23/2018	JMK
Naphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chloroaniline	EPA-8270	U	1.5	1	MG/KG	08/23/2018	JMK
2,6-Dichlorophenol	EPA-8270	U	0.49	1	MG/KG	08/23/2018	JMK
Hexachlorobutadiene	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	0.86	1	MG/KG	08/23/2018	JMK
2-Methylnaphthalene	EPA-8270	U	0.41	1	MG/KG	08/23/2018	JMK
1-Methylnaphthalene	EPA-8270	U	0.47	1	MG/KG	08/23/2018	JMK
Hexachlorocyclopentadiene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4,6-Trichlorophenol	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
2,4,5-Trichlorophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Chloronaphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Nitroaniline	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dimethylphthalate	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
2,6-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3-Nitroaniline	EPA-8270	U	1.5	1	MG/KG	08/23/2018	JMK
2,4-Dinitrophenol	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
4-Nitrophenol	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
Dibenzofuran	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
Diethylphthalate	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Fluorene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE: ALS JOB#: ALS SAMPLE#:	9/14/2018 EV18080100 EV18080100-01
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 8:05:00 AM
CLIENT SAMPLE ID	B6-3	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
4-Chlorophenyl-Phenylether	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
4-Nitroaniline	EPA-8270	U	0.34	1	MG/KG	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
N-Nitrosodiphenylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Azobenzene	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Hexachlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pentachlorophenol	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
Phenanthrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Carbazole	EPA-8270	U	0.29	1	MG/KG	08/23/2018	JMK
Di-N-Butylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Butylbenzylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3,3-Dichlorobenzidine	EPA-8270	U	0.45	1	MG/KG	08/23/2018	JMK
Benzo[A]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Chrysene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Di-N-Octylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[B]Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[K]Fluoranthene	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Benzo[A]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**74.9**	08/20/2018	JMK
C25	NWTPH-DX	**78.5**	08/22/2018	EBS
1,2-Dichloroethane-d4	EPA-8260	**99.8**	08/20/2018	DLC
1,2-Dichloroethane-d4	EPA-8260	**96.9**	08/21/2018	DLC
Toluene-d8	EPA-8260	**111**	08/20/2018	DLC
Toluene-d8	EPA-8260	**103**	08/21/2018	DLC
4-Bromofluorobenzene	EPA-8260	**99.7**	08/20/2018	DLC
4-Bromofluorobenzene	EPA-8260	**84.7**	08/21/2018	DLC
2-Fluorophenol	EPA-8270	**108**	08/23/2018	JMK
Phenol-d5	EPA-8270	**104**	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-01
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 8:05:00 AM
CLIENT SAMPLE ID	B6-3	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
Nitrobenzene-d5	EPA-8270	**88.1**	08/23/2018	JMK
2-Fluorobiphenyl	EPA-8270	**84.0**	08/23/2018	JMK
2,4,6-Tribromophenol	EPA-8270	**93.7**	08/23/2018	JMK
Terphenyl-d14	EPA-8270	**93.8**	08/23/2018	JMK

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

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-02
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 9:50:00 AM
CLIENT SAMPLE ID	B4-7	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	08/20/2018	JMK
TPH-Diesel Range	NWTPH-DX	U	31	1	MG/KG	08/22/2018	EBS
TPH-Oil Range	NWTPH-DX	U	62	1	MG/KG	08/22/2018	EBS
Dichlorodifluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Vinyl Chloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Tetrachloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trichlorofluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Disulfide	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Acetone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Methylene Chloride	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Acrylonitrile	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Methyl T-Butyl Ether	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Butanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Benzene	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Trichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Dibromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromodichloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Methyl-2-Pentanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Toluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Hexanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,3-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Tetrachloroethylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-02
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 9:50:00 AM
CLIENT SAMPLE ID	B4-7	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dibromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromoethane	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Chlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Ethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
m,p-Xylene	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Styrene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
o-Xylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromoform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Isopropylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Propyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
T-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
S-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
P-Isopropyltoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,4-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Butylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Hexachlorobutadiene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Naphthalene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Pyridine	EPA-8270	U	0.20	1	MG/KG	08/23/2018	JMK
N-Nitrosodimethylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Phenol	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
Aniline	EPA-8270	U	0.15	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	0.31	1	MG/KG	08/23/2018	JMK
2-Chlorophenol	EPA-8270	U	0.32	1	MG/KG	08/23/2018	JMK
1,3-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
1,4-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzyl Alcohol	EPA-8270	U	0.17	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-02
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 9:50:00 AM
CLIENT SAMPLE ID	B4-7	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,2-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Methylphenol	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	0.41	1	MG/KG	08/23/2018	JMK
3&4-Methylphenol	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	0.31	1	MG/KG	08/23/2018	JMK
Hexachloroethane	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Nitrobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Isophorone	EPA-8270	U	0.23	1	MG/KG	08/23/2018	JMK
2-Nitrophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dimethylphenol	EPA-8270	U	0.21	1	MG/KG	08/23/2018	JMK
Benzoic Acid	EPA-8270	U	2.3	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	0.39	1	MG/KG	08/23/2018	JMK
2,4-Dichlorophenol	EPA-8270	U	0.80	1	MG/KG	08/23/2018	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	0.23	1	MG/KG	08/23/2018	JMK
Naphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chloroaniline	EPA-8270	U	1.8	1	MG/KG	08/23/2018	JMK
2,6-Dichlorophenol	EPA-8270	U	0.60	1	MG/KG	08/23/2018	JMK
Hexachlorobutadiene	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	1.1	1	MG/KG	08/23/2018	JMK
2-Methylnaphthalene	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
1-Methylnaphthalene	EPA-8270	U	0.58	1	MG/KG	08/23/2018	JMK
Hexachlorocyclopentadiene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4,6-Trichlorophenol	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
2,4,5-Trichlorophenol	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
2-Chloronaphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Nitroaniline	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dimethylphthalate	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
2,6-Dinitrotoluene	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
Acenaphthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3-Nitroaniline	EPA-8270	U	1.9	1	MG/KG	08/23/2018	JMK
2,4-Dinitrophenol	EPA-8270	U	0.17	1	MG/KG	08/23/2018	JMK
4-Nitrophenol	EPA-8270	U	0.18	1	MG/KG	08/23/2018	JMK
Dibenzofuran	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
2,4-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	0.16	1	MG/KG	08/23/2018	JMK
Diethylphthalate	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
Fluorene	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE: ALS JOB#: ALS SAMPLE#:	9/14/2018 EV18080100 EV18080100-02
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 9:50:00 AM
CLIENT SAMPLE ID	B4-7	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
4-Nitroaniline	EPA-8270	U	0.41	1	MG/KG	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
N-Nitrosodiphenylamine	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Azobenzene	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
Hexachlorobenzene	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
Pentachlorophenol	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
Phenanthrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Carbazole	EPA-8270	U	0.35	1	MG/KG	08/23/2018	JMK
Di-N-Butylphthalate	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Butylbenzylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3,3-Dichlorobenzidine	EPA-8270	U	0.56	1	MG/KG	08/23/2018	JMK
Benzo[A]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Chrysene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Di-N-Octylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[B]Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[K]Fluoranthene	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
Benzo[A]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**70.3**	08/20/2018	JMK
C25	NWTPH-DX	**70.6**	08/22/2018	EBS
1,2-Dichloroethane-d4	EPA-8260	**95.6**	08/20/2018	DLC
Toluene-d8	EPA-8260	**110**	08/20/2018	DLC
4-Bromofluorobenzene	EPA-8260	**95.2**	08/20/2018	DLC
2-Fluorophenol	EPA-8270	**103**	08/23/2018	JMK
Phenol-d5	EPA-8270	**95.0**	08/23/2018	JMK
Nitrobenzene-d5	EPA-8270	**86.5**	08/23/2018	JMK
2-Fluorobiphenyl	EPA-8270	**83.0**	08/23/2018	JMK
2,4,6-Tribromophenol	EPA-8270	**88.9**	08/23/2018	JMK
Terphenyl-d14	EPA-8270	**89.6**	08/23/2018	JMK

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

CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-02
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 9:50:00 AM
CLIENT SAMPLE ID	B4-7	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

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

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-03
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 11:05:00 AM
CLIENT SAMPLE ID	B3-6.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	08/20/2018	JMK
TPH-Diesel Range	NWTPH-DX	U	28	1	MG/KG	08/22/2018	EBS
TPH-Oil Range	NWTPH-DX	U	56	1	MG/KG	08/22/2018	EBS
Dichlorodifluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Vinyl Chloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Tetrachloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trichlorofluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Disulfide	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Acetone	EPA-8260	**0.063**	0.050	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Methylene Chloride	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Acrylonitrile	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Methyl T-Butyl Ether	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Butanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Benzene	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Trichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Dibromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromodichloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Methyl-2-Pentanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Toluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Hexanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,3-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Tetrachloroethylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-03
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 11:05:00 AM
CLIENT SAMPLE ID	B3-6.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dibromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromoethane	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Chlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Ethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
m,p-Xylene	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Styrene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
o-Xylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromoform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Isopropylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Propyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
T-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
S-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
P-Isopropyltoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,4-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Butylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Hexachlorobutadiene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Naphthalene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Pyridine	EPA-8270	U	0.20	1	MG/KG	08/23/2018	JMK
N-Nitrosodimethylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Phenol	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Aniline	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	0.27	1	MG/KG	08/23/2018	JMK
2-Chlorophenol	EPA-8270	U	0.27	1	MG/KG	08/23/2018	JMK
1,3-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
1,4-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzyl Alcohol	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-03
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 11:05:00 AM
CLIENT SAMPLE ID	B3-6.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,2-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	0.35	1	MG/KG	08/23/2018	JMK
3&4-Methylphenol	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	0.26	1	MG/KG	08/23/2018	JMK
Hexachloroethane	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Nitrobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Isophorone	EPA-8270	U	0.20	1	MG/KG	08/23/2018	JMK
2-Nitrophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dimethylphenol	EPA-8270	U	0.18	1	MG/KG	08/23/2018	JMK
Benzoic Acid	EPA-8270	U	2.0	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	0.34	1	MG/KG	08/23/2018	JMK
2,4-Dichlorophenol	EPA-8270	U	0.68	1	MG/KG	08/23/2018	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	0.20	1	MG/KG	08/23/2018	JMK
Naphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chloroaniline	EPA-8270	U	1.6	1	MG/KG	08/23/2018	JMK
2,6-Dichlorophenol	EPA-8270	U	0.51	1	MG/KG	08/23/2018	JMK
Hexachlorobutadiene	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	0.90	1	MG/KG	08/23/2018	JMK
2-Methylnaphthalene	EPA-8270	U	0.43	1	MG/KG	08/23/2018	JMK
1-Methylnaphthalene	EPA-8270	U	0.49	1	MG/KG	08/23/2018	JMK
Hexachlorocyclopentadiene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4,6-Trichlorophenol	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
2,4,5-Trichlorophenol	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
2-Chloronaphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Nitroaniline	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dimethylphthalate	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
2,6-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3-Nitroaniline	EPA-8270	U	1.6	1	MG/KG	08/23/2018	JMK
2,4-Dinitrophenol	EPA-8270	U	0.15	1	MG/KG	08/23/2018	JMK
4-Nitrophenol	EPA-8270	U	0.15	1	MG/KG	08/23/2018	JMK
Dibenzofuran	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
Diethylphthalate	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
Fluorene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE: ALS JOB#: ALS SAMPLE#:	9/14/2018 EV18080100 EV18080100-03
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 11:05:00 AM
CLIENT SAMPLE ID	B3-6.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
4-Nitroaniline	EPA-8270	U	0.35	1	MG/KG	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
N-Nitrosodiphenylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Azobenzene	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Hexachlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pentachlorophenol	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
Phenanthrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Carbazole	EPA-8270	U	0.30	1	MG/KG	08/23/2018	JMK
Di-N-Butylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Butylbenzylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3,3-Dichlorobenzidine	EPA-8270	U	0.48	1	MG/KG	08/23/2018	JMK
Benzo[A]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Chrysene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Di-N-Octylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[B]Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[K]Fluoranthene	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
Benzo[A]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**68.4**	08/20/2018	JMK
C25	NWTPH-DX	**76.0**	08/22/2018	EBS
1,2-Dichloroethane-d4	EPA-8260	**99.7**	08/20/2018	DLC
Toluene-d8	EPA-8260	**109**	08/20/2018	DLC
4-Bromofluorobenzene	EPA-8260	**93.3**	08/20/2018	DLC
2-Fluorophenol	EPA-8270	**104**	08/23/2018	JMK
Phenol-d5	EPA-8270	**102**	08/23/2018	JMK
Nitrobenzene-d5	EPA-8270	**86.6**	08/23/2018	JMK
2-Fluorobiphenyl	EPA-8270	**81.6**	08/23/2018	JMK
2,4,6-Tribromophenol	EPA-8270	**89.8**	08/23/2018	JMK
Terphenyl-d14	EPA-8270	**89.2**	08/23/2018	JMK

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ALS Group USA, Corp dba ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-03
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 11:05:00 AM
CLIENT SAMPLE ID	B3-6.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

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

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-04
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 11:25:00 AM
CLIENT SAMPLE ID	B3-17.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	08/20/2018	JMK
TPH-Diesel Range	NWTPH-DX	U	25	1	MG/KG	08/22/2018	EBS
TPH-Oil Range	NWTPH-DX	U	50	1	MG/KG	08/22/2018	EBS
Dichlorodifluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Vinyl Chloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Tetrachloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trichlorofluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Disulfide	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Acetone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Methylene Chloride	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Acrylonitrile	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Methyl T-Butyl Ether	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Butanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Benzene	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Trichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Dibromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromodichloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Methyl-2-Pentanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Toluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Hexanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,3-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Tetrachloroethylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC

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

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-04
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 11:25:00 AM
CLIENT SAMPLE ID	B3-17.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dibromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromoethane	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Chlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Ethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
m,p-Xylene	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Styrene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
o-Xylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromoform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Isopropylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Propyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
T-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
S-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
P-Isopropyltoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,4-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Butylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Hexachlorobutadiene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Naphthalene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Pyridine	EPA-8270	U	0.20	1	MG/KG	08/23/2018	JMK
N-Nitrosodimethylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Phenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Aniline	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	0.25	1	MG/KG	08/23/2018	JMK
2-Chlorophenol	EPA-8270	U	0.25	1	MG/KG	08/23/2018	JMK
1,3-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
1,4-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzyl Alcohol	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-04
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 11:25:00 AM
CLIENT SAMPLE ID	B3-17.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,2-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	0.32	1	MG/KG	08/23/2018	JMK
3&4-Methylphenol	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	0.25	1	MG/KG	08/23/2018	JMK
Hexachloroethane	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Nitrobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Isophorone	EPA-8270	U	0.18	1	MG/KG	08/23/2018	JMK
2-Nitrophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dimethylphenol	EPA-8270	U	0.16	1	MG/KG	08/23/2018	JMK
Benzoic Acid	EPA-8270	U	1.8	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	0.30	1	MG/KG	08/23/2018	JMK
2,4-Dichlorophenol	EPA-8270	U	0.62	1	MG/KG	08/23/2018	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	0.18	1	MG/KG	08/23/2018	JMK
Naphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chloroaniline	EPA-8270	U	1.4	1	MG/KG	08/23/2018	JMK
2,6-Dichlorophenol	EPA-8270	U	0.46	1	MG/KG	08/23/2018	JMK
Hexachlorobutadiene	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	0.81	1	MG/KG	08/23/2018	JMK
2-Methylnaphthalene	EPA-8270	U	0.39	1	MG/KG	08/23/2018	JMK
1-Methylnaphthalene	EPA-8270	U	0.45	1	MG/KG	08/23/2018	JMK
Hexachlorocyclopentadiene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4,6-Trichlorophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4,5-Trichlorophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Chloronaphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Nitroaniline	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dimethylphthalate	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
2,6-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3-Nitroaniline	EPA-8270	U	1.5	1	MG/KG	08/23/2018	JMK
2,4-Dinitrophenol	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
4-Nitrophenol	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
Dibenzofuran	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
Diethylphthalate	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Fluorene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE: ALS JOB#: ALS SAMPLE#:	9/14/2018 EV18080100 EV18080100-04
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 11:25:00 AM
CLIENT SAMPLE ID	B3-17.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
4-Nitroaniline	EPA-8270	U	0.32	1	MG/KG	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
N-Nitrosodiphenylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Azobenzene	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Hexachlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pentachlorophenol	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
Phenanthrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Carbazole	EPA-8270	U	0.27	1	MG/KG	08/23/2018	JMK
Di-N-Butylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Butylbenzylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3,3-Dichlorobenzidine	EPA-8270	U	0.43	1	MG/KG	08/23/2018	JMK
Benzo[A]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Chrysene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Di-N-Octylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[B]Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[K]Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[A]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**77.7**	08/20/2018	JMK
C25	NWTPH-DX	**81.5**	08/22/2018	EBS
1,2-Dichloroethane-d4	EPA-8260	**97.3**	08/20/2018	DLC
Toluene-d8	EPA-8260	**106**	08/20/2018	DLC
4-Bromofluorobenzene	EPA-8260	**91.1**	08/20/2018	DLC
2-Fluorophenol	EPA-8270	**99.7**	08/23/2018	JMK
Phenol-d5	EPA-8270	**96.6**	08/23/2018	JMK
Nitrobenzene-d5	EPA-8270	**83.7**	08/23/2018	JMK
2-Fluorobiphenyl	EPA-8270	**78.6**	08/23/2018	JMK
2,4,6-Tribromophenol	EPA-8270	**82.9**	08/23/2018	JMK
Terphenyl-d14	EPA-8270	**87.3**	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-04
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 11:25:00 AM
CLIENT SAMPLE ID	B3-17.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

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

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-05
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:35:00 PM
CLIENT SAMPLE ID	B1-6.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	08/20/2018	JMK
TPH-Diesel Range	NWTPH-DX	U	25	1	MG/KG	08/22/2018	EBS
TPH-Oil Range	NWTPH-DX	**91**	50	1	MG/KG	08/22/2018	EBS
Dichlorodifluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Vinyl Chloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Tetrachloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trichlorofluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Disulfide	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Acetone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Methylene Chloride	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Acrylonitrile	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Methyl T-Butyl Ether	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Butanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Benzene	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Trichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Dibromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromodichloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Methyl-2-Pentanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Toluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Hexanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,3-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Tetrachloroethylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-05
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:35:00 PM
CLIENT SAMPLE ID	B1-6.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dibromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromoethane	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Chlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Ethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
m,p-Xylene	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Styrene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
o-Xylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromoform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Isopropylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Propyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
T-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
S-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
P-Isopropyltoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,4-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Butylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Hexachlorobutadiene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Naphthalene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Pyridine	EPA-8270	U	0.20	1	MG/KG	08/23/2018	JMK
N-Nitrosodimethylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Phenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Aniline	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	0.25	1	MG/KG	08/23/2018	JMK
2-Chlorophenol	EPA-8270	U	0.25	1	MG/KG	08/23/2018	JMK
1,3-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
1,4-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzyl Alcohol	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-05
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:35:00 PM
CLIENT SAMPLE ID	B1-6.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,2-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	0.30	1	MG/KG	08/23/2018	JMK
3&4-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	0.25	1	MG/KG	08/23/2018	JMK
Hexachloroethane	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Nitrobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Isophorone	EPA-8270	U	0.17	1	MG/KG	08/23/2018	JMK
2-Nitrophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dimethylphenol	EPA-8270	U	0.15	1	MG/KG	08/23/2018	JMK
Benzoic Acid	EPA-8270	U	1.7	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	0.29	1	MG/KG	08/23/2018	JMK
2,4-Dichlorophenol	EPA-8270	U	0.58	1	MG/KG	08/23/2018	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	0.17	1	MG/KG	08/23/2018	JMK
Naphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chloroaniline	EPA-8270	U	1.3	1	MG/KG	08/23/2018	JMK
2,6-Dichlorophenol	EPA-8270	U	0.43	1	MG/KG	08/23/2018	JMK
Hexachlorobutadiene	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	0.76	1	MG/KG	08/23/2018	JMK
2-Methylnaphthalene	EPA-8270	U	0.36	1	MG/KG	08/23/2018	JMK
1-Methylnaphthalene	EPA-8270	U	0.42	1	MG/KG	08/23/2018	JMK
Hexachlorocyclopentadiene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4,6-Trichlorophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4,5-Trichlorophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Chloronaphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Nitroaniline	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dimethylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,6-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3-Nitroaniline	EPA-8270	U	1.4	1	MG/KG	08/23/2018	JMK
2,4-Dinitrophenol	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
4-Nitrophenol	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
Dibenzofuran	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
Diethylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Fluorene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-05
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:35:00 PM
CLIENT SAMPLE ID	B1-6.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
4-Nitroaniline	EPA-8270	U	0.30	1	MG/KG	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
N-Nitrosodiphenylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Azobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Hexachlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pentachlorophenol	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
Phenanthrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Carbazole	EPA-8270	U	0.25	1	MG/KG	08/23/2018	JMK
Di-N-Butylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Butylbenzylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3,3-Dichlorobenzidine	EPA-8270	U	0.40	1	MG/KG	08/23/2018	JMK
Benzo[A]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Chrysene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Di-N-Octylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[B]Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[K]Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[A]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
PCB-1016	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1221	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1232	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1242	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1248	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1254	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1260	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1268	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
Mercury	EPA-7471	U	0.020	1	MG/KG	08/23/2018	RAL
Arsenic	EPA-6020	**16**	0.78	1	MG/KG	08/22/2018	RAL
Cadmium	EPA-6020	U	0.24	1	MG/KG	08/22/2018	RAL
Chromium	EPA-6020	**47**	0.39	1	MG/KG	08/22/2018	RAL
Lead	EPA-6020	**13**	0.25	1	MG/KG	08/22/2018	RAL

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE: ALS JOB#: ALS SAMPLE#:	9/14/2018 EV18080100 EV18080100-05
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:35:00 PM
CLIENT SAMPLE ID	B1-6.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**61.7**	08/20/2018	JMK
C25	NWTPH-DX	**82.8**	08/22/2018	EBS
1,2-Dichloroethane-d4	EPA-8260	**99.8**	08/20/2018	DLC
Toluene-d8	EPA-8260	**110**	08/20/2018	DLC
4-Bromofluorobenzene	EPA-8260	**96.3**	08/20/2018	DLC
2-Fluorophenol	EPA-8270	**99.2**	08/23/2018	JMK
Phenol-d5	EPA-8270	**97.6**	08/23/2018	JMK
Nitrobenzene-d5	EPA-8270	**84.8**	08/23/2018	JMK
2-Fluorobiphenyl	EPA-8270	**80.6**	08/23/2018	JMK
2,4,6-Tribromophenol	EPA-8270	**88.4**	08/23/2018	JMK
Terphenyl-d14	EPA-8270	**87.5**	08/23/2018	JMK
TCMX	EPA-8082	**97.2**	08/20/2018	JMK
DCB	EPA-8082	**85.1**	08/20/2018	JMK

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

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-06
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:30:00 PM
CLIENT SAMPLE ID	B1-2.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	08/20/2018	JMK
TPH-Diesel Range	NWTPH-DX	U	28	1	MG/KG	08/22/2018	EBS
TPH-Oil Range	NWTPH-DX	U	56	1	MG/KG	08/22/2018	EBS
Dichlorodifluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Vinyl Chloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Tetrachloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trichlorofluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Disulfide	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Acetone	EPA-8260	**0.23**	0.20	1	MG/KG	08/21/2018	DLC
1,1-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Methylene Chloride	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Acrylonitrile	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Methyl T-Butyl Ether	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Butanone	EPA-8260	U	0.15	1	MG/KG	08/21/2018	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Benzene	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Trichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Dibromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromodichloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Methyl-2-Pentanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Toluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Hexanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,3-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Tetrachloroethylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-06
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:30:00 PM
CLIENT SAMPLE ID	B1-2.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dibromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromoethane	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Chlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Ethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
m,p-Xylene	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Styrene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
o-Xylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromoform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Isopropylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Propyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
T-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
S-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
P-Isopropyltoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,4-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Butylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Hexachlorobutadiene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Naphthalene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Pyridine	EPA-8270	U	0.20	1	MG/KG	08/23/2018	JMK
N-Nitrosodimethylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Phenol	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
Aniline	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	0.28	1	MG/KG	08/23/2018	JMK
2-Chlorophenol	EPA-8270	U	0.29	1	MG/KG	08/23/2018	JMK
1,3-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
1,4-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzyl Alcohol	EPA-8270	U	0.15	1	MG/KG	08/23/2018	JMK

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

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-06
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:30:00 PM
CLIENT SAMPLE ID	B1-2.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,2-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	0.37	1	MG/KG	08/23/2018	JMK
3&4-Methylphenol	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	0.28	1	MG/KG	08/23/2018	JMK
Hexachloroethane	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Nitrobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Isophorone	EPA-8270	U	0.21	1	MG/KG	08/23/2018	JMK
2-Nitrophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dimethylphenol	EPA-8270	U	0.19	1	MG/KG	08/23/2018	JMK
Benzoic Acid	EPA-8270	U	2.1	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	0.36	1	MG/KG	08/23/2018	JMK
2,4-Dichlorophenol	EPA-8270	U	0.73	1	MG/KG	08/23/2018	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	0.21	1	MG/KG	08/23/2018	JMK
Naphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chloroaniline	EPA-8270	U	1.7	1	MG/KG	08/23/2018	JMK
2,6-Dichlorophenol	EPA-8270	U	0.54	1	MG/KG	08/23/2018	JMK
Hexachlorobutadiene	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	0.95	1	MG/KG	08/23/2018	JMK
2-Methylnaphthalene	EPA-8270	U	0.45	1	MG/KG	08/23/2018	JMK
1-Methylnaphthalene	EPA-8270	U	0.52	1	MG/KG	08/23/2018	JMK
Hexachlorocyclopentadiene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4,6-Trichlorophenol	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
2,4,5-Trichlorophenol	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
2-Chloronaphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Nitroaniline	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dimethylphthalate	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
2,6-Dinitrotoluene	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Acenaphthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3-Nitroaniline	EPA-8270	U	1.7	1	MG/KG	08/23/2018	JMK
2,4-Dinitrophenol	EPA-8270	U	0.16	1	MG/KG	08/23/2018	JMK
4-Nitrophenol	EPA-8270	U	0.16	1	MG/KG	08/23/2018	JMK
Dibenzofuran	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	0.15	1	MG/KG	08/23/2018	JMK
Diethylphthalate	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
Fluorene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-06
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:30:00 PM
CLIENT SAMPLE ID	B1-2.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
4-Nitroaniline	EPA-8270	U	0.37	1	MG/KG	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
N-Nitrosodiphenylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Azobenzene	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Hexachlorobenzene	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Pentachlorophenol	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
Phenanthrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Carbazole	EPA-8270	U	0.32	1	MG/KG	08/23/2018	JMK
Di-N-Butylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Butylbenzylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3,3-Dichlorobenzidine	EPA-8270	U	0.51	1	MG/KG	08/23/2018	JMK
Benzo[A]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Chrysene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Di-N-Octylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[B]Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[K]Fluoranthene	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
Benzo[A]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
PCB-1016	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1221	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1232	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1242	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1248	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1254	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1260	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1268	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
Mercury	EPA-7471	**0.034**	0.020	1	MG/KG	08/23/2018	RAL
Arsenic	EPA-6020	**35**	0.94	1	MG/KG	08/22/2018	RAL
Cadmium	EPA-6020	U	0.29	1	MG/KG	08/22/2018	RAL
Chromium	EPA-6020	**67**	0.48	1	MG/KG	08/22/2018	RAL
Lead	EPA-6020	**57**	0.30	1	MG/KG	08/22/2018	RAL

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE: ALS JOB#: ALS SAMPLE#:	9/14/2018 EV18080100 EV18080100-06
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:30:00 PM
CLIENT SAMPLE ID	B1-2.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**52.5 SUR11**	08/20/2018	JMK
C25	NWTPH-DX	**75.7**	08/22/2018	EBS
1,2-Dichloroethane-d4	EPA-8260	**98.7**	08/20/2018	DLC
1,2-Dichloroethane-d4	EPA-8260	**96.1**	08/21/2018	DLC
Toluene-d8	EPA-8260	**109**	08/20/2018	DLC
Toluene-d8	EPA-8260	**104**	08/21/2018	DLC
4-Bromofluorobenzene	EPA-8260	**93.6**	08/20/2018	DLC
4-Bromofluorobenzene	EPA-8260	**84.7**	08/21/2018	DLC
2-Fluorophenol	EPA-8270	**105**	08/23/2018	JMK
Phenol-d5	EPA-8270	**103**	08/23/2018	JMK
Nitrobenzene-d5	EPA-8270	**88.0**	08/23/2018	JMK
2-Fluorobiphenyl	EPA-8270	**83.6**	08/23/2018	JMK
2,4,6-Tribromophenol	EPA-8270	**90.6**	08/23/2018	JMK
Terphenyl-d14	EPA-8270	**89.4**	08/23/2018	JMK
TCMX	EPA-8082	**103**	08/20/2018	JMK
DCB	EPA-8082	**84.8**	08/20/2018	JMK

U - Analyte analyzed for but not detected at level above reporting limit.
SUR11 -Surrogate recovery was below acceptance limits. Re-extraction and/or reanalysis confirm low recovery caused by matrix interferences.

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-07
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 12:55:00 PM
CLIENT SAMPLE ID	B5-2.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	**3.5**	3.0	1	MG/KG	08/20/2018	JMK
TPH-Diesel Range	NWTPH-DX	U	25	1	MG/KG	08/22/2018	EBS
TPH-Oil Range	NWTPH-DX	**170**	50	1	MG/KG	08/22/2018	EBS
Dichlorodifluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Vinyl Chloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Tetrachloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trichlorofluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Disulfide	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Acetone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Methylene Chloride	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Acrylonitrile	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Methyl T-Butyl Ether	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Butanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Benzene	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Trichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Dibromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromodichloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Methyl-2-Pentanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Toluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Hexanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,3-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Tetrachloroethylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-07
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 12:55:00 PM
CLIENT SAMPLE ID	B5-2.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dibromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromoethane	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Chlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Ethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
m,p-Xylene	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Styrene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
o-Xylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromoform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Isopropylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Propyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
T-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,4-Trimethylbenzene	EPA-8260	**0.013**	0.010	1	MG/KG	08/20/2018	DLC
S-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
P-Isopropyltoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,4-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Butylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Hexachlorobutadiene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Naphthalene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Pyridine	EPA-8270	U	0.20	1	MG/KG	08/23/2018	JMK
N-Nitrosodimethylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Phenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Aniline	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	0.25	1	MG/KG	08/23/2018	JMK
2-Chlorophenol	EPA-8270	U	0.26	1	MG/KG	08/23/2018	JMK
1,3-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
1,4-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzyl Alcohol	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-07
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 12:55:00 PM
CLIENT SAMPLE ID	B5-2.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,2-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	0.33	1	MG/KG	08/23/2018	JMK
3&4-Methylphenol	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	0.25	1	MG/KG	08/23/2018	JMK
Hexachloroethane	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Nitrobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Isophorone	EPA-8270	U	0.18	1	MG/KG	08/23/2018	JMK
2-Nitrophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dimethylphenol	EPA-8270	U	0.17	1	MG/KG	08/23/2018	JMK
Benzoic Acid	EPA-8270	U	1.9	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	0.32	1	MG/KG	08/23/2018	JMK
2,4-Dichlorophenol	EPA-8270	U	0.64	1	MG/KG	08/23/2018	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	0.19	1	MG/KG	08/23/2018	JMK
Naphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chloroaniline	EPA-8270	U	1.5	1	MG/KG	08/23/2018	JMK
2,6-Dichlorophenol	EPA-8270	U	0.48	1	MG/KG	08/23/2018	JMK
Hexachlorobutadiene	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	0.85	1	MG/KG	08/23/2018	JMK
2-Methylnaphthalene	EPA-8270	U	0.40	1	MG/KG	08/23/2018	JMK
1-Methylnaphthalene	EPA-8270	U	0.46	1	MG/KG	08/23/2018	JMK
Hexachlorocyclopentadiene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4,6-Trichlorophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4,5-Trichlorophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Chloronaphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Nitroaniline	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dimethylphthalate	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
2,6-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3-Nitroaniline	EPA-8270	U	1.5	1	MG/KG	08/23/2018	JMK
2,4-Dinitrophenol	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
4-Nitrophenol	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
Dibenzofuran	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
Diethylphthalate	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Fluorene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK

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

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE: ALS JOB#: ALS SAMPLE#:	9/14/2018 EV18080100 EV18080100-07
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 12:55:00 PM
CLIENT SAMPLE ID	B5-2.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
4-Nitroaniline	EPA-8270	U	0.33	1	MG/KG	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
N-Nitrosodiphenylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Azobenzene	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Hexachlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pentachlorophenol	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
Phenanthrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Carbazole	EPA-8270	U	0.28	1	MG/KG	08/23/2018	JMK
Di-N-Butylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Butylbenzylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3,3-Dichlorobenzidine	EPA-8270	U	0.45	1	MG/KG	08/23/2018	JMK
Benzo[A]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Chrysene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Di-N-Octylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[B]Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[K]Fluoranthene	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Benzo[A]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**75.6**	08/20/2018	JMK
C25	NWTPH-DX	**83.6**	08/22/2018	EBS
1,2-Dichloroethane-d4	EPA-8260	**98.4**	08/20/2018	DLC
Toluene-d8	EPA-8260	**109**	08/20/2018	DLC
4-Bromofluorobenzene	EPA-8260	**105**	08/20/2018	DLC
2-Fluorophenol	EPA-8270	**96.7**	08/23/2018	JMK
Phenol-d5	EPA-8270	**93.0**	08/23/2018	JMK
Nitrobenzene-d5	EPA-8270	**81.1**	08/23/2018	JMK
2-Fluorobiphenyl	EPA-8270	**76.1**	08/23/2018	JMK
2,4,6-Tribromophenol	EPA-8270	**85.5**	08/23/2018	JMK
Terphenyl-d14	EPA-8270	**81.3**	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-07
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 12:55:00 PM
CLIENT SAMPLE ID	B5-2.5	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

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

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-08
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 1:05:00 PM
CLIENT SAMPLE ID	B5-18	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	08/20/2018	JMK
TPH-Diesel Range	NWTPH-DX	U	25	1	MG/KG	08/24/2018	EBS
TPH-Oil Range	NWTPH-DX	U	50	1	MG/KG	08/24/2018	EBS
Dichlorodifluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Vinyl Chloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Tetrachloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trichlorofluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Disulfide	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Acetone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Methylene Chloride	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Acrylonitrile	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Methyl T-Butyl Ether	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Butanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Benzene	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Trichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Dibromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromodichloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Methyl-2-Pentanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Toluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Hexanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,3-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Tetrachloroethylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE: ALS JOB#: ALS SAMPLE#:	9/14/2018 EV18080100 EV18080100-08
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 1:05:00 PM
CLIENT SAMPLE ID	B5-18	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dibromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromoethane	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Chlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Ethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
m,p-Xylene	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Styrene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
o-Xylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromoform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Isopropylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Propyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
T-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
S-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
P-Isopropyltoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,4-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Butylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Hexachlorobutadiene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Naphthalene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Pyridine	EPA-8270	U	0.20	1	MG/KG	08/23/2018	JMK
N-Nitrosodimethylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Phenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Aniline	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	0.25	1	MG/KG	08/23/2018	JMK
2-Chlorophenol	EPA-8270	U	0.25	1	MG/KG	08/23/2018	JMK
1,3-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
1,4-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzyl Alcohol	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-08
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 1:05:00 PM
CLIENT SAMPLE ID	B5-18	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,2-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	0.32	1	MG/KG	08/23/2018	JMK
3&4-Methylphenol	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	0.25	1	MG/KG	08/23/2018	JMK
Hexachloroethane	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Nitrobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Isophorone	EPA-8270	U	0.18	1	MG/KG	08/23/2018	JMK
2-Nitrophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dimethylphenol	EPA-8270	U	0.16	1	MG/KG	08/23/2018	JMK
Benzoic Acid	EPA-8270	U	1.8	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	0.31	1	MG/KG	08/23/2018	JMK
2,4-Dichlorophenol	EPA-8270	U	0.63	1	MG/KG	08/23/2018	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	0.18	1	MG/KG	08/23/2018	JMK
Naphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chloroaniline	EPA-8270	U	1.5	1	MG/KG	08/23/2018	JMK
2,6-Dichlorophenol	EPA-8270	U	0.47	1	MG/KG	08/23/2018	JMK
Hexachlorobutadiene	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	0.83	1	MG/KG	08/23/2018	JMK
2-Methylnaphthalene	EPA-8270	U	0.39	1	MG/KG	08/23/2018	JMK
1-Methylnaphthalene	EPA-8270	U	0.45	1	MG/KG	08/23/2018	JMK
Hexachlorocyclopentadiene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4,6-Trichlorophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4,5-Trichlorophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Chloronaphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Nitroaniline	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dimethylphthalate	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
2,6-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3-Nitroaniline	EPA-8270	U	1.5	1	MG/KG	08/23/2018	JMK
2,4-Dinitrophenol	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
4-Nitrophenol	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
Dibenzofuran	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
Diethylphthalate	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Fluorene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE: ALS JOB#: ALS SAMPLE#:	9/14/2018 EV18080100 EV18080100-08
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 1:05:00 PM
CLIENT SAMPLE ID	B5-18	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
4-Nitroaniline	EPA-8270	U	0.33	1	MG/KG	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
N-Nitrosodiphenylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Azobenzene	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Hexachlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pentachlorophenol	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
Phenanthrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Carbazole	EPA-8270	U	0.28	1	MG/KG	08/23/2018	JMK
Di-N-Butylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Butylbenzylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3,3-Dichlorobenzidine	EPA-8270	U	0.44	1	MG/KG	08/23/2018	JMK
Benzo[A]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Chrysene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Di-N-Octylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[B]Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[K]Fluoranthene	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Benzo[A]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**75.9**	08/20/2018	JMK
C25	NWTPH-DX	**84.4**	08/24/2018	EBS
1,2-Dichloroethane-d4	EPA-8260	**100**	08/20/2018	DLC
Toluene-d8	EPA-8260	**106**	08/20/2018	DLC
4-Bromofluorobenzene	EPA-8260	**93.4**	08/20/2018	DLC
2-Fluorophenol	EPA-8270	**95.7**	08/23/2018	JMK
Phenol-d5	EPA-8270	**94.1**	08/23/2018	JMK
Nitrobenzene-d5	EPA-8270	**81.7**	08/23/2018	JMK
2-Fluorobiphenyl	EPA-8270	**80.0**	08/23/2018	JMK
2,4,6-Tribromophenol	EPA-8270	**89.1**	08/23/2018	JMK
Terphenyl-d14	EPA-8270	**94.5**	08/23/2018	JMK

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

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-08
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 1:05:00 PM
CLIENT SAMPLE ID	B5-18	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

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

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-09
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 1:45:00 PM
CLIENT SAMPLE ID	B2-3	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	08/20/2018	JMK
TPH-Diesel Range	NWTPH-DX	U	29	1	MG/KG	08/24/2018	EBS
TPH-Oil Range	NWTPH-DX	U	58	1	MG/KG	08/24/2018	EBS
Dichlorodifluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Vinyl Chloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Tetrachloride	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trichlorofluoromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Carbon Disulfide	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Acetone	EPA-8260	**0.38**	0.22	1	MG/KG	08/21/2018	DLC
1,1-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Methylene Chloride	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Acrylonitrile	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Methyl T-Butyl Ether	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Butanone	EPA-8260	U	0.17	1	MG/KG	08/21/2018	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Chloroform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Benzene	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Trichloroethene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Dibromomethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromodichloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Methyl-2-Pentanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
Toluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2-Trichloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Hexanone	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,3-Dichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Tetrachloroethylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE: ALS JOB#: ALS SAMPLE#:	9/14/2018 EV18080100 EV18080100-09
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 1:45:00 PM
CLIENT SAMPLE ID	B2-3	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dibromochloromethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromoethane	EPA-8260	U	0.0050	1	MG/KG	08/20/2018	DLC
Chlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Ethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
m,p-Xylene	EPA-8260	U	0.020	1	MG/KG	08/20/2018	DLC
Styrene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
o-Xylene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromoform	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Isopropylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichloropropane	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Bromobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Propyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
2-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
4-Chlorotoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
T-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
S-Butyl Benzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
P-Isopropyltoluene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,3-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,4-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
N-Butylbenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	0.050	1	MG/KG	08/20/2018	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Hexachlorobutadiene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Naphthalene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	0.010	1	MG/KG	08/20/2018	DLC
Pyridine	EPA-8270	U	0.20	1	MG/KG	08/23/2018	JMK
N-Nitrosodimethylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Phenol	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
Aniline	EPA-8270	U	0.14	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	0.29	1	MG/KG	08/23/2018	JMK
2-Chlorophenol	EPA-8270	U	0.30	1	MG/KG	08/23/2018	JMK
1,3-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
1,4-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzyl Alcohol	EPA-8270	U	0.15	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-09
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 1:45:00 PM
CLIENT SAMPLE ID	B2-3	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,2-Dichlorobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	0.38	1	MG/KG	08/23/2018	JMK
3&4-Methylphenol	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	0.28	1	MG/KG	08/23/2018	JMK
Hexachloroethane	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Nitrobenzene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Isophorone	EPA-8270	U	0.21	1	MG/KG	08/23/2018	JMK
2-Nitrophenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dimethylphenol	EPA-8270	U	0.19	1	MG/KG	08/23/2018	JMK
Benzoic Acid	EPA-8270	U	2.2	1	MG/KG	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	0.37	1	MG/KG	08/23/2018	JMK
2,4-Dichlorophenol	EPA-8270	U	0.74	1	MG/KG	08/23/2018	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	0.21	1	MG/KG	08/23/2018	JMK
Naphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
4-Chloroaniline	EPA-8270	U	1.7	1	MG/KG	08/23/2018	JMK
2,6-Dichlorophenol	EPA-8270	U	0.55	1	MG/KG	08/23/2018	JMK
Hexachlorobutadiene	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	0.98	1	MG/KG	08/23/2018	JMK
2-Methylnaphthalene	EPA-8270	U	0.46	1	MG/KG	08/23/2018	JMK
1-Methylnaphthalene	EPA-8270	U	0.54	1	MG/KG	08/23/2018	JMK
Hexachlorocyclopentadiene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4,6-Trichlorophenol	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
2,4,5-Trichlorophenol	EPA-8270	U	0.12	1	MG/KG	08/23/2018	JMK
2-Chloronaphthalene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2-Nitroaniline	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Acenaphthylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dimethylphthalate	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
2,6-Dinitrotoluene	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Acenaphthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3-Nitroaniline	EPA-8270	U	1.8	1	MG/KG	08/23/2018	JMK
2,4-Dinitrophenol	EPA-8270	U	0.16	1	MG/KG	08/23/2018	JMK
4-Nitrophenol	EPA-8270	U	0.16	1	MG/KG	08/23/2018	JMK
Dibenzofuran	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,4-Dinitrotoluene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	0.15	1	MG/KG	08/23/2018	JMK
Diethylphthalate	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
Fluorene	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-09
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 1:45:00 PM
CLIENT SAMPLE ID	B2-3	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
4-Nitroaniline	EPA-8270	U	0.38	1	MG/KG	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
N-Nitrosodiphenylamine	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Azobenzene	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Hexachlorobenzene	EPA-8270	U	0.11	1	MG/KG	08/23/2018	JMK
Pentachlorophenol	EPA-8270	U	0.50	1	MG/KG	08/23/2018	JMK
Phenanthrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Carbazole	EPA-8270	U	0.32	1	MG/KG	08/23/2018	JMK
Di-N-Butylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Butylbenzylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
3,3-Dichlorobenzidine	EPA-8270	U	0.52	1	MG/KG	08/23/2018	JMK
Benzo[A]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Chrysene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Di-N-Octylphthalate	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[B]Fluoranthene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[K]Fluoranthene	EPA-8270	U	0.13	1	MG/KG	08/23/2018	JMK
Benzo[A]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	0.10	1	MG/KG	08/23/2018	JMK
PCB-1016	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1221	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1232	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1242	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1248	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1254	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1260	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
PCB-1268	EPA-8082	U	0.10	1	MG/KG	08/20/2018	JMK
Chromium (VI)	EPA-7196	U	5.0	1	MG/KG	09/14/2018	JMK
Mercury	EPA-7471	**0.090**	0.020	1	MG/KG	08/23/2018	RAL
Arsenic	EPA-6020	**41**	0.97	1	MG/KG	08/22/2018	RAL
Cadmium	EPA-6020	U	0.30	1	MG/KG	08/22/2018	RAL
Chromium	EPA-6020	**70**	0.49	1	MG/KG	08/22/2018	RAL
Lead	EPA-6020	**31**	0.31	1	MG/KG	08/22/2018	RAL

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-09
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 1:45:00 PM
CLIENT SAMPLE ID	B2-3	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**63.4**	08/20/2018	JMK
C25	NWTPH-DX	**73.1**	08/24/2018	EBS
1,2-Dichloroethane-d4	EPA-8260	**99.2**	08/20/2018	DLC
1,2-Dichloroethane-d4	EPA-8260	**95.4**	08/21/2018	DLC
Toluene-d8	EPA-8260	**111**	08/20/2018	DLC
Toluene-d8	EPA-8260	**102**	08/21/2018	DLC
4-Bromofluorobenzene	EPA-8260	**97.1**	08/20/2018	DLC
4-Bromofluorobenzene	EPA-8260	**84.6**	08/21/2018	DLC
2-Fluorophenol	EPA-8270	**104**	08/23/2018	JMK
Phenol-d5	EPA-8270	**102**	08/23/2018	JMK
Nitrobenzene-d5	EPA-8270	**87.8**	08/23/2018	JMK
2-Fluorobiphenyl	EPA-8270	**82.6**	08/23/2018	JMK
2,4,6-Tribromophenol	EPA-8270	**91.9**	08/23/2018	JMK
Terphenyl-d14	EPA-8270	**89.1**	08/23/2018	JMK
TCMX	EPA-8082	**99.4**	08/20/2018	JMK
DCB	EPA-8082	**92.2**	08/20/2018	JMK

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

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

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-10
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:10:00 PM
CLIENT SAMPLE ID	B2	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	**260**	50	1	UG/L	08/20/2018	DLC
TPH-Diesel Range	NWTPH-DX	**450**	130	1	UG/L	08/21/2018	EBS
TPH-Oil Range	NWTPH-DX	**400**	250	1	UG/L	08/21/2018	EBS
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Chloromethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	08/20/2018	DLC
Bromomethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Chloroethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Carbon Disulfide	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Acetone	EPA-8260	U	25	1	UG/L	08/20/2018	DLC
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	08/20/2018	DLC
Acrylonitrile	EPA-8260	U	10	1	UG/L	08/20/2018	DLC
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
2-Butanone	EPA-8260	U	10	1	UG/L	08/20/2018	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Chloroform	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Benzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Trichloroethene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Dibromomethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
4-Methyl-2-Pentanone	EPA-8260	U	10	1	UG/L	08/20/2018	DLC
Toluene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
2-Hexanone	EPA-8260	U	10	1	UG/L	08/20/2018	DLC
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-10
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:10:00 PM
CLIENT SAMPLE ID	B2	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	08/20/2018	DLC
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	08/20/2018	DLC
Styrene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
o-Xylene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Bromoform	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Isopropylbenzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Bromobenzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
N-Propyl Benzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
T-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
S-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
P-Isopropyltoluene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
N-Butylbenzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	08/20/2018	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Naphthalene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/20/2018	DLC
Pyridine	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
N-Nitrosodimethylamine	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Phenol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Aniline	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
2-Chlorophenol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
1,3-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
1,4-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Benzyl Alcohol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-10
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:10:00 PM
CLIENT SAMPLE ID	B2	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,2-Dichlorobenzene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
2-Methylphenol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
3&4-Methylphenol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Hexachloroethane	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Nitrobenzene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Isophorone	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
2-Nitrophenol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
2,4-Dimethylphenol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Benzoic Acid	EPA-8270	U	10	1	UG/L	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
2,4-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Naphthalene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
4-Chloroaniline	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
2,6-Dichlorophenol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Hexachlorobutadiene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
2-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
1-Methylnaphthalene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Hexachlorocyclopentadiene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
2,4,6-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
2,4,5-Trichlorophenol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
2-Chloronaphthalene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
2-Nitroaniline	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Acenaphthylene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Dimethylphthalate	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
2,6-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Acenaphthene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
3-Nitroaniline	EPA-8270	U	5.0	1	UG/L	08/23/2018	JMK
2,4-Dinitrophenol	EPA-8270	U	10	1	UG/L	08/23/2018	JMK
4-Nitrophenol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Dibenzofuran	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
2,4-Dinitrotoluene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Diethylphthalate	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Fluorene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS JOB#:	EV18080100
		ALS SAMPLE#:	EV18080100-10
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:10:00 PM
CLIENT SAMPLE ID	B2	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
4-Nitroaniline	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
N-Nitrosodiphenylamine	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Azobenzene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Hexachlorobenzene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Pentachlorophenol	EPA-8270	U	5.0	1	UG/L	08/23/2018	JMK
Phenanthrene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Anthracene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Carbazole	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Di-N-Butylphthalate	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Fluoranthene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Pyrene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Butylbenzylphthalate	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
3,3-Dichlorobenzidine	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Benzo[A]Anthracene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Chrysene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Di-N-Octylphthalate	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Benzo[B]Fluoranthene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Benzo[K]Fluoranthene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Benzo[A]Pyrene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	2.0	1	UG/L	08/23/2018	JMK
PCB-1016	EPA-8082	U	0.10	1	UG/L	08/22/2018	PAB
PCB-1221	EPA-8082	U	0.10	1	UG/L	08/22/2018	PAB
PCB-1232	EPA-8082	U	0.10	1	UG/L	08/22/2018	PAB
PCB-1242	EPA-8082	U	0.10	1	UG/L	08/22/2018	PAB
PCB-1248	EPA-8082	U	0.10	1	UG/L	08/22/2018	PAB
PCB-1254	EPA-8082	U	0.10	1	UG/L	08/22/2018	PAB
PCB-1260	EPA-8082	U	0.10	1	UG/L	08/22/2018	PAB
PCB-1268	EPA-8082	U	0.10	1	UG/L	08/22/2018	PAB
Mercury	EPA-245.1	U	0.20	1	UG/L	08/23/2018	RAL
Arsenic	EPA-200.8	**77**	1.0	1	UG/L	08/22/2018	RAL
Cadmium	EPA-200.8	U	1.0	1	UG/L	08/22/2018	RAL
Chromium	EPA-200.8	**9.2**	2.0	1	UG/L	08/22/2018	RAL
Lead	EPA-200.8	U	1.0	1	UG/L	08/22/2018	RAL

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CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE: ALS JOB#: ALS SAMPLE#:	9/14/2018 EV18080100 EV18080100-10
CLIENT CONTACT:	Eric Dubcak	DATE RECEIVED:	08/17/2018
CLIENT PROJECT:	81187331	COLLECTION DATE:	8/17/2018 2:10:00 PM
CLIENT SAMPLE ID	B2	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**92.7**	08/20/2018	DLC
C25	NWTPH-DX	**85.4**	08/21/2018	EBS
1,2-Dichloroethane-d4	EPA-8260	**95.5**	08/20/2018	DLC
Toluene-d8	EPA-8260	**104**	08/20/2018	DLC
4-Bromofluorobenzene	EPA-8260	**95.5**	08/20/2018	DLC
2-Fluorophenol	EPA-8270	**53.7**	08/23/2018	JMK
Phenol-d5	EPA-8270	**33.0**	08/23/2018	JMK
Nitrobenzene-d5	EPA-8270	**106**	08/23/2018	JMK
2-Fluorobiphenyl	EPA-8270	**81.9**	08/23/2018	JMK
2,4,6-Tribromophenol	EPA-8270	**111**	08/23/2018	JMK
Terphenyl-d14	EPA-8270	**94.5**	08/23/2018	JMK
TCMX	EPA-8082	**60.1**	08/22/2018	PAB
DCB	EPA-8082	**31.6**	08/22/2018	PAB

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

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CERTIFICATE OF ANALYSIS

CLIENT: Terracon
21905 - 64th Ave W, Suite 100
Mountlake Terrace, WA 98043

CLIENT CONTACT: Eric Dubcak
CLIENT PROJECT: 81187331

DATE: 9/14/2018
ALS SDG#: EV18080100
WDOE ACCREDITATION: C601

LABORATORY BLANK RESULTS

MBG-082018S - Batch 131764 - Soil by NWTPH-GX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	MG/KG	3.0	08/20/2018	JMK

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

MBG-082018W2 - Batch 131717 - Water by NWTPH-GX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	UG/L	50	08/20/2018	DLC

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

MB-082218S - Batch 131767 - Soil by NWTPH-DX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	U	MG/KG	25	08/22/2018	EBS
TPH-Oil Range	NWTPH-DX	U	MG/KG	50	08/22/2018	EBS

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

MB-082018W - Batch 131807 - Water by NWTPH-DX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	U	UG/L	130	08/21/2018	EBS
TPH-Oil Range	NWTPH-DX	U	UG/L	250	08/21/2018	EBS

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

MB-082018S - Batch 131743 - Soil by EPA-8260

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Chloromethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Vinyl Chloride	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Bromomethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Chloroethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Carbon Tetrachloride	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Trichlorofluoromethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Carbon Disulfide	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Acetone	EPA-8260	U	MG/KG	0.050	08/20/2018	DLC
1,1-Dichloroethene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Methylene Chloride	EPA-8260	U	MG/KG	0.020	08/20/2018	DLC
Acrylonitrile	EPA-8260	U	MG/KG	0.050	08/20/2018	DLC

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ALS Group USA, Corp dba ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	9/14/2018
		ALS SDG#:	EV18080100
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Eric Dubcak		
CLIENT PROJECT:	81187331		

LABORATORY BLANK RESULTS

MB-082018S - Batch 131743 - Soil by EPA-8260

Methyl T-Butyl Ether	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,1-Dichloroethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
2-Butanone	EPA-8260	U	MG/KG	0.050	08/20/2018	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
2,2-Dichloropropane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Bromochloromethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Chloroform	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,1,1-Trichloroethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,1-Dichloropropene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,2-Dichloroethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Benzene	EPA-8260	U	MG/KG	0.0050	08/20/2018	DLC
Trichloroethene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,2-Dichloropropane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Dibromomethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Bromodichloromethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
4-Methyl-2-Pentanone	EPA-8260	U	MG/KG	0.050	08/20/2018	DLC
Toluene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,1,2-Trichloroethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
2-Hexanone	EPA-8260	U	MG/KG	0.050	08/20/2018	DLC
1,3-Dichloropropane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Tetrachloroethylene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Dibromochloromethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,2-Dibromoethane	EPA-8260	U	MG/KG	0.0050	08/20/2018	DLC
Chlorobenzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Ethylbenzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
m,p-Xylene	EPA-8260	U	MG/KG	0.020	08/20/2018	DLC
Styrene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
o-Xylene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Bromoform	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Isopropylbenzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,2,3-Trichloropropane	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Bromobenzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
N-Propyl Benzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
2-Chlorotoluene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
4-Chlorotoluene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC

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CERTIFICATE OF ANALYSIS

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21905 - 64th Ave W, Suite 100
Mountlake Terrace, WA 98043

CLIENT CONTACT: Eric Dubcak
CLIENT PROJECT: 81187331

DATE: 9/14/2018
ALS SDG#: EV18080100
WDOE ACCREDITATION: C601

LABORATORY BLANK RESULTS

MB-082018S - Batch 131743 - Soil by EPA-8260

T-Butyl Benzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
S-Butyl Benzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
P-Isopropyltoluene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,3-Dichlorobenzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,4-Dichlorobenzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
N-Butylbenzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,2-Dichlorobenzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	MG/KG	0.050	08/20/2018	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Hexachlorobutadiene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
Naphthalene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	MG/KG	0.010	08/20/2018	DLC

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

MB-082018W - Batch 131691 - Water by EPA-8260

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Chloromethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Vinyl Chloride	EPA-8260	U	UG/L	0.20	08/20/2018	DLC
Bromomethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Chloroethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Carbon Tetrachloride	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Trichlorofluoromethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Carbon Disulfide	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Acetone	EPA-8260	U	UG/L	25	08/20/2018	DLC
1,1-Dichloroethene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Methylene Chloride	EPA-8260	U	UG/L	5.0	08/20/2018	DLC
Acrylonitrile	EPA-8260	U	UG/L	10	08/20/2018	DLC
Methyl T-Butyl Ether	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,1-Dichloroethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
2-Butanone	EPA-8260	U	UG/L	10	08/20/2018	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
2,2-Dichloropropane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Bromochloromethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Chloroform	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,1,1-Trichloroethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,1-Dichloropropene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,2-Dichloroethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC

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CLIENT CONTACT: Eric Dubcak
CLIENT PROJECT: 81187331

DATE: 9/14/2018
ALS SDG#: EV18080100
WDOE ACCREDITATION: C601

LABORATORY BLANK RESULTS

MB-082018W - Batch 131691 - Water by EPA-8260

Benzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Trichloroethene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,2-Dichloropropane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Dibromomethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Bromodichloromethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
4-Methyl-2-Pentanone	EPA-8260	U	UG/L	10	08/20/2018	DLC
Toluene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,1,2-Trichloroethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
2-Hexanone	EPA-8260	U	UG/L	10	08/20/2018	DLC
1,3-Dichloropropane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Tetrachloroethylene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Dibromochloromethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,2-Dibromoethane	EPA-8260	U	UG/L	0.010	08/20/2018	DLC
Chlorobenzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Ethylbenzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
m,p-Xylene	EPA-8260	U	UG/L	4.0	08/20/2018	DLC
Styrene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
o-Xylene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Bromoform	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Isopropylbenzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,2,3-Trichloropropane	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Bromobenzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
N-Propyl Benzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
2-Chlorotoluene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
4-Chlorotoluene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
T-Butyl Benzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
S-Butyl Benzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
P-Isopropyltoluene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,3-Dichlorobenzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,4-Dichlorobenzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
N-Butylbenzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,2-Dichlorobenzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	UG/L	10	08/20/2018	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
Hexachlorobutadiene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC

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Mountlake Terrace, WA 98043

CLIENT CONTACT: Eric Dubcak
CLIENT PROJECT: 81187331

DATE: 9/14/2018
ALS SDG#: EV18080100
WDOE ACCREDITATION: C601

LABORATORY BLANK RESULTS

MB-082018W - Batch 131691 - Water by EPA-8260

Naphthalene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	UG/L	2.0	08/20/2018	DLC

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

MB-082118S - Batch 131827 - Soil by EPA-8270

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Pyridine	EPA-8270	U	MG/KG	0.20	08/23/2018	JMK
N-Nitrosodimethylamine	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Phenol	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Aniline	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	MG/KG	0.25	08/23/2018	JMK
2-Chlorophenol	EPA-8270	U	MG/KG	0.25	08/23/2018	JMK
1,3-Dichlorobenzene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
1,4-Dichlorobenzene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Benzyl Alcohol	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
1,2-Dichlorobenzene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
2-Methylphenol	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	MG/KG	0.25	08/23/2018	JMK
3&4-Methylphenol	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	MG/KG	0.25	08/23/2018	JMK
Hexachloroethane	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Nitrobenzene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Isophorone	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
2-Nitrophenol	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
2,4-Dimethylphenol	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Benzoic Acid	EPA-8270	U	MG/KG	1.0	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	MG/KG	0.25	08/23/2018	JMK
2,4-Dichlorophenol	EPA-8270	U	MG/KG	0.50	08/23/2018	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Naphthalene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
4-Chloroaniline	EPA-8270	U	MG/KG	1.0	08/23/2018	JMK
2,6-Dichlorophenol	EPA-8270	U	MG/KG	0.25	08/23/2018	JMK
Hexachlorobutadiene	EPA-8270	U	MG/KG	0.50	08/23/2018	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	MG/KG	0.50	08/23/2018	JMK
2-Methylnaphthalene	EPA-8270	U	MG/KG	0.25	08/23/2018	JMK
1-Methylnaphthalene	EPA-8270	U	MG/KG	0.25	08/23/2018	JMK
Hexachlorocyclopentadiene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
2,4,6-Trichlorophenol	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
2,4,5-Trichlorophenol	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
2-Chloronaphthalene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK

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		ALS SDG#:	EV18080100
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Eric Dubcak		
CLIENT PROJECT:	81187331		

LABORATORY BLANK RESULTS

MB-082118S - Batch 131827 - Soil by EPA-8270

2-Nitroaniline	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Acenaphthylene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Dimethylphthalate	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
2,6-Dinitrotoluene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Acenaphthene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
3-Nitroaniline	EPA-8270	U	MG/KG	1.0	08/23/2018	JMK
2,4-Dinitrophenol	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
4-Nitrophenol	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Dibenzofuran	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
2,4-Dinitrotoluene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Diethylphthalate	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Fluorene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
4-Nitroaniline	EPA-8270	U	MG/KG	0.25	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
N-Nitrosodiphenylamine	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Azobenzene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Hexachlorobenzene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Pentachlorophenol	EPA-8270	U	MG/KG	0.50	08/23/2018	JMK
Phenanthrene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Anthracene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Carbazole	EPA-8270	U	MG/KG	0.25	08/23/2018	JMK
Di-N-Butylphthalate	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Fluoranthene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Pyrene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Butylbenzylphthalate	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
3,3-Dichlorobenzidine	EPA-8270	U	MG/KG	0.25	08/23/2018	JMK
Benzo[A]Anthracene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Chrysene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Di-N-Octylphthalate	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Benzo[B]Fluoranthene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Benzo[K]Fluoranthene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Benzo[A]Pyrene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	MG/KG	0.10	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

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21905 - 64th Ave W, Suite 100
Mountlake Terrace, WA 98043

CLIENT CONTACT: Eric Dubcak
CLIENT PROJECT: 81187331

DATE: 9/14/2018
ALS SDG#: EV18080100
WDOE ACCREDITATION: C601

LABORATORY BLANK RESULTS

MB-082318W - Batch 131851 - Water by EPA-8270

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Pyridine	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
N-Nitrosodimethylamine	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Phenol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Aniline	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Bis(2-Chloroethyl)Ether	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
2-Chlorophenol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
1,3-Dichlorobenzene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
1,4-Dichlorobenzene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Benzyl Alcohol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
1,2-Dichlorobenzene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
2-Methylphenol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
3&4-Methylphenol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Hexachloroethane	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Nitrobenzene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Isophorone	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
2-Nitrophenol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
2,4-Dimethylphenol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Benzoic Acid	EPA-8270	U	UG/L	10	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
2,4-Dichlorophenol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
1,2,4-Trichlorobenzene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Naphthalene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
4-Chloroaniline	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
2,6-Dichlorophenol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Hexachlorobutadiene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
4-Chloro-3-Methylphenol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
2-Methylnaphthalene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
1-Methylnaphthalene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Hexachlorocyclopentadiene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
2,4,6-Trichlorophenol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
2,4,5-Trichlorophenol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
2-Chloronaphthalene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
2-Nitroaniline	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Acenaphthylene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Dimethylphthalate	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
2,6-Dinitrotoluene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Acenaphthene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK

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LABORATORY BLANK RESULTS

MB-082318W - Batch 131851 - Water by EPA-8270

3-Nitroaniline	EPA-8270	U	UG/L	5.0	08/23/2018	JMK
2,4-Dinitrophenol	EPA-8270	U	UG/L	10	08/23/2018	JMK
4-Nitrophenol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Dibenzofuran	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
2,4-Dinitrotoluene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Diethylphthalate	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Fluorene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
4-Chlorophenyl-Phenylether	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
4-Nitroaniline	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
N-Nitrosodiphenylamine	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Azobenzene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
4-Bromophenyl-Phenylether	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Hexachlorobenzene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Pentachlorophenol	EPA-8270	U	UG/L	5.0	08/23/2018	JMK
Phenanthrene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Anthracene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Carbazole	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Di-N-Butylphthalate	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Fluoranthene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Pyrene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Butylbenzylphthalate	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
3,3-Dichlorobenzidine	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Benzo[A]Anthracene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Chrysene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Di-N-Octylphthalate	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Benzo[B]Fluoranthene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Benzo[K]Fluoranthene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Benzo[A]Pyrene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK
Benzo[G,H,I]Perylene	EPA-8270	U	UG/L	2.0	08/23/2018	JMK

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MB-082018S - Batch 131842 - Soil by EPA-8082

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
PCB-1016	EPA-8082	U	MG/KG	0.10	08/20/2018	JMK
PCB-1221	EPA-8082	U	MG/KG	0.10	08/20/2018	JMK

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LABORATORY BLANK RESULTS

MB-082018S - Batch 131842 - Soil by EPA-8082

PCB-1232	EPA-8082	U	MG/KG	0.10	08/20/2018	JMK
PCB-1242	EPA-8082	U	MG/KG	0.10	08/20/2018	JMK
PCB-1248	EPA-8082	U	MG/KG	0.10	08/20/2018	JMK
PCB-1254	EPA-8082	U	MG/KG	0.10	08/20/2018	JMK
PCB-1260	EPA-8082	U	MG/KG	0.10	08/20/2018	JMK
PCB-1268	EPA-8082	U	MG/KG	0.10	08/20/2018	JMK

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MB-082018W - Batch 131799 - Water by EPA-8082

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
PCB-1016	EPA-8082	U	UG/L	0.10	08/22/2018	PAB
PCB-1221	EPA-8082	U	UG/L	0.10	08/22/2018	PAB
PCB-1232	EPA-8082	U	UG/L	0.10	08/22/2018	PAB
PCB-1242	EPA-8082	U	UG/L	0.10	08/22/2018	PAB
PCB-1248	EPA-8082	U	UG/L	0.10	08/22/2018	PAB
PCB-1254	EPA-8082	U	UG/L	0.10	08/22/2018	PAB
PCB-1260	EPA-8082	U	UG/L	0.10	08/22/2018	PAB
PCB-1268	EPA-8082	U	UG/L	0.10	08/22/2018	PAB

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MBLK-R323419 - Batch R323419 - Soil by EPA-7196

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Chromium (VI)	EPA-7196	U	MG/KG	5.0	09/14/2018	JMK

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MBLK-R322340 - Batch R322340 - Soil by EPA-7471

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Mercury	EPA-7471	U	MG/KG	0.020	08/23/2018	RAL

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

MBLK-R322339 - Batch R322339 - Water by EPA-245.1

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Mercury	EPA-245.1	U	UG/L	0.20	08/23/2018	RAL

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LABORATORY BLANK RESULTS

MB-082118S - Batch 131751 - Soil by EPA-6020

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Arsenic	EPA-6020	U	MG/KG	0.20	08/22/2018	RAL
Cadmium	EPA-6020	U	MG/KG	0.10	08/22/2018	RAL
Chromium	EPA-6020	U	MG/KG	0.10	08/22/2018	RAL
Lead	EPA-6020	U	MG/KG	0.10	08/22/2018	RAL

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

MB-082118W - Batch 131752 - Water by EPA-200.8

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Arsenic	EPA-200.8	U	UG/L	1.0	08/22/2018	RAL
Cadmium	EPA-200.8	U	UG/L	1.0	08/22/2018	RAL
Chromium	EPA-200.8	U	UG/L	2.0	08/22/2018	RAL
Lead	EPA-200.8	U	UG/L	1.0	08/22/2018	RAL

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LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 131764 - Soil by NWTPH-GX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range - BS	NWTPH-GX	**100**			66.5	122.7	08/20/2018	JMK
TPH-Volatile Range - BSD	NWTPH-GX	**97.7**	**3**		66.5	122.7	08/20/2018	JMK

ALS Test Batch ID: 131717 - Water by NWTPH-GX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range - BS	NWTPH-GX	**90.2**			66.5	122.7	08/20/2018	DLC
TPH-Volatile Range - BSD	NWTPH-GX	**103**	**13**		66.5	122.7	08/20/2018	DLC

ALS Test Batch ID: 131767 - Soil by NWTPH-DX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range - BS	NWTPH-DX	**96.1**			75.5	122.1	08/22/2018	EBS
TPH-Diesel Range - BSD	NWTPH-DX	**95.0**	**1**		75.5	122.1	08/22/2018	EBS

ALS Test Batch ID: 131807 - Water by NWTPH-DX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range - BS	NWTPH-DX	**85.9**			67	125.2	08/21/2018	EBS
TPH-Diesel Range - BSD	NWTPH-DX	**81.8**	**5**		67	125.2	08/21/2018	EBS

ALS Test Batch ID: 131743 - Soil by EPA-8260

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane - BS	EPA-8260	**100**			50	150	08/20/2018	DLC
Dichlorodifluoromethane - BSD	EPA-8260	**98.6**	**2**		50	150	08/20/2018	DLC
Chloromethane - BS	EPA-8260	**103**			50	150	08/20/2018	DLC
Chloromethane - BSD	EPA-8260	**100**	**3**		50	150	08/20/2018	DLC
Vinyl Chloride - BS	EPA-8260	**92.4**			50	150	08/20/2018	DLC
Vinyl Chloride - BSD	EPA-8260	**90.9**	**2**		50	150	08/20/2018	DLC
Bromomethane - BS	EPA-8260	**107**			50	150	08/20/2018	DLC
Bromomethane - BSD	EPA-8260	**102**	**5**		50	150	08/20/2018	DLC
Chloroethane - BS	EPA-8260	**104**			50	150	08/20/2018	DLC
Chloroethane - BSD	EPA-8260	**104**	**0**		50	150	08/20/2018	DLC
Carbon Tetrachloride - BS	EPA-8260	**112**			50	150	08/20/2018	DLC
Carbon Tetrachloride - BSD	EPA-8260	**111**	**1**		50	150	08/20/2018	DLC
Trichlorofluoromethane - BS	EPA-8260	**108**			50	150	08/20/2018	DLC
Trichlorofluoromethane - BSD	EPA-8260	**107**	**2**		50	150	08/20/2018	DLC
Carbon Disulfide - BS	EPA-8260	**111**			50	150	08/20/2018	DLC

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LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Carbon Disulfide - BSD	EPA-8260	**108**	**3**		50	150	08/20/2018	DLC
Acetone - BS	EPA-8260	**85.6**			50	150	08/20/2018	DLC
Acetone - BSD	EPA-8260	**83.4**	**3**		50	150	08/20/2018	DLC
1,1-Dichloroethene - BS	EPA-8260	**99.0**			73	138	08/20/2018	DLC
1,1-Dichloroethene - BSD	EPA-8260	**97.3**	**2**		73	138	08/20/2018	DLC
Methylene Chloride - BS	EPA-8260	**111**			50	150	08/20/2018	DLC
Methylene Chloride - BSD	EPA-8260	**114**	**3**		50	150	08/20/2018	DLC
Acrylonitrile - BS	EPA-8260	**97.3**			50	150	08/20/2018	DLC
Acrylonitrile - BSD	EPA-8260	**94.9**	**3**		50	150	08/20/2018	DLC
Methyl T-Butyl Ether - BS	EPA-8260	**108**			50	150	08/20/2018	DLC
Methyl T-Butyl Ether - BSD	EPA-8260	**107**	**2**		50	150	08/20/2018	DLC
Trans-1,2-Dichloroethene - BS	EPA-8260	**108**			50	150	08/20/2018	DLC
Trans-1,2-Dichloroethene - BSD	EPA-8260	**104**	**4**		50	150	08/20/2018	DLC
1,1-Dichloroethane - BS	EPA-8260	**102**			50	150	08/20/2018	DLC
1,1-Dichloroethane - BSD	EPA-8260	**93.1**	**9**		50	150	08/20/2018	DLC
2-Butanone - BS	EPA-8260	**76.7**			50	150	08/20/2018	DLC
2-Butanone - BSD	EPA-8260	**71.0**	**8**		50	150	08/20/2018	DLC
Cis-1,2-Dichloroethene - BS	EPA-8260	**103**			50	150	08/20/2018	DLC
Cis-1,2-Dichloroethene - BSD	EPA-8260	**99.8**	**3**		50	150	08/20/2018	DLC
2,2-Dichloropropane - BS	EPA-8260	**111**			50	150	08/20/2018	DLC
2,2-Dichloropropane - BSD	EPA-8260	**108**	**2**		50	150	08/20/2018	DLC
Bromochloromethane - BS	EPA-8260	**95.2**			50	150	08/20/2018	DLC
Bromochloromethane - BSD	EPA-8260	**94.5**	**1**		50	150	08/20/2018	DLC
Chloroform - BS	EPA-8260	**114**			50	150	08/20/2018	DLC
Chloroform - BSD	EPA-8260	**112**	**2**		50	150	08/20/2018	DLC
1,1,1-Trichloroethane - BS	EPA-8260	**103**			50	150	08/20/2018	DLC
1,1,1-Trichloroethane - BSD	EPA-8260	**101**	**2**		50	150	08/20/2018	DLC
1,1-Dichloropropene - BS	EPA-8260	**100**			50	150	08/20/2018	DLC
1,1-Dichloropropene - BSD	EPA-8260	**98.3**	**2**		50	150	08/20/2018	DLC
1,2-Dichloroethane - BS	EPA-8260	**93.6**			50	150	08/20/2018	DLC
1,2-Dichloroethane - BSD	EPA-8260	**92.1**	**2**		50	150	08/20/2018	DLC
Benzene - BS	EPA-8260	**94.3**			75	138	08/20/2018	DLC
Benzene - BSD	EPA-8260	**92.5**	**2**		75	138	08/20/2018	DLC
Trichloroethene - BS	EPA-8260	**97.0**			75	136	08/20/2018	DLC
Trichloroethene - BSD	EPA-8260	**94.9**	**2**		75	136	08/20/2018	DLC
1,2-Dichloropropane - BS	EPA-8260	**95.0**			50	150	08/20/2018	DLC
1,2-Dichloropropane - BSD	EPA-8260	**92.9**	**2**		50	150	08/20/2018	DLC
Dibromomethane - BS	EPA-8260	**97.5**			50	150	08/20/2018	DLC
Dibromomethane - BSD	EPA-8260	**94.4**	**3**		50	150	08/20/2018	DLC
Bromodichloromethane - BS	EPA-8260	**95.4**			50	150	08/20/2018	DLC

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LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Bromodichloromethane - BSD	EPA-8260	**93.9**	**2**		50	150	08/20/2018	DLC
Trans-1,3-Dichloropropene - BS	EPA-8260	**116**			50	150	08/20/2018	DLC
Trans-1,3-Dichloropropene - BSD	EPA-8260	**116**	**0**		50	150	08/20/2018	DLC
4-Methyl-2-Pentanone - BS	EPA-8260	**79.5**			50	150	08/20/2018	DLC
4-Methyl-2-Pentanone - BSD	EPA-8260	**79.0**	**1**		50	150	08/20/2018	DLC
Toluene - BS	EPA-8260	**97.3**			71.6	122.1	08/20/2018	DLC
Toluene - BSD	EPA-8260	**94.1**	**3**		71.6	122.1	08/20/2018	DLC
Cis-1,3-Dichloropropene - BS	EPA-8260	**106**			50	150	08/20/2018	DLC
Cis-1,3-Dichloropropene - BSD	EPA-8260	**104**	**2**		50	150	08/20/2018	DLC
1,1,2-Trichloroethane - BS	EPA-8260	**100**			50	150	08/20/2018	DLC
1,1,2-Trichloroethane - BSD	EPA-8260	**101**	**0**		50	150	08/20/2018	DLC
2-Hexanone - BS	EPA-8260	**70.4**			50	150	08/20/2018	DLC
2-Hexanone - BSD	EPA-8260	**63.3**	**11**		50	150	08/20/2018	DLC
1,3-Dichloropropane - BS	EPA-8260	**97.1**			50	150	08/20/2018	DLC
1,3-Dichloropropane - BSD	EPA-8260	**96.5**	**1**		50	150	08/20/2018	DLC
Tetrachloroethylene - BS	EPA-8260	**111**			50	150	08/20/2018	DLC
Tetrachloroethylene - BSD	EPA-8260	**111**	**0**		50	150	08/20/2018	DLC
Dibromochloromethane - BS	EPA-8260	**110**			50	150	08/20/2018	DLC
Dibromochloromethane - BSD	EPA-8260	**110**	**1**		50	150	08/20/2018	DLC
1,2-Dibromoethane - BS	EPA-8260	**106**			50	150	08/20/2018	DLC
1,2-Dibromoethane - BSD	EPA-8260	**105**	**0**		50	150	08/20/2018	DLC
Chlorobenzene - BS	EPA-8260	**111**			79	128	08/20/2018	DLC
Chlorobenzene - BSD	EPA-8260	**110**	**1**		79	128	08/20/2018	DLC
1,1,1,2-Tetrachloroethane - BS	EPA-8260	**105**			50	150	08/20/2018	DLC
1,1,1,2-Tetrachloroethane - BSD	EPA-8260	**105**	**0**		50	150	08/20/2018	DLC
Ethylbenzene - BS	EPA-8260	**103**			50	150	08/20/2018	DLC
Ethylbenzene - BSD	EPA-8260	**102**	**1**		50	150	08/20/2018	DLC
m,p-Xylene - BS	EPA-8260	**104**			50	150	08/20/2018	DLC
m,p-Xylene - BSD	EPA-8260	**104**	**1**		50	150	08/20/2018	DLC
Styrene - BS	EPA-8260	**112**			50	150	08/20/2018	DLC
Styrene - BSD	EPA-8260	**113**	**1**		50	150	08/20/2018	DLC
o-Xylene - BS	EPA-8260	**115**			50	150	08/20/2018	DLC
o-Xylene - BSD	EPA-8260	**114**	**0**		50	150	08/20/2018	DLC
Bromoform - BS	EPA-8260	**125**			50	150	08/20/2018	DLC
Bromoform - BSD	EPA-8260	**124**	**1**		50	150	08/20/2018	DLC
Isopropylbenzene - BS	EPA-8260	**112**			50	150	08/20/2018	DLC
Isopropylbenzene - BSD	EPA-8260	**112**	**0**		50	150	08/20/2018	DLC
1,1,2,2-Tetrachloroethane - BS	EPA-8260	**91.3**			50	150	08/20/2018	DLC
1,1,2,2-Tetrachloroethane - BSD	EPA-8260	**91.4**	**0**		50	150	08/20/2018	DLC
1,2,3-Trichloropropane - BS	EPA-8260	**94.5**			50	150	08/20/2018	DLC

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CERTIFICATE OF ANALYSIS

CLIENT: Terracon
21905 - 64th Ave W, Suite 100
Mountlake Terrace, WA 98043

CLIENT CONTACT: Eric Dubcak
CLIENT PROJECT: 81187331

DATE: 9/14/2018
ALS SDG#: EV18080100
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,2,3-Trichloropropane - BSD	EPA-8260	**92.8**	**2**		50	150	08/20/2018	DLC
Bromobenzene - BS	EPA-8260	**102**			50	150	08/20/2018	DLC
Bromobenzene - BSD	EPA-8260	**101**	**1**		50	150	08/20/2018	DLC
N-Propyl Benzene - BS	EPA-8260	**93.6**			50	150	08/20/2018	DLC
N-Propyl Benzene - BSD	EPA-8260	**92.0**	**2**		50	150	08/20/2018	DLC
2-Chlorotoluene - BS	EPA-8260	**102**			50	150	08/20/2018	DLC
2-Chlorotoluene - BSD	EPA-8260	**102**	**0**		50	150	08/20/2018	DLC
1,3,5-Trimethylbenzene - BS	EPA-8260	**102**			50	150	08/20/2018	DLC
1,3,5-Trimethylbenzene - BSD	EPA-8260	**100**	**1**		50	150	08/20/2018	DLC
4-Chlorotoluene - BS	EPA-8260	**101**			50	150	08/20/2018	DLC
4-Chlorotoluene - BSD	EPA-8260	**101**	**1**		50	150	08/20/2018	DLC
T-Butyl Benzene - BS	EPA-8260	**126**			50	150	08/20/2018	DLC
T-Butyl Benzene - BSD	EPA-8260	**125**	**1**		50	150	08/20/2018	DLC
1,2,4-Trimethylbenzene - BS	EPA-8260	**102**			50	150	08/20/2018	DLC
1,2,4-Trimethylbenzene - BSD	EPA-8260	**100**	**2**		50	150	08/20/2018	DLC
S-Butyl Benzene - BS	EPA-8260	**100**			50	150	08/20/2018	DLC
S-Butyl Benzene - BSD	EPA-8260	**99.1**	**1**		50	150	08/20/2018	DLC
P-Isopropyltoluene - BS	EPA-8260	**105**			50	150	08/20/2018	DLC
P-Isopropyltoluene - BSD	EPA-8260	**104**	**1**		50	150	08/20/2018	DLC
1,3-Dichlorobenzene - BS	EPA-8260	**98.3**			50	150	08/20/2018	DLC
1,3-Dichlorobenzene - BSD	EPA-8260	**97.6**	**1**		50	150	08/20/2018	DLC
1,4-Dichlorobenzene - BS	EPA-8260	**104**			50	150	08/20/2018	DLC
1,4-Dichlorobenzene - BSD	EPA-8260	**103**	**1**		50	150	08/20/2018	DLC
N-Butylbenzene - BS	EPA-8260	**96.1**			50	150	08/20/2018	DLC
N-Butylbenzene - BSD	EPA-8260	**95.4**	**1**		50	150	08/20/2018	DLC
1,2-Dichlorobenzene - BS	EPA-8260	**96.4**			50	150	08/20/2018	DLC
1,2-Dichlorobenzene - BSD	EPA-8260	**97.0**	**1**		50	150	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane - BS	EPA-8260	**89.5**			50	150	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane - BSD	EPA-8260	**88.4**	**1**		50	150	08/20/2018	DLC
1,2,4-Trichlorobenzene - BS	EPA-8260	**110**			50	150	08/20/2018	DLC
1,2,4-Trichlorobenzene - BSD	EPA-8260	**108**	**2**		50	150	08/20/2018	DLC
Hexachlorobutadiene - BS	EPA-8260	**119**			50	150	08/20/2018	DLC
Hexachlorobutadiene - BSD	EPA-8260	**118**	**1**		50	150	08/20/2018	DLC
Naphthalene - BS	EPA-8260	**106**			50	150	08/20/2018	DLC
Naphthalene - BSD	EPA-8260	**105**	**2**		50	150	08/20/2018	DLC
1,2,3-Trichlorobenzene - BS	EPA-8260	**105**			50	150	08/20/2018	DLC
1,2,3-Trichlorobenzene - BSD	EPA-8260	**105**	**0**		50	150	08/20/2018	DLC

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DATE: 9/14/2018
ALS SDG#: EV18080100
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 131691 - Water by EPA-8260

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane - BS	EPA-8260	**111**			50	150	08/20/2018	DLC
Dichlorodifluoromethane - BSD	EPA-8260	**111**	**0**		50	150	08/20/2018	DLC
Chloromethane - BS	EPA-8260	**75.6**			50	150	08/20/2018	DLC
Chloromethane - BSD	EPA-8260	**75.8**	**0**		50	150	08/20/2018	DLC
Vinyl Chloride - BS	EPA-8260	**97.0**			50	150	08/20/2018	DLC
Vinyl Chloride - BSD	EPA-8260	**98.7**	**2**		50	150	08/20/2018	DLC
Bromomethane - BS	EPA-8260	**103**			50	150	08/20/2018	DLC
Bromomethane - BSD	EPA-8260	**108**	**4**		50	150	08/20/2018	DLC
Chloroethane - BS	EPA-8260	**105**			50	150	08/20/2018	DLC
Chloroethane - BSD	EPA-8260	**105**	**0**		50	150	08/20/2018	DLC
Carbon Tetrachloride - BS	EPA-8260	**92.1**			50	150	08/20/2018	DLC
Carbon Tetrachloride - BSD	EPA-8260	**94.6**	**3**		50	150	08/20/2018	DLC
Trichlorofluoromethane - BS	EPA-8260	**100**			50	150	08/20/2018	DLC
Trichlorofluoromethane - BSD	EPA-8260	**103**	**3**		50	150	08/20/2018	DLC
Carbon Disulfide - BS	EPA-8260	**102**			50	150	08/20/2018	DLC
Carbon Disulfide - BSD	EPA-8260	**104**	**2**		50	150	08/20/2018	DLC
Acetone - BS	EPA-8260	**71.1**			50	150	08/20/2018	DLC
Acetone - BSD	EPA-8260	**72.3**	**2**		50	150	08/20/2018	DLC
1,1-Dichloroethene - BS	EPA-8260	**99.1**			72.5	136	08/20/2018	DLC
1,1-Dichloroethene - BSD	EPA-8260	**101**	**2**		72.5	136	08/20/2018	DLC
Methylene Chloride - BS	EPA-8260	**87.4**			50	150	08/20/2018	DLC
Methylene Chloride - BSD	EPA-8260	**90.9**	**4**		50	150	08/20/2018	DLC
Acrylonitrile - BS	EPA-8260	**99.9**			50	150	08/20/2018	DLC
Acrylonitrile - BSD	EPA-8260	**102**	**2**		50	150	08/20/2018	DLC
Methyl T-Butyl Ether - BS	EPA-8260	**104**			50	150	08/20/2018	DLC
Methyl T-Butyl Ether - BSD	EPA-8260	**106**	**1**		50	150	08/20/2018	DLC
Trans-1,2-Dichloroethene - BS	EPA-8260	**103**			50	150	08/20/2018	DLC
Trans-1,2-Dichloroethene - BSD	EPA-8260	**104**	**1**		50	150	08/20/2018	DLC
1,1-Dichloroethane - BS	EPA-8260	**103**			50	150	08/20/2018	DLC
1,1-Dichloroethane - BSD	EPA-8260	**104**	**1**		50	150	08/20/2018	DLC
2-Butanone - BS	EPA-8260	**71.4**			50	150	08/20/2018	DLC
2-Butanone - BSD	EPA-8260	**71.9**	**1**		50	150	08/20/2018	DLC
Cis-1,2-Dichloroethene - BS	EPA-8260	**106**			50	150	08/20/2018	DLC
Cis-1,2-Dichloroethene - BSD	EPA-8260	**107**	**1**		50	150	08/20/2018	DLC
2,2-Dichloropropane - BS	EPA-8260	**133**			50	150	08/20/2018	DLC
2,2-Dichloropropane - BSD	EPA-8260	**133**	**0**		50	150	08/20/2018	DLC
Bromochloromethane - BS	EPA-8260	**104**			50	150	08/20/2018	DLC
Bromochloromethane - BSD	EPA-8260	**106**	**1**		50	150	08/20/2018	DLC
Chloroform - BS	EPA-8260	**98.9**			50	150	08/20/2018	DLC

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WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Chloroform - BSD	EPA-8260	**99.9**	**1**		50	150	08/20/2018	DLC
1,1,1-Trichloroethane - BS	EPA-8260	**102**			50	150	08/20/2018	DLC
1,1,1-Trichloroethane - BSD	EPA-8260	**104**	**2**		50	150	08/20/2018	DLC
1,1-Dichloropropene - BS	EPA-8260	**101**			50	150	08/20/2018	DLC
1,1-Dichloropropene - BSD	EPA-8260	**103**	**1**		50	150	08/20/2018	DLC
1,2-Dichloroethane - BS	EPA-8260	**94.2**			50	150	08/20/2018	DLC
1,2-Dichloroethane - BSD	EPA-8260	**95.7**	**2**		50	150	08/20/2018	DLC
Benzene - BS	EPA-8260	**98.0**			74.7	143	08/20/2018	DLC
Benzene - BSD	EPA-8260	**99.3**	**1**		74.7	143	08/20/2018	DLC
Trichloroethene - BS	EPA-8260	**98.5**			74.4	141	08/20/2018	DLC
Trichloroethene - BSD	EPA-8260	**99.6**	**1**		74.4	141	08/20/2018	DLC
1,2-Dichloropropane - BS	EPA-8260	**102**			50	150	08/20/2018	DLC
1,2-Dichloropropane - BSD	EPA-8260	**103**	**1**		50	150	08/20/2018	DLC
Dibromomethane - BS	EPA-8260	**100**			50	150	08/20/2018	DLC
Dibromomethane - BSD	EPA-8260	**102**	**2**		50	150	08/20/2018	DLC
Bromodichloromethane - BS	EPA-8260	**101**			50	150	08/20/2018	DLC
Bromodichloromethane - BSD	EPA-8260	**102**	**2**		50	150	08/20/2018	DLC
Trans-1,3-Dichloropropene - BS	EPA-8260	**110**			50	150	08/20/2018	DLC
Trans-1,3-Dichloropropene - BSD	EPA-8260	**111**	**1**		50	150	08/20/2018	DLC
4-Methyl-2-Pentanone - BS	EPA-8260	**75.3**			50	150	08/20/2018	DLC
4-Methyl-2-Pentanone - BSD	EPA-8260	**76.0**	**1**		50	150	08/20/2018	DLC
Toluene - BS	EPA-8260	**103**			71.7	139	08/20/2018	DLC
Toluene - BSD	EPA-8260	**104**	**1**		71.7	139	08/20/2018	DLC
Cis-1,3-Dichloropropene - BS	EPA-8260	**106**			50	150	08/20/2018	DLC
Cis-1,3-Dichloropropene - BSD	EPA-8260	**107**	**1**		50	150	08/20/2018	DLC
1,1,2-Trichloroethane - BS	EPA-8260	**107**			50	150	08/20/2018	DLC
1,1,2-Trichloroethane - BSD	EPA-8260	**108**	**1**		50	150	08/20/2018	DLC
2-Hexanone - BS	EPA-8260	**75.3**			50	150	08/20/2018	DLC
2-Hexanone - BSD	EPA-8260	**75.4**	**0**		50	150	08/20/2018	DLC
1,3-Dichloropropane - BS	EPA-8260	**104**			50	150	08/20/2018	DLC
1,3-Dichloropropane - BSD	EPA-8260	**105**	**1**		50	150	08/20/2018	DLC
Tetrachloroethylene - BS	EPA-8260	**109**			50	150	08/20/2018	DLC
Tetrachloroethylene - BSD	EPA-8260	**111**	**2**		50	150	08/20/2018	DLC
Dibromochloromethane - BS	EPA-8260	**111**			50	150	08/20/2018	DLC
Dibromochloromethane - BSD	EPA-8260	**112**	**1**		50	150	08/20/2018	DLC
1,2-Dibromoethane - BS	EPA-8260	**109**			50	150	08/20/2018	DLC
1,2-Dibromoethane - BSD	EPA-8260	**110**	**1**		50	150	08/20/2018	DLC
Chlorobenzene - BS	EPA-8260	**110**			73	131	08/20/2018	DLC
Chlorobenzene - BSD	EPA-8260	**111**	**1**		73	131	08/20/2018	DLC
1,1,1,2-Tetrachloroethane - BS	EPA-8260	**112**			50	150	08/20/2018	DLC

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LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
1,1,1,2-Tetrachloroethane - BSD	EPA-8260	**112**	**0**		50	150	08/20/2018	DLC
Ethylbenzene - BS	EPA-8260	**108**			50	150	08/20/2018	DLC
Ethylbenzene - BSD	EPA-8260	**109**	**1**		50	150	08/20/2018	DLC
m,p-Xylene - BS	EPA-8260	**110**			50	150	08/20/2018	DLC
m,p-Xylene - BSD	EPA-8260	**110**	**0**		50	150	08/20/2018	DLC
Styrene - BS	EPA-8260	**111**			50	150	08/20/2018	DLC
Styrene - BSD	EPA-8260	**111**	**0**		50	150	08/20/2018	DLC
o-Xylene - BS	EPA-8260	**111**			50	150	08/20/2018	DLC
o-Xylene - BSD	EPA-8260	**111**	**0**		50	150	08/20/2018	DLC
Bromoform - BS	EPA-8260	**110**			50	150	08/20/2018	DLC
Bromoform - BSD	EPA-8260	**111**	**1**		50	150	08/20/2018	DLC
Isopropylbenzene - BS	EPA-8260	**110**			50	150	08/20/2018	DLC
Isopropylbenzene - BSD	EPA-8260	**110**	**0**		50	150	08/20/2018	DLC
1,1,2,2-Tetrachloroethane - BS	EPA-8260	**99.2**			50	150	08/20/2018	DLC
1,1,2,2-Tetrachloroethane - BSD	EPA-8260	**100**	**1**		50	150	08/20/2018	DLC
1,2,3-Trichloropropane - BS	EPA-8260	**100**			50	150	08/20/2018	DLC
1,2,3-Trichloropropane - BSD	EPA-8260	**101**	**1**		50	150	08/20/2018	DLC
Bromobenzene - BS	EPA-8260	**108**			50	150	08/20/2018	DLC
Bromobenzene - BSD	EPA-8260	**110**	**2**		50	150	08/20/2018	DLC
N-Propyl Benzene - BS	EPA-8260	**103**			50	150	08/20/2018	DLC
N-Propyl Benzene - BSD	EPA-8260	**104**	**1**		50	150	08/20/2018	DLC
2-Chlorotoluene - BS	EPA-8260	**103**			50	150	08/20/2018	DLC
2-Chlorotoluene - BSD	EPA-8260	**103**	**1**		50	150	08/20/2018	DLC
1,3,5-Trimethylbenzene - BS	EPA-8260	**105**			50	150	08/20/2018	DLC
1,3,5-Trimethylbenzene - BSD	EPA-8260	**105**	**1**		50	150	08/20/2018	DLC
4-Chlorotoluene - BS	EPA-8260	**103**			50	150	08/20/2018	DLC
4-Chlorotoluene - BSD	EPA-8260	**104**	**1**		50	150	08/20/2018	DLC
T-Butyl Benzene - BS	EPA-8260	**99.4**			50	150	08/20/2018	DLC
T-Butyl Benzene - BSD	EPA-8260	**100**	**1**		50	150	08/20/2018	DLC
1,2,4-Trimethylbenzene - BS	EPA-8260	**104**			50	150	08/20/2018	DLC
1,2,4-Trimethylbenzene - BSD	EPA-8260	**106**	**1**		50	150	08/20/2018	DLC
S-Butyl Benzene - BS	EPA-8260	**104**			50	150	08/20/2018	DLC
S-Butyl Benzene - BSD	EPA-8260	**105**	**1**		50	150	08/20/2018	DLC
P-Isopropyltoluene - BS	EPA-8260	**107**			50	150	08/20/2018	DLC
P-Isopropyltoluene - BSD	EPA-8260	**108**	**1**		50	150	08/20/2018	DLC
1,3-Dichlorobenzene - BS	EPA-8260	**108**			50	150	08/20/2018	DLC
1,3-Dichlorobenzene - BSD	EPA-8260	**110**	**2**		50	150	08/20/2018	DLC
1,4-Dichlorobenzene - BS	EPA-8260	**108**			50	150	08/20/2018	DLC
1,4-Dichlorobenzene - BSD	EPA-8260	**109**	**0**		50	150	08/20/2018	DLC
N-Butylbenzene - BS	EPA-8260	**105**			50	150	08/20/2018	DLC

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CERTIFICATE OF ANALYSIS

CLIENT: Terracon
21905 - 64th Ave W, Suite 100
Mountlake Terrace, WA 98043

CLIENT CONTACT: Eric Dubcak
CLIENT PROJECT: 81187331

DATE: 9/14/2018
ALS SDG#: EV18080100
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
N-Butylbenzene - BSD	EPA-8260	**106**	**0**		50	150	08/20/2018	DLC
1,2-Dichlorobenzene - BS	EPA-8260	**108**			50	150	08/20/2018	DLC
1,2-Dichlorobenzene - BSD	EPA-8260	**109**	**1**		50	150	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane - BS	EPA-8260	**96.4**			50	150	08/20/2018	DLC
1,2-Dibromo 3-Chloropropane - BSD	EPA-8260	**97.5**	**1**		50	150	08/20/2018	DLC
1,2,4-Trichlorobenzene - BS	EPA-8260	**113**			50	150	08/20/2018	DLC
1,2,4-Trichlorobenzene - BSD	EPA-8260	**114**	**1**		50	150	08/20/2018	DLC
Hexachlorobutadiene - BS	EPA-8260	**112**			50	150	08/20/2018	DLC
Hexachlorobutadiene - BSD	EPA-8260	**114**	**1**		50	150	08/20/2018	DLC
Naphthalene - BS	EPA-8260	**110**			50	150	08/20/2018	DLC
Naphthalene - BSD	EPA-8260	**111**	**1**		50	150	08/20/2018	DLC
1,2,3-Trichlorobenzene - BS	EPA-8260	**113**			50	150	08/20/2018	DLC
1,2,3-Trichlorobenzene - BSD	EPA-8260	**114**	**1**		50	150	08/20/2018	DLC

ALS Test Batch ID: 131827 - Soil by EPA-8270

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Pyridine - BS	EPA-8270	**62.5**			20	150	08/23/2018	JMK
Pyridine - BSD	EPA-8270	**73.3**	**16**		20	150	08/23/2018	JMK
N-Nitrosodimethylamine - BS	EPA-8270	**91.9**			20	150	08/23/2018	JMK
N-Nitrosodimethylamine - BSD	EPA-8270	**99.8**	**8**		20	150	08/23/2018	JMK
Phenol - BS	EPA-8270	**84.1**			36.1	131	08/23/2018	JMK
Phenol - BSD	EPA-8270	**88.2**	**5**		36.1	131	08/23/2018	JMK
Aniline - BS	EPA-8270	**80.4**			20	150	08/23/2018	JMK
Aniline - BSD	EPA-8270	**84.2**	**5**		20	150	08/23/2018	JMK
Bis(2-Chloroethyl)Ether - BS	EPA-8270	**85.9**			20	150	08/23/2018	JMK
Bis(2-Chloroethyl)Ether - BSD	EPA-8270	**88.3**	**3**		20	150	08/23/2018	JMK
2-Chlorophenol - BS	EPA-8270	**82.1**			59.9	111	08/23/2018	JMK
2-Chlorophenol - BSD	EPA-8270	**85.8**	**4**		59.9	111	08/23/2018	JMK
1,3-Dichlorobenzene - BS	EPA-8270	**76.0**			20	150	08/23/2018	JMK
1,3-Dichlorobenzene - BSD	EPA-8270	**80.3**	**6**		20	150	08/23/2018	JMK
1,4-Dichlorobenzene - BS	EPA-8270	**77.2**			44.3	122	08/23/2018	JMK
1,4-Dichlorobenzene - BSD	EPA-8270	**82.3**	**6**		44.3	122	08/23/2018	JMK
Benzyl Alcohol - BS	EPA-8270	**101**			20	150	08/23/2018	JMK
Benzyl Alcohol - BSD	EPA-8270	**106**	**5**		20	150	08/23/2018	JMK
1,2-Dichlorobenzene - BS	EPA-8270	**78.1**			20	150	08/23/2018	JMK
1,2-Dichlorobenzene - BSD	EPA-8270	**81.7**	**5**		20	150	08/23/2018	JMK
2-Methylphenol - BS	EPA-8270	**80.6**			20	150	08/23/2018	JMK
2-Methylphenol - BSD	EPA-8270	**85.4**	**6**		20	150	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether - BS	EPA-8270	**82.2**			20	150	08/23/2018	JMK

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CLIENT CONTACT: Eric Dubcak
CLIENT PROJECT: 81187331

DATE: 9/14/2018
ALS SDG#: EV18080100
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Bis(2-Chloroisopropyl)Ether - BSD	EPA-8270	**84.5**	**3**		20	150	08/23/2018	JMK
3&4-Methylphenol - BS	EPA-8270	**83.6**			20	150	08/23/2018	JMK
3&4-Methylphenol - BSD	EPA-8270	**86.9**	**4**		20	150	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine - BS	EPA-8270	**95.8**			31.6	134	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine - BSD	EPA-8270	**100**	**5**		31.6	134	08/23/2018	JMK
Hexachloroethane - BS	EPA-8270	**75.2**			20	150	08/23/2018	JMK
Hexachloroethane - BSD	EPA-8270	**79.1**	**5**		20	150	08/23/2018	JMK
Nitrobenzene - BS	EPA-8270	**80.9**			20	150	08/23/2018	JMK
Nitrobenzene - BSD	EPA-8270	**84.2**	**4**		20	150	08/23/2018	JMK
Isophorone - BS	EPA-8270	**61.3**			20	150	08/23/2018	JMK
Isophorone - BSD	EPA-8270	**63.7**	**4**		20	150	08/23/2018	JMK
2-Nitrophenol - BS	EPA-8270	**84.5**			20	150	08/23/2018	JMK
2-Nitrophenol - BSD	EPA-8270	**86.0**	**2**		20	150	08/23/2018	JMK
2,4-Dimethylphenol - BS	EPA-8270	**60.3**			20	150	08/23/2018	JMK
2,4-Dimethylphenol - BSD	EPA-8270	**65.7**	**9**		20	150	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane - BS	EPA-8270	**81.0**			20	150	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane - BSD	EPA-8270	**84.1**	**4**		20	150	08/23/2018	JMK
2,4-Dichlorophenol - BS	EPA-8270	**83.5**			20	150	08/23/2018	JMK
2,4-Dichlorophenol - BSD	EPA-8270	**87.7**	**5**		20	150	08/23/2018	JMK
1,2,4-Trichlorobenzene - BS	EPA-8270	**76.5**			44.6	122	08/23/2018	JMK
1,2,4-Trichlorobenzene - BSD	EPA-8270	**78.8**	**3**		44.6	122	08/23/2018	JMK
Naphthalene - BS	EPA-8270	**78.2**			20	150	08/23/2018	JMK
Naphthalene - BSD	EPA-8270	**81.6**	**4**		20	150	08/23/2018	JMK
4-Chloroaniline - BS	EPA-8270	**76.9**			20	150	08/23/2018	JMK
4-Chloroaniline - BSD	EPA-8270	**81.0**	**5**		20	150	08/23/2018	JMK
Hexachlorobutadiene - BS	EPA-8270	**74.5**			20	150	08/23/2018	JMK
Hexachlorobutadiene - BSD	EPA-8270	**78.0**	**5**		20	150	08/23/2018	JMK
4-Chloro-3-Methylphenol - BS	EPA-8270	**88.0**			49.2	135	08/23/2018	JMK
4-Chloro-3-Methylphenol - BSD	EPA-8270	**91.0**	**3**		49.2	135	08/23/2018	JMK
2-Methylnaphthalene - BS	EPA-8270	**84.1**			20	150	08/23/2018	JMK
2-Methylnaphthalene - BSD	EPA-8270	**86.5**	**3**		20	150	08/23/2018	JMK
1-Methylnaphthalene - BS	EPA-8270	**78.2**			20	150	08/23/2018	JMK
1-Methylnaphthalene - BSD	EPA-8270	**80.7**	**3**		20	150	08/23/2018	JMK
Hexachlorocyclopentadiene - BS	EPA-8270	**83.4**			20	150	08/23/2018	JMK
Hexachlorocyclopentadiene - BSD	EPA-8270	**85.0**	**2**		20	150	08/23/2018	JMK
2,4,6-Trichlorophenol - BS	EPA-8270	**90.4**			20	150	08/23/2018	JMK
2,4,6-Trichlorophenol - BSD	EPA-8270	**91.8**	**2**		20	150	08/23/2018	JMK
2,4,5-Trichlorophenol - BS	EPA-8270	**89.2**			20	150	08/23/2018	JMK
2,4,5-Trichlorophenol - BSD	EPA-8270	**91.1**	**2**		20	150	08/23/2018	JMK
2-Chloronaphthalene - BS	EPA-8270	**82.3**			20	150	08/23/2018	JMK

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DATE: 9/14/2018
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WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
2-Chloronaphthalene - BSD	EPA-8270	**82.8**	**1**		20	150	08/23/2018	JMK
2-Nitroaniline - BS	EPA-8270	**163**		S	20	150	08/23/2018	JMK
2-Nitroaniline - BSD	EPA-8270	**167**	**2**	S	20	150	08/23/2018	JMK
Acenaphthylene - BS	EPA-8270	**84.5**			20	150	08/23/2018	JMK
Acenaphthylene - BSD	EPA-8270	**86.1**	**2**		20	150	08/23/2018	JMK
Dimethylphthalate - BS	EPA-8270	**84.8**			20	150	08/23/2018	JMK
Dimethylphthalate - BSD	EPA-8270	**85.4**	**1**		20	150	08/23/2018	JMK
2,6-Dinitrotoluene - BS	EPA-8270	**88.1**			20	150	08/23/2018	JMK
2,6-Dinitrotoluene - BSD	EPA-8270	**89.9**	**2**		20	150	08/23/2018	JMK
Acenaphthene - BS	EPA-8270	**82.9**			49.3	117	08/23/2018	JMK
Acenaphthene - BSD	EPA-8270	**84.0**	**1**		49.3	117	08/23/2018	JMK
3-Nitroaniline - BS	EPA-8270	**163**		S	20	150	08/23/2018	JMK
3-Nitroaniline - BSD	EPA-8270	**167**	**2**	S	20	150	08/23/2018	JMK
2,4-Dinitrophenol - BS	EPA-8270	**85.1**			20	150	08/23/2018	JMK
2,4-Dinitrophenol - BSD	EPA-8270	**86.4**	**2**		20	150	08/23/2018	JMK
4-Nitrophenol - BS	EPA-8270	**102**			29.8	137	08/23/2018	JMK
4-Nitrophenol - BSD	EPA-8270	**104**	**2**		29.8	137	08/23/2018	JMK
Dibenzofuran - BS	EPA-8270	**84.7**			20	150	08/23/2018	JMK
Dibenzofuran - BSD	EPA-8270	**86.0**	**2**		20	150	08/23/2018	JMK
2,4-Dinitrotoluene - BS	EPA-8270	**87.6**			55.3	130	08/23/2018	JMK
2,4-Dinitrotoluene - BSD	EPA-8270	**89.0**	**2**		55.3	130	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol - BS	EPA-8270	**92.6**			20	150	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol - BSD	EPA-8270	**93.8**	**1**		20	150	08/23/2018	JMK
Diethylphthalate - BS	EPA-8270	**84.6**			20	150	08/23/2018	JMK
Diethylphthalate - BSD	EPA-8270	**84.7**	**0**		20	150	08/23/2018	JMK
Fluorene - BS	EPA-8270	**87.0**			20	150	08/23/2018	JMK
Fluorene - BSD	EPA-8270	**86.6**	**0**		20	150	08/23/2018	JMK
4-Chlorophenyl-Phenylether - BS	EPA-8270	**85.8**			20	150	08/23/2018	JMK
4-Chlorophenyl-Phenylether - BSD	EPA-8270	**85.9**	**0**		20	150	08/23/2018	JMK
4-Nitroaniline - BS	EPA-8270	**650**		S	20	150	08/23/2018	JMK
4-Nitroaniline - BSD	EPA-8270	**773**	**17**	S	20	150	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol - BS	EPA-8270	**99.1**			20	150	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol - BSD	EPA-8270	**103**	**4**		20	150	08/23/2018	JMK
Azobenzene - BS	EPA-8270	**83.7**			20	150	08/23/2018	JMK
Azobenzene - BSD	EPA-8270	**86.3**	**3**		20	150	08/23/2018	JMK
4-Bromophenyl-Phenylether - BS	EPA-8270	**86.4**			20	150	08/23/2018	JMK
4-Bromophenyl-Phenylether - BSD	EPA-8270	**88.5**	**2**		20	150	08/23/2018	JMK
Hexachlorobenzene - BS	EPA-8270	**83.1**			20	150	08/23/2018	JMK
Hexachlorobenzene - BSD	EPA-8270	**86.0**	**3**		20	150	08/23/2018	JMK
Pentachlorophenol - BS	EPA-8270	**87.5**			41.3	113	08/23/2018	JMK

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LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Pentachlorophenol - BSD	EPA-8270	**91.7**	**5**		41.3	113	08/23/2018	JMK
Phenanthrene - BS	EPA-8270	**83.3**			20	150	08/23/2018	JMK
Phenanthrene - BSD	EPA-8270	**86.6**	**4**		20	150	08/23/2018	JMK
Anthracene - BS	EPA-8270	**81.6**			20	150	08/23/2018	JMK
Anthracene - BSD	EPA-8270	**85.7**	**5**		20	150	08/23/2018	JMK
Carbazole - BS	EPA-8270	**96.9**			20	150	08/23/2018	JMK
Carbazole - BSD	EPA-8270	**111**	**14**		20	150	08/23/2018	JMK
Di-N-Butylphthalate - BS	EPA-8270	**87.5**			20	150	08/23/2018	JMK
Di-N-Butylphthalate - BSD	EPA-8270	**88.7**	**1**		20	150	08/23/2018	JMK
Fluoranthene - BS	EPA-8270	**87.4**			20	150	08/23/2018	JMK
Fluoranthene - BSD	EPA-8270	**89.2**	**2**		20	150	08/23/2018	JMK
Pyrene - BS	EPA-8270	**84.4**			57.4	145	08/23/2018	JMK
Pyrene - BSD	EPA-8270	**86.8**	**3**		57.4	145	08/23/2018	JMK
Butylbenzylphthalate - BS	EPA-8270	**89.0**			20	150	08/23/2018	JMK
Butylbenzylphthalate - BSD	EPA-8270	**90.4**	**2**		20	150	08/23/2018	JMK
Benzo[A]Anthracene - BS	EPA-8270	**85.3**			20	150	08/23/2018	JMK
Benzo[A]Anthracene - BSD	EPA-8270	**87.0**	**2**		20	150	08/23/2018	JMK
Chrysene - BS	EPA-8270	**81.5**			20	150	08/23/2018	JMK
Chrysene - BSD	EPA-8270	**83.2**	**2**		20	150	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate - BS	EPA-8270	**91.5**			20	150	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate - BSD	EPA-8270	**93.2**	**2**		20	150	08/23/2018	JMK
Di-N-Octylphthalate - BS	EPA-8270	**88.7**			20	150	08/23/2018	JMK
Di-N-Octylphthalate - BSD	EPA-8270	**90.2**	**2**		20	150	08/23/2018	JMK
Benzo[B]Fluoranthene - BS	EPA-8270	**86.7**			20	150	08/23/2018	JMK
Benzo[B]Fluoranthene - BSD	EPA-8270	**88.4**	**2**		20	150	08/23/2018	JMK
Benzo[K]Fluoranthene - BS	EPA-8270	**85.1**			20	150	08/23/2018	JMK
Benzo[K]Fluoranthene - BSD	EPA-8270	**86.5**	**2**		20	150	08/23/2018	JMK
Benzo[A]Pyrene - BS	EPA-8270	**85.6**			20	150	08/23/2018	JMK
Benzo[A]Pyrene - BSD	EPA-8270	**86.9**	**2**		20	150	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene - BS	EPA-8270	**94.6**			20	150	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene - BSD	EPA-8270	**95.0**	**0**		20	150	08/23/2018	JMK
Dibenz[A,H]Anthracene - BS	EPA-8270	**94.7**			20	150	08/23/2018	JMK
Dibenz[A,H]Anthracene - BSD	EPA-8270	**95.0**	**0**		20	150	08/23/2018	JMK
Benzo[G,H,I]Perylene - BS	EPA-8270	**91.3**			20	150	08/23/2018	JMK
Benzo[G,H,I]Perylene - BSD	EPA-8270	**90.7**	**1**		20	150	08/23/2018	JMK

S - Outside of control limits.

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LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 131851 - Water by EPA-8270

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Pyridine - BS	EPA-8270	**18.6**		SQ3	20	150	08/23/2018	JMK
Pyridine - BSD	EPA-8270	**19.6**	**5**	SQ3	20	150	08/23/2018	JMK
N-Nitrosodimethylamine - BS	EPA-8270	**40.8**			20	150	08/23/2018	JMK
N-Nitrosodimethylamine - BSD	EPA-8270	**44.5**	**9**		20	150	08/23/2018	JMK
Phenol - BS	EPA-8270	**26.5**			5	84	08/23/2018	JMK
Phenol - BSD	EPA-8270	**27.3**	**3**		5	84	08/23/2018	JMK
Aniline - BS	EPA-8270	**25.9**			20	150	08/23/2018	JMK
Aniline - BSD	EPA-8270	**26.0**	**0**		20	150	08/23/2018	JMK
Bis(2-Chloroethyl)Ether - BS	EPA-8270	**93.5**			20	150	08/23/2018	JMK
Bis(2-Chloroethyl)Ether - BSD	EPA-8270	**90.6**	**3**		20	150	08/23/2018	JMK
2-Chlorophenol - BS	EPA-8270	**74.0**			45	111	08/23/2018	JMK
2-Chlorophenol - BSD	EPA-8270	**75.1**	**2**		45	111	08/23/2018	JMK
1,3-Dichlorobenzene - BS	EPA-8270	**48.7**			20	150	08/23/2018	JMK
1,3-Dichlorobenzene - BSD	EPA-8270	**75.9**	**44**		20	150	08/23/2018	JMK
1,4-Dichlorobenzene - BS	EPA-8270	**50.7**			27.1	114	08/23/2018	JMK
1,4-Dichlorobenzene - BSD	EPA-8270	**77.8**	**42**		27.1	114	08/23/2018	JMK
Benzyl Alcohol - BS	EPA-8270	**62.2**			20	150	08/23/2018	JMK
Benzyl Alcohol - BSD	EPA-8270	**62.9**	**1**		20	150	08/23/2018	JMK
1,2-Dichlorobenzene - BS	EPA-8270	**52.1**			20	150	08/23/2018	JMK
1,2-Dichlorobenzene - BSD	EPA-8270	**77.3**	**39**		20	150	08/23/2018	JMK
2-Methylphenol - BS	EPA-8270	**63.8**			20	150	08/23/2018	JMK
2-Methylphenol - BSD	EPA-8270	**64.0**	**0**		20	150	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether - BS	EPA-8270	**82.6**			20	150	08/23/2018	JMK
Bis(2-Chloroisopropyl)Ether - BSD	EPA-8270	**83.2**	**1**		20	150	08/23/2018	JMK
3&4-Methylphenol - BS	EPA-8270	**58.3**			20	150	08/23/2018	JMK
3&4-Methylphenol - BSD	EPA-8270	**57.7**	**1**		20	150	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine - BS	EPA-8270	**100**			42.2	119	08/23/2018	JMK
N-Nitroso-Di-N-Propylamine - BSD	EPA-8270	**101**	**0**		42.2	119	08/23/2018	JMK
Hexachloroethane - BS	EPA-8270	**44.0**			20	150	08/23/2018	JMK
Hexachloroethane - BSD	EPA-8270	**77.5**	**55**		20	150	08/23/2018	JMK
Nitrobenzene - BS	EPA-8270	**79.7**			20	150	08/23/2018	JMK
Nitrobenzene - BSD	EPA-8270	**85.9**	**7**		20	150	08/23/2018	JMK
Isophorone - BS	EPA-8270	**76.3**			20	150	08/23/2018	JMK
Isophorone - BSD	EPA-8270	**80.1**	**5**		20	150	08/23/2018	JMK
2-Nitrophenol - BS	EPA-8270	**86.4**			20	150	08/23/2018	JMK
2-Nitrophenol - BSD	EPA-8270	**84.7**	**2**		20	150	08/23/2018	JMK
2,4-Dimethylphenol - BS	EPA-8270	**71.7**			20	150	08/23/2018	JMK
2,4-Dimethylphenol - BSD	EPA-8270	**76.3**	**6**		20	150	08/23/2018	JMK
Bis(2-Chloroethoxy)Methane - BS	EPA-8270	**80.1**			20	150	08/23/2018	JMK

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ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT: Terracon
21905 - 64th Ave W, Suite 100
Mountlake Terrace, WA 98043

CLIENT CONTACT: Eric Dubcak
CLIENT PROJECT: 81187331

DATE: 9/14/2018
ALS SDG#: EV18080100
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Bis(2-Chloroethoxy)Methane - BSD	EPA-8270	**84.9**	**6**		20	150	08/23/2018	JMK
2,4-Dichlorophenol - BS	EPA-8270	**79.8**			20	150	08/23/2018	JMK
2,4-Dichlorophenol - BSD	EPA-8270	**83.2**	**4**		20	150	08/23/2018	JMK
1,2,4-Trichlorobenzene - BS	EPA-8270	**51.5**			29.4	120	08/23/2018	JMK
1,2,4-Trichlorobenzene - BSD	EPA-8270	**76.6**	**39**		29.4	120	08/23/2018	JMK
Naphthalene - BS	EPA-8270	**60.7**			20	150	08/23/2018	JMK
Naphthalene - BSD	EPA-8270	**76.3**	**23**		20	150	08/23/2018	JMK
4-Chloroaniline - BS	EPA-8270	**61.3**			20	150	08/23/2018	JMK
4-Chloroaniline - BSD	EPA-8270	**74.8**	**20**		20	150	08/23/2018	JMK
Hexachlorobutadiene - BS	EPA-8270	**43.0**			20	150	08/23/2018	JMK
Hexachlorobutadiene - BSD	EPA-8270	**75.0**	**54**		20	150	08/23/2018	JMK
4-Chloro-3-Methylphenol - BS	EPA-8270	**81.9**			44	113	08/23/2018	JMK
4-Chloro-3-Methylphenol - BSD	EPA-8270	**85.1**	**4**		44	113	08/23/2018	JMK
2-Methylnaphthalene - BS	EPA-8270	**67.0**			20	150	08/23/2018	JMK
2-Methylnaphthalene - BSD	EPA-8270	**82.5**	**21**		20	150	08/23/2018	JMK
1-Methylnaphthalene - BS	EPA-8270	**65.8**			20	150	08/23/2018	JMK
1-Methylnaphthalene - BSD	EPA-8270	**76.1**	**15**		20	150	08/23/2018	JMK
Hexachlorocyclopentadiene - BS	EPA-8270	**40.1**			20	150	08/23/2018	JMK
Hexachlorocyclopentadiene - BSD	EPA-8270	**73.7**	**59**		20	150	08/23/2018	JMK
2,4,6-Trichlorophenol - BS	EPA-8270	**83.3**			20	150	08/23/2018	JMK
2,4,6-Trichlorophenol - BSD	EPA-8270	**90.0**	**8**		20	150	08/23/2018	JMK
2,4,5-Trichlorophenol - BS	EPA-8270	**82.4**			20	150	08/23/2018	JMK
2,4,5-Trichlorophenol - BSD	EPA-8270	**88.7**	**7**		20	150	08/23/2018	JMK
2-Chloronaphthalene - BS	EPA-8270	**65.4**			20	150	08/23/2018	JMK
2-Chloronaphthalene - BSD	EPA-8270	**81.9**	**22**		20	150	08/23/2018	JMK
2-Nitroaniline - BS	EPA-8270	**163**		SQ1	20	150	08/23/2018	JMK
2-Nitroaniline - BSD	EPA-8270	**169**	**4**	S	20	150	08/23/2018	JMK
Acenaphthylene - BS	EPA-8270	**78.0**			20	150	08/23/2018	JMK
Acenaphthylene - BSD	EPA-8270	**87.9**	**12**		20	150	08/23/2018	JMK
Dimethylphthalate - BS	EPA-8270	**81.9**			20	150	08/23/2018	JMK
Dimethylphthalate - BSD	EPA-8270	**84.2**	**3**		20	150	08/23/2018	JMK
2,6-Dinitrotoluene - BS	EPA-8270	**83.6**			20	150	08/23/2018	JMK
2,6-Dinitrotoluene - BSD	EPA-8270	**87.1**	**4**		20	150	08/23/2018	JMK
Acenaphthene - BS	EPA-8270	**72.4**			41	107	08/23/2018	JMK
Acenaphthene - BSD	EPA-8270	**81.0**	**11**		41	107	08/23/2018	JMK
3-Nitroaniline - BS	EPA-8270	**163**		SQ1	20	150	08/23/2018	JMK
3-Nitroaniline - BSD	EPA-8270	**169**	**4**	S	20	150	08/23/2018	JMK
2,4-Dinitrophenol - BS	EPA-8270	**74.6**			20	150	08/23/2018	JMK
2,4-Dinitrophenol - BSD	EPA-8270	**83.2**	**11**		20	150	08/23/2018	JMK
4-Nitrophenol - BS	EPA-8270	**34.8**			5	63	08/23/2018	JMK

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CLIENT CONTACT: Eric Dubcak
CLIENT PROJECT: 81187331

DATE: 9/14/2018
ALS SDG#: EV18080100
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
4-Nitrophenol - BSD	EPA-8270	**35.2**	**1**		5	63	08/23/2018	JMK
Dibenzofuran - BS	EPA-8270	**79.1**			20	150	08/23/2018	JMK
Dibenzofuran - BSD	EPA-8270	**85.8**	**8**		20	150	08/23/2018	JMK
2,4-Dinitrotoluene - BS	EPA-8270	**83.2**			53.1	136	08/23/2018	JMK
2,4-Dinitrotoluene - BSD	EPA-8270	**85.1**	**2**		53.1	136	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol - BS	EPA-8270	**84.9**			20	150	08/23/2018	JMK
2,3,4,6-Tetrachlorophenol - BSD	EPA-8270	**86.1**	**1**		20	150	08/23/2018	JMK
Diethylphthalate - BS	EPA-8270	**84.7**			20	150	08/23/2018	JMK
Diethylphthalate - BSD	EPA-8270	**83.4**	**2**		20	150	08/23/2018	JMK
Fluorene - BS	EPA-8270	**79.7**			20	150	08/23/2018	JMK
Fluorene - BSD	EPA-8270	**83.8**	**5**		20	150	08/23/2018	JMK
4-Chlorophenyl-Phenylether - BS	EPA-8270	**77.1**			20	150	08/23/2018	JMK
4-Chlorophenyl-Phenylether - BSD	EPA-8270	**83.1**	**8**		20	150	08/23/2018	JMK
4-Nitroaniline - BS	EPA-8270	**97.4**			20	150	08/23/2018	JMK
4-Nitroaniline - BSD	EPA-8270	**94.7**	**3**		20	150	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol - BS	EPA-8270	**90.3**			20	150	08/23/2018	JMK
4,6-Dinitro-2-Methylphenol - BSD	EPA-8270	**94.7**	**5**		20	150	08/23/2018	JMK
Azobenzene - BS	EPA-8270	**81.7**			20	150	08/23/2018	JMK
Azobenzene - BSD	EPA-8270	**88.0**	**7**		20	150	08/23/2018	JMK
4-Bromophenyl-Phenylether - BS	EPA-8270	**78.8**			20	150	08/23/2018	JMK
4-Bromophenyl-Phenylether - BSD	EPA-8270	**85.8**	**8**		20	150	08/23/2018	JMK
Hexachlorobenzene - BS	EPA-8270	**76.7**			20	150	08/23/2018	JMK
Hexachlorobenzene - BSD	EPA-8270	**81.0**	**5**		20	150	08/23/2018	JMK
Pentachlorophenol - BS	EPA-8270	**77.6**			33	124	08/23/2018	JMK
Pentachlorophenol - BSD	EPA-8270	**81.0**	**4**		33	124	08/23/2018	JMK
Phenanthrene - BS	EPA-8270	**78.8**			20	150	08/23/2018	JMK
Phenanthrene - BSD	EPA-8270	**83.2**	**5**		20	150	08/23/2018	JMK
Anthracene - BS	EPA-8270	**81.3**			20	150	08/23/2018	JMK
Anthracene - BSD	EPA-8270	**85.8**	**5**		20	150	08/23/2018	JMK
Carbazole - BS	EPA-8270	**54.9**			20	150	08/23/2018	JMK
Carbazole - BSD	EPA-8270	**59.9**	**9**		20	150	08/23/2018	JMK
Di-N-Butylphthalate - BS	EPA-8270	**85.3**			20	150	08/23/2018	JMK
Di-N-Butylphthalate - BSD	EPA-8270	**88.2**	**3**		20	150	08/23/2018	JMK
Fluoranthene - BS	EPA-8270	**81.8**			20	150	08/23/2018	JMK
Fluoranthene - BSD	EPA-8270	**84.6**	**3**		20	150	08/23/2018	JMK
Pyrene - BS	EPA-8270	**79.3**			18	136	08/23/2018	JMK
Pyrene - BSD	EPA-8270	**85.3**	**7**		18	136	08/23/2018	JMK
Butylbenzylphthalate - BS	EPA-8270	**87.3**			20	150	08/23/2018	JMK
Butylbenzylphthalate - BSD	EPA-8270	**92.1**	**5**		20	150	08/23/2018	JMK
Benzo[A]Anthracene - BS	EPA-8270	**80.9**			20	150	08/23/2018	JMK

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CERTIFICATE OF ANALYSIS

CLIENT: Terracon
21905 - 64th Ave W, Suite 100
Mountlake Terrace, WA 98043

CLIENT CONTACT: Eric Dubcak
CLIENT PROJECT: 81187331

DATE: 9/14/2018
ALS SDG#: EV18080100
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Benzo[A]Anthracene - BSD	EPA-8270	**84.0**	**4**		20	150	08/23/2018	JMK
Chrysene - BS	EPA-8270	**76.7**			20	150	08/23/2018	JMK
Chrysene - BSD	EPA-8270	**79.5**	**4**		20	150	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate - BS	EPA-8270	**89.2**			20	150	08/23/2018	JMK
Bis(2-Ethylhexyl)Phthalate - BSD	EPA-8270	**94.3**	**6**		20	150	08/23/2018	JMK
Di-N-Octylphthalate - BS	EPA-8270	**85.6**			20	150	08/23/2018	JMK
Di-N-Octylphthalate - BSD	EPA-8270	**87.7**	**2**		20	150	08/23/2018	JMK
Benzo[B]Fluoranthene - BS	EPA-8270	**82.0**			20	150	08/23/2018	JMK
Benzo[B]Fluoranthene - BSD	EPA-8270	**87.3**	**6**		20	150	08/23/2018	JMK
Benzo[K]Fluoranthene - BS	EPA-8270	**81.0**			20	150	08/23/2018	JMK
Benzo[K]Fluoranthene - BSD	EPA-8270	**84.3**	**4**		20	150	08/23/2018	JMK
Benzo[A]Pyrene - BS	EPA-8270	**81.4**			20	150	08/23/2018	JMK
Benzo[A]Pyrene - BSD	EPA-8270	**83.9**	**3**		20	150	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene - BS	EPA-8270	**87.0**			20	150	08/23/2018	JMK
Indeno[1,2,3-Cd]Pyrene - BSD	EPA-8270	**87.0**	**0**		20	150	08/23/2018	JMK
Dibenz[A,H]Anthracene - BS	EPA-8270	**88.2**			20	150	08/23/2018	JMK
Dibenz[A,H]Anthracene - BSD	EPA-8270	**88.4**	**0**		20	150	08/23/2018	JMK
Benzo[G,H,I]Perylene - BS	EPA-8270	**81.9**			20	150	08/23/2018	JMK
Benzo[G,H,I]Perylene - BSD	EPA-8270	**83.3**	**2**		20	150	08/23/2018	JMK

SQ1 - Spike outside of control limits with a high bias. Associated compounds non-detect. No corrective action taken.
SQ3 - Spike outside of control limits due to sporadic marginal failure. All other spikes in extraction fraction within control limits.

ALS Test Batch ID: 131842 - Soil by EPA-8082

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
PCB-1016 - BS	EPA-8082	**80.0**			50	150	08/20/2018	JMK
PCB-1016 - BSD	EPA-8082	**85.1**	**6**		50	150	08/20/2018	JMK
PCB-1260 - BS	EPA-8082	**79.3**			50	150	08/20/2018	JMK
PCB-1260 - BSD	EPA-8082	**86.1**	**8**		50	150	08/20/2018	JMK

ALS Test Batch ID: 131799 - Water by EPA-8082

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
PCB-1016 - BS	EPA-8082	**84.1**			44	152	08/22/2018	PAB
PCB-1016 - BSD	EPA-8082	**101**	**18**		44	152	08/22/2018	PAB
PCB-1260 - BS	EPA-8082	**103**			44	152	08/22/2018	PAB
PCB-1260 - BSD	EPA-8082	**112**	**8**		44	152	08/22/2018	PAB

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CLIENT CONTACT: Eric Dubcak
CLIENT PROJECT: 81187331

DATE: 9/14/2018
ALS SDG#: EV18080100
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: R323419 - Soil by EPA-7196

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Chromium (VI) - BS	EPA-7196	**98.0**			91	114	09/14/2018	JMK
Chromium (VI) - BSD	EPA-7196	**99.0**	**1**		91	114	09/14/2018	JMK

ALS Test Batch ID: R322340 - Soil by EPA-7471

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Mercury - BS	EPA-7471	**102**			81.8	117	08/23/2018	RAL
Mercury - BSD	EPA-7471	**103**	**1**		81.8	117	08/23/2018	RAL

ALS Test Batch ID: R322339 - Water by EPA-245.1

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Mercury - BS	EPA-245.1	**109**			80.6	118	08/23/2018	RAL
Mercury - BSD	EPA-245.1	**107**	**1**		80.6	118	08/23/2018	RAL

ALS Test Batch ID: 131751 - Soil by EPA-6020

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Arsenic - BS	EPA-6020	**101**			80	120	08/22/2018	RAL
Arsenic - BSD	EPA-6020	**100**	**1**		80	120	08/22/2018	RAL
Cadmium - BS	EPA-6020	**103**			80	120	08/22/2018	RAL
Cadmium - BSD	EPA-6020	**102**	**0**		80	120	08/22/2018	RAL
Chromium - BS	EPA-6020	**103**			80	120	08/22/2018	RAL
Chromium - BSD	EPA-6020	**103**	**0**		80	120	08/22/2018	RAL
Lead - BS	EPA-6020	**104**			80	120	08/22/2018	RAL
Lead - BSD	EPA-6020	**102**	**2**		80	120	08/22/2018	RAL

ALS Test Batch ID: 131752 - Water by EPA-200.8

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Arsenic - BS	EPA-200.8	**104**			89.1	110	08/22/2018	RAL
Arsenic - BSD	EPA-200.8	**102**	**2**		89.1	110	08/22/2018	RAL
Cadmium - BS	EPA-200.8	**106**			89.4	109	08/22/2018	RAL
Cadmium - BSD	EPA-200.8	**104**	**1**		89.4	109	08/22/2018	RAL
Chromium - BS	EPA-200.8	**105**			88.3	110.2	08/22/2018	RAL
Chromium - BSD	EPA-200.8	**103**	**2**		88.3	110.2	08/22/2018	RAL
Lead - BS	EPA-200.8	**103**			87.5	107	08/22/2018	RAL
Lead - BSD	EPA-200.8	**102**	**1**		87.5	107	08/22/2018	RAL

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CERTIFICATE OF ANALYSIS

APPROVED BY

Technical Manager

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Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only): EV1808000

Date 8/17/18 Page 1 Of 1

PROJECT ID: 81187331
REPORT TO COMPANY: Terracon
PROJECT MANAGER: Eric Dubcak
ADDRESS: 21905 64th Ave W, Ste 100
Mountlake Terrace, WA 98043
PHONE: 425.771.3304 P.O. #:
E-MAIL: eric.dubcak@terracon.com, jeff.dobbins@terracon.com
INVOICE TO COMPANY: Same as above
ATTENTION:
ADDRESS:

ANALYSIS REQUESTED

SAMPLE I.D.	DATE	TIME	TYPE	LAB#	NWTPH-HCID	NWTPH-DX	NWTPH-GX	BTEX by EPA 8021 ☐ BTEX by EPA 8260 ☐	MTBE by EPA 8021 ☐ MTBE by EPA 8260 ☐	Halogenated Volatiles by EPA 8260	Volatile Organic Compounds by EPA 8260	EDB / EDC by EPA 8260 SIM (water)	EDB / EDC by EPA 8260 (soil)	Semivolatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA 8270 SIM	PCB by EPA 8082 ☐ Pesticides by EPA 8081 ☐	Metals-MTCA-5 ☐ RCRA-8 ☐ Pri Pol ☐ TAL ☐	Metals Other (Specify)	TCLP-Metals ☐ VOA ☐ Semi-Vol ☐ Pest ☐ Herbs ☐	OTHER (Specify): Furans/Dioxins			Hexavalent Chromium				NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?
1. B6-3	8/17/18	805	soil	1		X	X				X			X						X								
2. B4-7		950		2		X	X				X			X														
3. B3-6.5		1105		3		X	X				X			X														
4. B3-17.5		1125		4		X	X				X			X														
5. B1-6.5		1435		5		X	X				X			X		X	X											
6. B1-2.5		1430		6		X	X				X			X		X	X											
7. B5-2.5		1255		7		X	X				X			X						X								
8. B5-18		1305		8		X	X				X			X						X								
9. B2-3		1345	↓	9		X	X				X			X		X	X						(X)					
10. B2	↓	1410	Water	10		X	X				X			X		X	X											

SPECIAL INSTRUCTIONS: (X) Added 9/11/18 on 3day TAT

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: Jeff Dobbins, Terracon, 8/17/18 1620
   Received By: Shawn Robinson ALS 8/17/18 1620
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

August 31, 2018 Service Request No:E1800770

Rick Bagan
ALS Environmental
8620 Holly Drive #100
Everett, WA 98208

Laboratory Results for: EV18080100 Dioxins Furans Analysis

Dear Rick,

Enclosed are the results of the sample(s) submitted to our laboratory August 21, 2018
For your reference, these analyses have been assigned our service request number **E1800770.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and except as noted in the laboratory case narrative provided. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the final complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the TNI 2009 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My extension is 2284. You may also contact me via email at Nicole.Brown@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Nicole Brown
Project Manager

ADDRESS 10450 Stancliff Rd., Suite 210, Houston, TX 77099
PHONE +1 713 266 1599 | FAX +1 713 266 0130
ALS Group USA, Corp.
dba ALS Environmental

Certificate of Analysis

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Environmental

Client:	ALS Group USA, Corp – Everett, WA	**Service Request No.:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Received:**	08/21/18
Sample Matrix:	Soil		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Two soil samples were received for analysis at ALS Environmental in Houston on 08/21/18.

The samples were received at 13.8 °C in good condition and are consistent with the accompanying chain of custody form. Dioxin/furan compounds are stable at room temperature. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

B flags – Method Blanks

The Method Blank EQ1800346-01 contained low levels of 1234678-HpCDD, 1234678-HpCDF, OCDD and OCDF below the Method Reporting Limit (MRL). The associated compounds in the samples are flagged with 'B' flags where the sample result is less than ten times the level detected in the method blank.

MS/MSD

EQ1800346: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of an MS/MSD for this extraction batch.

2378-TCDF

Samples analyzed on the DB-5MSUI column were analyzed under conditions where sufficient separation between 2,3,7,8-TCDF and its closest eluter was achieved. Confirmation of this result was not required.

K flags

EMPC - When the ion abundance ratios associated with a particular compound are outside the QC limits, samples are flagged with a 'K' flag. A 'K' flag indicates an estimated maximum possible concentration for the associated compound.

Detection Limits

Detection limits are calculated for each analyte in each sample by measuring the height of the noise level for each quantitation ion for the associated labeled standard. The concentration equivalent to 2.5 times the height of the noise is then calculated using the appropriate response factor and the weight of the sample. The calculated concentration equals the detection limit.

The TEQ Summary results for each sample have been calculated by ALS/Houston to include:

- WHO-2005 TEFs, The 2005 World Health Organization Reevaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-Like Compounds (M. Van den Berg et al., Toxicological Sciences 93(2):223-241, 2006)
- Non-detected compounds are not included in the 'Total'

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS group USA Corp dba ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: ALS Environmental - Everett **Service Request:**E1800770

Project: EV18080100 Dioxins Furans Analysis

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E1800770-001	EV18080100-07 B5-2.5	8/17/2018	1255
E1800770-002	EV18080100-08 B5-18	8/17/2018	1305

Service Request Summary

Folder #: **E1800770**
Client Name: ALS Environmental - Everett
Project Name: EV18080100 Dioxins Furans Analysis
Project Number:

Report To: Rick Bagan
ALS Environmental
8620 Holly Drive #100
Everett, WA 98208
USA
Phone Number: 425-356-2600
Cell Number:
Fax Number:
E-mail: rick.bagan@alsglobal.com

Project Chemist: Nicole Brown
Originating Lab: HOUSTON
Logged By: ALOPEZ
Date Received: 08/21/18
Internal Due Date: 8/31/2018
QAP: LAB QAP
Qualifier Set: HRMS Qualifier Set
Formset: Lab Standard
Merged?: N
Report to MDL?: Y
P.O. Number: 32-EV18080100
EDD: No EDD Specified

2 4 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
Location: EHRMS-WIC 1C
Pressure Gas:

				HOUSTON	
Lab Samp No.	**Client Samp No**	**Matrix**	**Collected**	Dioxins Furans/1613B	Total Solids/ALS SOP
E1800770-001	EV18080100-07	Soil	08/17/18 1255	II	II
E1800770-002	EV18080100-08	Soil	08/17/18 1305	II	II

Folder Comments:

Client requested results by noon 8/31

Data Qualifiers

HRMS Qualifier Set

B Indicates the associated analyte was found in the method blank at >1/10th the reported value.

E Estimated value. The reported concentration is above the calibration range of the instrument.

H Sample extracted and/or analyzed out of suggested holding time.

J Estimated value. The reported concentration is below the MRL.

K The ion abundance ratio between the primary and secondary ions were outside of theoretical acceptance limits.The concentration of this analyte should be considered as an estimate.

P Chlorodiphenyl ether interference was present at the retention time of the target analyte. Reported result should be considered an estimate.

Q Monitored lock-mass indicates matrix-interference. Reported result is estimated.

S Signal saturated detector. Result reported from dilution.

U Compound was analyzed for, but was not detected (ND).

X See Case Narrative.

Y Isotopically Labeled Standard recovery outside of acceptance limits. In all cases, the signal-to-nois ratios are greater than 10:1, making the recoveries acceptable.

i The MDL/MRL have been elevated due to a matrix interference.

ALS Laboratory Group

Acronyms

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01	11/30/2019
Arizona Department of Health Services	AZ0793	5/27/2019
Arkansas Department of Environmental Quality	17-027-0	3/27/2019
California Department of Health Services	2452	4/30/2019
Florida Department of Health	E87611	7/31/2019
Illinois Environmental Protection Agency	004112	5/29/2019
Kansas Department of Health and Environment	E-10406	7/31/2019
Louisiana Department of Environmental Quality	03048	6/30/2019
Louisiana Department of Health and Hospitals	LA150026	12/31/2018
Maine Center for Disease Control and Prevention	2014019	6/5/2020
Minnesota Department of Health	840911	12/31/2018
New Jersey Department of Environmental Protection	NLC140001	6/30/2019
New York Department of Health	11707	4/1/2019
Oklahoma Department of Environmental Quality	2014 124	8/31/2019
Pennsylvania Department of Environmental Protection	68-03441	6/30/2019
Tennessee Department of Environment and Concervation	04016	6/30/2019
Texas Commision on Environmental Quality	TX104704231-17-18	4/30/2019
Utah Department of Health Environmental Laboratory Certification	TX02694	7/3/2019
Washington Department of Health	c819	11/14/2018
West Virginia Department of Environmental Protection	347	6/30/2019

ALS ENVIRONMENTAL – Houston
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID: E1800770 | DB-5MSUI | SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date:	Analyst:	Samples:
08/31/18	[signature]	001, 002

Second Level - Data Review – to be filled by person doing peer review

Date:	Analyst:	Samples:
08/31/18	LM	001, 002

Chain of Custody

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Environmental
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Everett, WA 98208
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http://www.alsglobal.com

Chain Of Custody/ Laboratory Analysis Request

E1800770 5
ALS Environmental
EV18080100 Dioxins Furans Analysis

Date 8/20/18 Page 1 Of 1

PROJECT ID:	EV18080100
REPORT TO COMPANY:	ALS Environmental
PROJECT MANAGER:	Rick Bagan
ADDRESS:	8620 Holly Drive #100 Everett WA 98208
PHONE:	(425) 356-2600 P.O. #: 32-EV18080100
E-MAIL:	rick.bagan@alsglobal.com
INVOICE TO COMPANY:	
ATTENTION:	Same
ADDRESS:	

SAMPLE I.D.	DATE	TIME	TYPE	LAB#	NWTPH-HCID	NWTPH-DX	NWTPH-GX	BTEX by EPA 8021 ☐	BTEX by EPA 8260 ☐	MTBE by EPA 8021 ☐	MTBE by EPA 8260 ☐	Halogenated Volatiles by EPA 8260	Volatile Organic Compounds by EPA 8260	EDB / EDC by EPA 8260 SIM (water)	EDB / EDC by EPA 8260 (soil)	Semivolatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA 8270 SIM	PCB by EPA 8082 ☐	Pesticides by EPA 8081 ☐	Metals-MTCA-5 ☐	RCRA-8 ☐	Pri Pol ☐	TAL ☐	Metals Other (Specify)	TCLP-Metals ☐	VOA ☐	Semi-Vol ☐	Pest ☐	Herbs ☐	Dioxins/Furans by EPA-1613	NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?
1. EV18080100-07	8/17/18	1255	S																											X	1	
2. EV18080100-08	8/17/18	1305	S																											X	1	
3.																																
4.																																
5.																																
6.																																
7.																																
8.																																
9.																																
10.																																

SPECIAL INSTRUCTIONS Please email results by noon 8/31/18 (ALS National Contract Terracon)

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: Shawn Robinson ALS 8/20/18 9:58 am
   Received By:
2. Relinquished By:
   Received By: ALS 8/21/18 0858

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

Cooler Receipt Form

ALS Environmental

Project Chemist NB

Client/Project ALS Everett, WA / EV180801 00 Thermometer ID SM04

Date/Time Received: 8/21/18 0850 Initials: NB Date/Time Logged in: 8/21/18 Initials NB

1. Method of delivery: ○ US Mail ● Fed Ex ○ UPS ○ DHL ○ Courier ○ Client
2. Samples received in: ● Cooler ○ Box ○ Envelope ○ Other
3. Were custody seals on coolers? ○ Yes ● No — If yes, how many and where?
   Were they intact? ○ Yes ○ No ● N/A
   Were they signed and dated? ○ Yes ○ No ● N/A
4. Packing Material: ○ Inserts ○ Baggies ● Bubble Wrap ● Gel Packs ○ Wet Ice ○ Sleeves ○ Other
5. Foreign or Regulated Soil? ○ Yes ● No Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
8133 8630 1880		8/21/18	1503	NB	13.4/13.8	☐
						☐
						☐
						☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ● Yes ○ No
7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ● Yes ○ No
8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ● Yes ○ No
9. Were appropriate bottles/containers and volumes received for the requested tests? ● Yes ○ No
10. Did sample labels and tags agree with custody documents? ● Yes ○ No

Notes, Discrepancies, & Resolutions:

Service request Label: E1800770 5
ALS Environmental
EV18080100 Dioxins Furans Analysis

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SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sampleThe COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6ºC.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10ºC.
- ✓ Air samples are shipped and stored cold, at 0 to 6ºC
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

Preparation Information Benchsheets

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 320792 **Prep WorkFlow:** OrgExtS(365) **Status:** Prepped
Team: Semivoa GCMS/TWOODS **Prep Method:** Method Soxhlet **Prep Date/Time:** 8/28/18 11:00 AM

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E1800770-001	EV18080100-07	.01	1613B/Dioxins Furans			Soil	10.756g	Brown Mud
2	E1800770-002	EV18080100-08	.01	1613B/Dioxins Furans			Soil	10.596g	Grey Mud
3	E1800777-001	sludge	.01	1613B/Dioxins Furans			Sludge, Solid	10.566g	Brown Mud
4	EQ1800346-01	MB		1613B/Dioxins Furans			Solid	10.213g	
5	EQ1800346-02	LCS		1613B/Dioxins Furans			Solid	10.064g	
6	EQ1800346-03	DLCS		1613B/Dioxins Furans			Solid	10.283g	
7	J1805887-001	71623	.02	1613B/Dioxins Furans			Solid	10.259g	Brown + White Cardboard
8	K1806860-001	NDL38G16001-11 18-0863-001	.01	1613B/Dioxins Furans			Pulp Sheet	10.110g	APOSEY K- BALANCE -48 / White Paper Strips
9	K1807007-001	7/11/2018 18-0833-001	.01	1613B/Dioxins Furans			Paper	10.059g	White Paper Squares
10	K1807307-001	GT 18-030803015	.01	1613B/Dioxins Furans			Pulp Sheet	10.157g	White Paper Strips
11	K1807321-004	Composite	.01	1613B/Dioxins Furans			Paperboard	10.045g	Brown Paper Strips
12	K1807491-001	18-040807003	.02	1613B/Dioxins Furans			Paperboard	10.099g	White Paper Strips

Spiking Solutions

Name: 1613B Matrix Working Standard Inventory ID 192373 Logbook Ref: 192373 AL 8/9/18 2-20 ng/mL Expires On: 02/05/2019

EQ1800346-02	100.00µL	EQ1800346-03	100.00µL

Name: 8290/1613B Cleanup Working Standard Inventory ID 192605 Logbook Ref: TW 08/20/18 192605 8NG/ML Expires On: 10/27/2018

E1800770-001	100.00µL	E1800770-002	100.00µL	E1800777-001	100.00µL	EQ1800346-01	100.00µL	EQ1800346-02	100.00µL	EQ1800346-03	100.00µL
J1805887-001	100.00µL	K1806860-001	100.00µL	K1807007-001	100.00µL	K1807307-001	100.00µL	K1807321-004	100.00µL	K1807491-001	100.00µL

Name: 1613B Labeled Working Standard Inventory ID 192722 Logbook Ref: 192719 JG 8/27/18 2-4ngml Expires On: 01/09/2019

E1800770-001	1,000.00µL	E1800770-002	1,000.00µL	E1800777-001	1,000.00µL	EQ1800346-01	1,000.00µL	EQ1800346-02	1,000.00µL	EQ1800346-03	1,000.00µL
J1805887-001	1,000.00µL	K1806860-001	1,000.00µL	K1807007-001	1,000.00µL	K1807307-001	1,000.00µL	K1807321-004	1,000.00µL	K1807491-001	1,000.00µL

Preparation Materials

Carbon, High Purity	AL 8/10/18 (192392)	Ethyl Acetate 99.9% Minimum EtOAc	tw ethyl acet 080218 (192158)	Glass Wool	GLASS WOOL (190875)
Hexanes 95%	AL 7/30/18 (192056)	Dichloromethane (Methylene Chloride) 99.9% MeCl2	AL 6/28/18 (191236)	Sodium Hydroxide 1N NaOH	TW 6/14/18 (191093)
Sodium Sulfate Anhydrous Reagent Grade Na2SO4	AL 7/30/18 (192040)	Tridecane (n-Tridecane)	AL 7/30/18 (192037)	Silica Gel	AL 7/30/18 (192039)
sulfuric acid	SULFURIC ACID (190871)	Toluene 99.9% Minimum	AL 8/24/18 (192703)		

Preparation Information Benchsheet

Prep Run#: 320792 **Prep WorkFlow:** OrgExtS(365) **Status:** Prepped
Team: Semivoa GCMS/TWOODS **Prep Method:** Method Soxhlet **Prep Date/Time:** 8/28/18 11:00 AM

Preparation Steps

Step:	Extraction	Step:	Acid Clean	Step:	Silica Gel Clean	Step:	Final Volume
Started:	8/28/18 11:00	Started:	8/29/18 13:00	Started:	8/30/18 09:00	Started:	8/30/18 12:00
Finished:	8/29/18 07:00	Finished:	8/29/18 14:00	Finished:	8/30/18 12:00	Finished:	8/30/18 15:00
By:	ALOPEZ	By:	ALOPEZ	By:	ALOPEZ	By:	ALOPEZ
Comments		Comments		Comments		Comments	

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

E1800770 17 of 39

Analytical Results

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	08/17/18 12:55
Sample Matrix:	Soil	**Date Received:**	08/21/18 08:58
Sample Name:	EV18080100-07	**Units:**	ng/Kg
Lab Code:	E1800770-001	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 03:48
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.756g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614375	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	0.294	**JK**	0.125	0.677	0.39	1.000	1
1,2,3,7,8-PeCDD	1.40	**J**	0.0641	3.38	1.50	1.001	1
1,2,3,4,7,8-HxCDD	1.58	**J**	0.104	3.38	1.39	1.000	1
1,2,3,6,7,8-HxCDD	14.4		0.115	3.38	1.28	1.000	1
1,2,3,7,8,9-HxCDD	4.04		0.101	3.38	1.23	1.008	1
1,2,3,4,6,7,8-HpCDD	126		0.124	3.38	1.05	1.000	1
OCDD	589		0.234	6.77	0.91	1.000	1
2,3,7,8-TCDF	0.808		0.0695	0.677	0.69	1.001	1
1,2,3,7,8-PeCDF	0.704	**JK**	0.118	3.38	1.89	1.001	1
2,3,4,7,8-PeCDF	2.01	**J**	0.120	3.38	1.66	1.002	1
1,2,3,4,7,8-HxCDF	3.72		0.196	3.38	1.29	1.000	1
1,2,3,6,7,8-HxCDF	3.94		0.201	3.38	1.28	1.000	1
1,2,3,7,8,9-HxCDF	0.988	**J**	0.210	3.38	1.24	1.001	1
2,3,4,6,7,8-HxCDF	8.89		0.201	3.38	1.22	1.000	1
1,2,3,4,6,7,8-HpCDF	294		0.366	3.38	1.06	1.000	1
1,2,3,4,7,8,9-HpCDF	6.41		0.402	3.38	1.02	1.000	1
OCDF	669		0.0762	6.77	0.90	1.004	1

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	08/17/18 12:55
Sample Matrix:	Soil	**Date Received:**	08/21/18 08:58
Sample Name:	EV18080100-07	**Units:**	ng/Kg
Lab Code:	E1800770-001	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 03:48
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.756g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614375	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	11.1		0.125	0.677	0.80		1
Total Penta-Dioxins	15.5		0.0641	3.38	1.59		1
Total Hexa-Dioxins	74.4		0.106	3.38	1.28		1
Total Hepta-Dioxins	164		0.124	3.38	1.08		1
Total Tetra-Furans	15.8		0.0695	0.677	0.70		1
Total Penta-Furans	29.8		0.119	3.38	1.56		1
Total Hexa-Furans	268		0.202	3.38	1.23		1
Total Hepta-Furans	940		0.382	3.38	1.06		1

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	08/17/18 12:55
Sample Matrix:	Soil	**Date Received:**	08/21/18 08:58
Sample Name:	EV18080100-07	**Units:**	Percent
Lab Code:	E1800770-001	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 03:48
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.756g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614375	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	959.592	48		25-164	0.79	1.030
13C-1,2,3,7,8-PeCDD	2000	1291.071	65		25-181	1.58	1.246
13C-1,2,3,4,7,8-HxCDD	2000	1367.171	68		32-141	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1211.423	61		28-130	1.27	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1349.927	67		23-140	1.07	1.071
13C-OCDD	4000	1654.399	41		17-157	0.92	1.141
13C-2,3,7,8-TCDF	2000	1267.534	63		24-169	0.79	0.988
13C-1,2,3,7,8-PeCDF	2000	1513.672	76		24-185	1.60	1.192
13C-2,3,4,7,8-PeCDF	2000	1377.535	69		21-178	1.60	1.233
13C-1,2,3,4,7,8-HxCDF	2000	1549.245	77		26-152	0.54	0.968
13C-1,2,3,6,7,8-HxCDF	2000	1360.346	68		26-123	0.53	0.971
13C-1,2,3,7,8,9-HxCDF	2000	1702.232	85		29-147	0.53	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1456.253	73		28-136	0.54	0.986
13C-1,2,3,4,6,7,8-HpCDF	2000	1332.030	67		28-143	0.46	1.046
13C-1,2,3,4,7,8,9-HpCDF	2000	1566.301	78		26-138	0.46	1.083
37Cl-2,3,7,8-TCDD	800	574.225	72		35-197	NA	1.030

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	08/17/18 12:55
Sample Matrix:	Soil	**Date Received:**	08/21/18 08:58
Sample Name:	EV18080100-07	**Units:**	ng/Kg
Lab Code:	E1800770-001	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Soxhlet

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**0.294**	0.125	0.677	1	1	0.294
1,2,3,7,8-PeCDD	**1.40**	0.0641	3.38	1	1	1.40
1,2,3,4,7,8-HxCDD	**1.58**	0.104	3.38	1	0.1	0.158
1,2,3,6,7,8-HxCDD	**14.4**	0.115	3.38	1	0.1	1.44
1,2,3,7,8,9-HxCDD	**4.04**	0.101	3.38	1	0.1	0.404
1,2,3,4,6,7,8-HpCDD	**126**	0.124	3.38	1	0.01	1.26
OCDD	**589**	0.234	6.77	1	0.0003	0.177
2,3,7,8-TCDF	**0.808**	0.0695	0.677	1	0.1	0.0808
1,2,3,7,8-PeCDF	**0.704**	0.118	3.38	1	0.03	0.0211
2,3,4,7,8-PeCDF	**2.01**	0.120	3.38	1	0.3	0.603
1,2,3,4,7,8-HxCDF	**3.72**	0.196	3.38	1	0.1	0.372
1,2,3,6,7,8-HxCDF	**3.94**	0.201	3.38	1	0.1	0.394
1,2,3,7,8,9-HxCDF	**0.988**	0.210	3.38	1	0.1	0.0988
2,3,4,6,7,8-HxCDF	**8.89**	0.201	3.38	1	0.1	0.889
1,2,3,4,6,7,8-HpCDF	**294**	0.366	3.38	1	0.01	2.94
1,2,3,4,7,8,9-HpCDF	**6.41**	0.402	3.38	1	0.01	0.0641
OCDF	**669**	0.0762	6.77	1	0.0003	0.201
		Total TEQ				10.8

2005 WHO TEFs, ND = 0

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	08/17/18 12:55
Sample Matrix:	Soil	**Date Received:**	08/21/18 08:58
Sample Name:	EV18080100-07	**Units:**	Percent
Lab Code:	E1800770-001	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	08/30/18 10:46
	6.944g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	68.7		-	-			1

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	08/17/18 13:05
Sample Matrix:	Soil	**Date Received:**	08/21/18 08:58
Sample Name:	EV18080100-08	**Units:**	ng/Kg
Lab Code:	E1800770-002	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 04:37
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.596g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614376	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	0.323**JK**		0.166	0.648	0.60	1.001	1
1,2,3,7,8-PeCDD	ND	U	0.0599	3.24			1
1,2,3,4,7,8-HxCDD	ND	U	0.0445	3.24			1
1,2,3,6,7,8-HxCDD	0.0939**JK**		0.0493	3.24	0.73	1.000	1
1,2,3,7,8,9-HxCDD	0.0859**JK**		0.0431	3.24	0.84	1.008	1
1,2,3,4,6,7,8-HpCDD	3.06**J**		0.0608	3.24	1.06	1.001	1
OCDD	44.9		0.130	6.48	0.93	1.000	1
2,3,7,8-TCDF	0.593**J**		0.0423	0.648	0.77	1.001	1
1,2,3,7,8-PeCDF	0.0806**JK**		0.0479	3.24	1.05	1.001	1
2,3,4,7,8-PeCDF	ND	U	0.0480	3.24			1
1,2,3,4,7,8-HxCDF	0.166**JK**		0.0310	3.24	1.60	1.000	1
1,2,3,6,7,8-HxCDF	0.0856**JK**		0.0349	3.24	1.49	1.000	1
1,2,3,7,8,9-HxCDF	0.0980**JK**		0.0335	3.24	1.52	1.000	1
2,3,4,6,7,8-HxCDF	0.0640**J**		0.0300	3.24	1.10	1.000	1
1,2,3,4,6,7,8-HpCDF	0.759**J**		0.0360	3.24	1.02	1.000	1
1,2,3,4,7,8,9-HpCDF	0.110**JK**		0.0402	3.24	1.42	1.000	1
OCDF	7.13		0.108	6.48	0.92	1.004	1

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	08/17/18 13:05
Sample Matrix:	Soil	**Date Received:**	08/21/18 08:58
Sample Name:	EV18080100-08	**Units:**	ng/Kg
Lab Code:	E1800770-002	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 04:37
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.596g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614376	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	1.13		0.166	0.648	0.79		1
Total Penta-Dioxins	ND	U	0.0599	3.24			1
Total Hexa-Dioxins	0.925**J**		0.0456	3.24	1.29		1
Total Hepta-Dioxins	6.99		0.0608	3.24	1.07		1
Total Tetra-Furans	0.679		0.0423	0.648	0.70		1
Total Penta-Furans	ND	U	0.0479	3.24			1
Total Hexa-Furans	1.21**J**		0.0323	3.24	1.14		1
Total Hepta-Furans	0.759**J**		0.0379	3.24	1.02		1

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	08/17/18 13:05
Sample Matrix:	Soil	**Date Received:**	08/21/18 08:58
Sample Name:	EV18080100-08	**Units:**	Percent
Lab Code:	E1800770-002	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 04:37
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.596g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614376	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	683.335	34		25-164	0.78	1.030
13C-1,2,3,7,8-PeCDD	2000	991.517	50		25-181	1.57	1.246
13C-1,2,3,4,7,8-HxCDD	2000	1144.676	57		32-141	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1018.464	51		28-130	1.27	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1100.406	55		23-140	1.09	1.071
13C-OCDD	4000	1350.696	34		17-157	0.92	1.141
13C-2,3,7,8-TCDF	2000	899.459	45		24-169	0.78	0.988
13C-1,2,3,7,8-PeCDF	2000	1137.501	57		24-185	1.60	1.192
13C-2,3,4,7,8-PeCDF	2000	1051.085	53		21-178	1.59	1.233
13C-1,2,3,4,7,8-HxCDF	2000	1252.542	63		26-152	0.55	0.968
13C-1,2,3,6,7,8-HxCDF	2000	1018.803	51		26-123	0.53	0.971
13C-1,2,3,7,8,9-HxCDF	2000	1354.034	68		29-147	0.54	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1203.505	60		28-136	0.53	0.986
13C-1,2,3,4,6,7,8-HpCDF	2000	1108.054	55		28-143	0.46	1.046
13C-1,2,3,4,7,8,9-HpCDF	2000	1294.871	65		26-138	0.46	1.083
37Cl-2,3,7,8-TCDD	800	419.459	52		35-197	NA	1.030

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	08/17/18 13:05
Sample Matrix:	Soil	**Date Received:**	08/21/18 08:58
Sample Name:	EV18080100-08	**Units:**	ng/Kg
Lab Code:	E1800770-002	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Soxhlet

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**0.323**	0.166	0.648	1	1	0.323
1,2,3,7,8-PeCDD	ND	0.0599	3.24	1	1	
1,2,3,4,7,8-HxCDD	ND	0.0445	3.24	1	0.1	
1,2,3,6,7,8-HxCDD	**0.0939**	0.0493	3.24	1	0.1	0.00939
1,2,3,7,8,9-HxCDD	**0.0859**	0.0431	3.24	1	0.1	0.00859
1,2,3,4,6,7,8-HpCDD	**3.06**	0.0608	3.24	1	0.01	0.0306
OCDD	**44.9**	0.130	6.48	1	0.0003	0.0135
2,3,7,8-TCDF	**0.593**	0.0423	0.648	1	0.1	0.0593
1,2,3,7,8-PeCDF	**0.0806**	0.0479	3.24	1	0.03	0.00242
2,3,4,7,8-PeCDF	ND	0.0480	3.24	1	0.3	
1,2,3,4,7,8-HxCDF	**0.166**	0.0310	3.24	1	0.1	0.0166
1,2,3,6,7,8-HxCDF	**0.0856**	0.0349	3.24	1	0.1	0.00856
1,2,3,7,8,9-HxCDF	**0.0980**	0.0335	3.24	1	0.1	0.00980
2,3,4,6,7,8-HxCDF	**0.0640**	0.0300	3.24	1	0.1	0.00640
1,2,3,4,6,7,8-HpCDF	**0.759**	0.0360	3.24	1	0.01	0.00759
1,2,3,4,7,8,9-HpCDF	**0.110**	0.0402	3.24	1	0.01	0.00110
OCDF	**7.13**	0.108	6.48	1	0.0003	0.00214
		Total TEQ				0.499

2005 WHO TEFs, ND = 0

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	08/17/18 13:05
Sample Matrix:	Soil	**Date Received:**	08/21/18 08:58
Sample Name:	EV18080100-08	**Units:**	Percent
Lab Code:	E1800770-002	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	08/30/18 10:46
	5.88g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	72.8		-	-			1

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/Kg
Lab Code:	EQ1800346-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 00:31
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.213g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614371	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.135	0.490			1
1,2,3,7,8-PeCDD	ND	U	0.0371	2.45			1
1,2,3,4,7,8-HxCDD	ND	U	0.0219	2.45			1
1,2,3,6,7,8-HxCDD	ND	U	0.0242	2.45			1
1,2,3,7,8,9-HxCDD	ND	U	0.0211	2.45			1
1,2,3,4,6,7,8-HpCDD	0.104**J**		0.0215	2.45	1.02	1.000	1
OCDD	0.522**JK**		0.0930	4.90	1.29	1.000	1
2,3,7,8-TCDF	ND	U	0.0525	0.490			1
1,2,3,7,8-PeCDF	ND	U	0.0246	2.45			1
2,3,4,7,8-PeCDF	ND	U	0.0254	2.45			1
1,2,3,4,7,8-HxCDF	ND	U	0.0167	2.45			1
1,2,3,6,7,8-HxCDF	ND	U	0.0153	2.45			1
1,2,3,7,8,9-HxCDF	ND	U	0.0194	2.45			1
2,3,4,6,7,8-HxCDF	ND	U	0.0164	2.45			1
1,2,3,4,6,7,8-HpCDF	0.0361**J**		0.0187	2.45	0.95	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.0232	2.45			1
OCDF	0.203**JK**		0.0860	4.90	0.73	1.005	1

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/Kg
Lab Code:	EQ1800346-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 00:31
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.213g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614371	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.135	0.490			1
Total Penta-Dioxins	ND	U	0.0371	2.45			1
Total Hexa-Dioxins	ND	U	0.0223	2.45			1
Total Hepta-Dioxins	0.248**J**		0.0215	2.45	0.95		1
Total Tetra-Furans	ND	U	0.0525	0.490			1
Total Penta-Furans	ND	U	0.0250	2.45			1
Total Hexa-Furans	ND	U	0.0169	2.45			1
Total Hepta-Furans	0.0533**J**		0.0206	2.45	0.95		1

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	Percent
Lab Code:	EQ1800346-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 00:31
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.213g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614371	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	801.114	40		25-164	0.78	1.030
13C-1,2,3,7,8-PeCDD	2000	1120.956	56		25-181	1.57	1.247
13C-1,2,3,4,7,8-HxCDD	2000	1287.564	64		32-141	1.27	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1077.807	54		28-130	1.25	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1218.386	61		23-140	1.08	1.071
13C-OCDD	4000	1454.995	36		17-157	0.92	1.141
13C-2,3,7,8-TCDF	2000	1059.217	53		24-169	0.79	0.988
13C-1,2,3,7,8-PeCDF	2000	1306.856	65		24-185	1.60	1.193
13C-2,3,4,7,8-PeCDF	2000	1189.104	59		21-178	1.59	1.234
13C-1,2,3,4,7,8-HxCDF	2000	1414.797	71		26-152	0.53	0.968
13C-1,2,3,6,7,8-HxCDF	2000	1288.655	64		26-123	0.53	0.971
13C-1,2,3,7,8,9-HxCDF	2000	1368.791	68		29-147	0.54	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1309.666	65		28-136	0.54	0.986
13C-1,2,3,4,6,7,8-HpCDF	2000	1219.753	61		28-143	0.46	1.046
13C-1,2,3,4,7,8,9-HpCDF	2000	1305.279	65		26-138	0.46	1.083
37Cl-2,3,7,8-TCDD	800	457.839	57		35-197	NA	1.031

Accuracy & Precision

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Analyzed:**	08/31/18
Sample Matrix:	Soil	**Date Extracted:**	08/28/18

Duplicate Lab Control Sample Summary
Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Units:**	ng/Kg
Prep Method:	Method Soxhlet	**Basis:**	Dry
		Analysis Lot:	604995

	Lab Control Sample EQ1800346-02			Duplicate Lab Control Sample EQ1800346-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2,3,4,6,7,8-HpCDD	89.5	99.4	90	87.3	97.2	90	70-140	2	50
1,2,3,4,7,8-HxCDD	114	99.4	115	102	97.2	105	70-164	11	50
1,2,3,6,7,8-HxCDD	111	99.4	111	109	97.2	112	76-134	2	50
1,2,3,7,8,9-HxCDD	115	99.4	116	93.9	97.2	97	64-162	20	50
1,2,3,7,8-PeCDD	107	99.4	108	106	97.2	109	70-142	1	50
2,3,7,8-TCDD	26.9	19.9	136	26.9	19.4	138	67-158	<1	50
OCDD	208	199	105	206	194	106	78-144	1	50
1,2,3,4,6,7,8-HpCDF	103	99.4	104	103	97.2	106	82-122	<1	50
1,2,3,4,7,8,9-HpCDF	108	99.4	109	106	97.2	109	78-138	2	50
1,2,3,4,7,8-HxCDF	106	99.4	107	107	97.2	110	72-134	<1	50
1,2,3,6,7,8-HxCDF	104	99.4	105	104	97.2	107	84-130	<1	50
1,2,3,7,8,9-HxCDF	103	99.4	104	103	97.2	106	78-130	<1	50
1,2,3,7,8-PeCDF	99.8	99.4	100	99.3	97.2	102	80-134	<1	50
2,3,4,6,7,8-HxCDF	105	99.4	106	106	97.2	109	70-156	<1	50
2,3,4,7,8-PeCDF	109	99.4	110	109	97.2	112	68-160	<1	50
2,3,7,8-TCDF	19.3	19.9	97	19.2	19.4	99	75-158	<1	50
OCDF	259	199	130	273	194	140	63-170	5	50

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1800346-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 05:26
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.064g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614377	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	26.9		0.0885	0.497	0.78	1.001	1
1,2,3,7,8-PeCDD	107		0.0321	2.48	1.55	1.001	1
1,2,3,4,7,8-HxCDD	114		0.0268	2.48	1.24	1.000	1
1,2,3,6,7,8-HxCDD	111		0.0193	2.48	1.28	1.000	1
1,2,3,7,8,9-HxCDD	115		0.0208	2.48	1.25	1.007	1
1,2,3,4,6,7,8-HpCDD	89.5		0.0205	2.48	1.06	1.000	1
OCDD	208		0.141	4.97	0.90	1.000	1
2,3,7,8-TCDF	19.3		0.0296	0.497	0.79	1.001	1
1,2,3,7,8-PeCDF	99.8		0.0240	2.48	1.60	1.000	1
2,3,4,7,8-PeCDF	109		0.0251	2.48	1.59	1.001	1
1,2,3,4,7,8-HxCDF	106		0.0270	2.48	1.26	1.000	1
1,2,3,6,7,8-HxCDF	104		0.0256	2.48	1.26	1.000	1
1,2,3,7,8,9-HxCDF	103		0.0305	2.48	1.27	1.000	1
2,3,4,6,7,8-HxCDF	105		0.0263	2.48	1.25	1.000	1
1,2,3,4,6,7,8-HpCDF	103		0.0913	2.48	1.06	1.000	1
1,2,3,4,7,8,9-HpCDF	108		0.115	2.48	1.07	1.000	1
OCDF	259		0.258	4.97	0.91	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1800346-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 05:26
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.064g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614377	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	26.9		0.0885	0.497	0.78		1
Total Penta-Dioxins	107		0.0321	2.48	1.55		1
Total Hexa-Dioxins	340		0.0220	2.48	1.24		1
Total Hepta-Dioxins	89.5		0.0205	2.48	1.06		1
Total Tetra-Furans	19.5		0.0296	0.497	0.87		1
Total Penta-Furans	211		0.0246	2.48	1.68		1
Total Hexa-Furans	418		0.0272	2.48	1.26		1
Total Hepta-Furans	211		0.102	2.48	1.06		1

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	Percent
Lab Code:	EQ1800346-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 05:26
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.064g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614377	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	933.509	47		25-164	0.78	1.030
13C-1,2,3,7,8-PeCDD	2000	1204.542	60		25-181	1.57	1.247
13C-1,2,3,4,7,8-HxCDD	2000	1054.539	53		32-141	1.26	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1174.258	59		28-130	1.28	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1362.388	68		23-140	1.07	1.071
13C-OCDD	4000	1673.722	42		17-157	0.92	1.141
13C-2,3,7,8-TCDF	2000	1271.012	64		24-169	0.79	0.988
13C-1,2,3,7,8-PeCDF	2000	1450.338	73		24-185	1.59	1.193
13C-2,3,4,7,8-PeCDF	2000	1298.481	65		21-178	1.61	1.234
13C-1,2,3,4,7,8-HxCDF	2000	1548.648	77		26-152	0.53	0.968
13C-1,2,3,6,7,8-HxCDF	2000	1423.211	71		26-123	0.53	0.971
13C-1,2,3,7,8,9-HxCDF	2000	1545.852	77		29-147	0.53	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1491.931	75		28-136	0.53	0.986
13C-1,2,3,4,6,7,8-HpCDF	2000	1350.527	68		28-143	0.46	1.046
13C-1,2,3,4,7,8,9-HpCDF	2000	1456.496	73		26-138	0.46	1.083
37Cl-2,3,7,8-TCDD	800	533.818	67		35-197	NA	1.031

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1800346-03	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 06:16
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.283g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614378	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	26.9		0.134	0.486	0.77	1.001	1
1,2,3,7,8-PeCDD	106		0.0366	2.43	1.56	1.001	1
1,2,3,4,7,8-HxCDD	102		0.0223	2.43	1.28	1.000	1
1,2,3,6,7,8-HxCDD	109		0.0251	2.43	1.29	1.001	1
1,2,3,7,8,9-HxCDD	93.9		0.0217	2.43	1.27	1.008	1
1,2,3,4,6,7,8-HpCDD	87.3		0.0304	2.43	1.09	1.000	1
OCDD	206		0.216	4.86	0.91	1.000	1
2,3,7,8-TCDF	19.2		0.0477	0.486	0.79	1.001	1
1,2,3,7,8-PeCDF	99.3		0.0224	2.43	1.58	1.001	1
2,3,4,7,8-PeCDF	109		0.0228	2.43	1.58	1.001	1
1,2,3,4,7,8-HxCDF	107		0.0232	2.43	1.25	1.000	1
1,2,3,6,7,8-HxCDF	104		0.0224	2.43	1.26	1.000	1
1,2,3,7,8,9-HxCDF	103		0.0315	2.43	1.28	1.000	1
2,3,4,6,7,8-HxCDF	106		0.0244	2.43	1.25	1.000	1
1,2,3,4,6,7,8-HpCDF	103		0.108	2.43	1.05	1.000	1
1,2,3,4,7,8,9-HpCDF	106		0.134	2.43	1.04	1.000	1
OCDF	273		0.0840	4.86	0.92	1.005	1

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1800346-03	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 06:16
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.283g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614378	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	26.9		0.134	0.486	0.77		1
Total Penta-Dioxins	106		0.0366	2.43	1.56		1
Total Hexa-Dioxins	305		0.0230	2.43	1.28		1
Total Hepta-Dioxins	87.3		0.0304	2.43	1.09		1
Total Tetra-Furans	19.7		0.0477	0.486	0.75		1
Total Penta-Furans	210		0.0226	2.43	1.57		1
Total Hexa-Furans	420		0.0249	2.43	1.25		1
Total Hepta-Furans	209		0.119	2.43	1.05		1

Client:	ALS Environmental - Everett	**Service Request:**	E1800770
Project:	EV18080100 Dioxins Furans Analysis	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	Percent
Lab Code:	EQ1800346-03	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	08/31/18 06:16
Prep Method:	Method Soxhlet	**Date Extracted:**	8/28/18
Sample Amount:	10.283g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614378	**Blank File Name:**	P614371
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614368

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	736.042	37		25-164	0.80	1.030
13C-1,2,3,7,8-PeCDD	2000	1040.857	52		25-181	1.58	1.246
13C-1,2,3,4,7,8-HxCDD	2000	1166.940	58		32-141	1.30	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1042.527	52		28-130	1.27	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1098.275	55		23-140	1.06	1.072
13C-OCDD	4000	1115.351	28		17-157	0.91	1.141
13C-2,3,7,8-TCDF	2000	1026.925	51		24-169	0.79	0.988
13C-1,2,3,7,8-PeCDF	2000	1210.293	61		24-185	1.60	1.192
13C-2,3,4,7,8-PeCDF	2000	1108.816	55		21-178	1.59	1.234
13C-1,2,3,4,7,8-HxCDF	2000	1342.117	67		26-152	0.53	0.968
13C-1,2,3,6,7,8-HxCDF	2000	1238.835	62		26-123	0.54	0.971
13C-1,2,3,7,8,9-HxCDF	2000	1167.654	58		29-147	0.53	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1221.330	61		28-136	0.54	0.986
13C-1,2,3,4,6,7,8-HpCDF	2000	1099.595	55		28-143	0.46	1.046
13C-1,2,3,4,7,8,9-HpCDF	2000	1151.933	58		26-138	0.45	1.083
37Cl-2,3,7,8-TCDD	800	427.768	53		35-197	NA	1.031

September 13, 2018 Service Request No:E1800806

Rick Bagan
ALS Environmental
8620 Holly Drive #100
Everett, WA 98208

Laboratory Results for: EV18080100

Dear Rick,

Enclosed are the results of the sample(s) submitted to our laboratory September 04, 2018
For your reference, these analyses have been assigned our service request number **E1800806.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and except as noted in the laboratory case narrative provided. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the final complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the TNI 2009 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My direct line is 281-575-2146. You may also contact me via email at Corey.Grandits@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Corey Grandits
Project Manager

ADDRESS 10450 Stancliff Rd., Suite 210, Houston, TX 77099
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ALS Group USA, Corp.
dba ALS Environmental

Certificate of Analysis

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Environmental

Client:	ALS Environmental - Everett	**Service Request No.:**	E1800806
Project:	EV18080100	**Date Received:**	09/04/18
Sample Matrix:	Soil		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

One soil sample was received for analysis at ALS Environmental in Houston on 09/04/18.

The sample was received at 23.5°C in good condition and is consistent with the accompanying chain of custody form. Dioxin/furan compounds are stable at room temperature. The sample was stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ1800356: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of a MS/MSD for this extraction batch. The LCS and DLCS recoveries are within control limits.

B flags – Method Blanks

The Method Blank EQ1800356-01 contained low levels of select target compounds above the EDL however below the Method Reporting Limit (MRL).

The associated compounds in the samples are flagged with 'B' flags where the sample result is less than ten times the level detected in the method blank.

Y flag – Cleanup Standard

The recovery for the cleanup standard, 37Cl-2,3,7,8-TCDD is below control limits in the Method Blank. The sample results are not affected since this labeled standard is provided as a means of demonstrating that both the sample extraction and subsequent cleanup steps performed as expected, and is not used in quantitation of target analytes.

Y flags – Labeled Standards

Select labeled standards recovered below control limits in the Method Blank.

Quantification of the native 2,3,7,8-substituted congeners is based on isotopic dilution, which automatically corrects for variation in extraction efficiency and provides accurate values even with poor recovery. Samples that had recoveries of labeled standards outside the acceptance limits are qualified with 'Y' flags on the Labeled Compound summary pages. In all cases, the signal-to-noise ratios are greater than 10:1 and detection limits were below the Method Reporting Limits.

K flags

EMPC - When the ion abundance ratios associated with a particular compound are outside the QC limits, samples are flagged with a 'K' flag. A 'K' flag indicates an estimated maximum possible concentration for the associated compound.

2378-TCDF

Samples analyzed on the DB-5MSUI column were analyzed under conditions where sufficient separation between 2,3,7,8-TCDF and its closest eluter was achieved. Confirmation of this result was not required.

Detection Limits

Detection limits are calculated for each analyte in each sample by measuring the height of the noise level for each quantitation ion for the associated labeled standard. The concentration equivalent to 2.5 times the height of the noise is then calculated using the appropriate response factor and the weight of the sample. The calculated concentration equals the detection limit.

The TEQ Summary results for each sample have been calculated by ALS/Houston to include:

- WHO-2005 TEFs, The 2005 World Health Organization Reevaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-Like Compounds (M. Van den Berg et al., Toxicological Sciences 93(2):223-241, 2006)
- 2378-TCDF from the DB-225 column, when confirmation required
- Non-detected compounds are not included in the 'Total'

Client: ALS Environmental - Everett **Service Request:**E1800806
Project: EV18080100

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E1800806-001	EV18080100-01 B6-3	8/17/2018	0805

Service Request Summary

Folder #: **E1800806**
Client Name: ALS Environmental - Everett
Project Name: EV18080100
Project Number:

Report To: Rick Bagan
ALS Environmental
8620 Holly Drive #100
Everett, WA 98208
USA
Phone Number: 425-356-2600
Cell Number:
Fax Number:
E-mail: rick.bagan@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: ALOPEZ
Date Received: 09/04/18
Internal Due Date: 9/14/2018
QAP: LAB QAP
Qualifier Set: HRMS Qualifier Set
Formset: Lab Standard
Merged?: N, Y
Report to MDL?: Y
P.O. Number: EV18080100
EDD: No EDD Specified

1 4 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
1 -N/A N/A
Location: EHRMS-WIC 9B, SMO
Pressure Gas:

				HOUSTON	
Lab Samp No.	**Client Samp No**	**Matrix**	**Collected**	Dioxins Furans/1613B	Total Solids/ALS SOP
E1800806-001	EV18080100-01	Soil	08/17/18 0805	II	II

Service Request Summary

Folder #:	**E1800806**
Client Name:	ALS Environmental - Everett
Project Name:	EV18080100
Project Number:	

Report To:	Rick Bagan ALS Environmental 8620 Holly Drive #100 Everett, WA 98208 USA
Phone Number:	425-356-2600
Cell Number:	
Fax Number:	
E-mail:	rick.bagan@alsglobal.com

Project Chemist:	Corey Grandits
Originating Lab:	HOUSTON
Logged By:	ALOPEZ
Date Received:	09/04/18
Internal Due Date:	9/14/2018
QAP:	LAB QAP
Qualifier Set:	HRMS Qualifier Set
Formset:	Lab Standard
Merged?:	N, Y
Report to MDL?:	Y
P.O. Number:	EV18080100
EDD:	No EDD Specified

1 4 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
1 -N/A N/A

Location: EHRMS-WIC 9B, SMO

Pressure Gas:

Data Qualifiers

HRMS Qualifier Set

B Indicates the associated analyte was found in the method blank at >1/10th the reported value.

E Estimated value. The reported concentration is above the calibration range of the instrument.

H Sample extracted and/or analyzed out of suggested holding time.

J Estimated value. The reported concentration is below the MRL.

K The ion abundance ratio between the primary and secondary ions were outside of theoretical acceptance limits.The concentration of this analyte should be considered as an estimate.

P Chlorodiphenyl ether interference was present at the retention time of the target analyte. Reported result should be considered an estimate.

Q Monitored lock-mass indicates matrix-interference. Reported result is estimated.

S Signal saturated detector. Result reported from dilution.

U Compound was analyzed for, but was not detected (ND).

X See Case Narrative.

Y Isotopically Labeled Standard recovery outside of acceptance limits. In all cases, the signal-to-nois ratios are greater than 10:1, making the recoveries acceptable.

i The MDL/MRL have been elevated due to a matrix interference.

ALS Laboratory Group

Acronyms

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01	11/30/2019
Arizona Department of Health Services	AZ0793	5/27/2019
Arkansas Department of Environmental Quality	17-027-0	3/27/2019
California Department of Health Services	2452	4/30/2019
Florida Department of Health	E87611	7/31/2019
Illinois Environmental Protection Agency	004112	5/29/2019
Kansas Department of Health and Environment	E-10406	7/31/2019
Louisiana Department of Environmental Quality	03048	6/30/2019
Louisiana Department of Health and Hospitals	LA150026	12/31/2018
Maine Center for Disease Control and Prevention	2014019	6/5/2020
Minnesota Department of Health	840911	12/31/2018
New Jersey Department of Environmental Protection	NLC140001	6/30/2019
New York Department of Health	11707	4/1/2019
Oklahoma Department of Environmental Quality	2014 124	8/31/2019
Pennsylvania Department of Environmental Protection	68-03441	6/30/2019
Tennessee Department of Environment and Concervation	04016	6/30/2019
Texas Commision on Environmental Quality	TX104704231-17-18	4/30/2019
Utah Department of Health Environmental Laboratory Certification	TX02694	7/3/2019
Washington Department of Health	c819	11/14/2018
West Virginia Department of Environmental Protection	347	6/30/2019

ALS ENVIRONMENTAL – Houston
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID: E1800806 | DB-5MSUI | SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date:	Analyst:	Samples:
09/13/18	LKL	001

Second Level - Data Review – to be filled by person doing peer review

Date:	Analyst:	Samples:
9/13/18	LG	001

Chain of Custody

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

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

Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only)

Date 8/31/18 Page 1 Of 1

PROJECT ID:	EV18080100
REPORT TO COMPANY:	ALS Environmental
PROJECT MANAGER:	Rick Bagan
ADDRESS:	8620 Holly Drive #100
	Everett WA 98208
PHONE:	(425) 356-2600 P.O. #: 32-EV18080100-1
E-MAIL:	rick.bagan@alsglobal.com
INVOICE TO COMPANY:	
ATTENTION:	Same
ADDRESS:	

ANALYSIS REQUESTED

OTHER (Specify)

SAMPLE I.D.	DATE	TIME	TYPE	LAB#	NWTPH-HCID	NWTPH-DX	NWTPH-GX	BTEX by EPA 8021 ☐ BTEX by EPA 8260 ☐	MTBE by EPA 8021 ☐ MTBE by EPA 8260 ☐	Halogenated Volatiles by EPA 8260	Volatile Organic Compounds by EPA 8260	EDB / EDC by EPA 8260 SIM (water)	EDB / EDC by EPA 8260 (soil)	Semivolatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA 8270 SIM	PCB by EPA 8082 ☐ Pesticides by EPA 8081 ☐	Metals-MTCA-5 ☐ RCRA-8 ☐ Pri Pol ☐ TAL ☐	Metals Other (Specify)	TCLP-Metals ☐ VOA ☐ Semi-Vol ☐ Pest ☐ Herbs ☐	OTHER (Specify)	NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?
1. EV18080100-01	8/17/18	0805	S																X Dioxins/Furans by EPA-1613	1	
2.																						
3.																						
4.																						
5.																						
6.																						
7.																						
8.																						
9.																						
10.																						

E1800806
ALS Environmental
Dioxin
5

SPECIAL INSTRUCTIONS Please email results by noon 9/11/18 or AS SOON AS POSSIBLE RUSH PLEASE. Thank you. (ALS National Contract for Terracon)

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: Shawn Robinson ALS 8/31/18 2:45pm
   Received By: ALS 9/4/18 11:10
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

Cooler Receipt Form

ALS Environmental

Project Chemist NB

Client/Project ALS Environmental

Thermometer ID SMG 4

Date/Time Received: 9/4/18 11:10 Initials: AL

Date/Time Logged in: 9/4/18 Initials AL

1. Method of delivery: ○ US Mail ✓ Fed Ex ○ UPS ○ DHL ○ Courier ○ Client

2. Samples received in: ✓ Cooler ○ Box ○ Envelope ○ Other _____

3. Were custody seals on coolers? ○ Yes ✓ No

Were they intact? ○ Yes ○ No ✓ N/A

Were they signed and dated? ○ Yes ○ No ✓ N/A

If yes, how many and where? No Seals

4. Packing Material: ○ Inserts ○ Baggies ○ Bubble Wrap ✓ Gel Packs ○ Wet Ice ○ Sleeves ✓ Other Packing Paper

5. Foreign or Regulated Soil? ○ Yes ✓ No Location of Sampling: _____

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
8133 8630 1857		9/4/18	11:30	AL	23.1/23.5	☐
						☐
						☐
						☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ✓ Yes ○ No

7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ✓ Yes ○ No

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ✓ Yes ○ No

9. Were appropriate bottles/containers and volumes received for the requested tests? ✓ Yes ○ No

10. Did sample labels and tags agree with custody documents? ✓ Yes ○ No

Notes, Discrepancies, & Resolutions:

Service request Label:

E1800806
ALS Environmental
Dioxin
5

10450 Stancliff Rd., Suite 210
Houston, TX 77099
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F: +1 713 266 1599
www.alsglobal.com

SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sampleThe COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6ºC.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10ºC.
- ✓ Air samples are shipped and stored cold, at 0 to 6ºC
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

Preparation Information Benchsheets

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 321237 **Prep WorkFlow:** OrgExtS(365) **Status:** Prepped
Team: Semivoa GCMS/ALOPEZ **Prep Method:** Method Soxhlet **Prep Date/Time:** 9/5/18 11:00 AM

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E1800790-003	SD1808301130JTM	.01	1613B/Dioxins Furans			Sediment	10.172g	Black Mud
2	E1800804-001	18-08018	.01	1613B/Dioxins Furans			Solid	10.468g	Brown Sand + Rocks
3	E1800804-002	18-08019	.01	1613B/Dioxins Furans			Solid	10.852g	Brown Sand + Rocks
4	E1800806-001	EV18080100-01	.01	1613B/Dioxins Furans			Soil	10.020g	Brown Mud
5	E1800807-001	HS18090008-01	.01	1613B/Dioxins Furans			Soil	10.820g	Black Dirt
6	E1800807-002	HS18090008-02	.01	1613B/Dioxins Furans			Soil	10.345g	Black Dirt
7	E1800807-003	HS18090008-03	.01	1613B/Dioxins Furans			Soil	10.599g	Brown Dirt
8	E1800807-004	HS18090008-04	.01	1613B/Dioxins Furans			Soil	10.099g	Black Dirt
9	EQ1800356-01	MB		1613B/Dioxins Furans			Solid	10.438g	
10	EQ1800356-02	LCS		1613B/Dioxins Furans			Solid	10.061g	
11	EQ1800356-03	DLCS		1613B/Dioxins Furans			Solid	10.185g	
12	J1806201-007	72126 8-01-2018 23:21	.03	1613B/Dioxins Furans			Solid	10.684g	Brown + White Cardboard
13	K1808066-001	Clarifier solids, screw press	.01	1613B/Dioxins Furans			Soil	10.167g	Brown Paper Pulp

Spiking Solutions

Name: 1613B Labeled Working Standard Inventory ID 192472 Logbook Ref: 192471 2-4NGML JG 8/15/18 Expires On: 01/09/2019

E1800790-003	1,000.00µL	E1800804-001	1,000.00µL	E1800804-002	1,000.00µL	E1800806-001	1,000.00µL	E1800807-001	1,000.00µL	E1800807-002	1,000.00µL
E1800807-003	1,000.00µL	E1800807-004	1,000.00µL	EQ1800356-01	1,000.00µL	EQ1800356-02	1,000.00µL	EQ1800356-03	1,000.00µL	J1806201-007	1,000.00µL
K1808066-001	1,000.00µL										

Name: 1613B Labeled Working Standard Inventory ID 192719 Logbook Ref: 192719 JG 8/27/18 2-4ngml Expires On: 01/09/2019

E1800807-001	1,000.00µL	E1800807-002	1,000.00µL	E1800807-003	1,000.00µL	E1800807-004	1,000.00µL

Name: 1613B Matrix Working Standard Inventory ID 192792 Logbook Ref: 192792 AL 8/29/18 2-20 ng/mL Expires On: 02/25/2019

EQ1800356-02	100.00µL	EQ1800356-03	100.00µL

Name: 8290/1613B Cleanup Working Standard Inventory ID 192951 Logbook Ref: 192951 tw 090618 8ng/ml Expires On: 10/27/2018

E1800790-003	100.00µL	E1800804-001	100.00µL	E1800804-002	100.00µL	E1800806-001	100.00µL	E1800807-001	100.00µL	E1800807-002	100.00µL
E1800807-003	100.00µL	E1800807-004	100.00µL	EQ1800356-01	100.00µL	EQ1800356-02	100.00µL	EQ1800356-03	100.00µL	J1806201-007	100.00µL
K1808066-001	100.00µL										

Preparation Information Benchsheet

Prep Run#: 321237 **Prep WorkFlow:** OrgExtS(365) **Status:** Prepped
Team: Semivoa GCMS/ALOPEZ **Prep Method:** Method Soxhlet **Prep Date/Time:** 9/5/18 11:00 AM

Preparation Materials

Carbon, High Purity	AL 8/10/18 (192392)	Ethyl Acetate 99.9% Minimum EtOAc	tw ethyl acet 080218 (192158)	Glass Wool	AL 8/20/18 (192604)
Hexanes 95%	AL 9/4/18 (192875)	Dichloromethane (Methylene Chloride) 99.9% MeCl2	AL 9/5/18 (192924)	Sodium Chloride Reagent Grade NaCl	AL 3/23/18 (188853)
Sodium Sulfate Anhydrous Reagent Grade Na2SO4	AL 7/30/18 (192040)	Tridecane (n-Tridecane)	AL 7/30/18 (192037)	Silica Gel	AL 7/30/18 (192039)
Toluene 99.9% Minimum	AL 9/4/18 (192874)	sulfuric acid	SULFURIC ACID (190871)	Sodium Hydroxide 1N NaOH	TW 6/14/18 (191093)

Preparation Steps

Step:	Extraction	Step:	Acid Clean	Step:	Silica Gel Clean	Step:	Final Volume
Started:	9/5/18 11:00	Started:	9/10/18 08:00	Started:	9/10/18 10:00	Started:	9/11/18 11:00
Finished:	9/6/18 07:00	Finished:	9/10/18 09:00	Finished:	9/10/18 13:00	Finished:	9/11/18 14:00
By:	ALOPEZ	By:	ALOPEZ	By:	ALOPEZ	By:	ALOPEZ
Comments		Comments		Comments		Comments	

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Collected:**	08/17/18 08:05
Sample Matrix:	Soil	**Date Received:**	09/04/18 11:10
Sample Name:	EV18080100-01	**Units:**	ng/Kg
Lab Code:	E1800806-001	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/11/18 21:38
Prep Method:	Method Soxhlet	**Date Extracted:**	9/5/18
Sample Amount:	10.020g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P517584	**Blank File Name:**	P614520
ICAL Date:	01/24/18	**Cal Ver. File Name:**	P517575

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.214	0.753			1
1,2,3,7,8-PeCDD	0.271**JK**		0.0961	3.76	0.91	1.001	1
1,2,3,4,7,8-HxCDD	ND	U	0.180	3.76			1
1,2,3,6,7,8-HxCDD	ND	U	0.189	3.76			1
1,2,3,7,8,9-HxCDD	ND	U	0.180	3.76			1
1,2,3,4,6,7,8-HpCDD	2.61**J**		0.0454	3.76	1.08	1.000	1
OCDD	31.8		0.152	7.53	0.87	1.000	1
2,3,7,8-TCDF	0.499**JK**		0.122	0.753	0.59	1.001	1
1,2,3,7,8-PeCDF	0.264**J**		0.152	3.76	1.73	1.000	1
2,3,4,7,8-PeCDF	0.811**J**		0.151	3.76	1.37	1.002	1
1,2,3,4,7,8-HxCDF	0.243**BJ**		0.0446	3.76	1.06	1.000	1
1,2,3,6,7,8-HxCDF	0.281**BJ**		0.0395	3.76	1.12	1.000	1
1,2,3,7,8,9-HxCDF	0.150**BJ**		0.0434	3.76	1.19	1.001	1
2,3,4,6,7,8-HxCDF	0.380**BJ**		0.0401	3.76	1.21	1.000	1
1,2,3,4,6,7,8-HpCDF	0.492**BJ**		0.0640	3.76	0.96	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.0791	3.76			1
OCDF	0.867**BJK**		0.158	7.53	1.23	1.005	1

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Collected:**	08/17/18 08:05
Sample Matrix:	Soil	**Date Received:**	09/04/18 11:10
Sample Name:	EV18080100-01	**Units:**	ng/Kg
Lab Code:	E1800806-001	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/11/18 21:38
Prep Method:	Method Soxhlet	**Date Extracted:**	9/5/18
Sample Amount:	10.020g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P517584	**Blank File Name:**	P614520
ICAL Date:	01/24/18	**Cal Ver. File Name:**	P517575

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	10.4		0.214	0.753	0.75		1
Total Penta-Dioxins	4.72		0.0961	3.76	1.39		1
Total Hexa-Dioxins	1.27**J**		0.183	3.76	1.26		1
Total Hepta-Dioxins	5.88		0.0454	3.76	1.01		1
Total Tetra-Furans	10.2		0.122	0.753	0.69		1
Total Penta-Furans	6.56		0.151	3.76	1.47		1
Total Hexa-Furans	2.45**J**		0.0417	3.76	1.15		1
Total Hepta-Furans	0.930**J**		0.0709	3.76	0.96		1

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Collected:**	08/17/18 08:05
Sample Matrix:	Soil	**Date Received:**	09/04/18 11:10
Sample Name:	EV18080100-01	**Units:**	Percent
Lab Code:	E1800806-001	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/11/18 21:38
Prep Method:	Method Soxhlet	**Date Extracted:**	9/5/18
Sample Amount:	10.020g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P517584	**Blank File Name:**	P614520
ICAL Date:	01/24/18	**Cal Ver. File Name:**	P517575

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	952.472	48		25-164	0.79	1.022
13C-1,2,3,7,8-PeCDD	2000	1637.607	82		25-181	1.58	1.194
13C-1,2,3,4,7,8-HxCDD	2000	1286.584	64		32-141	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1267.622	63		28-130	1.27	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1393.305	70		23-140	1.07	1.067
13C-OCDD	4000	1848.317	46		17-157	0.91	1.141
13C-2,3,7,8-TCDF	2000	1072.508	54		24-169	0.80	0.992
13C-1,2,3,7,8-PeCDF	2000	1364.889	68		24-185	1.58	1.150
13C-2,3,4,7,8-PeCDF	2000	1385.169	69		21-178	1.58	1.183
13C-1,2,3,4,7,8-HxCDF	2000	1042.712	52		26-152	0.51	0.971
13C-1,2,3,6,7,8-HxCDF	2000	1091.914	55		26-123	0.52	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1253.840	63		29-147	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1154.827	58		28-136	0.52	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1111.512	56		28-143	0.45	1.042
13C-1,2,3,4,7,8,9-HpCDF	2000	1206.004	60		26-138	0.45	1.080
37Cl-2,3,7,8-TCDD	800	574.340	72		35-197	NA	1.023

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Collected:**	08/17/18 08:05
Sample Matrix:	Soil	**Date Received:**	09/04/18 11:10
Sample Name:	EV18080100-01	**Units:**	ng/Kg
Lab Code:	E1800806-001	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Soxhlet

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.214	0.753	1	1	
1,2,3,7,8-PeCDD	**0.271**	0.0961	3.76	1	1	0.271
1,2,3,4,7,8-HxCDD	ND	0.180	3.76	1	0.1	
1,2,3,6,7,8-HxCDD	ND	0.189	3.76	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.180	3.76	1	0.1	
1,2,3,4,6,7,8-HpCDD	**2.61**	0.0454	3.76	1	0.01	0.0261
OCDD	**31.8**	0.152	7.53	1	0.0003	0.00954
2,3,7,8-TCDF	**0.499**	0.122	0.753	1	0.1	0.0499
1,2,3,7,8-PeCDF	**0.264**	0.152	3.76	1	0.03	0.00792
2,3,4,7,8-PeCDF	**0.811**	0.151	3.76	1	0.3	0.243
1,2,3,4,7,8-HxCDF	**0.243**	0.0446	3.76	1	0.1	0.0243
1,2,3,6,7,8-HxCDF	**0.281**	0.0395	3.76	1	0.1	0.0281
1,2,3,7,8,9-HxCDF	**0.150**	0.0434	3.76	1	0.1	0.0150
2,3,4,6,7,8-HxCDF	**0.380**	0.0401	3.76	1	0.1	0.0380
1,2,3,4,6,7,8-HpCDF	**0.492**	0.0640	3.76	1	0.01	0.00492
1,2,3,4,7,8,9-HpCDF	ND	0.0791	3.76	1	0.01	
OCDF	**0.867**	0.158	7.53	1	0.0003	0.000260
		Total TEQ				0.718

2005 WHO TEFs, ND = 0

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Collected:**	08/17/18 08:05
Sample Matrix:	Soil	**Date Received:**	09/04/18 11:10
Sample Name:	EV18080100-01	**Units:**	Percent
Lab Code:	E1800806-001	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/10/18 11:59
	6.759g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	66.3		-	-			1

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/Kg
Lab Code:	EQ1800356-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/12/18 06:29
Prep Method:	Method Soxhlet	**Date Extracted:**	9/5/18
Sample Amount:	10.438g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614520	**Blank File Name:**	P614520
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614516

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.189	0.479			1
1,2,3,7,8-PeCDD	ND	U	0.140	2.40			1
1,2,3,4,7,8-HxCDD	0.0921**JK**		0.0484	2.40	1.54	1.000	1
1,2,3,6,7,8-HxCDD	0.111**J**		0.0526	2.40	1.29	1.000	1
1,2,3,7,8,9-HxCDD	ND	U	0.0463	2.40			1
1,2,3,4,6,7,8-HpCDD	0.0745**JK**		0.0252	2.40	0.68	1.000	1
OCDD	0.627**J**		0.124	4.79	0.86	1.000	1
2,3,7,8-TCDF	ND	U	0.103	0.479			1
1,2,3,7,8-PeCDF	ND	U	0.0795	2.40			1
2,3,4,7,8-PeCDF	ND	U	0.0810	2.40			1
1,2,3,4,7,8-HxCDF	0.0743**JK**		0.0243	2.40	1.93	1.000	1
1,2,3,6,7,8-HxCDF	0.0646**JK**		0.0239	2.40	0.81	1.000	1
1,2,3,7,8,9-HxCDF	0.0632**JK**		0.0275	2.40	2.07	1.000	1
2,3,4,6,7,8-HxCDF	0.0680**J**		0.0237	2.40	1.35	1.000	1
1,2,3,4,6,7,8-HpCDF	0.128**JK**		0.0466	2.40	0.77	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.0548	2.40			1
OCDF	0.347**JK**		0.133	4.79	0.70	1.005	1

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/Kg
Lab Code:	EQ1800356-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/12/18 06:29
Prep Method:	Method Soxhlet	**Date Extracted:**	9/5/18
Sample Amount:	10.438g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614520	**Blank File Name:**	P614520
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614516

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.189	0.479			1
Total Penta-Dioxins	ND	U	0.140	2.40			1
Total Hexa-Dioxins	0.111**J**		0.0490	2.40	1.29		1
Total Hepta-Dioxins	ND	U	0.0252	2.40			1
Total Tetra-Furans	ND	U	0.103	0.479			1
Total Penta-Furans	ND	U	0.0803	2.40			1
Total Hexa-Furans	0.0680**J**		0.0248	2.40	1.35		1
Total Hepta-Furans	ND	U	0.0503	2.40			1

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	Percent
Lab Code:	EQ1800356-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/12/18 06:29
Prep Method:	Method Soxhlet	**Date Extracted:**	9/5/18
Sample Amount:	10.438g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614520	**Blank File Name:**	P614520
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614516

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	318.459	16	**Y**	25-164	0.80	1.018
13C-1,2,3,7,8-PeCDD	2000	512.934	26		25-181	1.58	1.164
13C-1,2,3,4,7,8-HxCDD	2000	596.338	30	**Y**	32-141	1.25	0.992
13C-1,2,3,6,7,8-HxCDD	2000	524.930	26	**Y**	28-130	1.28	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	586.797	29		23-140	1.07	1.066
13C-OCDD	4000	780.364	20		17-157	0.90	1.143
13C-2,3,7,8-TCDF	2000	382.702	19	**Y**	24-169	0.80	0.993
13C-1,2,3,7,8-PeCDF	2000	552.064	28		24-185	1.59	1.126
13C-2,3,4,7,8-PeCDF	2000	517.914	26		21-178	1.59	1.155
13C-1,2,3,4,7,8-HxCDF	2000	614.774	31		26-152	0.53	0.973
13C-1,2,3,6,7,8-HxCDF	2000	550.894	28		26-123	0.53	0.976
13C-1,2,3,7,8,9-HxCDF	2000	607.209	30		29-147	0.53	1.008
13C-2,3,4,6,7,8-HxCDF	2000	603.329	30		28-136	0.53	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	448.579	22	**Y**	28-143	0.45	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	545.036	27		26-138	0.46	1.079
37Cl-2,3,7,8-TCDD	800	178.913	22	**Y**	35-197	NA	1.018

Accuracy & Precision

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Analyzed:**	09/12/18
Sample Matrix:	Soil	**Date Extracted:**	09/05/18

Duplicate Lab Control Sample Summary
Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Units:**	ng/Kg
Prep Method:	Method Soxhlet	**Basis:**	Dry
		Analysis Lot:	606581

	Lab Control Sample EQ1800356-02			Duplicate Lab Control Sample EQ1800356-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2,3,4,6,7,8-HpCDD	84.1	99.4	85	83.6	98.2	85	70-140	<1	50
1,2,3,4,7,8-HxCDD	99.0	99.4	100	97.4	98.2	99	70-164	2	50
1,2,3,6,7,8-HxCDD	105	99.4	105	103	98.2	105	76-134	2	50
1,2,3,7,8,9-HxCDD	96.0	99.4	97	101	98.2	103	64-162	6	50
1,2,3,7,8-PeCDD	105	99.4	106	105	98.2	107	70-142	<1	50
2,3,7,8-TCDD	27.0	19.9	136	27.8	19.6	141	67-158	3	50
OCDD	196	199	99	199	196	101	78-144	1	50
1,2,3,4,6,7,8-HpCDF	106	99.4	107	103	98.2	104	82-122	3	50
1,2,3,4,7,8,9-HpCDF	103	99.4	104	104	98.2	105	78-138	<1	50
1,2,3,4,7,8-HxCDF	104	99.4	104	101	98.2	103	72-134	2	50
1,2,3,6,7,8-HxCDF	103	99.4	104	101	98.2	103	84-130	2	50
1,2,3,7,8,9-HxCDF	101	99.4	101	98.8	98.2	101	78-130	2	50
1,2,3,7,8-PeCDF	98.9	99.4	99	100	98.2	102	80-134	1	50
2,3,4,6,7,8-HxCDF	104	99.4	104	102	98.2	104	70-156	2	50
2,3,4,7,8-PeCDF	109	99.4	109	109	98.2	111	68-160	<1	50
2,3,7,8-TCDF	21.8	19.9	110	21.4	19.6	109	75-158	2	50
OCDF	254	199	128	260	196	133	63-170	2	50

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1800356-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/12/18 13:02
Prep Method:	Method Soxhlet	**Date Extracted:**	9/5/18
Sample Amount:	10.061g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614528	**Blank File Name:**	P614520
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614516

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	27.0		0.0887	0.497	0.80	1.001	1
1,2,3,7,8-PeCDD	105		0.0797	2.48	1.59	1.000	1
1,2,3,4,7,8-HxCDD	99.0		0.0215	2.48	1.27	1.000	1
1,2,3,6,7,8-HxCDD	105		0.0229	2.48	1.28	1.000	1
1,2,3,7,8,9-HxCDD	96.0		0.0203	2.48	1.29	1.007	1
1,2,3,4,6,7,8-HpCDD	84.1		0.0244	2.48	1.05	1.000	1
OCDD	196		0.118	4.97	0.89	1.000	1
2,3,7,8-TCDF	21.8		0.0405	0.497	0.77	1.001	1
1,2,3,7,8-PeCDF	98.9		0.0676	2.48	1.58	1.001	1
2,3,4,7,8-PeCDF	109		0.0727	2.48	1.56	1.000	1
1,2,3,4,7,8-HxCDF	104		0.0211	2.48	1.24	1.000	1
1,2,3,6,7,8-HxCDF	103		0.0213	2.48	1.24	1.000	1
1,2,3,7,8,9-HxCDF	101		0.0250	2.48	1.24	1.000	1
2,3,4,6,7,8-HxCDF	104		0.0226	2.48	1.24	1.000	1
1,2,3,4,6,7,8-HpCDF	106		0.0892	2.48	1.05	1.000	1
1,2,3,4,7,8,9-HpCDF	103		0.107	2.48	1.05	1.000	1
OCDF	254		0.118	4.97	0.91	1.005	1

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1800356-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/12/18 13:02
Prep Method:	Method Soxhlet	**Date Extracted:**	9/5/18
Sample Amount:	10.061g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614528	**Blank File Name:**	P614520
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614516

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	27.0		0.0887	0.497	0.80		1
Total Penta-Dioxins	105		0.0797	2.48	1.59		1
Total Hexa-Dioxins	300		0.0215	2.48	1.27		1
Total Hepta-Dioxins	84.1		0.0244	2.48	1.05		1
Total Tetra-Furans	23.2		0.0405	0.497	0.78		1
Total Penta-Furans	212		0.0701	2.48	1.55		1
Total Hexa-Furans	412		0.0224	2.48	1.23		1
Total Hepta-Furans	209		0.0972	2.48	1.05		1

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	Percent
Lab Code:	EQ1800356-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/12/18 13:02
Prep Method:	Method Soxhlet	**Date Extracted:**	9/5/18
Sample Amount:	10.061g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614528	**Blank File Name:**	P614520
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614516

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	822.717	41		25-164	0.81	1.018
13C-1,2,3,7,8-PeCDD	2000	1150.049	58		25-181	1.57	1.164
13C-1,2,3,4,7,8-HxCDD	2000	1262.816	63		32-141	1.26	0.992
13C-1,2,3,6,7,8-HxCDD	2000	1105.996	55		28-130	1.26	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1222.032	61		23-140	1.08	1.066
13C-OCDD	4000	1569.768	39		17-157	0.92	1.143
13C-2,3,7,8-TCDF	2000	1062.097	53		24-169	0.79	0.993
13C-1,2,3,7,8-PeCDF	2000	1292.605	65		24-185	1.59	1.126
13C-2,3,4,7,8-PeCDF	2000	1160.395	58		21-178	1.59	1.155
13C-1,2,3,4,7,8-HxCDF	2000	1407.959	70		26-152	0.53	0.973
13C-1,2,3,6,7,8-HxCDF	2000	1245.900	62		26-123	0.53	0.976
13C-1,2,3,7,8,9-HxCDF	2000	1378.658	69		29-147	0.53	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1269.783	63		28-136	0.53	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1019.217	51		28-143	0.45	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1219.998	61		26-138	0.46	1.079
37Cl-2,3,7,8-TCDD	800	487.389	61		35-197	NA	1.018

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1800356-03	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/12/18 13:51
Prep Method:	Method Soxhlet	**Date Extracted:**	9/5/18
Sample Amount:	10.185g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614529	**Blank File Name:**	P614520
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614516

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	27.8		0.105	0.491	0.79	1.001	1
1,2,3,7,8-PeCDD	105		0.0677	2.45	1.60	1.000	1
1,2,3,4,7,8-HxCDD	97.4		0.0277	2.45	1.26	1.000	1
1,2,3,6,7,8-HxCDD	103		0.0289	2.45	1.26	1.000	1
1,2,3,7,8,9-HxCDD	101		0.0260	2.45	1.26	1.007	1
1,2,3,4,6,7,8-HpCDD	83.6		0.0396	2.45	1.06	1.000	1
OCDD	199		0.0793	4.91	0.90	1.000	1
2,3,7,8-TCDF	21.4		0.0444	0.491	0.79	1.001	1
1,2,3,7,8-PeCDF	100		0.0659	2.45	1.55	1.001	1
2,3,4,7,8-PeCDF	109		0.0667	2.45	1.57	1.000	1
1,2,3,4,7,8-HxCDF	101		0.0171	2.45	1.24	1.000	1
1,2,3,6,7,8-HxCDF	101		0.0173	2.45	1.24	1.000	1
1,2,3,7,8,9-HxCDF	98.8		0.0174	2.45	1.26	1.000	1
2,3,4,6,7,8-HxCDF	102		0.0170	2.45	1.24	1.000	1
1,2,3,4,6,7,8-HpCDF	103		0.0690	2.45	1.06	1.000	1
1,2,3,4,7,8,9-HpCDF	104		0.0761	2.45	1.05	1.000	1
OCDF	260		0.118	4.91	0.91	1.005	1

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1800356-03	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/12/18 13:51
Prep Method:	Method Soxhlet	**Date Extracted:**	9/5/18
Sample Amount:	10.185g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614529	**Blank File Name:**	P614520
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614516

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	27.8		0.105	0.491	0.79		1
Total Penta-Dioxins	105		0.0677	2.45	1.60		1
Total Hexa-Dioxins	302		0.0274	2.45	1.26		1
Total Hepta-Dioxins	83.6		0.0396	2.45	1.06		1
Total Tetra-Furans	21.4		0.0444	0.491	0.79		1
Total Penta-Furans	213		0.0663	2.45	1.66		1
Total Hexa-Furans	404		0.0172	2.45	1.22		1
Total Hepta-Furans	207		0.0722	2.45	1.06		1

Client:	ALS Environmental - Everett	**Service Request:**	E1800806
Project:	EV18080100	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	Percent
Lab Code:	EQ1800356-03	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/12/18 13:51
Prep Method:	Method Soxhlet	**Date Extracted:**	9/5/18
Sample Amount:	10.185g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P614529	**Blank File Name:**	P614520
ICAL Date:	03/29/18	**Cal Ver. File Name:**	P614516

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	708.586	35		25-164	0.80	1.018
13C-1,2,3,7,8-PeCDD	2000	1024.603	51		25-181	1.56	1.164
13C-1,2,3,4,7,8-HxCDD	2000	1152.654	58		32-141	1.27	0.992
13C-1,2,3,6,7,8-HxCDD	2000	1025.057	51		28-130	1.26	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1103.581	55		23-140	1.06	1.066
13C-OCDD	4000	1393.418	35		17-157	0.91	1.143
13C-2,3,7,8-TCDF	2000	891.464	45		24-169	0.80	0.993
13C-1,2,3,7,8-PeCDF	2000	1141.033	57		24-185	1.59	1.126
13C-2,3,4,7,8-PeCDF	2000	1062.013	53		21-178	1.59	1.155
13C-1,2,3,4,7,8-HxCDF	2000	1251.500	63		26-152	0.53	0.973
13C-1,2,3,6,7,8-HxCDF	2000	1096.450	55		26-123	0.53	0.976
13C-1,2,3,7,8,9-HxCDF	2000	1390.786	70		29-147	0.53	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1201.136	60		28-136	0.54	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	951.475	48		28-143	0.46	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1208.364	60		26-138	0.46	1.079
37Cl-2,3,7,8-TCDD	800	413.877	52		35-197	NA	1.018

APPENDIX E – ENVIRONMENTAL TASK ORDER AND MASTER SERVICES AGREEMENT

Environmental Services Task Order

This Environmental Service Task Order ("Order") is made on **8/1/2018**, between Umpqua Bank ("Umpqua") and **Terracon Consultants, Inc *** ("Consultant"). By their execution of this Order, Umpqua Bank retains, and Consultant agrees to provide services as requested and according to the terms and conditions of the executed Environmental Services Agreement.

RIMS Project Number:	**18-002488-03**
Property/Project Name:	Buse Timber & Sales
Loan Purpose:	Refinance
Borrower:	Diana Buse Timber & Sales
Property Address:	3812 28th Pl NE Everett, WA98205
Property Type:	Industrial- Saw Mill/Lumberyard
Property Description:	The subject consists of 60.54 acres of industrial zoned land located at 3812 28th Place NE in Everett. (Note that a portion of the property that was agriculturally zoned has been sold off). Improvements include seven buildings constructed between 1961 and 1980. Gross building area is estimated at 54,973 SF. No significant improvements have been added to the property recently. Will need an "as is" fee simple value in a "summary-style" format. The report should include insurable replacement cost of the buildings (even if they contribute no value) and the environmental check sheet. The assignment may include some H&BU issues.
Access/Contact Info:	Diana Martin 425-258-5844
Due Date:	9/7/2018
Agreed Fee:	$14,985.00, inclusive of all costs necessary to complete the report. Any costs not included in the fee must be approved in advance by Michael S Pereira.
Delivery & Invoice Instructions:	Please upload a Final Report and Invoice in PDF format for review to RIMSCentral. Hard copies are not required unless specifically requested.
Address Report & Questions to:	Michael Pereira, VP Environmental Risk Officer Umpqua Bank 509-842-9178 michaelpereira@umpquabank.com

1233 Northwood Center Ct

Coeur D Alene, ID83814

Loan Officer Information:

Leslie Somes

Umpqua Bank

LeslieSomes@UmpquaBank.com
425-673-8579

Consultant Information:

Matt Wheaton
Terracon Consultants, Inc *
425-771-3304
21905 64th Avenue W, Suite 100
Mountlake Terrace, WA98043

Scope of Services:

Scope of Work to Follow: Phase II ESA. Reliance by Umpqua Bank.

Changes to Scope:
Umpqua Bank and the Consultant may make changes, additions, or deletions from this Task Order by mutual written agreement only (email is acceptable).

By accepting this award electronically, you agree to the terms of this engagement, including terns set forth in documents incorporated herein by reference. Please include a copy of the Task Order in the addenda of the report.

AMENDING AGREEMENT #1

THIS AMENDING AGREEMENT dated 08/06/2018

BETWEEN:

Umpqua Bank

OF THE FIRST PART

- AND -

Matt Wheaton / Terracon Consultants, Inc *

OF THE SECOND PART

Background

A. Umpqua Bank and Matt Wheaton (the Parties) entered into the contract (the "Contract") dated 08/01/2018, for Environmental services.

B. The Parties desire to amend the Contract on the terms and conditions set forth in the Amending Agreement (the "Agreement").

C. This Agreement is amendment #1 to the Contract.

IN CONSIDERATION OF the Parties agreeing to amend their obligations in the existing Contract, and other valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree to keep, perform, and fulfill the promises, conditions and agreements below:

Amendments

The Contract is amended as follows:

Award Fee (as amended): $14,985.00

Due Date (as amended): 09/14/2018

Scope Comments: Drillers are booked out to 8/17, moved to accommodate schedule.

No Other Change

Except as otherwise expressly provided in this Agreement, all of the terms and conditions of the Contract remain unchanged and in full force and effect.

Miscellaneous Terms

Capitalized terms not otherwise defined in this Agreement will have the meanings ascribed to them in the Contract. Headings are inserted for the convenience of the parties only and are not to be considered when interpreting this Agreement. Words in the singular mena and include the plural and vice versa. Words in the masculine include the feminine and vice versa. No regard for gender is inteded by the language in this Agreement.

Governing Law

Subject to the terms of the Contract, it is the intention of the Parties that this Agreement, and all suits and special proceedings under this Agreement, be construed in accordance with and governed, to the exclusion of the law of any other forum, by the laws of the state of , without

regard to the jurisdiction in which any action or special proceeding may be instituted.

Please include a signed copy of this letter as an addendum to the completed report, *in addition to the original contract and any other amendments.*

Sincerely,

Michael S Pereira

VP Environmental Risk Officer
Umpqua Bank
Environmental Department

Accepted By:

Terracon Consultants, Inc *

Matt Wheaton

8/6/18
Date

AMENDING AGREEMENT #2

THIS AMENDING AGREEMENT dated 09/13/2018

BETWEEN:

Umpqua Bank

OF THE FIRST PART

- AND -

Matt Wheaton / Terracon Consultants, Inc *

OF THE SECOND PART

Background

A. Umpqua Bank and Matt Wheaton (the Parties) entered into the contract (the "Contract") dated 08/01/2018, for Environmental services.

B. The Parties desire to amend the Contract on the terms and conditions set forth in the Amending Agreement (the "Agreement").

C. This Agreement is amendment #2 to the Contract.

IN CONSIDERATION OF the Parties agreeing to amend their obligations in the existing Contract, and other valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree to keep, perform, and fulfill the promises, conditions and agreements below:

Amendments

The Contract is amended as follows:

Award Fee (as amended): $14,985.00

Due Date (as amended): 09/17/2018

Scope Comments: Lab delay, will be completed by close of business on Monday.

No Other Change

Except as otherwise expressly provided in this Agreement, all of the terms and conditions of the Contract remain unchanged and in full force and effect.

Miscellaneous Terms

Capitalized terms not otherwise defined in this Agreement will have the meanings ascribed to them in the Contract. Headings are inserted for the convenience of the parties only and are not to be considered when interpreting this Agreement. Words in the singular mena and include the plural and vice versa. Words in the masculine include the feminine and vice versa. No regard for gender is inteded by the language in this Agreement.

Governing Law

Subject to the terms of the Contract, it is the intention of the Parties that this Agreement, and all suits and special proceedings under this Agreement, be construed in accordance with and governed, to the exclusion of the law of any other forum, by the laws of the state of , without

regard to the jurisdiction in which any action or special proceeding may be instituted.

Please include a signed copy of this letter as an addendum to the completed report, *in addition to the original contract and any other amendments.*

Sincerely,

Michael S Pereira

VP Environmental Risk Officer
Umpqua Bank
Environmental Department

Accepted By:

Terracon Consultants, Inc *

Matt Wheaton

9/13/18
Date

UMPQUA
B·A·N·K

ENVIRONMENTAL SERVICES AGREEMENT

This Environmental Services Agreement ("Agreement"), is made effective as of June 10, 2015, between Terracon Consultants, Inc., whose address is 18001 W. 106th Street, Suite 300, Olathe, KS 66061 ("Consultant") and Umpqua Bank ("Umpqua"), an Oregon state chartered bank, whose address is 1 SW Columbia, Suite 1200, Portland OR 97258 (each a "Party" and collectively, the "Parties").

Whereas, Umpqua may require professional environmental services and Consultant is engaged in the business of providing professional environmental services from time to time, and Umpqua will retain control over the subject of the work;

Now, therefore, the parties agree as follows:

1. **Scope of Services**. Umpqua may request services from Consultant regarding a particular property ("Property") in the form of an electronic request for proposal (RFP). Requests may be made electronically and proposals can be submitted electronically. Proposals shall clearly specify the subject Property and shall contain a detailed scope of work, timeline to complete and pricing. In the case of a Phase I Environmental Site Assessment, Consultant's proposal shall comply with U.S. EPA Standards and Practices for All Appropriate Inquiries and the most recent ASTM Standard (currently E1527-13), Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.

Upon electronic approval of proposal by Umpqua, services will be awarded directly to Consultant using an electronic award system or other means. Services to be provided may include, but need not be limited to, the following:

Regulatory Records Review
Environmental Transaction Screen
Site Inspection
Property Condition Assessment
Seismic Studies
Geotechnical Investigation
Asbestos and Lead-based Paint Survey
Phase I Environmental Site Assessment
Phase II Environmental Assessment/Subsurface Investigation
Peer Review/Technical Support
Remediation Cost Estimating/Analysis
Site Remediation/Site Closure

In performing a Phase I Environmental Site Assessment, Consultant shall comply with the most current ASTM Standard (currently E1527-13/AAI Phase I Environmental Site Assessment), and any future ASTM Phase I Standard yet to be released. The services shall include, without limitation, the following: (i) review, within AAI compliant search parameters, of available federal environmental databases and applicable state and local databases, geocoded as available upon area locator map; (ii) visual and physical on-site inspection, as allowed, and observation of the Property for above ground or underground storage tanks, reasonably ascertainable indicators of CERCLA defined environmental contaminants and hazardous materials, generally recognized environmental contaminants and visible pollutants, and railroad right-of-ways; (iii) review of available city directories, Sanborn maps or other available historical information back to at least 1940 or first use, whichever is earlier, local emergency release records, and environmental permits; (iv) visual interior observations, as allowed, for reasonably ascertainable indicators of contamination from airborne emissions, vapor intrusion, asbestos-containing materials, lead

based paint, PCB-containing transformers, radon, underground fuel storage tanks, business operation procedures, regulated materials handling and storage practices, and waste stream disposal; (v) completion as allowed of an environmental screening questionnaire by Key Site Manager; (vi) visual observation of adjoining and adjacent properties for reasonably ascertainable potential environmental hazards and contaminants; (vii) photographic documentation of on-site conditions and adjoining properties; (viii) interviews as allowed with Property owner, past Property owners, occupants and persons knowledgeable about the Property; (ix) review of available title information for potential gaps in past Property use or ownership and search for environmental liens; and (x) geologic and hydrogeologic review to evaluate potential contaminant migration pathways and exposure routes as applicable. Consultant shall not disturb the soil or groundwater, dig holes or wells, or otherwise perform physical tests of or take samples from the Property, without first obtaining Umpqua's written instruction to do so. If Consultant is denied access to the Property for any reason, or is otherwise instructed to leave or vacate the Property, or any portion thereof, Consultant shall comply with such instructions, without argument or other opposition, and shall thereafter promptly notify Umpqua in writing that it was denied access to the Property.

2. **Change Orders.** All services or work, other than as agreed upon in the form of a proposal accepted electronically by Umpqua, but in connection with a specific proposal, shall be done only through a mutually agreed upon electronically or by email ("Change Order"). Change Orders shall contain a detailed scope of work, timeline to complete, and pricing.

3. **Entire Agreement.** Consultant shall provide services as outlined in this Agreement, which constitutes the entire agreement between Umpqua and Consultant, superseding all prior and contemporaneous negotiations, agreements, representations and understandings, either written or oral, of the parties with respect to this Agreement. With respect to each particular Property, this Agreement shall govern the performance of the subject written proposal as originally accepted by Umpqua, and as such proposal may be changed through one or more Change Orders. For clarity, no proposal or Change Order may add, delete, or change any terms of this Agreement.

4. **Changes to this Agreement.** Umpqua and Consultant may make additions, deletions, or changes to this Agreement by mutual written agreement only.

5. **Termination.** This Agreement shall be effective as of the date specified herein and shall continue in effect thereafter, unless terminated as provided herein. Umpqua may terminate this Agreement for convenience or for the default of Consultant upon 30 days written notice to Consultant, and following such notice, Consultant shall: (i) discontinue work as promptly as practicable, (ii) attempt to minimize charges, and (iii) submit to Umpqua a written report of findings up to the date of termination. Consultant may terminate this Agreement upon 30 days written notice to Umpqua, and following such notice, Consultant shall complete any outstanding projects and will be paid for all properly completed work in accordance with this Agreement (provided that Umpqua shall retain the right to terminate this Agreement even after Consultant terminates it, in which case the immediately preceding sentence shall control). Umpqua may terminate any work being done under any particular proposal, in which case Umpqua will pay for the work done thereunder prior to such termination and Consultant will give Umpqua all of the materials and work in process relating to such work.

6. **Umpqua's Responsibilities.** Umpqua will: (1) provide the information reasonably available to Umpqua pertinent to the project, including previous reports and any other pertinent data in Umpqua's possession and (2) arrange rights of access or permission to enter the Property as required for Consultant to perform its services under this Agreement. If access is denied to all or any portion of the Property, Consultant shall notify Umpqua in writing immediately, complete all other portions of the services and provide a reasonable recommendation to Umpqua as to the likelihood of elevated risk of contamination. Umpqua will then make a determination whether to proceed or continue to pursue

Property access. If Umpqua obtains access, Consultant will perform site reconnaissance and complete the assignment as intended in the original scope.

7. **Reliance on Third Parties.** Consultant may rely without confirmation upon information provided by others and federal, state, and local agencies, pertinent to the Property to the extent such reliance is reasonable.

8. **Payment.** Umpqua will pay undisputed invoices within 30 days of Umpqua's receipt thereof.

9. **Insurance and Limitation of Liability.** Consultant shall, during the performance of this Agreement, at its cost, keep in force adequate insurance coverage to protect Umpqua from any losses with respect to Consultant's performance under this Agreement. Such coverage shall include (at a minimum) the following insurance: (1) Worker's Compensation Insurance as required by law, (2) Employer's Liability Insurance with minimum limits of $1,000,000; (3) Comprehensive General Liability Insurance with minimum limits of $1,000,000 per occurrence, $5,000,000 aggregate; (4) Comprehensive Automobile Liability Insurance, including operation of owned, non-owned, and hired automobiles with minimum limits of $1,000,000 per claim; (5) Professional Liability, Errors and Omissions Insurance with minimum limits of $2,000,000 per occurrence; and (6) Contractor Pollution Liability Insurance with minimum limits of $2,000,000 per occurrence.

Consultant will furnish Umpqua, upon request, insurance certificate(s) reflecting Consultant's compliance with the requirements of this section.

All such insurance policies shall be issued by properly licensed insurance companies with a current A.M. Best rating of "A-VII" or better. Consultant shall list Umpqua as an additional insured. Such insurance will be primary and noncontributory to insurance or self-insurance maintained by Umpqua. Consultant, or its insurance company, shall give thirty (30) days prior written notice to Umpqua of cancellation, non-renewal, or material change in coverage, scope or amount of any insurance policy.

10. **Standard of Care / Warranty.** Consultant shall perform its services in accordance with generally accepted national, state and local engineering and technical practices and professional standards prevailing in the locality of the Property, current at the time the services are performed.

11. **Confidentiality.** Any information and documentation Umpqua provides to Consultant is deemed to be Umpqua's confidential information ("Umpqua Confidential Information") unless Umpqua states in writing that it is not Umpqua Confidential Information. Such information does not lose its status as Umpqua Confidential Information merely because it is known by a limited number of persons or entities outside of Umpqua or because it was not originated by Umpqua. With respect to Umpqua Confidential Information, Consultant shall:

(a) Protect and keep such Confidential Information secret and secure from disclosure and unauthorized use with the same degree of precautions and safeguards it uses to protect and keep its own Confidential Information of a similar nature secret and secure, but in no case with less than reasonable care;

(b) Comply with all laws, rules and regulations regarding the sharing of Confidential Information, including all applicable privacy laws;

(c) Disclose such Confidential Information only to its employees, Subcontractors and/or agents who have both: (i) a need to know such information in order to perform under this Agreement, and (ii) a written contractual, fiduciary or other legal duty, at least as restrictive as this Agreement, to maintain the confidentiality of the information they receive. Contractor shall not disclose Confidential Information to any third party without Umpqua's prior written authorization; and

(d) Not use or disclose, or permit any of its employees, Subcontractors and/or agents to use or disclose, any such Confidential Information for any reason other than performance under this Agreement, and in no event will Contractor disclose or use such Confidential Information in any manner that is or has the potential to be adverse or detrimental to the interests of Umpqua;

Required Disclosure. Contractor may disclose Confidential Information as may be required by law, statute, rule or regulation, including any subpoena or other similar form of process. Prior to such disclosure, Consultant shall provide Umpqua with prompt written notice (so long as such notice is not prohibited by law), so that Umpqua may object to the request and/or seek appropriate protective relief. Notwithstanding anything to the contrary, Umpqua may disclose any information, including Consultant's Confidential Information, in response to a request from any federal or state bank examiner, or other regulatory official with authority over Umpqua or its affiliates.

Return or Destruction. Upon termination of this Agreement, or if earlier requested by Umpqua in writing, Contractor shall, within ten (10) business days, at Umpqua's election, destroy or return to Umpqua all Confidential Information, including originals and all duplicates, whether standing alone or as part of any other document or other compilation of information, or in any other form, including hardcopy (paper, micro film, photo, etc.) or softcopy (electronic, optical, or magnetic media such as computer or disk storage, tape recording, e-mail, voicemail, etc.); provided, however, that Contractor may keep a copy if necessary for compliance with legal or regulatory obligations, subject to the continuing confidentiality obligations set forth in this Agreement. Upon request, an officer of Contractor shall promptly provide Umpqua with written certification of such destruction or return.

Intrusions/Disclosures. If Consultant learns of any actual or suspected theft of, accidental disclosure of, loss of, or inability to account for any Confidential Information by Consultant or any of its Subcontractors (collectively "Disclosure") and/or any unauthorized intrusions into Consultant's or any of its Subcontractor's facilities or secure systems used to perform the Services (collectively "Intrusion"), Consultant must, at its own expense, immediately (i) notify Umpqua's information security officer, (ii) specify the corrective action to be taken, (iii) take corrective action to prevent further Disclosure and/or Intrusion. Consultant must, as soon as is reasonably practicable, make a report to Umpqua including details of the Disclosure (including Customer(s)' identities and the nature of the information disclosed) and/or Intrusion and the corrective action Consultant has taken to prevent further Disclosure and/or Intrusion. Consultant shall cooperate and assist Umpqua at no additional cost to minimize any potential adverse impact upon Umpqua. Additionally, Consultant must cooperate fully with all government regulatory agencies and law enforcement agencies having jurisdiction and authority for investigating a Disclosure and any known or suspected criminal activity.

Ownership. Confidential Information shall remain the property of Umpqua.

Marketing, Publicity. Except upon the prior written consent of a Umpqua communications or public relations director, which may be granted or withheld in Umpqua's sole discretion, Consultant shall not: (a) publicly disclose any information regarding the existence or terms of this Agreement, the existence or any aspects of the business relationship between Umpqua and Consultant, whether in a news release, press conference, or otherwise, (b) disclose any of the foregoing information to any person or entity for any purpose other than Consultant's performance under this Agreement, or (c) use any of the Umpqua

trade names, trademarks, trade dress, service marks, logos, branding or other Umpqua Intellectual Property for any purposes (including customer lists, websites, advertisements, releases to professional or trade publications, sales presentations, performance of services for other customers, etc.).

12. **Ownership and Use of the Results of the Services.** All of the results of the services performed by Consultant hereunder, including any such plans, testing, layouts, schematics, data, reports, studies, cost estimates, and other materials created or prepared hereunder, alone or with others, whether created on or off Umpqua's premises, whether or not created during regular work hours, and whether interim or final (collectively, "Work Product") shall be deemed "work made for hire" as defined in 17 U.S.C. §101 & §201(b), and shall be the exclusive property of Umpqua. Umpqua shall be deemed the owner of the Work Product and may, without notice to or permission from Consultant, provide copies of the Work Product as necessary in the course of normal and customary property due diligence, and assign its interest in the Work Product as appropriate to the final property disposition.

13. **Compliance with Laws.** Consultant shall comply with all laws, statutes, rules, regulations and ordinances that are applicable to the services provided.

14. **Independent Contractor.** Consultant is an independent contractor in the performance of the services to be provided under this Agreement and, except as otherwise provided in this Agreement, shall not be or hold itself out, as an agent or employee of the Umpqua. Consultant shall have control of and responsibility for its employees and its subcontractors engaged in the performance of this Agreement.

15. **Indemnity.** Consultant and Umpqua ("Indemnifying Party") agree to defend, indemnify and hold the other Party, its affiliates, and its and their directors, officers, employees, and agents (collectively, "Indemnified Party") harmless from and against any and all claims, liabilities, damages and costs, including without limitation, reasonable attorney's fees, arising out of or in any related, directly or indirectly, to the Indemnifying Party's breach of or failure to perform its duties and/or obligations under this Agreement. In this and all other respects, Consultant shall be fully responsible for the acts and omissions of its subcontractors (i.e., all acts and omissions of Consultant's subcontractors shall be imputed to Consultant).

16. **Severability.** If any part of this Agreement is adjudged as illegal, invalid or unenforceable, it shall be deemed modified in the manner that best advances the spirit of this Agreement.

17. **Attorney's Fees.** If any suit, dispute or action arises from or in connection with this Agreement is commenced, the prevailing party shall be entitled to recover all reasonable attorney fees, costs and expenses incurred, including, but not limited to, any at trial, on appeal, or in a bankruptcy proceeding.

18. **Force Majeure.** Any loss or damage or delays in, or failure of performance of either Party shall not constitute default or give rise to any claims for damages if and to the extent that such loss, damage, delay or failure is caused by occurrences beyond the reasonable control of the Party affected, and which, by the exercise of reasonable diligence, such Party is unable to prevent.

19. **Governing Law & Venue.** This Agreement is made under and shall be governed by and construed and enforced under the laws of the state of Oregon, without giving effect to Oregon's conflicts of laws principles. Any action, suit, or proceeding relating directly or indirectly to this Agreement shall be brought exclusively in the state or federal courts located in Multnomah county, Oregon, and the parties irrevocably submit to the exclusive jurisdiction of that court for any such action, suit or

proceeding, and hereby waive any right to contest such exclusive jurisdiction or change such venue on any grounds.

20. Successors & Assigns. This Agreement shall be binding on the Parties and their successors. Except as provided herein, neither Party may not assign this Agreement, in whole or in part, except upon the other Party's prior written consent.

21. Taxes. Consultant shall pay all applicable sales, use, gross receipts, net income or any labor or employment related taxes or other taxes levied by any taxing authorities on Consultant whose jurisdictions apply to Consultant. Consultant shall invoice Umpqua for sales and use taxes of the type required to be collected from purchasers under applicable law for the services and Consultant shall remit such taxes to the proper taxing authority. If Consultant fails to invoice, collect, remit, or otherwise pay the amount of any taxes required to be collected or paid by Umpqua, Consultant shall be responsible for and shall pay any interest, assessments, fines and penalties which may be assessed against Umpqua or Consultant for Consultant's failure to collect and timely remit or otherwise pay such taxes.

22. Records. Consultant will retain all information obtained or created in the course of performance under this Agreement in accordance with applicable law. Such records will be available for examination and audit by any governmental authority having jurisdiction over Umpqua's business or by Umpqua's internal or external auditors. Consultant will promptly notify Umpqua of any such requests by any governmental authority, if Consultant is permitted to make such a disclosure to Umpqua under applicable law. At Umpqua's request, Consultant shall provide documentation satisfactory to Umpqua of Consultant's internal controls and procedures that are required to ensure compliance with this Agreement and all applicable law. Consultant will reasonably cooperate with Umpqua's periodic risk assessments, if any, including providing physical security, information security, business continuity plan and financial stability information to Umpqua upon request.

23. Performance Threats. Consultant will promptly notify Umpqua in writing in the event of: (a) financial difficulty of Consultant or any of its Subcontractors that may materially impact Consultant's performance hereunder; (b) significant staffing reductions or changes in key staff that may affect Consultant's performance hereunder; (c) a decision by Consultant to outsource, relocate, sell or acquire significant operations or support associated with the services or any critical component of the environment used to provide services hereunder; (d) cessation of business or material adverse change in any business of any key subcontractor used by Consultant in its performance hereunder; (e) any unfavorable change to any credit rating assigned to Consultant by any major credit rating agency; (f) an announced intention or the actual filing for bankruptcy or insolvency law by Consultant or any key subcontractor used by Consultant in its performance hereunder; (g) a labor strike against Consultant or any key subcontractor used by Consultant in its performance hereunder; or the (h) closing of any operational site of Consultant or of any key subcontractor used by Consultant in its performance hereunder.

24. Miscellaneous. No provision of this Agreement, nor any breach thereof, may be waived, deleted, or modified, nor may any provisions be added, in any manner except pursuant to a writing signed by the Party against whom it is to be enforced. Absent such a signed waiver, no failure or delay in enforcing any right or remedy (including, but not limited to, any course of dealing or performance) shall preclude any exercise or further exercise of that or any other right or remedy. The provisions of this Agreement shall survive termination of this Agreement to as their terms may naturally dictate. The rule of interpreting ambiguities against the drafter shall not apply. Umpqua affiliates (i.e., entities directly or indirectly in control of, controlled by, or under common control with, Umpqua) may procure services from Consultant hereunder, in which case such affiliate shall also have all the rights and obligations of Umpqua hereunder with respect to the proposal accepted by such affiliate (i.e., this Agreement shall

govern with respect to the proposal as if the affiliate were Umpqua hereunder). Consultant represents and warrants that it has not and shall not in the future bestow any preferential benefits or treatment upon any Umpqua employee as an inducement to entering into this Agreement or otherwise in relation to this Agreement or in relation to any future proposal to be submitted with respect hereto.

25. Supplemental Terms and Conditions attached hereto and incorporated for reference.

In witness whereof, each of the Parties hereto has executed this Agreement effective as of the date written above.

Umpqua Bank

By: _____
Name: Michael S. Pereira
Title: Env. Risk Officer

Consultant: Terracon Consultants, Inc.

By: _____
Name: Eric D. Kunz
Title: Regional Manager / Sr. Principal

Umpqua Bank, ("Umpqua")
Terracon Consultants, Inc., ("Consultant")

Section 25
Supplemental Terms and Conditions

LIMITATION OF LIABILITY. Notwithstanding anything to the contrary in this Agreement, except for a Party's confidentiality obligations, and willful misconduct or gross negligence of a Party (liabiity for each of which is not limited), the aggregate liability of either Party for any breach or breaches of its obligations under this Agreement or for the negligent act or omisson of such Party or such Party's employees, subcontractors and agents shall be the greater of $500,000 or the Consultant's fee for the specific project proposal in dispute. EXCEPT FOR A PARTY'S CONFIDENTIALITY OBLIGATIONS, AND WILLFUL MISCONDUCT OR GROSS NEGLIGENCE OF A PARTY, IN NO EVENT SHALL EITHER PARTY BE LIABLE TO THE OTHER FOR INDIRECT, INCIDENTAL, CONSEQUENTIAL, SPECIAL OR PUNITIVE DAMAGES OF ANY KIND, EVEN IF ADVISED OF THE POTENTIAL FOR ACCRUAL OF SUCH DAMAGES.

Warranty. Except for the standard of care previously stated, Consultant makes no warranties or guarantees, express or implied, relating to Consultant's services and Consultant disclaims any implied warranties or warranties imposed by law, including warranties of merchantability and fitness for a particular purpose.

Safety. Consultant will be responsible for supervision and site safety measures for its own employees, but shall not be responsible for the supervision or health and safety precautions for any third parties, including Umpqua's contractors, subcontractors, or other parties present at the site.

APPENDIX F – ACCESS AGREEMENT

Terracon

Reference Number: P81187331

ACCESS AGREEMENT

DEFINITIONS

The property to which access is granted is: Property ("Property").

The legal owner(s) of the Property or person/entity with legal authority to grant access to the Property is: Diana Martin ("Grantor").

The services to be conducted on the Property are generally described as follows: Service ("Services").

The entity granted access for the purposes of performing the Services is Terracon Consultants, Inc., which shall include its employees, agents, and subcontractors ("Grantee").

The Services are performed for the benefit of Umpqua Bank ("Client"), pursuant to the Agreement for Services between Terracon Consultants, Inc. and Client, date and reference number 08/17/2018 P81187331.

AGREEMENTS

By its signature below, Grantor represents it has authority to, and does, grant access to the Property to Grantee for the purpose of performing the Services. Grantor agrees that:

- Grantee may drill exploration borings on the Property, using drill rigs, trucks and other equipment, recover and collect soil, water, and other samples, and perform other actions related to the exploration of surface or subsurface conditions on the Property, as necessary to perform the Services.
- Grantee may use large truck or track-mounted equipment in the performance of the Services, which is normal and customary in the performance of these kinds of Services, and that this equipment may leave depressions, wheel tracks, ruts or other marks in the ground surface.
- Grantor will not interfere with any of the activities of Grantee or undertake any actions regarding the use of Property that would endanger the health, safety, or welfare of the Grantee employees, agents, or subcontractors, or damage their equipment, materials, or property.

By its signature below, Grantee agrees:

- That upon completion of Services and activities authorized by this Access Agreement, Grantee will remove all material and equipment utilized by Grantee from the Property, with the exception of ground markers that may be placed on the premises to designate sampling areas,
- Grantee will remove boring spoils that accumulate around the bore holes, or, where allowable, spread the spoils across the area, if acceptable to Grantor.
- Grantee will make reasonable efforts to restore the property and leave it in a condition suitable for its previous use. Landscaping restoration, including seeding or sodding, will not be performed.

The Services and field activities authorized under this Access Agreement may begin after signature of Grantor. Access is granted until Services are completed, which should not exceed 30 days following commencement of Services, except for period of access necessary for monitoring equipment, if applicable, after which time all rights of access given by Grantor shall cease.

SIGNATURES

Grantee:	**Terracon Consultants, Inc.**		Grantor:	**Diana Martin**	
By:	Kyle S. Bennett	Date: **8/7/2018**	By:	Diana Martin	Date: 8/7/18
Name/Title:	**Kyle S. Bennett / Environmental Technician II**		Name/Title:	**Site Access/Contact**	
Address:	**21905 64th Ave W, Ste 100**		Address:	**3812 28th Place Northeast**	
	Mountlake Terrace, WA 98043-2251				
Phone:	**(425) 771-3304**	Fax: **(425) 771-3549**	Phone:	**(253) 258-5844**	Fax:
Email:	**Kyle.Bennett@terracon.com**		Email:	**dianamartin@busetimber.com**	

Appendix L: Resumes

John Foxwell, RG, LHg

PHASE I AND II ENVIRONMENTAL SITE ASSESSMENT/LIMITED INVESTIGATION TASK MANAGER

Mr. Foxwell is a Principal Hydrogeologist with greater than 25 years of experience completing due diligence for property redevelopment, site investigation, remedial actions, sediment assessment, and dredging permitting and planning. John has completed Phase I/II environmental site assessments (ESAs) at a range of industrial facilities, public works facilities, former auto centers, redevelopment sites, retail commercial centers, warehouse and distribution facilities, health care facilities, energy facilities, airports, and port facilities.

Project Experience

Environmental Due-Diligence - Puget Sound and Western Washington
John leads Apex's due-diligence team in Washington. In the last three years, this team has completed Phase I ESAs at dozens of commercial and industrial facilities including former auto centers, redevelopment sites, retail commercial centers, warehouse and distribution facilities, and health care facilities. These projects frequently require Phase II ESA involving soil, groundwater, and soil vapor sampling. Apex has a strong track record of delivering these comprehensive due-diligence projects within the accelerated schedules required by purchase and sale agreements.

RI/FS and Remedial Action • Former Dry Cleaner • Bellevue, WA
An active release from an operating dry cleaner was identified during due-diligence at this retail center. Follow-up assessment identified significant releases that have impacted soil, groundwater, and indoor air concentrations with tetrachloroethylene (PCE) and trichloroethylene (TCE) at concentrations that were well above health-based screening levels. Based on the TCE data, interim corrective actions consisting of building pressurization and sub-slab depressurization were implemented with a similar mitigation framework used by California Department of Toxic Substances Control (DTSC). After just a few weeks of operation, PCE and TCE concentrations were below health-based screening levels for short and long-term exposure. Apex subsequently completed a multi-media site investigation that included chemical analysis in soil, groundwater, soil vapor and ambient air, as well as MiHPT assessment to delineate the source area. A groundwater monitoring well network was installed to monitor multiple aquifer zones. An IRAM consisting of soil excavation (facilitated by auger-cast pile shoring) and soil vapor extraction was completed to remediate source soils (excavation component), as well as treat residual soil and further control vapors (SVE). The final remedy includes SVE and monitored natural attenuation. After little more than two years, the system has nearly achieved compliance with the cleanup goals.

Former Sears Auto Center Due-Diligence and Remediation, Redmond, WA
Project Manager

Apex has completed property Phase I and Phase II ESAs, remedial cost estimating, remedial design, and remediation construction at this auto center where Apex is constructing a remediation system to treat an approximately 35,000-square-foot area of petroleum-contaminated soil and groundwater. Phase II ESA included soil, groundwater, and soil vapor sampling to assess the extent of contamination related to a former UST system. Based on the results of the site characterization, Apex designed, permitted and constructed a dual-phase

extraction system to remediation contaminated soil and groundwater. Final permit approvals are pending, and the system should begin operation in second quarter 2021.

Former Blue Heron Mill Due-Diligence• Falls Legacy • Oregon City, OR
Project Manager

The former Blue Heron Paper Mill in Oregon City is an approximately 23-acre former paper mill located on the Willamette River at Willamette Falls. The recent owner of the former mill purchased the property out of foreclosure, and later retained Apex to complete comprehensive due-diligence including Phase I and II ESA, asbestos survey, and remedial cost estimating in order to market the property. The former Blue Heron Paper Mill has a rich history of mill uses dating back to the late 1800s. The former mill had complex workings for pulping and paper making, and associated power generating equipment. A key site feature are three tailraces that were initially used for power generation and later converted for stormwater management purposes. Several Recognized Environmental Conditions (RECs) associated with former operations at the mill were identified. Apex designed a Phase II ESA that included soil sampling near former underground storage tank (UST), above ground storage tank (AST), and drywell areas, and sediment sampling within the former tailraces. Remediation estimates were prepared using the results of the Phase II ESA and asbestos survey. These work products were provided to the different interested parties and ultimately helped facilitate the sale of the property.

New Facility Due-Diligence • CalPortland • OR and WA
Project Manager

Worked with CalPortland to complete all of their Phase I ESAs for new properties in Oregon and southwest Washington for over 15 years. This includes facilities in Boring, Canby, Clackamas, Estacada, Newberg, Portland, Scappoose, Vancouver, and Kelso. Due-diligence for each facility consisted of an AAI-compliant Phase I ESA and often follow-up Phase II ESA. The Phase I ESAs evaluated whether RECs were present and, when needed, cleanup estimates were prepared. Project work with Glacier also includes an on-call engineering contract for performing minor engineering services, stormwater-related consulting for several facilities, and dredging project permitting and support.

Portland Road and Driveway Acquisition • CalPortland • Portland, OR
Project Manager

Managed the due diligence (Phase I and Phase II ESAs) for the acquisition of this 4.5-acre property comprised of a reclaimed former gravel pit. The site is located adjacent to one of Glacier Northwest's (now CalPortland) active concrete batch plants, making the site very desirable for expansion of Glacier's operations. During reclamation, the site received low concentration contaminated fills containing polycyclic aromatic hydrocarbons (PAHs) from a cleanup site in Portland, which were to be managed in accordance with Department of Environmental Quality (DEQ) solid waste permit requirements (e.g., placement above water table, below surface soil) and documented. In the absence of placement documentation, Glacier completed a Phase II ESA which ultimately concluded that the fill was not placed in accordance with DEQ solid waste requirements. Apex demonstrated that while the fills were

not placed in accordance with DEQ requirements, the resulting human health risks were acceptable. The Phase II ESA was sufficient for DEQ to provide an unconditional No Further Action (NFA) letter from DEQ for the site and purchased the property.

Brownfields Recycling Program • Metro • OR
Project Manager

Managed and/or served as the Quality Control manager for two of Metro's Brownfield Assessment Grants. In this role, he worked closely with Metro to support their outreach efforts, both to individual property owners and through developing a technical workshop. He provided senior management of all aspects of the consultant services project, including Phase I and Phase II assessment, risk-based decision making, presentation to Metro's Brownfield Task Force, contractor procurement, grant eligibility determinations, and project administration and communications.

Dredge Material Characterization and Dredging Support, Portland, Oregon

Mr. Foxwell managed the dredge material characterization services for a dredging project on the west bank of the Willamette River, (mile RM 7.9). This included dredge material characterization, water quality monitoring during dredging, bathymetric services, and confirmation sampling. Apex recorded bathymetry with a single beam sonar to ensure that a -13 feet CRD dredge depth was not exceeded (Portland Harbor sediments are located at this depth). Apex completed turbidity monitoring in accordance with the terms of both the 401 Water Quality Certificate (401 WQC), as well as the National Marine Fisheries Service Endangered Species Act Biological and Conference Opinion (ESA BiOp). Material was drained on a barge and taken to CalPortland's facility in Scappoose where it was placed under a DEQ solid waste program Beneficial Use Determination (BUD).

Education

- MS, Environmental Science and Engineering, Oregon Graduate Institute (1996)
- BS, Environmental Studies and Geology, St. Lawrence University (1991)

Professional Registrations/Certification/Training

- Registered Geologist, Oregon No. G1791
- Licensed Geologist and Hydrogeologist, Washington No. 1778
- 40-Hour OSHA HAZWOPER Safety Training; 8-Hour Safety Training Refresher

Jie Xu, P.E.
Environmental Project Manager

Ms. Jie Xu has over six years of experience in the environmental consulting industry, including conducting environmental site assessments (ESAs), executing site investigation and remediation, preparing SPCC and SWPPP, and obtaining regulatory permitting accociated with industrial and non-industrial sites. Ms. Xu's management expertise involves professional oversight of various field activities, such as drilling oversight, soil, soil vapor and groundwater remediation, and project coordination. Ms. Xu also supports technical reporting for a variety of environmental compliance projects, regulatory permitting, and site remediation initiatives.

EDUCATION

MS, Environmental Science | Ohio State University, 2013
BS, Environmental Engineering | Ocean University of China, 2009

PROFESSIONAL REGISTRATIONS

- 40-Hour HAZWOPER with Annual 8-Hour Refresher
- Licensed Professional Engineer, Texas (#128197), Washington (#55896) and Oregon (#93852)
- First Aid and CPR training

PROFESSIONAL AFFILIATIONS

- Board Member, Northwest Association of Environmental Professionals (NWAEP)
- Member, Northwest Environmental Business Council (NEBC)

PROJECT EXPERIENCE

Retail Center Property Due-Diligence and Remediation
Seattle, Washington

- Management of the assessment and remediation of several ongoing dry-cleaner remediation sites in the Seattle area. Management of these sites included: Phase II ESA soil and groundwater investigations, interior soil vapor sampling in active retail shops, Soil Vapor Extraction (SVE) and Sub-slab Depressurization System (SSDS) design, general implementation and monitoring, feasibility studies, and multiple interim actions. The releases were largely related to an active dry-cleaner where releases to soil resulted in interior air concentrations with PCE and TCE well above health-based screening levels. Interim corrective actions consisted of building pressurization and sub-slab depressurization consistent with California DTSC TCE mitigation framework, as well as soil excavation. After only a few weeks of operation, PCE and TCE concentrations were below health-based screening levels for short and long term exposure.

Due Diligence and Engineering Services (Phase I and Phase II ESAs)
Washington

- Managed due diligence for multiple properties under acquisition consideration by clients including Bridgestone Retail Operations, LLC, Simon Property Group, Duke Realty, AHP Acquisitions, LLC, and others. The due diligence consisted of AAI-compliant Phase I ESAs and follow-up Phase II ESAs. The Phase I ESAs evaluated whether Recognized Environmental Conditions (RECs) were present; when necessary, cleanup estimates were provided. The Phase II ESAs consisted of

soil, soil vapor, and groundwater investigations as needed. Engineering Services included engineering permitting services and stormwater-related consulting.

Environmental Assessment and Remediation Design, Removal of Metals, TPH and TCE-impacted soils from a Former Tile Manufacturing Site
Houston, Texas

- Executed the investigation and remediation of the release of hazardous waste or petroleum products into soil or groundwater. Managed the drilling, construction, and development of five monitoring wells (up to 30 feet bgs) to assist in the delineation of COCs in groundwater and soil. Determined the Protective Concentration Level Exceedance (PCLE) zones vertically and horizontally to define the limits of excavation; approximately 17,000 cubic yards of soil were excavated from the site and replaced with clean fill material. Assisted in the preparation of an Affected Property Assessment Report (APAR). Evaluated soil data to support the preparation of a Response Action Completion Report (RACR). Completed the evaluation of groundwater data and prepared a Municipal Setting Designation (MSD) application for submission to the City of Houston.

Groundwater Monitoring and Remediation, Groundwater affected by Volatile Organic Constituents at an Oilfield facility
Odessa, Texas

- Coordinated with groundwater quarterly sampling and management of actions taken on non-aqueous phase liquid (NAPL) system at the facility. Coordinated groundwater quarterly sampling and managed non-aqueous phase liquid (NAPL) remediation at the facility. Performed data usability summaries, developed potentionmetric surface maps and produced COC concentration maps. Data evaluation of concentration trends for the NAPL recovery system. Assisted in the selection of Monitored Natural Attenuation (MNA), as a remedy option, in conjunction with NAPL recovery for TCEQ submittal.

Oilfield Services | Confidential Client
Texas, Missouri, Louisiana, Illinois, Georgia, and Florida

- Performed Phase I Environmental Site Assessment (ESA) for eighteen commercial/industrial sites in Texas, Missouri, Louisiana, Illinois, Georgia, and Florida.
- Performed Environmental Phase II site assessments for twelve commercial/industrial sites in Texas, Oklahoma, and Missouri. The Phase II ESAs included site investigation activities (monitoring well installation, development and sampling, soil boring installation and sampling, and gas monitoring), subcontractor coordination and oversight, and data analysis to confirm the presence of hazardous materials.
- Developed Spill, Prevention, Control, and Countermeasures (SPCC) plans and Storm Water Pollution Prevention Plans (SWPPP) for various oilfield service facilities in Texas, Oklahoma, and Mississippi.

Assessment of the Potential Impacts of Hydraulic Fracturing for Oil and Gas on Drinking Water Resources
Pennsylvania

- Assisted in the construction of generic discharge scenarios from commercial wastewater treatment plants in western Pennsylvania. Flows in a river and creek were chosen for simulation, and treatment plant effluents were set at full, one-half, and one-tenth of the permitted value. Reduction in the effluent discharge reduced downstream impacts proportionally. Steady-state simulations resulted in reduced downstream concentrations in proportion to the reduction in discharge. Transient simulation showed that reduced mass loading from pulse inputs reduced the

average downstream concentration by factors that approximated the reduction in loading duration.

Aquifer Vulnerability Assessment by a Modified DRASTIC Model
Oklahoma

- Developed the modified DRASTIC model in Geographical Information System (GIS) by combining the DRASTIC model with various well densities. This new index incorporates the environmental factors of DRASTIC with the human factors of domestic water well use and oil and gas development. The comparison of these maps shows the spatial distribution of these quantities over Oklahoma. The modified index can assist in the implementation of aquifer protection, and can be used as a screening tool for water-supply developers, county planning agencies and residents to adequately assess the siting of wells. Protective measures can be focused on locations with a high density of sources and receptors, especially when located in environmentally vulnerable areas.

PRESENTATIONS AND PUBLICATIONS

- Weaver, James W., J. Xu and Mravik, SC. 2015. Scenario analysis of the impact on drinking water intakes from bromide in the discharge of treated oil and gas wastewater. Journal of Environmental Engineering. 10.1061/(ASCE)EE.1943-7870.0000968 , 04015050.

- Contributor: Xu, J., 2015. Assessment of the Potential Impacts of Hydraulic Fracturing for Oil and Gas on Drinking Water Resources. U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-15/047.

- Xu, J. and James W. Weaver. 2014. Aquifer vulnerability model based on the DRASTIC index and Density of Contaminant Sources and Receptors. Oklahoma Governor's Water Conference and Research Symposium.

- Xu, J., K. Mancl and O. Tuovinen. 2014. Using a hydroponic system with tall fescue to remove nitrogen and phosphorus from renovated turkey processing wastewater. Applied Engineering in Agriculture, 30(3): 435-441.

- Xu, J., 2013. Using Tall Fescue to Remove Nutrients from Renovated Turkey Processing Wastewater. MA thesis, The Ohio State University.

- Coauthor: Xu J., 2010. Analysis of Microbial Community Structure in Denitrification Process of an Anion Exchange Membrane Bioreactor by PCR-DGGE. Periodical of Ocean University of China, 40(4), 79-84.

Matthew K. Otto
NATIONAL PROGRAM MANAGER

Education

BA, Biology
Augustana College

MBA, International Business
Mercer University

Professional Registrations Certifications & Training

ASTM Phase II Environmental Site Assessment Process Seminar

ASTM Vapor Encroachment Screen Seminar and Certification

Affiliations

Urban Land Institute (ULI) Chicago Chapter

Mr. Otto has 20+ years of experience managing and directing thousands of environmental assessments, engineering studies, and remedial actions at sites across the United States. His expertise spans due diligence Phase I Environmental Site Assessments (ESAs), risk assessment, regulatory closure, complex remediation during site redevelopment, and environmental strategy. A list of representative projects is provided below including 10 state and/or federally funded Brownfield assessment/remediation projects.

Currently, Mr. Otto manages Apex's relationships with real estate investment trusts (REITs), retail chains, multi-family residential, industrial, and legal clients, performing due diligence, site investigation, remediation, industrial hygiene, and stormwater.

His business education includes a tailored course of study that focused on the effects of the Environmental Protection Agency's (EPA) All Appropriate Inquiries (AAI) Rule on existing CERCLA case law. This involved applying traditional business metrics to environmental project evaluation and estimating environmental liabilities in real estate transactions.

General Experience

2012–Present	**Apex Companies, LLC** Advanced from Division Manager, Illinois to National Program Manager
2000–2012	**Terracon Consultants, Inc.** Advanced from Staff Scientist to Manager, Chicago Operations
1996–2000	**Hygienetics Environmental Services, Inc.** Project Scientist

Project Experience

Phase I ESAs for National Clients

Personally performed over 500 ESAs in over 30 states. These ESAs have included detailed site investigation, sampling for asbestos, lead in water and paint, client interface, historical research, and report preparation. Currently oversee hundreds of assessments nationwide annually. Projects include:

- Renaissance Hotel, Chicago, Illinois
- 333 West Wacker Drive, Chicago, Illlinois
- Former Bulk Oil Facility, Edgewater, New Jersey
- Bollman Hat Factory, Adamstown, Pennsylvania
- 1401 Brickell Tower, Miami, Florida
- Former Matsushita Facility, Mooresville, North Carolina
- 488 Madison Avenue, New York, New York
- Mono-Sol Manufacturing, Gary, Indiana

- Old Orchard Shopping Mall, Skokie, Illinois
- Former Riddell Manufacturing Facility, Chicago, Illinois
- Former Bridgestone Manufacturing/Retail Facility, Chicago, Illinois
- Civic Opera House, Chicago, Illinois
- Water Tower Place Shopping Center, Chicago, Illinois
- Former Benjamin Moore Paint Factory, Melrose Park, Illinois
- Equitable Office Buildings, Chicago, Illinois and St. Louis, Missouri

Complex ESAs

Manage complex ESA projects throughout the City of Chicago with a representative list of those projects highlighted below. The 150+ year history of these parcels included extensive use of hazardous chemicals/petroleum products, Resource Conservation and Recovery Act (RCRA) issues, CERCLA/Superfund sites, Underground Storage Tanks (USTs), drums, and illegal dumping.

- **Lake Calumet Parcels:** Led a project team that conducted four ESAs on a 600-acre former industrial property prior to acquisition by the Chicago Park District.
- **Bubbly Creek:** Led a project team that conducted an ESA on a 1.25 mile long section of the South Branch of the Chicago River with heavily industrialized parcels including manufacturing, foundries, and a manufactured gas plant (MGP) site. The assessed area included approximately 80 distinct parcels and was performed for the City of Chicago and utilized US Army Corps of Engineers funds.
- **Kimball Park:** Led a project team that conducted three ESAs on a former manufacturing property and adjoining railroad parcels. Environmental issues included historic manufacturing operations and documented chlorinated solvent contamination. Work conducted under a Federal Brownfield Grant.

Environmental Site Assessment Portfolios

Provided client interface, report collection from the regional offices, quality control of reports, summary of environmental issues, and final report preparation. Representative portfolios included:

- 78 retail petroleum stations
- 37 retail petroleum stations
- 57 tractor trailer repair and tire service facilities in 15 states
- Numerous portfolios for large financial institutions
- 27 golf courses in nine states
- 10 pre-foreclosure sites in metro Chicago area
- 20 sites in Michigan and 10 sites in Illinois for the Federal Deposit Insurance Corporation (FDIC)
- Nine truck sales/repair facilities in the metro Chicago area

Pre-Acquisition Analysis for Project Paul • Confidential Retail Client

At the request of a long-term client, conducted a fast track analysis of a potential acquisition that operated approximately 700 retail locations in 30 states and Puerto Rico. Along with the client's counsel, designed an alternative scope that included selected site reconnaissance using a mobile application and coordinated a high-level review of database listings. In less than three weeks, completed project and documented the design metrics used to evaluate portfolio risk and an estimate of potential liabilities in a comprehensive report.

Matthew K. Otto
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APEX

Disposition Portfolio • Confidential REIT
Apex performed approximately 100 Phase I ESAs over the course of a two year period to assist a publicly traded office REIT. Performed due diligence which provided perspective purchasers as well as the client with actionable intelligence on environmental issues. Reports detailed specific knowledge regarding the cost and level of effort required to address documented issues. Apex also provided scope, cost, and timeline options for remedial alternatives so the client could accurately and efficiently analyze proposed cost reductions requested by prospective purchasers.

Soldier Field/Chicago Park District Headquarters • Chicago
Performed a Phase I ESA, asbestos survey, and limited Phase II sampling for the 75-year-old Soldier Field sports stadium and adjacent four story 200,000 SF office structure. This project satisfied the environmental due diligence in preparation for the massive reconfiguration of this sports stadium.

Brownfield Experience

Participated in EPA Region 5 Brownfield Grant Administration including one project with three separate remediation grants. In addition, facilitated a site assessment grant, completed an Analysis of Brownfield Cleanup Alternatives (ABCA), prepared a Quality Assurance Project Plan (QAPP) and Sampling and Analysis Plans (SAPs), compiled Quarterly Progress Reports, prepared and implemented a Community Outreach/Public Relations Plan, provided Assessment, Cleanup, and Redevelopment Exchange System (ACRES) reporting and provided Illinois EPA Revolving Loan Fund administration and reporting with project budgets of up to $750,000.

Redevelopment Projects

McCormick Place Event Center and Hotel
Led a multi-disciplined team that performed site assessment, investigation, and remediation of two city blocks (3.5 acres) of a former industrial property that is being redeveloped into a 10,000-seat event center and 50+ story hotel complex. Known issues include chlorinated solvents, USTs, fill material, hazardous soils, and asbestos. Project duties included analyzing the efficacy of various remedial technologies and the cost implications of the various methods using an Expected Value (EV) model. This high-profile, fast-track project was complicated by the presence of several designated historic buildings. Assessment and remediation are being routed thought the IEPA SRP with regulatory closure expected in late 2017.

Whitney Young Public Library
Led a project team that assessed this existing library facility and adjoining former retail properties including a dry cleaner. The team evaluated several remedial technologies/costs and ultimately designed a remedial scope of work utilizing in-situ chemical oxidation (ISCO) to assess chlorinated solvent impact to soil and groundwater. Assisted the client in their pursuit of IEPA Brownfield Revolving Loan Fund (RLF) and EPA Brownfield Grant funding opportunities.

Brighton Park I Elementary School
Managed a project team that conducted focused and supplemental site investigation work consisting of soil sampling for a range of known contaminants in accordance with the IEPA SRP. This former manufacturing/vehicle repair facility was redeveloped into an elementary school. Known RECs included USTs as well as polynuclear aromatic (PNA) and metal impacted soils. Site investigation activities also included ground-penetrating radar (GPR), soil and groundwater sampling, test trenching, and asbestos-containing material (ACM) surveys. The project successfully received two No Further Remediation (NFR) letters from IEPA.

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APEX

The Madison at Racine

Apex performed Phase II ESA, asbestos testing, remediation cost estimation, Clean Construction Demolition Debris (CCDD) profiling (35 IAC 1100) as well as remediation oversight for 1200 Madison Racine, LLC in support of their acquisition of 1.1 acres of underutilized land. Past uses included a city of Chicago fleet garage, manufacturing, automobile storage, and a restaurant building. The desired reuse of the site was a mid-rise, multi-family residential development. Regulatory closure was received in 2014.

Publications

City of Chicago Redevelopment Initiatives: Motor Row Study, *Renewal and Redevelopment,* September 2015.