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REMEDIAL ACTION REPORT

FORMER CHUCK OLSON CHEVROLET FACILITY

17545 AURORA AVENUE NORTH
SHORELINE, WASHINGTON

PREPARED FOR:
CHUCK OLSON CHEVROLET

AESI PROJECT No. BV97011
APRIL 26, 1999

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TABLE OF CONTENTS

1.0 INTRODUCTION.....	1
1.1 SITE DESCRIPTION.....	1
1.2 SUMMARY OF INVESTIGATION AND REMEDIATION ACTIVITIES.....	2
2.0 EQUIPMENT DECOMMISSIONING	4
2.1 HYDRAULIC CYLINDER REMOVAL AND VAULT DEMOLITION	4
3.0 SOIL EXCAVATION AND CONFIRMATION SAMPLING	5
3.1 SOIL EXCAVATION.....	5
3.2 SOIL CONFIRMATION SAMPLING.....	5
3.3 DISCUSSION OF CONFIRMATION SOIL SAMPLE RESULTS	6
3.4 ASSESSMENT OF SITE-SPECIFIC TPH CLEANUP LEVEL FOR SOIL.....	7
4.0 MANAGEMENT OF TPH-IMPACTED SOIL	9
5.0 SITE RESTORATION.....	10
6.0 SUMMARY AND CONCLUSIONS	11
7.0 LIMITATIONS	12

FIGURES

Figure 1 - Site Vicinity Map

Figure 2a - Site Plan

Figure 2b - Site Plan

Figure 3a - Excavated Areas and Confirmation Soil Sample Locations

Figure 3b - Excavated Areas and Confirmation Soil Sample Locations

Figure 4 - Estimated Lateral Extent of TPH-Impacted Soil >7,000 mg/kg

Figure 5 - Estimated Vertical Extent of TPH-Impacted Soil >7,000 mg/kg

TABLES

Table 1 - Summary of Confirmation Sample Results for TPH - Bay #1 Remedial Excavation

Table 2 - Summary of Confirmation Sample Results for TPH - Bay #2 Remedial Excavation

Table 3 - Summary of Confirmation Sample Results for TPH - Bay #4 Remedial Excavation

Table 4 - Summary of Confirmation Sample Results for TPH - Bay #5 Remedial Excavation

Table 5 - Summary of Confirmation Sample Results for TPH - Bay #6 Remedial Excavation

Table 6 - Summary of Confirmation Sample Results for TPH - Bay #7 Remedial Excavation

Table 7 - Summary of Confirmation Sample Results for TPH - Bay #8 Remedial Excavation

Table 8 - Summary of Confirmation Sample Results for TPH - Bay #9 Remedial Excavation

Table 9 - Summary of Confirmation Sample Results for TPH - Bay #12 Remedial
Excavation

Table 10 - Summary of Confirmation Sample Results - Volatile Organic Compounds

Table 11 - Calculations Using the Interim TPH Policy - Sample BAY1NSW

Table 12 - Calculations Using the Interim TPH Policy - Sample BAY5SSW

Table 13 - Calculations Using the Interim TPH Policy - Sample BAY6NSW

Table 14 - Calculations Using the Interim TPH Policy - Sample BAY8SSW2

Table 15 - Calculations Using the Interim TPH Policy - Sample BAY12SSW3

Table 16 - Calculations Using the Interim TPH Policy - Sample BAY12NSW4

Table 17 - Calculations Using the Interim TPH Policy - Sample EB-15-7.5-9.5

Table 18 - Calculations Using the Interim TPH Policy - Sample EB-24-7.5-9.5

Table 19 - Residential Scenario Maximum TPH Calculation - Sample BAY1NSW

Table 20 - Residential Scenario Maximum TPH Calculation - Sample BAY5SSW

Table 21 - Residential Scenario Maximum TPH Calculation - Sample BAY6NSW

Table 22 - Residential Scenario Maximum TPH Calculation - Sample BAY8SSW2

Table 23 - Residential Scenario Maximum TPH Calculation - Sample BAY12SSW3

Table 24 - Residential Scenario Maximum TPH Calculation - Sample BAY12NSW4

Table 25 - Residential Scenario Maximum TPH Calculation - Sample EB-15-7.5-9.5

Table 26 - Residential Scenario Maximum TPH Calculation - Sample EB-24-7.5-9.5

Table 27 - Summary of Hazard Quotients and Calculated Maximum Allowable TPH
Soil Concentrations - Soil Boring and Post-Excavation Confirmation Samples

APPENDICES

APPENDIX A - Laboratory-Reported Analytical Testing Results

APPENDIX B - Disposal and Soil Treatment Documentation

APPENDIX C - Site Excavation and Backfilling Documentation - City of Shoreline

1.0 INTRODUCTION

This report presents the results of soil remediation activities conducted at the former Chuck Olson Chevrolet facility site (the Site) located in Shoreline, Washington. Soil remediation activities were conducted by West Pac Environmental, Inc. (West Pac), with oversight by Associated Earth Sciences, Inc. (AESI) of Bainbridge Island, Washington. The Site location is shown on Figure 1.

Remedial activities included:

- Decommissioning and removing nine vaulted hydraulic lifts and nine "satellite" hydraulic cylinders;
- Disposing vault and hydraulic cylinder contents and recycling the scrap metal;
- Excavating and treating hydrocarbon-impacted soil from the hydraulic vault areas; and
- Collecting confirmation soil samples from each excavation for laboratory analyses.

This project was conducted in accordance with the Model Toxics Control Act (MTCA), Washington Administrative Code (WAC) chapter 173-340-450, and in general accordance with Washington State Department of Ecology's *Guidance for Site Checks and Site Assessments for Underground Storage Tanks*, revised October 1992, and the *Interim Interpretive and Policy Statement, Cleanup of Total Petroleum Hydrocarbons*, Ecology Publication ECY-97-600, published January 1997.

1.1 Site Description

The Site is located at 17545 Aurora Avenue North in the city of Shoreline, Washington. A site vicinity map is presented as Figure 1, and a site plan is presented as Figures 2a and 2b. The remediation area is located within the auto service shop, which occupies the southern portion of the facility complex. The immediate area around the Site includes commercial businesses and parking/auto sales lots. Land use in the Site vicinity is primarily high density commercial and light industrial.

The Site is located at the crest of a north-south trending topographic ridge that is underlain by Quaternary glacial and inter-glacial sediments. Subsurface soils encountered at the Site consisted of several feet of medium dense, moist, silty sandy gravels (fill and weathered glacial lodgement till) overlying gray, very dense, dry to moist, silty sandy gravels (glacial

lodgement till) deposited beneath glacial ice. Regionally, this uppermost till unit is known as the Vashon Till. The thickness of the Vashon Till generally varies from a few feet to as much as 40 feet thick.

Geologic information from nearby water supply wells and deep environmental soil borings indicates that Quaternary sediments beneath the Vashon Till generally consist of less consolidated sandy deposits laid down by pro-glacial meltwater streams as the Vashon ice sheet advanced south through the area. Regionally, the uppermost portion of these advance outwash deposits underlying the Vashon Till is known as the "Esperance Sand". The uppermost perennial unconfined aquifer is generally found in these "advance outwash" deposits.

Ground water was not encountered during site exploration or excavation activities. A review of available water well logs for the Site vicinity indicates that the uppermost perennial aquifer beneath the Site likely occurs within the advance outwash at a depth of over 150 feet below ground surface (bgs). Additional information of ground water in the Site area is available in the *Ground Water Occurrence Report in the Vicinity of the Former Chuck Olson Facility*, by AESI dated April 26, 1999.

The closest surface water body to the Site is a small wetland known as Ronald Bog, located approximately 3,000 to the east-southeast. Hidden Lake is located approximately 1 mile southwest of the Site.

1.2 Summary of Investigation and Remediation Activities

Two phases of site investigation activities were conducted at the Site prior to the initiation of remedial activities. Figures 2a and 2b are site plans that include the locations of all pre-remediation soil borings. The initial phase consisted of Geoprobe soil borings (IB-series borings) installed at the Site in April and May of 1997. This work was conducted to evaluate potential environmental impacts at the Site from past site activities. During this initial exploration phase, soil impacted with total petroleum hydrocarbons (TPH) and volatile organic compounds (VOCs) was noted around the hydraulic cylinder equipment vaults in the main service shop area. A second phase of hollow-stem auger soil borings (EB-series borings) was conducted in October 1998. The primary purpose of this second exploratory phase was to further define the extent of TPH-impacted soils around the hydraulic vaults, and to evaluate site-specific TPH cleanup standards.

The remediation phase of work began on December 14, 1998 and concluded on January 20, 1999. Pre-remediation excavation site work included decommissioning all existing hydraulic equipment, and then rinsing, cleaning and demolishing the hydraulic equipment vaults.

The concrete floor slab above areas where impacted soil was present was also removed at this time.

Soil remediation was accomplished by excavation and subsequent off-site treatment by thermal desorption. A total of 1,213 tons of impacted soil was excavated from nine of the former hydraulic equipment vault areas. The soil was loaded directly into trucks and transported to CSR Associated in Everett, Washington for thermal desorption. Excavation of impacted soil was limited in some areas by the maximum practical depth of excavation, and/or the proximity of the excavation to structural members of the building such as footings or load-bearing walls. No saturated soil or ground water was encountered during excavation activities.

A total of 81 confirmation soil samples were collected from the floor (bottom) and sidewalls of the remedial excavation and submitted for laboratory analysis. The confirmation sample results indicate that excavation was effective at removing the majority of TPH-impacted soil, with TPH concentrations above the calculated site-specific cleanup level of 7,000 milligrams/kilogram (mg/kg). Three "pockets" of impacted soil with TPH concentrations above the site-specific cleanup level remain in areas where additional excavation was impractical. The estimated cumulative volume of remaining impacted soil with TPH concentrations above 7,000 mg/kg is 195 cubic yards.

Based on the maximum vertical extent of TPH impacts noted at the Site, the minimum vertical separation between TPH-impacted soil and ground water at the Site is in excess of 100 feet.

2.0 EQUIPMENT DECOMMISSIONING

2.1 Hydraulic Cylinder Removal and Vault Demolition

Decommissioning of hydraulic cylinders and associated vaults was performed by West Pac in December 1998. The locations of the former hydraulic cylinders and vaults are shown on Figures 2a and 2b. The hydraulic cylinder vaults were approximately 8 feet deep, with cinderblock walls and poured concrete floor slabs.

Initially, all hydraulic cylinders were removed, drained of free hydraulic oil, and then transported off site for metal recycling. A sample of accumulated oil and sludge in the vaults was collected for disposal permitting. This sample was analyzed by Friedman & Bruya, Inc. of Seattle, Washington for VOCs and polychlorinated biphenyls (PCBs). No VOCs or PCBs were detected in this sample. Sample results are included in Appendix A.

Accumulated oil and sludge was removed from the vaults using a vacuum truck, and then the vaults were cleaned with high-pressure water. The accumulated rinsate was pumped from the vaults using a vacuum truck. All oil and rinsate were transported to Emerald Petroleum in Seattle, Washington for treatment/recycling. The Emerald Petroleum disposal certificate is included in Appendix B.

After cleaning and rinsing, each concrete vault was demolished using a backhoe-mounted hydraulic breaker. Non-impacted concrete was transported off site for landfilling. Any concrete that appeared impacted (i.e., had visible staining or a hydrocarbon odor) was mixed with the impacted soil and subsequently treated by thermal desorption.

3.0 SOIL EXCAVATION AND CONFIRMATION SAMPLING

3.1 Soil Excavation

Between December 22, 1998 and January 20, 1999, West Pac excavated a total of 1,213 tons of TPH-impacted soil from the locations of the former hydraulic cylinder vaults. Excavation was accomplished using a Case 580K backhoe and Komatsu PC60 excavator. The extent of the excavated areas is shown on Figures 3a and 3b.

Excavation activities were directed by on-site AESI personnel. During excavation, periodic soil samples were collected by AESI and field-screened for TPH and VOCs using visual and sheen testing methods. In addition, soil samples were also screened for VOCs using a photoionization detector (PID) calibrated to isobutylene.

TPH-impacted soil was removed from each remedial excavation until either:

1. Field screening indicators were negative,
2. Residual TPH levels were inferred to be below the anticipated site-specific TPH cleanup level; or
3. Further excavation was precluded due to the depth of the excavation, or due to the proximity of the excavation to the building foundation or footings.

Excavated soil was trucked on a daily basis to the CSR Associated plant in Everett, Washington for treatment by thermal desorption. No long-term, on-site stockpiling of soil occurred during the excavation process.

3.2 Soil Confirmation Sampling

A total of 81 confirmation soil samples were collected from the floor and walls of the remedial excavations. The sample locations and corresponding TPH analytical results are shown on Figures 3a and 3b. The confirmation samples were collected directly from sampling locations using the trackhoe bucket. Samples were transferred from the trackhoe bucket to laboratory-supplied glass jars that were subsequently, sealed with Teflon-lined lids, labeled, and placed on ice in a cooler. Samples were shipped by courier to Friedman & Bruya Inc. in Seattle for analysis. Sample custody was maintained at all times and documented by chain-of-custody forms. Laboratory-reported analytical testing results and chain-of-custody forms are included in Appendix A.

All confirmation samples were analyzed for TPH by Ecology Method NWTPH-Dx (NWTPH-Dx). This method reports a single concentration for combined diesel and motor-

oil range hydrocarbons. The NWTPH-Dx results for all confirmation samples are summarized in Tables 1 through 9.

Nine selected confirmation samples were analyzed for VOCs by U.S. Environmental Protection Agency (EPA) Method 8260B. The results of the VOC analyses are summarized in Table 10.

Six selected confirmation samples were analyzed for volatile and extractable hydrocarbon fractions by Ecology Method EPH/VPH. Three of these samples were also analyzed for "target" polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8270 Modified. Results of the EPH/VPH and PAH analyses (including results of two samples collected during the October 1998 site investigation phase) are summarized in Tables 11 through 18.

3.3 Discussion of Confirmation Soil Sample Results

Figures 3a and 3b present plan views of the remedial excavation areas showing the locations and NWTPH-Dx concentrations for confirmation soil samples. The results for the confirmation samples are also documented in Tables 1 through 9. NWTPH-Dx concentrations in the confirmation samples ranged from non-detect (< 50 mg/kg) to 27,000 mg/kg. Significantly elevated residual NWTPH-Dx concentrations were generally present only in limited portions of the Bay #1, Bay #5, and Bay #12 excavation areas.

Nine confirmation samples with elevated residual NWTPH-Dx concentrations were also analyzed for VOCs, the results of which are summarized in Table 10. A total of seventeen individual VOC compounds were detected in these confirmation samples. Some of the detected VOC compounds are compounds normally found in TPH fractions (i.e., 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene). Other compounds, such as tetrachloroethene, were likely originated from non-hydrocarbon sources such as commercial solvent or degreaser products. None of the VOC compounds were detected at concentrations exceeding the compound-specific maximum allowable MTCA Method B Formula Values for soil (see Table 10).

Selected confirmation samples with elevated residual NWTPH-Dx concentrations were also analyzed for "target" PAHs. Low to trace concentrations of non-carcinogenic PAHs (generally naphthalene and 2-methylnaphthalene) were detected in these samples. No carcinogenic PAHs were detected in the samples analyzed.

Tables 11 through 18 present the results for all samples analyzed for TPH fractions by Ecology Method EPH/VPH. These results indicate that a high proportion of the TPH fraction in each sample analyzed consisted of heavy aliphatic hydrocarbons in the C-21 to

C-34 range. These results are consistent with releases of hydraulic fluid from the hydraulic lift cylinders or associated equipment.

The EPH/VPH analytical results in Tables 11 through 18 are presented in Ecology's "worksheet" format. These worksheets provide calculations for non-carcinogenic and carcinogenic direct contact human health hazards for each sample, as well as provide a calculated ground water TPH concentration sourced from the sample through leaching from soil to ground water. The worksheet calculations indicate that the maximum allowable residential "hazard quotient" of 1 for the direct contact pathway was exceeded for TPH in one confirmation sample from Bay #1 (BAY1NSW), one confirmation sample from Bay #5 (BAY5SSW), and two confirmation samples from Bay #12 (BAY12NSW4, BAY12SSW3). The calculated ground water concentrations for all confirmation soil samples analyzed by Method EPH/VPH were well below the allowable limit of 1 milligram per liter (mg/l).

3.4 Assessment of Site-Specific TPH Cleanup Level for Soil

The confirmation samples analyzed by Ecology Method EPH/VPH provide the framework for calculation of a site-specific cleanup level for TPH. Tables 19 through 26 provide calculations of sample-specific maximum allowable TPH levels for both the EPH/VPH and NWTPH-Dx analytical methods. The calculations for each sample were made as follows: first, the maximum allowable TPH concentration by Method EPH/VPH (i.e., when the residential "hazard quotient" equals 1) was calculated for each Method EPH/VPH analysis using the reported sample-specific ratio of aliphatic to aromatic hydrocarbon fraction data. The calculated maximum allowable TPH concentration by Method EPH/VPH was then adjusted to reflect the presence of the C-21 through C-34 range aliphatics, which are reported by the EPH/VPH method, but are not used in "hazard quotient" calculation. The resulting concentration of TPH is the sample-specific, maximum allowable TPH (including the C-21 to C-34 aliphatics) by the EPH/VPH method that will not result in a residential "hazard quotient" of greater than 1. Finally, the "retrofitted" sample-specific maximum allowable TPH concentration for Method NWTPH-Dx was calculated by adjusting the calculated maximum allowable TPH concentration (by Method EPH/VPH) using the ratio between the corresponding TPH concentration reported for each analytical method.

Table 27 provides a summary of the calculated maximum allowable TPH concentrations for both the EPH/VPH and NWTPH-Dx analytical methods. For the EPH/VPH method, the calculated maximum allowable residential scenario TPH concentration ranged from 7,980 mg/kg to 15,625 mg/kg. For the NWTPH-Dx Method, the calculated maximum allowable residential scenario TPH concentration ranged from 7,355 mg/kg to 33,250 mg/kg. The calculated maximum allowable residential scenario NWTPH-Dx concentration of 33,250 mg/kg for sample BAY6NSW (see Table 21) is not considered valid. This very high

allowable NWTPH-Dx concentration resulted from an abnormally low ratio of TPH (by Method EPH/VPH) to TPH (by Method NWTPH-Dx) that was likely caused by heterogeneity within the soil sample.

The range of calculated maximum allowable residential soil TPH concentrations presented in Table 27 indicates general agreement between both the EPH/VPH and NWTPH-Dx analytical methods. The most conservative calculated maximum allowable TPH concentration using either method is 7,355 mg/kg by Method NWTPH-Dx. Rounding down this number results in a conservative, site-specific concentration of 7,000 mg/kg for the maximum allowable residential NWTPH-Dx concentration.

Figures 4 and 5 present the estimated lateral and vertical extent of areas at the Site where TPH remains in soil above the calculated, site-specific NWTPH-Dx cleanup level of 7,000 mg/kg. These areas include a "pocket" located beneath the north end of Bay #1 at the north end of the service shop, a "pocket" located beneath the central portion of the service shop (Bay #5), and a "pocket" beneath Bay #12 at the south end of the service shop. The estimated volumes of soil exceeding the site-specific NWTPH-Dx cleanup level of 7,000 mg/kg for each of the areas are as follows:

Bay #1 "Pocket" – Approximately 30 cubic yards

Bay #5 "Pocket" – Approximately 15 cubic yards

Bay #12 "Pocket" – Approximately 150 cubic yards

4.0 MANAGEMENT OF TPH-IMPACTED SOIL

A formal application for soil treatment was submitted to CSR Associated of Everett, Washington prior to the initiation of excavation activities. Information submitted in support of the TPH-impacted soil treatment application included all analytical data from both pre-remediation site investigation phases. In addition, at the request of CSR, two additional samples of stockpiled soil cuttings from the October 1998 soil borings were submitted to Friedman & Bruya, Inc. for analysis of tetrachloroethene by EPA Method 8260B. Tetrachloroethene was not detected in any of these samples at concentrations above the laboratory reporting limit of 0.4 mg/kg. The laboratory analytical data sheets and chain-of-custody records for these samples are included in Appendix A.

Excavated TPH-impacted soil was transported on a daily basis to CSR Associated for treatment by thermal desorption. A total of 1,213 tons of soil was treated. Soil scale tickets and a certificate of treatment are provided in Appendix B.

5.0 SITE RESTORATION

Excavation backfilling and site restoration activities were conducted coincident with excavation of TPH-impacted soil. Backfill consisted of either clean, imported granular pit run sand or controlled density fill (CDF) supplied by CSR Associated of Everett, Washington. All pit run material consisted of sand with not more than 5 percent of fines passing through a No. 200 sieve (wet sieve analysis).

Compaction of backfill material was accomplished using a backhoe-mounted hydraulic vibratory compactor. The backfill was placed in 18-inch lifts to a depth of 4 feet bgs, and in 12-inch lifts from 4 feet bgs to grade. Compaction specifications were verified by AESI field personnel using a Troxler® nuclear densometer and manually using a ½-inch-diameter stainless steel probe. Backfill was placed to the base of the former concrete slab elevation.

At the conclusion of site restoration activities, a letter summarizing the Site excavation and backfilling work was submitted to Mr. Philip Vartanian, the City of Shoreline Plan Examiner. A copy of this letter is included in Appendix C.

6.0 SUMMARY AND CONCLUSIONS

TPH-impacted soil was excavated from nine hydraulic cylinder vault areas within the service shop area of the former Chuck Olson Chevrolet facility. Soil excavation was accomplished to the maximum extent practical without risking damage to the footings or foundations of the service shop building. Approximately 1,213 tons of excavated TPH-impacted soil was treated by thermal desorption at CSR Associated in Everett, Washington. No saturated soils or ground water were encountered during excavation activities, or during earlier site investigation activities.

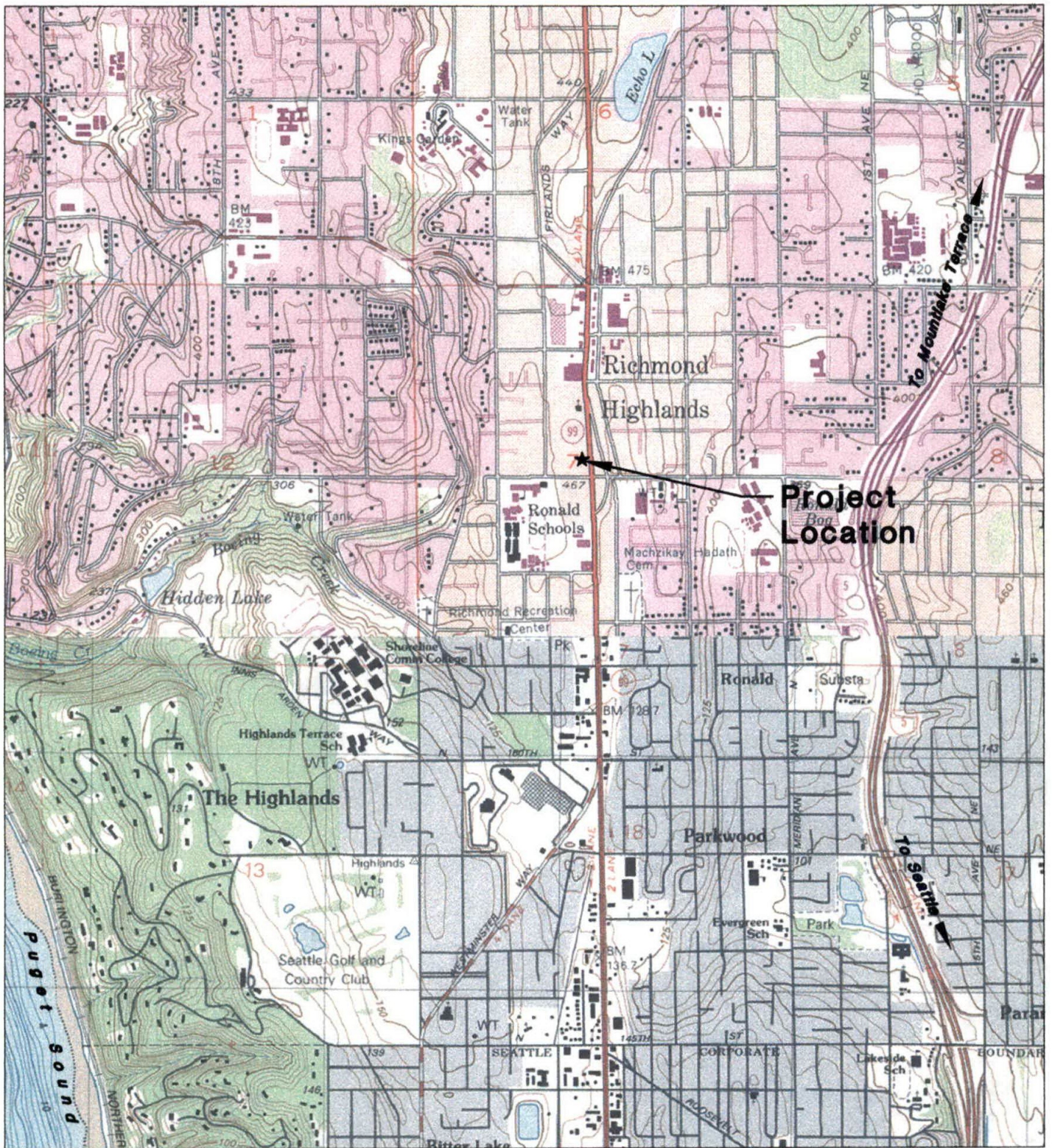
A total of 81 confirmation soil samples were collected from the excavation sidewalls and floors to confirm the adequacy of the remedial action. A conservative, site-specific residential TPH-Dx soil cleanup level of 7,000 mg/kg was calculated using data from eight soil samples analyzed for hydrocarbon fractions by Ecology Method EPH/VPH. This represents the lower end of calculated TPH-Dx cleanup levels that ranged from 7,355 mg/kg to 17,529 mg/kg. The calculated site-specific residential soil TPH-Dx concentration of 7,000 mg/kg is also adequately protective of the soil-to-ground-water pathway.

Impacted soil with NWTPH-Dx concentrations above the calculated site-specific residential cleanup level of 7,000 mg/kg was successfully remediated in all areas of the Site except for three "pockets" of limited extent. These pockets are located beneath and/or adjacent to Bay #1, Bay #5, and Bay #12 in the service shop area. Additional excavation could not be accomplished in these areas due to either the depth of excavation, the proximity of the impacted soil to the building foundation, or both. The estimated cumulative volume of remaining impacted soil with NWTPH-Dx concentrations above 7,000 mg/kg is 195 cubic yards.

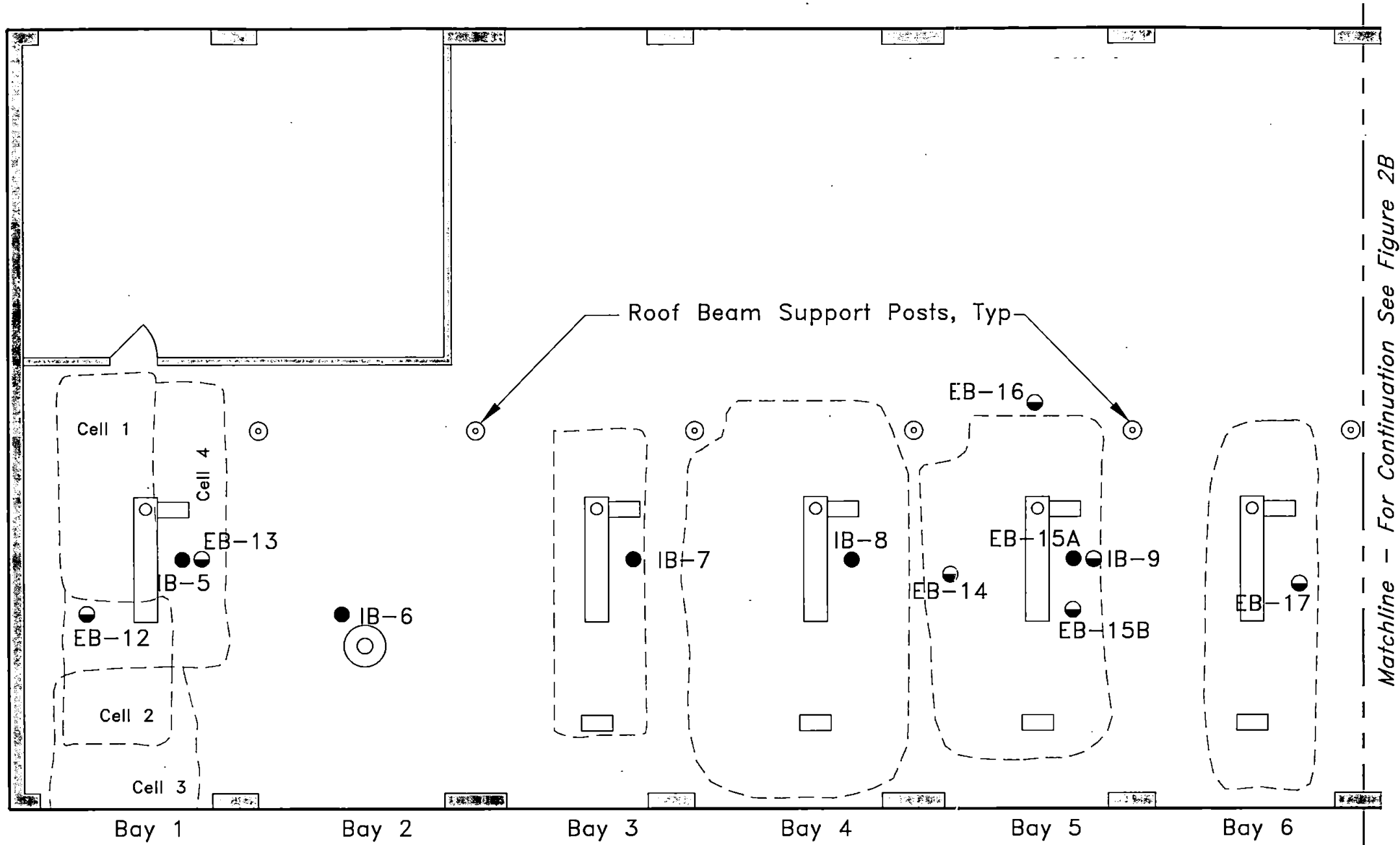
Review of local water well and soil boring information indicates that the first perennial aquifer beneath the Site likely occurs in "advance outwash" sands at a depth of greater than 150 feet bgs. The maximum vertical extent of TPH-impacts noted at the Site were in the Bay #12 area, where trace concentrations of TPH (60 mg/kg) were detected in exploration boring EB-24 at a depth of 32 feet bgs. This suggests that the minimum vertical separation between TPH-impacted soil and ground water at the Site is in excess of 100 feet. The impermeable asphalt/concrete surface at the Site, coupled with the presence of low permeability glacial till beneath the Site, should effectively impede further vertical migration of the remaining TPH.

7.0 LIMITATIONS

This report has been prepared solely for the use of Chuck Olson Chevrolet and its agents as it pertains to the former Chuck Olson Chevrolet Facility located at 17545 Aurora Avenue North in Shoreline, Washington. Any reliance on this report by third parties shall be at such party's sole risk. Our services have been performed in accordance with applicable federal, state and local ordinances and generally accepted practices in the geosciences. No other warranty, either expressed or implied, is made.

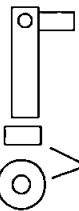


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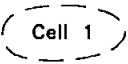
APPROXIMATE SCALE: 1/8" = 1'-0"

LEGEND



Decommissioned
Main Hydraulic Lift Vault

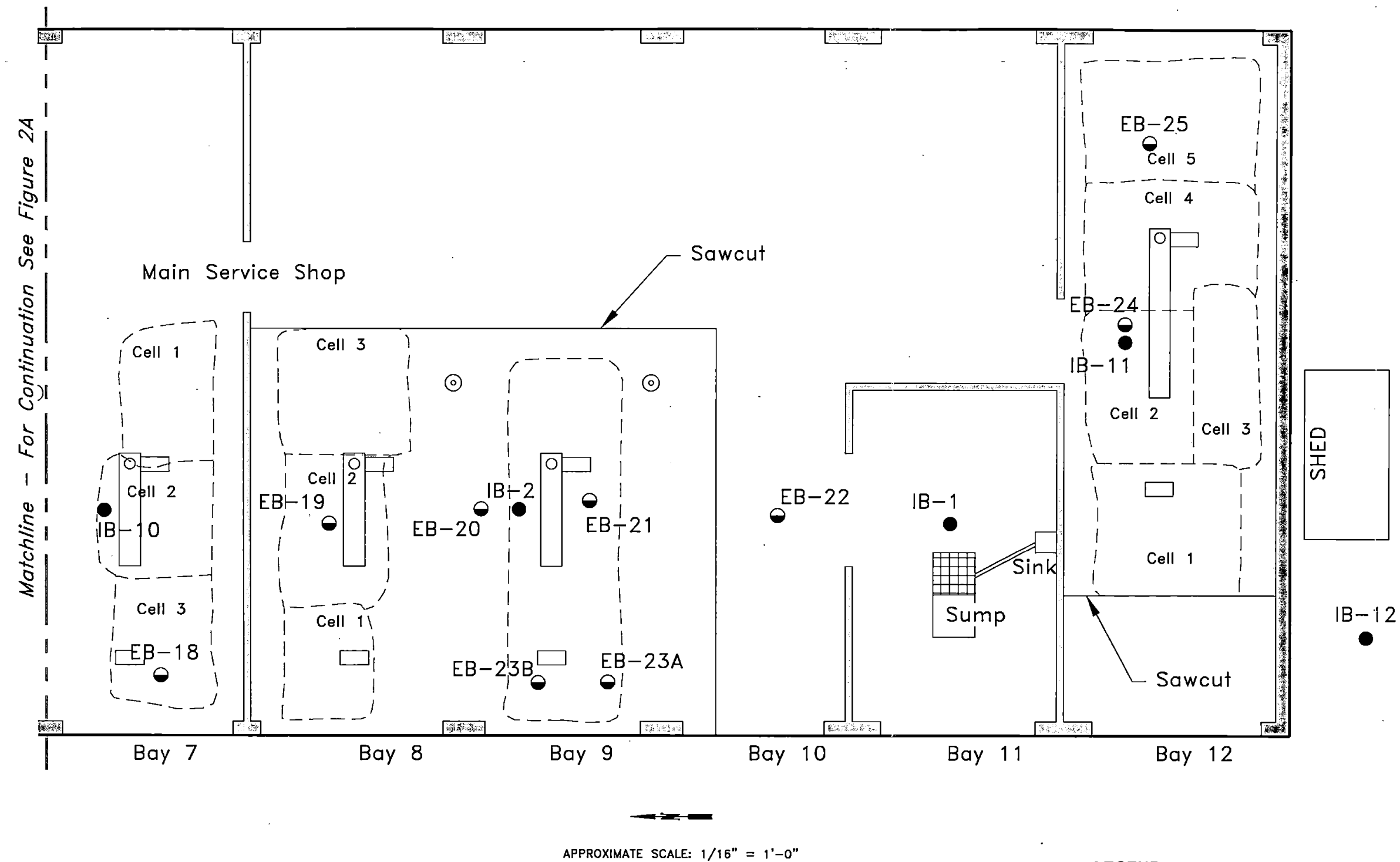
Decommissioned "Satellite"
Hydraulic Lift Cylinder



Excavation Outline w/
Cell Designation

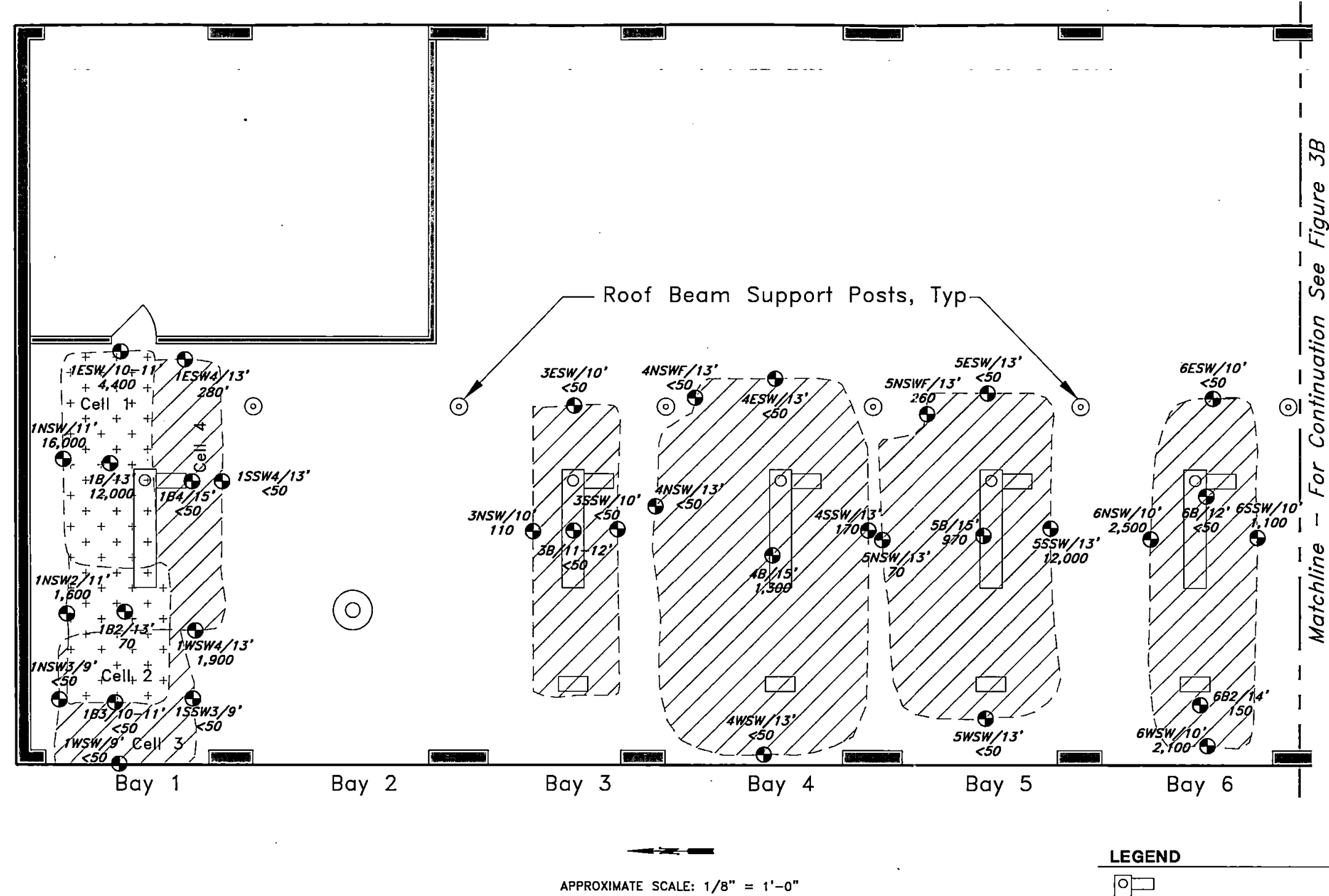
● Geoprobe Boring (1997)

○ Hollow Stem Auger
Boring (1998)



LEGEND

- Decommissioned Main Hydraulic Lift Vault
- Decommissioned "Satellite" Hydraulic Lift Cylinder
- Excavation Outline w/ Cell Designation
- Geoprobe Boring (1997)
- Hollow Stem Auger Boring (1998)



LEGEND

- Decommissioned Main Hydraulic Lift Vault
- Decommissioned "Satellite" Hydraulic Lift Cylinder
- Excavation Outline w/ Cell Designation
- Confirmation Sample/Depth with TPH-Dx Concentration in mg/kg
- Compacted Sand Backfill
- Controlled Density Fill

Site Plan With Confirmation Soil Sample Locations - Part A
Former Chuck Olson Chevrolet Facility
Shoreline, Washington

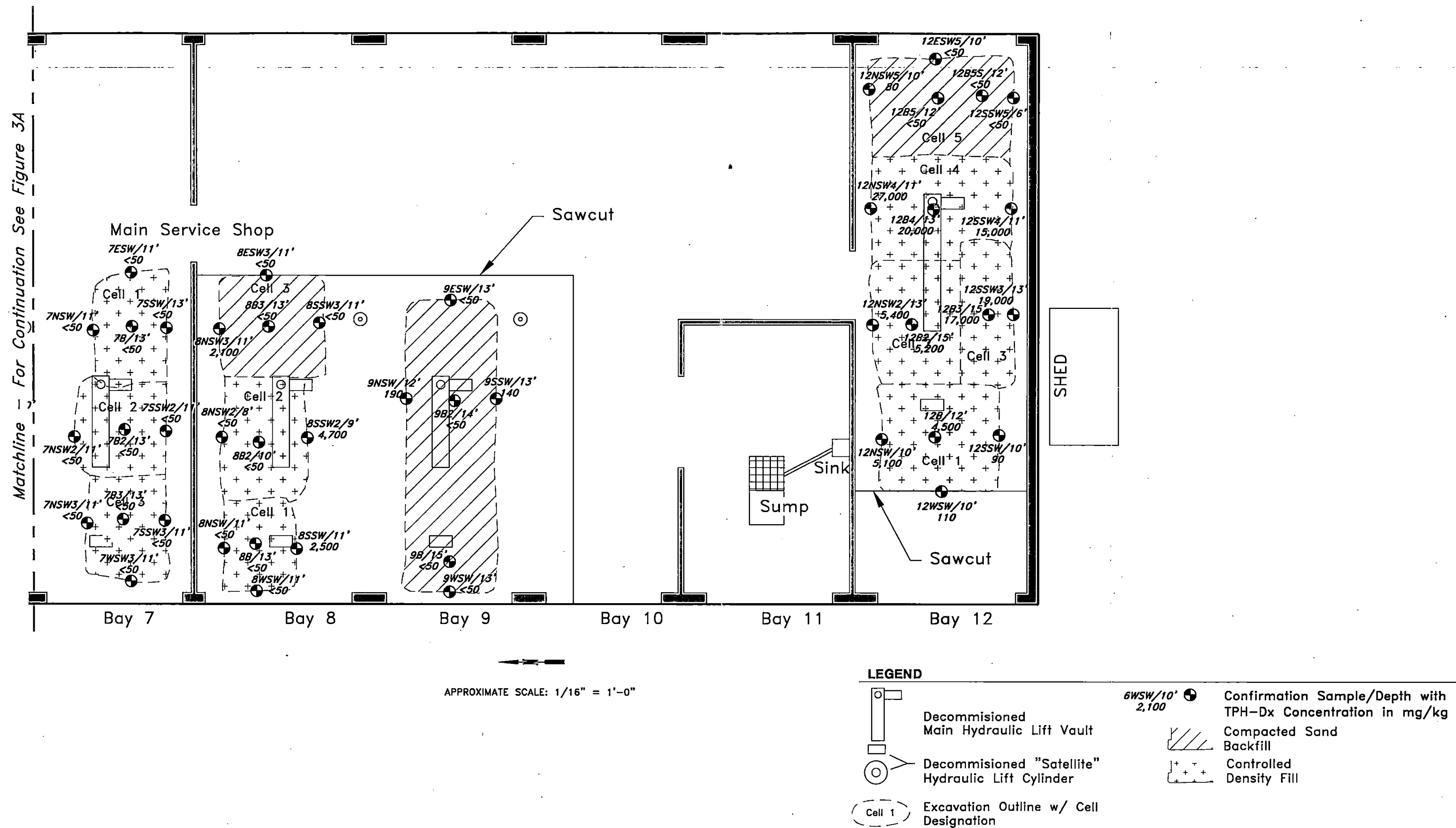


Table 1
Summary of Confirmation Soil Sample Results - Total Petroleum Hydrocarbons
Bay #1 Remedial Excavation
Former Chuck Olson Chevrolet Facility
Shoreline, Washington

Sample Identification	Sample Date	Sample Location	Sample Depth, feet	Field Screening (Odors/Stain)	PID Reading (ppm)	NWTPH-Dx	EPH/VPH	TARGET SVOCs	VOCs - 8260B
						Diesel and Oil (mg/kg)	Run (Yes/No)	Run (Yes/No)	Run (Yes/No)
BAY1B	1/7/99	Bottom, cell #1	13	Moderate	NA	12,000	NO	NO	YES
BAY1NSW	1/7/99	North sidewall, cell #1	11	Moderate	NA	16,000	YES	YES	YES
BAY1SSW	1/7/99	South sidewall, cell #1	11	Moderate	NA	18,000	NO	NO	NO
BAY1ESW	1/7/99	East sidewall, cell #1	10 to 11	Moderate	16	4,400	NO	NO	NO
BAY1SSW2	1/8/99	South sidewall, cell #2	11	Moderate	NA	13,000	NO	NO	NO
BAY1B2	1/8/99	Bottom, cell #2	13	Moderate	NA	70	NO	NO	NO
BAY1NSW2	1/8/99	North sidewall, cell #2	11	Moderate	NA	1,600	NO	NO	NO
BAY1B3	1/12/99	Bottom, cell #3	10 to 11	ND	0	<50	NO	NO	NO
BAY1SSW3	1/12/99	South sidewall, cell #3	9	ND	NA	<50	NO	NO	NO
BAY1WSW	1/12/99	West sidewall, cell #3	9	ND	NA	<50	NO	NO	NO
BAY1NSW3	1/12/99	North sidewall, cell #3	9	ND	NA	<50	NO	NO	NO
BAY1B4	1/14/99	Bottom, cell #4	15	ND	0	<50	NO	NO	NO
BAY1WSW4	1/14/99	West sidewall, cell #4	13	Slight	0	1,900	NO	NO	NO
BAY1SSW4	1/14/99	South sidewall, cell #4	13	ND	0	<50	NO	NO	NO
BAY1ESW4	1/14/99	East sidewall, cell #4	13	ND	NA	280	NO	NO	NO

< 50 Not detected at reporting limit indicated

NA Not analyzed

BAY1SSW Indicates sample area was subsequently excavated

Table 2
Summary of Confirmation Soil Sample Results - Total Petroleum Hydrocarbons
Bay #3 Remedial Excavation
Former Chuck Olson Chevrolet Facility
Shoreline, Washington

Sample Identification	Sample Date	Sample Location	Sample Depth, feet	Field Screening (Odors/Stain)	PID Reading (ppm)	NWTPH-Dx	EPH/VPH	TARGET SVOCs	VOCs - 8260B
						Diesel and Oil (mg/kg)	Run (Yes/No)	Run (Yes/No)	Run (Yes/No)
BAY3B	1/6/99	Bottom	11 to 12	ND	0	< 50	NO	NO	NO
BAY3NSW	1/6/99	North sidewall	10	ND	0	110	NO	NO	NO
BAY3ESW	1/6/99	East sidewall	10	ND	0	< 50	NO	NO	NO
BAY 3SSW	1/6/99	South sidewall	10	ND	0	< 50	NO	NO	NO

< 50 Not detected at reporting limit indicated
NA Not analyzed

Table 3
Summary of Confirmation Soil Sample Results - Total Petroleum Hydrocarbons
Bay #4 Remedial Excavation
Former Chuck Olson Chevrolet Facility
Shoreline, Washington

Sample Identification	Sample Date	Sample Location	Sample Depth, feet	Field Screening (Odors/Stain)	PID Reading (ppm)	NWTPH-Dx	EPH/VPH	TARGET SVOCs	VOCs - 8260B
						Diesel and Oil (mg/kg)	Run (Yes/No)	Run (Yes/No)	Run (Yes/No)
BAY4WSW	1/5/99	West sidewall	13	ND	11	<50	NO	NO	NO
BAY4NSW	1/5/99	North sidewall	13	ND	0	<50	NO	NO	NO
BAY4NSWF	1/5/99	North sidewall beneath footing	13	Slight	28	<50	NO	NO	NO
BAY4ESW	1/5/99	East sidewall	13	ND	NA	<50	NO	NO	NO
BAY4SSW	1/5/99	South sidewall	13	ND	0	170	NO	NO	NO
BAY4B	1/5/99	Bottom	15	Slight	24	1,300	NO	NO	NO

<50 Not detected at reporting limit indicated
NA Not analyzed

Table 4
Summary of Confirmation Soil Sample Results - Total Petroleum Hydrocarbons
Bay #5 Remedial Excavation
Former Chuck Olson Chevrolet Facility
Shoreline, Washington

Sample Identification	Sample Date	Sample Location	Sample Depth, feet	Field Screening (Odors/Stain)	PID Reading (ppm)	NWTPH-Dx	EPH/VPH	TARGET SVOCs	VOCs - 8260B
						Diesel and Oil (mg/kg)	Run (Yes/No)	Run (Yes/No)	Run (Yes/No)
BAY5NSWF	12/29/98	North sidewall beneath footing	13	ND	39	260	NO	NO	NO
BAY5NSW	12/29/98	North sidewall	13	ND	0	70	NO	NO	NO
BAY5WSW	12/29/98	West sidewall	13	ND	0	<50	NO	NO	NO
BAY5B	12/29/98	Bottom	15	Slight	65	970	NO	NO	NO
BAY5ESW	12/29/98	East sidewall	13	ND	0.1	<50	NO	NO	NO
BAY5SSW	12/29/98	South sidewall	13	ND	0	12,000	YES	YES	YES

<50 Not detected at reporting limit indicated
NA Not analyzed

Table 5
Summary of Confirmation Soil Sample Results - Total Petroleum Hydrocarbons
Bay #6 Remedial Excavation
Former Chuck Olson Chevrolet Facility
Shoreline, Washington

Sample Identification	Sample Date	Sample Location	Sample Depth, feet	Field Screening (Odors/Stain)	PID Reading (ppm)	NWTPH-Dx	EPH/VPH	TARGET SVOCs	VOCs - 8260B
						Diesel and Oil (mg/kg)	Run (Yes/No)	Run (Yes/No)	Run (Yes/No)
BAY6NSW	12/22/98	North sidewall	10	ND	NA	2,500	YES	NO	YES
BAY6SSW	12/22/98	South sidewall	10	ND	NA	1,100	NO	NO	NO
BAY6ESW	12/22/98	East sidewall	10	ND	NA	<50	NO	NO	NO
BAY6WSW	12/22/98	West sidewall	11	ND	NA	2,100	NO	NO	NO
BAY6B	12/22/98	Floor (East end)	12	ND	NA	<50	NO	NO	NO
BAY6B2	12/23/98	Floor (West end)	14	ND	NA	150	NO	NO	NO

<50 Not detected at reporting limit indicated
NA Not analyzed

Table 6
Summary of Confirmation Soil Sample Results - Total Petroleum Hydrocarbons
Bay #7 Remedial Excavation
Former Chuck Olson Chevrolet Facility
Shoreline, Washington

Sample Identification	Sample Date	Sample Location	Sample Depth, feet	Field Screening (Odors/Stain)	PID Reading (ppm)	NWTPH-Dx	EPH/VPH	TARGET SVOCs	VOCs - 8260B
						Diesel and Oil (mg/kg)	Run (Yes/No)	Run (Yes/No)	Run (Yes/No)
BAY7B	1/4/99	Bottom, cell #1	13	Slight	NA	<50	NO	NO	NO
BAY7NSW	1/4/99	North sidewall, cell #1	11	Slight	29	<50	NO	NO	NO
BAY7SSW	1/4/99	South sidewall, cell #1	11	Slight	0	<50	NO	NO	NO
BAY7ESW	1/4/99	East sidewall, cell #1	11	Slight	28	<50	NO	NO	NO
BAY7NSW2	1/5/99	North sidewall, cell #2	11	ND	NA	<50	NO	NO	NO
BAY7SSW2	1/5/99	South sidewall, cell #2	11	ND	NA	<50	NO	NO	NO
BAY7B2	1/5/99	Bottom, cell #2	13	Slight	11	<50	NO	NO	NO
BAY7B3	1/6/99	Bottom, cell #3	13	ND	0	<50	NO	NO	NO
BAY7NSW3	1/6/99	North sidewall, cell #3	11	ND	NA	<50	NO	NO	NO
BAY7SSW3	1/6/99	South sidewall, cell #3	11	ND	3	<50	NO	NO	NO
BAY7WSW	1/6/99	West sidewall, cell #3	11	ND	NA	<50	NO	NO	NO

<50 Not detected at reporting limit indicated
NA Not analyzed

Table 7
Summary of Confirmation Soil Sample Results - Total Petroleum Hydrocarbons
Bay #8 Remedial Excavation
Former Chuck Olson Chevrolet Facility
Shoreline, Washington

Sample Identification	Sample Date	Sample Location	Sample Depth, feet	Field Screening (Odors/Stain)	PID Reading (ppm)	NWTPH-Dx	EPH/VPH	TARGET SVOCs	VOCs - 8260B
						Diesel and Oil (mg/kg)	Run (Yes/No)	Run (Yes/No)	Run (Yes/No)
BAY8B	1/7/99	Bottom, cell #1	13	ND	0	<50	NO	NO	NO
BAY8WSW	1/7/99	West sidewall, cell #1	11	ND	NA	<50	NO	NO	NO
BAY8SSW	1/7/99	South sidewall, cell #1	11	ND	NA	2,500	NO	NO	NO
BAY8NSW	1/7/99	North sidewall, cell #1	11	ND	NA	<50	NO	NO	NO
BAY8B2	1/8/99	Bottom, cell #2	10	ND	0	<50	NO	NO	NO
BAY8SSW2	1/8/99	South sidewall, cell #2	9	ND	NA	4,700	YES	YES	YES
BAY8NSW2	1/8/99	North sidewall, cell #2	8	ND	NA	<50	NO	NO	NO
BAY8B3	1/12/99	Bottom, cell #3	13	ND	0	<50	NO	NO	NO
BAY8SSW3	1/12/99	South sidewall, cell #3	11	ND	NA	<50	NO	NO	NO
BAY8ESW	1/12/99	East sidewall, cell #3	11	ND	NA	<50	NO	NO	NO
BAY8NSW3	1/12/99	North sidewall, cell #3	11	ND	NA	2,100	NO	NO	NO

<50 Not detected at reporting limit indicated
NA Not analyzed

Table 8
Summary of Confirmation Soil Sample Results - Total Petroleum Hydrocarbons
Bay #9 Remedial Excavation
Former Chuck Olson Chevrolet Facility
Shoreline, Washington

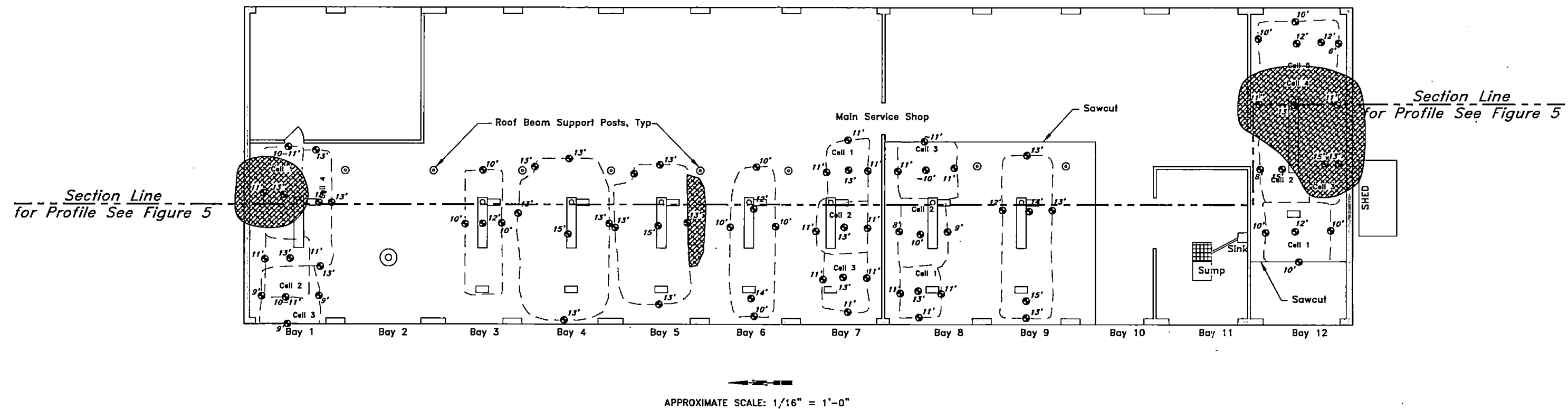
Sample Identification	Sample Date	Sample Location	Sample Depth, feet	Field Screening (Odors/Stain)	PID Reading (ppm)	NWTPH-Dx	EPH/VPH	TARGET SVOCs	VOCs - 8260B
						Diesel and Oil (mg/kg)	Run (Yes/No)	Run (Yes/No)	Run (Yes/No)
BAY9B	1/13/99	Bottom (west end)	15	ND	NA	<50	NO	NO	NO
BAY9WSW	1/13/99	West sidewall	13	ND	4	<50	NO	NO	NO
BAY9NSW	1/13/99	North sidewall	12	ND	0	190	NO	NO	NO
BAY9B2	1/13/99	Bottom (east end)	14	ND	NA	<50	NO	NO	NO
BAY9SSW	1/13/99	South sidewall	13	ND	0	140	NO	NO	NO
BAY9ESW	1/13/99	East sidewall	13	ND	NA	<50	NO	NO	NO

<50 Not detected at reporting limit indicated
NA Not analyzed

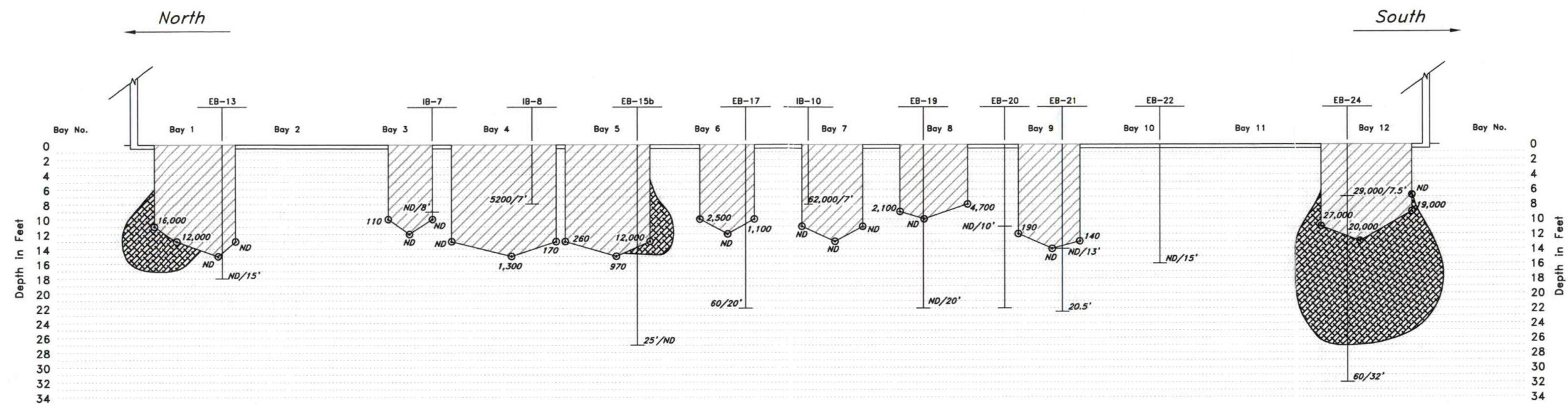
Table 9
Summary of Confirmation Soil Sample Results - Total Petroleum Hydrocarbons
Bay #12 Remedial Excavation
Former Chuck Olson Chevrolet Facility
Shoreline, Washington

Sample Identification	Sample Date	Sample Location	Sample Depth, feet	Field Screening (Odors/Stain)	PID Reading (ppm)	NWTPH-Dx	EPH/VPH	TARGET SVOCs	VOCs - 8260B
						Diesel and Oil (mg/kg)	Run (Yes/No)	Run (Yes/No)	Run (Yes/No)
BAY12B	1/8/99	Bottom, cell #1	12	Strong	93	4,500	NO	NO	NO
BAY12NSW	1/8/99	North sidewall, cell #1	10	Mild	NA	5,100	NO	NO	NO
BAY12SSW	1/8/99	South sidewall, cell #1	10	Mild	NA	90	NO	NO	NO
BAY12WSW	1/8/99	West sidewall, cell #1	10	ND	0	110	NO	NO	NO
BAY12B2	1/14/99	Bottom, cell #2	15	Moderate	281	5,200	NO	NO	NO
BAY12NSW2	1/14/99	North sidewall, cell #2	13	Moderate	NA	5,400	NO	NO	NO
BAY12B3	1/15/99	Bottom, cell #3	15	Moderate	NA	17,000	NO	NO	NO
BAY12SSW3	1/15/99	South sidewall, cell #3	13	Moderate	NA	19,000	YES	NO	YES
BAY12B4	1/18/99	Bottom, cell #4	13	Moderate	NA	20,000	NO	NO	NO
BAY12NSW4	1/18/99	North sidewall, cell #4	11	Moderate	NA	27,000	YES	YES	YES
BAY12SSW4	1/18/99	South sidewall, cell #4	11	Moderate	NA	15,000	NO	NO	NO
BAY12B5	1/19/99	Bottom, cell #5, north of pipe	12	ND	0	<50	NO	NO	NO
BAY12SSW5	1/19/99	South sidewall, cell #5	6	Strong	>600	<50	NO	NO	YES
BAY12B5S	1/19/99	Bottom, cell #5, south of pipe	12	Strong	>700	<50	NO	NO	YES
BAY12NSW5	1/19/99	North sidewall, cell #5	10	ND	NA	80	NO	NO	NO
BAY12ESW5	1/19/99	East sidewall, cell #5	10	ND	3	<50	NO	NO	NO

<50 Not detected at reporting limit indicated
NA Not analyzed



LEGEND	
	Decommissioned Main Hydraulic Lift Vault
	Decommissioned "Satellite" Hydraulic Lift Cylinder
	Confirmation Soil Sample Location and Depth
	Excavation Outline
	Estimated Lateral Extent of Remaining Impacted Soil with TPH Concentrations of >7,000 mg/kg



North-South Profile
See Figure 4 for Plan View

APPROXIMATE SCALE: 1/16" = 1'-0"

LEGEND

EB-24

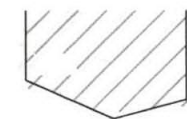
Soil Boring with Soil Sample
Depth and TPH-Dx Concentration
in mg/kg

29,000/7.5'

60/32'

140

Confirmation (Post-excavation) Soil Sample
Location with TPH-Dx Concentration in mg/kg



Excavated Areas



Inferred Vertical Zone within which TPH-Dx
Concentration Exceeds 7,000 mg/kg
Based on Confirmation Sample Results, Linear
Interpolation, and Former Concrete Vault Depths

NOTES:

1. Where multiple sample locations are present, the sample with the highest TPH concentration is shown.
2. ND = Non Detect

Estimated Vertical Extent of TPH-Impacted Soil > 7,000 mg/kg

Former Chuck Olson Chevrolet Facility
Shoreline, Washington

FIGURE

Table 10
Summary of Confirmation Soil Sample Results - Volatile Organic Compounds
Former Chuck Olson Chevrolet Facility
Shoreline, Washington

	Bay #1	Bay #1	Bay #5	Bay #6	Bay #12	Bay #12	Bay #12	Bay #12	Bay #12	CLARC II	Method B	Comments on Source
Sample Identification:	BAY1B	BAY1NSW	BAY5SSW	BAY6NSW	BAY8SSW2	BAY12SSW3	BAY12NSW4	BAY12SSW5	BAY12B5S	Database	Formula Value	
Sample Depth, feet:	13	11	13	10	9	13	11	6	12	(2/28/96)	for Soil	
Sample Date:	1/7/99	1/7/99	12/29/98	12/22/98	1/8/99	1/15/99	1/18/99	1/19/99	1/19/99		(mg/kg)	
sec-Butylbenzene	<0.4	<0.4	<0.04	<0.04	<0.4	0.6	1.3	<0.04	<0.04	nl	none	ingredient in naptha, asphalt
Ethylbenzene	<0.4	<0.4	<0.04	<0.04	<0.4	0.8	1.4	<0.04	<0.04	listed	8,000 (n)	hydrocarbon component counted in eph/vph
Isopropylbenzene	<0.4	<0.4	<0.04	<0.04	<0.4	0.6	1	<0.04	<0.04	nl	none	ingredient in motor fuel, naptha, asphalt
p-Isopropyltoluene	<0.4	<0.4	0.06	<0.04	<0.4	0.8	1.7	<0.04	0.04	nl	none	?
Naphthalene	<0.4	<0.4	.52 (lb)	<0.04	<0.4	2.6	5.2	<0.04	0.12	listed	3,200 (n)	hydrocarbon component counted in eph/vph
n-Propylbenzene	<0.4	<0.4	0.04	<0.04	<0.4	1.5	2.4	<0.04	<0.04	nl	none	solvent?
Tetrachloroethene	<0.4	<0.4	0.07	<0.04	<0.4	4.2	5.1	<0.04	0.12	listed	19.6 (c)	degreaser, solvent
Toluene	<0.4	<0.4	<0.04	<0.04	<0.4	1.5	2.1	<0.04	<0.04	listed	16,000 (n)	hydrocarbon component counted in eph/vph
1,1,1-Trichloroethane	<0.4	<0.4	<0.04	<0.04	<0.4	6	8.7	<0.04	0.06	listed	72,000 (n)	degreaser, solvent
1,2,4-Trimethylbenzene	0.7	<0.4	0.5	<0.04	<0.4	11	24	<0.04	0.54	nl	none	hydrocarbon component counted in eph/vph
1,3,5-Trimethylbenzene	<0.4	<0.4	0.15	<0.04	<0.4	3.6	6.8	<0.04	0.17	nl	none	hydrocarbon component counted in eph/vph
1,3-Dichlorobenzene	<0.4	<0.4	<0.04	<0.04	<0.4	<0.4	<0.4	0.4	<0.04	nl	none	solvent/fumigant/insecticide
1,4-Dichlorobenzene	<0.4	<0.4	<0.04	<0.04	<0.4	<0.4	<0.4	1.6	0.04	listed	41.7 (c)	solvent/fumigant/insecticide
1,2-Dichlorobenzene	<0.4	<0.4	<0.04	<0.04	<0.4	<0.4	<0.4	8.2	0.14	listed	7,200 (n)	solvent/fumigant/insecticide
1,2,4-Trichlorobenzene	<0.4	<0.4	<0.04	<0.04	<0.4	<0.4	<0.4	0.24	<0.04	listed	800 (n)	solvent?
o-Xylene	<0.4	<0.4	0.08	<0.04	<0.4	3.2	7.7	<0.04	0.12	listed	160,000 (n)	hydrocarbon component counted in eph/vph
m,p-Xylene	<0.4	<0.4	0.04	<0.04	<0.4	2.4	4.3	<0.04	0.08	listed	160,000 (n)	hydrocarbon component counted in eph/vph

Results reported only for compounds detected in one or more samples

All results in milligrams/kilogram

(lb) - Analyte also detected in laboratory blank

(n) - Non-carcinogen

(c) - Carcinogen

0.04 Shaded results indicate detections above laboratory reporting limit

Table 11
Former Chuck Olson Chevrolet Facility
Calculations Using the Interim TPH Policy (Two Pathways: Human Health and Soil-to-Groundwater)
Bay 1 - Sample BAY1NSW

TPH by EPH/VPH =	13,777
C21-C34 Aliphatics =	9,600
% of C21-C34 Aliphatics =	69.7 %
% of non C21-C34 Aliphatics =	30.3 %
TPH by TPH-Dx =	16,000
TPH (EPH/VPH) to TPH (TPH-Dx) Ratio =	0.86

1	2	3	4	5	6	7	8	9	10	11	12	13
	Soil Conc.	RfD	OC PF	Residential		Commercial		Industrial		Mol. Frac.	Effect. Sol.	Conc.@ well
Compound	(mg/kg)	(mg/kg*day)	(kg*day/mg)	HQ	Risk	HQ	Risk	HQ	Risk	(percent)	(mg/l)	(mg/l)
Aliphatics												
EC 5 - 6	0									0.00	0.0	0.000
EC > 6 - 8	0									0.00	0.00	0.000
EC > 8 - 10	8.5									0.00	0.001	0.0001
EC > 10 - 12	21									0.01	0.0002	0.00001
EC > 12 - 16	130									0.04	0.00002	0.00000
EC > 16 - 21	1000									0.21	0.0000002	0.000000
Total aliphatic	1160	0.06		0.24		0.06		0.01				
Aromatics												
EC > 8 - 10	3									0.00	0.1	0.005
EC > 10 - 12	0									0.00	0.0	0.000
EC > 12 - 16	14									0.01	0.03	0.002
EC > 16 - 21	400									0.12	0.061	0.0030
EC > 21 - 35	2600									0.62	0.00406	0.0002
Total aromatic	3017	0.03										
Benzene	0.21		0.029		6.09E-09		1.52E-09		4.64E-10	0.00	0.3	0.01
c-PAHs	0.06		7.3		4.38E-07		1.10E-07		3.34E-08			
Ethylbenzene	0	0.10		0.00		0.00		0.00				
Toluene	0	0.20		0.00		0.00		0.00		0.00	0.0	0.000
Xylenes	0	2.00		0.00		0.00		0.00				
Total aromatic: + B-E-X	3017	0.03		1.26		0.31		0.03				
Total	4177			1.50	4.44E-07	0.37	1.11E-07	0.03	3.38E-08	1.00000		0.023

Table 12
Former Chuck Olson Chevrolet Facility
Calculations Using the Interim TPH Policy (Two Pathways: Human Health and Soil-to-Groundwater)
Bay 5 - Sample BAY5SSW

TPH by EPH/VPH =	20,622
C21-C34 Aliphatics =	17,000
% of C21-C34 Aliphatics =	82.4%
% of non C21-C34 Aliphatics =	17.6%
TPH by TPH-Dx =	12,000
TPH (EPH/VPH) to TPH (TPH-Dx) Ratio =	1.72

1	2	3	4	5	6	7	8	9	10	11	12	13
	Soil Conc.	RfD	OCPF	Residential		Commercial		Industrial		Mol. Frac.	Effect. Sol.	Conc.@ well
Compound	(mg/kg)	(mg/kg*day)	(kg*day/mg)	HQ	Risk	HQ	Risk	HQ	Risk	(percent)	(mg/l)	(mg/l)
Aliphatics												
EC 5 - 6	0									0.00	0.0	0.000
EC >6 - 8	3									0.00	0.01	0.000
EC >8 -10	0									0.00	0.000	0.0000
EC >10 -12	24									0.01	0.0003	0.00001
EC >12 -16	85									0.03	0.00002	0.00000
EC >16 - 21	790									0.19	0.0000002	0.000000
Total aliphatic	902	0.06		0.19		0.05		0.00				
Aromatics												
EC >8 - 10	4									0.00	0.2	0.008
EC >10 - 12	3									0.00	0.0	0.002
EC >12 - 16	12									0.01	0.03	0.002
EC >16 - 21	200									0.07	0.035	0.0018
EC >21 - 35	2500									0.69	0.00454	0.0002
Total aromatic	2719	0.03										
Benzene	0.2		0.029		5.80E-09		1.45E-09		4.42E-10	0.00	0.3	0.02
c-PAHs	0.63		7.3		4.60E-06		1.15E-06		3.50E-07			
Ethylbenzene	0	0.10		0.00		0.00		0.00				
Toluene	0	0.20		0.00		0.00		0.00		0.00	0.0	0.000
Xylenes	0	2.00		0.00		0.00		0.00				
Total aromatic: +B-E-X	2720	0.03		1.13		0.28		0.03				
Total	3622			1.32	4.60E-06	0.33	1.15E-06	0.03	3.51E-07	1.00000		0.029

Table 13
Former Chuck Olson Chevrolet Facility
Calculations Using the Interim TPH Policy (Two Pathways: Human Health and Soil-to-Groundwater)
Bay 6 - Sample BAY6NSW

TPH by EPH/VPH =	602
C21-C34 Aliphatics =	350
% of C21-C34 Aliphatics =	58.1%
% of non C21-C34 Aliphatics =	41.9%
TPH by TPH-Dx =	2,500
TPH (EPH/VPH) to TPH (TPH-Dx) Ratio =	0.24

1	2	3	4	5	6	7	8	9	10	11	12	13
	Soil Conc.	RfD	OCPF	Residential		Commercial		Industrial		Mol. Frac.	Effect. Sol.	Conc.@ well
Compound	(mg/kg)	(mg/kg*day)	(kg*day/mg)	HQ	Risk	HQ	Risk	HQ	Risk	(percent)	(mg/l)	(mg/l)
Aliphatics												
EC 5 - 6	0									0.00	0.0	0.000
EC >6 - 8	0									0.00	0.00	0.000
EC >8 -10	2.5									0.02	0.006	0.0003
EC >10 -12	0									0.00	0.0000	0.00000
EC >12 -16	9.5									0.05	0.00003	0.00000
EC >16 - 21	130									0.46	0.0000005	0.000000
Total aliphatic	142	0.06		0.03		0.01		0.00				
Aromatics												
EC >8 - 10	0									0.00	0.0	0.000
EC >10 - 12	0									0.00	0.0	0.000
EC >12 - 16	0									0.00	0.00	0.000
EC >16 - 21	25									0.13	0.065	0.0032
EC >21 - 35	85									0.34	0.00226	0.0001
Total aromatic	110	0.03										
Benzene	0.2		0.029		5.80E-09		1.45E-09		4.42E-10	0.00	4.4	0.22
c-PAHs			7.3		0.00E+00		0.00E+00		0.00E+00			
Ethylbenzene	0	0.10		0.00		0.00		0.00				
Toluene	0	0.20		0.00		0.00		0.00		0.00	0.0	0.000
Xylenes	0	2.00		0.00		0.00		0.00				
Total aromatic: + B-E-X	110	0.03		0.05		0.01		0.00				
Total	252			0.08	5.80E-09	0.02	1.45E-09	0.00	4.42E-10	1.00000		0.224

Table 14
Former Chuck Olson Chevrolet Facility
Calculations Using the Interim TPH Policy (Two Pathways: Human Health and Soil-to-Groundwater)
Bay 8 - Sample BAY8SSW2

TPH by EPH/VPH =	4,719
C21-C34 Aliphatics =	3,300
% of C21-C34 Aliphatics =	69.9%
% of non C21-C34 Aliphatics =	30.1%
TPH by TPH-Dx =	4,700
TPH (EPH/VPH) to TPH (TPH-Dx) Ratio =	1.00

1	2	3	4	5	6	7	8	9	10	11	12	13
	Soil Conc.	RfD	OCPF	Residential		Commercial		Industrial		Mol. Frac.	Effect. Sol.	Conc.@ well
Compound	(mg/kg)	(mg/kg*day)	(kg*day/mg)	HQ	Risk	HQ	Risk	HQ	Risk	(percent)	(mg/l)	(mg/l)
Aliphatics												
EC 5 - 6	0									0.00	0.0	0.000
EC >6 - 8	0									0.00	0.00	0.000
EC >8 -10	5.5									0.01	0.002	0.0001
EC >10 -12	0									0.00	0.0000	0.00000
EC >12 -16	74.0									0.06	0.00004	0.00000
EC >16 - 21	690									0.44	0.0000004	0.000000
Total aliphatic	770	0.06		0.16		0.04		0.00				
Aromatics												
EC >8 - 10	0									0.00	0.0	0.000
EC >10 - 12	0									0.00	0.0	0.000
EC >12 - 16	3									0.00	0.02	0.001
EC >16 - 21	76									0.07	0.035	0.0018
EC >21 - 35	570									0.41	0.00272	0.0001
Total aromatic	649	0.03										
Benzene	0.2		0.029		5.80E-09		1.45E-09		4.42E-10	0.00	0.8	0.04
c-PAHs	0.67		7.3		4.89E-06		1.22E-06		3.73E-07			
Ethylbenzene	0	0.10		0.00		0.00		0.00				
Toluene	0	0.20		0.00		0.00		0.00		0.00	0.0	0.000
Xylenes	0	2.00		0.00		0.00		0.00				
Total aromatic: + B-E-X	649	0.03		0.27		0.07		0.01				
Total	1418			0.43	4.90E-06	0.11	1.22E-06	0.01	3.73E-07	1.00000		0.043

Table 15
Former Chuck Olson Chevrolet Facility
Calculations Using the Interim TPH Policy (Two Pathways: Human Health and Soil-to-Groundwater)
Bay 12 - Sample BAY12SSW3

TPH by EPH/VPH =	16,063
C21-C34 Aliphatics =	12,000
% of C21-C34 Aliphatics =	74.7%
% of non C21-C34 Aliphatics =	25.3%
TPH by TPH-Dx =	19,000
TPH (EPH/VPH) to TPH (TPH-Dx) Ratio =	0.85

1	2	3	4	5	6	7	8	9	10	11	12	13
	Soil Conc.	RfD	OCPF	Residential		Commercial		Industrial		Mol. Frac.	Effect. Sol.	Conc.@ well
Compound	(mg/kg)	(mg/kg*day)	(kg*day/mg)	HQ	Risk	HQ	Risk	HQ	Risk	(percent)	(mg/l)	(mg/l)
Aliphatics												
EC 5 - 6	0									0.00	0.0	0.000
EC > 6 - 8	5.5									0.00	0.01	0.001
EC > 8 - 10	160									0.07	0.022	0.0011
EC > 10 - 12	100									0.03	0.0009	0.00004
EC > 12 - 16	100									0.03	0.00002	0.00000
EC > 16 - 21	1300									0.26	0.0000003	0.000000
Total aliphatic	1666	0.06		0.35		0.09		0.01				
Aromatics												
EC > 8 - 10	87									0.04	2.6	0.129
EC > 10 - 12	39									0.02	0.4	0.021
EC > 12 - 16	35									0.01	0.07	0.004
EC > 16 - 21	340									0.10	0.050	0.0025
EC > 21 - 35	1900									0.43	0.00287	0.0001
Total aromatic	2401	0.03										
Benzene	0.22		0.029		6.38E-09		1.60E-09		4.86E-10	0.00	0.3	0.01
c-PAHs			7.3		0.00E+00		0.00E+00		0.00E+00			
Ethylbenzene	1.6	0.10		0.00		0.00		0.00				
Toluene	2.3	0.20		0.00		0.00		0.00		0.00	0.7	0.036
Xylenes	2.3	2.00		0.00		0.00		0.00				
Total aromatic: + B-E-X	2397	0.03		1.00		0.25		0.02				
Total	4067			1.35	6.38E-09	0.34	1.60E-09	0.03	4.86E-10	1.00000		0.208

Table 16
Former Chuck Olson Chevrolet Facility
Calculations Using the Interim TPH Policy (Two Pathways: Human Health and Soil-to-Groundwater)
Bay 12 - Sample BAY12NSW4

TPH by EPH/VPH =	15,758
C21-C34 Aliphatics =	11,000
% of C21-C34 Aliphatics =	69.8%
% of non C21-C34 Aliphatics =	30.2%
TPH by TPH-Dx =	27,000
TPH (EPH/VPH) to TPH (TPH-Dx) Ratio =	0.58

1	2	3	4	5	6	7	8	9	10	11	12	13
	Soil Conc.	RfD	OCPF	Residential		Commercial		Industrial		Mol. Frac.	Effect. Sol.	Conc.@ well
Compound	(mg/kg)	(mg/kg*day)	(kg*day/mg)	HQ	Risk	HQ	Risk	HQ	Risk	(percent)	(mg/l)	(mg/l)
Aliphatics												
EC 5 - 6	0									0.00	0.0	0.000
EC > 6 - 8	6.0									0.00	0.01	0.001
EC > 8 - 10	230									0.08	0.026	0.0013
EC > 10 - 12	200									0.06	0.0014	0.00007
EC > 12 - 16	300									0.07	0.00004	0.00000
EC > 16 - 21	1300									0.21	0.0000002	0.000000
Total aliphatic	2036	0.06		0.42		0.11		0.01				
Aromatics												
EC > 8 - 10	160									0.06	3.8	0.192
EC > 10 - 12	76									0.03	0.6	0.032
EC > 12 - 16	120									0.04	0.21	0.010
EC > 16 - 21	470									0.11	0.056	0.0028
EC > 21 - 35	1900									0.35	0.00232	0.0001
Total aromatic	2726	0.03										
Benzene	0.21		0.029		6.09E-09		1.52E-09		4.64E-10	0.00	0.2	0.01
c-PAHs	0.63		7.3		4.60E-06		1.15E-06		3.50E-07			
Ethylbenzene	2.4	0.10		0.00		0.00		0.00				
Toluene	1.8	0.20		0.00		0.00		0.00		0.00	0.5	0.023
Xylenes	2.1	2.00		0.00		0.00		0.00				
Total aromatic: + B-E-X	2722	0.03		1.13		0.28		0.03				
Total	4762			1.56	4.61E-06	0.39	1.15E-06	0.04	3.51E-07	1.00000		0.273

Table 17
Former Chuck Olson Chevrolet Facility
Calculations Using the Interim TPH Policy (Two Pathways: Human Health and Soil-to-Groundwater)
Boring EB-15 - Sample EB-15-7.5-9.5

TPH by EPH/VPH =	26,532
C21-C34 Aliphatics =	20000
% of C21-C34 Aliphatics =	75.4 %
% of non C21-C34 Aliphatics =	24.6 %
TPH by TPH-Dx =	17,090
TPH (EPH/VPH) to TPH (TPH-Dx) Ratio =	1.55

1	2	3	4	5	6	7	8	9	10	11	12	13
	Soil Conc.	RfD	OCPF	Residential		Commercial		Industrial		Mol. Frac.	Effect. Sol.	Conc.@ well
Compound	(mg/kg)	(mg/kg*day)	(kg*day/mg)	HQ	Risk	HQ	Risk	HQ	Risk	(percent)	(mg/l)	(mg/l)
Aliphatics												
EC 5 - 6	0									0.00	0.0	0.000
EC >6 - 8	0									0.00	0.00	0.000
EC >8 -10	31									0.01	0.003	0.0001
EC >10 -12	89									0.02	0.0005	0.00003
EC >12 -16	190									0.03	0.00002	0.00000
EC >16 - 21	1800									0.24	0.0000002	0.000000
Total aliphatic	2110	0.06		0.44		0.11		0.01				
Aromatics												
EC >8 - 10	23									0.01	0.4	0.022
EC >10 - 12	20									0.01	0.1	0.007
EC >12 - 16	39									0.01	0.05	0.003
EC >16 - 21	540									0.10	0.052	0.0026
EC >21 - 35	3800									0.57	0.00377	0.0002
Total aromatic	4422	0.03										
Benzene	0.21		0.029		6.09E-09		1.52E-09		4.64E-10	0.00	0.2	0.01
c-PAHs	0.6		7.3		4.38E-06		1.10E-06		3.34E-07			
Ethylbenzene	0	0.10		0.00		0.00		0.00				
Toluene	0	0.20		0.00		0.00		0.00		0.00	0.0	0.000
Xylenes	0.49	2.00		0.00		0.00		0.00				
Total aromatic: + B-E-X	4422	0.03		1.84		0.46		0.04				
Total	6532			2.28	4.39E-06	0.57	1.10E-06	0.05	3.34E-07	1.00000		0.044

Table 18
Former Chuck Olson Chevrolet Facility
Calculations Using the Interim TPH Policy (Two Pathways: Human Health and Soil-to-Groundwater)
Boring EB-24 - Sample EB-24-7.5-9.5

TPH by EPH/VPH =	37,040
C21-C34 Aliphatics =	28,000
% of C21-C34 Aliphatics =	75.6%
% of non C21-C34 Aliphatics =	24.4%
TPH by TPH-Dx =	29,290
TPH (EPH/VPH) to TPH (TPH-Dx) Ratio =	1.26

1	2	3	4	5	6	7	8	9	10	11	12	13
	Soil Conc.	RfD	OCPF	Residential		Commercial		Industrial		Mol. Frac.	Effect. Sol.	Conc.@ well
Compound	(mg/kg)	(mg/kg*day)	(kg*day/mg)	HQ	Risk	HQ	Risk	HQ	Risk	(percent)	(mg/l)	(mg/l)
Aliphatics												
EC 5 - 6	3									0.00	0.0	0.001
EC >6 - 8	3									0.00	0.00	0.000
EC >8 -10	72									0.01	0.005	0.0002
EC >10 -12	130									0.02	0.0006	0.00003
EC >12 -16	260									0.03	0.00002	0.00000
EC >16 - 21	4400									0.43	0.0000004	0.000000
Total aliphatic	4868	0.06		1.01		0.25		0.02				
Aromatics												
EC >8 - 10	40									0.01	0.6	0.029
EC >10 - 12	31									0.01	0.2	0.008
EC >12 - 16	66									0.01	0.07	0.003
EC >16 - 21	740									0.10	0.053	0.0026
EC >21 - 35	3300									0.36	0.00241	0.0001
Total aromatic	4177	0.03										
Benzene	0.21		0.029		6.09E-09		1.52E-09		4.64E-10	0.00	0.1	0.01
c-PAHs	0.6		7.3		4.38E-06		1.10E-06		3.34E-07			
Ethylbenzene	0.78	0.10		0.00		0.00		0.00				
Toluene	2.2	0.20		0.00		0.00		0.00		0.00	0.3	0.016
Xylenes	4.7	2.00		0.00		0.00		0.00				
Total aromatic: + B-E-X	4172	0.03		1.74		0.43		0.04				
Total	9045			2.75	4.39E-06	0.69	1.10E-06	0.06	3.34E-07	1.00000		0.067

Table 19
Former Chuck Olson Chevrolet Facility
Residential Scenario Maximum TPH Calculation
BAY 1 - Sample BAY1NSW

TPH by EPH/VPH = 13,777 TPH (exc. C21-C34 Aliphatics) by EPH/VPH = 4,177 % of TPH by EPH/VPH as non-C21-C34 aliphatics = 30% Aliphatic/Aromatic Ratio of TPH by EPH/VPH (exc. C21 - C34 aliphatics) = .28 TPH by TPH-Dx = 16,000				
EPH/VPH Fractions	Percent of TPH	Calculated Soil Conc. (mg/kg)	RfD (mg/kg*day)	Residential HQ
Total aliphatic	28	784	0.06	0.16
Total aromatic: + B-E-X	72	2,016	0.03	0.84
TPH (exc. C21-C34 aliphatics)		2,800		1.00
Multiplier = 28				
Calculated Max. Allowable TPH by EPH/VPH (exc. C21-C34 aliphatics) =				2,800
% of TPH by EPH/VPH as non-C21-C34 aliphatics =				30%
Calculated Max. Allowable TPH by EPH/VPH (inc. C21-C34 aliphatics) =				9,333
Correction Factor for EPH/VPH to TPH-Dx Ratio Conversion =				0.86
Calculated Maximum Allowable TPH by TPH-Dx =				10,853

Table 20
Former Chuck Olson Chevrolet Facility
Residential Scenario Maximum TPH Calculation
BAY 5 - Sample BAY5SSW

TPH by EPH/VPH = 20,622 TPH (exc. C21-C34 Aliphatics) by EPH/VPH = 3,622 % of TPH by EPH/VPH as non-C21-C34 aliphatics = 18% Aliphatic/Aromatic Ratio of TPH by EPH/VPH (exc. C21 - C34 aliphatics) = .25 TPH by TPH-Dx = 12,000				
EPH/VPH Fractions	Percent of TPH	Calculated Soil Conc. (mg/kg)	RfD (mg/kg*day)	Residential HQ
Total aliphatic	25	688	0.06	0.14
Total aromatic: + B-E-X	75	2,063	0.03	0.86
Calculated Total Allowable TPH		2,750		1.00
Multiplier = 27.5				
Calculated Max. Allowable TPH by EPH/VPH (exc. C21-C34 aliphatics) =				2,750
% of TPH by EPH/VPH as non-C21-C34 aliphatics =				18%
Calculated Max. Allowable TPH by EPH/VPH (inc. C21-C34 aliphatics) =				15,625
Correction Factor for EPH/VPH to TPH-Dx Ratio Conversion =				1.72
Calculated Maximum Allowable TPH by TPH-Dx =				9,084

Table 21
Former Chuck Olson Chevrolet Facility
Residential Scenario Maximum TPH Calculation
BAY 6 - Sample BAY6NSW

TPH by EPH/VPH = 602 TPH (exc. C21-C34 Aliphatics) by EPH/VPH = 252 % of TPH by EPH/VPH as non-C21-C34 aliphatics = 42 % Aliphatic/Aromatic Ratio of TPH by EPH/VPH (exc. C21 - C34 aliphatics) = .56 TPH by TPH-Dx = 2,500				
EPH/VPH Fractions	Percent of TPH	Calculated Soil Conc. (mg/kg)	RfD (mg/kg*day)	Residential HQ
Total aliphatic	56	1915	0.06	0.40
Total aromatic: + B-E-X	42	1,436	0.03	0.60
TPH (exc. C21-C34 aliphatics)		3,352		1.00
Multiplier = 34				
Calculated Max. Allowable TPH by EPH/VPH (exc. C21-C34 aliphatics) =				3,352
% of TPH by EPH/VPH as non-C21-C34 aliphatics =				42%
Calculated Max. Allowable TPH by EPH/VPH (inc. C21-C34 aliphatics) =				7,980
Correction Factor for EPH/VPH to TPH-Dx Ratio Conversion =				0.24
Calculated Maximum Allowable TPH by TPH-Dx =				33,250

Table 22
Former Chuck Olson Chevrolet Facility
Residential Scenario Maximum TPH Calculation
BAY 8 - Sample BAY8SSW2

TPH by EPH/VPH = 4,719 TPH (exc. C21-C34 Aliphatics) by EPH/VPH = 1,418 % of TPH by EPH/VPH as non-C21-C34 aliphatics = 30% Aliphatic/Aromatic Ratio of TPH by EPH/VPH (exc. C21 - C34 aliphatics) = .54 TPH by TPH-Dx = 4,700				
EPH/VPH Fractions	Percent of TPH	Calculated Soil Conc. (mg/kg)	RfD (mg/kg*day)	Residential HQ
Total aliphatic	54	1,782	0.06	0.37
Total aromatic: + B-E-X	46	1,518	0.03	0.63
TPH (exc. C21-C34 aliphatics)		3,300		1.00
Multiplier = 33				
Calculated Max. Allowable TPH by EPH/VPH (exc. C21-C34 aliphatics) =				3,300
% of TPH by EPH/VPH as non-C21-C34 aliphatics =				30%
Calculated Max. Allowable TPH by EPH/VPH (inc. C21-C34 aliphatics) =				11,000
Correction Factor for EPH/VPH to TPH-Dx Ratio Conversion =				1
Calculated Maximum Allowable TPH by TPH-Dx =				11,000

Table 23
Former Chuck Olson Chevrolet Facility
Residential Scenario Maximum TPH Calculation
BAY 12 - Sample BAY12SSW3

TPH by EPH/VPH = 16,063 TPH (exc. C21-C34 Aliphatics) by EPH/VPH = 4,067 % of TPH by EPH/VPH as non-C21-C34 aliphatics = 25 % Aliphatic/Aromatic Ratio of TPH by EPH/VPH (exc. C21 - C34 aliphatics) = .41 TPH by TPH-Dx = 19,000				
EPH/VPH Fractions	Percent of TPH	Calculated Soil Conc. (mg/kg)	RfD (mg/kg*day)	Residential HQ
Total aliphatic	41	1238	0.06	0.26
Total aromatic: + B-E-X	59	1,782	0.03	0.74
TPH (exc. C21-C34 aliphatics)		3,020		1.00
Multiplier = 30				
Calculated Max. Allowable TPH by EPH/VPH (exc. C21-C34 aliphatics) =				3,020
% of TPH by EPH/VPH as non-C21-C34 aliphatics =				25 %
Calculated Max. Allowable TPH by EPH/VPH (inc. C21-C34 aliphatics) =				12,080
Correction Factor for EPH/VPH to TPH-Dx Ratio Conversion =				0.85
Calculated Maximum Allowable TPH by TPH-Dx =				14,212

Table 24
Former Chuck Olson Chevrolet Facility
Residential Scenario Maximum TPH Calculation
BAY 12 - Sample BAY12NSW4

TPH by EPH/VPH = 15,758 TPH (exc. C21-C34 Aliphatics) by EPH/VPH = 4,762 % of TPH by EPH/VPH as non-C21-C34 aliphatics = 30% Aliphatic/Aromatic Ratio of TPH by EPH/VPH (exc. C21 - C34 aliphatics) = .43 TPH by TPH-Dx = 27,000				
EPH/VPH Fractions	Percent of TPH	Calculated Soil Conc. (mg/kg)	RfD (mg/kg*day)	Residential HQ
Total aliphatic	43	1312	0.06	0.27
Total aromatic: + B-E-X	57	1,739	0.03	0.72
TPH (exc. C21-C34 aliphatics)		3,050		1.00
Multiplier = 31				
Calculated Max. Allowable TPH by EPH/VPH (exc. C21-C34 aliphatics) =				3,050
% of TPH by EPH/VPH as non-C21-C34 aliphatics =				30%
Calculated Max. Allowable TPH by EPH/VPH (inc. C21-C34 aliphatics) =				10,167
Correction Factor for EPH/VPH to TPH-Dx Ratio Conversion =				0.58
Calculated Maximum Allowable TPH by TPH-Dx =				17,529

Table 25
Former Chuck Olson Chevrolet Facility
Residential Scenario Maximum TPH Calculation
Boring EB-15 - Sample EB-15-7.5-9.5

TPH by EPH/VPH = 26,532 TPH (exc. C21-C34 Aliphatics) by EPH/VPH = 6,532 % of TPH by EPH/VPH as non-C21-C34 aliphatics = 25% Aliphatic/Aromatic Ratio of TPH by EPH/VPH (exc. C21 - C34 aliphatics) = .32 TPH by TPH-Dx = 17,090				
EPH/VPH Fractions	Percent of TPH	Calculated Soil Conc. (mg/kg)	RfD (mg/kg*day)	Residential HQ
Total aliphatic	32	912	0.06	0.19
Total aromatic: + B-E-X	68	1,938	0.03	0.81
TPH (exc. C21-C34 aliphatics)		2,850		1.00
Multiplier = 28.5				
Calculated Max. Allowable TPH by EPH/VPH (exc. C21-C34 aliphatics) =				2,850
% of TPH by EPH/VPH as non-C21-C34 aliphatics =				25%
Calculated Max. Allowable TPH by EPH/VPH (inc. C21-C34 aliphatics) =				11,400
Correction Factor for EPH/VPH to TPH-Dx Ratio Conversion =				1.55
Calculated Maximum Allowable TPH by TPH-Dx =				7,355

Table 26
Former Chuck Olson Chevrolet Facility
Residential Scenario Maximum TPH Calculation
Boring EB-24 - Sample EB-24-7.5-9.5

TPH by EPH/VPH = 37,039 TPH (exc. C21-C34 Aliphatics) by EPH/VPH = 9,039 % of TPH by EPH/VPH as non-C21-C34 aliphatics = 25 % Aliphatic/Aromatic Ratio of TPH by EPH/VPH (exc. C21 - C34 aliphatics) = .24 TPH by TPH-Dx = 28,000				
EPH/VPH Fractions	Percent of TPH	Calculated Soil Conc. (mg/kg)	RfD (mg/kg*day)	Residential HQ
Total aliphatic	54	1782	0.06	0.37
Total aromatic: + B-E-X	46	1,518	0.03	0.63
TPH (exc. C21-C34 aliphatics)		3,300		1.00
Multiplier = 33				
Calculated Max. Allowable TPH by EPH/VPH (exc. C21-C34 aliphatics) =				3,300
% of TPH by EPH/VPH as non-C21-C34 aliphatics =				24 %
Calculated Max. Allowable TPH by EPH/VPH (inc. C21-C34 aliphatics) =				13,750
Correction Factor for EPH/VPH to TPH-Dx Ratio Conversion =				1.26
Calculated Maximum Allowable TPH by TPH-Dx =				10,913

Table 27
Former Chuck Olson Chevrolet Facility
Summary of Hazard Quotients and Calculated Maximum Allowable TPH Soil Concentrations
(Human Health Pathway)
Soil Boring and Post-Excavation Confirmation Samples

Sample #	Bay #	Total TPH by Method EPH/VPH (exc. C21-C34 aliphatics)	Residential Hazard Quotient	Total TPH by Method NWTPH-Dx	Calculated Maximum Allowable TPH by Method EPH/VPH (inc. C21-C34 aliphatics)	Calculated Maximum Allowable TPH by Method NWTPH-Dx
BAY1NSW	Bay #1	4,177	1.50	16,000	9,333	10,853
<i>EB-15-7.5-9.5</i>	Bay #5	6,532	2.28	17,090	11,400	7,355
BAY5SSW	Bay #5	3,622	1.32	12,000	15,625	9,084
BAY6NSW	Bay #6	252	0.08	2,500	7,980	33,250*
BAY8SSW2	Bay #8	1,418	0.43	4,700	11,000	11,000
<i>EB-24-7.5-9.5</i>	Bay #12	9,045	2.75	28,000	13,750	10,913
BAY12SSW3	Bay #12	4,067	1.35	19,000	12,080	14,212
BAY12NSW4	Bay #12	4,762	1.56	27,000	10,167	17,529
All TPH concentrations in milligrams/kilogram (mg/kg). <i>EB-15-7.5-9.5</i> - Areas of exploration borings were subsequently excavated. * Calculated result of 33,250 mg/kg not considered valid and is not used in calculation of average.				Maximum	15,625	33,250*
				Minimum	7,980	7,355
				Average	11,417	10,118

APPENDIX A

LABORATORY-REPORTED ANALYTICAL TESTING RESULTS

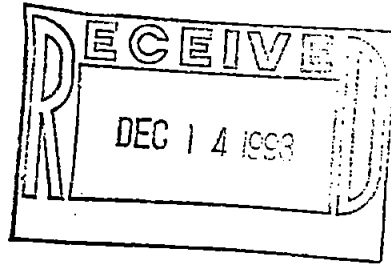
DISPOSAL PERMITTING SAMPLES - ANALYTICAL RESULTS

DISPOSAL PERMITTING

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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December 11, 1998

Chip Goodhue, Project Manager
Associated Earth Sciences, Inc.
179 Madrone Lane North
Bainbridge Island, WA 98110

Dear Mr. Goodhue:

Included are the results from the testing of material submitted on December 4, 1998 from your BY 97011B project. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Charlene Jensen
Chemist

Enclosures
AES1211R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/11/98
Date Received: 12/04/98
Project: BY 97011B
Date Extracted: 12/09/98
Date Analyzed: 12/10/98

**RESULTS FROM THE ANALYSIS OF THE PRODUCT SAMPLE
FOR PCBs AS AROCHLORS BY METHOD 8082 (GC/ECD)**
Results Reported as $\mu\text{g/g}$ (ppm)

<u>Sample ID</u> Laboratory ID	<u>PCB</u>	<u>Surrogate</u> (% Recovery)
Hydraulic Vault Fluid 812030-01	<25	70 d
Method Blank	<5	84

d - The sample was diluted due to high levels of interfering compounds. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID:	Hydraulic Vault Fluid Sample	Client:	AESI
Date Received:	12/04/98	Project:	BY97011B
Date Extracted:	12/09/98	Lab ID:	812030-01 P
Date Analyzed:	12/10/98	Data File:	120914.D
Matrix:	Product	Instrument:	GCMS1
Units:	ug/g (ppm)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Dibromofluoromethane	93	55	121
1,2-Dichloroethane-d4	72	61	120
Toluene-d8	86	58	121
4-Bromofluorobenzene	116	57	123

Compounds:	Concentration ug/g (ppm)	Compounds:	Concentration ug/g (ppm)
Dichlorodifluoromethane	<100	Tetrachloroethene	<100
Chloromethane	<100	Dibromochloromethane	<100
Vinyl chloride	<100	1,2-Dibromoethane (EDB)	<100
Bromomethane	<100	Chlorobenzene	<100
Chloroethane	<100	Ethylbenzene	<100
Trichlorofluoromethane	<100	1,1,1,2-Tetrachloroethane	<100
Acetone	<1000	m,p-Xylene	<100
1,1-Dichloroethene	<100	o-Xylene	<100
Methylene chloride	<500	Styrene	<100
trans-1,2-Dichloroethene	<100	Isopropylbenzene	<100
1,1-Dichloroethane	<100	Bromoform	<100
2,2-Dichloropropane	<100	n-Propylbenzene	<100
cis-1,2-Dichloroethene	<100	Bromobenzene	<100
Chloroform	<100	1,3,5-Trimethylbenzene	<100
2-Butanone (MEK)	<1000	1,1,2,2-Tetrachloroethane	<100
1,2-Dichloroethane (EDC)	<100	1,2,3-Trichloropropane	<100
1,1,1-Trichloroethane	<100	2-Chlorotoluene	<100
1,1-Dichloropropene	<100	4-Chlorotoluene	<100
Carbon Tetrachloride	<100	tert-Butylbenzene	<100
Benzene	<100	1,2,4-Trimethylbenzene	<100
Trichloroethene	<100	sec-Butylbenzene	<100
1,2-Dichloropropane	<100	p-Isopropyltoluene	<100
Bromodichloromethane	<100	1,3-Dichlorobenzene	<100
Dibromomethane	<100	1,4-Dichlorobenzene	<100
4-Methyl-2-pentanone	<1000	1,2-Dichlorobenzene	<100
cis-1,3-Dichloropropene	<100	1,2-Dibromo-3-chloropropane	<100
Toluene	<100	1,2,4-Trichlorobenzene	<100
trans-1,3-Dichloropropene	<100	Hexachlorobutadiene	<100
1,1,2-Trichloroethane	<100	Naphthalene	<100
2-Hexanone	<1000	1,2,3-Trichlorobenzene	<100
1,3-Dichloropropane	<100		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID: Method Blank
 Date Received: 12/04/98
 Date Extracted: 12/09/98
 Date Analyzed: 12/10/98
 Matrix: Product
 Units: ug/g (ppm)

Client: AESI
 Project: BY97011B
 Lab ID: 08-703 mb2
 Data File: 120913.D
 Instrument: GCMS1
 Operator: YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Dibromofluoromethane	96	55	121
1,2-Dichloroethane-d4	81	61	120
Toluene-d8	87	58	121
4-Bromofluorobenzene	113	57	123

Compounds:	Concentration ug/g (ppm)
Dichlorodifluoromethane	<100
Chloromethane	<100
Vinyl chloride	<100
Bromomethane	<100
Chloroethane	<100
Trichlorofluoromethane	<100
Acetone	<1000
1,1-Dichloroethene	<100
Methylene chloride	<500
trans-1,2-Dichloroethene	<100
1,1-Dichloroethane	<100
2,2-Dichloropropane	<100
cis-1,2-Dichloroethene	<100
Chloroform	<100
2-Butanone (MEK)	<1000
1,2-Dichloroethane (EDC)	<100
1,1,1-Trichloroethane	<100
1,1-Dichloropropene	<100
Carbon Tetrachloride	<100
Benzene	<100
Trichloroethene	<100
1,2-Dichloropropane	<100
Bromodichloromethane	<100
Dibromomethane	<100
4-Methyl-2-pentanone	<1000
cis-1,3-Dichloropropene	<100
Toluene	<100
trans-1,3-Dichloropropene	<100
1,1,2-Trichloroethane	<100
2-Hexanone	<1000
1,3-Dichloropropane	<100

Compounds:	Concentration ug/g (ppm)
Tetrachloroethene	<100
Dibromochloromethane	<100
1,2-Dibromoethane (EDB)	<100
Chlorobenzene	<100
Ethylbenzene	<100
1,1,1,2-Tetrachloroethane	<100
m,p-Xylene	<100
o-Xylene	<100
Styrene	<100
Isopropylbenzene	<100
Bromoform	<100
n-Propylbenzene	<100
Bromobenzene	<100
1,3,5-Trimethylbenzene	<100
1,1,2,2-Tetrachloroethane	<100
1,2,3-Trichloropropane	<100
2-Chlorotoluene	<100
4-Chlorotoluene	<100
tert-Butylbenzene	<100
1,2,4-Trimethylbenzene	<100
sec-Butylbenzene	<100
p-Isopropyltoluene	<100
1,3-Dichlorobenzene	<100
1,4-Dichlorobenzene	<100
1,2-Dichlorobenzene	<100
1,2-Dibromo-3-chloropropane	<100
1,2,4-Trichlorobenzene	<100
Hexachlorobutadiene	<100
Naphthalene	<100
1,2,3-Trichlorobenzene	<100

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/11/98

Date Received: 12/04/98

Project: BY 97011B

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF PRODUCT
SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCHLOR 1016/1260
BY GC/ECD**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	% Recovery LCS	% Recovery LCSD	Acceptance Criteria	Relative Percent Difference
Arochlor 1016	µg/g (ppm)	50	104	106	65-161	2
Arochlor 1260	µg/g (ppm)	50	100	102	65-161	2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/11/98

Date Received: 12/04/98

Project: BY 97011B

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF PRODUCT SAMPLES FOR VOLATILES BY EPA METHOD 8260B

Laboratory Code: 810133-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD	Acceptance Criteria
1,1-Dichloroethene	µg/g (ppm)	<100	<100	nm	0-20
Benzene	µg/g (ppm)	4,600	4,300	7	0-20
Trichloroethene	µg/g (ppm)	<100	<100	nm	0-20
Toluene	µg/g (ppm)	47,000	45,000	4	0-20
Chlorobenzene	µg/g (ppm)	<100	<100	nm	0-20

Laboratory Code: 810133-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	RPD
1,1-Dichloroethene	µg/g (ppm)	5,000	<100	87	86	65-135	1
Benzene	µg/g (ppm)	5,000	4,600	97	88	65-135	9
Trichloroethene	µg/g (ppm)	5,000	<100	92	90	65-135	2
Toluene	µg/g (ppm)	5,000	47,000	ai	ai	65-135	ai
Chlorobenzene	µg/g (ppm)	5,000	<100	93	91	65-135	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	% Recovery LCS	% Recovery LCSD	Acceptance Criteria	RPD
1,1-Dichloroethene	µg/g (ppm)	5,000	110	99	65-135	10
Benzene	µg/g (ppm)	5,000	102	99	65-135	2
Trichloroethene	µg/g (ppm)	5,000	99	99	65-135	1
Toluene	µg/g (ppm)	5,000	71	84	65-135	17
Chlorobenzene	µg/g (ppm)	5,000	95	100	65-135	5

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

ai - The amount spiked was insufficient to give meaningful recovery data.



**NORTH
CREEK
ANALYTICAL**
Environmental Laboratory Services

F&B
LABORATORY

311 N. Pike?
@ 17037 AVALA AV.

8/2030

18939 2nd Avenue N.E., Suite 101, Redfish, WA 98011-9501 (206) 48-9200 FAX 481-2992
East 11.15 Montgomery Suite B, Spokane, WA 99206 4779 (509) 324-9200 FAX 924-9290
4405 S.W. Nimbus Avenue, Beaverton, OR 97008-7112 (503) 641-9200 FAX 541-2202

CHAIN OF CUSTODY REPORT

Work Order #

REPORT TO: AESI			INVOICE TO:		
ATTENTION: CHP GOODHUE			ATTENTION: SAME		
ADDRESS: 179 MADROSE LAKE NORTH BAINBRIDGE IS, WA 98110			ADDRESS:		
PHONE: 206-780-9370			P.O. NUMBER:		
PROJECT NAME: CHUCK OLSON CHARIOT			NCA QUOTE #:		
PROJECT NUMBER: BY 97011 B			Analysis Request		
SAMPLED BY: OLSON PERSONNEL			<div style="border: 1px solid black; padding: 5px; transform: rotate(-45deg); display: inline-block;"> VOCs (8060) PCBs* (8060) </div>		
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	NCA SAMPLE ID (Laboratory Use Only)			
1. HYDRAULIC VAULT FLUID SAMPLE	12/4/98	01	X X		
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

TURNAROUND REQUEST In Business Days *

10	7	5	4	3	2	1	Same Day
Standard							

Fuels & Hydrocarbon Analyses

5	3-4	2	1	Same Day
Standard				

OTHER

Spec: **NEED RESULTS NO LATER THAN 12/10/98**

* Turnaround Request less than standard not incur Rush Charges

MATRIX (W, S, A, O)	# OF CONTAINERS	COMMENTS
---------------------	-----------------	----------

OIL

1

RELINQUISHED BY:	DATE: 12-4-98	RECEIVED BY:	DATE: 12/4/98
PRINT NAME: GARY E. STRATTON	FIRM:	PRINT NAME: SCOTT A. DUBBLE	FIRM: F&B, INC
RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE:
PRINT NAME:	FIRM:	PRINT NAME:	FIRM:

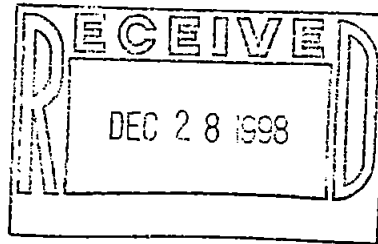
ADDITIONAL REMARKS: **TRANSPORTED VIA CHAMPION TRANSFER 12/4/98 TICKET # 19540 (RD)**

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

SOIL PAVING WITHING
STOCKPILE SAMPLES FOR
DISPOSAL PRINTING

James E. Bruya, Ph.D.
Charlene Jensen, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.



3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

December 23, 1998

Chip Goodhue, Project Manager
Associated Earth Sciences, Inc.
179 Madrone Lane North
Bainbridge Island, WA 98110

Dear Mr. Goodhue:

Included are the results from the testing of material submitted on December 17, 1998 from your Chuck Olson project. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Charlene Jensen
Chemist

Enclosures
AES1223R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID:	STOCK-1	Client:	Associated Earth Sciences
Date Received:	12/17/98	Project:	Chuck Olson
Date Extracted:	12/22/98	Lab ID:	812107-01 1/10
Date Analyzed:	12/22/98	Data File:	122215.D
Matrix:	Soil	Instrument:	GCMS1
Units:	ug/g (ppm)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Dibromofluoromethane	78	54	121
1,2-Dichloroethane-d4	139 vo	61	120
Toluene-d8	79	58	121
4-Bromofluorobenzene	75	56	124

Compounds:	Concentration ug/g (ppm)
Tetrachloroethene	<0.4

Note: The sample was diluted due to high levels of interfering compounds. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID:	STOCK-2	Client:	Associated Earth Sciences
Date Received:	12/17/98	Project:	Chuck Olson
Date Extracted:	12/22/98	Lab ID:	812107-02 1/10
Date Analyzed:	12/22/98	Data File:	122216.D
Matrix:	Soil	Instrument:	GCMS1
Units:	ug/g (ppm)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Dibromofluoromethane	74	54	121
1,2-Dichloroethane-d4	63	61	120
Toluene-d8	74	58	121
4-Bromofluorobenzene	76	56	124

Compounds:	Concentration ug/g (ppm)
Tetrachloroethene	<0.4

Note: The sample was diluted due to high levels of interfering compounds. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID:	Method Blank	Client:	Associated Earth Sciences
Date Received:	12/17/98	Project:	Chuck Olson
Date Extracted:	12/22/98	Lab ID:	mb3 08-716
Date Analyzed:	12/22/98	Data File:	122214.D
Matrix:	Soil	Instrument:	GCMS1
Units:	ug/g (ppm)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Dibromofluoromethane	86	54	121
1,2-Dichloroethane-d4	77	61	120
Toluene-d8	75	58	121
4-Bromofluorobenzene	68	56	124

Compounds:	Concentration ug/g (ppm)
Tetrachloroethene	<0.04

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/98

Date Received: 12/17/98

Project: Chuck Olson

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260B

Laboratory Code: 812017-08 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
1,1-Dichloroethene	µg/g (ppm)	<0.04	<0.04	nm	0-20
Benzene	µg/g (ppm)	<0.04	<0.04	nm	0-20
Trichloroethene	µg/g (ppm)	<0.04	<0.04	nm	0-20
Toluene	µg/g (ppm)	<0.04	<0.04	nm	0-20
Chlorobenzene	µg/g (ppm)	<0.04	<0.04	nm	0-20

Laboratory Code: 812017-08 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	Acceptance Criteria
1,1-Dichloroethene	µg/g (ppm)	2	<0.04	73	35-120
Benzene	µg/g (ppm)	2	<0.04	58	45-116
Trichloroethene	µg/g (ppm)	2	<0.04	58	39-114
Toluene	µg/g (ppm)	2	<0.04	78	40-113
Chlorobenzene	µg/g (ppm)	2	<0.04	79	46-114

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	% Recovery LCS	% Recovery LCSD	Acceptance Criteria	Relative Percent Difference
1,1-Dichloroethene	µg/g (ppm)	2	119	116	54-133	2
Benzene	µg/g (ppm)	2	77	75	61-126	3
Trichloroethene	µg/g (ppm)	2	78	75	57-122	3
Toluene	µg/g (ppm)	2	89	88	60-118	2
Chlorobenzene	µg/g (ppm)	2	83	83	67-119	20

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

#1

8/2/07 CF 12/17 98 Vol

SAMPLE CHAIN OF CUSTODY

Send Report To:

Company AEST Contact CHP GOODRUE
Address 179 MADONE LANE NORTH
City, State, Zip BANDOLIER IS WA 98110
Phone # 780-9370 FAX # 780-9438 Date 12/17/98

SITE NO.

PROJECT NAME

PURCHASE ORDER #

CAROL OLSON


SAMPLERS (signature)

PROJECT LOCATION

REMARKS

SAMPLE DISPOSAL INFORMATION

NEED RESULTS BY 12/23, 12:00 PM.

 Dispose after 30 days
Return Samples
Call for Instructions

[illegible]

SIGNATURE

PRINT NAME

COMPANY

Date _____

Time

Relinquished by:

Walter Frost

William V. Goodhue

Assi

12/17/95

1140

Received by _____

[Signature]

Ron Torricelli

Champroa

12/17

14:30

Relinquished by ✓

Received by:

H. Edington

K. Edinger

FBI

12/17

2:5

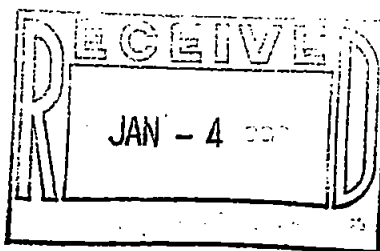
* REPORT TETRACHLOROETHENE (PERC) ONLY
PLEASE

**EXCAVATION CONFIRMATION SAMPLES -
HYDROCARBONS AND VOC ANALYTICAL RESULTS**

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Jensen, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.



3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

December 30, 1998

Chip Goodhue, Project Manager
Associated Earth Sciences, Inc.
179 Madrone Lane North
Bainbridge Island, WA 98110

Dear Mr. Goodhue:

Included are the results from the testing of material submitted on December 22, 1998 from your Chuck Olson, BV97011C project. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Charlene Jensen
Chemist

Enclosures
AES1230R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/30/98
Date Received: 12/22/98
Project: Chuck Olson, BV97011C
Date Extracted: 12/28/98
Date Analyzed: 12/29/98

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL
BY GC/FID (NWTPH-Dx)**

Extended to Include Motor Oil Range Compounds

Results Reported on a Dry Weight Basis

Results Reported as $\mu\text{g/g}$ (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Extended</u>	<u>Surrogate</u> (% Recovery)
BAY6NSW 812133-01	2,500	96
BAY6SSW 812133-02	1,100	94
BAY6ESW 812133-03	<50	90
BAY6B 812133-04	<50	94
BAY6WSW 812133-05	2,100	91
Method Blank	<50	95

FRIEDMAN & BRUYA, INC.**ENVIRONMENTAL CHEMISTS**

Date of Report: 12/30/98

Date Received: 12/22/98

Project: Chuck Olson, BV97011C

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL EXTRACTABLE
PETROLEUM HYDROCARBONS BY GC/FID (NWTPH-Dx)**

Laboratory Code: 812120-03 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Diesel Extended	µg/g (ppm)	<50	<50	nm	0-20

Laboratory Code: 812120-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Diesel Extended	µg/g (ppm)	500	<50	138	131	41-170	5

Laboratory Code: Laboratory Control Sample

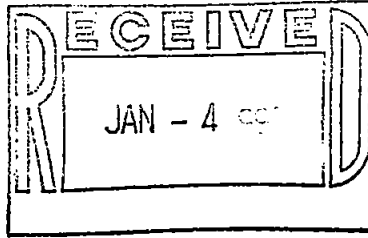
Analyte	Reporting Units	Spike Level	% Recovery LCS	Acceptance Criteria
Diesel Extended	µg/g (ppm)	500	116	59-138

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Jensen, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.



3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

December 30, 1998

Chip Goodhue, Project Manager
Associated Earth Sciences, Inc.
179 Madrone Lane North
Bainbridge Island, WA 98110

Dear Mr. Goodhue:

Included are the results from the testing of material submitted on December 23, 1998 from your Chuck Olson, BV97011C project. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

A handwritten signature in cursive script that reads "Charlene Jensen".

Charlene Jensen
Chemist

Enclosures
AES1230R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/30/98

Date Received: 12/23/98

Project: Chuck Olson, BV97011C

Date Extracted: 12/28/98

Date Analyzed: 12/29/98

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLE
FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL
BY GC/FID (NWTPH-Dx)**

Extended to Include Motor Oil Range Compounds

Results Reported on a Dry Weight Basis

Results Reported as $\mu\text{g/g}$ (ppm)

Sample ID

Laboratory ID

Diesel Extended

Surrogate
(% Recovery)

BAY6B2
812137-01

150

96

Method Blank

<50

95

FRIEDMAN & BRUYA, INC.**ENVIRONMENTAL CHEMISTS**

Date of Report: 12/30/98

Date Received: 12/23/98

Project: Chuck Olson, BV97011C

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL EXTRACTABLE
PETROLEUM HYDROCARBONS BY GC/FID (NWTPH-Dx)**

Laboratory Code: 812120-03 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Diesel Extended	µg/g (ppm)	<50	<50	nm	0-20

Laboratory Code: 812120-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Diesel Extended	µg/g (ppm)	500	<50	138	131	41-170	5

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	% Recovery LCS	Acceptance Criteria
Diesel Extended	µg/g (ppm)	500	116	59-138

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

#812137

12-28-98
3:35

12-28-98
3:35

Company ASSOCIATED EARTH SCIENCES, INC. Contact CHIP GOODHUE
Address 179 MADAME LN
City, State, Zip BAIKRUING ISLAND
Phone # 206-780-9370 FAX # _____ Date _____

Date _____

PURCHASE ORDER #

BV97011C

CHUCK OLSON

PROJECT LOCATION

Michael A. McFay



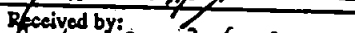
SEATTLE

REMARKS

HOLD ALL ADDITIONAL JARS FOR POSSIBLE
FUTURE 8260S & EPH/UPH ANALYSES

SAMPLE DISPOSAL INFORMATION

Dispose after 30 days
Return Samples
Call for Instructions

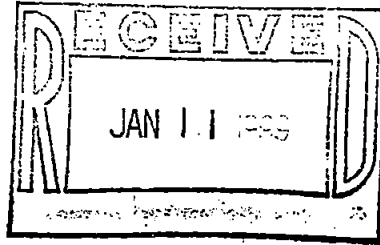
SIGNATURE		PRINT NAME	COMPANY	Date	Time
Relinquished by:		MELISSA A. MAGNUSON	AESI	12-23-98	2:20pm
Received by:		CHAMPION #52	CHAMPION	12-23-98	2:20
Relinquished by:					
Received by:		Carlos Buvas	FLB	12-23-98	3:35

06/09/97

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Jensen, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.



3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

January 7, 1999

Chip Goodhue, Project Manager
Associated Earth Sciences, Inc.
179 Madrone Lane North
Bainbridge Island, WA 98110

Dear Mr. Goodhue:

Included are the results from the testing of material submitted on December 30, 1998 from your Chuck Olson, BV97011C project. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC. ---

Charlene Jensen
Chemist

Enclosures
AES0107R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/07/99
 Date Received: 12/30/98
 Project: Chuck Olson, BV97011C
 Date Extracted: 12/31/98
 Date Analyzed: 12/31/98 & 01/04/99

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL BY GC/FID (NWTPH-Dx)

Extended to Include Motor Oil Range Compounds

Results Reported on a Dry Weight Basis

Results Reported as $\mu\text{g/g}$ (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Extended</u>	<u>Surrogate</u> (% Recovery)
BAY5NSWF 812153-01	260	114
BAY5NSW 812153-02	70	113
BAY5WSW 812153-03	<50	116
BAY5B 812153-04	970	121
BAY5ESW 812153-05	<50	118
BAY5SSW 812153-06	6,800	123
Method Blank	<50	110

SUBSEQUENTLY DILUTED - SEE 1/29/99 LABORATORY DATA
 REPORT FOR ANALYSIS OF
 DILUTED SAMPLE -
 WVB - 4/26/99

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/07/99

Date Received: 12/30/98

Project: Chuck Olson, BV97011C

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL EXTRACTABLE
PETROLEUM HYDROCARBONS BY GC/FID (NWTPH-Dx)**

Laboratory Code: 812153-04 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Diesel Extended	µg/g (ppm)	970	920	5	0-20

Laboratory Code: 812153-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Diesel Extended	µg/g (ppm)	500	970	ai	ai	41-170	ai

Laboratory Code: Laboratory Control Sample

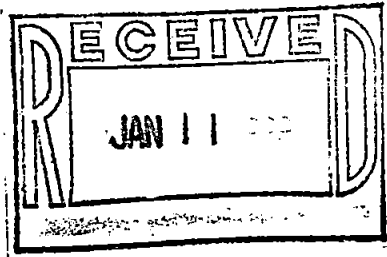
Analyte	Reporting Units	Spike Level	% Recovery LCS	Acceptance Criteria
Diesel Extended	µg/g (ppm)	500	99	59-138

ai- The amount spiked was insufficient to give meaningful recovery and RPD data.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Jensen, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.



3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

January 8, 1999

Chip Goodhue, Project Manager
Associated Earth Sciences, Inc.
179 Madrone Lane North
Bainbridge Island, WA 98110

Dear Mr. Goodhue:

Included are the results from the testing of material submitted on January 4, 1999 from your Chuck Olson, BV97011C project. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Charlene Jensen
Chemist

Enclosures
AES0108R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/08/99
Date Received: 01/04/99
Project: Chuck Olson, BV97011C
Date Extracted: 01/05/99
Date Analyzed: 01/05/99

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL

BY GC/FID (NWTPH-Dx)

Extended to Include Motor Oil Range Compounds

Results Reported on a Dry Weight Basis

Results Reported as $\mu\text{g/g}$ (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Extended</u>	<u>Surrogate</u> (% Recovery)
BAY7B 901005-01	<50	104
BAY7NSW 901005-02	<50	102
BAY7SSW 901005-03	<50	103
BAY7ESW 901005-04	<50	101
Method Blank	<50	102

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/08/99

Date Received: 01/04/99

Project: Chuck Olson, BV97011C

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL EXTRACTABLE
PETROLEUM HYDROCARBONS BY GC/FID (NWTPH-Dx)**

Laboratory Code: 812153-04 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Diesel Extended	µg/g (ppm)	970	920	5	0-20

Laboratory Code: 812153-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Diesel Extended	µg/g (ppm)	500	970	ai	ai	41-170	ai

Laboratory Code: Laboratory Control Sample

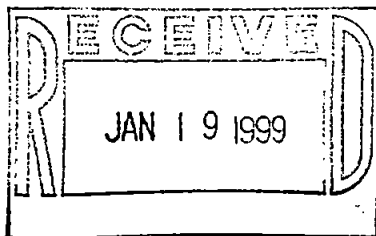
Analyte	Reporting Units	Spike Level	% Recovery LCS	Acceptance Criteria
Diesel Extended	µg/g (ppm)	500	99	59-138

ai- The amount spiked was insufficient to give meaningful recovery and RPD data.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Jensen, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.



3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

January 13, 1999

Chip Goodhue, Project Manager
Associated Earth Sciences, Inc.
179 Madrone Lane North
Bainbridge Island, WA 98110

Dear Mr. Goodhue:

Included are the results from the testing of material submitted on January 5, 1999 from your BV97011C Chuck Olson project. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC. ---

Charlene Jensen
Chemist

Enclosures
AES0113R.DOC

FRIEDMAN & BRUYA, INC.**ENVIRONMENTAL CHEMISTS**

Date of Report: 01/13/99
Date Received: 01/05/99
Project: BV97011C Chuck Olson
Date Extracted: 01/07/99
Date Analyzed: 01/08/99

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL**

BY GC/FID (NWTPH-D_x)

Extended to Include Motor Oil Range Compounds

Results Reported on a Dry Weight Basis

Results Reported as µg/g (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Extended</u>	<u>Surrogate</u> (% Recovery)
BAY4WSW 901011-01	<50	104
BAY4NSW 901011-02	<50	107
BAY4NSWF 901011-03	<50	99
BAY4SSW 901011-04	170	101
BAY4ESW 901011-05	<50	110
BAY4B 901011-06	1,300	104
BAY7NSW2 901011-07	<50	110
BAY7SSW2 901011-08	<50	105
BAY7B2 901011-09	<50	112
Method Blank	<50	109

FRIEDMAN & BRUYA, INC.**ENVIRONMENTAL CHEMISTS**

Date of Report: 01/13/99

Date Received: 01/05/99

Project: BV97011C Chuck Olson

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL EXTRACTABLE
PETROLEUM HYDROCARBONS BY GC/FID (NWTPH-Dx)**

Laboratory Code: 901011-04 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Diesel Extended	µg/g (ppm)	170	380	76 vo	0-20

Laboratory Code: 901011-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Diesel Extended	µg/g (ppm)	500	170	114	113	41-170	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	% Recovery LCS	Acceptance Criteria
Diesel Extended	µg/g (ppm)	500	96	59-138

vo - The value reported fell outside the control limits established for this analyte.

Note: The sample and duplicate were reextracted and reanalyzed. The RPD results were still outside of control limits. The sample variability is attributed to sample inhomogeneity.

901011

cf 1P599 E.O.

SAMPLE CHAIN OF CUSTODY

Send Report To:

Company ACST Contact CHIP GOODRUE
Address 179 MARION LN
City, State, Zip RAINBOWE KANSAS WA
Phone # 206-780-9378 FAX # _____ Date 1-5-99

SITE NO.

PROJECT NAME

PURCHASE ORDER #

BI97011C	CHUCK OLSON	
----------	-------------	--

SAMPLERS (signature)

PROJECT LOCATION

Mr. Wm. C. Rogers	Seattle, WA
-------------------	-------------

REMARKS

SAMPLE DISPOSAL INFORMATION

HOLD ADD'L JARS FOR FUTURE ANALYSES	<input type="checkbox"/> Dispose after 30 days <input type="checkbox"/> Return Samples <input checked="" type="checkbox"/> Call for Instructions
-------------------------------------	--

[illegible]

SIGNATURE

PRINT NAME

COMPANY

Date _____

Time

Relinquished by: <i>Melvin H. Hefner, Jr.</i>	<i>MISSISSAUGA H. Hefner</i>	<i>ATSI</i>	<i>1-5-98</i>	<i>3:55</i>
Received by: <i>Warren</i>	<i>Champion #205</i>		<i>1-5-98</i>	<i>3:55</i>
Relinquished by:				
Received by: <i>K. Edington</i>	<i>K. Edington</i>	<i>F & B</i>	<i>1-5-98</i>	<i>5:00</i>

90104

cf 1599 Ec1

SAMPLE CHAIN OF CUSTODY

Send Report To:

Company AGSI Contact CHIP GOODHUE
Address 139 MANOWE LN
City, State, Zip BAINBRIDGE ISLAND, WA
Phone # 206-780-9370 FAX # _____ Date 1-5-95

SITE NO.

PROJECT NAME

PURCHASE ORDER #

BV97011C	CHUCK OLSON	
----------	-------------	--

SAMPLERS (signature)

PROJECT LOCATION

Mph. C. May 	SEATTLE, WA
--	-------------

REMARKS

SAMPLE DISPOSAL INFORMATION

HOLD AND'L JARS FOR FUTURE ANALYSES	<input type="checkbox"/>	Dispose after 30 days
	<input type="checkbox"/>	Return Samples
	<input checked="" type="checkbox"/>	Call for Instructions

[illegible]

SIGNATURE

PRINT NAME

COMPANY

Date _____

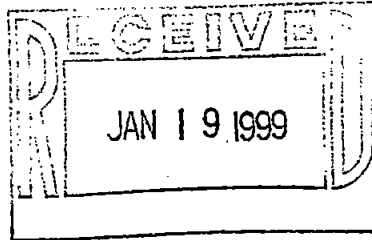
Time

Relinquished by:	NAME	COMPANY	DATE	TIME
<i>Michael C. May</i>	MEZISSO ARMAGNISON	AEBI	1-5-98	3:55
Received by: <i>Champion</i>	Champion	#205	1-5-99	3:55
Relinquished by:				
Received by: <i>Scott A. Dubbise</i>	SCOTT A. DUBBISE	F&B, INC	1-5-99	5:00 PM

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Jensen, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.



3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

January 13, 1999

Chip Goodhue, Project Manager
Associated Earth Sciences, Inc.
179 Madrone Lane North
Bainbridge Island, WA 98110

Dear Mr Goodhue:

Included are the results from the testing of material submitted on January 6, 1999 from your BV97011C Chuck Olson project. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC. ---

A handwritten signature in cursive script that reads "Charlene Jensen".

Charlene Jensen
Chemist

Enclosures
AES0113R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/13/99
Date Received: 01/06/99
Project: BV97011C Chuck Olson
Date Extracted: 01/07/99
Date Analyzed: 01/07/99

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL
BY GC/FID (NWTPH-Dx)**

Extended to Include Motor Oil Range Compounds
Results Reported on a Dry Weight Basis
Results Reported as $\mu\text{g/g}$ (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Extended</u>	<u>Surrogate</u> (% Recovery)
BAY7B3 901016-01	<50	106
BAY7NSW3 901016-02	<50	106
BAY7SSW3 901016-03	<50	108
BAY7WSW 901016-04	<50	109
Method Blank	<50	108

FRIEDMAN & BRUYA, INC.**ENVIRONMENTAL CHEMISTS**

Date of Report: 01/13/99

Date Received: 01/06/99

Project: BV97011C Chuck Olson

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL EXTRACTABLE
PETROLEUM HYDROCARBONS BY GC/FID (NWTPH-Dx)**

Laboratory Code: 901010-04 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Diesel Extended	µg/g (ppm)	<50	<50	nm	0-20

Laboratory Code: 901010-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	Acceptance Criteria
Diesel Extended	µg/g (ppm)	500	<50	127	41-170

Laboratory Code: Laboratory Control Sample

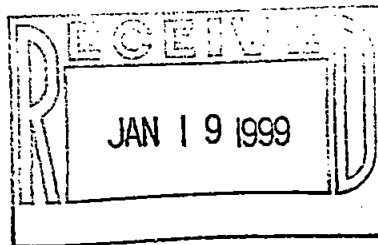
Analyte	Reporting Units	Spike Level	% Recovery LCS	Acceptance Criteria
Diesel Extended	µg/g (ppm)	500	101	59-138

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Jensen, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.



3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

January 13, 1999

Chip Goodhue, Project Manager
Associated Earth Sciences, Inc.
179 Madrone Lane North
Bainbridge Island, WA 98110

Dear Mr Goodhue:

Included are the results from the testing of material submitted on January 6, 1999 from your BV97011C Chuck Olson project. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

A handwritten signature in cursive script that reads "Charlene Jensen". The signature is written in dark ink and is positioned above the printed name.

Charlene Jensen
Chemist

Enclosures
AES0113R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/13/99
Date Received: 01/06/99
Project: BV970111C Chuck Olson
Date Extracted: 01/07/99
Date Analyzed: 01/07/99

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL
BY GC/FID (NWTPH-Dx)

Extended to Include Motor Oil Range Compounds
Results Reported on a Dry Weight Basis
Results Reported as $\mu\text{g/g}$ (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Extended</u>	<u>Surrogate</u> (% Recovery)
BAY3B 901015-01	<50	107
BAY3NSW 901015-02	110	110
BAY3ESW 901015-03	<50	108
BAY3SSW 901015-04	<50	97
Method Blank	<50	108

FRIEDMAN & BRUYA, INC.**ENVIRONMENTAL CHEMISTS**

Date of Report: 01/13/99

Date Received: 01/06/99

Project: BV970111C Chuck Olson

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL EXTRACTABLE
PETROLEUM HYDROCARBONS BY GC/FID (NWTPH-Dx)**

Laboratory Code: 901010-04 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Diesel Extended	µg/g (ppm)	<50	<50	nm	0-20

Laboratory Code: 901010-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	Acceptance Criteria
Diesel Extended	µg/g (ppm)	500	<50	127	41-170

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	% Recovery LCS	Acceptance Criteria
Diesel Extended	µg/g (ppm)	500	101	59-138

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

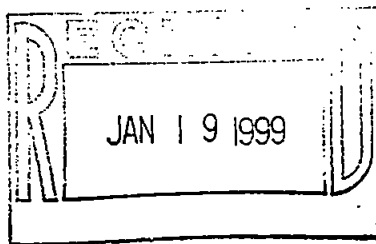
901015

CJ 1.6.99 EO

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Jensen, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.



3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

January 15, 1999

Chip Goodhue, Project Manager
Associated Earth Sciences, Inc.
179 Madrone Lane North
Bainbridge Island, WA 98110

Dear Mr. Goodhue:

Included are the results from the testing of material submitted on January 7, 1999 from your Chuck Olson Site #BV97011C project. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Charlene Jensen
Chemist

Enclosures
AES0115R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/15/99
Date Received: 01/07/99
Project: Chuck Olson Site #BV97011C
Date Extracted: 01/12/99
Date Analyzed: 01/13/99 & 01/14/99

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL
BY GC/FID (NWTPH-Dx)**

Extended to Include Motor Oil Range Compounds
Results Reported on a Dry Weight Basis
Results Reported as $\mu\text{g/g}$ (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Extended</u>	<u>Surrogate</u> (% Recovery)
BAY1B 901023-01	12,000	85 d
BAY1NSW 901023-02	16,000	127 d
BAY1SSW 901023-03	18,000	110 d
BAY1ESW 901023-04	4,400	114
Method Blank	<50	115

d - The sample was diluted due to the presence of high levels of material. Surrogate recoveries may not be meaningful.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/15/99

Date Received: 01/07/99

Project: Chuck Olson Site #BV97011C

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS BY GC/FID (NWTPH-Dx)

Laboratory Code: 901024-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Diesel Extended	µg/g (ppm)	<50	110	nm	0-20

Laboratory Code: 901024-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Diesel Extended	µg/g (ppm)	500	<50	101	106	41-170	5

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	% Recovery LCS	Acceptance Criteria
Diesel Extended	µg/g (ppm)	500	98	59-138

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

901023

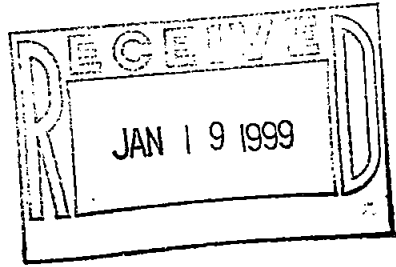
CS 1-7-99 EO2

06/09/97

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Jensen, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.



3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

January 15, 1999

Chip Goodhue, Project Manager
Associated Earth Sciences, Inc.
179 Madrone Lane North
Bainbridge Island, WA 98110

Dear Mr. Goodhue

Included are the results from the testing of material submitted on January 7, 1999 from your Chuck Olson Site #BV97011C project. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC. ---

Charlene Jensen
Chemist

Enclosures
AES0115R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/15/99
Date Received: 01/07/99
Project: Chuck Olson Site #BV97011C
Date Extracted: 01/12/99
Date Analyzed: 01/14/99

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL
BY GC/FID (NWTPH-Dx)**

Extended to Include Motor Oil Range Compounds
Results Reported on a Dry Weight Basis
Results Reported as $\mu\text{g/g}$ (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Extended</u>	<u>Surrogate</u> (% Recovery)
BAY8B 901024-01	<50	114
BAY8WSW 901024-02	<50	116
BAY8SSW 901024-03	2,500	116
BAY8NSW 901024-04	<50	116
Method Blank	<50	115

FRIEDMAN & BRUYA, INC.**ENVIRONMENTAL CHEMISTS**

Date of Report: 01/15/99

Date Received: 01/07/99

Project: Chuck Olson Site #BV97011C

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL EXTRACTABLE
PETROLEUM HYDROCARBONS BY GC/FID (NWTPH-Dx)**

Laboratory Code: 901024-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Diesel Extended	µg/g (ppm)	<50	110	nm	0-20

Laboratory Code: 901024-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Diesel Extended	µg/g (ppm)	500	<50	101	106	41-170	5

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	% Recovery LCS	Acceptance Criteria
Diesel Extended	µg/g (ppm)	500	98	59-138

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

901024

CS 1-7-99 EOZ

Send Report To:

SITE NO.	PROJECT NAME	PURCHASE ORDER #
BY97011C	CHUCK OLSON	

SAMPLERS (signature)	PROJECT LOCATION
<i>Michael B. May</i>	Seattle, WA

REMARKS	SAMPLE DISPOSAL INFORMATION	
HAD ADD'L JARS FOR FUTURE ANALYSES	<input type="checkbox"/>	Dispose after 30 days
	<input type="checkbox"/>	Return Samples
	<input checked="" type="checkbox"/>	Call for Instructions

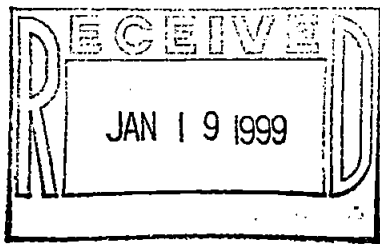
[illegible]

SIGNATURE	PRINT NAME	COMPANY	Date	Time
Relinquished by: <i>[Signature]</i>	MELISSA A. MAGNUSON	AESI	1-7-99	4:00
Received by: <i>[Signature]</i>	MARTIN # 200	CHAMPION	1/7/99	4:00
Relinquished by: <i>[Signature]</i>	V	V		
Received by: <i>[Signature]</i>	S. OBORN	PJ Byrne	1-7-99	5pm

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Jensen, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.



3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

January 15, 1999

Chip Goodhue, Project Manager
Associated Earth Sciences, Inc.
179 Madrone Lane North
Bainbridge Island, WA 98110

Dear Mr. Goodhue

Included are the results from the testing of material submitted on January 8, 1999 from your Chuck Olson Site #BV97011C project. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC. ---

Charlene Jensen
Chemist

Enclosures
AES0115R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/15/99
Date Received: 01/08/99
Project: Chuck Olson Site #BV97011C
Date Extracted: 01/11/99
Date Analyzed: 01/14/99

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL
BY GC/FID (NWTPH-Dx)**

Extended to Include Motor Oil Range Compounds
Results Reported on a Dry Weight Basis
Results Reported as $\mu\text{g/g}$ (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Extended</u>	<u>Surrogate</u> (% Recovery)
BAY1SSW2 901038-01	13,000	109 d
BAY1B2 901038-02	70	104
BAY1NSW2 901038-03	1,600	109
Method Blank	<50	128

d - The sample was diluted due to the presence of high levels of material. Surrogate recoveries may not be meaningful.

FRIEDMAN & BRUYA, INC.**ENVIRONMENTAL CHEMISTS**

Date of Report: 01/15/99

Date Received: 01/08/99

Project: Chuck Olson Site #BV97011C

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL EXTRACTABLE
PETROLEUM HYDROCARBONS BY GC/FID (NWTPH-Dx)**

Laboratory Code: 901032-04 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Diesel Extended	µg/g (ppm)	60	60	0	0-20

Laboratory Code: 901032-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Diesel Extended	µg/g (ppm)	500	60	114	112	41-170	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	% Recovery LCS	Acceptance Criteria
Diesel Extended	µg/g (ppm)	500	122	59-138

FRIEDMAN & BRUYA, INC.
3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282

#901038

CJ 803
1-8-99
4:00

SAMPLE CHAIN OF CUSTODY

Send Report To:

Company ACSI

Contact CHIP GOODHUE

Address 179 MYDRONE LN

City, State, Zip BAINBRIDGE ISLAND, WA

Phone # 206-780-9370

FAX #

Date 1-8-99

SITE NO.

PROJECT NAME

PURCHASE ORDER #

BV9701C

CHUCK OLSON

SAMPLERS (signature)

PROJECT LOCATION

Michael D. Meyer

SEATTLE, WA

REMARKS

SAMPLE DISPOSAL INFORMATION

HOLD ADD'L JARS FOR FUTURE ANALYSES

- ☐ Dispose after 30 days
☐ Return Samples
☒ Call for Instructions

Sample #	Date/Time Sampled	Type of Sample	# of Jars	Lab Sample #	Analyses Requested
<u>BAYISSW2</u>	<u>1-8-99/8:25</u>	<u>SOIL</u>	<u>3</u>	<u>01</u>	<u>NUJTPH-DX</u>
<u>BAYISSW2</u>	<u>1-8-99</u>	<u>SOIL</u>	<u>3</u>	<u>01</u>	<u>NUJTPH-DX</u>
<u>BAYIB2</u>	<u>8:30</u>	<u>↓</u>	<u>↓</u>	<u>02</u>	<u>↓</u>
<u>BAYINW2</u>	<u>8:35</u>	<u>↓</u>	<u>↓</u>	<u>03</u>	<u>↓</u>

SIGNATURE

PRINT NAME

COMPANY

Date

Time

Relinquished by:

Received by:

Relinquished by:

Received by:

Michael D. Meyer

LANCE TRANSPORT

11

Carlos Barros

ACSI

CHAMPION #52

11

FLR

1-8-99

1-8-99

11

1-8-99

3:10

3:10

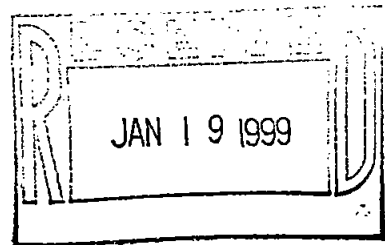
4:00

4:00

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Jensen, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.



3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

January 15, 1999

Chip Goodhue, Project Manager
Associated Earth Sciences, Inc.
179 Madrone Lane North
Bainbridge Island, WA 98110

Dear Mr. Goodhue

Included are the results from the testing of material submitted on January 8, 1999 from your Chuck Olson Site #BV97011C project. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC. ---

Charlene Jensen
Chemist

Enclosures
AES0115R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/15/99

Date Received: 01/08/99

Project: Chuck Olson Site #BV97011C

Date Extracted: 01/12/99

Date Analyzed: 01/14/99

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL
BY GC/FID (NWTPH-Dx)**

Extended to Include Motor Oil Range Compounds

Results Reported on a Dry Weight Basis

Results Reported as $\mu\text{g/g}$ (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Extended</u>	<u>Surrogate</u> (% Recovery)
BAY8B2 901039-01	<50	121
BAY8SSW2 901039-02	4,700	114
BAY8NSW2 901039-03	<50	116
Method Blank	<50	115

FRIEDMAN & BRUYA, INC.**ENVIRONMENTAL CHEMISTS**

Date of Report: 01/15/99

Date Received: 01/08/99

Project: Chuck Olson Site #BV97011C

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL EXTRACTABLE
PETROLEUM HYDROCARBONS BY GC/FID (NWTPH-Dx)**

Laboratory Code: 901024-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Diesel Extended	µg/g (ppm)	<50	110	nm	0-20

Laboratory Code: 901024-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Diesel Extended	µg/g (ppm)	500	<50	101	106	41-170	5

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	% Recovery LCS	Acceptance Criteria
Diesel Extended	µg/g (ppm)	500	98	59-138

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

901039

C7 E03
1-8-99
4:00

Date 1.8.79

CHUCK OLSON

Michael. copy

SEATTLE, WA

MOUL AND L JARS FOR FUTURE ANALYSES

[illegible]

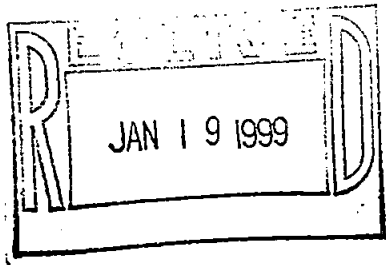
Time

Relinquished By:	Vehicle Make	COMPLAINT	Date	Time
<i>[Signature]</i>	MITSUBISHI	PC 31	1-8-99	3:10
<i>[Signature]</i>	LANCE TRANSPORT	CHAMPION #52	1-8-99	3:10
<i>[Signature]</i>	"	"	"	4:00
<i>[Signature]</i>	Charles Burros	FR B3	1-8-99	4:00

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Jensen, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.



3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

January 15, 1999

Chip Goodhue, Project Manager
Associated Earth Sciences, Inc.
179 Madrone Lane North
Bainbridge Island, WA 98110

Dear Mr. Goodhue:

Included are the results from the testing of material submitted on January 8, 1999 from your Chuck Olson, Site #BV97011C project. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Charlene Jensen
Chemist

Enclosures
AES0115R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/15/99
Date Received: 01/08/99
Project: Chuck Olson, Site #BV97011C
Date Extracted: 01/12/99
Date Analyzed: 01/14/99

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL
BY GC/FID (NWTPH-Dx)**

Extended to Include Motor Oil Range Compounds
Results Reported on a Dry Weight Basis
Results Reported as $\mu\text{g/g}$ (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Extended</u>	<u>Surrogate</u> (% Recovery)
BAY12B 901040-01	4,500	129
BAY12NSW 901040-02	5,100	117
BAY12SSW 901040-03	90	126
BAY12WSW 901040-04	110	117
Method Blank	<50	115

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/15/99

Date Received: 01/08/99

Project: Chuck Olson, Site #BV97011C

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL EXTRACTABLE
PETROLEUM HYDROCARBONS BY GC/FID (NWTPH-Dx)**

Laboratory Code: 901024-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Diesel Extended	µg/g (ppm)	<50	110	nm	0-20

Laboratory Code: 901024-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Diesel Extended	µg/g (ppm)	500	<50	101	106	41-170	5

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	% Recovery LCS	Acceptance Criteria
Diesel Extended	µg/g (ppm)	500	98	59-138

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

901040

CS E01
1-8-0
4:00

FAX

Contact CHP Grosshime

Date 1-8-77

PURCHASE ORDER #

Biv 97011C

CHUCK OLSON

PROJECT LOCATION

SAMPLEERS (signature)
Michael A. May

SCARLE, WA

SAMPLE DISPOSAL INFORMATION

HOLD ADD'L JARS FOR FUTURE ANALYSES

Dispose after 30 days
Return Samples
Call for Instructions

Time

Received by _____

M. A. MANNING

At 31

11879.

3:10

Received by:

LANCET TRANSPORT, #52

LANCE TRANSPORT

Q Hampton #52

1-8-95

310

Relinquished by:

14

11

11

11

610

Received by:

[Handwritten signature]

Carlos Bruno

FLB

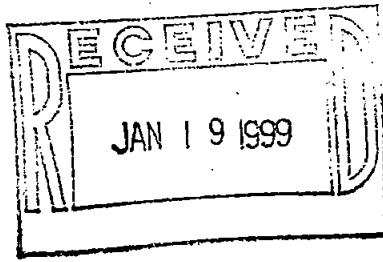
1-8-75

4:00

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Jensen, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.



3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
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e-mail: fbi@isomedia.com

January 15, 1999

Chip Goodhue, Project Manager
Associated Earth Sciences, Inc.
179 Madrone Lane North
Bainbridge Island, WA 98110

Dear Mr. Goodhue:

Included are the results from the additional testing of material submitted on December 22, 1998 from your BV97011C, Chuck Olson project. Sample Bay6NSW was sent to Sound Analytical for EPH/VPH analysis. Results are enclosed.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

A handwritten signature in cursive script that reads "Charlene Jensen".

Charlene Jensen
Chemist

Enclosures
AES0115R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID: BAY6NSW
 Date Received: 12/22/98
 Date Extracted: 12/31/98
 Date Analyzed: 12/31/98
 Matrix: Soil
 Units: ug/g (ppm)

Client: Associated Earth Sciences
 Project: Chuck Olson
 Lab ID: 812133-01
 Data File: 123119.D
 Instrument: GCMS1
 Operator: YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Dibromofluoromethane	93	54	121
1,2-Dichloroethane-d4	86	61	120
Toluene-d8	88	58	121
4-Bromofluorobenzene	76	56	124

Compounds: Concentration
ug/g (ppm)

Dichlorodifluoromethane <0.04
 Chloromethane <0.04
 Vinyl chloride <0.04
 Bromomethane <0.04
 Chloroethane <0.04
 Trichlorofluoromethane <0.04
 Acetone <0.4
 1,1-Dichloroethene <0.04
 Methylene chloride <0.2
 trans-1,2-Dichloroethene <0.04
 1,1-Dichloroethane <0.04
 2,2-Dichloropropane <0.04
 cis-1,2-Dichloroethene <0.04
 Chloroform <0.04
 2-Butanone (MEK) <0.4
 1,2-Dichloroethane (EDC) <0.04
 1,1,1-Trichloroethane <0.04
 1,1-Dichloropropene <0.04
 Carbon Tetrachloride <0.04
 Benzene <0.04
 Trichloroethene <0.04
 1,2-Dichloropropane <0.04
 Bromodichloromethane <0.04
 Dibromomethane <0.04
 4-Methyl-2-pentanone <0.4
 cis-1,3-Dichloropropene <0.04
 Toluene <0.04
 trans-1,3-Dichloropropene <0.04
 1,1,2-Trichloroethane <0.04
 2-Hexanone <0.4
 1,3-Dichloropropane <0.04

Compounds: Concentration
ug/g (ppm)

Tetrachloroethene <0.04
 Dibromochloromethane <0.04
 1,2-Dibromoethane (EDB) <0.04
 Chlorobenzene <0.04
 Ethylbenzene <0.04
 1,1,1,2-Tetrachloroethane <0.04
 m,p-Xylene <0.04
 o-Xylene <0.04
 Styrene <0.04
 Isopropylbenzene <0.04
 Bromoform <0.04
 n-Propylbenzene <0.04
 Bromobenzene <0.04
 1,3,5-Trimethylbenzene <0.04
 1,1,2,2-Tetrachloroethane <0.04
 1,2,3-Trichloropropane <0.04
 2-Chlorotoluene <0.04
 4-Chlorotoluene <0.04
 tert-Butylbenzene <0.04
 1,2,4-Trimethylbenzene <0.04
 sec-Butylbenzene <0.04
 p-Isopropyltoluene <0.04
 1,3-Dichlorobenzene <0.04
 1,4-Dichlorobenzene <0.04
 1,2-Dichlorobenzene <0.04
 1,2-Dibromo-3-chloropropane <0.04
 1,2,4-Trichlorobenzene <0.04
 Hexachlorobutadiene <0.04
 Naphthalene <0.04
 1,2,3-Trichlorobenzene <0.04

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID: Method Blank
 Date Received: 12/22/98
 Date Extracted: 12/31/98
 Date Analyzed: 12/31/98
 Matrix: Soil
 Units: ug/g (ppm)

Client: Associated Earth Sciences
 Project: Chuck Olson
 Lab ID: 08-701 mb3
 Data File: 123116.D
 Instrument: GCMS1
 Operator: YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Dibromofluoromethane	102	54	121
1,2-Dichloroethane-d4	100	61	120
Toluene-d8	89	58	121
4-Bromofluorobenzene	86	56	124

Compounds:	Concentration ug/g (ppm)	Compounds:	Concentration ug/g (ppm)
Dichlorodifluoromethane	<0.04	Tetrachloroethene	<0.04
Chloromethane	<0.04	Dibromochloromethane	<0.04
Vinyl chloride	<0.04	1,2-Dibromoethane (EDB)	<0.04
Bromomethane	<0.04	Chlorobenzene	<0.04
Chloroethane	<0.04	Ethylbenzene	<0.04
Trichlorofluoromethane	<0.04	1,1,1,2-Tetrachloroethane	<0.04
Acetone	<0.4	m,p-Xylene	<0.04
1,1-Dichloroethene	<0.04	o-Xylene	<0.04
Methylene chloride	<0.2	Styrene	<0.04
trans-1,2-Dichloroethene	<0.04	Isopropylbenzene	<0.04
1,1-Dichloroethane	<0.04	Bromoform	<0.04
2,2-Dichloropropane	<0.04	n-Propylbenzene	<0.04
cis-1,2-Dichloroethene	<0.04	Bromobenzene	<0.04
Chloroform	<0.04	1,3,5-Trimethylbenzene	<0.04
2-Butanone (MEK)	<0.4	1,1,2,2-Tetrachloroethane	<0.04
1,2-Dichloroethane (EDC)	<0.04	1,2,3-Trichloropropane	<0.04
1,1,1-Trichloroethane	<0.04	2-Chlorotoluene	<0.04
1,1-Dichloropropene	<0.04	4-Chlorotoluene	<0.04
Carbon Tetrachloride	<0.04	tert-Butylbenzene	<0.04
Benzene	<0.04	1,2,4-Trimethylbenzene	<0.04
Trichloroethene	<0.04	sec-Butylbenzene	<0.04
1,2-Dichloropropane	<0.04	p-Isopropyltoluene	<0.04
Bromodichloromethane	<0.04	1,3-Dichlorobenzene	<0.04
Dibromomethane	<0.04	1,4-Dichlorobenzene	<0.04
4-Methyl-2-pentanone	<0.4	1,2-Dichlorobenzene	<0.04
cis-1,3-Dichloropropene	<0.04	1,2-Dibromo-3-chloropropane	<0.04
Toluene	<0.04	1,2,4-Trichlorobenzene	<0.04
trans-1,3-Dichloropropene	<0.04	Hexachlorobutadiene	<0.04
1,1,2-Trichloroethane	<0.04	Naphthalene	<0.04
2-Hexanone	<0.4	1,2,3-Trichlorobenzene	<0.04
1,3-Dichloropropane	<0.04		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/15/99

Date Received: 12/22/98

Project: BV97011C, Chuck Olson

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260B

Laboratory Code: 811045-02 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
1,1-Dichloroethene	µg/g (ppm)	<0.04	<0.04	nm	0-20
Benzene	µg/g (ppm)	<0.04	<0.04	nm	0-20
Trichloroethene	µg/g (ppm)	<0.04	<0.04	nm	0-20
Toluene	µg/g (ppm)	<0.04	<0.04	nm	0-20
Chlorobenzene	µg/g (ppm)	<0.04	<0.04	nm	0-20

Laboratory Code: 811045-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
1,1-Dichloroethene	µg/g (ppm)	2	<0.04	54	56	35-120	3
Benzene	µg/g (ppm)	2	<0.04	70	71	45-116	1
Trichloroethene	µg/g (ppm)	2	<0.04	57	57	39-114	0
Toluene	µg/g (ppm)	2	<0.04	48	49	40-113	3
Chlorobenzene	µg/g (ppm)	2	<0.04	62	61	46-114	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	% Recovery LCS	% Recovery LCSD	Acceptance Criteria	Relative Percent Difference
1,1-Dichloroethene	µg/g (ppm)	2	126	84	54-133	40 vo
Benzene	µg/g (ppm)	2	78	80	61-126	3
Trichloroethene	µg/g (ppm)	2	75	77	57-122	2
Toluene	µg/g (ppm)	2	78	76	60-118	2
Chlorobenzene	µg/g (ppm)	2	79	79	67-119	1

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

vo - The value reported fell outside the control limits established for this analyte.

#812133

12/28/98
1:50

SAMPLE CHAIN OF CUSTODY

Send Report To:

Company: ASSOCIATED EARTH SCIENCES, INC Contact: CHIP GOADHUE
Address: 179 MARLOWE AVE
City, State, Zip: RAINSBRIDGE ISLAND WA
Phone # 206-780-2370 FAX # _____ Date 12-22-98

SITE NO.

PROJECT NAME**PURCHASE ORDER #**

BV97011C

CHUCK OLSON

SAMPLERS (signature)

PROJECT LOCATION

Michael A. Magan

Seattle, WA

REMARKS

SAMPLE DISPOSAL INFORMATION

HOLD ALL ADDITIONAL JARS FOR POSSIBLE
8260A & EPH/VPH ANALYSES

☐ Dispose after 30 days
☐ Return Samples
☒ Call for Instructions

Sample #	Date/Time Sampled	Type of Sample	# of Jars	Lab Sample #	Analyses Requested
BAY 6 NSW	12-22-98/11: ⁰⁰	SOIL	3	01	NWTPH - Dx *
BAY 6 SSW	12-22-98/11:05	SOIL	3	02	↓
BAY 6 ESW	12-22-98/11:10	SOIL	3	03	
BAY 6 B	12-22-98/11:15	SOIL	3	04	
BAY 6 WSW	12-22-98/15:10	SOIL	3	05	
		* Analyze Bay 6 NSW (oil) by 8260			
		and VPH (with target analytes) and			
		EPH (no PAHs) per Chip Goodhue 12-30-98			y

SIGNATURE

PRINT NAME _____

COMPANY

Date _____

Time

Relinquished by:

Received by: Michael L. Mays

MEZISSA A. MASON

AESI

12-22-98

4:15pm

Received by:

Chapman #334

~~HAF CHUNG~~

Changewin

12-23-98

4.5715-P

Relinquished by:

Received by 1.1

MANUEL MITT

FLBJ

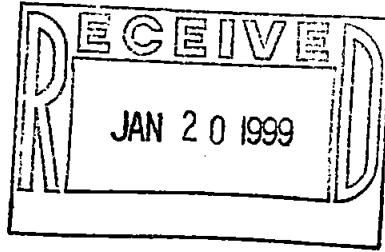
12-22-98

 $S = 10 \text{ cm}$

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Jensen, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.



3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

January 19, 1999

Chip Goodhue, Project Manager
Associated Earth Sciences, Inc.
179 Madrone Lane North
Bainbridge Island, WA 98110

Dear Mr. Goodhue:

Included are the results from the testing of material submitted on January 13, 1999 from your BV97011C, Chuck Olson project. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Charlene Jensen
Chemist

Enclosures
AES0119R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/19/99
Date Received: 01/13/99
Project: BV97011C, Chuck Olson
Date Extracted: 01/14/99
Date Analyzed: 01/15/99

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL
BY GC/FID (NWTPH-Dx)**

Extended to Include Motor Oil Range Compounds

Results Reported on a Dry Weight Basis

Results Reported as $\mu\text{g/g}$ (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Extended</u>	<u>Surrogate</u> (% Recovery)
BAY1B3 901053-01	<50	101
BAY1SSW3 901053-02	<50	92
BAY1WSW 901053-03	<50	89
BAY1NSW3 901053-04	<50	88
BAY8B3 901053-05	<50	88
BAY8SSW3 901053-06	<50	90
BAY8ESW 901053-07	<50	89
BAY8NSW3 901053-08	2,100	93
Method Blank	<50	91

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/19/99

Date Received: 01/13/99

Project: BV97011C, Chuck Olson

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS BY GC/FID (NWTPH-Dx)

Laboratory Code: 901053-04 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Diesel Extended	µg/g (ppm)	<50	<50	nm	0-20

Laboratory Code: 901053-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Diesel Extended	µg/g (ppm)	500	<50	95	99	41-170	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	% Recovery LCS	Acceptance Criteria
Diesel Extended	µg/g (ppm)	500	91	59-138

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

FRIEDMAN & BRUYA, INC.
3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282

901053

cg 11399 E22

SAMPLE CHAIN OF CUSTODY

Send Report To:

Company AGSI Contact CHIP GORDON
Address 179 MADISON LN
City, State, Zip BAINBRIDGE ISLAND, WA
Phone # 206-380-9370 FAX # _____ Date 1-12-99

SITE NO.

PROJECT NAME

PURCHASE ORDER #

<u>BV97011C</u>	<u>CHUCK OLSON</u>	
-----------------	--------------------	--

SAMPLERS (signature)

PROJECT LOCATION

<u>Michael A. May</u>	<u>SEATTLE, WA</u>
-----------------------	--------------------

REMARKS

SAMPLE DISPOSAL INFORMATION

	<input type="checkbox"/>	Dispose after 30 days
	<input type="checkbox"/>	Return Samples
	<input type="checkbox"/>	Call for Instructions

Sample #	Date/Time Sampled	Type of Sample	# of Jars	Lab Sample #	Analyses Requested
<u>BAY 1B3</u>	<u>1-12-99/8:35</u>	<u>SOIL</u>	<u>3</u>	<u>01</u>	<u>NWTPH-DX</u>
<u>BAY 1SSW3</u>	<u>8:40</u>	<u> </u>	<u> </u>	<u>02</u>	<u> </u>
<u>BAY 1USW</u>	<u>8:45</u>	<u> </u>	<u> </u>	<u>03</u>	<u> </u>
<u>BAY 1NSW3</u>	<u>8:50</u>	<u> </u>	<u> </u>	<u>04</u>	<u> </u>
<u>BAY 8B3</u>	<u>9:10</u>	<u> </u>	<u> </u>	<u>05</u>	<u> </u>
<u>BAY 8SSW3</u>	<u>9:15</u>	<u> </u>	<u> </u>	<u>06</u>	<u> </u>
<u>BAY 8ESW</u>	<u>9:20</u>	<u> </u>	<u> </u>	<u>07</u>	<u> </u>
<u>BAY 8NSW3</u>	<u>9:25</u>	<u> </u>	<u> </u>	<u>08</u>	<u> </u>

SIGNATURE

PRINT NAME

COMPANY

1-13-99

Date

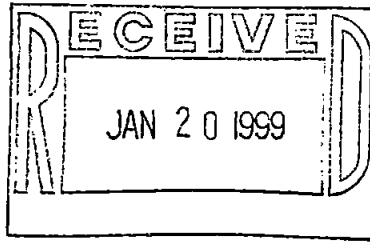
Time

Relinquished by: <u>Michael A. May</u>	<u>MARISSA A. MAGNOLSON</u>	<u>AGSI</u>	<u>1-13-99</u>	<u>8:00</u>
Received by: <u>Charlene Jensen</u>	<u>Charlene Jensen</u>	<u>FBI</u>	<u>1-13-99</u>	<u>8:00</u>
Relinquished by:				
Received by:				

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Jensen, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.



3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

January 19, 1999

Chip Goodhue, Project Manager
Associated Earth Sciences, Inc.
179 Madrone Lane North
Bainbridge Island, WA 98110

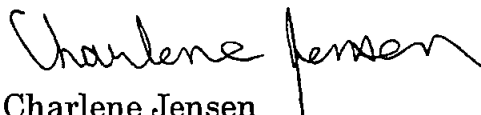
Dear Mr. Goodhue:

Included are the results from the testing of material submitted on January 15, 1999 from your BV97011C, Chuck Olson project. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Charlene Jensen
Chemist

Enclosures
AES0119R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/19/99
Date Received: 01/15/99
Project: BV97011C, Chuck Olson
Date Extracted: 01/15/99
Date Analyzed: 01/15/99

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL
BY GC/FID (NWTPH-Dx)**

Extended to Include Motor Oil Range Compounds

Results Reported on a Dry Weight Basis

Results Reported as $\mu\text{g/g}$ (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Extended</u>	<u>Surrogate</u> (% Recovery)
BAY1B4 901073-01	<50	92
BAY1WSW4 901073-02	1,900	90
BAY1SSW4 901073-03	<50	93
BAY1ESW4 901073-04	280	95
BAY12B2 901073-05	5,200	96
BAY12NSW2 901073-06	5,400	88
Method Blank	<50	94

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/19/99

Date Received: 01/15/99

Project: BV97011C, Chuck Olson

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS BY GC/FID (NWTPH-Dx)

Laboratory Code: 901052-10 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Diesel Extended	µg/g (ppm)	240	190	23 a	0-20

Laboratory Code: 901052-10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Diesel Extended	µg/g (ppm)	500	240	112	112	41-170	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	% Recovery LCS	Acceptance Criteria
Diesel Extended	µg/g (ppm)	500	99	59-138

a - The analyte was detected at a level less than five times the detection limit. The RPD results may not provide reliable information on the variability of the analysis.

901013

CF 11599 A01

SAMPLE CHAIN OF CUSTODY

Send Report To:

Company AE SI

Address 179 MADISON LN

City, State, Zip BAINBRIDGE ISL., WA

Phone # 206-780-9370

FAX #

Date 1.14.99

SITE NO.

PROJECT NAME

PURCHASE ORDER #

BV97011C

CHUCK OLSON

SAMPLERS (signature)

PROJECT LOCATION

Michael L. May

SEATTLE, WA

REMARKS

SAMPLE DISPOSAL INFORMATION

HOLD ALL JARS FOR FUTURE ANALYSES



Dispose after 30 days

Return Samples

Call for Instructions

[illegible]

SIGNATURE

PRINT NAME

COMPANY

Date

Time

Relinquished by:

H. L. G. G. G.

MEUSSA A. MAMUNDU

ACSI

1. 第 9 所

8:00

Received by:

Charlene Keison

Charlene Jensen

FR

1-15-99

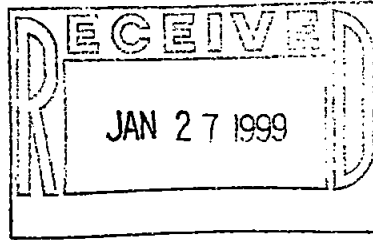
१०५

Relinquished by:

Received by:

FRIEDMAN & BRUYA, INC.
ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Jensen, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.



OK TO PAY - Pay 9
1/27/99 WVB

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

January 22, 1999

Chip Goodhue, Project Manager
Associated Earth Sciences, Inc.
179 Madrone Lane North
Bainbridge Island, WA 98110


Dear Mr. Goodhue:

Included are the results from the testing of material submitted on January 14, 1999 from your Chuck Olson, BV97011C project. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC. ---


Charlene Jensen
Chemist

Enclosures
AES0122R.DOC

FRIEDMAN & BRUYA, INC.
ENVIRONMENTAL CHEMISTS

Date of Report: 01/22/99
Date Received: 01/14/99
Project: Chuck Olson, BV97011C
Date Extracted: 01/14/99
Date Analyzed: 01/15/99

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL
BY GC/FID (NWTPH-Dx)
Extended to Include Motor Oil Range Compounds
Results Reported on a Dry Weight Basis
Results Reported as $\mu\text{g/g}$ (ppm)**

<u>Sample ID</u> Laboratory ID	<u>Diesel Extended</u>	<u>Surrogate</u> (% Recovery)
BAY9B 901063-01	<50	93
BAY9WSW 901063-02	<50	90
BAY9NSW 901063-03	190	92
BAY9B2 901063-04	<50	92
BAY9SSW 901063-05	140	93
BAY9ESW 901063-06	<50	91
Method Blank	<50	89

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/22/99

Date Received: 01/14/99

Project: Chuck Olson, BV97011C

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS BY GC/FID (NWTPH-Dx)

Laboratory Code: 901063-05 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Diesel Extended	µg/g (ppm)	140	130	7	0-20

Laboratory Code: 901063-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Diesel Extended	µg/g (ppm)	500	140	102	113	41-170	10

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	% Recovery LCS	Acceptance Criteria
Diesel Extended	µg/g (ppm)	500	92	59-138

90/063

C. V.

Te

1/14/99

12:45 pm

SAMPLE CHAIN OF CUSTODY

Send Report To:

Company AGS Contact CHIP GOODMILL
Address 179 MIDLAND LN
City, State, Zip PAINEVILLE OHIO 44130
Phone # 206-780-9570 FAX # _____ Date 1-13-77

SITE NO.

PROJECT NAME

PURCHASE ORDER #

BV4701C

CHUCK OLSON

SAMPLERS (signature)

PROJECT LOCATION


Refers to copy.

SENTE WA

REMARKS

SAMPLE DISPOSAL INFORMATION

MAN AND JESS FOR FUTURE ANALYSIS

 Dispose after 30 days
Return Samples
Call for Instructions

[illegible]

SIGNATURE

PRINT NAME

COMPANY

Date _____

Time

Relinquished by:

W. L. G. W. G.

Moussier, H. Magnusson

AGOR

~~11399~~

11:10

Received by:

Atyeh: Eubow

Hiroyuki Takai

- F & B / wa

1.4.99

$$\therefore 1.2 = 45$$

Relinquished by:

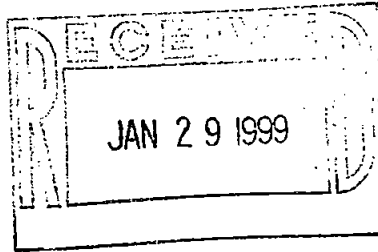
Received by:

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Jensen, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com



January 27, 1999

Chip Goodhue, Project Manager
Associated Earth Sciences, Inc.
179 Madrone Lane North
Bainbridge Island, WA 98110

Dear Mr. Goodhue:

Included are the results from the testing of material submitted on January 15, 1999 from your Chuck Olson, BV97011C project. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC. ---

Charlene Jensen
Chemist

Enclosures
AES0127R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/27/99
Date Received: 01/15/99
Project: Chuck Olson, BV97011C
Date Extracted: 01/19/99
Date Analyzed: 01/22/99

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL**

BY GC/FID (NWTPH-Dx)

Extended to Include Motor Oil Range Compounds

Results Reported on a Dry Weight Basis

Results Reported as $\mu\text{g/g}$ (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Extended</u>	<u>Surrogate</u> (% Recovery)
BAY12B3 901077-01	17,000	111
BAY12SSW3 901077-02	19,000	118
Method Blank	<50	100

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/27/99

Date Received: 01/15/99

Project: Chuck Olson, BV97011C

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS BY GC/FID (NWTPH-Dx)

Laboratory Code: 901083-03 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Diesel Extended	µg/g (ppm)	15,000	26,000	53 h	0-20

Laboratory Code: (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Diesel Extended	µg/g (ppm)	500	15,000	ai	ai	41-170	ai

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	% Recovery LCS	Acceptance Criteria
Diesel Extended	µg/g (ppm)	500	93	59-138

ai- The amount spiked was insufficient to give meaningful recovery data..

h - RPD results are outside of control limits due to sample inhomogeneity.

#901077

CJ A01
1-18-99
2:35

Contact CINP Goodhue

FAX #

Date 1.15.94


PURCHASE ORDER #

CHUCK OLSON

PROJECT LOCATION

Seattle, WA

SAMPLE DISPOSAL INFORMATION



Dispose after 30 days
Return Samples
Call for Instructions

Time

Received by:

ALR

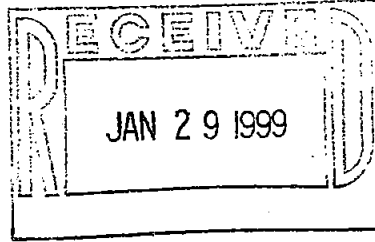
1-15-29

2:35

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Jensen, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.



3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

January 27, 1999

Chip Goodhue, Project Manager
Associated Earth Sciences, Inc.
179 Madrone Lane North
Bainbridge Island, WA 98110

Dear Mr. Goodhue:

Included are the results from the testing of material submitted on January 18, 1999 from your Chuck Olson, BV97011C project. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.---

A handwritten signature in cursive script that reads "Charlene Jensen".

Charlene Jensen
Chemist

Enclosures
AES0127R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/27/99
Date Received: 01/18/99
Project: Chuck Olson, BV97011C
Date Extracted: 01/19/99
Date Analyzed: 01/22/99

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL BY GC/FID (NWTPH-Dx)

Extended to Include Motor Oil Range Compounds

Results Reported on a Dry Weight Basis

Results Reported as $\mu\text{g/g}$ (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Extended</u>	<u>Surrogate</u> (% Recovery)
BAY12B4 901083-01	20,000	120
BAY12NSW4 901083-02	27,000	96
BAY12SSW4 901083-03	15,000	116
Method Blank	<50	100

FRIEDMAN & BRUYA, INC.**ENVIRONMENTAL CHEMISTS**

Date of Report: 01/27/99

Date Received: 01/18/99

Project: Chuck Olson, BV97011C

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL EXTRACTABLE
PETROLEUM HYDROCARBONS BY GC/FID (NWTPH-Dx)**

Laboratory Code: 901083-03 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Diesel Extended	µg/g (ppm)	15,000	26,000	54 h	0-20

Laboratory Code: 901083-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Diesel Extended	µg/g (ppm)	500	15,000	ai	ai	41-170	ai

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	% Recovery LCS	Acceptance Criteria
Diesel Extended	µg/g (ppm)	500	93	59-138

ai- The amount spiked was insufficient to give meaningful recovery data.

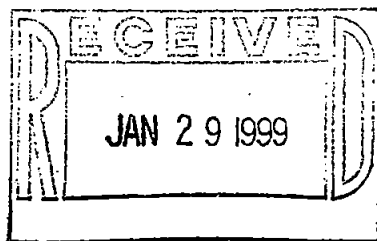
h - RPD results are outside of control limits due to sample inhomogeneity.

1-18-99 2pm

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Jensen, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.



3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

January 27, 1999

Chip Goodhue, Project Manager
Associated Earth Sciences, Inc.
179 Madrone Lane North
Bainbridge Island, WA 98110

Dear Mr. Goodhue:

Included are the results from the additional testing of material submitted on December 30, 1998 from your BV97011C, Chuck Olson project. Sample Bay5SSW was sent to Sound Analytical for EPH/VPH analysis. Results are enclosed.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

A handwritten signature in cursive script that reads "Charlene Jensen".

Charlene Jensen
Chemist

Enclosures
AES0127R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID: BAY5SSW
 Date Received: 12/30/98
 Date Extracted: 01/08/99
 Date Analyzed: 01/12/99
 Matrix: Soil
 Units: ug/g (ppm)

Client: Associated Earth Sciences
 Project: Chuck Olson
 Lab ID: 812153-06
 Data File: 011233.D
 Instrument: GCMS1
 Operator: YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Dibromofluoromethane	36 vo	54	121
1,2-Dichloroethane-d4	67	61	120
Toluene-d8	61	58	121
4-Bromofluorobenzene	75	56	124

Compounds:	Concentration ug/g (ppm)	Compounds:	Concentration ug/g (ppm)
Dichlorodifluoromethane	<0.04	Tetrachloroethene	—0.07
Chloromethane	<0.04	Dibromochloromethane	<0.04
Vinyl chloride	<0.04	1,2-Dibromoethane (EDB)	<0.04
Bromomethane	<0.04	Chlorobenzene	<0.04
Chloroethane	<0.04	Ethylbenzene	<0.04
Trichlorofluoromethane	<0.04	1,1,1,2-Tetrachloroethane	<0.04
Acetone	<0.4	m,p-Xylene	—0.08
1,1-Dichloroethene	<0.04	o-Xylene	—0.04
Methylene chloride	<0.2	Styrene	<0.04
trans-1,2-Dichloroethene	<0.04	Isopropylbenzene	<0.04
1,1-Dichloroethane	<0.04	Bromoform	<0.04
2,2-Dichloropropane	<0.04	n-Propylbenzene	<0.04
cis-1,2-Dichloroethene	<0.04	Bromobenzene	<0.04
Chloroform	<0.04	1,3,5-Trimethylbenzene	—0.15
2-Butanone (MEK)	<0.4	1,1,2,2-Tetrachloroethane	<0.04
1,2-Dichloroethane (EDC)	<0.04	1,2,3-Trichloropropane	<0.04
1,1,1-Trichloroethane	<0.04	2-Chlorotoluene	<0.04
1,1-Dichloropropene	<0.04	4-Chlorotoluene	<0.04
Carbon Tetrachloride	<0.04	tert-Butylbenzene	<0.04
Benzene	<0.04	1,2,4-Trimethylbenzene	—0.50
Trichloroethene	<0.04	sec-Butylbenzene	<0.04
1,2-Dichloropropane	<0.04	p-Isopropyltoluene	—0.06
Bromodichloromethane	<0.04	1,3-Dichlorobenzene	<0.04
Dibromomethane	<0.04	1,4-Dichlorobenzene	<0.04
4-Methyl-2-pentanone	<0.4	1,2-Dichlorobenzene	<0.04
cis-1,3-Dichloropropene	<0.04	1,2-Dibromo-3-chloropropane	<0.04
Toluene	<0.04	1,2,4-Trichlorobenzene	<0.04
trans-1,3-Dichloropropene	<0.04	Hexachlorobutadiene	<0.04
1,1,2-Trichloroethane	<0.04	Naphthalene	—0.52 fb
2-Hexanone	<0.4	1,2,3-Trichlorobenzene	<0.04
1,3-Dichloropropane	<0.04		

vo - The value reported fell outside the control limits established for the analyte.

fb - The analyte indicated was found in the blank. A small percentage of the material present may be due to laboratory contamination.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID: Method Blank
 Date Received: 12/30/98
 Date Extracted: 01/08/99
 Date Analyzed: 01/12/99
 Matrix: Soil
 Units: ug/g (ppm)

Client: Associated Earth Sciences
 Project: Chuck Olson
 Lab ID: 09-108 mb
 Data File: 011221.D
 Instrument: GCMS1
 Operator: YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Dibromofluoromethane	80	54	121
1,2-Dichloroethane-d4	71	61	120
Toluene-d8	67	58	121
4-Bromofluorobenzene	76	56	124

Compounds: Concentration
ug/g (ppm)

Dichlorodifluoromethane	<0.04
Chloromethane	<0.04
Vinyl chloride	<0.04
Bromomethane	<0.04
Chloroethane	<0.04
Trichlorofluoromethane	<0.04
Acetone	<0.4
1,1-Dichloroethene	<0.04
Methylene chloride	<0.2
trans-1,2-Dichloroethene	<0.04
1,1-Dichloroethane	<0.04
2,2-Dichloropropane	<0.04
cis-1,2-Dichloroethene	<0.04
Chloroform	<0.04
2-Butanone (MEK)	<0.4
1,2-Dichloroethane (EDC)	<0.04
1,1,1-Trichloroethane	<0.04
1,1-Dichloropropene	<0.04
Carbon Tetrachloride	<0.04
Benzene	<0.04
Trichloroethene	<0.04
1,2-Dichloropropane	<0.04
Bromodichloromethane	<0.04
Dibromomethane	<0.04
4-Methyl-2-pentanone	<0.4
cis-1,3-Dichloropropene	<0.04
Toluene	<0.04
trans-1,3-Dichloropropene	<0.04
1,1,2-Trichloroethane	<0.04
2-Hexanone	<0.4
1,3-Dichloropropane	<0.04

Compounds:

Tetrachloroethene	<0.04
Dibromochloromethane	<0.04
1,2-Dibromoethane (EDB)	<0.04
Chlorobenzene	<0.04
Ethylbenzene	<0.04
1,1,1,2-Tetrachloroethane	<0.04
m,p-Xylene	<0.04
o-Xylene	<0.04
Styrene	<0.04
Isopropylbenzene	<0.04
Bromoform	<0.04
n-Propylbenzene	<0.04
Bromobenzene	<0.04
1,3,5-Trimethylbenzene	<0.04
1,1,2,2-Tetrachloroethane	<0.04
1,2,3-Trichloropropane	<0.04
2-Chlorotoluene	<0.04
4-Chlorotoluene	<0.04
tert-Butylbenzene	<0.04
1,2,4-Trimethylbenzene	<0.04
sec-Butylbenzene	<0.04
p-Isopropyltoluene	<0.04
1,3-Dichlorobenzene	<0.04
1,4-Dichlorobenzene	<0.04
1,2-Dichlorobenzene	<0.04
1,2-Dibromo-3-chloropropane	<0.04
1,2,4-Trichlorobenzene	<0.04
Hexachlorobutadiene	0.04
Naphthalene	0.06
1,2,3-Trichlorobenzene	<0.04

Concentration
ug/g (ppm)

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/27/99

Date Received: 12/30/98

Project: BV97011C, Chuck Olson

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260B

Laboratory Code: 812153-06 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
1,1-Dichloroethene	µg/g (ppm)	<0.04	<0.04	nm	0-20
Benzene	µg/g (ppm)	<0.04	<0.04	nm	0-20
Trichloroethene	µg/g (ppm)	<0.04	<0.04	nm	0-20
Toluene	µg/g (ppm)	<0.04	<0.04	nm	0-20
Chlorobenzene	µg/g (ppm)	<0.04	<0.04	nm	0-20

Laboratory Code: 812153-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
1,1-Dichloroethene	µg/g (ppm)	2	<0.04	63	68	30-118	8
Benzene	µg/g (ppm)	2	<0.04	58	63	44-113	9
Trichloroethene	µg/g (ppm)	2	<0.04	54	59	40-107	9
Toluene	µg/g (ppm)	2	<0.04	54	62	34-113	14
Chlorobenzene	µg/g (ppm)	2	<0.04	68	62	46-109	10

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	% Recovery LCS	% Recovery LCSD	Acceptance Criteria	Relative Percent Difference
1,1-Dichloroethene	µg/g (ppm)	2	54	46	41-131	20
Benzene	µg/g (ppm)	2	69	74	55-125	7
Trichloroethene	µg/g (ppm)	2	66	69	50-118	4
Toluene	µg/g (ppm)	2	78	80	55-119	3
Chlorobenzene	µg/g (ppm)	2	81	81	58-117	0

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

FRIEDMAN & BRUYA, INC.
3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282

SAMPLE CHAIN OF CUSTODY

Send Report To:

Company: ACSI

Contact: CHIP GOODHUE

Address: 171 MADRONE LN

City, State, Zip: PRINCEDALE ISLAND

Phone #: 206-780-7370

FAX #

Date: 12-30-98

SITE NO.

PROJECT NAME

PURCHASE ORDER #

BV97011C

CHUCK OLSON

SAMPLERS (signature)

PROJECT LOCATION

[Signature]

SEATTLE, WA

REMARKS

SAMPLE DISPOSAL INFORMATION

HOLD ALL ADDITIONAL JARS FOR POSSIBLE FUTURE
8260B & EPH/YPH ANALYSIS

- ☐ Dispose after 30 days
☐ Return Samples
☒ Call for Instructions

Sample #	Date/Time Sampled	Type of Sample	# of Jars	Lab Sample #	Analyses Requested
<u>BAY5 NSUF</u>	<u>12-29-98/1:45</u>	<u>SOIL</u>	<u>3</u>	<u>01</u>	<u>NWTPH-Dx</u>
<u>BAY5 NSU</u>	<u>1:50</u>	<u> </u>	<u> </u>	<u>02</u>	<u> </u>
<u>BAY5 WSW</u>	<u>1:55</u>	<u> </u>	<u> </u>	<u>03</u>	<u> </u>
<u>BAY5B</u>	<u>2:00</u>	<u> </u>	<u> </u>	<u>04</u>	<u> </u>
<u>BAY5 ESW</u>	<u>2:05</u>	<u> </u>	<u> </u>	<u>05</u>	<u> </u>
<u>BAY5 SSW</u>	<u>2:10</u>	<u> </u>	<u> </u>	<u>06</u>	<u> </u>
<u>analyze by method 8260B</u>					
<u>and VPH/EPH (including target analytes & PAHs)</u>					
<u>per Chip Goodhue 1-7-99</u>					
<u>g</u>					

SIGNATURE

PRINT NAME

COMPANY

Date

Time

Relinquished by:

[Signature]

MELISSA KIMMUNSON

ACSI

12-30-98

4:25

Received by:

[Signature]

BRANDON PINTAR

CHAMPION

12-30-98

4:25

Relinquished by:

[Signature]

BRANDON PINTAR

1

11

5:00

Received by:

Carlos Barros

[Signature]

F&IS

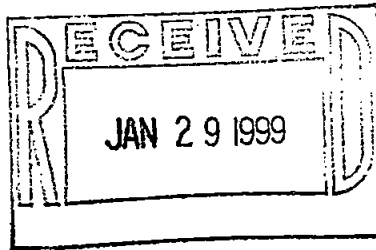
12-30-98

5:15

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Jensen, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.



3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

January 27, 1999

Chip Goodhue, Project Manager
Associated Earth Sciences, Inc.
179 Madrone Lane North
Bainbridge Island, WA 98110

Dear Mr. Goodhue:

Included are the results from the testing of material submitted on January 19, 1999 from your BV97011C, Chuck Olson project. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Charlene Jensen
Chemist

Enclosures
AES0127R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/27/99
Date Received: 01/19/99
Project: BV97011C, Chuck Olson
Date Extracted: 01/21/99
Date Analyzed: 01/22/99

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL
BY GC/FID (NWTPH-Dx)

Extended to Include Motor Oil Range Compounds
Results Reported on a Dry Weight Basis
Results Reported as $\mu\text{g/g}$ (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Extended</u>	<u>Surrogate</u> (% Recovery)
BAY12B5 901098-01	<50	102
BAY12SSW5 901098-02	<50	103
BAY12B5S 901098-03	<50	77
BAY12NSW5 901098-04	80	104
BAY12ESW5 901098-05	<50	116
Method Blank	<50	106

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID: BAY12SSW5	Client: Associated Earth Sciences
Date Received: 01/19/99	Project: BV97011C, Chuck Olson
Date Extracted: 01/20/99	Lab ID: 901098-02
Date Analyzed: 01/20/99	Data File: 012007.D
Matrix: Soil	Instrument: GCMS1
Units: ug/g (ppm)	Operator: YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Dibromofluoromethane	71	54	121
1,2-Dichloroethane-d4	66	61	120
Toluene-d8	69	58	121
4-Bromofluorobenzene	90	56	124

Compounds:	Concentration ug/g (ppm)	Compounds:	Concentration ug/g (ppm)
Dichlorodifluoromethane	<0.04	Tetrachloroethene	<0.04
Chloromethane	<0.04	Dibromochloromethane	<0.04
Vinyl chloride	<0.04	1,2-Dibromoethane (EDB)	<0.04
Bromomethane	<0.04	Chlorobenzene	<0.04
Chloroethane	<0.04	Ethylbenzene	<0.04
Trichlorofluoromethane	<0.04	1,1,1,2-Tetrachloroethane	<0.04
Acetone	<0.4	m,p-Xylene	<0.04
1,1-Dichloroethene	<0.04	o-Xylene	<0.04
Methylene chloride	<0.2	Styrene	<0.04
trans-1,2-Dichloroethene	<0.04	Isopropylbenzene	<0.04
1,1-Dichloroethane	<0.04	Bromoform	<0.04
2,2-Dichloropropane	<0.04	n-Propylbenzene	<0.04
cis-1,2-Dichloroethene	<0.04	Bromobenzene	<0.04
Chloroform	<0.04	1,3,5-Trimethylbenzene	<0.04
2-Butanone (MEK)	<0.4	1,1,2,2-Tetrachloroethane	<0.04
1,2-Dichloroethane (EDC)	<0.04	1,2,3-Trichloropropane	<0.04
1,1,1-Trichloroethane	<0.04	2-Chlorotoluene	<0.04
1,1-Dichloropropene	<0.04	4-Chlorotoluene	<0.04
Carbon Tetrachloride	<0.04	tert-Butylbenzene	<0.04
Benzene	<0.04	1,2,4-Trimethylbenzene	<0.04
Trichloroethene	<0.04	sec-Butylbenzene	<0.04
1,2-Dichloropropane	<0.04	p-Isopropyltoluene	<0.04
Bromodichloromethane	<0.04	1,3-Dichlorobenzene	-0.40
Dibromomethane	<0.04	1,4-Dichlorobenzene	-1.6
4-Methyl-2-pentanone	<0.4	1,2-Dichlorobenzene	-11 ve
cis-1,3-Dichloropropene	<0.04	1,2-Dibromo-3-chloropropane	<0.04
Toluene	<0.04	1,2,4-Trichlorobenzene	-0.24
trans-1,3-Dichloropropene	<0.04	Hexachlorobutadiene	<0.04
1,1,2-Trichloroethane	<0.04	Naphthalene	<0.04
2-Hexanone	<0.4	1,2,3-Trichlorobenzene	<0.04
1,3-Dichloropropane	<0.04		

ve - The value reported exceeded the calibration range established for the analyte. The reported concentration is an estimate.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID: BAY12SSW5	Client: Associated Earth Sciences
Date Received: 01/19/99	Project: BV97011C, Chuck Olson
Date Extracted: 01/20/99	Lab ID: 901098-02 1/10 rr
Date Analyzed: 01/20/99	Data File: 012013.D
Matrix: Soil	Instrument: GCMS1
Units: ug/g (ppm)	Operator: YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Dibromofluoromethane	49 vo	54	121
1,2-Dichloroethane-d4	53 vo	61	120
Toluene-d8	56 vo	58	121
4-Bromofluorobenzene	71	56	124

Compounds:	Concentration ug/g (ppm)	Compounds:	Concentration ug/g (ppm)
Dichlorodifluoromethane	<0.4	Tetrachloroethene	<0.4
Chloromethane	<0.4	Dibromochloromethane	<0.4
Vinyl chloride	<0.4	1,2-Dibromoethane (EDB)	<0.4
Bromomethane	<0.4	Chlorobenzene	<0.4
Chloroethane	<0.4	Ethylbenzene	<0.4
Trichlorofluoromethane	<0.4	1,1,1,2-Tetrachloroethane	<0.4
Acetone	<4	m,p-Xylene	<0.4
1,1-Dichloroethene	<0.4	o-Xylene	<0.4
Methylene chloride	<2	Styrene	<0.4
trans-1,2-Dichloroethene	<0.4	Isopropylbenzene	<0.4
1,1-Dichloroethane	<0.4	Bromoform	<0.4
2,2-Dichloropropane	<0.4	n-Propylbenzene	<0.4
cis-1,2-Dichloroethene	<0.4	Bromobenzene	<0.4
Chloroform	<0.4	1,3,5-Trimethylbenzene	<0.4
2-Butanone (MEK)	<4	1,1,2,2-Tetrachloroethane	<0.4
1,2-Dichloroethane (EDC)	<0.4	1,2,3-Trichloropropane	<0.4
1,1,1-Trichloroethane	<0.4	2-Chlorotoluene	<0.4
1,1-Dichloropropene	<0.4	4-Chlorotoluene	<0.4
Carbon Tetrachloride	<0.4	tert-Butylbenzene	<0.4
Benzene	<0.4	1,2,4-Trimethylbenzene	<0.4
Trichloroethene	<0.4	sec-Butylbenzene	<0.4
1,2-Dichloropropane	<0.4	p-Isopropyltoluene	<0.4
Bromodichloromethane	<0.4	1,3-Dichlorobenzene	<0.4
Dibromomethane	<0.4	1,4-Dichlorobenzene	1.2
4-Methyl-2-pentanone	<0.4	1,2-Dichlorobenzene	8.2
cis-1,3-Dichloropropene	<0.4	1,2-Dibromo-3-chloropropane	<0.4
Toluene	<0.4	1,2,4-Trichlorobenzene	<0.4
trans-1,3-Dichloropropene	<0.4	Hexachlorobutadiene	<0.4
1,1,2-Trichloroethane	<0.4	Naphthalene	<0.4
2-Hexanone	<4	1,2,3-Trichlorobenzene	<0.4
1,3-Dichloropropane	<0.4		

Note: The sample was diluted due to the presence of high levels of material. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

vo - The value reported fell outside the control limits established for the analyte.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID: BAY12B5S
 Date Received: 01/19/99
 Date Extracted: 01/20/99
 Date Analyzed: 01/20/99
 Matrix: Soil
 Units: ug/g (ppm)

Client: Associated Earth Sciences
 Project: BV97011C, Chuck Olson
 Lab ID: 901098-03 rr
 Data File: 012012.D
 Instrument: GCMS1
 Operator: YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Dibromofluoromethane	69	54	121
1,2-Dichloroethane-d4	70	61	120
Toluene-d8	68	58	121
4-Bromofluorobenzene	81	56	124

Compounds:	Concentration ug/g (ppm)	Compounds:	Concentration ug/g (ppm)
Dichlorodifluoromethane	<0.04	Tetrachloroethene	—0.12
Chloromethane	<0.04	Dibromochloromethane	<0.04
Vinyl chloride	<0.04	1,2-Dibromoethane (EDB)	<0.04
Bromomethane	<0.04	Chlorobenzene	<0.04
Chloroethane	<0.04	Ethylbenzene	<0.04
Trichlorofluoromethane	<0.04	1,1,1,2-Tetrachloroethane	<0.04
Acetone	<0.4	m,p-Xylene	—0.12
1,1-Dichloroethene	<0.04	o-Xylene	—0.08
Methylene chloride	<0.2	Styrene	<0.04
trans-1,2-Dichloroethene	<0.04	Isopropylbenzene	<0.04
1,1-Dichloroethane	<0.04	Bromoform	<0.04
2,2-Dichloropropane	<0.04	n-Propylbenzene	<0.04
cis-1,2-Dichloroethene	<0.04	Bromobenzene	<0.04
Chloroform	<0.04	1,3,5-Trimethylbenzene	—0.17
2-Butanone (MEK)	<0.4	1,1,2,2-Tetrachloroethane	<0.04
1,2-Dichloroethane (EDC)	<0.04	1,2,3-Trichloropropane	<0.04
1,1,1-Trichloroethane	—0.06	2-Chlorotoluene	<0.04
1,1-Dichloropropene	<0.04	4-Chlorotoluene	<0.04
Carbon Tetrachloride	<0.04	tert-Butylbenzene	<0.04
Benzene	<0.04	1,2,4-Trimethylbenzene	—0.54
Trichloroethene	<0.04	sec-Butylbenzene	<0.04
1,2-Dichloropropane	<0.04	p-Isopropyltoluene	—0.04
Bromodichloromethane	<0.04	1,3-Dichlorobenzene	<0.04
Dibromomethane	<0.04	1,4-Dichlorobenzene	—0.04
4-Methyl-2-pentanone	<0.4	1,2-Dichlorobenzene	—0.14
cis-1,3-Dichloropropene	<0.04	1,2-Dibromo-3-chloropropane	<0.04
Toluene	<0.04	1,2,4-Trichlorobenzene	<0.04
trans-1,3-Dichloropropene	<0.04	Hexachlorobutadiene	<0.04
1,1,2-Trichloroethane	<0.04	Naphthalene	—0.12
2-Hexanone	<0.4	1,2,3-Trichlorobenzene	<0.04
1,3-Dichloropropane	<0.04		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID: Method Blank	Client: Associated Earth Sciences
Date Received: 01/19/99	Project: BV97011C, Chuck Olson
Date Extracted: 01/20/99	Lab ID: 09-108 mb2
Date Analyzed: 01/21/99	Data File: 012114.D
Matrix: Soil	Instrument: GCMS1
Units: ug/g (ppm)	Operator: YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Dibromofluoromethane	66	54	121
1,2-Dichloroethane-d4	79	61	120
Toluene-d8	69	58	121
4-Bromofluorobenzene	79	56	124

Compounds:	Concentration ug/g (ppm)	Compounds:	Concentration ug/g (ppm)
Dichlorodifluoromethane	<0.04	Tetrachloroethene	<0.04
Chloromethane	<0.04	Dibromochloromethane	<0.04
Vinyl chloride	<0.04	1,2-Dibromoethane (EDB)	<0.04
Bromomethane	<0.04	Chlorobenzene	<0.04
Chloroethane	<0.04	Ethylbenzene	<0.04
Trichlorofluoromethane	<0.04	1,1,1,2-Tetrachloroethane	<0.04
Acetone	<0.4	m,p-Xylene	<0.04
1,1-Dichloroethene	<0.04	o-Xylene	<0.04
Methylene chloride	<0.2	Styrene	<0.04
trans-1,2-Dichloroethene	<0.04	Isopropylbenzene	<0.04
1,1-Dichloroethane	<0.04	Bromoform	<0.04
2,2-Dichloropropane	<0.04	n-Propylbenzene	<0.04
cis-1,2-Dichloroethene	<0.04	Bromobenzene	<0.04
Chloroform	<0.04	1,3,5-Trimethylbenzene	<0.04
2-Butanone (MEK)	<0.4	1,1,2,2-Tetrachloroethane	<0.04
1,2-Dichloroethane (EDC)	<0.04	1,2,3-Trichloropropane	<0.04
1,1,1-Trichloroethane	<0.04	2-Chlorotoluene	<0.04
1,1-Dichloropropene	<0.04	4-Chlorotoluene	<0.04
Carbon Tetrachloride	<0.04	tert-Butylbenzene	<0.04
Benzene	<0.04	1,2,4-Trimethylbenzene	<0.04
Trichloroethene	<0.04	sec-Butylbenzene	<0.04
1,2-Dichloropropane	<0.04	p-Isopropyltoluene	<0.04
Bromodichloromethane	<0.04	1,3-Dichlorobenzene	<0.04
Dibromomethane	<0.04	1,4-Dichlorobenzene	<0.04
4-Methyl-2-pentanone	<0.4	1,2-Dichlorobenzene	<0.04
cis-1,3-Dichloropropene	<0.04	1,2-Dibromo-3-chloropropane	<0.04
Toluene	<0.04	1,2,4-Trichlorobenzene	<0.04
trans-1,3-Dichloropropene	<0.04	Hexachlorobutadiene	<0.04
1,1,2-Trichloroethane	<0.04	Naphthalene	<0.04
2-Hexanone	<0.4	1,2,3-Trichlorobenzene	<0.04
1,3-Dichloropropane	<0.04		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/27/99

Date Received: 01/19/99

Project: BV97011C, Chuck Olson

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS BY GC/FID (NWTPH-Dx)

Laboratory Code: 901063-05 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Diesel Extended	µg/g (ppm)	140	130	7	0-20

Laboratory Code: 901063-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Diesel Extended	µg/g (ppm)	500	140	102	113	41-170	10

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	% Recovery LCS	Acceptance Criteria
Diesel Extended	µg/g (ppm)	500	92	59-138

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/27/99

Date Received: 01/19/99

Project: BV97011C, Chuck Olson

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260B

Laboratory Code: 812153-06 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
1,1-Dichloroethene	µg/g (ppm)	<0.04	<0.04	nm	0-20
Benzene	µg/g (ppm)	<0.04	<0.04	nm	0-20
Trichloroethene	µg/g (ppm)	<0.04	<0.04	nm	0-20
Toluene	µg/g (ppm)	<0.04	<0.04	nm	0-20
Chlorobenzene	µg/g (ppm)	<0.04	<0.04	nm	0-20

Laboratory Code: 812153-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
1,1-Dichloroethene	µg/g (ppm)	2	<0.04	63	68	30-118	8
Benzene	µg/g (ppm)	2	<0.04	58	63	44-113	9
Trichloroethene	µg/g (ppm)	2	<0.04	54	59	40-107	9
Toluene	µg/g (ppm)	2	<0.04	54	62	34-113	14
Chlorobenzene	µg/g (ppm)	2	<0.04	68	62	46-109	10

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	% Recovery LCS	% Recovery LCSD	Acceptance Criteria	Relative Percent Difference
1,1-Dichloroethene	µg/g (ppm)	2	54	46	41-131	20
Benzene	µg/g (ppm)	2	69	74	55-125	7
Trichloroethene	µg/g (ppm)	2	66	69	50-118	4
Toluene	µg/g (ppm)	2	78	80	55-119	3
Chlorobenzene	µg/g (ppm)	2	81	81	58-117	0

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

cf 11799 A02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Jensen, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

January 29, 1999

Chip Goodhue, Project Manager
Associated Earth Sciences, Inc.
179 Madrone Lane North
Bainbridge Island, WA 98110

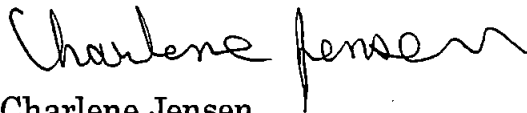
Dear Mr. Goodhue:

Included are the amended results from the testing of material submitted on December 30, 1998 from your Chuck Olson, BV97011C project. The result for sample BAY5SSW has been flagged as an estimate due to the value being above the calibration range. The sample was reextracted, diluted and reanalyzed. This result is included. We have reviewed all other data from your Chuck Olson, BV97011C project and no errors were found.

We apologize for any inconvenience that this error may have caused. We will be crediting you for this analysis on your next invoice. Please call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Charlene Jensen
Chemist

Enclosures

c: Jeff Hancock, Chuck Olson Chevrolet
AES0107R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/07/99
Date Received: 12/30/98
Project: Chuck Olson, BV97011C
Date Extracted: 12/31/98
Date Analyzed: 12/31/98 & 01/04/99

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL
BY GC/FID (NWTPH-Dx)**

Extended to Include Motor Oil Range Compounds

Results Reported on a Dry Weight Basis

Results Reported as $\mu\text{g/g}$ (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Extended</u>	<u>Surrogate</u> (% Recovery)
BAY5NSWF 812153-01	260	114
BAY5NSW 812153-02	70	113
BAY5WSW 812153-03	<50	116
BAY5B 812153-04	970	121
BAY5ESW 812153-05	<50	118
BAY5SSW 812153-06	6,800 ve	123
Method Blank	<50	110

ve - The value reported exceeded the calibration range established for the analyte. The reported concentration is an estimate.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/29/99
Date Received: 12/30/98
Project: Chuck Olson, BV97011C
Date Extracted: 01/29/99
Date Analyzed: 01/29/99

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLE
FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL
BY GC/FID (NWTPH-Dx)**

Extended to Include Motor Oil Range Compounds

Results Reported on a Dry Weight Basis

Results Reported as $\mu\text{g/g}$ (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Extended</u>	<u>Surrogate</u> (% Recovery)
BAY5SSW 812153-06	12,000	114 d

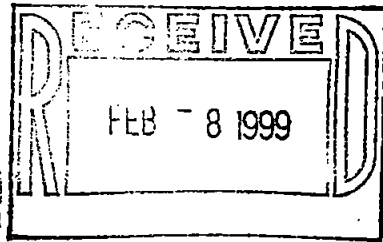
d - The sample was diluted due to the presence of high levels of material. Surrogate recoveries may not be meaningful.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Jensen, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
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e-mail: fbi@isomedia.com



February 4, 1999

Chip Goodhue, Project Manager
Associated Earth Sciences, Inc.
179 Madrone Lane North
Bainbridge Island, WA 98110

Dear Mr. Goodhue:

Included are the results from the additional testing of material submitted on January 7 and 8, 1999 from your BV97011C, Chuck Olson project. Samples Bay1NSW and Bay8SSW2 were sent to Sound Analytical for EPH/VPH analysis. Results are enclosed.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Charlene Jensen
Chemist

Enclosures
AES0204R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID: BAY1B	Client: Associated Earth Sciences
Date Received: 01/07/99	Project: BV97011C, Chuck Olson
Date Extracted: 01/21/99	Lab ID: 901023-01 1/10
Date Analyzed: 01/22/99	Data File: 012206.D
Matrix: Soil	Instrument: GCMS1
Units: ug/g (ppm)	Operator: YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Dibromofluoromethane	35 vo	54	121
1,2-Dichloroethane-d4	36 vo	61	120
Toluene-d8	37 vo	58	121
4-Bromofluorobenzene	50 vo	56	124

Compounds:	Concentration ug/g (ppm)	Compounds:	Concentration ug/g (ppm)
Dichlorodifluoromethane	<0.4	Tetrachloroethene	<0.4
Chloromethane	<0.4	Dibromochloromethane	<0.4
Vinyl chloride	<0.4	1,2-Dibromoethane (EDB)	<0.4
Bromomethane	<0.4	Chlorobenzene	<0.4
Chloroethane	<0.4	Ethylbenzene	<0.4
Trichlorofluoromethane	<0.4	1,1,1,2-Tetrachloroethane	<0.4
Acetone	<4	m,p-Xylene	<0.4
1,1-Dichloroethene	<0.4	o-Xylene	<0.4
Methylene chloride	<2	Styrene	<0.4
trans-1,2-Dichloroethene	<0.4	Isopropylbenzene	<0.4
1,1-Dichloroethane	<0.4	Bromoform	<0.4
2,2-Dichloropropane	<0.4	n-Propylbenzene	<0.4
cis-1,2-Dichloroethene	<0.4	Bromobenzene	<0.4
Chloroform	<0.4	1,3,5-Trimethylbenzene	<0.4
2-Butanone (MEK)	<4	1,1,2,2-Tetrachloroethane	<0.4
1,2-Dichloroethane (EDC)	<0.4	1,2,3-Trichloropropane	<0.4
1,1,1-Trichloroethane	<0.4	2-Chlorotoluene	<0.4
1,1-Dichloropropene	<0.4	4-Chlorotoluene	<0.4
Carbon Tetrachloride	<0.4	tert-Butylbenzene	<0.4
Benzene	<0.4	1,2,4-Trimethylbenzene	0.7
Trichloroethene	<0.4	sec-Butylbenzene	<0.4
1,2-Dichloropropane	<0.4	p-Isopropyltoluene	<0.4
Bromodichloromethane	<0.4	1,3-Dichlorobenzene	<0.4
Dibromomethane	<0.4	1,4-Dichlorobenzene	<0.4
4-Methyl-2-pentanone	<4	1,2-Dichlorobenzene	<0.4
cis-1,3-Dichloropropene	<0.4	1,2-Dibromo-3-chloropropane	<0.4
Toluene	<0.4	1,2,4-Trichlorobenzene	<0.4
trans-1,3-Dichloropropene	<0.4	Hexachlorobutadiene	<0.4
1,1,2-Trichloroethane	<0.4	Naphthalene	<0.4
2-Hexanone	<4	1,2,3-Trichlorobenzene	<0.4
1,3-Dichloropropane	<0.4		

Note: The sample was diluted due to the presence of interfering compounds. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

vo - The value reported fell outside the control limits established for the analyte.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID: BAY1NSW
 Date Received: 01/07/99
 Date Extracted: 01/21/99
 Date Analyzed: 01/21/99
 Matrix: Soil
 Units: ug/g (ppm)

Client: Associated Earth Sciences
 Project: BV97011C, Chuck Olson
 Lab ID: 901023-02 1/10
 Data File: 012117.D
 Instrument: GCMS1
 Operator: YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Dibromofluoromethane	68	54	121
1,2-Dichloroethane-d4	71	61	120
Toluene-d8	75	58	121
4-Bromofluorobenzene	75	56	124

Compounds:	Concentration ug/g (ppm)	Compounds:	Concentration ug/g (ppm)
Dichlorodifluoromethane	<0.4	Tetrachloroethene	<0.4
Chloromethane	<0.4	Dibromochloromethane	<0.4
Vinyl chloride	<0.4	1,2-Dibromoethane (EDB)	<0.4
Bromomethane	<0.4	Chlorobenzene	<0.4
Chloroethane	<0.4	Ethylbenzene	<0.4
Trichlorofluoromethane	<0.4	1,1,1,2-Tetrachloroethane	<0.4
Acetone	<4	m,p-Xylene	<0.4
1,1-Dichloroethene	<0.4	o-Xylene	<0.4
Methylene chloride	<2	Styrene	<0.4
trans-1,2-Dichloroethene	<0.4	Isopropylbenzene	<0.4
1,1-Dichloroethane	<0.4	Bromoform	<0.4
2,2-Dichloropropane	<0.4	n-Propylbenzene	<0.4
cis-1,2-Dichloroethene	<0.4	Bromobenzene	<0.4
Chloroform	<0.4	1,3,5-Trimethylbenzene	<0.4
2-Butanone (MEK)	<4	1,1,2,2-Tetrachloroethane	<0.4
1,2-Dichloroethane (EDC)	<0.4	1,2,3-Trichloropropane	<0.4
1,1,1-Trichloroethane	<0.4	2-Chlorotoluene	<0.4
1,1-Dichloropropene	<0.4	4-Chlorotoluene	<0.4
Carbon Tetrachloride	<0.4	tert-Butylbenzene	<0.4
Benzene	<0.4	1,2,4-Trimethylbenzene	<0.4
Trichloroethene	<0.4	sec-Butylbenzene	<0.4
1,2-Dichloropropane	<0.4	p-Isopropyltoluene	<0.4
Bromodichloromethane	<0.4	1,3-Dichlorobenzene	<0.4
Dibromomethane	<0.4	1,4-Dichlorobenzene	<0.4
4-Methyl-2-pentanone	<4	1,2-Dichlorobenzene	<0.4
cis-1,3-Dichloropropene	<0.4	1,2-Dibromo-3-chloropropane	<0.4
Toluene	<0.4	1,2,4-Trichlorobenzene	<0.4
trans-1,3-Dichloropropene	<0.4	Hexachlorobutadiene	<0.4
1,1,2-Trichloroethane	<0.4	Naphthalene	<0.4
2-Hexanone	<4	1,2,3-Trichlorobenzene	<0.4
1,3-Dichloropropane	<0.4		

Note: The sample was diluted due to the presence of interfering compounds. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID: BAY8SSW2	Client: Associated Earth Sciences
Date Received: 01/08/99	Project: BV97011C, Chuck Olson
Date Extracted: 01/21/99	Lab ID: 901039-02 1/10
Date Analyzed: 01/22/99	Data File: 012209.D
Matrix: Soil	Instrument: GCMS1
Units: ug/g (ppm)	Operator: YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Dibromofluoromethane	57	54	121
1,2-Dichloroethane-d4	58 vo	61	120
Toluene-d8	60	58	121
4-Bromofluorobenzene	73	56	124

Compounds:	Concentration ug/g (ppm)	Compounds:	Concentration ug/g (ppm)
Dichlorodifluoromethane	<0.4	Tetrachloroethene	<0.4
Chloromethane	<0.4	Dibromochloromethane	<0.4
Vinyl chloride	<0.4	1,2-Dibromoethane (EDB)	<0.4
Bromomethane	<0.4	Chlorobenzene	<0.4
Chloroethane	<0.4	Ethylbenzene	<0.4
Trichlorofluoromethane	<0.4	1,1,1,2-Tetrachloroethane	<0.4
Acetone	<4	m,p-Xylene	<0.4
1,1-Dichloroethene	<0.4	o-Xylene	<0.4
Methylene chloride	<2	Styrene	<0.4
trans-1,2-Dichloroethene	<0.4	Isopropylbenzene	<0.4
1,1-Dichloroethane	<0.4	Bromoform	<0.4
2,2-Dichloropropane	<0.4	n-Propylbenzene	<0.4
cis-1,2-Dichloroethene	<0.4	Bromobenzene	<0.4
Chloroform	<0.4	1,3,5-Trimethylbenzene	<0.4
2-Butanone (MEK)	<4	1,1,2,2-Tetrachloroethane	<0.4
1,2-Dichloroethane (EDC)	<0.4	1,2,3-Trichloropropane	<0.4
1,1,1-Trichloroethane	<0.4	2-Chlorotoluene	<0.4
1,1-Dichloropropene	<0.4	4-Chlorotoluene	<0.4
Carbon Tetrachloride	<0.4	tert-Butylbenzene	<0.4
Benzene	<0.4	1,2,4-Trimethylbenzene	<0.4
Trichloroethene	<0.4	sec-Butylbenzene	<0.4
1,2-Dichloropropane	<0.4	p-Isopropyltoluene	<0.4
Bromodichloromethane	<0.4	1,3-Dichlorobenzene	<0.4
Dibromomethane	<0.4	1,4-Dichlorobenzene	<0.4
4-Methyl-2-pentanone	<4	1,2-Dichlorobenzene	<0.4
cis-1,3-Dichloropropene	<0.4	1,2-Dibromo-3-chloropropane	<0.4
Toluene	<0.4	1,2,4-Trichlorobenzene	<0.4
trans-1,3-Dichloropropene	<0.4	Hexachlorobutadiene	<0.4
1,1,2-Trichloroethane	<0.4	Naphthalene	<0.4
2-Hexanone	<4	1,2,3-Trichlorobenzene	<0.4
1,3-Dichloropropane	<0.4		

Note: The sample was diluted due to the presence of interfering compounds. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

vo - The value reported fell outside the control limits established for the analyte.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID: Method Blank
 Date Received: 01/07/99
 Date Extracted: 01/21/99
 Date Analyzed: 01/21/99
 Matrix: Soil
 Units: ug/g (ppm)

Client: Associated Earth Sciences
 Project: BV97011C, Chuck Olson
 Lab ID: 09-108 mb3
 Data File: 012105.D
 Instrument: GCMS1
 Operator: YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Dibromofluoromethane	98	54	121
1,2-Dichloroethane-d4	91	61	120
Toluene-d8	80	58	121
4-Bromofluorobenzene	105	56	124

Compounds:	Concentration ug/g (ppm)
Dichlorodifluoromethane	<0.04
Chloromethane	<0.04
Vinyl chloride	<0.04
Bromomethane	<0.04
Chloroethane	<0.04
Trichlorofluoromethane	<0.04
Acetone	<0.4
1,1-Dichloroethene	<0.04
Methylene chloride	<0.2
trans-1,2-Dichloroethene	<0.04
1,1-Dichloroethane	<0.04
2,2-Dichloropropane	<0.04
cis-1,2-Dichloroethene	<0.04
Chloroform	<0.04
2-Butanone (MEK)	<0.4
1,2-Dichloroethane (EDC)	<0.04
1,1,1-Trichloroethane	<0.04
1,1-Dichloropropene	<0.04
Carbon Tetrachloride	<0.04
Benzene	<0.04
Trichloroethene	<0.04
1,2-Dichloropropane	<0.04
Bromodichloromethane	<0.04
Dibromomethane	<0.04
4-Methyl-2-pentanone	<0.4
cis-1,3-Dichloropropene	<0.04
Toluene	<0.04
trans-1,3-Dichloropropene	<0.04
1,1,2-Trichloroethane	<0.04
2-Hexanone	<0.4
1,3-Dichloropropane	<0.04

Compounds:	Concentration ug/g (ppm)
Tetrachloroethene	<0.04
Dibromochloromethane	<0.04
1,2-Dibromoethane (EDB)	<0.04
Chlorobenzene	<0.04
Ethylbenzene	<0.04
1,1,1,2-Tetrachloroethane	<0.04
m,p-Xylene	<0.04
o-Xylene	<0.04
Styrene	<0.04
Isopropylbenzene	<0.04
Bromoform	<0.04
n-Propylbenzene	<0.04
Bromobenzene	<0.04
1,3,5-Trimethylbenzene	<0.04
1,1,2,2-Tetrachloroethane	<0.04
1,2,3-Trichloropropane	<0.04
2-Chlorotoluene	<0.04
4-Chlorotoluene	<0.04
tert-Butylbenzene	<0.04
1,2,4-Trimethylbenzene	<0.04
sec-Butylbenzene	<0.04
p-Isopropyltoluene	<0.04
1,3-Dichlorobenzene	<0.04
1,4-Dichlorobenzene	<0.04
1,2-Dichlorobenzene	<0.04
1,2-Dibromo-3-chloropropane	<0.04
1,2,4-Trichlorobenzene	<0.04
Hexachlorobutadiene	<0.04
Naphthalene	<0.04
1,2,3-Trichlorobenzene	<0.04

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 02/04/99

Date Received: 01/07/99 and 01/08/99

Project: BV97011C, Chuck Olson

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260B

Laboratory Code: 812153-06 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
1,1-Dichloroethene	µg/g (ppm)	<0.04	<0.04	nm	0-20
Benzene	µg/g (ppm)	<0.04	<0.04	nm	0-20
Trichloroethene	µg/g (ppm)	<0.04	<0.04	nm	0-20
Toluene	µg/g (ppm)	<0.04	<0.04	nm	0-20
Chlorobenzene	µg/g (ppm)	<0.04	<0.04	nm	0-20

Laboratory Code: 812153-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
1,1-Dichloroethene	µg/g (ppm)	2	<0.04	63	68	30-118	8
Benzene	µg/g (ppm)	2	<0.04	58	63	44-113	9
Trichloroethene	µg/g (ppm)	2	<0.04	54	59	40-107	9
Toluene	µg/g (ppm)	2	<0.04	54	62	34-113	14
Chlorobenzene	µg/g (ppm)	2	<0.04	68	62	46-109	10

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	% Recovery LCS	% Recovery LCSD	Acceptance Criteria	Relative Percent Difference
1,1-Dichloroethene	µg/g (ppm)	2	54	46	41-131	20
Benzene	µg/g (ppm)	2	69	74	55-125	7
Trichloroethene	µg/g (ppm)	2	66	69	50-118	4
Toluene	µg/g (ppm)	2	78	80	55-119	3
Chlorobenzene	µg/g (ppm)	2	81	81	58-117	0

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

901023

CJ 1-7-99 EO2

SAMPLE CHAIN OF CUSTODY

Send Report To:

Company AESI Contact CHIP GOODHUE
Address 179 MARZONE LN
City, State, Zip BAINBRIDGE ISLAND, WA
Phone # 206-780-9370 FAX # _____ Date 1-7-97

SITE NO.

PROJECT NAME

PURCHASE ORDER #

BV97011C	CHUCK OLSON	
----------	-------------	--

SAMPLERS (signature)

PROJECT LOCATION

<i>Michael G. Meyer</i>	SEATTLE, WA
-------------------------	-------------

REMARKS

SAMPLE DISPOSAL INFORMATION

HOLD ADD'L JARS FOR FUTURE ANALYSES	<input type="checkbox"/>	Dispose after 30 days
	<input type="checkbox"/>	Return Samples
	<input checked="" type="checkbox"/>	Call for Instructions

Sample #	Date/Time Sampled	Type of Sample	# of Jars	Lab Sample #	Analyses Requested
BAYIB	1-7-99/9:00	SOIL	3	01	NWTPH-DX *
BAYINSW	↓ 9:05	↓	↓	02	↓ *★
BAYISSW	↓ 9:10	↓	↓	03	↓
BAYIESW	↓ 9:25	↓	↓	04	↓
					* Analyze by method 8260B
					★ Analyze by EPH/VPH including target BtAs
					per Chip Goodhue: 1-20-99 j

SIGNATURE

PRINT NAME

COMPANY

Date _____

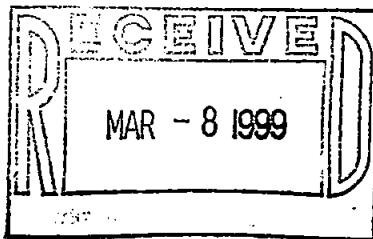
Time

Relinquished by: <i>[Signature]</i>	MELISSA A. MARINSON	ACSI	1-7-99	HDO
Received by: MARTIN #200	<i>Mat</i>	CHAMPION	1/7/99	4:00
Relinquished by: <i>S. Oboorn</i>	S. Oboorn	F+B, Inc.	1-7-99	5pm
Received by:				

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Jensen, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.



3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

February 25, 1999

Chip Goodhue, Project Manager
Associated Earth Sciences, Inc.
179 Madrone Lane North
Bainbridge Island, WA 98110

Dear Mr. Goodhue:

Included are the results from the additional testing of material submitted on January 15 and 18, 1999 from your BV97011C, Chuck Olson project. Samples Bay12SSW3 and Bay12NSW4 were sent to Sound Analytical for EPH/VPH analysis. Results are enclosed.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

A handwritten signature in cursive script that reads "Charlene Jensen". The signature is written in dark ink and is positioned above the printed name and title.

Charlene Jensen
Chemist

Enclosures
AES0225R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID: BAY12SSW3
 Date Received: 01/15/99
 Date Extracted: 01/29/99
 Date Analyzed: 01/29/99
 Matrix: Soil
 Units: ug/g (ppm)

Client: Associated Earth Sciences
 Project: BV97011C, Chuck Olson
 Lab ID: 901077-02 1/10
 Data File: 012940.D
 Instrument: GCMS1
 Operator: YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Dibromofluoromethane	61	43	122
1,2-Dichloroethane-d4	58	35	125
Toluene-d8	70	28	130
4-Bromofluorobenzene	90	42	136

Compounds:	Concentration ug/g (ppm)	Compounds:	Concentration ug/g (ppm)
Dichlorodifluoromethane	<0.4	Tetrachloroethene	— 4.2
Chloromethane	<0.4	Dibromochloromethane	<0.4
Vinyl chloride	<0.4	1,2-Dibromoethane (EDB)	<0.4
Bromomethane	<0.4	Chlorobenzene	<0.4
Chloroethane	<0.4	Ethylbenzene	— 0.8
Trichlorofluoromethane	<0.4	1,1,1,2-Tetrachloroethane	<0.4
Acetone	<4	m,p-Xylene	— 3.2
1,1-Dichloroethene	<0.4	o-Xylene	— 2.4
Methylene chloride	<2	Styrene	<0.4
trans-1,2-Dichloroethene	<0.4	Isopropylbenzene	— 0.6
1,1-Dichloroethane	<0.4	Bromoform	<0.4
2,2-Dichloropropane	<0.4	n-Propylbenzene	— 1.5
cis-1,2-Dichloroethene	<0.4	Bromobenzene	<0.4
Chloroform	<0.4	1,3,5-Trimethylbenzene	— 3.6
2-Butanone (MEK)	<4	1,1,2,2-Tetrachloroethane	<0.4
1,2-Dichloroethane (EDC)	<0.4	1,2,3-Trichloropropane	<0.4
1,1,1-Trichloroethane	— 6.0	2-Chlorotoluene	<0.4
1,1-Dichloropropene	<0.4	4-Chlorotoluene	<0.4
Carbon Tetrachloride	<0.4	tert-Butylbenzene	<0.4
Benzene	<0.4	1,2,4-Trimethylbenzene	— 11
Trichloroethene	<0.4	sec-Butylbenzene	— 0.6
1,2-Dichloropropane	<0.4	p-Isopropyltoluene	— 0.8
Bromodichloromethane	<0.4	1,3-Dichlorobenzene	<0.4
Dibromomethane	<0.4	1,4-Dichlorobenzene	<0.4
4-Methyl-2-pentanone	<4	1,2-Dichlorobenzene	<0.4
cis-1,3-Dichloropropene	<0.4	1,2-Dibromo-3-chloropropane	<0.4
Toluene	— 1.5	1,2,4-Trichlorobenzene	<0.4
trans-1,3-Dichloropropene	<0.4	Hexachlorobutadiene	<0.4
1,1,2-Trichloroethane	<0.4	Naphthalene	— 2.6
2-Hexanone	<4	1,2,3-Trichlorobenzene	<0.4
1,3-Dichloropropane	<0.4		

Note: The sample was diluted due to high levels of interfering compounds. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID: BAY12NSW4
 Date Received: 01/18/99
 Date Extracted: 01/29/99
 Date Analyzed: 02/01/99
 Matrix: Soil
 Units: ug/g (ppm)

Client: Associated Earth Sciences
 Project: BV97011C, Chuck Olson
 Lab ID: 901083-02 1/10
 Data File: 020107.D
 Instrument: GCMS1
 Operator: YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Dibromofluoromethane	76	43	122
1,2-Dichloroethane-d4	78	35	125
Toluene-d8	69	28	130
4-Bromofluorobenzene	101	42	136

Compounds:	Concentration ug/g (ppm)	Compounds:	Concentration ug/g (ppm)
Dichlorodifluoromethane	<0.4	Tetrachloroethene	—5.1
Chloromethane	<0.4	Dibromochloromethane	<0.4
Vinyl chloride	<0.4	1,2-Dibromoethane (EDB)	<0.4
Bromomethane	<0.4	Chlorobenzene	<0.4
Chloroethane	<0.4	Ethylbenzene	—1.4
Trichlorofluoromethane	<0.4	1,1,1,2-Tetrachloroethane	<0.4
Acetone	<4	m,p-Xylene	—7.7
1,1-Dichloroethene	<0.4	o-Xylene	—4.3
Methylene chloride	<2	Styrene	<0.4
trans-1,2-Dichloroethene	<0.4	Isopropylbenzene	—1
1,1-Dichloroethane	<0.4	Bromoform	<0.4
2,2-Dichloropropane	<0.4	n-Propylbenzene	—2.4
cis-1,2-Dichloroethene	<0.4	Bromobenzene	<0.4
Chloroform	<0.4	1,3,5-Trimethylbenzene	—6.8
2-Butanone (MEK)	<4	1,1,2,2-Tetrachloroethane	<0.4
1,2-Dichloroethane (EDC)	<0.4	1,2,3-Trichloropropane	<0.4
1,1,1-Trichloroethane	—8.7	2-Chlorotoluene	<0.4
1,1-Dichloropropene	<0.4	4-Chlorotoluene	<0.4
Carbon Tetrachloride	<0.4	tert-Butylbenzene	<0.4
Benzene	<0.4	1,2,4-Trimethylbenzene	—24
Trichloroethene	<0.4	sec-Butylbenzene	—1.3
1,2-Dichloropropane	<0.4	p-Isopropyltoluene	—1.7
Bromodichloromethane	<0.4	1,3-Dichlorobenzene	<0.4
Dibromomethane	<0.4	1,4-Dichlorobenzene	<0.4
4-Methyl-2-pentanone	<4	1,2-Dichlorobenzene	<0.4
cis-1,3-Dichloropropene	<0.4	1,2-Dibromo-3-chloropropane	<0.4
Toluene	—2.1	1,2,4-Trichlorobenzene	<0.4
trans-1,3-Dichloropropene	<0.4	Hexachlorobutadiene	<0.4
1,1,2-Trichloroethane	<0.4	Naphthalene	—5.2
2-Hexanone	<4	1,2,3-Trichlorobenzene	<0.4
1,3-Dichloropropane	<0.4		

Note: The sample was diluted due to high levels of interfering compounds. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID: Method Blank
 Date Received: 01/18/99
 Date Extracted: 01/29/99
 Date Analyzed: 01/29/99
 Matrix: Soil
 Units: ug/g (ppm)

Client: Associated Earth Sciences
 Project: BV97011C, Chuck Olson
 Lab ID: 09-108 mb5
 Data File: 012910.D
 Instrument: GCMS1
 Operator: YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Dibromofluoromethane	49	43	122
1,2-Dichloroethane-d4	48	35	125
Toluene-d8	70	28	130
4-Bromofluorobenzene	93	42	136

Compounds:	Concentration ug/g (ppm)	Compounds:	Concentration ug/g (ppm)
Dichlorodifluoromethane	<0.04	Tetrachloroethene	<0.04
Chloromethane	<0.04	Dibromochloromethane	<0.04
Vinyl chloride	<0.04	1,2-Dibromoethane (EDB)	<0.04
Bromomethane	<0.04	Chlorobenzene	<0.04
Chloroethane	<0.04	Ethylbenzene	<0.04
Trichlorofluoromethane	<0.04	1,1,1,2-Tetrachloroethane	<0.04
Acetone	<0.4	m,p-Xylene	<0.04
1,1-Dichloroethene	<0.04	o-Xylene	<0.04
Methylene chloride	<0.2	Styrene	<0.04
trans-1,2-Dichloroethene	<0.04	Isopropylbenzene	<0.04
1,1-Dichloroethane	<0.04	Bromoform	<0.04
2,2-Dichloropropane	<0.04	n-Propylbenzene	<0.04
cis-1,2-Dichloroethene	<0.04	Bromobenzene	<0.04
Chloroform	<0.04	1,3,5-Trimethylbenzene	<0.04
2-Butanone (MEK)	<0.4	1,1,2,2-Tetrachloroethane	<0.04
1,2-Dichloroethane (EDC)	<0.04	1,2,3-Trichloropropane	<0.04
1,1,1-Trichloroethane	<0.04	2-Chlorotoluene	<0.04
1,1-Dichloropropene	<0.04	4-Chlorotoluene	<0.04
Carbon Tetrachloride	<0.04	tert-Butylbenzene	<0.04
Benzene	<0.04	1,2,4-Trimethylbenzene	<0.04
Trichloroethene	<0.04	sec-Butylbenzene	<0.04
1,2-Dichloropropane	<0.04	p-Isopropyltoluene	<0.04
Bromodichloromethane	<0.04	1,3-Dichlorobenzene	<0.04
Dibromomethane	<0.04	1,4-Dichlorobenzene	<0.04
4-Methyl-2-pentanone	<0.4	1,2-Dichlorobenzene	<0.04
cis-1,3-Dichloropropene	<0.04	1,2-Dibromo-3-chloropropane	<0.04
Toluene	<0.04	1,2,4-Trichlorobenzene	<0.04
trans-1,3-Dichloropropene	<0.04	Hexachlorobutadiene	<0.04
1,1,2-Trichloroethane	<0.04	Naphthalene	<0.04
2-Hexanone	<0.4	1,2,3-Trichlorobenzene	<0.04
1,3-Dichloropropane	<0.04		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 02/25/99

Date Received: 01/15/99 and 01/18/99

Project: BV97011C, Chuck Olson

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260B

Laboratory Code: 812153-06 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
1,1-Dichloroethene	µg/g (ppm)	<0.04	<0.04	nm	0-20
Benzene	µg/g (ppm)	<0.04	<0.04	nm	0-20
Trichloroethene	µg/g (ppm)	<0.04	<0.04	nm	0-20
Toluene	µg/g (ppm)	<0.04	<0.04	nm	0-20
Chlorobenzene	µg/g (ppm)	<0.04	<0.04	nm	0-20

Laboratory Code: 812153-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
1,1-Dichloroethene	µg/g (ppm)	2	<0.04	63	68	30-118	8
Benzene	µg/g (ppm)	2	<0.04	58	63	44-113	9
Trichloroethene	µg/g (ppm)	2	<0.04	54	59	40-107	9
Toluene	µg/g (ppm)	2	<0.04	54	62	34-113	14
Chlorobenzene	µg/g (ppm)	2	<0.04	68	62	46-109	10

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	% Recovery LCS	% Recovery LCSD	Acceptance Criteria	Relative Percent Difference
1,1-Dichloroethene	µg/g (ppm)	2	54	46	41-131	20
Benzene	µg/g (ppm)	2	69	74	55-125	7
Trichloroethene	µg/g (ppm)	2	66	69	50-118	4
Toluene	µg/g (ppm)	2	78	80	55-119	3
Chlorobenzene	µg/g (ppm)	2	81	81	58-117	0

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

#901077

CJ A01
1-18-29
2:35

Send Report To:

SITE NO.

PROJECT NAME

PURCHASE ORDER #

BV97011C

Chuck Olson

SAMPLERS (signature)

PROJECT LOCATION




Richard A. Meyer

Seattle, WA

REMARKS

SAMPLE DISPOSAL INFORMATION

HAD AND WARS ARE FUTURE ANSWERS

 Dispose after 30 days
 Return Samples
 Call for Instructions

[illegible]

* Analyze by method 82-L0
and EPH/VOH (no target RNAs)
per Chip barcode 1-28-94 c;

SIGNATURE

PRINT NAME

COMPANY

Date _____

Time

Relinquished by:

MELISSA A. MARCUSON

At 5:

1.15-芳

12:35

Received by:

Carlos Barro;

FLD

1-15-22

2:35

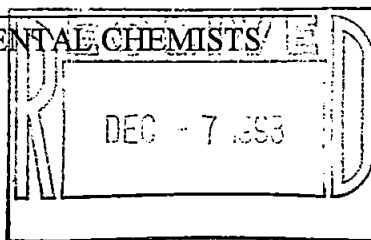
Relinquished by:

Received by:

**SOIL BORING AND EXCAVATION CONFIRMATION SAMPLES -
EPH/VPH ANALYTICAL RESULTS**

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS



James E. Bruya, Ph.D.
Charlene Jensen, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

TRANSMITTAL

DATE: 12-4-98
TO: Chip Goodhue
COMPANY: AESI PROJECT ID: BV 970118
FAX #: _____ PHONE #: _____
FROM: Charlene Jensen

We are sending you the following:

# Pages (including cover sheet)	Description
	<u>EPH / UPH results from sound</u>

These are transmitted as indicated:

- ☐ For your use
 ☐ For review and comment
 ☐ For your signature and return
☐ As requested
 ☐ As noted
 ☐ Other _____

Remarks: _____

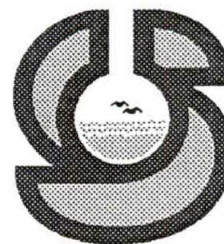
For items sent via Fax:

Original: Will Follow ☐ Will Not Follow ☐

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Sound Analytical Services, Inc.
ANALYTICAL & ENVIRONMENTAL CHEMISTS
4813 Pacific Hwy East • Tacoma, WA 98424
(253) 922-2310 • FAX (253) 922-5047
e-mail: SoundL@aol.com



TRANSMITTAL MEMORANDUM

DATE: November 25, 1998

TO: Charlene Jensen
Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029

PROJECT: 810182

REPORT NUMBER: 76773

Enclosed are the test results for two samples received at Sound Analytical Services on November 3, 1998.

The report consists of this transmittal memo, analytical results, quality control reports, a copy of the chain-of-custody, a list of data qualifiers and analytical narrative when applicable, and a copy of any requested raw data.

Should there be any questions regarding this report, please contact me at (253) 922-2310.

Sincerely,

Tom Watson
Project Manager

SOUND ANALYTICAL EPH / VPH

**SAMPLE SUMMARY REPORTS
AND
WORKSHEETS**

SOUND ANALYTICAL EPH / VPH SUMMARY REPORT

Client Sample ID: EB-15-7.5-9.5'
 Work Order: 76773
 Laboratory ID: 76773-01
 Date Sampled: 11/3/98 Date Received: 11/3/98
 Date Prepared: EPH 11/7/98 PAHs 11/7/98 VPH 11/10/98
 Date Analyzed: EPH 11/16/98 PAHs 11/20/98 VPH 11/11/98
 Matrix: solid % Solids: 94.56

ANALYTICAL RESULTS:

Non-Carcinogen - Human Health Hazard Index Compounds

<u>Compound</u>	<u>mg/kg</u>
Total Aliphatics	2100
Total Aromatics *	4400
Benzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	0.49

* Total aromatics is aromatic fractions + benzene - ethylbenzene, toluene & xylenes

Carcinogen - Human Health Risk Compounds

<u>Compound</u>	<u>mg/kg</u>	<u>PQL</u>
Benzene *	0.21	0.41
Total cPAHs *	0.60	1.20

* For compounds not detected, 1/2 PQL values are Substituted

Soil to Groundwater - Fate and Transport Fractions

<u>Aliphatic Fractions</u>	<u>mg/kg</u>
C5 - C6	ND
>C6 - C8	ND
>C8 - C10	31
>C10 - C12	89
>C12 - C16	190
>C16 - C21	1800
Total Aliphatic Fractions	2100

<u>Aromatic Fractions</u>	<u>mg/kg</u>
>C8 - C10*	23
>C10 - C12	20
>C12 - C16	39
>C16 - C21	540
>C21 - C34	3800
Total Aromatic Fractions	4400

* Does not include ethylbenzene and xylenes

HUMAN HEALTH SOILS CONTACT WORKSHEETS

CLIENT ID EB-15-7 5-9 5'

LAB ID 76773-01

Non-Carcinogen--Hazard Index

Compound	Soil ppm	ORfD	<u>Residential</u>			<u>Commercial</u>			<u>Industrial</u>		
			Factor	Res. Mult.	HQ	Factor	Com. Mult	HQ	Factor	Ind. Mult.	HQ
Total aliphatic	2100	0.06	1.25E-05	2.08E-04	0.44	3.13E-06	5.21E-05	0.11	2.86E-07	4.77E-06	0.01
Total aromatic*	4400	0.03	1.25E-05	4.17E-04	1.83	3.13E-06	1.04E-04	0.46	2.86E-07	9.53E-06	<u>0.04</u>
Benzene	0.0										
Ethylbenzene	0.0	0.10	1.25E-05	1.25E-04	0.00	3.13E-06	3.13E-05	0.00	2.86E-07	2.86E-06	0.00
Toluene	0.0	0.20	1.25E-05	6.25E-05	0.00	3.13E-06	1.56E-05	0.00	2.86E-07	1.43E-06	0.00
Xylenes	0.5	2.00	1.25E-05	6.25E-06	<u>0.00</u>	3.13E-06	1.56E-06	<u>0.00</u>	2.86E-07	1.43E-07	<u>0.00</u>

Hazard Index 2.27 0.57 0.05

* Total aromatic is total of aromatic fractions plus benzene minus ethylbenzene, toluene and xylenes

Carcinogen Risk

Compound	Soil ppm	OCPF	<u>Residential</u>		<u>Commercial</u>		<u>Industrial</u>	
			Res. Mult.	Risk	Com. Mult	Risk	Ind. Mult.	Risk
Benzene *	0.21	0.029	1.00E-06	6.09E-09	2.50E-07	1.52E-09	7.62E-08	4.64E-10
Total cPAHs *	0.60	7.30	1.00E-06	4.34E-06	2.50E-07	1.09E-06	7.62E-08	3.31E-07

* For parameters not detected 1/2 PQL values are substituted

FATE AND TRANSPORT - SOIL TO GROUNDWATER

"Raoult's Law" Worksheet

CLIENT ID EB-15-7.5-9.5'

LAB ID 76773-01

COMPOUND	Soil mg/kg	MW g/mol	Moles mmol/kg	Mol Frac.	Solubility mg/l	Effect. Sol mg/l	DF	Well Conc. mg/l
<i>Aliphatics</i>								
EC 5 - 6	0	81	0.0	0.00	2.8E+01	0.0E+00	20	0.0E+00
EC >6 - 8	0	100	0.0	0.00	4.2E+00	0.0E+00	20	0.0E+00
EC >8 - 10	31	130	0.2	0.01	3.3E-01	2.8E-03	20	1.4E-04
EC >10 - 12	89	160	0.6	0.02	2.6E-02	5.2E-04	20	2.6E-05
EC >12 - 16	190	200	1.0	0.03	5.9E-04	2.0E-05	20	1.0E-06
EC >16 - 21	1800	270	6.7	0.24	1.0E-06	2.4E-07	20	1.2E-08
<i>Aromatics</i>								
Benzene	0.0	78	0.0	0.00	1.8E+03	0.0E+00	20	0.0E+00
Toluene	0.0	92	0.0	0.00	5.2E+02	0.0E+00	20	0.0E+00
EC >8 - 10*	23	120	0.2	0.01	6.5E+01	4.6E-01	20	2.3E-02
EC >10 - 12	20	130	0.2	0.01	2.5E+01	1.4E-01	20	6.9E-03
EC >12 - 16	39	150	0.3	0.01	5.8E+00	5.4E-02	20	2.7E-03
EC >16 - 21	540	190	2.8	0.10	5.1E-01	5.2E-02	20	2.6E-03
EC >21 - 35	3800	240	15.8	0.57	6.6E-03	3.8E-03	20	1.9E-04
			27.7	1.00				0.0

* Includes ethylbenzene & xylenes

Well Conc. must be 1 mg/l or less for soil concentrations to be protective of Method A drinking water standard.

SOUND ANALYTICAL EPH / VPH SUMMARY REPORT

Client Sample ID: EB-24-7.5-9.0'

Work Order 76773

Laboratory ID: 76773-02

Date Sampled: 11/3/98

Date Received: 11/3/98

Date Prepared: EPH 11/7/98 PAHs 11/7/98 VPH 11/10/98

Date Analyzed: EPH 11/16/98 PAHs 11/20/98 VPH 11/11/98

Matrix: solid % Solids: 93.78

ANALYTICAL RESULTS:

Non-Carcinogen - Human Health Hazard Index Compounds

<u>Compound</u>	<u>mg/kg</u>
Total Aliphatics	4900
Total Aromatics *	4200
Benzene	ND
Ethylbenzene	0.78
Toluene	2.2
Xylenes	4.7

* Total aromatics is aromatic fractions + benzene - ethylbenzene, toluene & xylenes

Carcinogen - Human Health Risk Compounds

<u>Compound</u>	<u>mg/kg</u>	<u>PQL</u>
Benzene *	0.21	0.41
Total cPAHs *	0.60	1.20

* For compounds not detected, 1/2 PQL values are Substituted

Soil to Groundwater - Fate and Transport Fractions

<u>Aliphatic Fractions</u>	<u>mg/kg</u>
C5 - C6	2.8
>C6 - C8	3.1
>C8 - C10	72
>C10 - C12	130
>C12 - C16	260
>C16 - C21	<u>4400</u>
Total Aliphatic Fractions	4900

<u>Aromatic Fractions</u>	<u>mg/kg</u>
>C8 - C10*	40
>C10 - C12	31
>C12 - C16	66
>C16 - C21	740
>C21 - C34	<u>3300</u>
Total Aromatic Fractions	4200

* Does not include ethylbenzene and xylenes

HUMAN HEALTH SOILS CONTACT WORKSHEETS

CLIENT ID EB-24-7.5-9.0'

LAB ID 76773-02

Non-Carcinogen--Hazard Index

Compound	Soil ppm	ORfD	<u>Residential</u>			<u>Commercial</u>			<u>Industrial</u>		
			Factor	Res. Mult.	HQ	Factor	Com. Mult.	HQ	Factor	Ind. Mult.	HQ
Total aliphatic	4900	0.06	1.25E-05	2.08E-04	1.02	3.13E-06	5.21E-05	0.26	2.86E-07	4.77E-06	0.02
Total aromatic*	4200	0.03	1.25E-05	4.17E-04	1.75	3.13E-06	1.04E-04	0.44	2.86E-07	9.53E-06	0.04
Benzene	0.0										
Ethylbenzene	0.8	0.10	1.25E-05	1.25E-04	0.00	3.13E-06	3.13E-05	0.00	2.86E-07	2.86E-06	0.00
Toluene	2.2	0.20	1.25E-05	6.25E-05	0.00	3.13E-06	1.56E-05	0.00	2.86E-07	1.43E-06	0.00
Xylenes	4.7	2.00	1.25E-05	6.25E-06	0.00	3.13E-06	1.56E-06	0.00	2.86E-07	1.43E-07	0.00

Hazard Index 2.77 0.69 0.06

* Total aromatic is total of aromatic fractions plus benzene minus ethylbenzene, toluene and xylenes

Carcinogen Risk

Compound	Soil ppm	OCPF	<u>Residential</u>		<u>Commercial</u>		<u>Industrial</u>	
			Res. Mult.	Risk	Com. Mult.	Risk	Ind. Mult.	Risk
Benzene *	0.21	0.029	1.00E-06	6.09E-09	2.50E-07	1.52E-09	7.62E-08	4.64E-10
Total cPAHs *	0.60	7.30	1.00E-06	4.34E-06	2.50E-07	1.09E-06	7.62E-08	3.31E-07

* For parameters not detected 1/2 PQL values are substituted

FATE AND TRANSPORT - SOIL TO GROUNDWATER

"Raoult's Law" Worksheet

CLIENT ID EB-24-7-5-9.0

LAB ID 76773-02

COMPOUND	Soil mg/kg	MW g/mol	Moles mmol/kg	Mol Frac.	Solubility mg/l	Effect. Sol mg/l	DF	Well Conc. mg/l
Aliphatics								
EC 5 - 6	3	81	0.0	0.00	2.8E+01	2.6E-02	20	1.3E-03
EC >6 - 8	3	100	0.0	0.00	4.2E+00	3.4E-03	20	1.7E-04
EC >8 - 10	72	130	0.6	0.01	3.3E-01	4.8E-03	20	2.4E-04
EC >10 - 12	130	160	0.8	0.02	2.6E-02	5.6E-04	20	2.8E-05
EC >12 - 16	260	200	1.3	0.03	5.9E-04	2.0E-05	20	1.0E-06
EC >16 - 21	4400	270	16.3	0.43	1.0E-06	4.3E-07	20	2.2E-08
Aromatics								
Benzene	0.0	78	0.0	0.00	1.8E+03	0.0E+00	20	0.0E+00
Toluene	2.2	92	0.0	0.00	5.2E+02	3.3E-01	20	1.6E-02
EC >8 - 10*	45	120	0.4	0.01	6.5E+01	6.5E-01	20	3.3E-02
EC >10 - 12	31	130	0.2	0.01	2.5E+01	1.6E-01	20	7.9E-03
EC >12 - 16	66	150	0.4	0.01	5.8E+00	6.8E-02	20	3.4E-03
EC >16 - 21	740	190	3.9	0.10	5.1E-01	5.3E-02	20	2.6E-03
EC >21 - 35	3300	240	<u>13.8</u>	<u>0.36</u>	6.6E-03	2.4E-03	20	<u>1.2E-04</u>
			37.8	1.00				0.1

* Includes ethylbenzene & xylenes

Well Conc. must be 1 mg/l or less for soil concentrations to be protective of Method A drinking water standard.

SOUND ANALYTICAL EPH / VPH
VOLATILE PETROLEUM HYDROCARBONS
ALIPHATIC AND AROMATIC FRACTIONS
TARGET INDICATOR COMPOUNDS

SOUND ANALYTICAL SERVICES, INC.

Client Name	Friedman & Bruya, Inc.
Client ID:	EB-15-7.5-9.5'
Lab ID:	76773-01
Date Received:	11/3/98
Date Prepared:	11/10/98
Date Analyzed:	11/11/98
% Solids	94.56

WSDOE Method for Determination of Volatile Petroleum Hydrocarbon Fractions Modified

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
a.a.a.-Trifluorotoluene	106		60	140

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	PQL	Flags
EC 5-6 Aliphatics	ND	1.2	
EC >6-8 Aliphatics	ND	0.83	
EC >8-10 Aliphatics	ND	2.5	J
EC >8-10 Aromatics	23	2.1	
MTBE	ND	0.41	
Benzene	ND	0.41	
Toluene	ND	0.41	
Ethylbenzene	ND	0.41	
m- & p-Xylene	ND	0.83	
o-Xylene	0.49	0.41	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Friedman & Bruya, Inc.
Client ID:	EB-24-7.5-9.0'
Lab ID:	76773-02
Date Received:	11/3/98
Date Prepared:	11/10/98
Date Analyzed:	11/11/98
% Solids	93.78

WSDOE Method for Determination of Volatile Petroleum Hydrocarbon Fractions Modified

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
a.a.a.-Trifluorotoluene	104		60	140

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	PQL	Flags
EC 5-6 Aliphatics	2.8	1.2	
EC >6-8 Aliphatics	3.1	0.82	
EC >8-10 Aliphatics	ND	2.5	J
EC >8-10 Aromatics	40	2	
MTBE	ND	0.41	
Benzene	ND	0.41	
Toluene	2.2	0.41	
Ethylbenzene	0.78	0.41	
m- & p-Xylene	2.7	0.82	
o-Xylene	2	0.41	

SOUND ANALYTICAL SERVICES, INC.

Lab ID:	Method Blank - GB1608
Date Received:	-
Date Prepared:	11/10/98
Date Analyzed:	11/11/98
% Solids	

WSDOE Method for Determination of Volatile Petroleum Hydrocarbon Fractions Modified

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
a.a.a.-Trifluorotoluene	105		60	140

Sample results are on an as received basis.

Analyte	Result (mg/kg)	PQL	Flags
EC 5-6 Aliphatics	ND	1.2	
EC >6-8 Aliphatics	ND	0.8	
EC >8-10 Aliphatics	ND	2.4	
EC >8-10 Aromatics	ND	2	
MTBE	ND	0.4	
Benzene	ND	0.4	
Toluene	ND	0.4	
Ethylbenzene	ND	0.4	
m- & p-Xylene	ND	0.8	
o-Xylene	ND	0.4	

SOUND ANALYTICAL SERVICES, INC.

Duplicate Report

Client Sample ID:	EB-15-7.5-9.5'
Lab ID:	76773-01
Date Prepared:	11/10/98
Date Analyzed:	11/11/98
QC Batch ID:	GB1608

WSDOE Method for Determination of Volatile Petroleum Hydrocarbon Fractions Modified

Parameter Name	Sample Result (mg/kg)	Duplicate Result (mg/kg)	RPD %	Flag
EC 5-6 Aliphatics	0	0	NC	
EC >6-8 Aliphatics	0	0	NC	
EC >8-10 Aliphatics	-6.1	-4.8	NC	
EC >8-10 Aromatics	23	19	19.0	
MTBE	0	0	NC	
Benzene	0	0	NC	
Toluene	0	0	NC	
Ethylbenzene	0	0	NC	
m- & p-Xylene	0	0	NC	
o-Xylene	0.49	0.42	15.0	

SOUND ANALYTICAL SERVICES, INC.

Matrix Spike Report

Client Sample ID: EB-15-7.5-9.5'
Lab ID: 76773-01
Date Prepared: 11/10/98
Date Analyzed: 11/11/98
QC Batch ID: GB1608

WSDOE Method for Determination of Volatile Petroleum Hydrocarbon Fractions Modified

Parameter Name	Sample Result (mg/kg)	Spike Amount (mg/kg)	MS Result (mg/kg)	MS % Rec.	Flag
EC 5-6 Aliphatics	0	7.9	5.1	64	
EC >6-8 Aliphatics	0	4	1.7	43	
EC >8-10 Aliphatics	-6.1	4	-12	-148	X7
EC >8-10 Aromatics	23	4	25	38	X7a
MTBE	0	4	3.6	89	
Benzene	0	4	3.5	87	
Toluene	0	4	3.8	95	
Ethylbenzene	0	4	3.7	93	
m- & p-Xylene	0	7.9	7.9	100	
o-Xylene	0.49	4	4.2	95	

SOUND ANALYTICAL SERVICES, INC.

Blank Spike Report

Lab ID: GB1608
Date Prepared: 11/10/98
Date Analyzed: 11/11/98
QC Batch ID: GB1608

WSDOE Method for Determination of Volatile Petroleum Hydrocarbon Fractions Modified

Parameter Name	Blank Result (mg/kg)	Spike Amount (mg/kg)	BS Result (mg/kg)	BS % Rec.	Flag
EC 5-6 Aliphatics	0	8	9.4	117	
EC >6-8 Aliphatics	0	4	5.2	131	
EC >8-10 Aliphatics	0	4	3.6	90	
EC >8-10 Aromatics	0	4	0.61	15	
MTBE	0	4	3.2	81	
Benzene	0	4	4	99	
Toluene	0	4	4.2	104	
Ethylbenzene	0	4	4.3	107	
m- & p-Xylene	0	8	8.7	109	
o-Xylene	0	4	3.9	97	

SOUND ANALYTICAL EPH / VPH
EXTRACTABLE PETROLEUM HYDROCARBONS
ALIPHATIC AND AROMATIC FRACTIONS

SOUND ANALYTICAL SERVICES, INC.

Client Name	Friedman & Bruya, Inc.
Client ID:	EB-15-7.5-9.5'
Lab ID:	76773-01
Date Received:	11/3/98
Date Prepared:	11/7/98
Date Analyzed:	11/16/98
% Solids	94.56

Extractable Petroleum Hydrocarbons (EPH)

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
chloro-octadecane	51	X9	60	140
ortho-terphenyl	85		60	140

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	PQL	Flags
C8-C10 Aliphatics	31	2.2	
C10-C12 Aliphatics	89	2.2	
C12-C16 Aliphatics	190	2.2	
C16-C21 Aliphatics	1800	44	D
C21-C34 Aliphatics	20000	88	D
C10-C12 Aromatics	20	2.2	
C12-C16 Aromatics	39	2.2	
C16-C21 Aromatics	540	4.4	
C21-C34 Aromatics	3800	4.4	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Friedman & Bruya, Inc.
Client ID:	EB-24-7.5-9.0'
Lab ID:	76773-02
Date Received:	11/3/98
Date Prepared:	11/7/98
Date Analyzed:	11/16/98
% Solids	93.78

Extractable Petroleum Hydrocarbons (EPH)

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
chloro-octadecane	70		60	140
ortho-terphenyl	88		60	140

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	PQL	Flags
C8-C10 Aliphatics	72	2.2	
C10-C12 Aliphatics	130	2.2	
C12-C16 Aliphatics	260	2.2	
C16-C21 Aliphatics	4400	440	D
C21-C34 Aliphatics	28000	860	D
C10-C12 Aromatics	31	2.2	
C12-C16 Aromatics	66	2.2	
C16-C21 Aromatics	740	4.3	
C21-C34 Aromatics	3300	4.3	

SOUND ANALYTICAL SERVICES, INC.

Lab ID:
Date Received:
Date Prepared:
Date Analyzed:
% Solids

Method Blank - EP074

-
11/7/98
11/16/98

Extractable Petroleum Hydrocarbons (EPH)

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
chloro-octadecane	94		60	140
ortho-terphenyl	95		60	140

Sample results are on an as received basis.

Analyte	Result (mg/kg)	PQL	Flags
C8-C10 Aliphatics	ND	2.5	
C10-C12 Aliphatics	ND	2.5	
C12-C16 Aliphatics	ND	2.5	
C16-C21 Aliphatics	ND	2.5	
C21-C34 Aliphatics	ND	5	
C10-C12 Aromatics	ND	2.5	
C12-C16 Aromatics	ND	2.5	
C16-C21 Aromatics	ND	5	
C21-C34 Aromatics	ND	5	

SOUND ANALYTICAL SERVICES, INC.

Blank Spike Report

Lab ID:	EP074
Date Prepared:	11/7/98
Date Analyzed:	11/16/98
QC Batch ID:	EP074

Extractable Petroleum Hydrocarbons (EPH)

Parameter Name	Blank Result (mg/kg)	Spike Amount (mg/kg)	BS Result (mg/kg)	BS % Rec.	Flag
C8-C10 Aliphatics	0	20	14	72	
C10-C12 Aliphatics	0	20	16	79	
C12-C16 Aliphatics	0	20	17	86	
C16-C21 Aliphatics	0	20	19	97	
C21-C34 Aliphatics	0	20	23	117	
C10-C12 Aromatics	0	20	17	84	
C12-C16 Aromatics	0	20	18	89	
C16-C21 Aromatics	0	20	20	100	
C21-C34 Aromatics	0	20	19	96	

SOUND ANALYTICAL SERVICES, INC.

Duplicate Report

Client Sample ID: EB-15-7.5-9.5'
Lab ID: 76773-01
Date Prepared: 11/7/98
Date Analyzed: 11/16/98
QC Batch ID: EP074

Extractable Petroleum Hydrocarbons (EPH)

Parameter Name	Sample Result (mg/kg)	Duplicate Result (mg/kg)	RPD %	Flag
C8-C10 Aliphatics	31	29	6.7	
C10-C12 Aliphatics	89	80	11.0	
C12-C16 Aliphatics	190	170	11.0	
C16-C21 Aliphatics	1800	1600	12.0	
C21-C34 Aliphatics	20000	17000	16.0	
C10-C12 Aromatics	20	20	0.0	
C12-C16 Aromatics	39	35	11.0	
C16-C21 Aromatics	540	530	1.9	
C21-C34 Aromatics	3800	3400	11.0	

SOUND ANALYTICAL SERVICES, INC.

Matrix Spike Report

Client Sample ID: EB-15-7.5-9.5'
Lab ID: 76773-01
Date Prepared: 11/7/98
Date Analyzed: 11/16/98
QC Batch ID: EP074

Extractable Petroleum Hydrocarbons (EPH)

Parameter Name	Sample Result (mg/kg)	Spike Amount (mg/kg)	MS Result (mg/kg)	MS % Rec.	Flag
C8-C10 Aliphatics	31	17	36	27	X7
C10-C12 Aliphatics	89	17	84	-34	X7
C12-C16 Aliphatics	190	17	190	-26	X7a
C16-C21 Aliphatics	1800	17	1900	646	X7a
C21-C34 Aliphatics	20000	17	18000	-14100	X7a
C10-C12 Aromatics	20	17	31	68	X7
C12-C16 Aromatics	39	17	48	57	X7
C16-C21 Aromatics	540	17	630	514	X7a
C21-C34 Aromatics	3800	17	3700	-221	X7a

SOUND ANALYTICAL EPA 8270 MOD.

EXTRACTABLE PETROLEUM HYDROCARBONS

TARGET PAH COMPOUNDS

SOUND ANALYTICAL SERVICES, INC.

Client Name	Friedman & Bruya, Inc.
Client ID:	EB-15-7.5-9.5'
Lab ID:	76773-01
Date Received:	11/3/98
Date Prepared:	11/7/98
Date Analyzed:	11/20/98
% Solids	94.56
Dilution Factor	200

Targeted PAH Analytes by Method 8270 Modified.

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
o-Terphenyl	80		50	150

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	PQL	MDL	Flags
Naphthalene	1	0.17	0.17	
2-Methylnaphthalene	0.52	0.17	0.16	
Acenaphthylene	ND	0.17	0.17	
Acenaphthene	ND	0.17	0.15	
Fluorene	ND	0.17	0.13	
Phenanthrene	ND	0.17	0.12	
Anthracene	ND	0.17	0.14	
Fluoranthene	ND	0.17	0.1	
Pyrene	ND	0.17	0.096	
Benzo(a)anthracene	ND	0.17	0.077	
Chrysene	ND	0.17	0.094	
Benzo(b)fluoranthene	ND	0.17	0.091	
Benzo(k)fluoranthene	ND	0.17	0.14	
Benzo(a)pyrene	ND	0.17	0.072	
Indeno(1,2,3-cd)pyrene	ND	0.17	0.14	
Dibenz(a,h)anthracene	ND	0.17	0.098	
Benzo(g,h,i)perylene	ND	0.17	0.11	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Friedman & Bruya, Inc.
Client ID:	EB-24-7.5-9.0'
Lab ID:	76773-02
Date Received:	11/3/98
Date Prepared:	11/7/98
Date Analyzed:	11/20/98
% Solids	93.78
Dilution Factor	200

Targeted PAH Analytes by Method 8270 Modified.

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
o-Terphenyl	93		50	150

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	PQL	MDL	Flags
Naphthalene	3	0.17	0.17	
2-Methylnaphthalene	5.5	0.17	0.15	
Acenaphthylene	ND	0.17	0.17	
Acenaphthene	ND	0.17	0.15	
Fluorene	ND	0.17	0.13	
Phenanthrene	0.9	0.17	0.12	
Anthracene	ND	0.17	0.14	
Fluoranthene	ND	0.17	0.1	
Pyrene	ND	0.17	0.095	
Benzo(a)anthracene	ND	0.17	0.076	
Chrysene	ND	0.17	0.093	
Benzo(b)fluoranthene	ND	0.17	0.09	
Benzo(k)fluoranthene	ND	0.17	0.14	
Benzo(a)pyrene	ND	0.17	0.071	
Indeno(1,2,3-cd)pyrene	ND	0.17	0.14	
Dibenz(a,h)anthracene	ND	0.17	0.096	
Benzo(g,h,i)perylene	ND	0.17	0.11	

SOUND ANALYTICAL SERVICES, INC.

Lab ID:	Method Blank - EP074
Date Received:	-
Date Prepared:	11/7/98
Date Analyzed:	11/17/98
% Solids	
Dilution Factor	20

Targeted PAH Analytes by Method 8270 Modified.

Surrogate	% Recovery	Flags	Recovery Limits	
o-Terphenyl	90		Low	High
			50	150

Sample results are on an as received basis.

Analyte	Result (mg/kg)	PQL	MDL	Flags
Naphthalene	ND	0.02	0.02	
2-Methylnaphthalene	ND	0.02	0.018	
Acenaphthylene	ND	0.02	0.019	
Acenaphthene	ND	0.02	0.017	
Fluorene	ND	0.02	0.015	
Phenanthrene	ND	0.02	0.014	
Anthracene	ND	0.02	0.016	
Fluoranthene	ND	0.02	0.012	
Pyrene	ND	0.02	0.011	
Benzo(a)anthracene	ND	0.02	0.0088	
Chrysene	ND	0.02	0.011	
Benzo(b)fluoranthene	ND	0.02	0.01	
Benzo(k)fluoranthene	ND	0.02	0.016	
Benzo(a)pyrene	ND	0.02	0.0082	
Indeno(1,2,3-cd)pyrene	ND	0.02	0.016	
Dibenz(a,h)anthracene	ND	0.02	0.011	
Benzo(g,h,i)perylene	ND	0.02	0.012	

SOUND ANALYTICAL SERVICES, INC.

Blank Spike Report

Lab ID: EP074
Date Prepared: 11/7/98
Date Analyzed: 11/17/98
QC Batch ID: EP074

Targeted PAH Analytes by Method 8270 Modified.

Parameter Name	Blank Result (mg/kg)	Spike Amount (mg/kg)	BS Result (mg/kg)	BS % Rec.	Flag
Naphthalene	0	20	15	73	
Acenaphthene	0	20	20	99	
Pyrene	0	20	16	81	
Benzo(g,h,i)perylene	0	20	14	68	

SOUND ANALYTICAL SERVICES, INC.

Duplicate Report

Client Sample ID: EB-15-7.5-9.5'
Lab ID: 76773-01
Date Prepared: 11/7/98
Date Analyzed: 11/20/98
QC Batch ID: EP074

Targeted PAH Analytes by Method 8270 Modified.

Parameter Name	Sample Result (mg/kg)	Duplicate Result (mg/kg)	RPD %	Flag
Naphthalene	1	1	0.0	
2-Methylnaphthalene	0.52	0.49	5.9	
Acenaphthylene	0	0	NC	
Acenaphthene	0	0	NC	
Fluorene	0	0	NC	
Phenanthrene	0	0	NC	
Anthracene	0	0	NC	
Fluoranthene	0	0	NC	
Pyrene	0	0	NC	
Benzo(a)anthracene	0	0	NC	
Chrysene	0	0	NC	
Benzo(b)fluoranthene	0	0	NC	
Benzo(k)fluoranthene	0	0	NC	
Benzo(a)pyrene	0	0	NC	
Indeno(1,2,3-cd)pyrene	0	0	NC	
Dibenz(a,h)anthracene	0	0	NC	
Benzo(g,h,i)perylene	0	0	NC	

SOUND ANALYTICAL SERVICES, INC.

Matrix Spike Report

Client Sample ID: EB-15-7.5-9.5'
Lab ID: 76773-01
Date Prepared: 11/7/98
Date Analyzed: 11/20/98
QC Batch ID: EP074

Targeted PAH Analytes by Method 8270 Modified.

Parameter Name	Sample Result (mg/kg)	Spike Amount (mg/kg)	MS Result (mg/kg)	MS % Rec.	Flag
Naphthalene	1	17	13	73	
Acenaphthene	0	17	14	81	
Pyrene	0	17	16	91	
Benzo(g,h,i)perylene	0	17	13	76	

SOUND ANALYTICAL SERVICES, INC.

ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE: (253) 922-2310 - FAX: (253) 922-5047

DATA QUALIFIERS AND ABBREVIATIONS

- B1: This analyte was detected in the associated method blank. The analyte concentration was determined not to be significantly higher than the associated method blank (less than ten times the concentration reported in the blank).
- B2: This analyte was detected in the associated method blank. The analyte concentration in the sample was determined to be significantly higher than the method blank (greater than ten times the concentration reported in the blank).
- C1: Second column confirmation was performed. The relative percent difference value (RPD) between the results on the two columns was evaluated and determined to be $\leq 40\%$.
- C2: Second column confirmation was performed. The RPD between the results on the two columns was evaluated and determined to be $> 40\%$. The higher result was reported unless anomalies were noted.
- M: GC/MS confirmation was performed. The result derived from the original analysis was reported.
- D: The reported result for this analyte was calculated based on a secondary dilution factor.
- E: The concentration of this analyte exceeded the instrument calibration range and should be considered an estimated quantity.
- J: The analyte was analyzed for and positively identified, but the associated numerical value is an estimated quantity.
- MCL: Maximum Contaminant Level
- MDL: Method Detection Limit
- N: See analytical narrative.
- ND: Not Detected
- PQL: Practical Quantitation Limit
- X1: Contaminant does not appear to be "typical" product. Elution pattern suggests it may be _____.
- X2: Contaminant does not appear to be "typical" product.
- X3: Identification and quantitation of the analyte or surrogate was complicated by matrix interference.
- X4: RPD for duplicates was outside advisory QC limits. The sample was re-analyzed with similar results. The sample matrix may be nonhomogeneous.
- X4a: RPD for duplicates outside advisory QC limits due to analyte concentration near the method practical quantitation limit/detection limit.
- X5: Matrix spike recovery was not determined due to the required dilution.
- X6: Recovery and/or RPD values for matrix spike(/matrix spike duplicate) outside advisory QC limits. Sample was re-analyzed with similar results.
- X7: Recovery and/or RPD values for matrix spike(/matrix spike duplicate) outside advisory QC limits. Matrix interference may be indicated based on acceptable blank spike recovery and/or RPD.
- X7a: Recovery and/or RPD values for this spiked analyte outside advisory QC limits due to high concentration of the analyte in the original sample.
- X8: Surrogate recovery was not determined due to the required dilution.
- X9: Surrogate recovery outside advisory QC limits due to matrix interference.

74.773

SAMPLE CHAIN OF CUSTODY.


Date 11-3-90

PURCHASE ORDER #

810182

PROJECT LOCATION

SAMPLE DISPOSAL INFORMATION

 Dispose after 30 days
Return Samples
Call for Instructions

12

Time

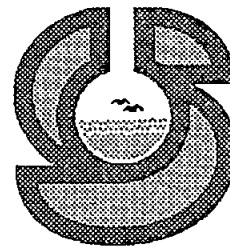
10:24am

10:25A

11:15A

11:15

Sound Analytical Services, Inc.
ANALYTICAL & ENVIRONMENTAL CHEMISTS
4813 Pacific Hwy East • Tacoma, WA 98424
(253) 922-2310 • FAX (253) 922-5047
e-mail: SoundL@aol.com



RECEIVED

JAN 15 1999

TRANSMITTAL MEMORANDUM

DATE: January 14, 1999

TO: Charlene Jensen
Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029

PROJECT: 812133

REPORT NUMBER: 78064

Enclosed are the test results for one sample received at Sound Analytical Services on December 30, 1998.

The report consists of this transmittal memo, analytical results, quality control reports, a copy of the chain-of-custody, a list of data qualifiers and analytical narrative when applicable, and a copy of any requested raw data.

Analytical Narrative: The percent recovery of the first aliphatic region in the blank spike associated with the EPA Method data exceeded the quality control limits due to a baseline anomaly. No action was taken on this outlier based acceptable recoveries in all of the other regions.

Low level contamination was present in the method blank associated with the EPH analyses. The contaminant is not typical petroleum product, but due to difficulties presented with area grouping methods.

Should there be any questions regarding this report, please contact me at (253) 922-2310.

Sincerely,

Tom Watson
Project Manager

SOUND ANALYTICAL SERVICES, INC.

Client Name	Friedman & Bruya, Inc.
Client ID:	BAY 6 NSW
Lab ID:	78064-01
Date Received:	12/30/98
Date Prepared:	1/4/99
Date Analyzed:	1/5/99
% Solids	91.33

WSDOE Method for Determination of Volatile Petroleum Hydrocarbon Fractions Modified

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
a.a.a.-Trifluorotoluene	83		60	140

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	PQL	Flags
EC 5-6 Aliphatics	ND	2	
EC >6-8 Aliphatics	ND	0.81	
EC >8-10 Aliphatics	ND	2.4	
EC >8-10 Aromatics	ND	0.4	
MTBE	ND	0.4	
Benzene	ND	0.4	
Toluene	ND	0.4	
Ethylbenzene	ND	0.4	
m- & p-Xylene	ND	0.81	
o-Xylene	ND	0.4	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Friedman & Bruya, Inc.
Client ID:	BAY 6 NSW
Lab ID:	78064-01
Date Received:	12/30/98
Date Prepared:	1/5/99
Date Analyzed:	1/8/99
% Solids	91.33

Extractable Petroleum Hydrocarbons (EPH)

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
chloro-octadecane	105		60	140
ortho-terphenyl	113		60	140

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	PQL	Flags
C8-C10 Aliphatics	2.5	2.4	B1
C10-C12 Aliphatics	ND	2.4	
C12-C16 Aliphatics	9.5	2.4	
C16-C21 Aliphatics	130	2.4	
C21-C34 Aliphatics	350	4.8	
C10-C12 Aromatics	ND	2.4	
C12-C16 Aromatics	ND	2.4	
C16-C21 Aromatics	25	4.8	
C21-C34 Aromatics	85	4.8	

SOUND ANALYTICAL SERVICES, INC.

Lab ID:	Method Blank - GB1655
Date Received:	-
Date Prepared:	1/4/99
Date Analyzed:	1/5/99
% Solids	

WSDOE Method for Determination of Volatile Petroleum Hydrocarbon Fractions Modified

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
a.a.a.-Trifluorotoluene	87		60	140

Sample results are on an as received basis.

Analyte	Result (mg/kg)	PQL	Flags
EC 5-6 Aliphatics	ND	2	
EC >6-8 Aliphatics	ND	0.8	
EC >8-10 Aliphatics	ND	2.4	
EC >8-10 Aromatics	ND	0.4	
MTBE	ND	0.4	
Benzene	ND	0.4	
Toluene	ND	0.4	
Ethylbenzene	ND	0.4	
m- & p-Xylene	ND	0.8	
o-Xylene	ND	0.4	

SOUND ANALYTICAL SERVICES, INC.

Blank Spike Report

Lab ID:	GB1655
Date Prepared:	1/4/99
Date Analyzed:	1/5/99
QC Batch ID:	GB1655

WSDOE Method for Determination of Volatile Petroleum Hydrocarbon Fractions Modified

Parameter Name	Blank Result (mg/kg)	Spike Amount (mg/kg)	BS Result (mg/kg)	BS % Rec.	Flag
EC 5-6 Aliphatics	0	8	2.4	30	
EC >6-8 Aliphatics	0	4	2.6	65	
EC >8-10 Aliphatics	0	4	1.6	40	
EC >8-10 Aromatics	0	4	4.4	109	
MTBE	0	4	3.7	92	
Benzene	0	4	3.9	96	
Toluene	0	4	4.4	111	
Ethylbenzene	0	4	4.6	115	
m- & p-Xylene	0	8	9.4	117	
o-Xylene	0	4	4.6	115	

SOUND ANALYTICAL SERVICES, INC.

Duplicate Report

Client Sample ID:	BAY 6 NSW
Lab ID:	78064-01
Date Prepared:	1/4/99
Date Analyzed:	1/5/99
QC Batch ID:	GB1655

WSDOE Method for Determination of Volatile Petroleum Hydrocarbon Fractions Modified

Parameter Name	Sample Result (mg/kg)	Duplicate Result (mg/kg)	RPD %	Flag
EC 5-6 Aliphatics	0	0	NC	
EC >6-8 Aliphatics	0	0	NC	
EC >8-10 Aliphatics	0	2.6	-200.0	X4a
EC >8-10 Aromatics	0	0	NC	
MTBE	0	0	NC	
Benzene	0	0	NC	
Toluene	0	0	NC	
Ethylbenzene	0	0	NC	
m- & p-Xylene	0	0	NC	
o-Xylene	0	0	NC	

SOUND ANALYTICAL SERVICES, INC.

Matrix Spike Report

Client Sample ID:	BAY 6 NSW
Lab ID:	78064-01
Date Prepared:	1/4/99
Date Analyzed:	1/5/99
QC Batch ID:	GB1655

WSDOE Method for Determination of Volatile Petroleum Hydrocarbon Fractions Modified

Parameter Name	Sample Result (mg/kg)	Spike Amount (mg/kg)	MS Result (mg/kg)	MS % Rec.	Flag
EC 5-6 Aliphatics	0	8.1	2.5	31	
EC >6-8 Aliphatics	0	4.1	2.5	61	
EC >8-10 Aliphatics	0	4.1	2.9	72	
EC >8-10 Aromatics	0	4.1	4.1	101	
MTBE	0	4.1	3.6	89	
Benzene	0	4.1	3.7	90	
Toluene	0	4.1	4.1	101	
Ethylbenzene	0	4.1	4.2	104	
m- & p-Xylene	0	8.1	8.6	105	
o-Xylene	0	4.1	4.2	104	

SOUND ANALYTICAL SERVICES, INC.

Lab ID:	Method Blank - EP082
Date Received:	-
Date Prepared:	1/5/99
Date Analyzed:	1/8/99
% Solids	

Extractable Petroleum Hydrocarbons (EPH)

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
chloro-octadecane	118		60	140
ortho-terphenyl	114		60	140

Sample results are on an as received basis.

Analyte	Result (mg/kg)	PQL	Flags
C8-C10 Aliphatics	5.4	2.3	N
C10-C12 Aliphatics	3.3	2.3	N
C12-C16 Aliphatics	ND	2.3	
C16-C21 Aliphatics	ND	2.3	
C21-C34 Aliphatics	ND	4.5	
C10-C12 Aromatics	ND	2.3	
C12-C16 Aromatics	ND	2.3	
C16-C21 Aromatics	ND	4.5	
C21-C34 Aromatics	ND	4.5	

SOUND ANALYTICAL SERVICES, INC.

Blank Spike Report

Lab ID: EP082
Date Prepared: 1/5/99
Date Analyzed: 1/8/99
QC Batch ID: EP082

Extractable Petroleum Hydrocarbons (EPH)

Parameter Name	Blank Result (mg/kg)	Spike Amount (mg/kg)	BS Result (mg/kg)	BS % Rec.	Flag
C8-C10 Aliphatics	5.4	18	17	62	N
C10-C12 Aliphatics	3.3	18	20	90	
C12-C16 Aliphatics	0	18	19	107	
C16-C21 Aliphatics	0	18	21	115	
C21-C34 Aliphatics	0	18	20	110	
C10-C12 Aromatics	0	18	16	89	
C12-C16 Aromatics	0	18	19	104	
C16-C21 Aromatics	0	18	22	122	
C21-C34 Aromatics	0	18	24	130	

SOUND ANALYTICAL SERVICES, INC.

Matrix Spike Report

Client Sample ID: 812210-1
Lab ID: 78104-01
Date Prepared: 1/5/99
Date Analyzed: 1/8/99
QC Batch ID: EP082M

Extractable Petroleum Hydrocarbons (EPH)

Parameter Name	Sample Result (mg/kg)	Spike Amount (mg/kg)	MS Result (mg/kg)	MS % Rec.	Flag
C8-C10 Aliphatics	4.1	24	21	71	
C10-C12 Aliphatics	0	24	25	104	
C12-C16 Aliphatics	0	24	25	104	
C16-C21 Aliphatics	0	24	31	127	
C21-C34 Aliphatics	23	24	63	163	X7
C10-C12 Aromatics	0	24	19	78	
C12-C16 Aromatics	0	24	23	96	
C16-C21 Aromatics	0	24	31	126	
C21-C34 Aromatics	21	24	55	142	X7

SOUND ANALYTICAL SERVICES, INC.

Duplicate Report

Client Sample ID: 812210-1
Lab ID: 78104-01
Date Prepared: 1/5/99
Date Analyzed: 1/8/99
QC Batch ID: EP082

Extractable Petroleum Hydrocarbons (EPH)

Parameter Name	Sample Result (mg/kg)	Duplicate Result (mg/kg)	RPD %	Flag
C8-C10 Aliphatics	4.1	3.7	10.0	
C10-C12 Aliphatics	0	0	NC	
C12-C16 Aliphatics	0	0	NC	
C16-C21 Aliphatics	0	3.3	-200.0	X4a
C21-C34 Aliphatics	23	26	-12.0	
C10-C12 Aromatics	0	0	NC	
C12-C16 Aromatics	0	0	NC	
C16-C21 Aromatics	0	6.3	-200.0	X4a
C21-C34 Aromatics	21	24	-13.0	

SOUND ANALYTICAL SERVICES, INC.

ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE: (253) 922-2310 - FAX: (253) 922-5047

DATA QUALIFIERS AND ABBREVIATIONS

- B1: This analyte was detected in the associated method blank. The analyte concentration was determined not to be significantly higher than the associated method blank (less than ten times the concentration reported in the blank).
- B2: This analyte was detected in the associated method blank. The analyte concentration in the sample was determined to be significantly higher than the method blank (greater than ten times the concentration reported in the blank).
- C1: Second column confirmation was performed. The relative percent difference value (RPD) between the results on the two columns was evaluated and determined to be $\leq 40\%$.
- C2: Second column confirmation was performed. The RPD between the results on the two columns was evaluated and determined to be $> 40\%$. The higher result was reported unless anomalies were noted.
- M: GC/MS confirmation was performed. The result derived from the original analysis was reported.
- D: The reported result for this analyte was calculated based on a secondary dilution factor.
- E: The concentration of this analyte exceeded the instrument calibration range and should be considered an estimated quantity.
- J: The analyte was analyzed for and positively identified, but the associated numerical value is an estimated quantity.
- MCL: Maximum Contaminant Level
- MDL: Method Detection Limit
- N: See analytical narrative.
- ND: Not Detected
- PQL: Practical Quantitation Limit
- X1: Contaminant does not appear to be "typical" product. Elution pattern suggests it may be _____.
- X2: Contaminant does not appear to be "typical" product.
- X3: Identification and quantitation of the analyte or surrogate was complicated by matrix interference.
- X4: RPD for duplicates was outside advisory QC limits. The sample was re-analyzed with similar results. The sample matrix may be nonhomogeneous.
- X4a: RPD for duplicates outside advisory QC limits due to analyte concentration near the method practical quantitation limit/detection limit.
- X5: Matrix spike recovery was not determined due to the required dilution.
- X6: Recovery and/or RPD values for matrix spike(/matrix spike duplicate) outside advisory QC limits. Sample was re-analyzed with similar results.
- X7: Recovery and/or RPD values for matrix spike(/matrix spike duplicate) outside advisory QC limits. Matrix interference may be indicated based on acceptable blank spike recovery and/or RPD.
- X7a: Recovery and/or RPD values for this spiked analyte outside advisory QC limits due to high concentration of the analyte in the original sample.
- X8: Surrogate recovery was not determined due to the required dilution.
- X9: Surrogate recovery outside advisory QC limits due to matrix interference.

78064

SAMPLE CHAIN OF CUSTODY

Company Friedman & Bruya Contact Charlene Jensen
Address _____
City, State, Zip _____
Phone # _____ FAX # _____ Date _____

PURCHASE ORDER #

812133

PROJECT LOCATION

SAMPLE DISPOSAL INFORMATION

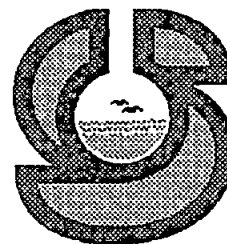
Note hold time.

- ☐ Dispose after 30 days
- ☐ Return Samples
- ☐ Call for Instructions

[illegible]

SIGNATURE	PRINT NAME	COMPANY	Date	Time
Relinquished by: <i>[Signature]</i>	Hirayuki Takai	F & B Inc.	12-30-98	10:25A
Received by: <i>[Signature]</i>	Joe PALMAQUIST	SAS	12-30-98	10:20A
Relinquished by: <i>[Signature]</i>	Joe PALMAQUIST	SAS	12-30-98	1:20P
Received by: <i>[Signature]</i>	M Hodgman	SAS	12/30/98	1:20

Sound Analytical Services, Inc.
ANALYTICAL & ENVIRONMENTAL CHEMISTS
4813 Pacific Hwy East • Tacoma, WA 98424
(253) 922-2310 • FAX (253) 922-5047
e-mail: SoundL@aol.com



RECEIVED

JAN 27 1999

TRANSMITTAL MEMORANDUM

DATE: January 26, 1999

TO: Charlene Jensen
Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029

PROJECT: 812153

REPORT NUMBER: 78252

Enclosed are the test results for one sample received at Sound Analytical Services on January 8, 1999.

The report consists of this transmittal memo, analytical results, quality control reports, a copy of the chain-of-custody, a list of data qualifiers and analytical narrative when applicable, and a copy of any requested raw data.

Analytical Narrative: N flag on EPH duplicate report: The relative percent difference (RPD) between sample 78252-1 and its duplicate analysis exceeded the QC limits. Matrix effects are indicated, based on the acceptable RPD for the other regions, and the lack of recovery of the matrix spike for this region.

Should there be any questions regarding this report, please contact me at (253) 922-2310.

Sincerely,

A handwritten signature in black ink, appearing to read 'Tom Watson', written over a horizontal line.

Tom Watson
Project Manager

SOUND ANALYTICAL EPH / VPH SUMMARY REPORT

Client Sample ID:	<u>Bay 5 SSW</u>					
Work Order	<u>78252</u>					
Laboratory ID:	<u>78252-01</u>					
Date Sampled:	<u>1/8/99</u>			Date Received:	<u>1/8/99</u>	
Date Prepared:	EPH	<u>1/12/99</u>	PAHs	<u>1/12/99</u>	VPH	<u>1/12/99</u>
Date Analyzed:	EPH	<u>1/14/99</u>	PAHs	<u>1/19/99</u>	VPH	<u>1/13/99</u>
Matrix:	<u>solid</u>	% Solids:	<u>95.83</u>			

ANALYTICAL RESULTS:

Non-Carcinogen - Human Health Hazard Index Compounds

<u>Compound</u>	<u>mg/kg</u>
Total Aliphatics	900
Total Aromatics *	2700
Benzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	ND

* Total aromatics is aromatic fractions + benzene - ethylbenzene, toluene & xylenes

Carcinogen - Human Health Risk Compounds

<u>Compound</u>	<u>mg/kg</u>	<u>PQL</u>
Benzene *	0.2	0.4
Total cPAHs *	0.63	1.30

* For compounds not detected, 1/2 PQL values are Substituted

Soil to Groundwater - Fate and Transport Fractions

<u>Aliphatic Fractions</u>	<u>mg/kg</u>
C5 - C6	ND
>C6 - C8	3.4
>C8 - C10	ND
>C10 - C12	24
>C12 - C16	85
>C16 - C21	<u>790</u>
Total Aliphatic Fractions	900

<u>Aromatic Fractions</u>	<u>mg/kg</u>
>C8 - C10*	4.2
>C10 - C12	3.1
>C12 - C16	12
>C16 - C21	200
>C21 - C34	<u>2500</u>
Total Aromatic Fractions	2700

* Does not include ethylbenzene and xylenes

HUMAN HEALTH SOILS CONTACT WORKSHEETS

CLIENT ID Bay 5 SSW

LAB ID 78252-01

Non-Carcinogen--Hazard Index

Compound	Soil ppm	<u>Residential</u>				<u>Commercial</u>			<u>Industrial</u>		
		ORfD	Factor	Res. Mult.	HQ	Factor	Com. Mult	HQ	Factor	Ind. Mult.	HQ
Total aliphatic	900	0.06	1.25E-05	2.08E-04	0.19	3.13E-06	5.21E-05	0.05	2.86E-07	4.77E-06	0.00
Total aromatic*	2700	0.03	1.25E-05	4.17E-04	1.13	3.13E-06	1.04E-04	0.28	2.86E-07	9.53E-06	0.03
Benzene	0.0										
Ethylbenzene	0.0	0.10	1.25E-05	1.25E-04	0.00	3.13E-06	3.13E-05	0.00	2.86E-07	2.86E-06	0.00
Toluene	0.0	0.20	1.25E-05	6.25E-05	0.00	3.13E-06	1.56E-05	0.00	2.86E-07	1.43E-06	0.00
Xylenes	0.0	2.00	1.25E-05	6.25E-06	0.00	3.13E-06	1.56E-06	0.00	2.86E-07	1.43E-07	0.00

Hazard Index 1.31 0.33 0.03

* Total aromatic is total of aromatic fractions plus benzene minus ethylbenzene, toluene and xylenes

Carcinogen Risk

Compound	Soil ppm	<u>Residential</u>			<u>Commercial</u>		<u>Industrial</u>	
		OCPF	Res. Mult.	Risk	Com. Mult	Risk	Ind. Mult.	Risk
Benzene *	0.20	0.029	1.00E-06	5.80E-09	2.50E-07	1.45E-09	7.62E-08	4.42E-10
Total cPAHs *	0.63	7.30	1.00E-06	4.60E-06	2.50E-07	1.15E-06	7.62E-08	3.50E-07

* For parameters not detected 1/2 PQL values are substituted

FATE AND TRANSPORT - SOIL TO GROUNDWATER

"Raoult's Law" Worksheet

CLIENT ID Bay 5 SSW

LAB ID 78252-01

COMPOUND	Soil mg/kg	MW g/mol	Moles mmol/kg	Mol Frac.	Solubility mg/l	Effect. Sol mg/l	DF	Well Conc. mg/l
<i>Aliphatics</i>								
EC 5 - 6	0	81	0.0	0.00	2.8E+01	0.0E+00	20	0.0E+00
EC >6 - 8	3	100	0.0	0.00	4.2E+00	9.4E-03	20	4.7E-04
EC >8 - 10	0	130	0.0	0.00	3.3E-01	0.0E+00	20	0.0E+00
EC >10 - 12	24	160	0.2	0.01	2.6E-02	2.6E-04	20	1.3E-05
EC >12 - 16	85	200	0.4	0.03	5.9E-04	1.7E-05	20	8.3E-07
EC >16 - 21	790	270	2.9	0.19	1.0E-06	1.9E-07	20	9.7E-09
<i>Aromatics</i>								
Benzene	0.0	78	0.0	0.00	1.8E+03	0.0E+00	20	0.0E+00
Toluene	0.0	92	0.0	0.00	5.2E+02	0.0E+00	20	0.0E+00
EC >8 - 10*	4	120	0.0	0.00	6.5E+01	1.5E-01	20	7.5E-03
EC >10 - 12	3	130	0.0	0.00	2.5E+01	3.9E-02	20	2.0E-03
EC >12 - 16	12	150	0.1	0.01	5.8E+00	3.1E-02	20	1.5E-03
EC >16 - 21	200	190	1.1	0.07	5.1E-01	3.5E-02	20	1.8E-03
EC >21 - 35	2500	240	10.4	0.69	6.6E-03	4.5E-03	20	2.3E-04
			15.1	1.00				0.0

* Includes ethylbenzene & xylenes

Well Conc. must be 1 mg/l or less for soil concentrations to be protective of Method A drinking water standard.

SOUND ANALYTICAL SERVICES, INC.

Client Name	Friedman & Bruya, Inc.
Client ID:	BAY 5 SSW
Lab ID:	78252-01
Date Received:	1/8/99
Date Prepared:	1/12/99
Date Analyzed:	1/13/99
% Solids	95.83

WSDOE Method for Determination of Volatile Petroleum Hydrocarbon Fractions Modified

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
Trifluorotoluene	89		60	140
Bromofluorobenzene	105		60	140

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	PQL	Flags
EC 5-6 Aliphatics	ND	2	
EC >6-8 Aliphatics	3.4	0.79	
EC >8-10 Aliphatics	ND	2.4	
EC >8-10 Aromatics	4.2	0.4	
MTBE	ND	0.4	
Benzene	ND	0.4	
Toluene	ND	0.4	
Ethylbenzene	ND	0.4	
m- & p-Xylene	ND	0.79	
o-Xylene	ND	0.4	

SOUND ANALYTICAL SERVICES, INC.

Lab ID:	Method Blank - GB1665
Date Received:	-
Date Prepared:	1/12/99
Date Analyzed:	1/12/99
% Solids	

WSDOE Method for Determination of Volatile Petroleum Hydrocarbon Fractions Modified

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
Trifluorotoluene	91		60	140
Bromofluorobenzene	106		60	140

Sample results are on an as received basis.

Analyte	Result (mg/kg)	PQL	Flags
EC 5-6 Aliphatics	ND	2	
EC >6-8 Aliphatics	ND	0.8	
EC >8-10 Aliphatics	ND	2.4	
EC >8-10 Aromatics	ND	0.4	
MTBE	ND	0.4	
Benzene	ND	0.4	
Toluene	ND	0.4	
Ethylbenzene	ND	0.4	
m- & p-Xylene	ND	0.8	
o-Xylene	ND	0.4	

SOUND ANALYTICAL SERVICES, INC.

Blank Spike Report

Lab ID:	GB1665
Date Prepared:	1/12/99
Date Analyzed:	1/12/99
QC Batch ID:	GB1665

WSDOE Method for Determination of Volatile Petroleum Hydrocarbon Fractions Modified

Parameter Name	Blank Result (mg/kg)	Spike Amount (mg/kg)	BS Result (mg/kg)	BS % Rec.	Flag
EC 5-6 Aliphatics	0	8	8.8	111	
EC >6-8 Aliphatics	0	4	3.5	87	
EC >8-10 Aliphatics	0	4	3	75	
EC >8-10 Aromatics	0	4	5	125	
MTBE	0	4	4.4	109	
Benzene	0	4	4.3	108	
Toluene	0	4	4.9	122	
Ethylbenzene	0	4	5	125	
m- & p-Xylene	0	8	10	130	
o-Xylene	0	4	5.1	128	

SOUND ANALYTICAL SERVICES, INC.

Duplicate Report

Client Sample ID:	BAY 5 SSW
Lab ID:	78252-01
Date Prepared:	1/12/99
Date Analyzed:	1/13/99
QC Batch ID:	GB1665

WSDOE Method for Determination of Volatile Petroleum Hydrocarbon Fractions Modified

Parameter Name	Sample Result (mg/kg)	Duplicate Result (mg/kg)	RPD %	Flag
EC 5-6 Aliphatics	0	0	NC	
EC >6-8 Aliphatics	3.4	3.3	3.0	
EC >8-10 Aliphatics	0	0	NC	
EC >8-10 Aromatics	4.2	4.7	-11.0	
MTBE	0	0	NC	
Benzene	0	0	NC	
Toluene	0	0	NC	
Ethylbenzene	0	0	NC	
m- & p-Xylene	0	0	NC	
o-Xylene	0	0	NC	

SOUND ANALYTICAL SERVICES, INC.

Matrix Spike Report

Client Sample ID:	BAY 5 SSW
Lab ID:	78252-01
Date Prepared:	1/12/99
Date Analyzed:	1/13/99
QC Batch ID:	GB1665

WSDOE Method for Determination of Volatile Petroleum Hydrocarbon Fractions Modified

Parameter Name	Sample Result (mg/kg)	Spike Amount (mg/kg)	MS Result (mg/kg)	MS % Rec.	Flag
EC 5-6 Aliphatics	0	7.9	7.7	98	
EC >6-8 Aliphatics	3.4	3.9	2.7	-16	x7
EC >8-10 Aliphatics	0	3.9	4.3	109	
EC >8-10 Aromatics	4.2	3.9	9.7	138	
MTBE	0	3.9	4.1	105	
Benzene	0	3.9	4.1	103	
Toluene	0	3.9	4.5	114	
Ethylbenzene	0	3.9	4.7	120	
m- & p-Xylene	0	7.9	9.6	122	
o-Xylene	0	3.9	5	126	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Friedman & Bruya, Inc.
Client ID:	BAY 5 SSW
Lab ID:	78252-01
Date Received:	1/8/99
Date Prepared:	1/12/99
Date Analyzed:	1/14/99
% Solids	95.83

Extractable Petroleum Hydrocarbons (EPH)

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
chloro-octadecane	66		60	140
ortho-terphenyl	107		60	140

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	PQL	Flags
C8-C10 Aliphatics	ND	2.3	
C10-C12 Aliphatics	24	2.3	
C12-C16 Aliphatics	85	2.3	
C16-C21 Aliphatics	790	2.3	
C21-C34 Aliphatics	17000	46	D
C10-C12 Aromatics	3.1	2.3	
C12-C16 Aromatics	12	2.3	
C16-C21 Aromatics	200	4.6	
C21-C34 Aromatics	2500	4.6	

SOUND ANALYTICAL SERVICES, INC.

Lab ID:	Method Blank - EP083
Date Received:	-
Date Prepared:	1/12/99
Date Analyzed:	1/14/99
% Solids	

Extractable Petroleum Hydrocarbons (EPH)

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
chloro-octadecane	113		60	140
ortho-terphenyl	118		60	140

Sample results are on an as received basis.

Analyte	Result (mg/kg)	PQL	Flags
C8-C10 Aliphatics	ND	2.3	
C10-C12 Aliphatics	ND	2.3	
C12-C16 Aliphatics	ND	2.3	
C16-C21 Aliphatics	ND	2.3	
C21-C34 Aliphatics	ND	4.5	
C10-C12 Aromatics	ND	2.3	
C12-C16 Aromatics	ND	2.3	
C16-C21 Aromatics	ND	4.5	
C21-C34 Aromatics	ND	4.5	

SOUND ANALYTICAL SERVICES, INC.

Blank Spike Report

Lab ID: EP083
Date Prepared: 1/12/99
Date Analyzed: 1/14/99
QC Batch ID: EP083

Extractable Petroleum Hydrocarbons (EPH)

Parameter Name	Blank Result (mg/kg)	Spike Amount (mg/kg)	BS Result (mg/kg)	BS % Rec.	Flag
C8-C10 Aliphatics	0	18	17	94	
C10-C12 Aliphatics	0	18	19	104	
C12-C16 Aliphatics	0	18	18	97	
C16-C21 Aliphatics	0	18	17	96	
C21-C34 Aliphatics	0	18	18	100	
C10-C12 Aromatics	0	18	20	110	
C12-C16 Aromatics	0	18	21	115	
C16-C21 Aromatics	0	18	23	128	
C21-C34 Aromatics	0	18	23	124	

SOUND ANALYTICAL SERVICES, INC.

Matrix Spike Report

Client Sample ID: BAY 5 SSW
Lab ID: 78252-01
Date Prepared: 1/12/99
Date Analyzed: 1/14/99
QC Batch ID: EP083M

Extractable Petroleum Hydrocarbons (EPH)

Parameter Name	Sample Result (mg/kg)	Spike Amount (mg/kg)	MS Result (mg/kg)	MS % Rec.	Flag
C8-C10 Aliphatics	0	19	25	134	X7
C10-C12 Aliphatics	24	19	46	120	
C12-C16 Aliphatics	85	19	110	149	X7
C16-C21 Aliphatics	790	19	870	419	X7a
C21-C34 Aliphatics	17000	19	18000	4490	X7a
C10-C12 Aromatics	3.1	19	22	99	
C12-C16 Aromatics	12	19	33	113	
C16-C21 Aromatics	200	19	230	136	X7a
C21-C34 Aromatics	2500	19	2300	-1090	X7a

SOUND ANALYTICAL SERVICES, INC.

Duplicate Report

Client Sample ID:	BAY 5 SSW
Lab ID:	78252-01
Date Prepared:	1/12/99
Date Analyzed:	1/14/99
QC Batch ID:	EP083

Extractable Petroleum Hydrocarbons (EPH)

Parameter Name	Sample Result (mg/kg)	Duplicate Result (mg/kg)	RPD %	Flag
C8-C10 Aliphatics	0	0	NC	
C10-C12 Aliphatics	24	22	8.7	
C12-C16 Aliphatics	85	80	6.1	
C16-C21 Aliphatics	790	760	3.9	
C21-C34 Aliphatics	17000	17000	0.0	
C10-C12 Aromatics	3.1	0	200.0	X4a
C12-C16 Aromatics	12	10	18.0	
C16-C21 Aromatics	200	150	29.0	N
C21-C34 Aromatics	2500	1800	33.0	N

SOUND ANALYTICAL SERVICES, INC.

Client Name	Friedman & Bruya, Inc.
Client ID:	BAY 5 SSW
Lab ID:	78252-01
Date Received:	1/8/99
Date Prepared:	1/12/99
Date Analyzed:	1/19/99
% Solids	95.83
Dilution Factor	200

Targeted PAH Analytes by Method 8270 Modified.

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
o-Terphenyl	71		50	150

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	PQL	MDL	Flags
Naphthalene	ND	0.18	0.18	
2-Methylnaphthalene	ND	0.18	0.17	
Acenaphthylene	ND	0.18	0.18	
Acenaphthene	ND	0.18	0.16	
Fluorene	ND	0.18	0.13	
Phenanthrene	ND	0.18	0.12	
Anthracene	ND	0.18	0.15	
Fluoranthene	ND	0.18	0.11	
Pyrene	ND	0.18	0.1	
Benzo(a)anthracene	ND	0.18	0.081	
Chrysene	ND	0.18	0.099	
Benzo(b)fluoranthene	ND	0.18	0.095	
Benzo(k)fluoranthene	ND	0.18	0.15	
Benzo(a)pyrene	ND	0.18	0.075	
Indeno(1,2,3-cd)pyrene	ND	0.18	0.14	
Dibenz(a,h)anthracene	ND	0.18	0.1	
Benzo(g,h,i)perylene	ND	0.18	0.11	

SOUND ANALYTICAL SERVICES, INC.

Lab ID:	Method Blank - EP083
Date Received:	-
Date Prepared:	1/12/99
Date Analyzed:	1/19/99
% Solids	
Dilution Factor	20

Targeted PAH Analytes by Method 8270 Modified.

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
o-Terphenyl	82		50	150

Sample results are on an as received basis.

Analyte	Result (mg/kg)	PQL	MDL	Flags
Naphthalene	ND	0.02	0.02	
2-Methylnaphthalene	ND	0.02	0.018	
Acenaphthylene	ND	0.02	0.019	
Acenaphthene	ND	0.02	0.017	
Fluorene	ND	0.02	0.015	
Phenanthrene	ND	0.02	0.014	
Anthracene	ND	0.02	0.016	
Fluoranthene	ND	0.02	0.012	
Pyrene	ND	0.02	0.011	
Benzo(a)anthracene	ND	0.02	0.0088	
Chrysene	ND	0.02	0.011	
Benzo(b)fluoranthene	ND	0.02	0.01	
Benzo(k)fluoranthene	ND	0.02	0.016	
Benzo(a)pyrene	ND	0.02	0.0082	
Indeno(1,2,3-cd)pyrene	ND	0.02	0.016	
Dibenz(a,h)anthracene	ND	0.02	0.011	
Benzo(g,h,i)perylene	ND	0.02	0.012	

SOUND ANALYTICAL SERVICES, INC.

Blank Spike Report

Lab ID: EP083
Date Prepared: 1/12/99
Date Analyzed: 1/19/99
QC Batch ID: EP083

Targeted PAH Analytes by Method 8270 Modified.

Parameter Name	Blank Result (mg/kg)	Spike Amount (mg/kg)	BS Result (mg/kg)	BS % Rec.	Flag
Naphthalene	0	20	15	74	
Acenaphthene	0	20	20	99	
Pyrene	0	20	15	77	
Benzo(g,h,i)perylene	0	20	17	86	

SOUND ANALYTICAL SERVICES, INC.

Matrix Spike Report

Client Sample ID: BAY 5 SSW
Lab ID: 78252-01
Date Prepared: 1/12/99
Date Analyzed: 1/19/99
QC Batch ID: EP083

Targeted PAH Analytes by Method 8270 Modified.

Parameter Name	Sample Result (mg/kg)	Spike Amount (mg/kg)	MS Result (mg/kg)	MS % Rec.	Flag
Naphthalene	0	19	16	84	
Acenaphthene	0	19	13	71	
Pyrene	0	19	10	55	
Benzo(g,h,i)perylene	0	19	11	56	

SOUND ANALYTICAL SERVICES, INC.

Duplicate Report

Client Sample ID: BAY 5 SSW
Lab ID: 78252-01
Date Prepared: 1/12/99
Date Analyzed: 1/19/99
QC Batch ID: EP083

Targeted PAH Analytes by Method 8270 Modified.

Parameter Name	Sample Result (mg/kg)	Duplicate Result (mg/kg)	RPD %	Flag
Naphthalene	0	0	NC	
2-Methylnaphthalene	0	0	NC	
Acenaphthylene	0	0	NC	
Acenaphthene	0	0	NC	
Fluorene	0	0	NC	
Phenanthrene	0	0	NC	
Anthracene	0	0	NC	
Fluoranthene	0	0	NC	
Pyrene	0	0	NC	
Benzo(a)anthracene	0	0	NC	
Chrysene	0	0	NC	
Benzo(b)fluoranthene	0	0	NC	
Benzo(k)fluoranthene	0	0	NC	
Benzo(a)pyrene	0	0	NC	
Indeno(1,2,3-cd)pyrene	0	0	NC	
Dibenz(a,h)anthracene	0	0	NC	
Benzo(g,h,i)perylene	0	0	NC	

Sound Analytical Services, Inc.
ANALYTICAL & ENVIRONMENTAL CHEMISTS
4813 Pacific Hwy East • Tacoma, WA 98424
(253) 922-2310 • FAX (253) 922-5047
e-mail: SoundL@aol.com



TRANSMITTAL MEMORANDUM

DATE: January 29, 1999

TO: Charlene Jensen
Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029

PROJECT: 901023-039

REPORT NUMBER: 78541

Enclosed are the test results for two samples received at Sound Analytical Services on January 21, 1999.

The report consists of this transmittal memo, analytical results, quality control reports, a copy of the chain-of-custody, a list of data qualifiers and analytical narrative when applicable, and a copy of any requested raw data.

Should there be any questions regarding this report, please contact me at (253) 922-2310.

Sincerely,

A handwritten signature in black ink, appearing to read 'Tom Watson', with a stylized flourish at the end.

Tom Watson
Project Manager

SOUND ANALYTICAL EPH / VPH

**SAMPLE SUMMARY REPORTS
AND
WORKSHEETS**

SOUND ANALYTICAL EPH / VPH SUMMARY REPORT

Client Sample ID: Bay 1 NSW
Work Order: 78541
Laboratory ID: 78541-01
Date Sampled: 1/21/99 Date Received: 1/21/99
Date Prepared: EPH 1/21/99 PAHs 1/21/99 VPH 1/22/99
Date Analyzed: EPH 1/23/99 PAHs 1/24/99 VPH 1/23/99
Matrix: solid % Solids: 93.7

ANALYTICAL RESULTS:

Non-Carcinogen - Human Health Hazard Index Compounds

<u>Compound</u>	<u>mg/kg</u>
Total Aliphatics	1200
Total Aromatics *	3000
Benzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	ND

* Total aromatics is aromatic fractions + benzene - ethylbenzene, toluene & xylenes

Carcinogen - Human Health Risk Compounds

<u>Compound</u>	<u>mg/kg</u>	<u>PQL</u>
Benzene *	0.21	0.42
Total cPAHs *	0.06	0.13

* For compounds not detected, 1/2 PQL values are Substituted

Soil to Groundwater - Fate and Transport Fractions

<u>Aliphatic Fractions</u>	<u>mg/kg</u>
C5 - C6	ND
>C6 - C8	ND
>C8 - C10	8.5
>C10 - C12	21
>C12 - C16	130
>C16 - C21	<u>1000</u>
Total Aliphatic Fractions	1200

<u>Aromatic Fractions</u>	<u>mg/kg</u>
>C8 - C10*	3
>C10 - C12	ND
>C12 - C16	14
>C16 - C21	400
>C21 - C34	<u>2600</u>
Total Aromatic Fractions	3000

* Does not include ethylbenzene and xylenes

HUMAN HEALTH SOILS CONTACT WORKSHEETS

CLIENT ID Bay 1 NSW

LAB ID 78541-01

Non-Carcinogen--Hazard Index

Compound	Soil ppm	ORfD	<u>Residential</u>			<u>Commercial</u>			<u>Industrial</u>		
			Factor	Res. Mult.	HQ	Factor	Com. Mult	HQ	Factor	Ind. Mult.	HQ
Total aliphatic	1200	0.06	1.25E-05	2.08E-04	0.25	3.13E-06	5.21E-05	0.06	2.86E-07	4.77E-06	0.01
Total aromatic*	3000	0.03	1.25E-05	4.17E-04	1.25	3.13E-06	1.04E-04	0.31	2.86E-07	9.53E-06	<u>0.03</u>
Benzene	0.0										
Ethylbenzene	0.0	0.10	1.25E-05	1.25E-04	0.00	3.13E-06	3.13E-05	0.00	2.86E-07	2.86E-06	0.00
Toluene	0.0	0.20	1.25E-05	6.25E-05	0.00	3.13E-06	1.56E-05	0.00	2.86E-07	1.43E-06	0.00
Xylenes	0.0	2.00	1.25E-05	6.25E-06	<u>0.00</u>	3.13E-06	1.56E-06	<u>0.00</u>	2.86E-07	1.43E-07	<u>0.00</u>

Hazard Index

1.50

0.38

0.03

* Total aromatic is total of aromatic fractions plus benzene minus ethylbenzene, toluene and xylenes

Carcinogen Risk

		<u>Residential</u>				<u>Commercial</u>		<u>Industrial</u>	
Compound	Soil ppm	OCPF	Res. Mult.	Risk	Com. Mult	Risk	Ind. Mult.	Risk	
Benzene *	0.21	0.029	1.00E-06	6.09E-09	2.50E-07	1.52E-09	7.62E-08	4.64E-10	
Total cPAHs *	0.06	7.30	1.00E-06	4.60E-07	2.50E-07	1.15E-07	7.62E-08	3.50E-08	

* For parameters not detected 1/2 PQL values are substituted

FATE AND TRANSPORT - SOIL TO GROUNDWATER

"Raoult's Law" Worksheet

CLIENT ID Bay 1 NSW

LAB ID 78541-01

COMPOUND	Soil mg/kg	MW g/mol	Moles mmol/kg	Mol Frac.	Solubility mg/l	Effect. Sol mg/l	DF	Well Conc. mg/l
Aliphatics								
EC 5 - 6	0	81	0.0	0.00	2.8E+01	0.0E+00	20	0.0E+00
EC >6 - 8	0	100	0.0	0.00	4.2E+00	0.0E+00	20	0.0E+00
EC >8 - 10	9	130	0.1	0.00	3.3E-01	1.2E-03	20	6.1E-05
EC >10 - 12	21	160	0.1	0.01	2.6E-02	1.9E-04	20	9.7E-06
EC >12 - 16	130	200	0.7	0.04	5.9E-04	2.2E-05	20	1.1E-06
EC >16 - 21	1000	270	3.7	0.21	1.0E-06	2.1E-07	20	1.1E-08
Aromatics								
Benzene	0.0	78	0.0	0.00	1.8E+03	0.0E+00	20	0.0E+00
Toluene	0.0	92	0.0	0.00	5.2E+02	0.0E+00	20	0.0E+00
EC >8 - 10*	3	120	0.0	0.00	6.5E+01	9.2E-02	20	4.6E-03
EC >10 - 12	0	130	0.0	0.00	2.5E+01	0.0E+00	20	0.0E+00
EC >12 - 16	14	150	0.1	0.01	5.8E+00	3.1E-02	20	1.5E-03
EC >16 - 21	400	190	2.1	0.12	5.1E-01	6.1E-02	20	3.0E-03
EC >21 - 35	2600	240	10.8	0.62	6.6E-03	4.1E-03	20	2.0E-04
			17.6	1.00				0.0

* Includes ethylbenzene & xylenes

Well Conc. must be 1 mg/l or less for soil concentrations to be protective of Method A drinking water standard.

SOUND ANALYTICAL EPH / VPH SUMMARY REPORT

Client Sample ID: Bay 8 SSW2
 Work Order: 78541
 Laboratory ID: 78541-02
 Date Sampled: 1/21/99 Date Received: 1/21/99
 Date Prepared: EPH 1/21/99 PAHs 1/21/99 VPH 1/22/99
 Date Analyzed: EPH 1/23/99 PAHs 1/24/99 VPH 1/23/99
 Matrix: solid % Solids: 92.85

ANALYTICAL RESULTS:

Non-Carcinogen - Human Health Hazard Index Compounds

<u>Compound</u>	<u>mg/kg</u>
Total Aliphatics	770
Total Aromatics *	650
Benzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	ND

* Total aromatics is aromatic fractions + benzene - ethylbenzene, toluene & xylenes

Carcinogen - Human Health Risk Compounds

<u>Compound</u>	<u>mg/kg</u>	<u>PQL</u>
Benzene *	0.2	0.4
Total cPAHs *	0.07	0.13

* For compounds not detected, 1/2 PQL values are Substituted

Soil to Groundwater - Fate and Transport Fractions

<u>Aliphatic Fractions</u>	<u>mg/kg</u>
C5 - C6	ND
>C6 - C8	ND
>C8 - C10	5.5
>C10 - C12	ND
>C12 - C16	74
>C16 - C21	<u>690</u>
Total Aliphatic Fractions	770

<u>Aromatic Fractions</u>	<u>mg/kg</u>
>C8 - C10*	ND
>C10 - C12	ND
>C12 - C16	2.9
>C16 - C21	76
>C21 - C34	<u>570</u>
Total Aromatic Fractions	650

* Does not include ethylbenzene and xylenes

HUMAN HEALTH SOILS CONTACT WORKSHEETS

CLIENT ID Bay 8 SSW2

LAB ID 78541-02

Non-Carcinogen--Hazard Index

Compound	Soil ppm	<u>Residential</u>				<u>Commercial</u>			<u>Industrial</u>		
		ORfD	Factor	Res. Mult.	HQ	Factor	Com. Mult	HQ	Factor	Ind. Mult.	HQ
Total aliphatic	770	0.06	1.25E-05	2.08E-04	0.16	3.13E-06	5.21E-05	0.04	2.86E-07	4.77E-06	0.00
Total aromatic*	650	0.03	1.25E-05	4.17E-04	0.27	3.13E-06	1.04E-04	0.07	2.86E-07	9.53E-06	<u>0.01</u>
Benzene	0.0										
Ethylbenzene	0.0	0.10	1.25E-05	1.25E-04	0.00	3.13E-06	3.13E-05	0.00	2.86E-07	2.86E-06	0.00
Toluene	0.0	0.20	1.25E-05	6.25E-05	0.00	3.13E-06	1.56E-05	0.00	2.86E-07	1.43E-06	0.00
Xylenes	0.0	2.00	1.25E-05	6.25E-06	<u>0.00</u>	3.13E-06	1.56E-06	<u>0.00</u>	2.86E-07	1.43E-07	<u>0.00</u>

Hazard Index

0.43

0.11

0.01

* Total aromatic is total of aromatic fractions plus benzene minus ethylbenzene, toluene and xylenes

Carcinogen Risk

Compound	Soil ppm	<u>Residential</u>			<u>Commercial</u>		<u>Industrial</u>	
		OCPF	Res. Mult.	Risk	Com. Mult	Risk	Ind. Mult.	Risk
Benzene *	0.20	0.029	1.00E-06	5.80E-09	2.50E-07	1.45E-09	7.62E-08	4.42E-10
Total cPAHs *	0.07	7.30	1.00E-06	4.85E-07	2.50E-07	1.21E-07	7.62E-08	3.70E-08

* For parameters not detected 1/2 PQL values are substituted

FATE AND TRANSPORT - SOIL TO GROUNDWATER

"Raoult's Law" Worksheet

CLIENT ID Bay 8 SSW2

LAB ID 78541-02

COMPOUND	Soil mg/kg	MW g/mol	Moles mmol/kg	Mol Frac.	Solubility mg/l	Effect. Sol mg/l	DF	Well Conc., mg/l
Aliphatics								
EC 5 - 6	0	81	0.0	0.00	2.8E+01	0.0E+00	20	0.0E+00
EC >6 - 8	0	100	0.0	0.00	4.2E+00	0.0E+00	20	0.0E+00
EC >8 - 10	6	130	0.0	0.01	3.3E-01	2.4E-03	20	1.2E-04
EC >10 - 12	0	160	0.0	0.00	2.6E-02	0.0E+00	20	0.0E+00
EC >12 - 16	74	200	0.4	0.06	5.9E-04	3.8E-05	20	1.9E-06
EC >16 - 21	690	270	2.6	0.44	1.0E-06	4.4E-07	20	2.2E-08
Aromatics								
Benzene	0.0	78	0.0	0.00	1.8E+03	0.0E+00	20	0.0E+00
Toluene	0.0	92	0.0	0.00	5.2E+02	0.0E+00	20	0.0E+00
EC >8 - 10*	0	120	0.0	0.00	6.5E+01	0.0E+00	20	0.0E+00
EC >10 - 12	0	130	0.0	0.00	2.5E+01	0.0E+00	20	0.0E+00
EC >12 - 16	3	150	0.0	0.00	5.8E+00	1.9E-02	20	9.7E-04
EC >16 - 21	76	190	0.4	0.07	5.1E-01	3.5E-02	20	1.8E-03
EC >21 - 35	570	240	2.4	0.41	6.6E-03	2.7E-03	20	1.4E-04
			5.8	1.00				0.0

* Includes ethylbenzene & xylenes

Well Conc. must be 1 mg/l or less for soil concentrations to be protective of Method A drinking water standard.

SOUND ANALYTICAL EPH/VPH
VOLATILE PETROLEUM HYDROCARBONS
ALIPHATIC AND AROMATIC FRACTIONS
TARGET INDICATOR COMPOUNDS

SOUND ANALYTICAL SERVICES, INC.

Client Name	Friedman & Bruya, Inc.
Client ID:	BAY 1 NSW
Lab ID:	78541-01
Date Received:	1/21/99
Date Prepared:	1/22/99
Date Analyzed:	1/23/99
% Solids	93.7

WSDOE Method for Determination of Volatile Petroleum Hydrocarbon Fractions Modified

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
Trifluorotoluene	110		60	140
Bromofluorobenzene	114		60	140

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	PQL	Flags
EC 5-6 Aliphatics	ND	2.1	
EC >6-8 Aliphatics	ND	0.84	
EC >8-10 Aliphatics	3.5	2.5	
EC >8-10 Aromatics	3	0.42	
MTBE	ND	0.42	
Benzene	ND	0.42	
Toluene	ND	0.42	
Ethylbenzene	ND	0.42	
m- & p-Xylene	ND	0.84	
o-Xylene	ND	0.42	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Friedman & Bruya, Inc.
Client ID:	BAY 8 SSW2
Lab ID:	78541-02
Date Received:	1/21/99
Date Prepared:	1/22/99
Date Analyzed:	1/23/99
% Solids	92.85

WSDOE Method for Determination of Volatile Petroleum Hydrocarbon Fractions Modified

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
Trifluorotoluene	111		60	140
Bromofluorobenzene	114		60	140

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	PQL	Flags
EC 5-6 Aliphatics	ND	2	
EC >6-8 Aliphatics	ND	0.8	
EC >8-10 Aliphatics	ND	2.4	
EC >8-10 Aromatics	ND	0.4	
MTBE	ND	0.4	
Benzene	ND	0.4	
Toluene	ND	0.4	
Ethylbenzene	ND	0.4	
m- & p-Xylene	ND	0.8	
o-Xylene	ND	0.4	

SOUND ANALYTICAL SERVICES, INC.

Lab ID:	Method Blank - GB1675
Date Received:	-
Date Prepared:	1/22/99
Date Analyzed:	1/22/99
% Solids	

WSDOE Method for Determination of Volatile Petroleum Hydrocarbon Fractions Modified

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
Trifluorotoluene	113		60	140
Bromofluorobenzene	116		60	140

Sample results are on an as received basis.

Analyte	Result (mg/kg)	PQL	Flags
EC 5-6 Aliphatics	ND	2	
EC >6-8 Aliphatics	ND	0.8	
EC >8-10 Aliphatics	ND	2.4	
EC >8-10 Aromatics	ND	0.4	
MTBE	ND	0.4	
Benzene	ND	0.4	
Toluene	ND	0.4	
Ethylbenzene	ND	0.4	
m- & p-Xylene	ND	0.8	
o-Xylene	ND	0.4	

SOUND ANALYTICAL SERVICES, INC.

Blank Spike Report

Lab ID: GB1675
Date Prepared: 1/22/99
Date Analyzed: 1/22/99
QC Batch ID: GB1675

WSDOE Method for Determination of Volatile Petroleum Hydrocarbon Fractions Modified

Parameter Name	Blank Result (mg/kg)	Spike Amount (mg/kg)	BS Result (mg/kg)	BS % Rec.	Flag
EC 5-6 Aliphatics	0	8	8.7	109	
EC >6-8 Aliphatics	0	4	4.4	109	
EC >8-10 Aliphatics	0	4	5.4	134	
EC >8-10 Aromatics	0	4	4.4	111	
MTBE	0	4	4.1	104	
Benzene	0	4	4	101	
Toluene	0	4	4.2	105	
Ethylbenzene	0	4	4.3	107	
m- & p-Xylene	0	8	8.7	109	
o-Xylene	0	4	4.2	105	

SOUND ANALYTICAL SERVICES, INC.

Matrix Spike Report

Client Sample ID:	LS-3
Lab ID:	78562-03
Date Prepared:	1/22/99
Date Analyzed:	1/23/99
QC Batch ID:	GB1675

WSDOE Method for Determination of Volatile Petroleum Hydrocarbon Fractions Modified

Parameter Name	Sample Result (mg/kg)	Spike Amount (mg/kg)	MS Result (mg/kg)	MS % Rec.	Flag
EC 5-6 Aliphatics	0	8.3	14	164	
EC >6-8 Aliphatics	0	4.2	6.9	167	
EC >8-10 Aliphatics	0	4.2	9.2	220	
EC >8-10 Aromatics	0	4.2	4.2	101	
MTBE	0	4.2	3.6	87	
Benzene	0	4.2	3.9	93	
Toluene	0	4.2	4.1	97	
Ethylbenzene	0	4.2	4.2	100	
m- & p-Xylene	0	8.3	8.3	100	
o-Xylene	0	4.2	4.1	98	

SOUND ANALYTICAL SERVICES, INC.

Duplicate Report

Client Sample ID:	LS-3
Lab ID:	78562-03
Date Prepared:	1/22/99
Date Analyzed:	1/23/99
QC Batch ID:	GB1675

WSDOE Method for Determination of Volatile Petroleum Hydrocarbon Fractions Modified

Parameter Name	Sample Result (mg/kg)	Duplicate Result (mg/kg)	RPD %	Flag
EC 5-6 Aliphatics	0	0	NC	
EC >6-8 Aliphatics	0	0	NC	
EC >8-10 Aliphatics	0	0	NC	
EC >8-10 Aromatics	0	0	NC	
MTBE	0	0	NC	
Benzene	0	0	NC	
Toluene	0	0	NC	
Ethylbenzene	0	0	NC	
m- & p-Xylene	0	0	NC	
o-Xylene	0	0	NC	

SOUND ANALYTICAL EPH / VPH
EXTRACTABLE PETROLEUM HYDROCARBONS
ALIPHATIC AND AROMATIC FRACTIONS

SOUND ANALYTICAL SERVICES, INC.

Client Name	Friedman & Bruya, Inc.
Client ID:	BAY 1 NSW
Lab ID:	78541-01
Date Received:	1/21/99
Date Prepared:	1/21/99
Date Analyzed:	1/23/99
% Solids	93.7

Extractable Petroleum Hydrocarbons (EPH)

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
chloro-octadecane	120		60	140
ortho-terphenyl	102		60	140

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	PQL	Flags
C8-C10 Aliphatics	8.5	2.3	B1
C10-C12 Aliphatics	21	2.3	
C12-C16 Aliphatics	130	2.3	
C16-C21 Aliphatics	1000	2.3	
C21-C34 Aliphatics	9600	23	D
C10-C12 Aromatics	ND	2.3	
C12-C16 Aromatics	14	2.3	
C16-C21 Aromatics	400	4.6	
C21-C34 Aromatics	2600	4.6	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Friedman & Bruya, Inc.
Client ID:	BAY 8 SSW2
Lab ID:	78541-02
Date Received:	1/21/99
Date Prepared:	1/21/99
Date Analyzed:	1/23/99
% Solids	92.85

Extractable Petroleum Hydrocarbons (EPH)

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
chloro-octadecane	116		60	140
ortho-terphenyl	113		60	140

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	PQL	Flags
C8-C10 Aliphatics	5.5	2.3	B1
C10-C12 Aliphatics	ND	2.3	
C12-C16 Aliphatics	74	2.3	
C16-C21 Aliphatics	690	2.3	
C21-C34 Aliphatics	3300	4.6	
C10-C12 Aromatics	ND	2.3	
C12-C16 Aromatics	2.9	2.3	
C16-C21 Aromatics	76	4.6	
C21-C34 Aromatics	570	4.6	

SOUND ANALYTICAL SERVICES, INC.

Lab ID:	Method Blank - EP084
Date Received:	-
Date Prepared:	1/21/99
Date Analyzed:	1/23/99
% Solids	

Extractable Petroleum Hydrocarbons (EPH)

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
chloro-octadecane	122		60	140
ortho-terphenyl	121		60	140

Sample results are on an as received basis.

Analyte	Result (mg/kg)	PQL	Flags
C8-C10 Aliphatics	3.6	2.3	N
C10-C12 Aliphatics	ND	2.3	
C12-C16 Aliphatics	ND	2.3	
C16-C21 Aliphatics	ND	2.3	
C21-C34 Aliphatics	ND	4.5	
C10-C12 Aromatics	ND	2.3	
C12-C16 Aromatics	ND	2.3	
C16-C21 Aromatics	ND	4.5	
C21-C34 Aromatics	ND	4.5	

SOUND ANALYTICAL SERVICES, INC.

Blank Spike Report

Lab ID: EP084
Date Prepared: 1/21/99
Date Analyzed: 1/23/99
QC Batch ID: EP084

Extractable Petroleum Hydrocarbons (EPH)

Parameter Name	Blank Result (mg/kg)	Spike Amount (mg/kg)	BS Result (mg/kg)	BS % Rec.	Flag
C8-C10 Aliphatics	3.6	18	17	75	
C10-C12 Aliphatics	0	18	18	99	
C12-C16 Aliphatics	0	18	19	105	
C16-C21 Aliphatics	0	18	22	123	
C21-C34 Aliphatics	0	18	19	104	
C10-C12 Aromatics	0	18	14	78	
C12-C16 Aromatics	0	18	15	81	
C16-C21 Aromatics	0	18	18	97	
C21-C34 Aromatics	0	18	17	96	

SOUND ANALYTICAL SERVICES, INC.

Matrix Spike Report

Client Sample ID: BAY 1 NSW
Lab ID: 78541-01
Date Prepared: 1/21/99
Date Analyzed: 1/23/99
QC Batch ID: EP084M

Extractable Petroleum Hydrocarbons (EPH)

Parameter Name	Sample Result (mg/kg)	Spike Amount (mg/kg)	MS Result (mg/kg)	MS % Rec.	Flag
C8-C10 Aliphatics	8.5	19	22	71	
C10-C12 Aliphatics	21	19	38	86	
C12-C16 Aliphatics	130	19	160	152	X7a
C16-C21 Aliphatics	1000	19	1100	255	X7a
C21-C34 Aliphatics	9600	19	9800	865	X7a
C10-C12 Aromatics	0	19	14	75	
C12-C16 Aromatics	14	19	32	93	
C16-C21 Aromatics	400	19	500	552	X7a
C21-C34 Aromatics	2600	19	2700	573	X7a

SOUND ANALYTICAL SERVICES, INC.

Duplicate Report

Client Sample ID:	BAY 1 NSW
Lab ID:	78541-01
Date Prepared:	1/21/99
Date Analyzed:	1/23/99
QC Batch ID:	EP084

Extractable Petroleum Hydrocarbons (EPH)

Parameter Name	Sample Result (mg/kg)	Duplicate Result (mg/kg)	RPD %	Flag
C8-C10 Aliphatics	8.5	7.7	9.9	
C10-C12 Aliphatics	21	20	4.9	
C12-C16 Aliphatics	130	120	8.0	
C16-C21 Aliphatics	1000	960	4.1	
C21-C34 Aliphatics	9600	9000	6.5	
C10-C12 Aromatics	0	0	NC	
C12-C16 Aromatics	14	15	-6.9	
C16-C21 Aromatics	400	490	-20.0	
C21-C34 Aromatics	2600	2800	-7.4	

SOUND ANALYTICAL EPA 8270 MOD.
EXTRACTABLE PETROLEUM HYDROCARBONS
TARGET PAH COMPOUNDS

SOUND ANALYTICAL SERVICES, INC.

Client Name	Friedman & Bruya, Inc.
Client ID:	BAY 1 NSW
Lab ID:	78541-01
Date Received:	1/21/99
Date Prepared:	1/21/99
Date Analyzed:	1/24/99
% Solids	93.7
Dilution Factor	20

Targeted PAH Analytes by Method 8270 Modified.

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
o-Terphenyl	91		50	150

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	PQL	MDL	Flags
Naphthalene	0.25	0.018	0.018	
2-Methylnaphthalene	0.11	0.018	0.016	
Acenaphthylene	ND	0.018	0.018	
Acenaphthene	ND	0.018	0.016	
Fluorene	ND	0.018	0.013	
Phenanthrene	ND	0.018	0.012	
Anthracene	ND	0.018	0.015	
Fluoranthene	ND	0.018	0.011	
Pyrene	ND	0.018	0.01	
Benzo(a)anthracene	ND	0.018	0.008	
Chrysene	ND	0.018	0.0099	
Benzo(b)fluoranthene	ND	0.018	0.0095	
Benzo(k)fluoranthene	ND	0.018	0.015	
Benzo(a)pyrene	ND	0.018	0.0075	
Indeno(1,2,3-cd)pyrene	ND	0.018	0.014	
Dibenz(a,h)anthracene	ND	0.018	0.01	
Benzo(g,h,i)perylene	ND	0.018	0.011	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Friedman & Bruya, Inc.
Client ID:	BAY 8 SSW2
Lab ID:	78541-02
Date Received:	1/21/99
Date Prepared:	1/21/99
Date Analyzed:	1/24/99
% Solids	92.85
Dilution Factor	20

Targeted PAH Analytes by Method 8270 Modified.

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
o-Terphenyl	90		50	150

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	PQL	MDL	Flags
Naphthalene	0.3	0.019	0.019	
2-Methylnaphthalene	0.13	0.019	0.017	
Acenaphthylene	ND	0.019	0.018	
Acenaphthene	ND	0.019	0.016	
Fluorene	ND	0.019	0.014	
Phenanthrene	ND	0.019	0.013	
Anthracene	ND	0.019	0.015	
Fluoranthene	ND	0.019	0.011	
Pyrene	ND	0.019	0.01	
Benzo(a)anthracene	ND	0.019	0.0082	
Chrysene	ND	0.019	0.01	
Benzo(b)fluoranthene	ND	0.019	0.0097	
Benzo(k)fluoranthene	ND	0.019	0.015	
Benzo(a)pyrene	ND	0.019	0.0076	
Indeno(1,2,3-cd)pyrene	ND	0.019	0.015	
Dibenz(a,h)anthracene	ND	0.019	0.01	
Benzo(g,h,i)perylene	ND	0.019	0.012	

SOUND ANALYTICAL SERVICES, INC.

Lab ID:	Method Blank - EP084
Date Received:	-
Date Prepared:	1/21/99
Date Analyzed:	1/24/99
% Solids	
Dilution Factor	20

Targeted PAH Analytes by Method 8270 Modified.

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
o-Terphenyl	105		50	150

Sample results are on an as received basis.

Analyte	Result (mg/kg)	PQL	MDL	Flags
Naphthalene	ND	0.018	0.018	
2-Methylnaphthalene	ND	0.018	0.016	
Acenaphthylene	ND	0.018	0.017	
Acenaphthene	ND	0.018	0.016	
Fluorene	ND	0.018	0.013	
Phenanthrene	ND	0.018	0.012	
Anthracene	ND	0.018	0.015	
Fluoranthene	ND	0.018	0.011	
Pyrene	ND	0.018	0.01	
Benzo(a)anthracene	ND	0.018	0.008	
Chrysene	ND	0.018	0.0098	
Benzo(b)fluoranthene	ND	0.018	0.0095	
Benzo(k)fluoranthene	ND	0.018	0.015	
Benzo(a)pyrene	ND	0.018	0.0075	
Indeno(1,2,3-cd)pyrene	ND	0.018	0.014	
Dibenz(a,h)anthracene	ND	0.018	0.01	
Benzo(g,h,i)perylene	ND	0.018	0.011	

SOUND ANALYTICAL SERVICES, INC.

Blank Spike Report

Lab ID: EP084
Date Prepared: 1/21/99
Date Analyzed: 1/24/99
QC Batch ID: EP084

Targeted PAH Analytes by Method 8270 Modified.

Parameter Name	Blank Result (mg/kg)	Spike Amount (mg/kg)	BS Result (mg/kg)	BS % Rec.	Flag
Naphthalene	0	18	17	92	
Acenaphthene	0	18	16	89	
Pyrene	0	18	17	94	
Benzo(g,h,i)perylene	0	18	19	106	

SOUND ANALYTICAL SERVICES, INC.

Matrix Spike Report

Client Sample ID: BAY 1 NSW
Lab ID: 78541-01
Date Prepared: 1/21/99
Date Analyzed: 1/24/99
QC Batch ID: EP084

Targeted PAH Analytes by Method 8270 Modified.

Parameter Name	Sample Result (mg/kg)	Spike Amount (mg/kg)	MS Result (mg/kg)	MS % Rec.	Flag
Naphthalene	0.25	19	21	108	
Acenaphthene	0	19	20	108	
Pyrene	0	19	13	71	
Benzo(g,h,i)perylene	0	19	14	75	

SOUND ANALYTICAL SERVICES, INC.

Duplicate Report

Client Sample ID:	BAY 1 NSW
Lab ID:	78541-01
Date Prepared:	1/21/99
Date Analyzed:	1/24/99
QC Batch ID:	EP084

Targeted PAH Analytes by Method 8270 Modified.

Parameter Name	Sample Result (mg/kg)	Duplicate Result (mg/kg)	RPD %	Flag
Naphthalene	0.25	0.33	-28.0	
2-Methylnaphthalene	0.11	0.13	-17.0	
Acenaphthylene	0	0	NC	
Acenaphthene	0	0	NC	
Fluorene	0	0	NC	
Phenanthrene	0	0	NC	
Anthracene	0	0	NC	
Fluoranthene	0	0	NC	
Pyrene	0	0	NC	
Benzo(a)anthracene	0	0	NC	
Chrysene	0	0	NC	
Benzo(b)fluoranthene	0	0	NC	
Benzo(k)fluoranthene	0	0	NC	
Benzo(a)pyrene	0	0	NC	
Indeno(1,2,3-cd)pyrene	0	0	NC	
Dibenz(a,h)anthracene	0	0	NC	
Benzo(g,h,i)perylene	0	0	NC	

SOUND ANALYTICAL SERVICES, INC.

ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE: (253) 922-2310 - FAX: (253) 922-5047

DATA QUALIFIERS AND ABBREVIATIONS

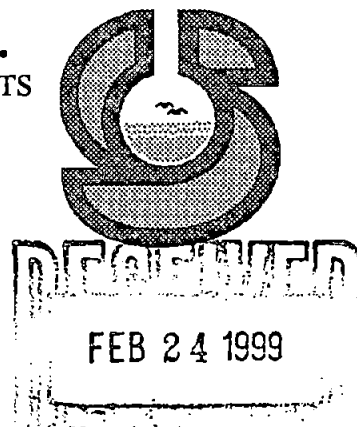
- B1: This analyte was detected in the associated method blank. The analyte concentration was determined not to be significantly higher than the associated method blank (less than ten times the concentration reported in the blank).
- B2: This analyte was detected in the associated method blank. The analyte concentration in the sample was determined to be significantly higher than the method blank (greater than ten times the concentration reported in the blank).
- C1: Second column confirmation was performed. The relative percent difference value (RPD) between the results on the two columns was evaluated and determined to be $\leq 40\%$.
- C2: Second column confirmation was performed. The RPD between the results on the two columns was evaluated and determined to be $> 40\%$. The higher result was reported unless anomalies were noted.
- M: GC/MS confirmation was performed. The result derived from the original analysis was reported.
- D: The reported result for this analyte was calculated based on a secondary dilution factor.
- E: The concentration of this analyte exceeded the instrument calibration range and should be considered an estimated quantity.
- J: The analyte was analyzed for and positively identified, but the associated numerical value is an estimated quantity.
- MCL: Maximum Contaminant Level
- MDL: Method Detection Limit
- N: See analytical narrative.
- ND: Not Detected
- PQL: Practical Quantitation Limit
- X1: Contaminant does not appear to be "typical" product. Elution pattern suggests it may be _____.
- X2: Contaminant does not appear to be "typical" product.
- X3: Identification and quantitation of the analyte or surrogate was complicated by matrix interference.
- X4: RPD for duplicates was outside advisory QC limits. The sample was re-analyzed with similar results. The sample matrix may be nonhomogeneous.
- X4a: RPD for duplicates outside advisory QC limits due to analyte concentration near the method practical quantitation limit/detection limit.
- X5: Matrix spike recovery was not determined due to the required dilution.
- X6: Recovery and/or RPD values for matrix spike(/matrix spike duplicate) outside advisory QC limits. Sample was re-analyzed with similar results.
- X7: Recovery and/or RPD values for matrix spike(/matrix spike duplicate) outside advisory QC limits. Matrix interference may be indicated based on acceptable blank spike recovery and/or RPD.
- X7a: Recovery and/or RPD values for this spiked analyte outside advisory QC limits due to high concentration of the analyte in the original sample.
- X8: Surrogate recovery was not determined due to the required dilution.
- X9: Surrogate recovery outside advisory QC limits due to matrix interference.

78541

SAMPLE CHAIN OF CUSTODY

12:32

Sound Analytical Services, Inc.
ANALYTICAL & ENVIRONMENTAL CHEMISTS
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(253) 922-2310 • FAX (253) 922-5047
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TRANSMITTAL MEMORANDUM

DATE: February 19, 1999

TO: Charlene Jensen
Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029

PROJECT: 901077-83

REPORT NUMBER: 78770

Enclosed are the test results for two samples received at Sound Analytical Services on January 29, 1999.

The report consists of this transmittal memo, analytical results, quality control reports, a copy of the chain-of-custody, a list of data qualifiers and analytical narrative when applicable, and a copy of any requested raw data.

Analytical Narrative: N flag: The relative percent difference between the sample and its duplicate analysis exceeded the QC acceptance limits for C12 - C16 and C16 - C21 aliphatic ranges in the extractable petroleum hydrocarbon analyses, because the rocky nature of the batch QC sample made it difficult to get representative subsamples.

Should there be any questions regarding this report, please contact me at (253) 922-2310.

Sincerely,

A handwritten signature in black ink that reads 'Tom Watson'. The signature is fluid and cursive, with a long horizontal stroke at the end.

Tom Watson
Project Manager

Client Sample ID:	<u>Bay12NSW4</u>				
Work Order	<u>78770</u>				
Laboratory ID:	<u>78770-02</u>				
Date Sampled:	<u>1/18/99</u>	Date Received:	<u>1/29/99</u>		
Date Prepared:	EPH	<u>2/1/99</u>	PAHs	<u>2/1/99</u>	VPH <u>2/4/99</u>
Date Analyzed:	EPH	<u>2/2/99</u>	PAHs	<u>2/9/99</u>	VPH <u>2/5/99</u>
Matrix:	<u>solid</u>	% Solids:	<u>90.99</u>		

ANALYTICAL RESULTS:

Non-Carcinogen - Human Health Hazard Index Compounds

<u>Compound</u>	<u>mg/kg</u>
Total Aliphatics	2000
Total Aromatics *	2700
Benzene	ND
Ethylbenzene	2.4
Toluene	1.8
Xylenes	2.1

* Total aromatics is aromatic fractions + benzene - ethylbenzene, toluene & xylenes

Carcinogen - Human Health Risk Compounds

<u>Compound</u>	<u>mg/kg</u>	<u>PQL</u>
Benzene *	0.21	0.41
Total cPAHs *	0.06	0.13

* For compounds not detected, 1/2 PQL values are Substituted

Soil to Groundwater - Fate and Transport Fractions

<u>Aliphatic Fractions</u>	<u>mg/kg</u>
C5 - C6	ND
>C6 - C8	6
>C8 - C10	160
>C10 - C12	200
>C12 - C16	300
>C16 - C21	<u>1300</u>
Total Aliphatic Fractions	2000

<u>Aromatic Fractions</u>	<u>mg/kg</u>
>C8 - C10*	160
>C10 - C12	76
>C12 - C16	120
>C16 - C21	470
>C21 - C34	<u>1900</u>
Total Aromatic Fractions	2700

* Does not include ethylbenzene and xylenes

FATE AND TRANSPORT - SOIL TO GROUNDWATER

"Raoult's Law" Worksheet

CLIENT ID Bay12NSW4

LAB ID 78770-02

COMPOUND	Soil mg/kg	MW g/mol	Moles mmol/kg	Mol Frac.	Solubility mg/l	Effect. Sol mg/l	DF	Well Conc. mg/l
<i>Aliphatics</i>								
EC 5 - 6	0	81	0.0	0.00	2.8E+01	0.0E+00	20	0.0E+00
EC >6 - 8	6	100	0.1	0.00	4.2E+00	1.1E-02	20	5.7E-04
EC >8 - 10	160	130	1.2	0.06	3.3E-01	1.8E-02	20	9.2E-04
EC >10 - 12	200	160	1.3	0.06	2.6E-02	1.5E-03	20	7.4E-05
EC >12 - 16	300	200	1.5	0.07	5.9E-04	4.0E-05	20	2.0E-06
EC >16 - 21	1300	270	4.8	0.22	1.0E-06	2.2E-07	20	1.1E-08
<i>Aromatics</i>								
Benzene	0.0	78	0.0	0.00	1.8E+03	0.0E+00	20	0.0E+00
Toluene	1.8	92	0.0	0.00	5.2E+02	4.6E-01	20	2.3E-02
EC >8 - 10*	164	120	1.4	0.06	6.5E+01	4.0E+00	20	2.0E-01
EC >10 - 12	76	130	0.6	0.03	2.5E+01	6.6E-01	20	3.3E-02
EC >12 - 16	120	150	0.8	0.04	5.8E+00	2.1E-01	20	1.1E-02
EC >16 - 21	470	190	2.5	0.11	5.1E-01	5.7E-02	20	2.9E-03
EC >21 - 35	1900	240	<u>7.9</u>	<u>0.36</u>	6.6E-03	2.4E-03	20	<u>1.2E-04</u>
			22.0	1.00				0.3

* Includes ethylbenzene & xylenes

Well Conc. must be 1 mg/l or less for soil concentrations to be protective of Method A drinking water standard.

HUMAN HEALTH SOILS CONTACT WORKSHEETS

CLIENT ID Bay12NSW4

LAB ID 78770-02

Non-Carcinogen--Hazard Index

Compound	Soil ppm	<u>Residential</u>				<u>Commercial</u>			<u>Industrial</u>		
		ORfD	Factor	Res. Mult.	HQ	Factor	Com. Mult	HQ	Factor	Ind. Mult.	HQ
Total aliphatic	2000	0.06	1.25E-05	2.08E-04	0.42	3.13E-06	5.21E-05	0.10	2.86E-07	4.77E-06	0.01
Total aromatic*	2700	0.03	1.25E-05	4.17E-04	1.13	3.13E-06	1.04E-04	0.28	2.86E-07	9.53E-06	<u>0.03</u>
Benzene	0.0										
Ethylbenzene	2.4	0.10	1.25E-05	1.25E-04	0.00	3.13E-06	3.13E-05	0.00	2.86E-07	2.86E-06	0.00
Toluene	1.8	0.20	1.25E-05	6.25E-05	0.00	3.13E-06	1.56E-05	0.00	2.86E-07	1.43E-06	0.00
Xylenes	2.1	2.00	1.25E-05	6.25E-06	<u>0.00</u>	3.13E-06	1.56E-06	<u>0.00</u>	2.86E-07	1.43E-07	<u>0.00</u>

Hazard Index

1.54

0.39

0.04

* Total aromatic is total of aromatic fractions plus benzene minus ethylbenzene, toluene and xylenes

Carcinogen Risk

Compound	Soil ppm	<u>Residential</u>			<u>Commercial</u>		<u>Industrial</u>	
		OCPF	Res. Mult.	Risk	Com. Mult	Risk	Ind. Mult.	Risk
Benzene *	0.21	0.029	1.00E-06	6.09E-09	2.50E-07	1.52E-09	7.62E-08	4.64E-10
Total cPAHs *	0.06	7.30	1.00E-06	4.60E-07	2.50E-07	1.15E-07	7.62E-08	3.50E-08

* For parameters not detected 1/2 PQL values are substituted

SOUND ANALYTICAL SERVICES, INC.

Client Name	Friedman & Bruya, Inc.
Client ID:	BAY12SSW3
Lab ID:	78770-01
Date Received:	1/29/99
Date Prepared:	2/4/99
Date Analyzed:	2/5/99
% Solids	90.8

WSDOE Method for Determination of Volatile Petroleum Hydrocarbon Fractions Modified

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
Trifluorotoluene	93		60	140
Bromofluorobenzene	120		60	140

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	PQL	Flags
EC 5-6 Aliphatics	ND	2.2	
EC >6-8 Aliphatics	5.5	0.86	
EC >8-10 Aliphatics	160	2.6	
EC >8-10 Aromatics	87	0.43	
MTBE	ND	0.43	
Benzene	ND	0.43	
Toluene	2.3	0.43	
Ethylbenzene	1.6	0.43	
m- & p-Xylene	1.7	0.86	
o-Xylene	0.59	0.43	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Friedman & Bruya, Inc.
Client ID:	BAY12NSW4
Lab ID:	78770-02
Date Received:	1/29/99
Date Prepared:	2/4/99
Date Analyzed:	2/5/99
% Solids	90.99

WSDOE Method for Determination of Volatile Petroleum Hydrocarbon Fractions Modified

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
Trifluorotoluene	94		60	140
Bromofluorobenzene	126		60	140

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	PQL	Flags
EC 5-6 Aliphatics	ND	2.1	
EC >6-8 Aliphatics	6	0.82	
EC >8-10 Aliphatics	230	2.5	
EC >8-10 Aromatics	160	0.41	
MTBE	ND	0.41	
Benzene	ND	0.41	
Toluene	1.8	0.41	
Ethylbenzene	2.4	0.41	
m- & p-Xylene	1.3	0.82	
o-Xylene	0.75	0.41	

SOUND ANALYTICAL SERVICES, INC.

Lab ID:	Method Blank - GB1684
Date Received:	-
Date Prepared:	2/4/99
Date Analyzed:	2/4/99
% Solids	

WSDOE Method for Determination of Volatile Petroleum Hydrocarbon Fractions Modified

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
Trifluorotoluene	100		60	140
Bromofluorobenzene	110		60	140

Sample results are on an as received basis.

Analyte	Result (mg/kg)	PQL	Flags
EC 5-6 Aliphatics	ND	2	
EC >6-8 Aliphatics	ND	0.8	
EC >8-10 Aliphatics	ND	2.4	
EC >8-10 Aromatics	ND	0.4	
MTBE	ND	0.4	
Benzene	ND	0.4	
Toluene	ND	0.4	
Ethylbenzene	ND	0.4	
m- & p-Xylene	ND	0.8	
o-Xylene	ND	0.4	

SOUND ANALYTICAL SERVICES, INC.

Duplicate Report

Client Sample ID:	B2 3-4'
Lab ID:	78704-01
Date Prepared:	2/4/99
Date Analyzed:	2/5/99
QC Batch ID:	GB1684

WSDOE Method for Determination of Volatile Petroleum Hydrocarbon Fractions Modified

Parameter Name	Sample Result (mg/kg)	Duplicate Result (mg/kg)	RPD %	Flag
EC 5-6 Aliphatics	0	0	NC	
EC >6-8 Aliphatics	0	0	NC	
EC >8-10 Aliphatics	0	0	NC	
EC >8-10 Aromatics	0	0	NC	
MTBE	0	0	NC	
Benzene	0	0	NC	
Toluene	0	0	NC	
Ethylbenzene	0	0	NC	
m- & p-Xylene	0	0	NC	
o-Xylene	0	0	NC	

SOUND ANALYTICAL SERVICES, INC.

Matrix Spike Report

Client Sample ID:	B2 3-4'
Lab ID:	78704-01
Date Prepared:	2/4/99
Date Analyzed:	2/5/99
QC Batch ID:	GB1684

WSDOE Method for Determination of Volatile Petroleum Hydrocarbon Fractions Modified

Parameter Name	Sample Result (mg/kg)	Spike Amount (mg/kg)	MS Result (mg/kg)	MS % Rec.	Flag
EC 5-6 Aliphatics	0	9.8	11	115	
EC >6-8 Aliphatics	0	4.9	5	102	
EC >8-10 Aliphatics	0	4.9	3.3	68	
EC >8-10 Aromatics	0	4.9	4.3	87	
MTBE	0	4.9	4.2	86	
Benzene	0	4.9	4.1	84	
Toluene	0	4.9	4.2	85	
Ethylbenzene	0	4.9	4.2	86	
m- & p-Xylene	0	9.8	8.6	88	
o-Xylene	0	4.9	4.2	87	

SOUND ANALYTICAL SERVICES, INC.

Blank Spike Report

Lab ID:	GB1684
Date Prepared:	2/4/99
Date Analyzed:	2/4/99
QC Batch ID:	GB1684

WSDOE Method for Determination of Volatile Petroleum Hydrocarbon Fractions Modified

Parameter Name	Blank Result (mg/kg)	Spike Amount (mg/kg)	BS Result (mg/kg)	BS % Rec.	Flag
EC 5-6 Aliphatics	0	8	13	159	
EC >6-8 Aliphatics	0	4	4.9	123	
EC >8-10 Aliphatics	0	4	3.7	91	
EC >8-10 Aromatics	0	4	4.2	105	
MTBE	0	4	4	99	
Benzene	0	4	4	101	
Toluene	0	4	4	101	
Ethylbenzene	0	4	4.2	105	
m- & p-Xylene	0	8	8.4	105	
o-Xylene	0	4	4.1	103	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Friedman & Bruya, Inc.
Client ID:	BAY12SSW3
Lab ID:	78770-01
Date Received:	1/29/99
Date Prepared:	2/1/99
Date Analyzed:	2/2/99
% Solids	90.8
Dilution Factor	10

Extractable Petroleum Hydrocarbons (EPH)

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
Chloro-octadecane	83		60	140
Ortho-terphenyl	111		60	140

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	PQL	Flags
C8-C10 Aliphatics	100	2.3	
C10-C12 Aliphatics	100	2.3	
C12-C16 Aliphatics	100	2.3	
C16-C21 Aliphatics	1300	2.3	
C21-C34 Aliphatics	12000	23	D
C10-C12 Aromatics	39	2.3	
C12-C16 Aromatics	35	2.3	
C16-C21 Aromatics	340	4.6	
C21-C34 Aromatics	1900	4.6	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Friedman & Bruya, Inc.
Client ID:	BAY12NSW4
Lab ID:	78770-02
Date Received:	1/29/99
Date Prepared:	2/1/99
Date Analyzed:	2/2/99
% Solids	90.99
Dilution Factor	10

Extractable Petroleum Hydrocarbons (EPH)

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
Chloro-octadecane	86		60	140
Ortho-terphenyl	104		60	140

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	PQL	Flags
C8-C10 Aliphatics	160	2.2	
C10-C12 Aliphatics	200	2.2	
C12-C16 Aliphatics	300	2.2	
C16-C21 Aliphatics	1300	2.2	
C21-C34 Aliphatics	11000	22	D
C10-C12 Aromatics	76	2.2	
C12-C16 Aromatics	120	2.2	
C16-C21 Aromatics	470	4.5	
C21-C34 Aromatics	1900	4.5	

SOUND ANALYTICAL SERVICES, INC.

Lab ID:	Method Blank - EP086
Date Received:	-
Date Prepared:	2/1/99
Date Analyzed:	2/2/99
% Solids	
Dilution Factor	10

Extractable Petroleum Hydrocarbons (EPH)

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
Chloro-octadecane	112		60	140
Ortho-terphenyl	107		60	140

Sample results are on an as received basis.

Analyte	Result (mg/kg)	PQL	Flags
C8-C10 Aliphatics	ND	2.5	
C10-C12 Aliphatics	ND	2.5	
C12-C16 Aliphatics	ND	2.5	
C16-C21 Aliphatics	ND	2.5	
C21-C34 Aliphatics	ND	5	
C10-C12 Aromatics	ND	2.5	
C12-C16 Aromatics	ND	2.5	
C16-C21 Aromatics	ND	5	
C21-C34 Aromatics	ND	5	

SOUND ANALYTICAL SERVICES, INC.

Blank Spike Report

Lab ID: EP086
Date Prepared: 2/1/99
Date Analyzed: 2/16/99
QC Batch ID: EP086

Extractable Petroleum Hydrocarbons (EPH)

Parameter Name	Blank Result (mg/kg)	Spike Amount (mg/kg)	BS Result (mg/kg)	BS % Rec.	Flag
C8-C10 Aliphatics	0	20	17	83	
C10-C12 Aliphatics	0	20	14	71	
C12-C16 Aliphatics	0	20	15	75	
C16-C21 Aliphatics	0	20	18	91	
C21-C34 Aliphatics	0	20	21	106	
C10-C12 Aromatics	0	20	17	83	
C12-C16 Aromatics	0	20	16	79	
C16-C21 Aromatics	0	20	20	100	
C21-C34 Aromatics	0	20	14	70	

SOUND ANALYTICAL SERVICES, INC.

Duplicate Report

Client Sample ID: B2 3-4'
Lab ID: 78704-01
Date Prepared: 2/1/99
Date Analyzed: 2/2/99
QC Batch ID: EP086

Extractable Petroleum Hydrocarbons (EPH)

Parameter Name	Sample Result (mg/kg)	Duplicate Result (mg/kg)	RPD %	Flag
C8-C10 Aliphatics	0	0	NC	
C10-C12 Aliphatics	0	0	NC	
C12-C16 Aliphatics	9.1	7	26.0	N
C16-C21 Aliphatics	110	85	26.0	N
C21-C34 Aliphatics	780	610	24.0	
C10-C12 Aromatics	0	0	NC	
C12-C16 Aromatics	0	0	NC	
C16-C21 Aromatics	29	24	19.0	
C21-C34 Aromatics	230	210	9.1	

SOUND ANALYTICAL SERVICES, INC.

Matrix Spike Report

Client Sample ID:	BAY12NSW4
Lab ID:	78770-02
Date Prepared:	2/1/99
Date Analyzed:	2/2/99
QC Batch ID:	EP086

Extractable Petroleum Hydrocarbons (EPH)

Parameter Name	Sample Result (mg/kg)	Spike Amount (mg/kg)	MS Result (mg/kg)	MS % Rec.	Flag
C8-C10 Aliphatics	160	18	200	207	X7a
C10-C12 Aliphatics	200	18	240	191	X7a
C12-C16 Aliphatics	300	18	340	221	X7a
C16-C21 Aliphatics	1300	18	1400	701	X7a
C21-C34 Aliphatics	11000	18	13000	7330	X7a
C10-C12 Aromatics	76	18	100	144	X7
C12-C16 Aromatics	120	18	150	150	X7a
C16-C21 Aromatics	470	18	500	168	X7a
C21-C34 Aromatics	1900	18	1900	-102	X7a

SOUND ANALYTICAL SERVICES, INC.

Client Name	Friedman & Bruya, Inc.
Client ID:	BAY12NSW4
Lab ID:	78770-02
Date Received:	1/29/99
Date Prepared:	2/1/99
Date Analyzed:	2/9/99
% Solids	90.99
Dilution Factor	20

Targeted PAH Analytes by Method 8270 Modified.

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
o-Terphenyl	119		50	150

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	PQL	MDL	Flags
Naphthalene	3.6	0.018	0.018	
2-Methylnaphthalene	5.5	0.018	0.016	
Acenaphthylene	ND	0.018	0.017	
Acenaphthene	ND	0.018	0.015	
Fluorene	0.66	0.018	0.013	
Phenanthrene	1.5	0.018	0.012	
Anthracene	0.24	0.018	0.014	
Fluoranthene	ND	0.018	0.01	
Pyrene	ND	0.018	0.0097	
Benzo(a)anthracene	ND	0.018	0.0077	
Chrysene	ND	0.018	0.0095	
Benzo(b)fluoranthene	ND	0.018	0.0091	
Benzo(k)fluoranthene	ND	0.018	0.014	
Benzo(a)pyrene	ND	0.018	0.0072	
Indeno(1,2,3-cd)pyrene	ND	0.018	0.014	
Dibenz(a,h)anthracene	ND	0.018	0.0098	
Benzo(g,h,i)perylene	ND	0.018	0.011	

SOUND ANALYTICAL SERVICES, INC.

Lab ID:	Method Blank - EP086
Date Received:	-
Date Prepared:	2/1/99
Date Analyzed:	2/9/99
% Solids	
Dilution Factor	20

Targeted PAH Analytes by Method 8270 Modified.

Surrogate	% Recovery	Flags	Recovery Limits	
			Low	High
o-Terphenyl	115		50	150

Sample results are on an as received basis.

Analyte	Result (mg/kg)	PQL	MDL	Flags
Naphthalene	ND	0.02	0.02	
2-Methylnaphthalene	ND	0.02	0.018	
Acenaphthylene	ND	0.02	0.019	
Acenaphthene	ND	0.02	0.017	
Fluorene	ND	0.02	0.015	
Phenanthrene	ND	0.02	0.014	
Anthracene	ND	0.02	0.016	
Fluoranthene	ND	0.02	0.012	
Pyrene	ND	0.02	0.011	
Benzo(a)anthracene	ND	0.02	0.0088	
Chrysene	ND	0.02	0.011	
Benzo(b)fluoranthene	ND	0.02	0.01	
Benzo(k)fluoranthene	ND	0.02	0.016	
Benzo(a)pyrene	ND	0.02	0.0082	
Indeno(1,2,3-cd)pyrene	ND	0.02	0.016	
Dibenz(a,h)anthracene	ND	0.02	0.011	
Benzo(g,h,i)perylene	ND	0.02	0.012	

SOUND ANALYTICAL SERVICES, INC.

Blank Spike Report

Lab ID:	EP086
Date Prepared:	2/1/99
Date Analyzed:	2/9/99
QC Batch ID:	EP086

Targeted PAH Analytes by Method 8270 Modified.

Parameter Name	Blank Result (mg/kg)	Spike Amount (mg/kg)	BS Result (mg/kg)	BS % Rec.	Flag
Naphthalene	0	20	14	70	
Acenaphthene	0	20	20	100	
Pyrene	0	20	17	85	
Benzo(g,h,i)perylene	0	20	18	89	

SOUND ANALYTICAL SERVICES, INC.

Matrix Spike Report

Client Sample ID:	BAY12NSW4
Lab ID:	78770-02
Date Prepared:	2/1/99
Date Analyzed:	2/9/99
QC Batch ID:	EP086

Targeted PAH Analytes by Method 8270 Modified.

Parameter Name	Sample Result (mg/kg)	Spike Amount (mg/kg)	MS Result (mg/kg)	MS % Rec.	Flag
Naphthalene	3.6	18	16	71	
Acenaphthene	0	18	19	110	
Pyrene	0	18	17	98	
Benzo(g,h,i)perylene	0	18	12	66	

SOUND ANALYTICAL SERVICES, INC.

Duplicate Report

Client Sample ID: B2 3-4'
Lab ID: 78704-01
Date Prepared: 2/1/99
Date Analyzed: 2/9/99
QC Batch ID: EP086

Targeted PAH Analytes by Method 8270 Modified.

Parameter Name	Sample Result (mg/kg)	Duplicate Result (mg/kg)	RPD %	Flag
Naphthalene	0	0	NC	
2-Methylnaphthalene	0	0	NC	
Acenaphthylene	0	0	NC	
Acenaphthene	0	0	NC	
Fluorene	0	0	NC	
Phenanthrene	0	0	NC	
Anthracene	0	0	NC	
Fluoranthene	0	0	NC	
Pyrene	0	0	NC	
Benzo(a)anthracene	0	0	NC	
Chrysene	0	0	NC	
Benzo(b)fluoranthene	0	0	NC	
Benzo(k)fluoranthene	0	0	NC	
Benzo(a)pyrene	0	0	NC	
Indeno(1,2,3-cd)pyrene	0	0	NC	
Dibenz(a,h)anthracene	0	0	NC	
Benzo(g,h,i)perylene	0	0	NC	

SOUND ANALYTICAL SERVICES, INC.

ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE: (253) 922-2310 - FAX: (253) 922-5047

DATA QUALIFIERS AND ABBREVIATIONS

- B1: This analyte was detected in the associated method blank. The analyte concentration was determined not to be significantly higher than the associated method blank (less than ten times the concentration reported in the blank).
- B2: This analyte was detected in the associated method blank. The analyte concentration in the sample was determined to be significantly higher than the method blank (greater than ten times the concentration reported in the blank).
- C1: Second column confirmation was performed. The relative percent difference value (RPD) between the results on the two columns was evaluated and determined to be $\leq 40\%$.
- C2: Second column confirmation was performed. The RPD between the results on the two columns was evaluated and determined to be $> 40\%$. The higher result was reported unless anomalies were noted.
- M: GC/MS confirmation was performed. The result derived from the original analysis was reported.
- D: The reported result for this analyte was calculated based on a secondary dilution factor.
- E: The concentration of this analyte exceeded the instrument calibration range and should be considered an estimated quantity.
- J: The analyte was analyzed for and positively identified, but the associated numerical value is an estimated quantity.
- MCL: Maximum Contaminant Level
- MDL: Method Detection Limit
- N: See analytical narrative.
- ND: Not Detected
- PQL: Practical Quantitation Limit
- X1: Contaminant does not appear to be "typical" product. Elution pattern suggests it may be _____.
- X2: Contaminant does not appear to be "typical" product.
- X3: Identification and quantitation of the analyte or surrogate was complicated by matrix interference.
- X4: RPD for duplicates was outside advisory QC limits. The sample was re-analyzed with similar results. The sample matrix may be nonhomogeneous.
- X4a: RPD for duplicates outside advisory QC limits due to analyte concentration near the method practical quantitation limit/detection limit.
- X5: Matrix spike recovery was not determined due to the required dilution.
- X6: Recovery and/or RPD values for matrix spike(/matrix spike duplicate) outside advisory QC limits. Sample was re-analyzed with similar results.
- X7: Recovery and/or RPD values for matrix spike(/matrix spike duplicate) outside advisory QC limits. Matrix interference may be indicated based on acceptable blank spike recovery and/or RPD.
- X7a: Recovery and/or RPD values for this spiked analyte outside advisory QC limits due to high concentration of the analyte in the original sample.
- X8: Surrogate recovery was not determined due to the required dilution.
- X9: Surrogate recovery outside advisory QC limits due to matrix interference.

FRIEDMAN & BRUYA, INC.
3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282

78770

SAMPLE CHAIN OF CUSTODY

Send Report To: Friedman & Bruya Contact: Charlene Jensen
Company: _____
Address: _____
City, State, Zip: _____
Phone #: _____ FAX #: _____ Date: _____

SITE NO.	PROJECT NAME	PURCHASE ORDER #
	901077-83	
SAMPLERS (signature)		PROJECT LOCATION
REMARKS		SAMPLE DISPOSAL INFORMATION
		<input type="checkbox"/> Dispose after 30 days <input type="checkbox"/> Return Samples <input type="checkbox"/> Call for Instructions

Sample #	Date/Time Sampled	Type of Sample	# of Jars	Lab Sample #	Analyses Requested
Bay 12 SSW 3	1-15-99 9:30	soil	1		VPH/EPH (GC only)
Bay 12 NSW 4	1-18-99 10:15	"	1		VPH/EPH with target PNA's

SIGNATURE	PRINT NAME	COMPANY	Date	Time
Relinquished by: <u>Eric Choiniere</u>	ERIC CHOINIERE	FBI	1-29-99	8:15 AM
Received by: <u>Joe Palmquist</u>	JOE PALMQUIST	SAS	1-29-99	10:15 AM
Relinquished by: <u>Joe Palmquist</u>	JOE PALMQUIST	SAS	1-29-99	10:45 AM
Received by: <u>M. Hodgman</u>	M. HODGMAN	SAS	1-29-99	10:45



32-45406

Customer #	Sold To	Plant #	Ticket #
	West Pac		1-4-99
Job	Delivery Address	Project #	Time Batched
P. O. #	Instructions		Due Time
Zone		Leave Plant	Arrive Job

Order #	Truck #	Driver/Hauler	Leave Job	Arrive Plant		
	W254	Smiley				
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price	AMOUNT
		85260		PCS		
		33240				
		52,000				
SUB-TOTAL		TAX	TICKET TOTAL		ORDER TOTAL 26.01	

The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.

All accounts not paid within 30 days of delivery will bear interest at the rate of 18% per annum.

Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.

A \$40.00 Service Charge and Loss of the Cash Discount will be collected on all Returned Checks.

PROPERTY DAMAGE RELEASE (TO BE SIGNED IF DELIVERY IS TO BE MADE INSIDE CURB LINE)

Dear Customer: The driver of this truck is presenting this RELEASE to you for your signature is of the opinion that the size and weight of his truck may possibly cause damage to the premises and/or adjacent property if he places the material in this load where you desire it. It is our wish to help you in every way that we can, but in order to do this the driver is requesting that you sign this RELEASE relieving him and this supplier from any responsibility from any damage that may occur to the premises and/or adjacent property, buildings, sidewalks, drive-ways, curbs, etc. by the delivery of this material and that you also agree to help him remove mud from the wheels of his vehicle so that he will not litter the public street. Further, as additional consideration, the undersigned agrees to indemnify and hold harmless the driver of this truck and this supplier for any and all damage to the premises and/or adjacent property which may be claimed by anyone to have arisen out of delivery of this order.

SIGNED

NOTICE: MY SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEALTH WARNING NOTICE AND SUPPLIER WILL NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINE.

LOAD RECEIVED BY:

X CUSTOMER SIGNATURE

170728



32-45406

Customer #	Sold To	Plant #	Ticket #
Job	Delivery Address	Project #	Date
P.O. #	Instructions		Time Batched
Zone		Leave Plant	Arrive Job

Order #	Truck #	Driver/Hauler	Leave Job	Arrive Plant
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION
				PCS
				79440
				33240
				46200
SUB-TOTAL	TAX	TICKET TOTAL	ORDER TOTAL	23.10

The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.

All accounts not paid within 30 days of delivery will bear interest at the rate of 18% per annum.

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SIGNED

NOTICE: MY SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEALTH WARNING NOTICE AND SUPPLIER WILL NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINE.

LOAD RECEIVED BY:

X CUSTOMER SIGNATURE

170664



Associated

Customer #		Sold To		Plant #	Ticket #
Job		Delivery Address		Project #	Date
P. O. #		Instructions		Time Batched	
Zone		Leave Plant		Arrive Job	

Order #	Truck #	Driver/Hauler		Leave Job	Arrive Plant	
	W 25	J. Miller				
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price	AMOUNT
		85,440		POS		
		33,440				
		52,400				

SUB-TOTAL	TAX	TICKET TOTAL	ORDER TOTAL
			\$26.20

The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.

All accounts not paid within 30 days of delivery will bear interest at the rate of 18% per annum.

Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.

A \$40.00 Service Charge and Loss of the Cash Discount will be collected on all Returned Checks.

PROPERTY DAMAGE RELEASE (TO BE SIGNED IF DELIVERY IS TO BE MADE INSIDE CURB LINE)
Dear Customer: The driver of this truck is presenting this RELEASE to you for your signature is of the opinion that the size and weight of his truck may possibly cause damage to the premises and/or adjacent property if he places the material in this load where you desire it. It is our wish to help you in every way that we can, but in order to do this the driver is requesting that you sign this RELEASE relieving him and this supplier from any responsibility from any damage that may occur to the premises and/or adjacent property, buildings, sidewalks, drive-ways, curbs, etc. by the delivery of this material and that you also agree to help him remove mud from the wheels of his vehicle so that he will not litter the public street. Further, as additional consideration, the undersigned agrees to indemnify and hold harmless the driver of this truck and this supplier for any and all damage to the premises and/or adjacent property which may be claimed by anyone to have arisen out of delivery of this order.
SIGNED

NOTICE: BY SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEALTH WARNING NOTICE AND SUPPLIER WILL NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINE.

LOAD RECEIVED BY:

X _____
CUSTOMER SIGNATURE

162634



		Plant #	Ticket #
Customer #	Sold To <i>WOSITAC</i>		Date <i>12-31-98</i>
Job	Delivery Address	Project #	Time Batched
P.O. # <i>32-45406</i>	Instructions		Due Time
Zone		Leave Plant	Arrive Job

Order #	Truck # <i>W1251</i>	Driver/Hauler <i>Can</i>		Leave Job	Arrive Plant	
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price	AMOUNT
		<i>50,560</i>		<i>POS</i>		
		<i>23760</i>				
		<i>30,800</i>				
		<i>26,860</i>				
SUB-TOTAL		TAX		TICKET TOTAL	ORDER TOTAL	<i>13.40</i>

The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.

All accounts not paid within 30 days of delivery will bear interest at the rate of 18% per annum.

Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.

A \$40.00 Service Charge and Loss of the Cash Discount will be collected on all Returned Checks.

PROPERTY DAMAGE RELEASE (TO BE SIGNED IF DELIVERY IS TO BE MADE INSIDE CURB LINE)

Dear Customer: The driver of this truck is presenting this RELEASE to you for your signature is of the opinion that the size and weight of his truck may possibly cause damage to the premises and/or adjacent property if he places the material in this load where you desire it. It is our wish to help you in every way that we can, but in order to do this the driver is requesting that you sign this RELEASE relieving him and this supplier from any responsibility from any damage that may occur to the premises and/or adjacent property, buildings, sidewalks, drive-ways, curbs, etc. by the delivery of this material and that you also agree to help him remove mud from the wheels of his vehicle so that he will not litter the public street. Further, as additional consideration, the undersigned agrees to indemnify and hold harmless the driver of this truck and this supplier for any and all damage to the premises and/or adjacent property which may be claimed by anyone to have arisen out of delivery of this order.

SIGNED

NOTICE TO SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEALTH WARNING NOTICE AND SUPPLIER WILL NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINE

LOAD RECEIVED BY:

X _____
CUSTOMER SIGNATURE

162642



Associated

		Plant #		Ticket #	
Customer #	Sold To <i>Wes Pac</i>			Date <i>12-30-99</i>	
Job <i>32-45406</i>	Delivery Address			Project #	Time Batched
P. O. #	Instructions				Due Time
Zone					Leave Plant Arrive Job
Order #	Truck # <i>W25</i>	Driver/Hauler <i>Smith</i>			Leave Job Arrive Plant
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price AMOUNT
		<i>73200</i> <i>52820</i> <hr/> <i>19540</i>		<i>POS split load</i>	
SUB-TOTAL		TAX		TICKET TOTAL	ORDER TOTAL <i>9.77</i>
<p>The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.</p> <p>All accounts not paid within 30 days of delivery will bear interest at the rate of 18% per annum.</p> <p>Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.</p> <p>A \$40.00 Service Charge and Loss of the Cash Discount will be collected on all Returned Checks.</p>					
<p>PROPERTY DAMAGE RELEASE (TO BE SIGNED IF DELIVERY IS TO BE MADE INSIDE CURB LINE) Dear Customer: The driver of this truck is presenting this RELEASE to you for your signature is of the opinion that the size and weight of his truck may possibly cause damage to the premises and/or adjacent property if he places the material in this load where you desire it. It is our wish to help you in every way that we can, but in order to do this the driver is requesting that you sign this RELEASE relieving him and this supplier from any responsibility from any damage that may occur to the premises and/or adjacent property, buildings, sidewalks, drive-ways, curbs, etc. by the delivery of this material and that you also agree to help him remove mud from the wheels of his vehicle so that he will not litter the public street. Further, as additional consideration, the undersigned agrees to indemnify and hold harmless the driver of this truck and this supplier for any and all damage to the premises and/or adjacent property which may be claimed by anyone to have arisen out of delivery of this order.</p> <p>SIGNED</p>					
<p>NOT BE RESPONSIBLE FOR ANY DAMAGE TO PREMISES OR ADJACENT PROPERTY WHICH MAY BE CLAIMED BY ANYONE TO HAVE ARISEN OUT OF DELIVERY OF THIS ORDER.</p> <p>LOAD RECEIVED BY:</p> <p>X _____ CUSTOMER SIGNATURE</p> <p>162213</p>					



143-JWS



Associated

Customer #		Sold To		Plant #		Ticket #	
Job		Delivery Address		Project #		Date	
P. O. #		Instructions				Time Batched	
Zone				Leave Plant		Arrive Job	
Order #		Truck #		Driver/Hauler		Leave Job	
						Arrive Plant	
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price	AMOUNT	
		46,020 23,760 22,260		MS			
SUB-TOTAL		TAX		TICKET TOTAL		ORDER TOTAL	
						11.13	
<p>The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.</p> <p>All accounts not paid within 30 days of delivery will bear interest at the rate of 18% per annum.</p> <p>Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.</p> <p>A \$40.00 Service Charge and Loss of the Cash Discount will be collected on all Returned Checks.</p>				<p>PROPERTY DAMAGE RELEASE (TO BE SIGNED IF DELIVERY IS TO BE MADE INSIDE CURB LINE)</p> <p>Dear Customer: The driver of this truck is presenting this RELEASE to you for your signature is of the opinion that the size and weight of his truck may possibly cause damage to the premises and/or adjacent property if he places the material in this load where you desire it. It is our wish to help you in every way that we can, but in order to do this the driver is requesting that you sign this RELEASE relieving him and this supplier from any responsibility from any damage that may occur to the premises and/or adjacent property, buildings, sidewalks, drive-ways, curbs, etc. by the delivery of this material and that you also agree to help him remove mud from the wheels of his vehicle so that he will not litter the public street. Further, as additional consideration, the undersigned agrees to indemnify and hold harmless the driver of this truck and this supplier for any and all damage to the premises and/or adjacent property which may be claimed by anyone to have arisen out of delivery of this order.</p> <p>SIGNED</p> <p>NOTED BY SIGNATURE BELOW INDICATES THAT I HAVE READ THE ABOVE WARNING NOTICE AND I AGREE TO BE RESPONSIBLE FOR ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINE.</p> <p>LOAD RECEIVED BY:</p> <p>X _____</p> <p>CUSTOMER SIGNATURE</p> <p>162270</p>			



Associated

		Plant #	Ticket #
Customer #	Sold To <i>West Pac</i>		Date <i>12-30-98</i>
Job	Delivery Address	Project #	Time Batched
P.O. # <i>32-45406</i>	Instructions		Due Time
Zone		Leave Plant	Arrive Job

Order #	Truck # <i>1057</i>	Driver/Hauler <i>AW</i>			Leave Job	Arrive Plant
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price	AMOUNT
		<i>45340</i> <i>23760</i> <hr/> <i>21,600</i>		<i>POS</i>		

SUB-TOTAL	TAX	TICKET TOTAL	ORDER TOTAL <i>10.80</i>
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The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.

All accounts not paid within 30 days of delivery will bear interest at the rate of 18% per annum.

Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.

A \$40.00 Service Charge and Loss of the Cash Discount will be collected on all Returned Checks.

PROPERTY DAMAGE RELEASE TO BE SIGNED IF DELIVERY IS TO BE MADE INSIDE CURB LINE.
Dear Customer: The driver of this truck is presenting this RELEASE to you for your signature is of the opinion that the size and weight of his truck may possibly cause damage to the premises and/or adjacent property if he places the material in this load where you desire it. It is our wish to help you in every way that we can, but in order to do this the driver is requesting that you sign this RELEASE relieving him and this supplier from any responsibility from any damage that may occur to the premises and/or adjacent property, buildings, sidewalks, drive-ways, curbs, etc. by the delivery of this material and that you also agree to help him remove mud from the wheels of his vehicle so that he will not litter the public street. Further, as additional consideration, the undersigned agrees to indemnify and hold harmless the driver of this truck and this supplier for any and all damage to the premises and/or adjacent property which may be claimed by anyone to have arisen out of delivery of this order.
SIGNED

NOT RESPONSIBLE FOR ANY DAMAGE TO PREMISES OR ADJACENT PROPERTY IF DELIVERY IS TO BE MADE INSIDE CURB LINE.

LOAD RECEIVED BY:

X _____
CUSTOMER SIGNATURE

162246



Customer #		Sold To		Plant #	Ticket #
Job		Delivery Address		Project #	Date
P. O. #		Instructions			Time Batched
Zone		Leave Plant			Arrive Job

Order #	Truck #	Driver/Hauler	Leave Job	Arrive Plant
---------	---------	---------------	-----------	--------------

Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price	AMOUNT
		81 480 33 240 <hr/> 27 240		PCS 24.12 lbs		

SUB-TOTAL	TAX	TICKET TOTAL	ORDER TOTAL
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The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.

All accounts not paid within 30 days of delivery will bear interest at the rate of 18% per annum.

Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.

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PROPERTY DAMAGE RELEASE (TO BE SIGNED IF DELIVERY IS TO BE MADE INSIDE CURB LINE)
Dear Customer: The driver of this truck is presenting this RELEASE to you for your signature is of the opinion that the size and weight of his truck may possibly cause damage to the premises and/or adjacent property if he places the material in this load where you desire it. It is our wish to help you in every way that we can, but in order to do this the driver is requesting that you sign this RELEASE relieving him and this supplier from any responsibility from any damage that may occur to the premises and/or adjacent property, buildings, sidewalks, drive-ways, curbs, etc. by the delivery of this material and that you also agree to help him remove mud from the wheels of his vehicle so that he will not litter the public street. Further, as additional consideration, the undersigned agrees to indemnify and hold harmless the driver of this truck and this supplier for any and all damage to the premises and/or adjacent property which may be claimed by anyone to have arisen out of delivery of this order.
SIGNED

THIS RELEASE RELEASES THE DRIVER AND THE SUPPLIER FROM ANY LIABILITY FOR DAMAGE TO THE PREMISES AND/OR ADJACENT PROPERTY WHICH MAY BE CLAIMED BY ANYONE TO HAVE ARISEN OUT OF DELIVERY OF THIS ORDER.

LOAD RECEIVED BY:	162140
X CUSTOMER SIGNATURE	



Associated

45406
32-45606

Customer #		Sold To		Plant #		Ticket #	
Job		Delivery Address		Project #		Date	
P. O. #		Instructions				Time Batched	
Zone				Leave Plant		Arrive Job	

Order #	Truck #	Driver/Hauler		Leave Job		Arrive Plant	
	W257	J. W.					
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price	AMOUNT	
		44820 23760 21060		PCS			
SUB-TOTAL		TAX		TICKET TOTAL		ORDER TOTAL	
						10.53	

The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.

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SIGNED

THIS RELEASE IS NOT VALID UNLESS THE DRIVER HAS READ THE RELEASE TO YOU AND YOU HAVE SIGNED IT. IT IS NOT VALID UNLESS IT IS SIGNED BY THE DRIVER OF THE TRUCK AND YOU HAVE SIGNED IT.

LOAD RECEIVED BY:

X _____
CUSTOMER SIGNATURE

162164



Customer #	Sold To	Plant #	Ticket #
Job	Delivery Address	Project #	Date
P. O. #	Instructions		Time Batched
Zone		Leave Plant	Arrive Job

Order #	Truck #	Driver/Hauler	Leave Job	Arrive Plant		
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price	AMOUNT
		17320		PCS		
		23760				
		3560				
SUB-TOTAL			TAX	TICKET TOTAL	ORDER TOTAL	11.78

The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.

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PROPERTY DAMAGE RELEASE TO BE SIGNED IF DELIVERY IS TO BE MADE INSIDE CURB LINE:
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SIGNED

NOTARY SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEALTH WARNING NOTICE AND SUPPLIER WILL NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINE.

LOAD RECEIVED BY:

X CUSTOMER SIGNATURE

162071



Customer #		Sold To		Plant #	Ticket #
ob 15400		Delivery Address		Project #	Date 12-28-97
P.O. #		Instructions			Time Batched
Phone		Leave Plant			Arrive Job

Order #	Truck #	Driver/Hauler	Leave Job		Arrive Plant	
	0257	W. J. W.				
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price	AMOUNT
		48520		PPS		
		23760				
		24,740				
SUB-TOTAL		TAX		TICKET TOTAL	ORDER TOTAL 12.38	

PROPERTY DAMAGE RELEASE (TO BE SIGNED IF DELIVERY IS TO BE MADE INSIDE CURB LINE.)
Dear Customer: The driver of this truck is presenting this RELEASE to you for your signature is of the opinion that the size and weight of his truck may possibly cause damage to the premises and/or adjacent property if he places the material in this load where you desire it. It is our wish to help you in every way that we can, but in order to do this the driver is requesting that you sign this RELEASE relieving him and this supplier from any responsibility from any damage that may occur to the premises and/or adjacent property, buildings, sidewalks, drive-ways, curbs, etc. by the delivery of this material and that you also agree to help him remove mud from the wheels of his vehicle so that he will not litter the public street. Further, as additional consideration, the undersigned agrees to indemnify and hold harmless the driver of this truck and this supplier for any and all damage to the premises and/or adjacent property which may be claimed by anyone to have arisen out of delivery of this order.
SIGNED

NOTICE: MY SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEALTH WARNING NOTICE AND STATEMENT WITHIN THE RESPONSIBILITY FOR ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINE.

LOAD RECEIVED BY:

X CUSTOMER SIGNATURE

163112



Customer #		Sold To		Plant #	Ticket #
Job		Delivery Address		Project #	Date
P.O. #		Instructions		Time Batched	
Zone		Leave Plant		Arrive Job	

Order #	Truck #	Driver/Hauler		Leave Job	Arrive Plant
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price
					AMOUNT

SUB-TOTAL	TAX	TICKET TOTAL	ORDER TOTAL
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The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.

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Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.

A \$40.00 Service Charge and Loss of the Cash Discount will be collected on all Returned Checks.

PROPERTY DAMAGE RELEASE TO BE SIGNED IF DELIVERY IS TO BE MADE INSIDE CURB LINE.
Dear Customer: The driver of this truck is presenting this RELEASE to you for your signature is of the opinion that the size and weight of his truck may possibly cause damage to the premises and/or adjacent property if he places the material in this load where you desire it. It is our wish to help you in every way that we can, but in order to do this the driver is requesting that you sign this RELEASE relieving him and this supplier from any responsibility from any damage that may occur to the premises and/or adjacent property, buildings, sidewalks, drive-ways, curbs, etc. by the delivery of this material and that you also agree to help him remove mud from the wheels of his vehicle so that he will not litter the public street. Further, as additional consideration, the undersigned agrees to indemnify and hold harmless the driver of this truck and this supplier for any and all damage to the premises and/or adjacent property which may be claimed by anyone to have arisen out of delivery of this order.
SIGNED

NOTICE: ANY SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEAVY WARNING AND I AM NOT RESPONSIBLE FOR ANY DAMAGE CAUSED BY OVERLOADING OR SIDE CURB LINES.

LOAD RECEIVED BY:

X CUSTOMER SIGNATURE

163134



Customer #		Sold To		Plant #	Ticket #
Job		Delivery Address		Project #	Date
P. O. #		Instructions		Time Batched	
Phone		Leave Plant		Arrive Job	

Order #	Truck #	Driver/Hauler		Leave Job	Arrive Plant	
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price	AMOUNT
		25120 33120 <hr/> 52,000		POS		
SUB-TOTAL		TAX		TICKET TOTAL	ORDER TOTAL	26.30

The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.

All accounts not paid within 30 days of delivery will bear interest at the rate of 18% per annum.

Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.

A \$40.00 Service Charge and Loss of the Cash Discount will be collected on all Returned Checks.

PROPERTY DAMAGE RELEASE TO BE SIGNED IF DELIVERY IS TO BE MADE INSIDE CURB LINE.
Dear Customer: The driver of this truck is presenting this RELEASE to you for your signature is of the opinion that the size and weight of his truck may possibly cause damage to the premises and/or adjacent property if he places the material in this load where you desire it. It is our wish to help you in every way that we can, but in order to do this the driver is requesting that you sign this RELEASE relieving him and this supplier from any responsibility from any damage that may occur to the premises and/or adjacent property, buildings, sidewalks, drive-ways, curbs, etc. by the delivery of this material and that you also agree to help him remove mud from the wheels of his vehicle so that he will not litter the public street. Further, as additional consideration, the undersigned agrees to indemnify and hold harmless the driver of this truck and this supplier for any and all damage to the premises and/or adjacent property which may be claimed by anyone to have arisen out of delivery of this order.
SIGNED

NOTICE: MY SIGNATURE BELOW INDICATES THAT I HAVE READ THE RELEASE WARNING NOTICE AND STATEMENT OF LIABILITY. I AM NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED WHEN THE TRUCK IS INSIDE CURB LINE.

LOAD RECEIVED BY:

X _____
CUSTOMER SIGNATURE

163099



Associated

Customer #	Sold To	Plant #	Ticket #
Job	Delivery Address	Project #	Date
P. O. #	Instructions		Time Batched
Zone		Leave Plant	Arrive Job

Order #	Truck #	Driver/Hauler	Leave Job	Arrive Plant		
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price	AMOUNT
		49,980		PCS		
		49860				
		20125		split load		
SUB-TOTAL		TAX	TICKET TOTAL	ORDER TOTAL	10.00	

The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.

All accounts not paid within 30 days of delivery will bear interest at the rate of 18% per annum.

Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.

A \$40.00 Service Charge and Loss of the Cash Discount will be collected on all Returned Checks.

PROPERTY DAMAGE RELEASE TO BE SIGNED IF DELIVERY IS TO BE MADE INSIDE CURB LINE:
Dear Customer: The driver of this truck is presenting this RELEASE to you for your signature is of the opinion that the size and weight of his truck may possibly cause damage to the premises and/or adjacent property if he places the material in this load where you desire it. It is our wish to help you in every way that we can, but in order to do this the driver is requesting that you sign this RELEASE relieving him and this supplier from any responsibility from any damage that may occur to the premises and/or adjacent property, buildings, sidewalks, drive-ways, curbs, etc. by the delivery of this material and that you also agree to help him remove mud from the wheels of his vehicle so that he will not litter the public street. Further, as additional consideration, the undersigned agrees to indemnify and hold harmless the driver of this truck and this supplier for any and all damage to the premises and/or adjacent property which may be claimed by anyone to have arisen out of delivery of this order.
SIGNED

NOTICE: MY SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEALTH WARNING NOTICE AND SUPPLIER WILL NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINE

LOAD RECEIVED BY:

X Emily
CUSTOMER SIGNATURE

162886



Customer #		Sold To		Plant #	Ticket #
Job		Delivery Address		Project #	Time Batched
O.#		Instructions		Due Time	
Zone				Leave Plant	Arrive Job

Order #	Truck #	Driver/Hauler		Leave Job	Arrive Plant	
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price	AMOUNT
		84500 33120 51380		POS		
SUB-TOTAL			TAX	TICKET TOTAL	ORDER TOTAL	25.69

The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.

All accounts not paid within 30 days of delivery will bear interest at the rate of 18% per annum.

Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.

A \$40.00 Service Charge and Loss of the Cash Discount will be collected on all Returned Checks.

PROPERTY DAMAGE RELEASE (TO BE SIGNED IF DELIVERY IS TO BE MADE INSIDE CURB LINE)
Dear Customer: The driver of this truck is presenting this RELEASE to you for your signature is of the opinion that the size and weight of his truck may possibly cause damage to the premises and/or adjacent property if he places the material in this load where you desire it. It is our wish to help you in every way that we can, but in order to do this the driver is requesting that you sign this RELEASE relieving him and this supplier from any responsibility from any damage that may occur to the premises and/or adjacent property, buildings, sidewalks, drive-ways, curbs, etc. by the delivery of this material and that you also agree to help him remove mud from the wheels of his vehicle so that he will not litter the public street. Further, as additional consideration, the undersigned agrees to indemnify and hold harmless the driver of this truck and this supplier for any and all damage to the premises and/or adjacent property which may be claimed by anyone to have arisen out of delivery of this order.
SIGNED

NOTICE: MY SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEALTH WARNING NOTICE AND SUPPLIER'S WARNING AND I AGREE TO HOLD THE SUPPLIER HARMLESS FOR ANY DAMAGE CAUSED BY THE MATERIAL DELIVERED INSIDE CURB LINES.

LOAD RECEIVED BY:

X Smiley
CUSTOMER SIGNATURE

163319



Associated

Customer #	Sold To	Plant #	Ticket #
Job	Delivery Address	Project #	Date
P. O. #	Instructions		Time Batched
Zone		Leave Plant	Arrive Job

Order #	Truck #	Driver/Hauler	Leave Job	Arrive Plant		
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price	AMOUNT
		77680 57840 <hr/> 19840		JCS		
SUB-TOTAL		TAX		TICKET TOTAL	ORDER TOTAL	9.92

PROPERTY DAMAGE RELEASE (TO BE SIGNED IF DELIVERY IS TO BE MADE INSIDE CURB LINE)
Dear Customer: The driver of this truck is presenting this RELEASE to you for your signature is of the opinion that the size and weight of his truck may possibly cause damage to the premises and/or adjacent property if he places the material in this load where you desire it. It is our wish to help you in every way that we can, but in order to do this the driver is requesting that you sign this RELEASE relieving him and this supplier from any responsibility from any damage that may occur to the premises and/or adjacent property, buildings, sidewalks, drive-ways, curbs, etc. by the delivery of this material and that you also agree to help him remove mud from the wheels of his vehicle so that he will not litter the public street. Further, as additional consideration, the undersigned agrees to indemnify and hold harmless the driver of this truck and this supplier for any and all damage to the premises and/or adjacent property which may be claimed by anyone to have arisen out of delivery of this order.
SIGNED

NOTICE: A SIGNATURE HEREON INDICATES THAT I HAVE READ THE HEALTH WARNING LABEL AND SUBSTITUTION INSTRUCTIONS AND I AGREE TO ACCEPT ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINE.

LOAD RECEIVED BY:
X CUSTOMER SIGNATURE

163229



Release of Liability/Certificate of Disposal

CHUCK OLSEN CHEVROLET: is released from liability for all petroleum contaminated soil originating from:

The Former Chuck Olsen Chevrolet Site,
17545 Aurora AVE North, Shoreline Wa.

and transported to:

CSR - Associated Sand & Gravel Company Inc.
6300 Glenwood Ave.
Everett WA 98203

on 12/01/1998 through 2/01/1999

A total of 1213.32 tons of class 3 petroleum contaminated soil were transported to the above facility. The material was treated and disposed of in the following manner:

Thermal Remediation/Landfill for Reclamation

Treatment/Disposal of the contaminated soil was performed in accordance with all applicable federal, state, and local laws and regulations.

Signed:

Date 04/23/1999

Larry W. Baker
Larry W. Baker

Title: Operations Coordinator

CSR Associated, 6300 Glenwood Avenue, Everett, WA 98203
PO Box 2037, Everett, WA 98203. Telephone Everett (425) 355-2111. Telephone Seattle (206) 624-0301



54 South Dawson Street
Seattle, Washington 98134
Phone: 206-762-1190

Emergency Phone: 1-800-424-9300

18412

BILL OF LADING AND GALLONAGE TICKET

SHIPPER / GENERATOR <u>chuck OLSEN chev...</u>		CONTACT	JOB # <u>32-45406</u>		
ADDRESS <u>17545 AURORA AVE - N</u>		PHONE #	LOAD # <u>1</u>		
CITY, STATE, ZIP <u>SEA WA</u>			DATE <u>12-15-98</u>		
CARRIER <u>WEST PAC</u>		PHONE #	DOCUMENT #		
CONSIGNEE <u>EMERALD PETROLEUM</u>		CONTACT	TRUCK # <u>779</u>		
ADDRESS <u>1500 AIRPORT WY SO</u>		PHONE #	PRODUCT TYPE <u>L/S</u>		
CITY, STATE, ZIP			EST. GALLONS:		
HM	ITEM #	U.S. DOT DESCRIPTION	#	TYPE	QTY.
	A	<u>NON HAZARDOUSE LIQUID</u>	<u>I</u>	<u>TT</u>	<u>752</u>
	B				
	C				
	D				

A. WPO# _____ DISP. CODE: _____ C. WPO# _____ DISP. CODE: _____
B. WPO# _____ DISP. CODE: _____ D. WPO# _____ DISP. CODE: _____

DISPOSAL

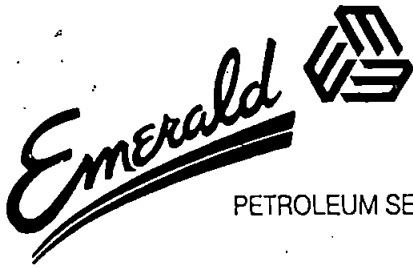
WASH OUT: YES () NO ()
E. WATER 524 GALLONS LOCATION F. PIT TIME IN 4:00 PM TIME OUT 4:40 PM
F. SOLIDS 90 GALLONS LOCATION F. PIT TEST WCK DISP. CODE WOP-A
9 % SUSPENDED SOLIDS BY CENTRIFUGE + 25 GALS SEDIMENT
G. OIL/DIESEL 138 GALLONS LOCATION F. PIT TEST OK DISP. CODE OP-A
HOC'S < 1000 PCB'S _____ B.S.&W. 32 API 44.0 LAB 12/15/98

Shipper's/Generator Certification: I hereby declare that the contents of the consignment are fully and accurately described on the above bill of lading by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway, vessel and rail according to applicable international and national government regulations and this material is not regulated under WAC 173-303, 40 CFR Part 261 or 40 CFR Part 761.

X SHIPPER / GENERATOR (PRINT NAME) _____
X DAN DOYLE
CARRIER - DRIVER 1 (PRINT NAME) _____
X _____
CARRIER - DRIVER 2 (PRINT NAME) _____
X BO COLELLA
CONSIGNEE - DISPOSAL FACILITY (PRINT NAME) _____
X _____

X SIGNATURE _____
X Dan Doyle
X SIGNATURE _____
X Bo Colella
X SIGNATURE _____

DATE: _____
DATE: 12-14-98
DATE: _____
DATE: 12-15-98



PETROLEUM SERVICES, INC.

INVOICE 5009

DATE 12/28/98

MAIL PAYMENT TO:

54 S. Dawson St.
Seattle, WA 98134

(206) 763-2700

TERMS: Net 30 Days

Finance Charge at the rate of 1 1/2%
per month will be charged on all
past due invoices.

E.E.O.E. FIN 91 - 1822954

CUSTOMER NUMBER

WES251

CHARGE TO
WEST PAC CONSTRUCTION
54 S. DAWSON ST.
SEATTLE, WA 98134

Attn:

JOB	VESSEL / JOB NAME	COMPLETION DATE	YOUR P.O. NUMBER
ES251		12/15/98	45406, CHUCK OLSEN

SITE ADDRESS:

PROVIDE DISPOSAL OF NON-HAZARDOUS WASTE PER ATTACHED GALLONAGE TICKET(S).

12/15/98

DISPOSAL:

WATER WITH <5% SOLIDS	GT-18412	524.000 GAL @ 0.13/GAL	68.12
SOLIDS	GT-18412	90.000 GAL @ 1.40/GAL	126.00
OIL	GT-18412	138.000 GAL @ 0.11/GAL	15.18

Chuck Olsen *Cher*
12/28
454 *12/28*

<input type="checkbox"/> CONT REP	<input type="checkbox"/> SPOT
<input type="checkbox"/> EXEMPT	<input type="checkbox"/> OUT OF STATE
<input type="checkbox"/> WHOLESALE	<input checked="" type="checkbox"/> RECYCLING
USE TAX	%
AMOUNT	PROJ
32 444.05	209.30
	45406

TED

NonTaxable Subtotal	209.30
Taxable Subtotal	0.00
Tax	0.00
Total	209.30

APPENDIX B

DISPOSAL AND SOIL TREATMENT DOCUMENTATION



Customer #		Sold To		Plant #	Ticket #
Job		Delivery Address		Project #	Date
P. O. #		Instructions		Time Batched	
Zone		Leave Plant		Arrive Job	

Westpac
32-45406
1-7-99

Order #	Truck #	Driver/Hauler		Leave Job	Arrive Plant	
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price	AMOUNT
		81,680 33240 <u>48440</u>		PCS		

W251
Smiley

SUB-TOTAL	TAX	TICKET TOTAL	ORDER TOTAL
			<i>24.22</i>

The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.

All accounts not paid within 30 days of delivery will bear interest at the rate of 18% per annum.

Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.

A \$40.00 Service Charge and Loss of the Cash Discount will be collected on all Returned Checks.

PROPERTY DAMAGE RELEASE (TO BE SIGNED IF DELIVERY IS TO BE MADE INSIDE CURB LINE)
Dear Customer: The driver of this truck is presenting this RELEASE to you for your signature is of the opinion that the size and weight of his truck may possibly cause damage to the premises and/or adjacent property if he places the material in this load where you desire it. It is our wish to help you in every way that we can, but in order to do this the driver is requesting that you sign this RELEASE relieving him and this supplier from any responsibility from any damage that may occur to the premises and/or adjacent property, buildings, sidewalks, drive-ways, curbs, etc. by the delivery of this material and that you also agree to help him remove mud from the wheels of his vehicle so that he will not litter the public street. Further, as additional consideration, the undersigned agrees to indemnify and hold harmless the driver of this truck and this supplier for any and all damage to the premises and/or adjacent property which may be claimed by anyone to have arisen out of delivery of this order.
SIGNED

NOTICE: MY SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEALTH WARNING NOTICE AND SUPPLIER WILL NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINE.

LOAD RECEIVED BY:

X _____
CUSTOMER SIGNATURE

168618



Customer #		Sold To Westpac		Plant #		Ticket #	
Job 32-45406		Delivery Address		Project #		Date 1/7	
P. O. #		Instructions				Time Batched	
Zone				Leave Plant		Arrive Job	
Order #		Truck # 012578		Driver/Hauler Lenny		Leave Job	
Arrive Plant							
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price	AMOUNT	
				PCS			
			82840				
			35200				
			47620				
SUB-TOTAL		TAX		TICKET TOTAL		ORDER TOTAL 23.81	

The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.

All accounts not paid within 30 days of delivery will bear interest at the rate of 18% per annum.

Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.

A \$40.00 Service Charge and Loss of the Cash Discount will be collected on all Returned Checks.

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Dear Customer: The driver of this truck is presenting this RELEASE to you for your signature is of the opinion that the size and weight of his truck may possibly cause damage to the premises and/or adjacent property if he places the material in this load where you desire it. It is our wish to help you in every way that we can, but in order to do this the driver is requesting that you sign this RELEASE relieving him and this supplier from any responsibility from any damage that may occur to the premises and/or adjacent property, buildings, sidewalks, drive-ways, curbs, etc. by the delivery of this material and that you also agree to help him remove mud from the wheels of his vehicle so that he will not litter the public street. Further, as additional consideration, the undersigned agrees to indemnify and hold harmless the driver of this truck and this supplier for any and all damage to the premises and/or adjacent property which may be claimed by anyone to have arisen out of delivery of this order.

SIGNED

NOTICE: MY SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEALTH WARNING NOTICE AND SUPPLIER WILL NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINE

LOAD RECEIVED BY:

X _____
CUSTOMER SIGNATURE

168878



32-45406

Customer #	Sold To	Plant #	Ticket #
Job	Delivery Address	Project #	Date
P. O. #	Instructions		Time Batched
Zone		Leave Plant	Arrive Job

Order #	Truck #	Driver/Hauler	Leave Job	Arrive Plant
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION
				PCS
				45640
				23760
				21880
SUB-TOTAL	TAX	TICKET TOTAL	ORDER TOTAL	1094

The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.

All accounts not paid within 30 days of delivery will bear interest at the rate of 18% per annum.

Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.

A \$40.00 Service Charge and Loss of the Cash Discount will be collected on all Returned Checks.

PROPERTY DAMAGE RELEASE (TO BE SIGNED IF DELIVERY IS TO BE MADE INSIDE CURB LINE)
Dear Customer: The driver of this truck is presenting this RELEASE to you for your signature is of the opinion that the size and weight of his truck may possibly cause damage to the premises and/or adjacent property if he places the material in this load where you desire it. It is our wish to help you in every way that we can, but in order to do this the driver is requesting that you sign this RELEASE relieving him and this supplier from any responsibility from any damage that may occur to the premises and/or adjacent property, buildings, sidewalks, drive-ways, curbs, etc. by the delivery of this material and that you also agree to help him remove mud from the wheels of his vehicle so that he will not litter the public street. Further, as additional consideration, the undersigned agrees to indemnify and hold harmless the driver of this truck and this supplier for any and all damage to the premises and/or adjacent property which may be claimed by anyone to have arisen out of delivery of this order.
SIGNED

NOTICE: MY SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEALTH WARNING NOTICE AND SUPPLIER WILL NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINE

LOAD RECEIVED BY:

X CUSTOMER SIGNATURE

168739



32-45406

Customer #	Sold To	Plant #	Ticket #
Job	Delivery Address	Project #	Date
P. O. #	Instructions		Time Batched
Zone		Leave Plant	Arrive Job

Order #	Truck #	Driver/Hauler	Leave Job	Arrive Plant		
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price	AMOUNT
		49440 23760 25680		PCS		
SUB-TOTAL		TAX	TICKET TOTAL	ORDER TOTAL	12.84	

The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.

All accounts not paid within 30 days of delivery will bear interest at the rate of 18% per annum.

Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.

A \$40.00 Service Charge and Loss of the Cash Discount will be collected on all Returned Checks.

PROPERTY DAMAGE RELEASE (TO BE SIGNED IF DELIVERY IS TO BE MADE INSIDE CURB LINE)
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SIGNED

NOTICE: MY SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEALTH WARNING NOTICE AND SUPPLIER WILL NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINE.

LOAD RECEIVED BY:

X _____
CUSTOMER SIGNATURE

171411



32-45404

Customer #	Sold To	Plant #	Ticket #
Job	Delivery Address	Project #	Date
P. O. #	Instructions		Time/Batched
Zone		Leave Plant	Arrive Job

Order #	Truck #	Driver/Hauler	Leave Job	Arrive Plant
---------	---------	---------------	-----------	--------------

Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price	AMOUNT
				PCS		
			84160			
			33240			
			50920			

SUB-TOTAL

TAX

TICKET
TOTALORDER
TOTAL

2546

The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.

All accounts not paid within 30 days of delivery will bear interest at the rate of 18% per annum.

Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.

A \$40.00 Service Charge and Loss of the Cash Discount will be collected on all Returned Checks.

PROPERTY DAMAGE RELEASE (TO BE SIGNED IF DELIVERY IS TO BE MADE INSIDE CURB LINE)
Dear Customer: The driver of this truck is presenting this RELEASE to you for your signature is of the opinion that the size and weight of his truck may possibly cause damage to the premises and/or adjacent property if he places the material in this load where you desire it. It is our wish to help you in every way that we can, but in order to do this the driver is requesting that you sign this RELEASE relieving him and this supplier from any responsibility from any damage that may occur to the premises and/or adjacent property, buildings, sidewalks, drive-ways, curbs, etc. by the delivery of this material and that you also agree to help him remove mud from the wheels of his vehicle so that he will not litter the public street. Further, as additional consideration, the undersigned agrees to indemnify and hold harmless the driver of this truck and this supplier for any and all damage to the premises and/or adjacent property which may be claimed by anyone to have arisen out of delivery of this order.
SIGNED

NOTICE: MY SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEALTH WARNING NOTICE AND SUPPLIER WILL NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINE.

LOAD RECEIVED BY

X CUSTOMER SIGNATURE

171377



32-45406

Customer #	Sold To	Plant #	Ticket #
Job	Delivery Address	Project #	Date
P. O. #	Instructions		Time Batched
Zone		Leave Plant	Arrive Job

Order #	Truck #	Driver/Hauler	Leave Job	Arrive Plant		
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price	AMOUNT
		86,000		PCS		
		33240				
		52,760				
SUB-TOTAL		TAX	TICKET TOTAL	ORDER TOTAL	26.38	

The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.

All accounts not paid within 30 days of delivery will bear interest at the rate of 18% per annum.

Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.

A \$40.00 Service Charge and Loss of the Cash Discount will be collected on all Returned Checks.

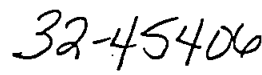
PROPERTY DAMAGE RELEASE (TO BE SIGNED IF DELIVERY IS TO BE MADE INSIDE CURB LINE)
Dear Customer: The driver of this truck is presenting this RELEASE to you for your signature is of the opinion that the size and weight of his truck may possibly cause damage to the premises and/or adjacent property if he places the material in this load where you desire it. It is our wish to help you in every way that we can, but in order to do this the driver is requesting that you sign this RELEASE relieving him and this supplier from any responsibility from any damage that may occur to the premises and/or adjacent property, buildings, sidewalks, drive-ways, curbs, etc. by the delivery of this material and that you also agree to help him remove mud from the wheels of his vehicle so that he will not litter the public street. Further, as additional consideration, the undersigned agrees to indemnify and hold harmless the driver of this truck and this supplier for any and all damage to the premises and/or adjacent property which may be claimed by anyone to have arisen out of delivery of this order.
SIGNED

NOTICE: MY SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEALTH WARNING NOTICE AND SUPPLIER WILL NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINE.

LOAD RECEIVED BY:

X _____
CUSTOMER SIGNATURE

171436



Order #	Truck #	Driver/Hauler	Leave Job	Arrive Plant
	W254	Smiley		

SUB-TOTAL	TAX	TICKET TOTAL	ORDER TOTAL 7.30
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168770



32-45404

Customer #	Sold To	Plant #	Ticket #
	Westpac		
Job	Delivery Address	Project #	Date
			1/5
P. O. #	Instructions		Time Batched
Zone		Leave Plant	Arrive Job

Order #	Truck #	Driver/Hauler	Leave Job	Arrive Plant		
	W257					
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price	AMOUNT
				PCS		
			46880			
			23760			
			23120			
SUB-TOTAL			TAX	TICKET TOTAL	ORDER TOTAL	11.56

The undersigned promises to pay all costs; including reasonable attorney's fees, incurred in collecting any sums owed.

All accounts not paid within 30 days of delivery will bear interest at the rate of 18% per annum.

Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.

A \$40.00 Service Charge and Loss of the Cash Discount will be collected on all Returned Checks.

PROPERTY DAMAGE RELEASE (TO BE SIGNED BY DELIVERY PERSON BEFORE CURB TIME)

Dear Customer: The driver of this truck is presenting this RELEASE to you for your signature is of the opinion that the size and weight of his truck may possibly cause damage to the premises and/or adjacent property if he places the material in this load where you desire it. It is our wish to help you in every way that we can, but in order to do this the driver is requesting that you sign this RELEASE relieving him and this supplier from any responsibility from any damage that may occur to the premises and/or adjacent property, buildings, sidewalks, drive-ways, curbs, etc. by the delivery of this material and that you also agree to help him remove mud from the wheels of his vehicle so that he will not litter the public street. Further, as additional consideration, the undersigned agrees to indemnify and hold harmless the driver of this truck and this supplier for any and all damage to the premises and/or adjacent property which may be claimed by anyone to have arisen out of delivery of this order.

SIGNED

NOTICE: MY SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEALTH WARNING NOTICE AND SUPPLIER WILL NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINE.

LOAD RECEIVED BY:

X CUSTOMER SIGNATURE

170789



32-45406

Customer #	Sold To	Plant #		Ticket #
Job	Delivery Address	Project #		Date
P. O. #	Instructions			Time Batched
Zone		Leave Plant	Arrive Job	

Order #	Truck #	Driver/Hauler	Leave Job		Arrive Plant
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price
				PCS.	
				45860	
				23760	
				22100	
SUB-TOTAL		TAX		TICKET TOTAL	ORDER TOTAL

The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.

All accounts not paid within 30 days of delivery will bear interest at the rate of 18% per annum.

Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.

A \$40.00 Service Charge and Loss of the Cash Discount will be collected on all Returned Checks.

PROPERTY DAMAGE RELEASE (TO BE SIGNED IF DELIVERY IS TO BE MADE INSIDE CURB LINE)

Dear Customer: The driver of this truck is presenting this RELEASE to you for your signature is of the opinion that the size and weight of his truck may possibly cause damage to the premises and/or adjacent property if he places the material in this load where you desire it. It is our wish to help you in every way that we can, but in order to do this the driver is requesting that you sign this RELEASE relieving him and this supplier from any responsibility from any damage that may occur to the premises and/or adjacent property, buildings, sidewalks, drive-ways, curbs, etc. by the delivery of this material and that you also agree to help him remove mud from the wheels of his vehicle so that he will not litter the public street. Further, as additional consideration, the undersigned agrees to indemnify and hold harmless the driver of this truck and this supplier for any and all damage to the premises and/or adjacent property which may be claimed by anyone to have arisen out of delivery of this order.

SIGNED

NOTICE: MY SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEALTH WARNING NOTICE AND SUPPLIER WILL NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINE.

LOAD RECEIVED BY:

X CUSTOMER SIGNATURE

171296



Associated

32-45406

Customer #		Sold To		Plant #	Ticket #
Job		Delivery Address		Project #	Date
P. O. #		Instructions		Time Batched	
Zone				Leave Plant	Arrive Job

Order #	Truck #	Driver/Hauler	Leave Job	Arrive Plant		
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price	AMOUNT
		47460		PCS		
		23760				
		23,700				

SUB-TOTAL	TAX	TICKET TOTAL	ORDER TOTAL
			11.85

The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.

All accounts not paid within 30 days of delivery will bear interest at the rate of 18% per annum.

Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.

A \$40.00 Service Charge and Loss of the Cash Discount will be collected on all Returned Checks.

PROPERTY DAMAGE RELEASE: (TO BE SIGNED IF DELIVERY IS TO BE MADE INSIDE CURB LINE)
Dear Customer: The driver of this truck is presenting this RELEASE to you for your signature is of the opinion that the size and weight of his truck may possibly cause damage to the premises and/or adjacent property if he places the material in this load where you desire it. It is our wish to help you in every way that we can, but in order to do this the driver is requesting that you sign this RELEASE relieving him and this supplier from any responsibility from any damage that may occur to the premises and/or adjacent property, buildings, sidewalks, drive-ways, curbs, etc. by the delivery of this material and that you also agree to help him remove mud from the wheels of his vehicle so that he will not litter the public street. Further, as additional consideration, the undersigned agrees to indemnify and hold harmless the driver of this truck and this supplier for any and all damage to the premises and/or adjacent property which may be claimed by anyone to have arisen out of delivery of this order.
SIGNED

NOTICE: MY SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEALTH WARNING NOTICE AND SUPPLIER WILL NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINE

LOAD RECEIVED BY:

X CUSTOMER SIGNATURE

171331



32-4540

Plant #		Ticket #	
Customer #	Sold To	Date 1/5	
Job	Delivery Address	Project #	Time Batched
P. O. #	Instructions		Due Time
Zone	Leave Plant		Arrive Job

Order #	Truck #	Driver/Hauler		Leave Job	Arrive Plant	
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price	AMOUNT
			90880	PCS.		
			33240			
			57640			
SUB-TOTAL		TAX		TICKET TOTAL	ORDER TOTAL 28.02	

The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.

All accounts not paid within 30 days of delivery will bear interest at the rate of 18% per annum.

Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.

A \$40.00 Service Charge and Loss of the Cash Discount will be collected on all Returned Checks.

PROPERLY DAMAGE RELEASE (TO BE SIGNED IF DELIVERY IS TO BE MADE INSIDE CURB LINE)
Dear Customer: The driver of this truck is presenting this RELEASE to you for your signature is of the opinion that the size and weight of his truck may possibly cause damage to the premises and/or adjacent property if he places the material in this load where you desire it. It is our wish to help you in every way that we can, but in order to do this the driver is requesting that you sign this RELEASE relieving him and this supplier from any responsibility from any damage that may occur to the premises and/or adjacent property, buildings, sidewalks, drive-ways, curbs, etc. by the delivery of this material and that you also agree to help him remove mud from the wheels of his vehicle so that he will not litter the public street. Further, as additional consideration, the undersigned agrees to indemnify and hold harmless the driver of this truck and this supplier for any and all damage to the premises and/or adjacent property which may be claimed by anyone to have arisen out of delivery of this order.
SIGNED

NOTICE: MY SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEALTH WARNING NOTICE AND SUPPLIER WILL NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINE

LOAD RECEIVED BY:

X Smiley
CUSTOMER SIGNATURE

170806



Associated

32-45406

Customer #		Sold To <u>Westpac</u>		Plant #	Ticket #
Job		Delivery Address		Project #	Date <u>1/5</u>
P. O. #		Instructions		Time Batched	
Zone				Leave Plant	Arrive Job

Order #	Truck # <u>W204</u>	Driver/Hauler		Leave Job		Arrive Plant
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price	AMOUNT
				PCS		
			91760			
			33240			
			58520			
SUB-TOTAL		TAX		TICKET TOTAL		ORDER TOTAL <u>29.26</u>

The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.

All accounts not paid within 30 days of delivery will bear interest at the rate of 18% per annum.

Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.

A \$40.00 Service Charge and Loss of the Cash Discount will be collected on all Returned Checks.

PROPERTY DAMAGE RELEASE (TO BE SIGNED IF DELIVERY IS TO BE MADE INSIDE CURB LINE)
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SIGNED

NOTICE: MY SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEALTH WARNING NOTICE AND SUPPLIER WILL NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINE

LOAD RECEIVED BY:

X Smiley
CUSTOMER SIGNATURE

171291



32-45480

Customer #		Sold To <i>Westpac</i>		Plant #	Ticket #
Job	Delivery Address			Project #	Date <i>1/5</i>
P. O. #	Instructions				Time Batched
Zone				Leave Plant	Arrive Job

Order #	Truck # <i>W251</i>	Driver/Hauler	Leave Job	Arrive Plant
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Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price	AMOUNT
				<i>PCS</i>		
			<i>95620</i>			
			<i>33240</i>			
			<i>62380</i>			

SUB-TOTAL	TAX	TICKET TOTAL	ORDER TOTAL <i>31.19</i>
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The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.

All accounts not paid within 30 days of delivery will bear interest at the rate of 18% per annum.

Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.

A \$40.00 Service Charge and Loss of the Cash Discount will be collected on all Returned Checks.

PROPERTY DAMAGE RELEASE (TO BE SIGNED IF DELIVERY IS TO BE MADE INSIDE CURB LINE)
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SIGNED

NOTICE: MY SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEALTH WARNING NOTICE AND SUPPLIER WILL NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINE.

LOAD RECEIVED BY: *Smiley*
X CUSTOMER SIGNATURE 171325



Associated

32-45406

Customer #	Sold To	Plant #	Ticket #
Job	Delivery Address	Project #	Date
P. O. #	Instructions		Time Batched
Zone		Leave Plant	Arrive Job

Order #	Truck #	Driver/Hauler	Leave Job	Arrive Plant
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION
				PCS
				49420
				23760
				25660
SUB-TOTAL	TAX	TICKET TOTAL	ORDER TOTAL	12.83

The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.

All accounts not paid within 30 days of delivery will bear interest at the rate of 18% per annum.

Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.

A \$40.00 Service Charge and Loss of the Cash Discount will be collected on all Returned Checks.

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SIGNED

NOTICE: MY SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEALTH WARNING NOTICE AND SUPPLIER WILL NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINE.

LOAD RECEIVED BY:

X CUSTOMER SIGNATURE

170663



Associated

52-45406

Customer #	Sold To	Plant #	Ticket #
Job	Delivery Address	Project #	Date
P. O. #	Instructions		Time Batched
Zone		Leave Plant	Arrive Job

Order #	Truck #	Driver/Hauler	Leave Job	Arrive Plant		
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price	AMOUNT
		49,420		PCS		
		23,760				
		25,1660				
SUB-TOTAL		TAX		TICKET TOTAL	ORDER TOTAL	

PROPERTY DAMAGE RELEASE (TO BE SIGNED IF DELIVERY IS TO BE MADE INSIDE CURB LINE)
Dear Customer: The driver of this truck is presenting this RELEASE to you for your signature is of the opinion that the size and weight of his truck may possibly cause damage to the premises and/or adjacent property if he places the material in this load where you desire it. It is our wish to help you in every way that we can, but in order to do this the driver is requesting that you sign this RELEASE relieving him and this supplier from any responsibility from any damage that may occur to the premises and/or adjacent property, buildings, sidewalks, drive-ways, curbs, etc. by the delivery of this material and that you also agree to help him remove mud from the wheels of his vehicle so that he will not litter the public street. Further, as additional consideration, the undersigned agrees to indemnify and hold harmless the driver of this truck and this supplier for any and all damage to the premises and/or adjacent property which may be claimed by anyone to have arisen out of delivery of this order.
SIGNED

NOTICE: MY SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEALTH WARNING NOTICE AND SUPPLIER WILL NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINE

LOAD RECEIVED BY:
X CUSTOMER SIGNATURE 170687

The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.

All accounts not paid within 30 days of delivery will bear interest at the rate of 18% per annum.

Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.

A \$40.00 Service Charge and Loss of the Cash Discount will be collected on all Returned Checks.



52-45406

Customer #	Sold To	Plant #	Ticket #
Job	Delivery Address	Project #	Date
P. O. #	Instructions		Time Batched
Zone		Leave Plant	Arrive Job

Order #	Truck #	Driver/Hauler	Leave Job	Arrive Plant
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION
				Unit Price
				AMOUNT
		45,240 23,760 <hr/> 21,500	PCS	

SUB-TOTAL	TAX	TICKET TOTAL	ORDER TOTAL
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The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.

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Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.

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SIGNED

NOTICE: MY SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEALTH WARNING NOTICE AND SUPPLIER WILL NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINE.

LOAD RECEIVED BY:

X _____
CUSTOMER SIGNATURE

170734



Associated

32-45404

LOAD RECEIVED BY: SMILEY 170772
X CUSTOMER SIGNATURE

CUSTOMER COPY

Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.

Associated

CONTRACTOR REGISTRATION #225-01-AS-30-03-037230

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING THE GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR SUCH GOODS, LABOR AND MATERIALS WITHIN 1% 10TH PROX NET 30 PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12%, OR THE HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAUNSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	32	628.35
DAILY	32	628.35

DATE	99/01/12	PLANT	TRUCK	SEQUENCE	REFERENCE	
TIME	01:02P	00200	167T		182566	
MIXTURE		GROSS	TARE	NET	PRICE	TOTAL
22310		52.31 TN	18.71 TN	33.60 TN		
COARSE WASHED SAND		104620 LB	37420 LB	67200 LB		

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

Everett (425) 355-2111.
Seattle (206) 624-0301.

Associated

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING THE GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR SUCH GOODS, LABOR AND MATERIALS WITHIN 1% 10TH PROX NET 30 PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12%, OR THE HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	38	724.50
DAILY	38	724.50

DATE 99/01/12	PLANT	TRUCK	SEQUENCE	REFERENCE
TIME 01:06P	00200	W257		102573

MIXTURE	GROSS	TARE	NET	PRICE	TOTAL
22310 COARSE WASHED SAND	24.79 TN 49580 LB	11.87 TN 23740 LB	12.92 TN 25840 LB		

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.

Associated

CONTRACTOR REGISTRATION # 223-01-AS-30-00-007250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING THE GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR SUCH GOODS, LABOR AND MATERIALS WITHIN 1% 10TH PROX NET 30 PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12%, OR THE HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	36	698.97
DAILY	36	698.97

DATE	09/01/12	PLANT	TRUCK	SEQUENCE	REFERENCE	
TIME	01:06P	00200	W254		182571	
MIXTURE		GROSS	TARE	NET	PRICE	TOTAL
22310		23.34 TN	11.16 TN	12.18 TN		
COARSE WASHED SAND		46680 LB	22320 LB	24360 LB		

SPECIAL INSTRUCTIONS
CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.

Associated

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING THE GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR SUCH GOODS, LABOR AND MATERIALS WITHIN 1% 10TH PROX NET 30 PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12%, OR THE HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	34	679.24
DAILY	34	679.24

DATE 99/01/12		PLANT 00200	TRUCK 167T	SEQUENCE	REFERENCE 182568
TIME 01:03					
MIXTURE	GROSS	TARE	NET	PRICE	TOTAL
22310	51.70 TN	18.71 TN	32.99 TN		
COARSE WASHED SAND	103400 LB	37420 LB	65980 LB		

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.

OSBY
Associated

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING THE GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR SUCH GOODS, LABOR AND MATERIALS WITHIN 1% 10TH PROX NET 30 PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12%, OR THE HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	33	646.25
DAILY	33	646.25

DATE 99/01/12	PLANT 00200	TRUCK 0254	SEQUENCE	REFERENCE 102567	
TIME 01:03P					
MIXTURE	GROSS	TARE	NET	PRICE	TOTAL
22310	29.06 TN	11.16 TN	17.90 TN		
COARSE WASHED SAND	58120 LB	22320 LB	35800 LB		

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.

Associated

CONTRACTOR REGISTRATION #223-01-AS-SO-US-G3/250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING THE GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR SUCH GOODS, LABOR AND MATERIALS WITHIN 1% 10TH PROX NET 30 PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12% OR THE HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

We warrant that the materials dumped at the AS2G site contain no hazardous materials.
Should the dumped material be found to contain hazardous materials, such materials shall be removed at the Hauler's and/or the Generator's expense.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	2	57.74
DAILY	2	57.74

99/01/12							
DATE		PLANT	TRUCK	SEQUENCE	REFERENCE		
TIME	09:05H	00000	0000		100000		
MIXTURE		GROSS	TARE	NET	PRICE	TOTAL	
24190		45.73 TN	16.62 TN	29.11 TN			
PETROLEUM CONTAMINATED SOIL		91460 LB	33240 LB	58220 LB			

SPECIAL INSTRUCTIONS
CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

Everett (425) 355-2111.
Seattle (206) 624-0301.

Associated

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING THE GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR SUCH GOODS, LABOR AND MATERIALS WITHIN 1% 10TH PROX NET 30 PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12%, OR THE HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	9	206.67
DAILY	9	206.67

DATE	99/01/12	PLANT	TRUCK	SEQUENCE	REFERENCE
TIME	09:16A	00200	W257		182408
MIXTURE	GROSS	TARE	NET	PRICE	TOTAL
24199	24.48 TN	11.87 TN	12.61 TN		
PCS - INTERCO SALE	48960 LB	23740 LB	25220 LB		

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.

Associated

CONTRACTOR REGISTRATION # 223-01-AS-SU-OS-037230

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING THE GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR SUCH GOODS, LABOR AND MATERIALS WITHIN 1% 10TH PROX NET 30 PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12% OR THE HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

We warrant that the materials dumped at the AS&G site contain no hazardous materials.
Should the dumped material be found to contain hazardous materials, such materials shall be removed at the Hauler's and/or the Generator's expense.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	5	141.34
DAILY	5	141.34

DATE	09/01/12	PLANT	TRUCK	SEQUENCE	REFERENCE	
TIME	09:12A	00200	167T		182404	
MIXTURE		GROSS	TARE	NET	PRICE	TOTAL
24190		50.81 TN	18.71 TN	32.10 TN		
PETROLEUM CONTAMINATED SOIL		101620 LB	37420 LB	64200 LB		

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

X

Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.

Associated

CONTRACTOR REGISTRATION # 225-01-A3-30-00-037200

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING THE GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR SUCH GOODS, LABOR AND MATERIALS WITHIN 1% 10TH PROX NET 30 PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12% OR THE HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	35	686.79
DAILY	35	686.79

DATE	99/01/12	PLANT	TRUCK	SEQUENCE	REFERENCE
TIME	01:04P	00200	W254		182569
MIXTURE	GROSS	TARE	NET	PRICE	TOTAL
21570 RECYCLED CRUSHED CONCRETE	18.71 TN 37420 LB	11.16 TN 22320 LB	7.55 TN 15100 LB		

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

Everett (425) 355-2111.
Seattle (206) 624-0301.

Associated

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING THE GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR SUCH GOODS, LABOR AND MATERIALS WITHIN 1% 10TH PROX NET 30 PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12%, OR THE HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

JOB
LOADS

JOB
TONS

TOTAL
DAILY

DATE 99/01/12	PLANT	TRUCK	SEQUENCE	REFERENCE	
TIME 01:06P	00200	167T		182570	
MIXTURE	GROSS	TARE	NET	PRICE	TOTAL
25240		18.71 TN	4.00 HR		
TRUCK RENTAL EVT-T & T		37420 LB			

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.



182400

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR SUCH GOODS, LABOR AND MATERIALS WITHIN 1% 10TH PROX NET 30 PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12%, OR THE HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

We warrant that the materials dumped at the AS&G site contain no hazardous materials.
Should the dumped material be found to contain hazardous materials, such materials shall be removed at the Hauler's and/or the Generator's expense.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	1	28.63
DAILY	1	28.63

99/01/11		PLANT WILLOW	TRUCK WESJA	SEQUENCE	REFERENCE 18240	
DATE	08:59A					
TIME						
MIXTURE		GROSS	TARE	NET	PRICE	TOTAL
24190,		45.25 TN	16.62 TN	28.63 TN		
PETROLEUM CONTAMINATED SOIL.		90500 LB	33240 LB	57260 LB		

SPECIAL INSTRUCTIONS
CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

with
Attw

REMARKS

CUSTOMER COPY

X
SCALE OPERATOR



Associated

32-45406

Customer #	Sold To	Plant #	Ticket #
Job	Delivery Address	Project #	Date
P. O. #	Instructions		Time Batched
Zone		Leave Plant	Arrive Job

Order #	Truck #	Driver/Hauler	Leave Job	Arrive Plant
---------	---------	---------------	-----------	--------------

Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price	AMOUNT
		87,700 35,200 <hr/> 52,500		PCS		

SUB-TOTAL	TAX	TICKET TOTAL	ORDER TOTAL
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The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.

All accounts not paid within 30 days of delivery will bear interest at the rate of 18% per annum.

Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.

A \$40.00 Service Charge and Loss of the Cash Discount will be collected on all Returned Checks.

PROPERTY DAMAGE RELEASE (TO BE SIGNED ON DELIVERY IS TO BE MADE BEFORE CURB LINE)
Dear Customer: The driver of this truck is presenting this RELEASE to you for your signature is of the opinion that the size and weight of his truck may possibly cause damage to the premises and/or adjacent property if he places the material in this load where you desire it. It is our wish to help you in every way that we can, but in order to do this the driver is requesting that you sign this RELEASE relieving him and this supplier from any responsibility from any damage that may occur to the premises and/or adjacent property, buildings, sidewalks, drive-ways, curbs, etc. by the delivery of this material and that you also agree to help him remove mud from the wheels of his vehicle so that he will not litter the public street. Further, as additional consideration, the undersigned agrees to indemnify and hold harmless the driver of this truck and this supplier for any and all damage to the premises and/or adjacent property which may be claimed by anyone to have arisen out of delivery of this order.
SIGNED

NOTICE: MY SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEALTH WARNING NOTICE AND SUPPLIER WILL NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINE

LOAD RECEIVED BY:

X CUSTOMER SIGNATURE

168957



32-45406

170102

CUSTOMER COPY



32-45400

Customer #	Sold To	Plant #	Ticket #
Job	Delivery Address	Project #	Date
P. O. #	Instructions		Time Batched
Zone		Leave Plant	Arrive Job

Order #	Truck #	Driver/Hauler	Leave Job	Arrive Plant
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION
				PCS
				64360
				33240
				31120
SUB-TOTAL	TAX	TICKET TOTAL	ORDER TOTAL	1590

The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.

All accounts not paid within 30 days of delivery will bear interest at the rate of 18% per annum.

Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.

A \$40.00 Service Charge and Loss of the Cash Discount will be collected on all Returned Checks.

PROPERTY DAMAGE RELEASE (TO BE SIGNED IF DELIVERY IS TO BE MADE INSIDE CURB LINE)
Dear Customer: The driver of this truck is presenting this RELEASE to you for your signature is of the opinion that the size and weight of his truck may possibly cause damage to the premises and/or adjacent property if he places the material in this load where you desire it. It is our wish to help you in every way that we can, but in order to do this the driver is requesting that you sign this RELEASE relieving him and this supplier from any responsibility from any damage that may occur to the premises and/or adjacent property, buildings, sidewalks, drive-ways, curbs, etc. by the delivery of this material and that you also agree to help him remove mud from the wheels of his vehicle so that he will not litter the public street. Further, as additional consideration, the undersigned agrees to indemnify and hold harmless the driver of this truck and this supplier for any and all damage to the premises and/or adjacent property which may be claimed by anyone to have arisen out of delivery of this order.
SIGNED

NOTICE: MY SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEALTH WARNING NOTICE AND SUPPLIER WILL NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINE.

LOAD RECEIVED BY:

X Mike
CUSTOMER SIGNATURE

168932



Associated

32-45400

Customer #	Sold To	Plant #	Ticket #
Job	Delivery Address	Project #	Date
P. O. #	Instructions		Time Batched
Zone		Leave Plant	Arrive Job

Order #	Truck #	Driver/Hauler	Leave Job	Arrive Plant
---------	---------	---------------	-----------	--------------

Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price	AMOUNT
		84,800 33,240 51,560		PO S		

SUB-TOTAL	TAX	TICKET TOTAL	ORDER TOTAL
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The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.

All accounts not paid within 30 days of delivery will bear interest at the rate of 18% per annum.

Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.

A \$40.00 Service Charge and Loss of the Cash Discount will be collected on all Returned Checks.

PROPERTY DAMAGE RELEASE (TO BE SIGNED IF DELIVERY IS TO BE MADE INSIDE CURB LINES)
Dear Customer: The driver of this truck is presenting this RELEASE to you for your signature is of the opinion that the size and weight of his truck may possibly cause damage to the premises and/or adjacent property if he places the material in this load where you desire it. It is our wish to help you in every way that we can, but in order to do this the driver is requesting that you sign this RELEASE relieving him and this supplier from any responsibility from any damage that may occur to the premises and/or adjacent property, buildings, sidewalks, drive-ways, curbs, etc. by the delivery of this material and that you also agree to help him remove mud from the wheels of his vehicle so that he will not litter the public street. Further, as additional consideration, the undersigned agrees to indemnify and hold harmless the driver of this truck and this supplier for any and all damage to the premises and/or adjacent property which may be claimed by anyone to have arisen out of delivery of this order.
SIGNED

NOTICE: MY SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEALTH WARNING NOTICE AND SUPPLIER WILL NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINES

LOAD RECEIVED BY:

X _____
CUSTOMER SIGNATURE

168973



32-45406

		Associated		Plant #	Ticket #
Customer #	Sold To <i>Westpac</i>			Date <i>1/17</i>	
Job	Delivery Address			Project #	Time Batched
P. O. # <i>32-45410</i>	Instructions				Due Time
Zone				Leave Plant	Arrive Job

Order #	Truck # W257	Driver/Hauler DAU			Leave Job	Arrive Plant
Load Quantity	Cumulative Quantity	Ordered Quantity	Product Code	PRODUCT DESCRIPTION	Unit Price	AMOUNT
				PCS 46260 23760 <hr/> 22500	✓	
SUB-TOTAL		TAX		TICKET TOTAL	ORDER TOTAL 11,225	

A \$40.00 Service Charge and Loss of the Cash Discount will be collected on all Returned Checks.

SIGNED

LOAD RECEIVED BY

X _____
CUSTOMER SIGNATURE

168785

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.



182455

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING THE GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR SUCH GOODS, LABOR AND MATERIALS WITHIN 1% 10TH PROX NET 30 PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12%, OR THE HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

RECEIVED



CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	16	298.11
DAILY	16	298.11

DATE 99/01/13		PLANT	TRUCK	SEQUENCE	REFERENCE
TIME 10:16A		00200	0257		182455
MIXTURE	GROSS	TARE	NET	PRICE	TOTAL
22310	24.23 TN	11.87 TN	12.36 TN		
COARSE WASHED SAND	48460 LB	23740 LB	24720 LB		

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

REMARKS

CUSTOMER COPY

X

SCALE OPERATOR

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.

CSR
Associated

182453

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING THE GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR SUCH GOODS, LABOR AND MATERIALS WITHIN 1% 10TH PROX NET 30 PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12%, OR THE HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

JOB
LOADS

JOB
TONS

TOTAL	14	271.40
DAILY	14	271.40

DATE 99/01/13
TIME 10:15A

PLANT

002000

TRUCK

0257

SEQUENCE

REFERENCE

182453

MIXTURE

GROSS

TARE

NET

PRICE

TOTAL

22310
COARSE WASHED SAND

24.40 TN
48960 LB

11.87 TN
23740 LB

12.61 TN
25220 LB

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

REMARKS

CUSTOMER COPY

X
SCALE OPERATOR

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.

CSR
Associated

182450

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING THE GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR SUCH GOODS, LABOR AND MATERIALS WITHIN 1% 10TH PROX NET 30 PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12%, OR THE HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

We warrant that the materials dumped at the ASG site contain no hazardous materials.
Should the dumped material be found to contain hazardous materials, such materials shall be removed at the Hauler's and/or the Generator's expense.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

JOB
LOADS

JOB
TONS

TOTAL	11	232.74
DAILY	11	232.74

DATE 99/01/13
TIME 10:120

PLANT

TRUCK

SEQUENCE

REFERENCE

W0200

W257

182450

MIXTURE

GROSS

TARE

NET

PRICE

TOTAL

24190
PETROLEUM CONTAMINATED SOIL

25.02 TN
50040 LB

11.07 TN
23740 LB

13.15 TN
26300 LB

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

REMARKS

CUSTOMER COPY

X
SCALE OPERATOR

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111
Seattle (206) 624-0301.



182454

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING THE GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR SUCH GOODS, LABOR AND MATERIALS WITHIN 1% 10TH PROX NET 30 PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12% OR THE HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

We warrant that the materials dumped at the AS&G site contain no hazardous materials. Should the dumped material be found to contain hazardous materials, such materials shall be removed at the Hauler's and/or the Generator's expense.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	15	285.75
DAILY	15	285.75

DATE	99/01/13	PLANT	TRUCK	SEQUENCE	REFERENCE
TIME	10:15A	00200	W257		182454
MIXTURE	GROSS	TARE	NET	PRICE	TOTAL
24190	26.22 TN	11.87 TN	14.35 TN		
PETROLEUM CONTAMINATED SOIL	52440 LB	23740 LB	28700 LB		

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

REMARKS

CUSTOMER COPY

X
SCALE OPERATOR

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.



182456

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING THE GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR SUCH GOODS, LABOR AND MATERIALS WITHIN 1% 10TH PROX NET 30 PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12%, OR THE HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

We warrant that the materials dumped at the ASIG site contain no hazardous materials. Should the dumped material be found to contain hazardous materials, such materials shall be removed at the Hauler's and/or the Generator's expense.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	17	328.19
DAILY	17	328.19

DATE 99/01/13		PLANT	TRUCK	SEQUENCE	REFERENCE
TIME 10:17A		00200	W254		182456
MIXTURE	GROSS	TARE	NET	PRICE	TOTAL
24190	46.70 TN	16.62 TN	30.08 TN		
PETROLEUM CONTAMINATED SOIL	93400 LB	33240 LB	60160 LB		

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

REMARKS

CUSTOMER COPY

X
SCALE OPERATOR

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.

CSR
Associated

182457

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE
AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO
RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING THE
GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR
SUCH GOODS, LABOR AND MATERIALS WITHIN 15% 10TH PROX NET 30
PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12% OR THE
HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE
ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF
ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

We warrant that the materials dumped at the AS&G site contain no hazardous materials.
Should the dumped material be found to contain hazardous materials, such materials shall
be removed at the Hauler's and/or the Generator's expense.

RECEIVED *

CUSTOMER: 11111--01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	18	339.77
DAILY	18	339.77

DATE 99/01/13		PLANT	TRUCK	SEQUENCE	REFERENCE
TIME 10:17A		00200	W257		102457
MIXTURE	GROSS	TARE	NET	PRICE	TOTAL
24190	23.45 TN	11.87 TN	11.58 TN		
PETROLEUM CONTAMINATED SOIL	46900 LB	23740 LB	23160 LB		

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

REMARKS

CUSTOMER COPY

X
SCALE OPERATOR

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.

CSR
Associated

182577

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING THE GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR SUCH GOODS, LABOR AND MATERIALS WITHIN 1% 10TH PROX NET 30 PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12%, OR THE HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

We warrant that the materials dumped at the AS&G site contain no hazardous materials. Should the dumped material be found to contain hazardous materials, such materials shall be removed at the Hauler's and/or the Generator's expense.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	40	750.55
DAILY	40	750.55

DATE	PLANT	TRUCK	SEQUENCE	REFERENCE
99/01/13	00200	0257		182575
TIME 01:16P				

MIXTURE	GROSS	TARE	NET	PRICE	TOTAL
24190	25.64 TN	11.87 TN	13.77 TN		
PETROLEUM CONTAMINATED SOIL	51200 LB	23740 LB	27540 LB		

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

REMARKS

CUSTOMER COPY

X
SCALE OPERATOR

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.

CSR
Associated

182500

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING THE GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR SUCH GOODS, LABOR AND MATERIALS WITHIN 1% 10TH PROX NET 30 PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12%, OR THE HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

We warrant that the materials dumped at the AS&G site contain no hazardous materials.
Should the dumped material be found to contain hazardous materials, such materials shall be removed at the Hauler's and/or the Generator's expense.

RECEIVED

*

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	23	408.46
DAILY	23	408.46

DATE	99701/14	PLANT	TRUCK	SEQUENCE	REFERENCE	
TIME	11:51A	00200	W254		182498	
MIXTURE		GROSS	TARE	NET	PRICE	TOTAL
24250		40.09 TN	28.69 TN	11.40 TN		
DUMP FEE - CONCRETE		80180 LB	57380 LB	22800 LB		

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.



182497

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING THE GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR SUCH GOODS, LABOR AND MATERIALS WITHIN 1% 10TH PROX NET 30 PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12%, OR THE HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

We warrant that the materials dumped at the AS&G site contain no hazardous materials. Should the dumped material be found to contain hazardous materials, such materials shall be removed at the Hauler's and/or the Generator's expense.

RECEIVED *

CUSTOMER: 11111-01 WESTRAC ENVIRONMENTAL 54 SOUTH DAWSON SEATTLE		PURCHASE ORDER: CUSTOMER JOB # INTERCO JOB #		JOB LOADS		JOB TONS
				TOTAL	20	372.19
				DAILY	20	372.19
DATE	99/01/14	PLANT	TRUCK	SEQUENCE	REFERENCE	
TIME	11:50A	00200	W254		182495	
MIXTURE	GROSS		TARE	NET	PRICE	TOTAL
	24250		16.62 TN	19.75 TN		
	DUMP FEE - CONCRETE		33240 LB	39500 LB		

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.

CSR
Associated

182499

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING THE GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR SUCH GOODS, LABOR AND MATERIALS WITHIN 1% 10TH PROX NET 30 PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12%, OR THE HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	22	397.06
DAILY	22	397.06

DATE 9/9/14
TIME 11:50A

PLANT	TRUCK	SEQUENCE	REFERENCE
00200	W257		182497

MIXTURE	GROSS	TARE	NET	PRICE	TOTAL
22310 COARSE WASHED SAND	23.60 TN 47200 LB	11.87 TN 23740 LB	11.73 TN 23460 LB		

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.



182498

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING THE GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR SUCH GOODS, LABOR AND MATERIALS WITHIN 1% 10TH PROX NET 30 PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12%, OR THE HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

We warrant that the materials dumped at the ASIG site contain no hazardous materials. Should the dumped material be found to contain hazardous materials, such materials shall be removed at the Hauler's and/or the Generator's expense.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	21	385.33
DAILY	21	385.33

DATE	99/01/14	PLANT	TRUCK	SEQUENCE	REFERENCE	
TIME	11:50A	00200	11. W257		182496	
MIXTURE		GROSS	TARE	NET	PRICE	TOTAL
24190		25.01 TN	11.07 TN	13.14 TN		
PETROLEUM CONTAMINATED SOIL		50020 LB	23740 LB	26280 LB		

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.



182501

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING THE GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR SUCH GOODS, LABOR AND MATERIALS WITHIN 15% 10TH PROX NET 30 PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12%, OR THE HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

We warrant that the materials dumped at the ASIG site contain no hazardous materials.
Should the dumped material be found to contain hazardous materials, such materials shall be removed at the Hauler's and/or the Generator's expense.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	24	420.53
DAILY	24	420.53

DATE	99/01/14	PLANT	TRUCK	SEQUENCE	REFERENCE
TIME	11:51A	00200	W254		182499
MIXTURE	GROSS	TARE	NET	PRICE	TOTAL
24190 PETROLEUM CONTAMINATED SOIL	28.69 TN 57380 LB	16.62 TN 33240 LB	12.07 TN 24140 LB		

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.



182502

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY. AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

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We warrant that the materials dumped at the ASIG site contain no hazardous materials. Should the dumped material be found to contain hazardous materials, such materials shall be removed at the Hauler's and/or the Generator's expense.

RECEIVED



CUSTOMER: 11111-01 WESTPAC ENVIRONMENTAL 54 SOUTH DAWSON SEATTLE		PURCHASE ORDER: CUSTOMER JOB # INTERCO JOB #		JOB LOADS	JOB TONS
				TOTAL 25	431.73
				DAILY 25	431.73
DATE 99/01/14	PLANT 00200	TRUCK W257	SEQUENCE	REFERENCE 182500	
TIME 11:52A					
MIXTURE 24190 PETROLEUM CONTAMINATED SOIL	GROSS	TARE	NET	PRICE	TOTAL
	23.07 TN 46140 LB	11.07 TN 23740 LB	11.20 TN 22400 LB		

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.



182503

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING THE GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR SUCH GOODS, LABOR AND MATERIALS WITHIN 1% 10TH PROX NET 30 PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12%, OR THE HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

We warrant that the materials dumped at the ASAG site contain no hazardous materials. Should the dumped material be found to contain hazardous materials, such materials shall be removed at the Hauler's and/or the Generator's expense.

RECEIVED

*

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	26	445.78
DAILY	26	445.78

DATE	99/01/14	PLANT	TRUCK	SEQUENCE	REFERENCE
TIME	11:52A	00200	W257		102501
MIXTURE	GROSS	TARE	NET	PRICE	TOTAL
24190	25.92 TN	11.87 TN	14.05 TN		
PETROLEUM CONTAMINATED SOIL	51040 LB	23740 LB	28100 LB		

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.

CSR
Associated

182504

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE
AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO
RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING THE
GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR
SUCH GOODS, LABOR AND MATERIALS WITHIN 1% 10TH PROX NET 30
PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12%, OR THE
HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE
ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF
ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

We warrant that the materials dumped at the ASUG site contain no hazardous materials.
Should the dumped material be found to contain hazardous materials, such materials shall
be removed at the Hauler's and/or the Generator's expense.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAUSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	27	474.96
DAILY	27	474.96

DATE 99/01/14		PLANT	TRUCK	SEQUENCE	REFERENCE	
TIME 11:520		00200	W254		102502	
MIXTURE		GROSS	TARE	NET	PRICE	TOTAL
24190		45.00 TN	16.62 TN	29.18 TN		
PETROLEUM CONTAMINATED SOIL		91600 LB	33240 LB	58360 LB		

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.



182507

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

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We warrant that the materials dumped at the AS&G site contain no hazardous materials. Should the dumped material be found to contain hazardous materials, such materials shall be removed at the Hauler's and/or the Generator's expense.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	30	563.46
DAILY	30	563.46

DATE 9/9/01	PLANT 00200	TRUCK W234	SEQUENCE	REFERENCE 182505
TIME 11:54A				

MIXTURE	GROSS	TARE	NET	PRICE	TOTAL
24190 PETROLEUM CONTAMINATED SOIL	45.58 TN 91160 LB	16.23 TN 32460 LB	29.35 TN 58700 LB		

SPECIAL INSTRUCTIONS
CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.

CSR
Associated

182576

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

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RECEIVED

*

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

JOB
LOADS

JOB
TONS

TOTAL	39	736.78
DAILY	39	736.78

DATE 99/01/13
TIME 01:16P

PLANT

00200

TRUCK

W257

SEQUENCE

REFERENCE

182574

MIXTURE

GROSS

TARE

NET

PRICE

TOTAL

22310
COARSE WASHED SAND

24.15 TN	11.87 TN	12.28 TN
48300 LB	23740 LB	24560 LB

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

REMARKS

CUSTOMER COPY

X

SCALE OPERATOR

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.

CSR
Associated

182458

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE
AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO
RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

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GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR
SUCH GOODS, LABOR AND MATERIALS WITHIN 1% 10TH PROX NET 30
PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12%, OR THE
HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE
ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF
ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	19	352.44
DAILY	19	352.44

DATE	PLANT	TRUCK	SEQUENCE	REFERENCE
99/01/13	00200	W257		182458

MIXTURE	GROSS	TARE	NET	PRICE	TOTAL
22310 COARSE WASHED SAND	24.54 TN 49080 LB	11.07 TN 23740 LB	12.67 TN 25340 LB		

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

REMARKS

CUSTOMER COPY

X
SCALE OPERATOR

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.



182505

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

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We warrant that the materials dumped at the ASAG site contain no hazardous materials.
Should the dumped material be found to contain hazardous materials, such materials shall be removed at the Hauler's and/or the Generator's expense.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	28	504.51
DAILY	28	504.51

DATE 09/01/15		PLANT 00200	TRUCK 0254	SEQUENCE	REFERENCE 182505	
TIME 13:53A						
MIXTURE		GROSS	TARE	NET	PRICE	TOTAL
24190		45.78 TN	16.23 TN	29.55 TN		
PETROLEUM CONTAMINATED SOIL		91560 LB	32460 LB	59100 LB		

SPECIAL INSTRUCTIONS
CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

X

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.

CSR
Associated

182506

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

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RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	29	534.11
DAILY	29	534.11

DATE 99/01/15		PLANT	TRUCK	SEQUENCE	REFERENCE
TIME 11:53A		00200	W254		182504
MIXTURE	GROSS	TARE	NET	PRICE	TOTAL
22320	45.03 TN	16.23 TN	29.60 TN		
CONCRETE BUILDING SAND	91660 LB	32460 LB	59200 LB		

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.



182508

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING THE GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR SUCH GOODS, LABOR AND MATERIALS WITHIN 1% 10TH PROX NET 30 PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12%, OR THE HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	31	594.75
DAILY	31	594.75

DATE 99/01/15		PLANT	TRUCK	SEQUENCE	REFERENCE
TIME 11:54A		00200	0254		182506
MIXTURE	GROSS	TARE	NET	PRICE	TOTAL
22320	47.52 TN	16.23 TN	31.29 TN		
CONCRETE BUILDING SAND	95040 LB	32460 LB	62580 LB		

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

REMARKS

X

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.

CSR
Associated

182584

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE
AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO
RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING THE
GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR
SUCH GOODS, LABOR AND MATERIALS WITHIN 1% 10TH PROX NET 30
PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12%, OR THE
HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE
ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF
ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

We warrant that the materials dumped at the AS&G site contain no hazardous materials.
Should the dumped material be found to contain hazardous materials, such materials shall
be removed at the Hauler's and/or the Generator's expense.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

JOB
LOADS

JOB
TONS

TOTAL 46

855.00

DAILY 46

855.08

DATE 99/01/18

TIME 01:41P

PLANT

00200

TRUCK

W257

SEQUENCE

REFERENCE

182582

MIXTURE

GROSS

TARE

NET

PRICE

TOTAL

24190

20.90 TN

11.88 TN

9.02 TN

PETROLEUM CONTAMINATED SOIL

41800 LB

23760 LB

18040 LB

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE

17037 AURORA NORTH, SHORELINE

Associated Sand & Gravel Company, Inc.

6300 Glenwood Ave., P.O. Box 2037

Everett, WA 98203

Everett (425) 355-2111.

Seattle (206) 624-0301.



182583

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

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We warrant that the materials dumped at the AS&G site contain no hazardous materials.
Should the dumped material be found to contain hazardous materials, such materials shall be removed at the Hauler's and/or the Generator's expense.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	45	846.06
DAILY	45	846.06

DATE 99/01/18		PLANT	TRUCK	SEQUENCE	REFERENCE
TIME 01:41P		00200	W254		102581
MIXTURE	GROSS	TARE	NET	PRICE	TOTAL
24190	46.25 TN	16.62 TN	29.63 TN		
PETROLEUM CONTAMINATED SOIL	92500 LB	33240 LB	59260 LB		

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.



182582

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING THE GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR SUCH GOODS, LABOR AND MATERIALS WITHIN 1% 10TH PROX NET 30 PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12%, OR THE HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

We warrant that the materials dumped at the CS46 site contain no hazardous materials.
Should the dumped material be found to contain hazardous materials, such materials shall be removed at the Hauler's and/or the Generator's expense.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

JOB LOADS		JOB TONS
TOTAL	44	816.43
DAILY	44	816.43

DATE	PLANT	TRUCK	SEQUENCE	REFERENCE
99/01/18	00200	W257		182580
TIME 01:40P				

MIXTURE	GROSS	TARE	NET	PRICE	TOTAL
24190	24.68 TN	11.88 TN	12.80 TN		
PETROLEUM CONTAMINATED SOIL	49360 LB	23760 LB	25600 LB		

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.



182581

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

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We warrant that the materials dumped at the ASAG site contain no hazardous materials.
Should the dumped material be found to contain hazardous materials, such materials shall be removed at the Hauler's and/or the Generator's expense.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	43	803.63
DAILY	43	803.63

DATE	99/01/18	PLANT	TRUCK	SEQUENCE	REFERENCE	
TIME	01:40P	00200	W254		102579	
MIXTURE		GROSS	TARE	NET	PRICE	TOTAL
24190		45.00 TN	16.62 TN	28.38 TN		
PETROLEUM CONTAMINATED SOIL		90000 LB	33240 LB	56760 LB		

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.

CSR
Associated

182579

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

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We warrant that the materials dumped at the AS&G site contain no hazardous materials. Should the dumped material be found to contain hazardous materials, such materials shall be removed at the Hauler's and/or the Generator's expense.

RECEIVED



CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	41	763.70
DAILY	41	763.70

DATE 99/01/18		PLANT	TRUCK	SEQUENCE	REFERENCE
TIME 01:40P		00200	W257		182577
MIXTURE	GROSS	TARE	NET	PRICE	TOTAL
24190	25.02 TN	11.87 TN	13.15 TN		
PETROLEUM CONTAMINATED SOIL	50040 LB	23740 LB	26300 LB		

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

Associated Sand & Gravel Company, Inc.
 6300 Glenwood Ave., P.O. Box 2037
 Everett, WA 98203
 Everett (425) 355-2111.
 Seattle (206) 624-0301.



182580

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

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RECEIVED *

CUSTOMER: 11111-01
 WESTPAC ENVIRONMENTAL
 54 SOUTH DAWSON
 SEATTLE

PURCHASE ORDER:
 CUSTOMER JOB #
 INTERCO JOB #

	JOB LOADS	JOB TONS
TOTAL	42	775.25
DAILY	42	775.25

DATE	PLANT	TRUCK	SEQUENCE	REFERENCE
99/01/18	00200	W257		182578

MIXTURE	GROSS	TARE	NET	PRICE	TOTAL
22310 COARSE WASHED SAND	23.42 TN 46840 LB	11.87 TN 23740 LB	11.55 TN 23100 LB		

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
 17037 AURORA NORTH, SHORELINE

02 98

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.



182698

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

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We warrant that the materials dumped at the AS&G site contain no hazardous materials. Should the dumped material be found to contain hazardous materials, such materials shall be removed at the Hauler's and/or the Generator's expense.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

JOB
LOADS

JOB
TONS

TOTAL 47

1000.40

DAILY 47

1000.40

DATE 09/01/19

TIME 12:09P

PLANT

00200

TRUCK

W254

SEQUENCE

REFERENCE

182695

MIXTURE

GROSS

TARE

NET

PRICE

TOTAL

24100

41.94 TM

16.62 TM

25.32 TM

PETROLEUM CONTAMINATED SOIL

83880 LB

33240 LB

50640 LB

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE

17037 AURORA NORTH, SHORELINE

REMARKS

FILE COPY

X

SCALE OPERATOR

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.

CSR
Associated

182700

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

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RECEIVED *

CUSTOMER: 11111 WJ WESTPAC ENVIRONMENTAL 54 SOUTH DAWSON SEATTLE		PURCHASE ORDER: CUSTOMER JOB # INTERCO JOB #		JOB LOADS 49 TOTAL 49 DAILY		JOB TONS 932.58 932.58					
DATE 12/10/77		PLANT		TRUCK		SEQUENCE		REFERENCE			
MIXTURE		GROSS		TARE		NET		PRICE		TOTAL	
24120		43.40 LB		17.50 LB		25.90 LB					
PETROLEUM CONTAMINATED SOIL		86800 LB		35000 LB		51800 LB					

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

REMARKS

FILE COPY

X
SCALE OPERATOR

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.



182701

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

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TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING THE GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR SUCH GOODS, LABOR AND MATERIALS WITHIN 1% 10TH PROX NET 30 PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12% OR THE HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

We warrant that the materials dumped at the AS&G site contain no hazardous materials.
Should the dumped material be found to contain hazardous materials, such materials shall be removed at the Hauler's and/or the Generator's expense.

RECEIVED *

CUSTOMER: 11111-01 WESTPAC ENVIRONMENTAL 54 SOUTH DAWSON SEATTLE		PURCHASE ORDER: CUSTOMER JOB # INTERCO JOB #		JOB LOADS 50 TOTAL 50 DAILY		JOB TONS 950.50 950.50			
DATE 99/01/19 TIME 12:10P		PLANT		TRUCK		SEQUENCE		REFERENCE	
MIXTURE 24190 PETROLEUM CONTAMINATED SOIL.		GROSS 34.54 TN 69080 LB		TARE 16.62 TN 33240 LB		NET 17.92 TN 35840 LB		PRICE TOTAL	

SPECIAL INSTRUCTIONS

CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

REMARKS

FILE COPY

X

SCALE OPERATOR

Associated Sand & Gravel Company, Inc.
6300 Glenwood Ave., P.O. Box 2037
Everett, WA 98203
Everett (425) 355-2111.
Seattle (206) 624-0301.



182699

CONTRACTOR REGISTRATION #223-01-AS-SO-CS-G37250

LIABILITY STATEMENT: WE MAKE DELIVERIES INSIDE THE CURB LINE AND ON THE LOT AT CUSTOMER'S RISK ONLY, AND ACCEPT NO RESPONSIBILITY FOR DAMAGES RESULTING FROM SUCH DELIVERIES.

TERMS OF PAYMENT: THE CUSTOMER AGREES, BY ACCEPTING THE GOODS, LABOR AND MATERIALS SET FORTH HEREIN, TO PAY FOR SUCH GOODS, LABOR AND MATERIALS WITHIN 15 DAYS PROX NET 30 PROX TERMS, AFTER WHICH TIME SERVICE CHARGES AT 12% OR THE HIGHEST LEGAL RATE, WHICHEVER IS LOWER, PER ANNUM SHALL BE ASSESSED AGAINST THE THEN OUTSTANDING BALANCE, IN FAVOR OF ASSOCIATED SAND & GRAVEL AND PAYABLE BY CUSTOMER.

RECEIVED *

CUSTOMER: 11111-01
WESTPAC ENVIRONMENTAL
54 SOUTH DAWSON
SEATTLE

PURCHASE ORDER:
CUSTOMER JOB #
INTERCO JOB #

	JOB LOADS	JOB TONS
	40	906.68
TOTAL	40	906.68
DAILY		

DATE 99701719
TIME 12:10P

	PLANT	TRUCK	SEQUENCE	REFERENCE
MIXTURE				
22320				
CONCRETE BUILDING SAND				
	GROSS	TARE	NET	PRICE
	42.90 TN	16.62 TN	26.28 TN	
	85800 LB	33240 LB	52560 LB	
				TOTAL

SPECIAL INSTRUCTIONS
CHUCK OLSEN SITE
17037 AURORA NORTH, SHORELINE

REMARKS

FILE COPY

X

SCALE OPERATOR

APPENDIX C

SITE EXCAVATION AND BACKFILLING DOCUMENTATION CITY OF SHORELINE

January 25, 1999
AESI Project No. BV97011B

CORPORATE OFFICE
911 Fifth Avenue, Suite 100
Kirkland, Washington 98033
(425) 827-7701
FAX (425) 827-5424

Mr. Philip Vartanian
City of Shoreline Plan Examiner
Planning and Development Services
17544 Midvale Avenue North
Shoreline, Washington 98133-4921

Subject: Summary of Excavation and Backfilling Activities
Shoreline Project Reference #98-027
Former Chuck Olson Chevrolet Facility
17545 Aurora North
Shoreline, Washington

Dear Mr. Vartanian:

Associated Earth Sciences, Inc. (AESI) is pleased to present this letter documenting soil excavation and backfilling activities conducted at the former Chuck Olson Chevrolet facility, 17547 Aurora Avenue North, in Shoreline, Washington. Soil excavation was required in order to decommission nine out-of-service underground hydraulic lift vaults and associated equipment, and remove hydrocarbon-impacted soil from around the former hydraulic lift vaults, in accordance with applicable Washington State environmental cleanup regulations.

The attached Figure 1 shows final outlines of the nine cut and filled areas. Total estimated excavation volumes, inclusive of vault voids and concrete, were as follows:

	Volume (cubic yards)
Bay 1	130
Bay 3	60
Bay 4	190
Bay 5	130
Bay 6	80
Bay 7	130
Bay 8	90
Bay 9	110
Bay 12	210

Mr. Philip Vartanian
City of Shoreline Plan Examiner
Planning and Development Services
AESI Project No. BV97011B
January 25, 1999
Page 2

The excavated areas were backfilled to original subgrade with either well-graded sand, controlled density fill (CDF), or a combination of both materials. CDF was used in areas proximal to existing wall footings, and/or where subsequent enlargement of the excavation was necessary. Sand and CDF were supplied by CSR Associated of Everett, Washington. Material specifications for the CDF and sand backfill are attached.

Compaction was accomplished using a backhoe-mounted hydraulic plate compactor. From the base of each excavation to 4 feet below grade, maximum 24-inch-thick lifts were placed and then compacted to a minimum of 90 percent of the Modified Proctor maximum density using American Society for Testing and Materials (ASTM) test designation D-1557 as the standard dry density. From 4 feet below grade to finished grade, maximum 12-inch-thick lifts were placed and then compacted to a minimum of 95 percent Modified Proctor maximum density dry density. Optimal water content was maintained during compaction.

An AESI representative monitored compaction activities. Periodic verification of compaction requirements was made by direct measurement using a calibrated Troxler nuclear densometer. A summary of the nuclear densometer tests are attached. The location of the nuclear densometer tests taken at finished grade are shown on Figure 1.

The results of the compaction testing indicate that the backfill material was, in general, well compacted, with all tests indicating compaction above the higher minimum of 95 percent. This combination of well-compacted structural fill and CDF will effectively support a new slab designed for automotive-type loading. The completed areas that were submerged by the roofing removal activity will maintain their load bearing capacity if they are drained and no construction activity disturbs the surface. If surface disturbance has occurred, then the upper disturbed material must be removed prior to placement of any structural feature. Any new structural foundation placed in the bay area should be designed and inspected by the appropriate design professional.

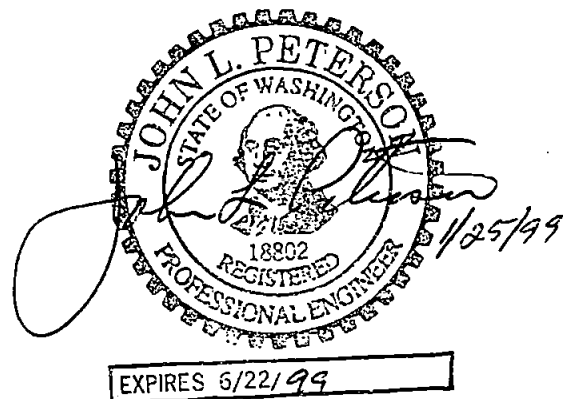
Mr. Philip Vartanian
City of Shoreline Plan Examiner
Planning and Development Services
AESI Project No. BV97011B
January 25, 1999
Page 3

We trust the information provided in the letter meets with your satisfaction.

Sincerely,
ASSOCIATED EARTH SCIENCES, INC.
Bainbridge Island, Washington



William V. (Chip) Goodhue, R.G.
Senior Project Hydrogeologist



John Peterson, P.E.
Senior Geotechnical Engineer

Attachments: Figure 1
Materials Specifications
Density Test Results

cc w/attachments: Mr. Jeff Hancock - Chuck Olson Chevrolet
Mr. Rick Johnson - Alderwood Cadillac
Mr. Greg McCormick - EMR

KPP:C:\DOCUMENT\WVGIC_OLSON3.LTR

PARKING

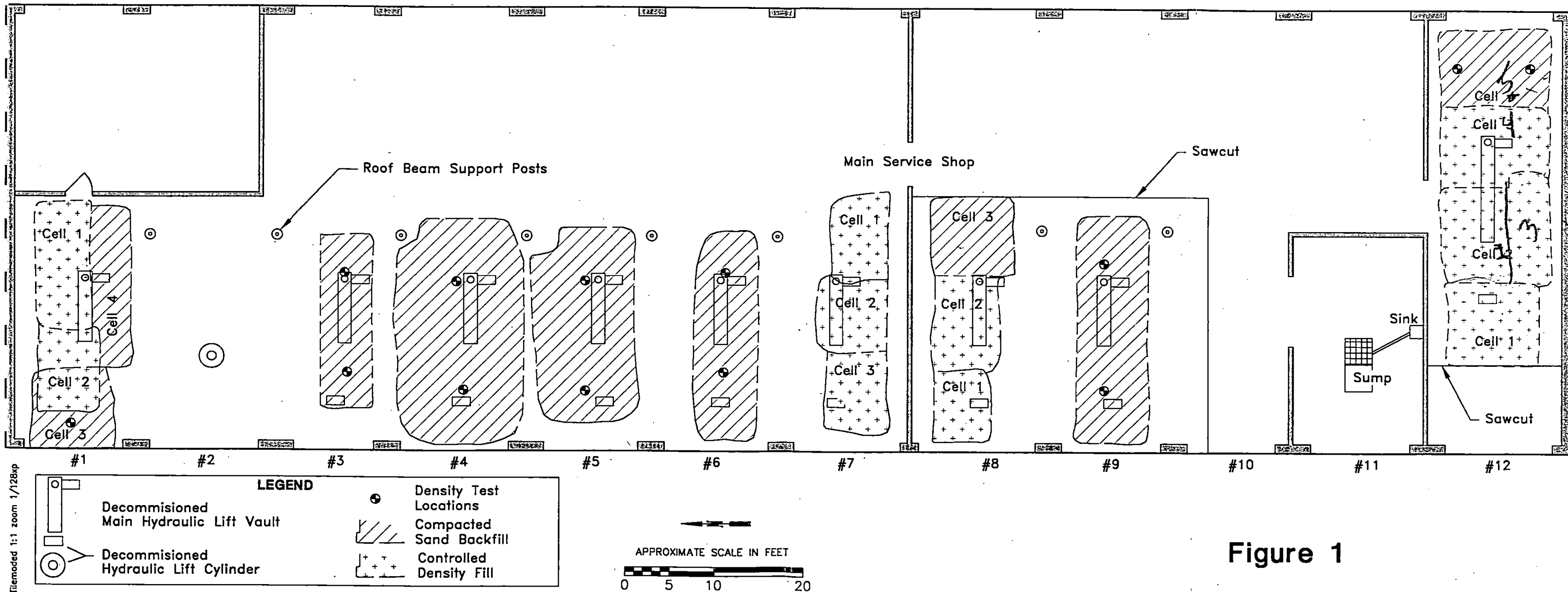


Figure 1

Cut and Fill Plan with Density Test Locations

Former Chuck Olson Chevrolet Facility



Associated

MIX ID : 1189442 []

CONCRETE MIX DESIGN

50 PSI WSDOT Controlled Density Fill

12/22/98

CONTRACTOR : WEST PAC ENVIRONMENTAL INC
 PROJECT : Chuck Olson Chevrolet Pit Backfill
 SOURCE OF CONCRETE : Plant #1 or #2 Everett
 CONSTRUCTION TYPE : Controlled Density Lean Concrete Fill
 PLACEMENT : Cast In place

WEIGHTS PER CUBIC YARD (SATURATED, SURFACE-DRY)

		YIELD, CU FT
Ash Grove Type II AASHTO M-85, LB	60	0.31
Pozzolanic Fly Ash AASHTO M-295 Class F, LB	200	1.42
Bldg. sand, LB	2236	13.52
3/8" WSDOT 9.03.1(3)C #6, LB	836	5.00
WATER, LB (GAL-US)	320 (38.3)	5.13
TOTAL AIR, %	6.0 +/- 1.5	1.62
		=====
	TOTAL	27.00
W.R. Grace Darvaair ASTM C 260, OZ-US	6.2	
WATER/CEMENT RATIO, LBS/LB	1.23	
SLUMP, IN	6.00	
CONCRETE UNIT WEIGHT, PCF	136.3	

Aggregate weights may be adjusted to maintain yield.

PREPARED BY :


 Christopher McBride, Technical Services

CSR Associated. 6300 Glenwood Avenue, Everett, WA 98203

PO Box 2037, Everett, WA 98203. Telephone Everett (206) 355-2111. Telephone Seattle (206) 624-0301

28.8 1299 842 524

CSR ASSOCIATED

DEC-22-1998 16:45

=====

Aggregate ID : Coarse Sand (E) Sample ID : 980013 Date : 10/13/98

=====

Sieve	% Pass
# 4	98.7
# 8	73.4
# 16	41.1
# 30	16.0
# 50	2.3
# 100	0.6
# 200	0.2

Unit weight (pcf)	-
Fineness modulus	3.68
Absorption	-
Moisture	-

Density (sp g) :	
Bulk	-
SSD	-
Apparent	-

	1	2	3	4	5
User codes				F	

Na2SO4 loss	-
Mg2SO4 loss	-
Na2O equivalence	-
Abrasion	-
Freeze/thaw loss	-
CaCO4	-
Sand equivalence	-
200 wash	-
Relative strength	-
Plasticity index	-
Liquid limit	-

Deleterious :

Chert	-
Shale	-
Clay/Friable	-
Coal/Lignite	-
Conglomerates	-
Other	-

Total

Organic impurities OK?

Time of Sample	15.30
----------------	-------

$$\max \sigma \cong 11215/\text{FT}^3$$

DENSITY TEST RESULTS

ASSOCIATED EARTH SCIENCES, INC.

Page 1

911 Fifth Avenue, Suite 100
Kirkland, Washington 98033
425-827-7701 FAX 827-5424

179 Madrone Lane North
Bainbridge Island, WA 98110
206-780-9370 FAX 780-9438

Date	Project Name	Project No.
1/18/99	Chuck Olson	BV97011C

Test No.	Location	Depth Below Finished Grade	% Mc	% ASTM:D 1557	Pass/Fail	Comments
1	Bay #6, west side	5'	5.7	100	Pass	Maximum dry density was reported to be 112 pounds per cubic foot (pcf)
2	Bay #6, east side	5'	6.1	105	Pass	
3	Bay #6, east side	0'	6.8	105	Pass	
4	Bay #6, west side	0'	5.7	106	Pass	
5	Bay #5, east side	2'	6.2	99	Pass	
6	Bay #5, west side	1'	4.9	102	Pass	
7	Bay #4, west side	4'	7.2	98	Pass	
8	Bay #4, east side	4'	5.9	101	Pass	
9	Bay #3, west side	0'	7.3	112	Pass	
10	Bay #3, east side	0'	7.6	110	Pass	
11	Bay #1/Cell #3	0'	5.4	104	Pass	
12	Bay #3, east side	0'	15.3	101	Pass	
13	Bay #3, west side	0'	9.3	103	Pass	
14	Bay #4, west side	0'	8.7	104	Pass	
15	Bay #4, east side	0'	8.9	101	Pass	
16	Bay #5, east side	0'	6.0	99	Pass	
17	Bay #5, west side	0'	8.5	115	Pass	
18	Bay #6, west side	0'	6.9	103	Pass	
19	Bay #6, east side	0'	6.5	102	Pass	
20	Bay #8/Cell #3	0'	13.2	101	Pass	
21	Bay #9, east side	0'	10.1	101	Pass	
22	Bay #9, west side	0'	8.0	104	Pass	
23	Bay #12, south side	0'	9.9	99	Pass	
24	Bay #12, north side	0'	7.8	100	Pass	