King County
Department of Construction & Facility Management
General Government Capital Improvement Program

UNDERGROUND STORAGE TANK SITE ASSESSMENT AND INTERIM CLEANUP REPORT

FORMER KING COUNTY SHOPS SITE, MAPLE VALLEY, WASHINGTON

Prepared by

King County Department of Construction and Facility Management
King County Administration Building
500 Fourth Avenue, Room 320
Seattle, Washington 98104

February 1998

King County
Department of Construction & Facility Management
General Government Capital Improvement Program
Satellite Office at Union Bank of California Building, Room 860
900 Fourth Avenue, Box 82
Seattle, Washington 98164

February 9, 1998

Mr. Joe Hickey
Washington State Department of Ecology
3190 160th Southeast
Bellevue, Washington 98008-5452

Re: UST Site Assessment and Interim Cleanup Report,
Former King County Shops Site, Maple Valley, Washington

Dear Joe:

Enclosed is a copy of the report documenting removal of three underground storage tanks and associated petroleum contaminated soil from a former King County shop site in Maple Valley, Washington. The three tanks included two tanks used for vehicle fueling (one gasoline and one diesel), and one tank used to store heating oil for a boiler. King County sold the property in 1985 and the tanks were not registered with Ecology. It is not known when the tanks were last used. Results of the tank removal and cleanup activities are summarized in the Executive Summary at the beginning of the report.

If you have any questions regarding the report or the site, please contact me at (206) 296-1706 or Elizabeth Hill at (206) 296-1414.

Sincerely,

Joe Hicker
Project Manager

cc: Department of Ecology Toxics Cleanup Program
P.O. Box 47655
Olympia, Washington 98504-7655

LUST #:
Site name: King County Shops Site
County/city: Maple Valley / King

Inspector JS
Site address: 18825 Maple Valley Rd, Maple Valley
UST #:
ERTS #:
LUST#:

Depth to GW: 8-10
Free product: ~~Yes~~ No
GW flow: North

Media affected:
☒ GW ☒ Soil
Extent of contam. known:
☐ Yes ☒ No

Report date: 2/98
Date received: 2/11/98

ENTERED 2-19-98 CS

Project status:
↘ Cleanup started
___Awaiting cleanup
___Reported cleaned up
___Monitoring
___NFA
___Unknown

Report status:
↘ interim
___final

Remediation method:
___Aeration/Vapor extraction
___Air stripping/Air sparging
___Biological treatment
___Carbon absorption
___ Chemical destruction
___Incineration
___Off-site containment/Landfill
___On-site containment/Landfill
___Physical separation
___Reuse/Recycling
___Soil washing
___Solidification/Stabilization
___Solvent extraction
___Thermal desorption
___Vitrification
___Other

Comments:

- A thin sheen of product on GW detected during UST removal. GW investigation planned for "near future".
- A total of 323 tons PCS removed from site.
- Cedar River located approx. 200' to N.
- Xylenes detected above MTCA A standards (Tank 1, dispenser A)

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EXECUTIVE SUMMARY

Three underground fuel storage tanks were removed from the former King County Shops site in Maple Valley, Washington between August 25 and 27, 1997. The tanks included a 1,500 gallon tank and a 4,500 gallon tank, both used for vehicle fueling, and a 5,000 gallon tank used to store heating oil. All three tanks had been out of service for a number of years and the vehicle fueling tanks were not registered with the Department of Ecology.

During removal of the three tanks, petroleum contaminated soils were encountered, apparently the result of piping leakage. No corrosion holes or cracks were observed in any of the tanks. Contaminated soils were excavated from each tank area and numerous soil samples were collected. A total of 323 tons of contaminated soil were removed from the site. Results of soil samples indicate most of the contaminated soils associated with the tanks were removed, except for an area beneath a vehicle fueling dispenser island. Removal of the contaminated soil beneath the dispenser island was not possible during this work because it would have required demolishing or shoring a large canopy structure covering the area.

Soil contamination at each tank location appeared to extend vertically to groundwater. Groundwater was encountered at depths ranging from 8 to 10 feet. A petroleum-like sheen was observed on groundwater at both tank excavation areas. While most of the contaminated soil associated with the tanks appears to have been removed from the site, planning is underway for an investigation of groundwater quality that will include installing and sampling one or more monitoring wells near each tank area. Results of future investigations will be forwarded to the Department of Ecology.

1. INTRODUCTION

This report presents a summary of the underground storage tank removal and associated soil cleanup activities performed at the former King County Shops site, located near Maple Valley, Washington. The site has also been referred to as the Old Maple Valley Facilities. This report has been prepared in general accordance with reporting requirements under Washington State Underground Storage Tank Regulations (Chapter 173-360 Washington Administrative Code [WAC]) and the Model Toxics Control Act Cleanup Regulation (Chapter 173-340 WAC).

PROJECT BACKGROUND

The former King County Shops site is located at 18825 Southeast Maple Valley Road in Maple Valley, Washington (Figure 1). King County acquired the site from the Pacific Coast Coal Company for use as a maintenance facility and owned the site until 1985, when it was sold to a private owner. The site was sold again in 1990 to the current owner, Mr. Richard Schroeder. Since 1985, the site has been leased to a variety of tenants and businesses. Sunset Materials, Inc. currently leases most of the site for a landscaping materials business.

SITE DESCRIPTION

The site is situated on an approximately 40-acre parcel (Figure 2). Several buildings are located on the property including a main shop and office structure that was part of the original coal mining operations. In addition to the main shop and office are several other storage buildings and covered areas. A smaller single bay truck garage was constructed sometime following King County's acquisition of the property. These facilities are used by the existing tenants for equipment maintenance. Two temporary construction trailers are also located at the site and are used as office space for tenants.

Site topography ranges from steep, north-facing wooded areas in the south portion of the site to relative flat lying areas in the middle and north areas. Site drainage is generally toward the Cedar River, located approximately 200 feet to the north.

UST SYSTEM DESCRIPTION

Three underground tanks used for storing petroleum were located at the site. These included an 1,100 gallon tank used for storing gasoline and diesel (tank 1), a 4,500 gallon tank used for storing diesel (tank 2), and a 5,000 gallon tank used to store heating oil for a boiler (tank 3). Tanks 1 and 2 were used for vehicle fueling, and were located on the south side of the garage building. Buried piping connected the tanks to dispensers under a canopy covering on the east side of the garage building. Tank 3 was located approximately 25 feet north of the boiler room in the main shop and office building. Buried piping installed in a concrete vault connected tank 3 to the boiler.

The ages of the tanks are uncertain. However, tanks 1 and 2 were likely installed concurrent with construction of the garage building sometime after King County acquired the site. The heating oil tank may be older. It is not known when the tanks were last used. None of the three tanks were registered with the Department of Ecology.

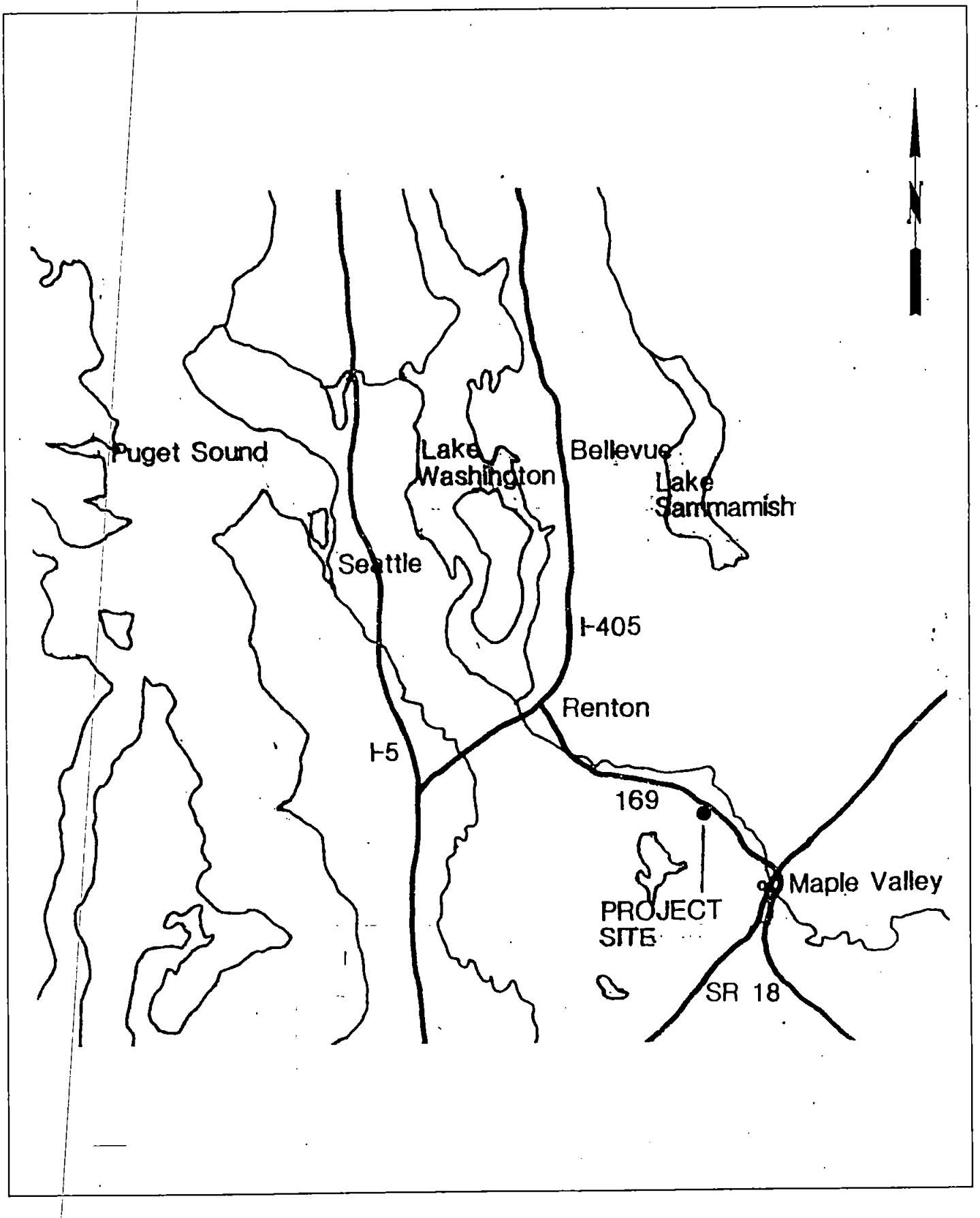

Figure 1. Site Location.

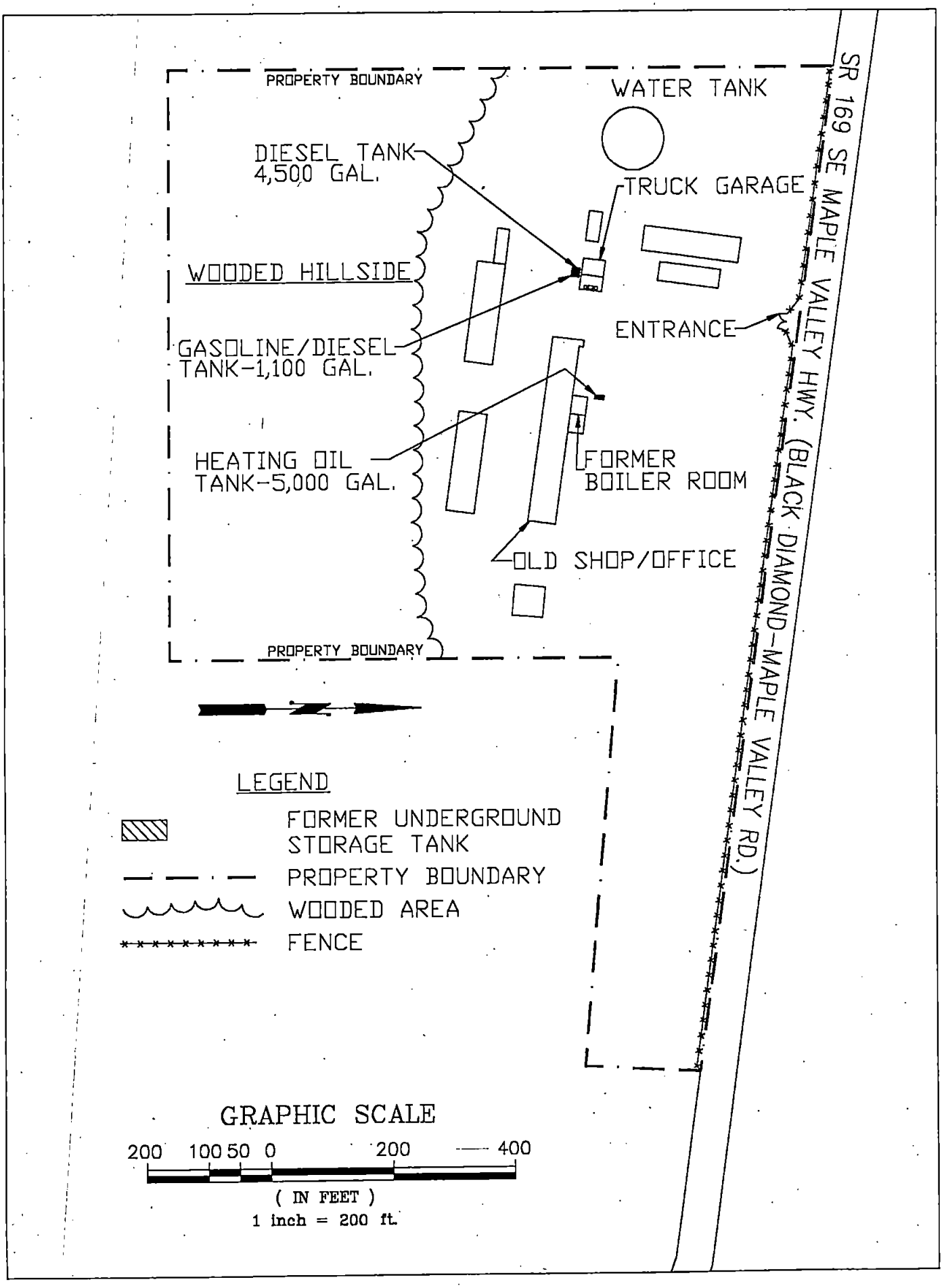

FIGURE 2: SITE PLAN

2. SITE CHARACTERIZATION AND INTERIM CLEANUP ACTIONS

TANK REMOVAL

The three tanks and associated piping were removed between August 25 and September 4, 1997 by Foss Environmental Services (Foss) under contract to King County. Prior to removal of the tanks, residual product was removed and the tanks were inerted using dry ice. The tanks were then rinsed, cut open, and cleaned onsite prior to being taken to Seattle Iron and Metals, Inc. for recycling. A representative from the King County Fire Marshal's Office inspected and approved all tanks prior to removal and cutting activities. Cutting activities were also supervised by a marine chemist.

Tank cleaning rinse water was contained in an onsite tanker provided by Foss and taken to Emerald Petroleum Services for treatment and disposal. All tanks were observed to be in fair to good condition with some rust and scale but no visible corrosion holes or cracks. Tank piping appeared to be in good condition although some leakage at threaded joint locations was apparent. Tank and cleaning water disposal documents are included in Appendix A.

SOIL SAMPLING AND REMEDIATION

General

Following removal of the tanks, soil samples were collected in accordance with site assessment requirements from the sidewalls and bottom of each tank excavation, in addition to locations beneath piping and dispensers. Samples were field screened for indications of contamination using a mobile gas chromatograph provided by Onsite Analytical, Inc. When results of field screening indicated contaminated soils were present, additional soil was removed and more samples were collected. When field screening results indicated clean soil boundaries had been reached, duplicate sample were submitted to an analytical laboratory for testing to confirm the field screening results. Laboratory certificates for all samples tested are included in Appendix B.

Results of field screening samples indicated levels of petroleum hydrocarbons in excess of respective MTCA Method A cleanup levels in soils at one or more locations near each tank. Field observations indicate groundwater may also have been affected at both tank locations as indicated by the presence of a thin sheen on groundwater encountered in tank excavations. However, no groundwater samples have been collected and planning is underway for a groundwater investigation to be completed in the near future. Other than the thin sheen noted, no indications of measurable thicknesses of floating product were observed.

Selection of Cleanup Standards

The MTCA Method A Cleanup Levels for residential soil were selected as cleanup standards for this project. These are:

- 100 mg/Kg for gasoline-range petroleum hydrocarbons;
- 200 mg/Kg for diesel-range petroleum hydrocarbons; and
- 200 mg/Kg for other (heavier) range hydrocarbons.
- 0.5 mg/Kg for benzene
- 40 mg/Kg for toluene
- 20 mg/Kg for ethylbenzene
- 20 mg/Kg xylenes (total)
- 250 mg/Kg lead (total)

The cleanup levels were selected based on the routine nature of the cleanup activities performed and the relatively few contaminants present.

Remedial Actions

Remedial actions at the site included excavation and removal of contaminated soil, collecting and analyzing confirmation samples to determine the limits of excavation, and placing clean backfill material to restore excavated areas to original grades. An exception to this was contaminated soil beneath the dispensers for tanks 1 and 2. Contaminated soil was not removed from this area since removal would have required demolition or extensive shoring of the canopy and support structure covering the dispenser fuel island. These measures were beyond the scope and resources available at this time. A structural engineering report concerning soil removal near the building and canopy footings is included in Appendix C of this report.

A total of 323 tons of contaminated soil was removed from the site and taken to TPS Technologies, a permitted petroleum contaminated soil recycling facility located in Tacoma. Soil disposal documentation is included in Appendix A. Excavation and sampling activities for each tank are described in the following sections.

Sampling and Soil Removal - Tanks 1 & 2

Site assessment soil samples were collected from the tank 1and tank 2 excavation on August 28, 1997. Piping area samples were collected September 4, 1997, and samples were collected from beneath the fuel dispensers September 5, 1997. Sample results for tanks 1 and 2 soil samples are summarized in Table 1. Sample locations are shown in Figure 3.

Table 1. Analytical results of soil samples - Tanks 1 and 2.

Sample	Date	Diesel-range hydrocarbons (mg/Kg)		Heavy-range hydrocarbons (mg/Kg)	Gasoline-range hydrocarbons (mg/Kg)		Benzene (mg/Kg)		Toluene (mg/Kg)		Ethylbenzene (mg/Kg)		Xylenes - Total (mg/Kg)		Lead (mg/Kg)
		Field	Lab[1]	Field	Field	Lab[2]	Field	Lab[3]	Field	Lab[3]	Field	Lab[3]	Field	Lab[3]	Lab[4]
Tanks 1&2 Samples															
T2-WSW-1	08/28/97	<25	<27	<50	<5.0	<5.5	<0.05	<0.055	<0.05	<0.055	<0.05	<0.055	<0.10	<0.11	<5.5
T1-WSW-1	08/28/97	<25	81	<50	<5.0	<6.0	<0.05	<0.060	<0.05	<0.060	<0.05	<0.060	<0.10	<0.12	42
T1-SSW-1	08/28/97	<25	<30	<50	<5.0	<6.0	<0.05	<0.060	<0.05	<0.060	<0.05	<0.060	<0.10	0.063	7.6
T1-ESW-1	08/28/97	**370**	-	<50	**140**	-	<0.05	-	<0.05	-	0.073	-	0.44	-	-
T2-ESW-1	08/28/97	<25	<32	<50	15	14	<0.05	<0.064	<0.05	<0.064	<0.05	<0.064	<0.10	<0.128	<6.4
T1-Bottom-1	08/28/97	**4,100**	-	130	**150**	-	<0.25	-	<0.25	-	<0.25	-	<0.50	-	-
T2-Bottom-1	08/28/97	130	-	<50	39	-	<0.25	-	<0.25	-	<0.25	-	<0.50	-	-
T2-NSW-1	09/04/97	<25	<29	<50	<5.0	<5.8	<0.05	<0.058	<0.05	<0.058	<0.05	<0.058	<0.10	<0.116	16
Piping Samples:															
T2-Piping-NSW-1	09/04/97	<25	<30	-	<5.0	<6.0	<0.05	<0.060	<0.05	<0.060	<0.05	<0.060	<0.10	<0.120	<6.0
T2-Piping-1	09/04/97	<25	<30	-	<5.0	<6.1	<0.05	<0.061	<0.05	<0.061	<0.05	<0.061	<0.10	<0.122	<6.1
T1-PP-1	09/04/97	**13400**		-	**1400**	-	<0.25	-	<0.25	-	1.8	-	5.0	-	-
T1-Piping-SSW-1	09/04/97	**390**		-	**133**	-	<0.050	-	<0.050	-	0.062	-	0.18	-	-
T1/2-Piping-ESW-1	09/04/97	<25	<32	-	<5.0	<6.3	<0.05	<0.063	<0.05	<0.063	<0.05	<0.063	<0.10	<0.126	<6.3
T1-Piping-2	09/05/97	**2,300**		-	88	-	<0.25	-	<0.25	-	<0.25	-	<0.5	-	-
T1-Piping-SSW-2	09/05/97	143	130	-	7.1	<29	<0.05	<0.29	<0.05	<0.29	<0.05	<0.29	<0.10	<0.58	<5.7
T1-Piping-3	09/05/97	51	64	-	<5.0	<28	<0.05	<0.28	<0.05	<0.28	<0.05	<0.28	<0.10	<0.56	<5.6
T1-Bottom-2	09/05/97	<25	<33	-	<5.0	<6.6	<0.05	<0.066	<0.05	<0.066	<0.05	<0.066	<0.10	<0.132	<6.6
T1-Piping-4	09/05/97	**300**	**410**	-	10	<6.7	<0.05	<0.067	<0.05	<0.067	<0.05	<0.067	<0.10	<0.134	<6.7
Dispenser Samples															
T1-Dispenser A	09/05/97	-	**7,800**	-	-	**990**	-	0.35	-	1.5	-	5.5	-	28.2	<6.0
T1-Dispenser B	09/05/97	-	<28	-	-	<5.6	-	<0.056	-	0.21	-	<0.056	-	0.283	16
T2-Dispenser	09/05/97	-	**1,500**	-		93	-	<0.057		<0.057		<0.057	-	0.25	<5.7
MTCA Method A Cleanup Level		*200*		*200*	*100*		*0.5*		*40*		*20*		*20*		*250*

Table 1. (Continued)

Sample	Date	Diesel-range hydrocarbons (mg/Kg)		Heavy-range hydrocarbons (mg/Kg)	Gasoline-range hydrocarbons (mg/Kg)		Benzene (mg/Kg)		Toluene (mg/Kg)		Ethylbenzene (mg/Kg)		Xylenes - Total (mg/Kg)		Lead (mg/Kg)
		Field	Lab[1]	Field	Field	Lab[2]	Field	Lab[3]	Field	Lab[3]	Field	Lab[3]	Field	Lab[3]	Lab[4]
Stockpile Samples:															
T1/T2 Comp. Stock.	09/04/97	**930**	-	-	**140**	-	<0.05	-	<0.05	-	<0.05	-	0.33	-	
T1 T2 SP	08/28/97	-	**610**	-	-	**120**	-	<0.28	-	<0.28	-	<0.28	-	0.38	41
MTCA Method A Cleanup Level		*200*		*200*	*100*		*0.5*		*40*		*20*		*20*		*250*

Notes:

1. Ecology Method NWTPH-D.
2. Ecology Method NWTPH-G.
3. EPA Method 8020.
4. EPA Method 6010.

- Not tested.

< Indicates analyte not detected above given detection limit.

Boldface type indicates sample result exceeds MTCA Method A cleanup level.

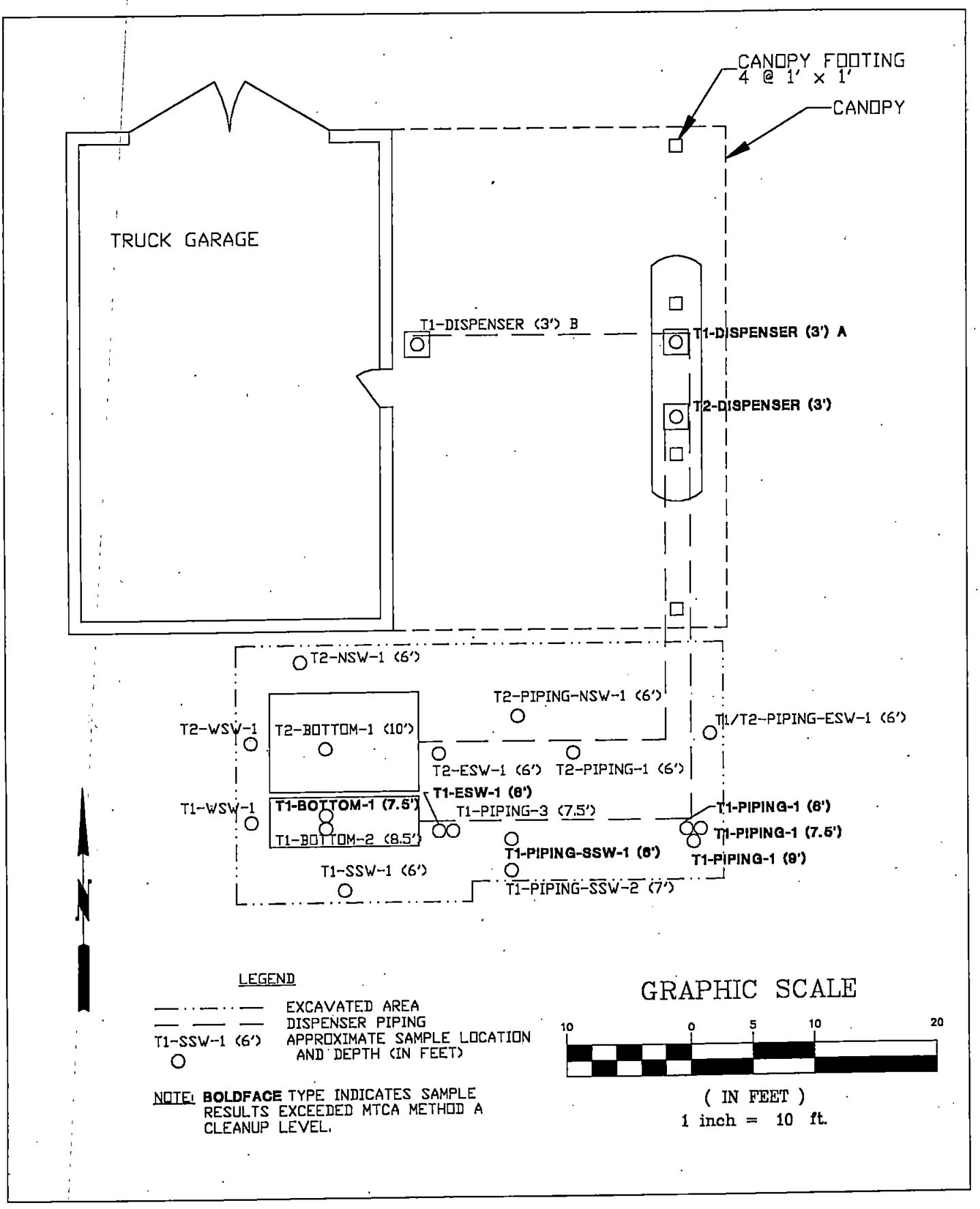

FIGURE 3: TANK 1 AND 2 SAMPLE LOCATIONS

Field screening results of the samples from the tank area excavation indicated gasoline and diesel range hydrocarbons were detected at levels exceeding MTCA method A cleanup levels for soil in samples from the bottom and east sidewall of tank 1 (samples T1-Bottom-1 and T1-ESW-1, Table 1). Results of field screening and laboratory samples from the remaining excavation sidewalls indicated petroleum hydrocarbons, BTEX, and lead were either not detected or were present at concentrations below respective cleanup levels.

Piping between tanks T1 and T2 and the dispenser island was removed on September 4, 1997. During excavation and removal of the piping, petroleum odors and staining were observed in soils adjacent to piping, particularly the piping for tank 1. Following removal of the piping, visibly effected soils were removed and soil samples were collected at five locations and field screened for petroleum hydrocarbons. Results of field screening indicated gasoline and diesel-range petroleum hydrocarbons at levels exceeding respective MTCA method A cleanup levels at two locations along the tank 1 piping run (samples T1-PP-1 and T1-Piping-SSW-1). Results of other sample locations along the piping runs indicated petroleum hydrocarbons either were not detected or were present only at concentrations below cleanup levels.

On September 5, 1997, additional soil was removed from the bottom and sidewalls of the excavation near tank 1 and the piping areas where petroleum hydrocarbons were present in field screening samples. Following removal of the additional soil, samples were again collected and field screened for petroleum hydrocarbons. Results of the additional samples indicated petroleum hydrocarbons were either not detected or only present at concentrations below cleanup levels in samples from the tank excavation and south sidewalls of the piping areas (samples T1-Bottom-2, T1-Piping-3, and T1-Piping-SSW-2). However, diesel range petroleum hydrocarbons were present in excess of the MTCA method A cleanup level in a sample collected from the southeast corner of the excavation (sample T1-piping-2). The sample was collected beneath the location of a former piping swing-joint connection that was found to be loose during removal of the piping.

Additional soil was removed from the southeast corner of the excavation later on September 5 and another sample was collected from beneath the former piping swing-joint connection (sample T1-Piping-4). Soil in this area was excavated to a depth of approximately nine feet. Groundwater was present in the excavation at a depth of between seven and eight feet. Field screening and laboratory results of sample T1-piping-4, collected at a depth of approximately nine feet, indicated diesel range petroleum hydrocarbons present a level of 300 mg/Kg. The laboratory results of the split sample from this location indicated diesel range petroleum hydrocarbons present at level of 410 mg/Kg (method WTPH-D).

Although both the field screening and laboratory results for sample T1-piping-4 are above the MTCA method A cleanup level for petroleum hydrocarbons in soil of 200 mg/Kg, the sample results are believed to be much higher than are actually present in the soil. This is because of the large quantity of oversize material, including gravel and cobble sized

grains, that were present in the sample matrix but discarded prior to placing the sample material into jars. The oversize (and discarded) material was estimated to comprise more than one-half the sample matrix. Therefore, the actual concentration of petroleum hydrocarbons in the soil, when corrected for the weight of the oversized material, is estimated to be one-half or less of the value reported.

Sampling and Soil Removal - Tank 3

Tank 3 was removed August 25, 1997. During excavation of the tank, petroleum odors and staining were observed in soils above the tank near where the piping from the boiler room entered the tank. Soil samples were collected from the tank 3 area on August 25 and 26, 1997 following removal of the tank. Sample results are summarized in Table 2 and locations are shown in Figure 4.

Table 2. Analytical results of soil samples - Tank 3.

Sample	Date	Diesel-range hydrocarbons (mg/Kg)		Heavy-range hydrocarbons (mg/Kg)	Lead (mg/Kg)
		Field	Lab[1]	Field	Lab[2]
T3-E1A	08/25/97	**270**	-	52	-
T3-N1-A	08/25/97	<25	-	<50	-
T3-E1B	08/26/97	**290**	-	91	-
T3-N1B	08/26/97	64	-	68	-
T3-ESW-8'A	08/26/97	180	-	**570**	-
T3-WSW-6'A	08/26/97	120	-	**370**	-
T3-ESW-8'B	08/26/97	<25	<27	<50	-
T3-WSW-8'	08/26/97	<25	<27	<50	-
T3-NSW-8'	08/26/97	<25	<27	<50	-
T3-SSW-8'	08/26/97	<25	<26	<50	-
T3-pipe run 3'	08/26/97	<25	<29	<50	-
SPC-1 (stockpile)	8/26/97	140	**280**	**270**	18
SPD-1 (stockpile)	8/26/97	**320**	**420**	**490**	9.5
MTCA Method A Cleanup Level		*200*		*200*	*250*

Notes:

1. Ecology Method NWTPH-D.
2. EPA Method 6010.
- Not tested.
< Indicates analyte not detected above given detection limit.

Boldface type indicates sample result exceeds MTCA Method A cleanup level.

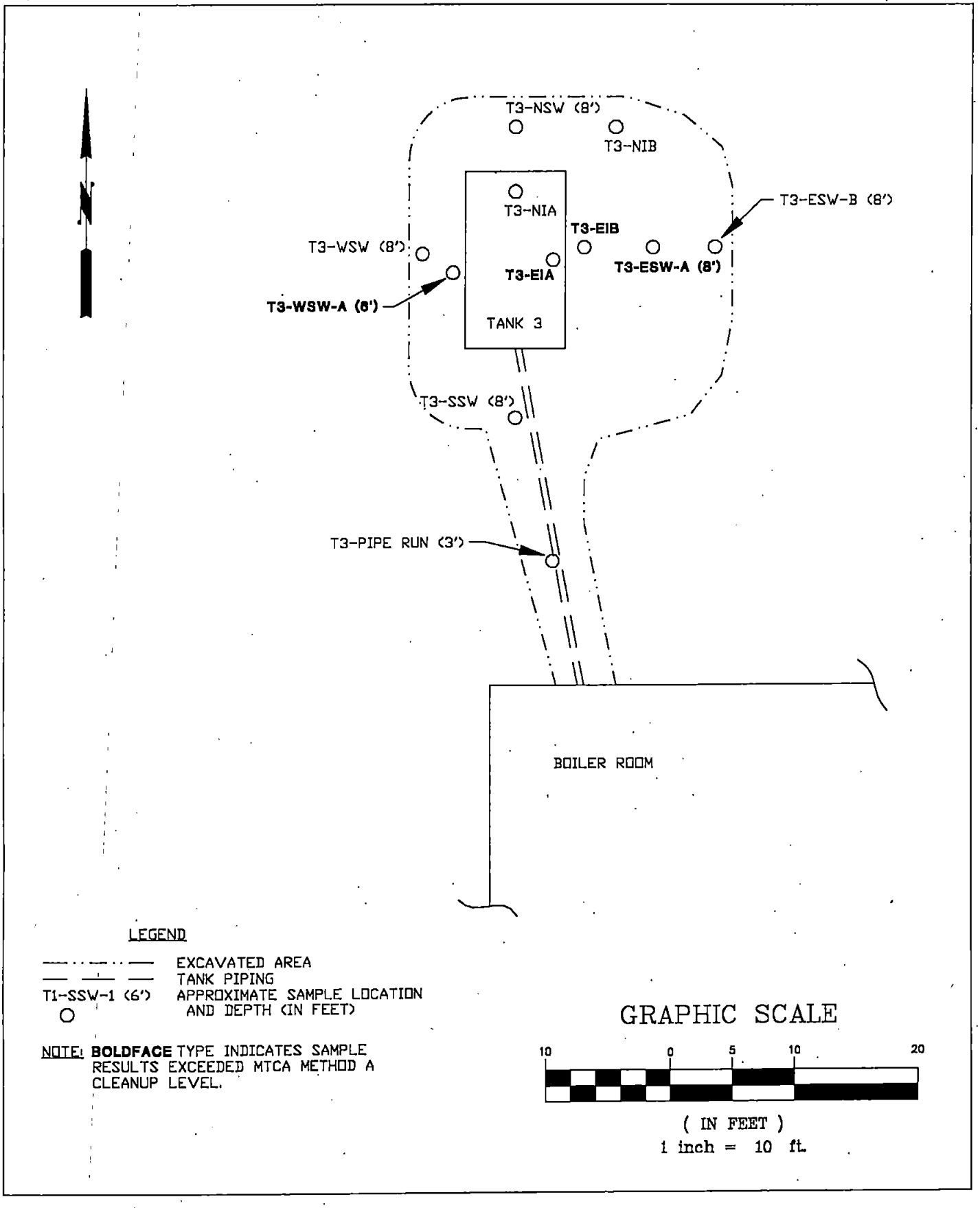

FIGURE 4: TANK 3 SAMPLE LOCATIONS

As the results indicate, diesel and/or heavy-range petroleum hydrocarbons were detected at levels in excess of the MTCA Method A cleanup level in samples along the east and west sidewalls of the tank excavation (samples T3-E1A, T3-E1B, T3-ESW-8'A, and T3-WSW-6'A). Petroleum hydrocarbons were not detected at levels above the detection limit in samples collected from the north or south sidewalls of the excavation (samples T3-NSW-8', T3-SSW-8'), or below the piping between the tank and the boiler room (T3-pipe run 3').

Additional soil was excavated from the east and west sidewalls of the tank 3 excavation and additional samples were collected. Results of the follow-up samples (samples T3-WSW-8', T3-ESW-8'B) indicated petroleum hydrocarbons were not present at levels above the detection limits.

No soil samples were collected from the bottom of the tank 3 excavation. Soils near the bottom consisted almost entirely of gravel and cobbles with only minimal finer-grained material. Groundwater was present in the gravel and cobble layer at a depth of approximately 10 feet. A thin petroleum-like sheen was observed on the surface of groundwater in the bottom of the excavation, indicating groundwater may have been impacted by leakage from the former tank or piping. No samples of the water were collected. However, a follow-up investigation is planned of groundwater quality near tank 3 that will include installing one or more groundwater monitoring wells.

3. SAMPLING AND ANALYSIS

Soil samples collected during site assessment and cleanup activities were handled in general accordance with the *King County UST Removal Old Maple Valley Facility - Sampling and Analysis Plan* prepared by Foss Environmental Services. Sampling activities are described in the following sections.

SAMPLE COLLECTION

Soil samples were collected using stainless steel hand tools including spoons, bowls, and a hand auger. In cases where sample depths exceeded four feet in excavation areas, soil was retrieved using excavation equipment and samples were collected from the bucket of the excavator. Care was taken to avoid soil in contact with the sides of the bucket and every attempt was made to collect samples representative of surrounding soil conditions.

Samples scheduled for diesel and heavier-range petroleum hydrocarbon analysis (and lead) were thoroughly mixed in a bowl prior to filling sample containers. Samples scheduled for gasoline-range and volatile aromatic hydrocarbons were placed immediately into sample containers and securely capped to minimize loss of volatile fractions. All samples were labeled with a unique identification and the time, date, and samplers initials, and placed into a chilled cooler for storage. Sampling activities were recorded in a field notebook and entered on a chain-of-custody form.

SAMPLE ANALYSIS

All samples were collected in duplicate. Initially, samples were analyzed in the field using a mobile gas chromatograph provided by Onsite Analytical, Inc. When field screening results indicated petroleum hydrocarbons were below cleanup levels, the corresponding set of duplicate samples were submitted to Onsite's analytical laboratory for testing, including Washington Total Petroleum Hydrocarbon (WTPH) Methods. Laboratory analytical methods and parameters are listed below.

Parameter	Analytical Method
Gasoline Range Petroleum Hydrocarbons	NWTPH-G
Volatile Aromatic Hydrocarbons	EPA Method 8020
Diesel Range Petroleum Hydrocarbons	NWTPH-D
Lead	EPA Method 6010

DECONTAMINATION

Following collection of individual samples, sampling utensils were thoroughly cleaned. Cleaning procedures included the following steps:

- Rinse in tap water to remove bulk soil particles
- Scrub in Alconox detergent
- Triple rinse in tap water

APPENDIX A

Waste Disposal Receipts (Soil, Water, Tanks)

Manifest

TPS Technologies Soil Recycling
Non-Hazardous Soils

Manifest

Date of Shipment:	Responsible for Payment:	Transporter Truck #:	Facility #:	Given by TPS:	Load #
	Consultant		A03	01392	001

Generator and/or Consultant

Generator's Name and Billing Address:	Generator's Phone #:	Generator's US EPA ID No.
KING COUNTY 500 FOURTH AVENUE ROOM 320 SEATTLE, WA 98104 USA	(206) 296-1706 Person to Contact: JOE HICKER FAX#: (206) 296-0186	Customer Account Number with TPS: OKINCOU
Consultant's Name and Billing Address: FOSS ENVIRONMENTAL 7440 W. MARGINAL WAY SOUTH SEATTLE, WA 98108-0441 USA	Consultant's Phone #: (206) 768-1434 Person to Contact: VYRL NAUMANN FAX#: (206) 767-3460	Customer Account Number with TPS: 1001358
Generation Site (Transport from): *(name & address)* OLD MAPLE VALLEY FACILITIES 18825 SE MAPLE VALLEY HIGHWAY MAPLE VALLEY, WA. 00000 USA	Site Phone #: Person to Contact: FAX#:	BTEX Levels TPH Levels AVG. Levels
Designated Facility (Transport to): *(name & address)* TPS Technologies Inc. 2800 - 104th Street Court South Lakewood, WA 98444-6766 USA	Facility Phone #: (206)584-8430 Person to Contact: Renee Avelino FAX#: (206)584-8309	Facility Permit Numbers
Transporter Name and Mailing Address: FOSS ENVIRONMENTAL 7440 W. MARGINAL WAY SO. SEATTLE, WA 98108 USA	Transporter's Phone #: (206) 768-1434 Person to Contact: VYRL NAUMANN FAX#: (206) 767-3460	Transporter's US EPA ID No.: Transporter's DOT No.: Customer Account Number with TPS: SPOSSEN

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐		NET TONS			28.05

List any exception to items listed above:

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: X Generator ☐ Consultant ☐ Signature and date: Month Day Year

Transporter

Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: MARK RAMICC Signature and date: 7 2 91

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: RENEE AVELINO - CSM Signature and date: 7/2

Please print or type.

TPS Technologies Soil Recycling

Non-Hazardous Soils

Date of Shipment:	Responsible for Payment: Consultant	Transporter Truck #:	Facility #: A03	Given by TPS: 01392	Load #: 002

Generator and/or Consultant

Generator's Name and Billing Address: KING COUNTY 500 FOURTH AVENUE ROOM 320 SEATTLE, WA 98104 USA	Generator's Phone #: (206) 296-1706 Person to Contact: JOE HICKER FAX#: (206) 296-0186	Generator's US EPA ID No.: Customer Account Number with TPS: 3KINCOU
Consultant's Name and Billing Address: FOSS ENVIRONMENTAL 7440 W. MARGINAL WAY SOUTH SEATTLE, WA 98108-0441 USA	Consultant's Phone #: (206) 768-1434 Person to Contact: VYRL NAUMANN FAX#: (206) 767-3460	Customer Account Number with TPS: 1001358
Generation Site (Transport from): (name & address) OLD MAPLE VALLEY FACILITIES 18825 SE MAPLE VALLEY HIGHWAY MAPLE VALLEY, WA 00000 USA	Site Phone #: Person to Contact: FAX#:	BTEX Levels TPH Levels AVG. Levels
Designated Facility (Transport to): (name & address) TPS Technologies Inc. 2800 - 104th Street Court South Lakewood, WA 98444-6766 USA	Facility Phone #: (206)584-8430 Person to Contact: Renee Avelino FAX#: (206)584-8309	Facility Permit Numbers
Transporter Name and Mailing Address: FOSS ENVIRONMENTAL 7440 W. MARGINAL WAY SO. SEATTLE, WA 98108 USA	Transporter's Phone #: (206) 768-1434 Person to Contact: VYRL NAUMANN FAX#: (206) 767-3460	Transporter's US EPA ID No.: Transporter's DOT No.: Customer Account Number with TPS: 3FOSSEN

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0-10% ☐ 10-20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					
Sand ☐ Organic ☐ Clay ☐ Other ☐	0-10% ☐ 10-20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐		NET TONS=			30.93

List any exception to items listed above:

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: X Generator ☐ Consultant ☐ Signature and date: Month Day Year

Transporter

Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: X STEVE PETERSON Signature and date: Steve Peterson Month 9 Day 2 Year 97

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: RENEE AVELINO - CSM Signature and date: Rebecca [illegible] 9/2

TPS Technologies Soil Recycling
Non-Hazardous Soils

Date of Shipment	Responsible for Payment:	Transporter Truck #:	Facility #:	Given by TPS:	Load #
	Consultant		A03	01392	003

Generator and/or Consultant

Generator's Name and Billing Address: KING COUNTY 500 FOURTH AVENUE ROOM 320 SEATTLE, WA 98104 USA	Generator's Phone #: (206) 296-1706 Person to Contact: JOE HICKER FAX#: (206) 296-0186	Generator's US EPA ID No. Customer Account Number with TPS: 3KINCOU
Consultant's Name and Billing Address: FOSS ENVIRONMENTAL 7440 W. MARGINAL WAY SOUTH SEATTLE, WA 98108-0441 USA	Consultant's Phone #: (206) 768-1434 Person to Contact: VYRL NAUMANN FAX#: (206) 767-3460	 Customer Account Number with TPS: 1001358
Generation Site (Transport from): *(name & address)* OLD MAPLE VALLEY FACILITIES 18825 SE MAPLE VALLEY HIGHWAY MAPLE VALLEY, WA 00000 USA	Site Phone #: Person to Contact: FAX#:	BTEX Levels TPH Levels AVG. Levels
Designated Facility (Transport to): *(name & address)* TPS Technologies Inc. 2800 - 104th Street Court South Lakewood, WA 98444-6766 USA	Facility Phone #: (206)584-8430 Person to Contact: Renee Avelino FAX#: (206)584-8309	Facility Permit Numbers
Transporter Name and Mailing Address: FOSS ENVIRONMENTAL 7440 W. MARGINAL WAY SO. SEATTLE, WA 98108 USA	Transporter's Phone #: (206) 768-1434 Person to Contact: VYRL NAUMANN FAX#: (206) 767-3460	Transporter's US EPA ID No.: Transporter's DOT No.: Customer Account Number with TPS: 3FOSSEN

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐		NET TONS			27.66

List any exception to items listed above:

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: X Generator ☐ Consultant ☐ | Signature and date: | Month | Day | Year

Transporter

Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: MARK RAMIREZ | Signature and date: | Month 9 | Day 5 | Year 97

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: RENEE AVELINO - CSM | Signature and date: C. Griffen 9/9/97

TPS Technologies Soil Recycling

Non-Hazardous Soils

Date of Shipment:	Responsible for Payment:	Transporter Truck #:	Facility #:	Given by TPS:	Load #
	Consultant		A03	01392	004

Generator and/or Consultant

Generator's Name and Billing Address: KING COUNTY 500 FOURTH AVENUE ROOM 320 SEATTLE, WA 98104 USA	Generator's Phone #: (206) 296-1706 Person to Contact: JOE HICKER FAX#: (206) 296-0186	Generator's US EPA ID No. Customer Account Number with TPS: 3KINCOU
Consultant's Name and Billing Address: FOSS ENVIRONMENTAL 7440 W. MARGINAL WAY SOUTH SEATTLE, WA 98108-0441 USA	Consultant's Phone #: (206) 768-1434 Person to Contact: VYRL NAUMANN FAX#: (206) 767-3460	 Customer Account Number with TPS: 1001358
Generation Site (Transport from): *(name & address)* OLD MAPLE VALLEY FACILITIES 18825 SE MAPLE VALLEY HIGHWAY MAPLE VALLEY, WA 00000 USA	Site Phone #: Person to Contact: FAX#:	BTEX Levels TPH Levels AVG. Levels
Designated Facility (Transport to): *(name & address)* TPS Technologies Inc. 2800 - 104th Street Court South Lakewood, WA 98444-6766 USA	Facility Phone #: (206)584-8430 Person to Contact: Renee Avelino FAX#: (206)584-8309	Facility Permit Numbers
Transporter Name and Mailing Address: FOSS ENVIRONMENTAL 7440 W. MARGINAL WAY SO. SEATTLE, WA 98108 USA	Transporter's Phone #: (206) 768-1434 Person to Contact: VYRL NAUMANN FAX#: (206) 767-3460	Transporter's UB EPA ID No.: Transporter's DOT No.: Customer Account Number with TPS: SPOSSEN

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐		NET TONS			31.87

List any exception to items listed above:

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: X — Generator ☐ Consultant ☐ — Signature and date: — Month | Day | Year

Transporter

Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: STEVE PETERSON — Signature and date: Steve Peterson — Month: 9 — Day: 2 — Year: 97

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: RENEE AVELINO - CSM — Signature and date: [illegible] 2/9/97

Please print or type (Form designed for use on elite (12-pitch) typewriter.)

TRANSPORTER'S COPY

TPS Technologies Soil Recycling
Non-Hazardous Soils

Date of Shipment:	Responsible for Payment: Consultant	Transporter Truck #:	Facility #: A03	Given by TPS: 01392	Load #: 005

Generator and/or Consultant

Generator's Name and Billing Address:	Generator's Phone #:	Generator's US EPA ID No.
KING COUNTY 500 FOURTH AVENUE ROOM 320 SEATTLE, WA 98104 USA	(206) 296-1706 Person to Contact: JOE HICKER FAX#: (206) 296-0186	Customer Account Number with TPS: 3KINCOU
Consultant's Name and Billing Address:	**Consultant's Phone #:**	
FOSS ENVIRONMENTAL 7440 W. MARGINAL WAY SOUTH SEATTLE, WA 98108-0441 USA	(206) 768-1434 Person to Contact: VYRL NAUMANN FAX#: (206) 767-3460	Customer Account Number with TPS: 1001358
Generation Site (Transport from): (name & address)	**Site Phone #:**	BTEX Levels
OLD MAPLE VALLEY FACILITIES 18825 SE MAPLE VALLEY HIGHWAY MAPLE VALLEY, WA 00000 USA	Person to Contact: FAX#:	TPH Levels AVG. Levels
Designated Facility (Transport to): (name & address)	**Facility Phone #:**	Facility Permit Numbers:
TPS Technologies Inc. 2800 - 104th Street Court South Lakewood, WA 98444-6766 USA	(206)584-8430 Person to Contact: Renee Avelino FAX#: (206)584-8309	
Transporter Name and Mailing Address:	**Transporter's Phone #:**	Transporter's US EPA ID No.:
FOSS ENVIRONMENTAL 7440 W. MARGINAL WAY SO. SEATTLE, WA 98108 USA	(206) 768-1434 Person to Contact: VYRL NAUMANN FAX#: (206) 767-3460	Transporter's DOT No.: Customer Account Number with TPS: JFOSSEN

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐		NET TONS=			26.59

List any exception to items listed above:

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☐ Consultant ☐ | Signature and date: | Month | Day | Year

Transporter

Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: Mark Ramirez | Signature and date: | Month: 9 | Day: 3 | Year: 97

Discrepancies:

Recycling Facility

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: RENEE AVELINO - CSM | Signature and date: 9/3

TPS Technologies Soil Recycling
Non-Hazardous Soils

Date of Shipment:	Responsible for Payment:	Transporter Truck #:	Facility #:	Given by TPS:	Load #:
	Consultant		A03	01392	006

Generator and/or Consultant

Generator's Name and Billing Address:	Generator's Phone #:	Generator's US EPA ID No.
KING COUNTY 500 FOURTH AVENUE ROOM 320 SEATTLE, WA 98104 USA	(206) 296-1706	
	Person to Contact: JOE HICKER	
	FAX#: (206) 296-0186	Customer Account Number with TPS: 3KINCOU
Consultant's Name and Billing Address:	**Consultant's Phone #:**	
FOSS ENVIRONMENTAL 7440 W. MARGINAL WAY SOUTH SEATTLE, WA 98108-0441 USA	(206) 768-1434	
	Person to Contact: VYRL NAUMANN	
	FAX#: (206) 767-3460	Customer Account Number with TPS: 1001358
Generation Site (Transport from): *(name & address)*	**Site Phone #:**	BTEX Levels
OLD MAPLE VALLEY FACILITIES 18825 SE MAPLE VALLEY HIGHWAY MAPLE VALLEY, WA 00000 USA	Person to Contact:	TPH Levels
	FAX#:	AVG. Levels
Designated Facility (Transport to): *(name & address)*	**Facility Phone #:**	Facility Permit Numbers
TPS Technologies Inc. 2800 - [redacted] Street Court South Lakewood, WA 98444-6766 USA	(206)584-8430	
	Person to Contact: Renee Avelino	
	FAX#: (206)584-8309	
Transporter Name and Mailing Address:	**Transporter's Phone #:**	Transporter's US EPA ID No.
FOSS ENVIRONMENTAL 7440 W. MARGINAL WAY SO. SEATTLE, WA 98108 USA	(206) 768-1434	
	Person to Contact: VYRL NAUMANN	Transporter's DOT No.
	FAX#: (206) 767-3460	Customer Account Number with TPS: SPOSSEN

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0-10% ☐ 10-20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					
Sand ☐ Organic ☐ Clay ☐ Other ☐	0-10% ☐ 10-20% ☐ 20% - over ☐	Gas ☐ Diesel ☒ Other ☐		NET TONS			32.09

List any exception to items listed above:

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: X Generator ☐ Consultant ☐ Signature and date: Month Day Year

Transporter

Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: MARK RUMIRE Signature and date: 9 13 97

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: RENEE AVELINO - CSM Signature and date: 9/3

Printed print or type

TPS Technologies Soil Recycling

Non-Hazardous Soils

Date of Shipment:	Responsible for Payment: Consultant	Transporter Truck #:	Facility #: A03	Given by TPS: 01392	Load # 007

Generator and/or Consultant

Generator's Name and Billing Address: KING COUNTY 500 FOURTH AVENUE ROOM 320 SEATTLE, WA 98104 USA	Generator's Phone #: (206) 296-1706 Person to Contact: JOE HICKER FAX#: (206) 296-0186	Generator's US EPA ID No. Customer Account Number with TPS: 3KINCOU
Consultant's Name and Billing Address: FOSS ENVIRONMENTAL 7440 W. MARGINAL WAY SOUTH SEATTLE, WA 98108-0441 USA	Consultant's Phone #: (206) 768-1434 Person to Contact: VYRL NAUMANN FAX#: (206) 767-3460	 Customer Account Number with TPS: 1001358
Generation Site (Transport from): *(name & address)* OLD MAPLE VALLEY FACILITIES 18825 SE MAPLE VALLEY HIGHWAY MAPLE VALLEY, WA 00000 USA	Site Phone #: Person to Contact: FAX#:	BTEX Levels TPH Levels AVG. Levels
Designated Facility (Transport to): *(name & address)* TPS Technologies Inc. 2800 - 104th Street Court South Lakewood, WA 98444-5766 USA	Facility Phone #: (206)584-8430 Person to Contact: Renee Avelino FAX#: (206)584-8309	Facility Permit Numbers
Transporter Name and Mailing Address: FOSS ENVIRONMENTAL 7440 W. MARGINAL WAY SO. SEATTLE, WA 98108 USA	Transporter's Phone #: (206) 768-1434 Person to Contact: VYRL NAUMANN FAX#: (206) 767-3460	Transporter's US EPA ID No.: Transporter's DOT No.: Customer Account Number with TPS: STOSSEN

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			90960	34360	56,600
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐		NET TONS=	28.3		

List any exception to items listed above:

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: X — Generator ☐ Consultant ☐ — Signature and date: — Month / Day / Year

Transporter

Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: MARK RAMIREZ — Signature and date: — Month: 9 / Day: 3 / Year: 97

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: RENEE AVELINO - CSM — Signature and date: 9/3

TPS Technologies Soil Recycling
Non-Hazardous Soils

Date of Shipment:	Responsible for Payment:	Transporter Truck #:	Facility #:	Given by TPS:	Load #
	Consultant		A03	01392	008

Generator and/or Consultant

Generator's Name and Billing Address: KING COUNTY 500 FOURTH AVENUE ROOM 320 SEATTLE, WA 98104 USA	Generator's Phone #: (206) 296-1706 Person to Contact: JOE HICKER FAX#: (206) 296-0186	Generator's US EPA ID No. Customer Account Number with TPS: 3KINCOU
Consultant's Name and Billing Address: FOSS ENVIRONMENTAL 7440 W. MARGINAL WAY SOUTH SEATTLE, WA 98108-0441 USA	Consultant's Phone #: (206) 768-1434 Person to Contact: VYRL NAUMANN FAX#: (206) 767-3460	 Customer Account Number with TPS: 1001358
Generation Site (Transport from): *(name & address)* OLD MAPLE VALLEY FACILITIES 18825 SE MAPLE VALLEY HIGHWAY MAPLE VALLEY, WA 00000 USA	Site Phone #: Person to Contact: FAX#:	BTEX Levels TPH Levels AVG. Levels
Designated Facility (Transport to): *(name & address)* TPS Technologies Inc. 2800 - 104th Street Court South Lakewood, WA 98444-6766 USA	Facility Phone #: (253)584-8430 Person to Contact: Renee Avelino FAX#: (253)584-8309	Facility Permit Numbers
Transporter Name and Mailing Address: FOSS ENVIRONMENTAL 7440 W. MARGINAL WAY SO. SEATTLE, WA 98108 USA	Transporter's Phone #: (206) 768-1434 Person to Contact: VYRL NAUMANN FAX#: (206) 767-3460	Transporter's US EPA ID No.: Transporter's DOT No.: Customer Account Number with TPS: JFOSSEN

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☒ Diesel ☐ Other ☐		- NET TONS -			37.92

List any exception to items listed above:

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: X — Generator ☐ Consultant ☐ — Signature and date: — Month / Day / Year

Transporter

Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: STEVE PETERSON — Signature and date: — Month: 9 / Day: 8 / Year: 97

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: RENEE AVELINO - CSM — Signature and date: 9/8

TPS Technologies Soil Recycling

Non-Hazardous Soils

Date of Shipment:	Responsible for Payment:	Transporter Truck #:	Facility #:	Given by TPS:	Load #
	Consultant		A03	01392	009

Generator and/or Consultant

Generator's Name and Billing Address:	Generator's Phone #:	Generator's US EPA ID No.
KING COUNTY 500 FOURTH AVENUE ROOM 320 SEATTLE, WA 98104 USA	(206) 296-1706	
	Person to Contact: JOE HICKER	
	FAX#: (206) 296-0186	Customer Account Number with TPS: 3KINCOU

Consultant's Name and Billing Address:	Consultant's Phone #:	
FOSS ENVIRONMENTAL 7440 W. MARGINAL WAY SOUTH SEATTLE, WA 98108-0441 USA	(206) 768-1434	
	Person to Contact: VYRL NAUMANN	
	FAX#: (206) 767-3460	Customer Account Number with TPS: 1001358

Generation Site (Transport from): *(name & address)*	Site Phone #:	BTEX Levels
OLD MAPLE VALLEY FACILITIES 18825 SE MAPLE VALLEY HIGHWAY MAPLE VALLEY, WA 00000 USA	Person to Contact:	TPH Levels
	FAX#:	AVG. Levels

Designated Facility (Transport to): *(name & address)*	Facility Phone #:	Facility Permit Numbers
TPS Technologies Inc. 2800 - 104th Street Court South Lakewood, WA 98444-6766 USA	(253)584-8430	
	Person to Contact: Renee Avelino	
	FAX#: (253)584-8309	

Transporter Name and Mailing Address:	Transporter's Phone #:	Transporter's US EPA ID No.:
FOSS ENVIRONMENTAL 7440 W. MARGINAL WAY SO. SEATTLE, WA 98108 USA	(206) 768-1434	
	Person to Contact: VYRL NAUMANN	Transporter's DOT No.:
	FAX#: (206) 767-3460	Customer Account Number with TPS: FOSSEN

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐		NET TONS			39.05

List any exception to items listed above:

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☐ Consultant ☐ | Signature and date: | Month | Day | Year

Transporter

Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: STEVE PETERSEN | Signature and date: | Month 9 | Day 18 | Year 97

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: RENEE AVELINO - CSM | Signature and date: | 9/18

GENERATOR/CONSULTANT COPY

Foss 72520

TPS Technologies Soil Recycling

Non-Hazardous Soils

Date of Shipment:	Responsible for Payment:	Transporter Truck #:	Facility #:	Given by TPS:	Load #
	Consultant		A03	01392	010

Generator and/or Consultant

Generator's Name and Billing Address: KING COUNTY 500 FOURTH AVENUE ROOM 320 SEATTLE, WA 98104 USA	Generator's Phone #: (206) 296-1706	Generator's US EPA ID No.	
	Person to Contact: JOE HICKER		
	FAX#: (206) 296-0186	Customer Account Number with TPS: 3KINCOU	
Consultant's Name and Billing Address: FOSS ENVIRONMENTAL 7440 W. MARGINAL WAY SOUTH SEATTLE, WA 98108-0441 USA	Consultant's Phone #: (206) 768-1434		
	Person to Contact: VYRL NAUMANN		
	FAX#: (206) 767-3460	Customer Account Number with TPS: 1001358	
Generation Site (Transport from): *(name & address)* OLD MAPLE VALLEY FACILITIES 18825 SE MAPLE VALLEY HIGHWAY MAPLE VALLEY, WA 00000 USA	Site Phone #:	BTEX Levels	
	Person to Contact:	TPH Levels	
	FAX#:	AVG. Levels	
Designated Facility (Transport to): *(name & address)* TPS Technologies Inc. 2800 - 104th Street Court South Lakewood, WA 98444-6766 USA	Facility Phone #: (253)584-8430	Facility Permit Numbers	
	Person to Contact: Renee Avelino		
	FAX#: (253)584-8309		
Transporter Name and Mailing Address: FOSS ENVIRONMENTAL 7440 W. MARGINAL WAY SO. SEATTLE, WA 98108 USA	Transporter's Phone #: (206) 768-1434	Transporter's US EPA ID No.:	
	Person to Contact: VYRL NAUMANN	Transporter's DOT No.:	
	FAX#: (206) 767-3460	Customer Account Number with TPS: 3FUSSEN	

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☒ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐		NET TONS=			21.14

List any exception to items listed above:

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: X — Generator ☐ Consultant ☐ — Signature and date: — Month / Day / Year

Transporter

Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: [illegible] Foley — Signature and date: James Foley — Month: 9 / Day: 12 / Year: 97

Discrepancies:

Recycling Facility

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: RENEE AVELINO - CSM — Signature and date: C. Griffen 12/9/97

TPS Technologies Soil Recycling

Non-Hazardous Soils

Date of Shipment:	Responsible for Payment:	Transporter Truck #:	Facility #:	Given by TPS:	Load #
	Consultant		A03	#1392	011

Generator and/or Consultant

Generator's Name and Billing Address: KING COUNTY 500 FOURTH AVENUE ROOM 320 SEATTLE, WA 98104 USA	Generator's Phone #: (206) 296-1706 Person to Contact: JOE HICKER FAX#: (206) 296-0186	Generator's US EPA ID No. Customer Account Number with TPS: 3KINCOU
Consultant's Name and Billing Address: FOSS ENVIRONMENTAL 7440 W. MARGINAL WAY SOUTH SEATTLE, WA 98108-0441 USA	Consultant's Phone #: (206) 768-1434 Person to Contact: VYRL NAUMANN FAX#: (206) 767-3460	 Customer Account Number with TPS: 1001358
Generation Site (Transport from): *(name & address)* OLD MAPLE VALLEY FACILITIES 18825 SE MAPLE VALLEY HIGHWAY MAPLE VALLEY, WA 00000 USA	Site Phone #: Person to Contact: FAX#:	BTEX Levels TPH Levels AVG. Levels
Designated Facility (Transport to): *(name & address)* TPS Technologies Inc. 2800 - 104th Street Court South Lakewood, WA 98444-6766 USA	Facility Phone #: (253)584-8430 Person to Contact: Renee Avelino FAX#: (253)584-8309	Facility Permit Numbers
Transporter Name and Mailing Address: FOSS ENVIRONMENTAL 7440 W. MARGINAL WAY SO. SEATTLE, WA 98108 USA	Transporter's Phone #: (206) 768-1434 Person to Contact: VYRL NAUMANN FAX#: (206) 767-3460	Transporter's US EPA ID No.: Transporter's DOT No.: Customer Account Number with TPS: 3FOSSEN

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐		NET TONS=			19.9

List any exception to items listed above:

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way..

Print or Type Name:	Signature and date:	Month	Day	Year
X Generator ☐ Consultant ☐				

Transporter

Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name:	Signature and date:	Month	Day	Year
James Artley	James C Artley	9	12	97

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:	Signature and date:
RENEE AVELINO - CSM	Renee Avelino 9/12

NORTHWEST ENVIROSERVICE INC

37445

BILL OF LADING AND GALLONAGE REPORT

CUSTOMER Foss Environmental DATE 9/11/97

JOB LOCATION

DRIVER EQUIP 1

JOB NO PO # 7135014 DOCUMENT NO

PRODUCT Bunker of water EST. GALS 2300

PRODUCT EST. GALS

DRUMS NO

OTHER EST SOLIDS

This material is not Regulated under WAC 173-303 40 CFR part 261 or TSCA

CUSTOMER SIGNATURE

N.W.E.S. DISPOSAL

WASH OUT: YES ☐ NO ☐ TIME IN TIME OUT

WATER 2000 GAL LOCATION L-PIT CODE WTP-H

SOLIDS GAL LOCATION CODE

% SUSPENDED SOLIDS BY CENTRIFUGE + GALS. SEDIMENT

OIL/DIESEL 300 GAL LOCATION F-PIT CODE OP-PC

HOC'S PCB'S B.S.&W. API. LAB: YES ☐ NO ☐

GAS GAL LOCATION

HWP GAL LOCATION .19 X 2300 = 437.00

OTHER

FACILITY REPRESENTATIVE DRIVER SIGNATURE

NW118 (REV. 8/96)

CUSTOMER

Foss Environmental 9-11-97

Sunset Approvals Fax to Skip

Seattle Iron & Metals

71350
King Co. - Maple Valley

ON & METALS CORP.
E. S.W. SEATTLE, WA 98134

078458

REF #	DATE	DESCRIPTION	PRICE	WEIGHT	NET
148	9/ 8/97	#1 UNPREPARED	35.0000/NT	3750	65.63

71350-60500

9821

Time: 3:23 PM

FOSS ENVIRONMENTAL

DATE: 9/ 8/97 NUMBER: 78458

65.63

078529

N & METALS CORP.
S.W. SEATTLE, WA 98134

REF #	DATE	DESCRIPTION	PRICE	WEIGHT	NET
008	9/15/97	#1 UNPREPARED	35.0000/NT	6030	105.53

71350-60500

Time: 8:08 AM

ID #:

VENDOR: FOSS ENVIRONMENTAL

DATE: 9/15/97 NUMBER: 78529

105.53

APPENDIX B

Laboratory Certificates (Onsite Analytical, Inc.)

OnSite Environmental Inc.
Analytical Testing and Mobile Laboratory Services

August 28, 1997

Jerry Olson
Foss Environmental
7440 West Marginal Way S.
Seattle, WA 98108

Re: Analytical Data for Project 71350
Laboratory Reference No. 9708-128

Dear Jerry:

Enclosed are the analytical results and associated quality control data for samples submitted on August 27, 1997.

The standard policy of OnSite Environmental Inc., is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

Andy Bay
Project Chemist

Enclosures

14924 NE 31st Circle • Redmond, WA 98052 • (425) 883-3881 • Fax (425) 885-4603

Date of Report: August 28, 1997
Samples Submitted: August 27, 1997
Lab Traveler: 08-128
Project: 71350

NWTPH-Dx Lab

Date Extracted: 8-27-97
Date Analyzed: 8-27-97

Matrix: Soil

Units: mg/Kg (ppm)

Client ID:	T3-W/SW 8'	T3-N/SW 8'	T3-E/SW(2) 8'	T3-S/SW 8'	T3- Pipe Run-3'
Lab ID:	08-128-01	08-128-02	08-128-03	08-128-04	08-128-05
Dilution Factor:	1.0	1.0	1.0	1.0	1.0
Diesel Fuel C12-C24:	ND	ND	ND	ND	ND
PQL:	27	27	27	26	29
Surrogate Recovery: o-Terphenyl	113%	117%	122%	83%	83%

Date of Report: August 28, 1997
Samples Submitted: August 27, 1997
Lab Traveler: 08-128
Project: 71350

NWTPH-Dx
METHOD BLANK QUALITY CONTROL

Date Extracted:	8-27-97
Date Analyzed:	8-27-97
Matrix:	Soil
Units:	mg/Kg (ppm)

Lab ID:	MB0827S1
Dilution Factor:	1.0
Diesel Fuel C12-C24:	ND
PQL:	25
Surrogate Recovery:	89%
o-Terphenyl	

Date of Report: August 28, 1997
Samples Submitted: August 27, 1997
Lab Traveler: 08-128
Project: 71350

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted:	8-26-97
Date Analyzed:	8-27-97
Matrix:	Soil
Units:	mg/Kg (ppm)

Lab ID:	08-126-01	08-126-01 DUP
Diesel Fuel C12-C24:	ND	ND
PQL:	25	25
RPD:	NA	
Surrogate Recovery: o-Terphenyl	83%	80%

Date of Report: August 28, 1997
Samples Submitted: August 27, 1997
Lab Traveler: 08-128
Project: 71350

NWTPH-Dx
SB/SBD QUALITY CONTROL

Date Extracted:	8-26-97
Date Analyzed:	8-27-97
Matrix:	Soil
Units:	mg/Kg (ppm)
Spike Level:	100 ppm

Lab ID:	SB0826S2	SB0826S2 DUP
Diesel Fuel C12-C24:	91.3	87.4
PQL:	25	25
Percent Recovery:	91	87
RPD:	4.4	
Surrogate Recovery: o-Terphenyl	102%	97%

Date of Report: August 28, 1997
Samples Submitted: August 27, 1997
Lab Traveler: 08-128
Project: 71350

Date Analyzed: 8-27-97

% MOISTURE

Client ID	Lab ID	% Moisture
T3-W/SW 8'	08-128-1	6.0
T3-N/SW 8'	08-128-2	8.0
T3-E/SW (2) 8'	08-128-3	7.0
T3-S/SW 8'	08-128-4	4.0
T3 Pipe Run 3'	08-128-5	14

OnSite Environmental Inc.

DATA QUALIFIERS AND ABBREVIATIONS

A - Due to high sample concentration, amount spiked insufficient for meaningful MS/MSD data recovery.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD outside control limits due to analyte concentration within five times the quantitation limit.

D - Data from 1:____ dilution.

E - Value reported exceeds the quantitation range. Value is an estimate.

F - Surrogate recovery data not available due to the high concentration in the sample.

G - Insufficient sample quantity for duplicate analysis.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD outside control limits due to sample inhomogeniety. Sample re-extracted and re-analyzed with similar results.

L - Quantitated from C7-C34 as diesel fuel #2.

M - Predominantly _____ range hydrocarbons present in the sample.

N - Hydrocarbons in the gasoline range (C7-toluene) present in the sample.
N1 - Hydrocarbons in the gasoline range (C7-toluene) present in the sample which are elevating the diesel result.

O - Hydrocarbons in the heavy oil range (>C24) present in the sample.
O1 - Hydrocarbons in the heavy oil range (>C24) present in the sample which are elevating the diesel result.

R - Hydrocarbons outside defined gasoline range present in the sample.

S - Surrogate recovery data not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - Matrix Spike/Matrix Spike Duplicate RPD outside control limits due to matrix effects.

V - Matrix Spike/Matrix Spike Duplicate recoveries outside control limits due to matrix effects.

Z - Interferences were present which prevented the quantitation of the analyte below the detection limit reported.

ND - Not Detected

MRL - Method Reporting Limit

PQL - Practical Quantitation

OnSite
Environmental Inc.
Analytical Testing and Mobile Laboratory Services

September 2, 1997

Jerry Olson
Foss Environmental
7440 West Marginal Way S.
Seattle, WA 98108

Re: Analytical Data for Project 71350
Laboratory Reference No. 9708-149

Dear Jerry:

Enclosed are the analytical results and associated quality control data for samples submitted on August 29, 1997.

The standard policy of OnSite Environmental Inc., is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

Andy Bay
Project Chemist

Enclosures

Date of Report: September 2, 1997
Samples Submitted: August 29, 1997
Lab Traveler: 08-149
Project: 71350

NWTPH-G/BTEX

Date Extracted: 8-29-97
Date Analyzed: 8-30-97

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID:	08-149-1			08-149-2		
Client ID:	**T2-WSW-1** ✓			**T1-WSW-1** ✓		
Dilution Factor	50			50		
	Result	Flags	PQL	**Result**	Flags	PQL
Benzene	**ND**		0.055	**ND**		0.060
Toluene	**ND**		0.055	**ND**		0.060
Ethyl Benzene	**ND**		0.055	**ND**		0.060
m,p-Xylene	**ND**		0.055	**ND**		0.060
o-Xylene	**ND**		0.055	**ND**		0.060
TPH-Gas	**ND**		5.5	**ND**		6.0
Surrogate Recovery: Fluorobenzene	80%			74%		

Date of Report: September 2, 1997
Samples Submitted: August 29, 1997
Lab Traveler: 08-149
Project: 71350

NWTPH-G/BTEX

Date Extracted: 8-29-97
Date Analyzed: 8-30-97

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID:	08-149-3 ✓			08-149-5 ✓		
Client ID:	**T1-SSW-1**			**T2-ESW-1**		
Dilution Factor	50			50		
	Result	Flags	PQL	**Result**	Flags	PQL
Benzene	**ND**		0.060	**ND**		0.064
Toluene	**ND**		0.060	**ND**		0.064
Ethyl Benzene	**ND**		0.060	**ND**		0.064
m,p-Xylene	**0.063**		0.060	**ND**		0.064
o-Xylene	**ND**		0.060	**ND**		0.064
TPH-Gas	**ND**		6.0	**14**		6.4
Surrogate Recovery:						
Fluorobenzene	74%			72%		

Date of Report: September 2, 1997
Samples Submitted: August 29, 1997
Lab Traveler: 08-149
Project: 71350

NWTPH-G/BTEX

Date Extracted: 8-29-97
Date Analyzed: 8-30-97

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID:	08-149-7 ✓			08-149-11		
Client ID:	**T1 T2 SP**			**T2-NSW-1** ✓		
Dilution Factor	250			50		
	Result	Flags	PQL	**Result**	Flags	PQL
Benzene	**ND**		0.28	**ND**		0.058
Toluene	**ND**		0.28	**ND**		0.058
Ethyl Benzene	**ND**		0.28	**ND**		0.058
m,p-Xylene	**0.38**		0.28	**ND**		0.058
o-Xylene	**ND**		0.28	**ND**		0.058
TPH-Gas	**120**		28	**ND**		5.8
Surrogate Recovery:						
Fluorobenzene	---	S		73%		

Date of Report: September 2, 1997
Samples Submitted: August 29, 1997
Lab Traveler: 08-149
Project: 71350

NWTPH-G/BTEX
METHOD BLANK QUALITY CONTROL

Date Extracted: 8-29-97
Date Analyzed: 8-30-97

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: MB0829S2

Dilution Factor 50

	Result	Flags	PQL
Benzene	ND		0.050
Toluene	ND		0.050
Ethyl Benzene	ND		0.050
m,p-Xylene	ND		0.050
o-Xylene	ND		0.050
TPH-Gas	ND		5.0

Surrogate Recovery:
Fluorobenzene 80%

Date of Report: September 2, 1997
Samples Submitted: August 29, 1997
Lab Traveler: 08-149
Project: 71350

NWTPH-G/BTEX
DUPLICATE QUALITY CONTROL

Date Extracted: 8-29-97
Date Analyzed: 8-30-97

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID	08-049-1 **Original**	08-049-1 **Duplicate**	**RPD**
Dilution Factor	50	50	
Benzene	**ND**	**ND**	NA
Toluene	**ND**	**ND**	NA
Ethyl Benzene	**ND**	**ND**	NA
m,p-Xylene	**ND**	**ND**	NA
o-Xylene	**ND**	**ND**	NA
TPH-Gas	**ND**	**ND**	NA
Surrogate Recovery:			
Fluorobenzene	80%	83%	

Date of Report: September 2, 1997
Samples Submitted: August 29, 1997
Lab Traveler: 08-149
Project: 71350

NWTPH-G/BTEX
MS/MSD QUALITY CONTROL

Date Extracted: 8-29-97
Date Analyzed: 8-30-97

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID spiked @ 1 ppm	08-049-1 **MS**	Percent Recovery	08-049-1 **MSD**	Percent Recovery	RPD
Dilution Factor	50		50		
Benzene	0.800	80	0.810	81	1.2
Toluene	0.820	82	0.830	83	1.2
Ethyl Benzene	0.815	82	0.820	82	0.61
m,p-Xylene	0.845	85	0.855	86	1.2
o-Xylene	0.800	80	0.835	84	4.3
Surrogate Recovery:					
Fluorobenzene	78%		79%		

Date of Report: September 2, 1997
Samples Submitted: August 29, 1997
Lab Traveler: 08-149
Project: 71350

NWTPH-Dx

Date Extracted: 8-29-97
Date Analyzed: 8-29-97

Matrix: Soil

Units: mg/Kg (ppm)

Client ID:	T2-WSW-1	T1-WSW-1	T1-SSW-1	T2-ESW-1
Lab ID:	08-149-01	08-149-02	08-149-03	08-149-05
Dilution Factor:	1.0	1.0	1.0	1.0
Diesel Fuel C12-C24:	ND	81	ND	ND
PQL:	27	30	30	32
Surrogate Recovery: o-Terphenyl	84%	137%	90%	112%
Flags		O1		

Date of Report: September 2, 1997
Samples Submitted: August 29, 1997
Lab Traveler: 08-149
Project: 71350

NWTPH-Dx

Date Extracted: 8-29-97
Date Analyzed: 8-29-97

Matrix: Soil

Units: mg/Kg (ppm)

Client ID:	T1 T2 SP	SPC1	SPD1	T2-NSW-1
Lab ID:	08-149-07	08-149-08	08-149-09	08-149-11
Dilution Factor:	1.0	5.0	5.0	1.0
Diesel Fuel C12-C24:	610	280	420	ND
PQL:	28	150	140	29
Surrogate Recovery: o-Terphenyl	118%	---	---	139%
Flags	O	S,O1	S,O1	

Date of Report: September 2, 1997
Samples Submitted: August 29, 1997
Lab Traveler: 08-149
Project: 71350

NWTPH-Dx
METHOD BLANK QUALITY CONTROL

Date Extracted:	8-29-97
Date Analyzed:	8-29-97
Matrix:	Soil
Units:	mg/Kg (ppm)

Lab ID:	MB0829S1
Dilution Factor:	1.0
Diesel Fuel C12-C24:	ND
PQL:	25
Surrogate Recovery:	135%
o-Terphenyl	

Date of Report: September 2, 1997
Samples Submitted: August 29, 1997
Lab Traveler: 08-149
Project: 71350

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted:	8-29-97
Date Analyzed:	8-29-97
Matrix:	Soil
Units:	mg/Kg (ppm)

Lab ID:	08-149-05	08-149-05 DUP
Diesel Fuel C12-C24:	ND	ND
PQL:	25	25
RPD:	NA	
Surrogate Recovery: o-Terphenyl	112%	119%

Date of Report: September 2, 1997
Samples Submitted: August 29, 1997
Lab Traveler: 08-149
Project: 71350

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted: 8-29-97
Date Analyzed: 8-29-97

Matrix: Soil

Units: mg/Kg (ppm)

Lab ID:	08-145-09	08-145-09 DUP
Diesel Fuel C12-C24:	ND	ND
PQL:	25	25
RPD:	NA	
Surrogate Recovery: o-Terphenyl	95%	80%

Date of Report: September 2, 1997
Samples Submitted: August 29, 1997
Lab Traveler: 08-149
Project: 71350

NWTPH-Dx
SB/SBD QUALITY CONTROL

Date Extracted:	8-29-97
Date Analyzed:	8-29-97
Matrix:	Soil
Units:	mg/Kg (ppm)
Spike Level:	100 ppm

Lab ID:	SB0829S1	SB0829S1 DUP
Diesel Fuel C12-C24:	92.4	101
PQL:	25	25
Percent Recovery:	92	101
RPD:	8.9	
Surrogate Recovery: o-Terphenyl	138%	150%

Date of Report: September 2, 1997
Samples Submitted: August 29, 1997
Lab Traveler: 08-149
Project: 71350

EPA 6010 TOTAL LEAD

Date Extracted: 08-29-97
Date Analyzed: 08-29-97

Matrix: Soil
Units: mg/kg (ppm)

Client ID	Lab ID	Dilution Factor	Result ✓	PQL
T1 T2 SP	08-149-7	50	**41**	5.7

Date of Report: September 2, 1997
Samples Submitted: August 29, 1997
Lab Traveler: 08-149
Project: 71350

EPA 6010 TOTAL LEAD
METHOD BLANK QUALITY CONTROL

Date Extracted:	08-29-97
Date Analyzed:	08-29-97
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB0829S1

Analyte	Method	Dilution Factor	Result	PQL
Lead	6010	50	**ND**	5.0

Date of Report: September 2, 1997
Samples Submitted: August 29, 1997
Lab Traveler: 08-149
Project: 71350

EPA 6010 TOTAL LEAD
DUPLICATE QUALITY CONTROL

Date Extracted: 08-21&24-97
Date Analyzed: 08-22,24,28-97

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 08-079-16

Analyte	Dilution	Sample Result	Duplicate Result	RPD	Flags	PQL
Lead	1.0	**5.15**	**ND**	NA		5.0

Date of Report: September 2, 1997
Samples Submitted: August 29, 1997
Lab Traveler: 08-149
Project: 71350

EPA 6010 TOTAL LEAD
MS/MSD QUALITY CONTROL

Date Extracted: 08-21&24-97
Date Analyzed: 08-22,24,28-97

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 08-079-16

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD
Lead	250	**209**	82	**210**	82	0.49

Date of Report: September 2, 1997
Samples Submitted: August 29, 1997
Lab Traveler: 08-149
Project: 71350

Date Analyzed: 8-29-97

% MOISTURE

Client ID	Lab ID	% Moisture
T2-WSW-1	08-149-1	9.0
T1-WSW-1	08-149-2	16
T1-SSW-1	08-149-3	17
T2-ESW-1	08-149-5	22
T1 T2 SP	08-149-7	12
SPC1	08-149-8	16
SPD1	08-149-9	12
T2-NSW-1	08-149-11	14

OnSite Environmental Inc.

DATA QUALIFIERS AND ABBREVIATIONS

A - Due to high sample concentration, amount spiked insufficient for meaningful MS/MSD data recovery.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD outside control limits due to analyte concentration within five times the quantitation limit.

D - Data from 1:____ dilution.

E - Value reported exceeds the quantitation range. Value is an estimate.

F - Surrogate recovery data not available due to the high concentration in the sample.

G - Insufficient sample quantity for duplicate analysis.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD outside control limits due to sample inhomogeniety. Sample re-extracted and re-analyzed with similar results.

L - Quantitated from C7-C34 as diesel fuel #2.

M - Predominantly _____ range hydrocarbons present in the sample.

N - Hydrocarbons in the gasoline range (C7-toluene) present in the sample.
N1 - Hydrocarbons in the gasoline range (C7-toluene) present in the sample which are elevating the diesel result.

O - Hydrocarbons in the heavy oil range (>C24) present in the sample.
O1 - Hydrocarbons in the heavy oil range (>C24) present in the sample which are elevating the diesel result.

R - Hydrocarbons outside defined gasoline range present in the sample.

S - Surrogate recovery data not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - Matrix Spike/Matrix Spike Duplicate RPD outside control limits due to matrix effects.

V - Matrix Spike/Matrix Spike Duplicate recoveries outside control limits due to matrix effects.

Z - Interferences were present which prevented the quantitation of the analyte below the detection limit reported.

ND - Not Detected

MRL - Method Reporting Limit

PQL - Practical Quantitation

OnSite Environmental Inc.
Analytical Testing and Mobile Laboratory Services

September 10, 1997

Vyrl Naumann
Foss Environmental
7440 West Marginal Way S.
Seattle, WA 98108

Re: Analytical Data for Project 71350
Laboratory Reference No. 9709-037

Dear Vyrl:

Enclosed are the analytical results and associated quality control data for samples submitted on September 9, 1997.

The standard policy of OnSite Environmental Inc., is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

Andy Bay
Project Chemist

Enclosures

Date of Report: September 10, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-037
Project: 71350

NWTPH-G/BTEX

Date Extracted: 9-08-97
Date Analyzed: 9-08-97

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID:	09-037-1			09-037-2		
Client ID:	**T1-PIPING-SSW-2**			**T1-PIPING-3**		
Dilution Factor	250			250		
	Result	Flags	PQL	**Result**	Flags	PQL
Benzene	**ND**		0.29	**ND**		0.28
Toluene	**ND**		0.29	**ND**		0.28
Ethyl Benzene	**ND**		0.29	**ND**		0.28
m,p-Xylene	**ND**		0.29	**ND**		0.28
o-Xylene	**ND**		0.29	**ND**		0.28
TPH-Gas	**ND**		29	**ND**		28
Surrogate Recovery:						
Fluorobenzene	81%			78%		

Date of Report: September 10, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-037
Project: 71350

NWTPH-G/BTEX

Date Extracted: 9-08-97
Date Analyzed: 9-08-97

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID:	09-037-3 ✓			09-037-4 ✓		
Client ID:	**T1-BOTTOM-2**			**T1-PIPING-4**		
Dilution Factor	50			50		
	Result	Flags	PQL	**Result**	Flags	PQL
Benzene	**ND**		0.066	**ND**		0.067
Toluene	**ND**		0.066	**ND**		0.067
Ethyl Benzene	**ND**		0.066	**ND**		0.067
m,p-Xylene	**ND**		0.066	**ND**		0.067
o-Xylene	**ND**		0.066	**ND**		0.067
TPH-Gas	**ND**		6.6	**15**		6.7
Surrogate Recovery:						
Fluorobenzene	91%			86%		

Date of Report: September 10, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-037
Project: 71350

NWTPH-G/BTEX
METHOD BLANK QUALITY CONTROL

Date Extracted:	9-08-97
Date Analyzed:	9-08-97
Matrix: Soil	
Units: mg/Kg (ppm)	
Lab ID:	MB0908S1
Dilution Factor	50

	Result	Flags	PQL
Benzene	ND		0.050
Toluene	ND		0.050
Ethyl Benzene	ND		0.050
m,p-Xylene	ND		0.050
o-Xylene	ND		0.050
TPH-Gas	ND		5.0

Surrogate Recovery:
Fluorobenzene 107%

Date of Report: September 10, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-037
Project: 71350

NWTPH-G/BTEX
DUPLICATE QUALITY CONTROL

Date Extracted: 9-08-97
Date Analyzed: 9-08-97

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID	09-035-1 Original	09-035-1 Duplicate	RPD
Dilution Factor	50	50	
Benzene	ND	ND	NA
Toluene	ND	ND	NA
Ethyl Benzene	ND	ND	NA
m,p-Xylene	ND	ND	NA
o-Xylene	ND	ND	NA
TPH-Gas	ND	ND	NA
Surrogate Recovery:			
Fluorobenzene	104%	100%	

Date of Report: September 10, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-037
Project: 71350

NWTPH-G/BTEX
MS/MSD QUALITY CONTROL

Date Extracted: 9-07-97
Date Analyzed: 9-07&08-97

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID	09-026-4		09-026-4		
spiked @ 1 ppm	**MS**	Percent Recovery	**MSD**	Percent Recovery	
Dilution Factor	50		50		RPD
Benzene	1.07	107	1.09	109	1.9
Toluene	1.09	109	1.12	112	3.2
Ethyl Benzene	1.08	108	1.10	110	1.8
m,p-Xylene	1.10	110	1.14	114	3.1
o-Xylene	1.10	110	1.13	113	2.2

Surrogate Recovery:
Fluorobenzene 105% 106%

Date of Report: September 10, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-037
Project: 71350

NWTPH-Dx

Date Extracted: 9-08-97
Date Analyzed: 9-08-97

Matrix: Soil

Units: mg/Kg (ppm)

Client ID:	T1-PIPING-SSW-2 ✓	T1-PIPING-3 ✓	T1-BOTTOM-2 ✓	T1-PIPING-4 ✓
Lab ID:	09-037-01	09-037-02	09-037-03	09-037-04
Dilution Factor:	1.0	1.0	1.0	1.0
Diesel Fuel C12-C24:	130	64	ND	410
PQL:	29	28	33	33
Surrogate Recovery: o-Terphenyl	81%	98%	83%	130%

Date of Report: September 10, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-037
Project: 71350

NWTPH-Dx
METHOD BLANK QUALITY CONTROL

Date Extracted:	9-08-97
Date Analyzed:	9-08-97
Matrix:	Soil
Units:	mg/Kg (ppm)

Lab ID:	MB0908S1
Dilution Factor:	1.0
Diesel Fuel C12-C24:	ND
PQL:	25
Surrogate Recovery: o-Terphenyl	90%

Date of Report: September 10, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-037
Project: 71350

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted: 9-05-97
Date Analyzed: 9-05-97

Matrix: Soil

Units: mg/Kg (ppm)

Lab ID:	09-023-03	09-023-03 DUP
Diesel Fuel C12-C24:	ND	ND
PQL:	25	25
RPD:	NA	
Surrogate Recovery: o-Terphenyl	100%	97%

Date of Report: September 10, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-037
Project: 71350

NWTPH-Dx
SB/SBD QUALITY CONTROL

Date Extracted: 9-05-97
Date Analyzed: 9-05-97

Matrix: Soil

Units: mg/Kg (ppm)

Spike Level: 100 ppm

Lab ID:	SB0905S1	SB0905S1 DUP
Diesel Fuel C12-C24:	81.6	80.1
PQL:	25	25
Percent Recovery:	82	80
RPD:	1.9	
Surrogate Recovery: o-Terphenyl	93%	97%

Date of Report: September 10, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-037
Project: 71350

EPA 6010 TOTAL LEAD

Date Extracted: 09-08-97
Date Analyzed: 09-08-97

Matrix: Soil
Units: mg/kg (ppm)

Client ID	Lab ID	Dilution Factor	Result	PQL
TI-PIPING-SSW-2	09-037-1	50	ND	5.7
TI-PIPING-3	09-037-2	50	ND	5.6
TI-BOTTOM-2	09-037-3	50	ND	6.6
TI-PIPING-4	09-037-4	50	ND	6.7

Date of Report: September 10, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-037
Project: 71350

EPA 6010 TOTAL LEAD
METHOD BLANK QUALITY CONTROL

Date Extracted: 09-08-97
Date Analyzed: 09-08-97

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0908S1

Analyte	Method	Dilution Factor	Result	PQL
Lead	6010	50	**ND**	5.0

Date of Report: September 10, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-037
Project: 71350

EPA 6010 TOTAL LEAD
DUPLICATE QUALITY CONTROL

Date Extracted: 09-03-97
Date Analyzed: 09-03-97

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 08-123-1

Analyte	Dilution	Sample Result	Duplicate Result	RPD	Flags	PQL
Lead	1.0	**ND**	**ND**	NA		5.0

Date of Report: September 10, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-037
Project: 71350

EPA 6010 TOTAL LEAD
MS/MSD QUALITY CONTROL

Date Extracted: 09-03-97
Date Analyzed: 09-03-97

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 08-123-1

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD
Lead	250	**207**	83	**202**	81	2.2

Date of Report: September 10, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-037
Project: 71350

Date Analyzed: 9-08-97

% MOISTURE

Client ID	Lab ID	% Moisture
T1-PIPING-SSW-2	09-037-1	13
T1-PIPING-3	09-037-2	10
T1-BOTTOM-2	09-037-3	24
T1-PIPING-4	09-037-4	25

OnSite Environmental Inc.

DATA QUALIFIERS AND ABBREVIATIONS

A - Due to high sample concentration, amount spiked insufficient for meaningful MS/MSD data recovery.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD outside control limits due to analyte concentration within five times the quantitation limit.

D - Data from 1:____ dilution.

E - Value reported exceeds the quantitation range. Value is an estimate.

F - Surrogate recovery data not available due to the high concentration in the sample.

G - Insufficient sample quantity for duplicate analysis.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD outside control limits due to sample inhomogeniety. Sample re-extracted and re-analyzed with similar results.

L - Quantitated from C7-C34 as diesel fuel #2.

M - Predominantly _____ range hydrocarbons present in the sample.

N - Hydrocarbons in the gasoline range (C7-toluene) present in the sample.
N1 - Hydrocarbons in the gasoline range (C7-toluene) present in the sample which are elevating the diesel result.

O - Hydrocarbons in the heavy oil range (>C24) present in the sample.
O1 - Hydrocarbons in the heavy oil range (>C24) present in the sample which are elevating the diesel result.

R - Hydrocarbons outside defined gasoline range present in the sample.

S - Surrogate recovery data not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - Matrix Spike/Matrix Spike Duplicate RPD outside control limits due to matrix effects.

V - Matrix Spike/Matrix Spike Duplicate recoveries outside control limits due to matrix effects.

Z - Interferences were present which prevented the quantitation of the analyte below the detection limit reported.

ND - Not Detected

MRL - Method Reporting Limit

PQL - Practical Quantitation

Chain Of Custody

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OnSite Environmental Inc.

14924 NE 31st Circle • Redmond, WA 98052

Fax: (206) 885-4603 • **Phone: (206) 883-3881**

Company: FSE

Project No: 71350

Project Name:

Project Manager:

Turn Around Requested (Check One)

- ☐ Same Day
- ☒ 24 Hours
- ☐ 48 Hours
- ☐ Standard
- ☐ _____ (other)

Project Chemist: AB

Laboratory No.

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	#of Cont.	WTPH-HCID	WTPH-G/BTEX	WTPH-D	WTPH-418.1	Volatiles by 8240/624	Volatiles by 8260	Chlorinated Volatiles by 8240/8260/624	Semivolatiles by 8270/625	PAHs by 8270/625	PCB's by 8080/608	Total RCRA Metals (8)	TCLP Metals	PB							% Moisture
1	TI-PIPING-SSW-2						X	X										X							X
2	TI-PIPING-3						X	X										X							X
3	TI-BOTTOM-2						X	X										X							X
4	TI-PIPING-4						X	X										X							X

RELINQUISHED BY	DATE	RECEIVED BY	DATE
		Karl	9/8/97
FIRM	TIME	FIRM	TIME
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:

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OnSite Environmental Inc.
14924 NE 31st Circle • Redmond, WA 98052
Fax: (206) 885-4603 • **Phone: (206) 883-3881**

Company: FSE
Project No: 71350
Project Name:
Project Manager:

Turn Around Requested (Check One)
- ☐ Same Day
- ☒ 24 Hours
- ☐ 48 Hours
- ☐ Standard
- ☐ ____ (other)

Project Chemist: NB

Laboratory No:

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	#of Cont.	WTPH-HCID	WTPH-G/BTEX	WTPH-D	WTPH-418.1	Volatiles by 8240/624	Volatiles by 8260	Chlorinated Volatiles by 8240/8260/624	Semivolatiles by 8270/625	PAHs by 8270/625	PCBs by 8080/608	Total RCRA Metals (8)	TCLP Metals	PB						% Moisture
1	T1-PIPING-SSW-2						X	X										X						X
2	T1-PIPING-3						X	X										X						X
3	T1-BOTTOM-2						X	X										X						X
4	T1-PIPING-4						X	X										X						X

RELINQUISHED BY	DATE	RECEIVED BY	DATE
		Karl	9/18/97
FIRM	TIME	FIRM	TIME
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:

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OnSite Environmental Inc.
Analytical Testing and Mobile Laboratory Services

September 11, 1997

Jerry Olson
Foss Environmental
7440 West Marginal Way S.
Seattle, WA 98108

Re: Analytical Data for Project 71350
Laboratory Reference No. 9708-149

Dear Jerry:

Enclosed are the analytical results and associated quality control data for samples submitted on August 29, 1997.

The standard policy of OnSite Environmental Inc., is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

Andy Bay
Project Chemist

Enclosures

Date of Report: September 11, 1997
Samples Submitted: August 29, 1997
Lab Traveler: 08-149
Project: 71350

EPA 6010 TOTAL LEAD

Date Extracted: 09-08-97
Date Analyzed: 09-09-97

Matrix: Soil
Units: mg/kg (ppm)

Client ID	Lab ID	Dilution Factor	Result	PQL
T2-WSW-2	08-149-1	50	**ND**	5.5
T1-WSW-1	08-149-2	50	**42**	6.0
T1-SSW-1	08-149-3	50	**7.6**	6.0
T2-ESW-1	08-149-5	50	**ND**	6.4
SPC1	08-149-8	50	**18**	6.0
SPD1	08-149-9	50	**9.5**	5.7
T2-NSW-1	08-149-11	50	**16**	5.8

Date of Report: September 11, 1997
Samples Submitted: August 29, 1997
Lab Traveler: 08-149
Project: 71350

EPA 6010 TOTAL LEAD
METHOD BLANK QUALITY CONTROL

Date Extracted: 09-08-97
Date Analyzed: 09-08-97

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0908S1

Analyte	Method	Dilution Factor	Result	PQL
Lead	6010	50	ND	5.0

Date of Report: September 11, 1997
Samples Submitted: August 29, 1997
Lab Traveler: 08-149
Project: 71350

EPA 6010 TOTAL LEAD
DUPLICATE QUALITY CONTROL

Date Extracted: 09-04-97
Date Analyzed: 09-08-97

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-008-2

Analyte	Dilution	Sample Result	Duplicate Result	RPD	Flags	PQL
Lead	50	**5.45**	**ND**	NA		5.0

Date of Report: September 11, 1997
Samples Submitted: August 29, 1997
Lab Traveler: 08-149
Project: 71350

EPA 6010 TOTAL LEAD
MS/MSD QUALITY CONTROL

Date Extracted: 09-08-97
Date Analyzed: 09-08-97

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-008-2

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD
Lead	250	**200**	78	**207**	81	3.8

OnSite Environmental Inc.

DATA QUALIFIERS AND ABBREVIATIONS

A - Due to high sample concentration, amount spiked insufficient for meaningful MS/MSD data recovery.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD outside control limits due to analyte concentration within five times the quantitation limit.

D - Data from 1:____ dilution.

E - Value reported exceeds the quantitation range. Value is an estimate.

F - Surrogate recovery data not available due to the high concentration in the sample.

G - Insufficient sample quantity for duplicate analysis.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD outside control limits due to sample inhomogeniety. Sample re-extracted and re-analyzed with similar results.

L - Quantitated from C7-C34 as diesel fuel #2.

M - Predominantly _____ range hydrocarbons present in the sample.

N - Hydrocarbons in the gasoline range (C7-toluene) present in the sample.
N1 - Hydrocarbons in the gasoline range (C7-toluene) present in the sample which are elevating the diesel result.

O - Hydrocarbons in the heavy oil range (>C24) present in the sample.
O1 - Hydrocarbons in the heavy oil range (>C24) present in the sample which are elevating the diesel result.

R - Hydrocarbons outside defined gasoline range present in the sample.

S - Surrogate recovery data not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - Matrix Spike/Matrix Spike Duplicate RPD outside control limits due to matrix effects.

V - Matrix Spike/Matrix Spike Duplicate recoveries outside control limits due to matrix effects.

Z - Interferences were present which prevented the quantitation of the analyte below the detection limit reported.

ND - Not Detected

MRL - Method Reporting Limit

PQL - Practical Quantitation

Chain Of Custody

Page _____ of _____

OnSite Environmental Inc.
14924 NE 31st Circle • Redmond, WA 98052
Fax: (206) 885-4603 • **Phone: (206) 883-3881**

Company: FOSS
Project No: 71350
Project Name:
Project Manager: J.O

Turn Around Requested (Check One)
- ☐ Same Day
- ☒ 24 Hours
- ☐ 48 Hours
- ☐ Standard
- ☐ TUE AM (other)

Project Chemist: AAB

Laboratory No.

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	WTPH-HCID	WTPH-G/BTEX	WTPH-D	WTPH-418.1	Volatiles by 8240/624	Volatiles by 8260	Chlorinated Volatiles by 8240/8260/624	Semivolatiles by 8270/625	PAHs by 8270/625	PCB's by 8080/608	Total RCRA Metals PR	TCLP Metals	% Moisture
1	T2-WSW-1	8-28-97		S	1		X	X								⊗		X
2	T1-WSW-1	↓					X	X								⊗		X
3	T1-SSW-1						X	X								⊗		X
4	T1-ESW-1																	
5	T2-ESW-1						X	X								⊗		X
6	T1-BOTTOM-1																	
7	T1 T2 SP						X	X								X		X
8	SPC1	8-26-97						X								⊗		X
9	SPD1	↓						X								⊗		X
10	T2-BOTTOM-1	8-28-97																
11	T2-NSW-1	↓					X	X								⊗		X

RELINQUISHED BY	DATE	RECEIVED BY	DATE
		K H	8/29/97
FIRM	TIME	FIRM	TIME
			?
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:
Add 9-8-97 as per J. Hicker-VE

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OnSite Environmental Inc.

14924 NE 31st Circle • Redmond, WA 98052

Fax: (206) 885-4603 • Phone: (206) 883-3881

Company: FOSS

Project No: 71350

Project Name:

Project Manager: J.U

Turn Around Requested (Check One)

- ☐ Same Day
- ☒ 24 Hours
- ☐ 48 Hours
- ☐ Standard
- ☐ TUEAM (other)

Project Chemist: AAB

Laboratory No.

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	#of Cont.	WTPH-HCID	WTPH-G/BTEX	WTPH-D	WTPH-418.1	Volatiles by 8240/624	Volatiles by 8260	Chlorinated Volatiles by 8240/8260/624	Semivolatiles by 8270/625	PAHs by 8270/625	PCB's by 8080/608	Total RCRA Metals PSD	TCLP Metals							% Moisture
1	T2-WSW-1	8-29-97		S	1		X	X								⊗								X
2	T1-WSW-1						X	X								⊗								X
3	T1-SSW-1						X	X								⊗								X
4	T1-ESW-1																							
5	T2-ESW-1						X	X								⊗								X
6	T1-BOTTOM-1																							
7	T1 T2 SP						X	X								X								X
8	SPC1	8269						X								⊗								X
9	SPD1	↓						X								⊗								X
10	T2-BOTTOM-1	8-28-97																						
11	T2-NSW-1	↓					X	X								⊗								X

RELINQUISHED BY	DATE	RECEIVED BY KH	DATE 8/29/97
FIRM	TIME	FIRM	TIME
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS: Add 9-8-97 as per J. Hicker-VA

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OnSite Environmental Inc.
Analytical Testing and Mobile Laboratory Services

September 11, 1997

Vyrl Naumann
Foss Environmental
7440 West Marginal Way S.
Seattle, WA 98108

Re: Analytical Data for Project Maple Valley
Laboratory Reference No. 9709-023

Dear Vyrl:

Enclosed are the analytical results and associated quality control data for samples submitted on September 5, 1997.

The standard policy of OnSite Environmental Inc., is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

Andy Bay
Project Chemist

Enclosures

Date of Report: September 11, 1997
Samples Submitted: September 5, 1997
Lab Traveler: 09-023
Project: Maple Valley

NWTPH-G/BTEX

Date Extracted: 9-06-97
Date Analyzed: 9-06-97

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID:	09-023-1			09-023-2		
Client ID:	**T1/2-PIPING-ESW-1**			**T2-PIPING-1**		
Dilution Factor	50			50		
	Result	Flags	PQL	**Result**	Flags	PQL
Benzene	**ND**		0.063	**ND**		0.061
Toluene	**ND**		0.063	**ND**		0.061
Ethyl Benzene	**ND**		0.063	**ND**		0.061
m,p-Xylene	**ND**		0.063	**ND**		0.061
o-Xylene	**ND**		0.063	**ND**		0.061
TPH-Gas	**ND**		6.3	**ND**		6.1
Surrogate Recovery:						
Fluorobenzene	92%			101%		

Date of Report: September 11, 1997
Samples Submitted: September 5, 1997
Lab Traveler: 09-023
Project: Maple Valley

NWTPH-G/BTEX

Date Extracted: 9-06-97
Date Analyzed: 9-06-97

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: 09-023-3
Client ID: **T2-PP-NSW-1** ✓

Dilution Factor 50

	Result	Flags	PQL
Benzene	**ND**		0.060
Toluene	**ND**		0.060
Ethyl Benzene	**ND**		0.060
m,p-Xylene	**ND**		0.060
o-Xylene	**ND**		0.060
TPH-Gas	**ND**		6.0

Surrogate Recovery:
Fluorobenzene 109%

Date of Report: September 11, 1997
Samples Submitted: September 5, 1997
Lab Traveler: 09-023
Project: Maple Valley

NWTPH-G/BTEX
METHOD BLANK QUALITY CONTROL

Date Extracted: 9-06-97
Date Analyzed: 9-06-97

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: MB0906S1

Dilution Factor 50

	Result	Flags	PQL
Benzene	ND		0.050
Toluene	ND		0.050
Ethyl Benzene	ND		0.050
m,p-Xylene	ND		0.050
o-Xylene	ND		0.050
TPH-Gas	ND		5.0

Surrogate Recovery:
Fluorobenzene 117%

Date of Report: September 11, 1997
Samples Submitted: September 5, 1997
Lab Traveler: 09-023
Project: Maple Valley

NWTPH-G/BTEX
DUPLICATE QUALITY CONTROL

Date Extracted: 9-06-97
Date Analyzed: 9-06-97

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID	09-021-2 Original	09-021-2 Duplicate	RPD	Flags
Dilution Factor	50	50		
Benzene	ND	ND	NA	
Toluene	ND	ND	NA	
Ethyl Benzene	ND	ND	NA	
m,p-Xylene	0.0900	0.0560	47	C
o-Xylene	ND	ND	NA	
TPH-Gas	29.3	29.8	1.8	
Surrogate Recovery:				
Fluorobenzene	110%	116%		

Date of Report: September 11, 1997
Samples Submitted: September 5, 1997
Lab Traveler: 09-023
Project: Maple Valley

NWTPH-G/BTEX
MS/MSD QUALITY CONTROL

Date Extracted: 9-04-97
Date Analyzed: 9-07-97

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID spiked @ 1 ppm	09-018-4 **MS**	Percent Recovery	09-018-4 **MSD**	Percent Recovery	RPD
Dilution Factor	50		50		
Benzene	0.995	100	1.09	109	8.7
Toluene	1.01	101	1.10	110	9.0
Ethyl Benzene	0.980	98	1.08	108	9.7
m,p-Xylene	1.02	102	1.11	111	8.5
o-Xylene	1.06	106	1.13	113	5.9
Surrogate Recovery:					
Fluorobenzene	94%		103%		

Date of Report: September 11, 1997
Samples Submitted: September 5, 1997
Lab Traveler: 09-023
Project: Maple Valley

NWTPH-Dx

Date Extracted: 9-05-97
Date Analyzed: 9-05-97

Matrix: Soil

Units: mg/Kg (ppm)

Client ID:	T1/2-Piping-ESW-1	T2-Piping-1	T2-PP-NSW-1
Lab ID:	09-023-01	09-023-02	09-023-03
Dilution Factor:	1.0	1.0	1.0
Diesel Fuel C12-C24:	ND	ND	ND
PQL:	32	30	30
Surrogate Recovery: o-Terphenyl	77%	74%	100%

Date of Report: September 11, 1997
Samples Submitted: September 5, 1997
Lab Traveler: 09-023
Project: Maple Valley

NWTPH-Dx
METHOD BLANK QUALITY CONTROL

Date Extracted:	9-05-97
Date Analyzed:	9-05-97
Matrix:	Soil
Units:	mg/Kg (ppm)
Lab ID:	MB0905S1
Dilution Factor:	1.0
Diesel Fuel C12-C24:	ND
PQL:	25
Surrogate Recovery:	117%
o-Terphenyl	

Date of Report: September 11, 1997
Samples Submitted: September 5, 1997
Lab Traveler: 09-023
Project: Maple Valley

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted: 9-05-97
Date Analyzed: 9-05-97

Matrix: Soil

Units: mg/Kg (ppm)

Lab ID:	09-010-04	09-010-04 DUP
Diesel Fuel C12-C24:	1500	1810
PQL:	130	130
RPD:	19	
Surrogate Recovery: o-Terphenyl	—	—
Flags:	S	S

Date of Report: September 11, 1997
Samples Submitted: September 5, 1997
Lab Traveler: 09-023
Project: Maple Valley

NWTPH-Dx
SB/SBD QUALITY CONTROL

Date Extracted: 9-05-97
Date Analyzed: 9-05-97

Matrix: Soil

Units: mg/Kg (ppm)

Spike Level: 100 ppm

Lab ID:	SB0905S1	SB0905S1 DUP
Diesel Fuel C12-C24:	81.6	80.1
PQL:	25	25
Percent Recovery:	82	80
RPD:	1.9	
Surrogate Recovery:	93%	97%
o-Terphenyl		

Date of Report: September 11, 1997
Samples Submitted: September 5, 1997
Lab Traveler: 09-023
Project: Maple Valley

EPA 6010 TOTAL LEAD

Date Extracted: 09-08-97
Date Analyzed: 09-08-97

Matrix: Soil
Units: mg/kg (ppm)

Client ID	Lab ID	Dilution Factor	Result	PQL
T1/2-PIPING-ESW-1	09-023-1	50	ND	6.3
T2-PIPING-1	09-023-2	50	ND	6.1
T2-PP-NSW-1	09-023-3	50	ND	6.0

Date of Report: September 11, 1997
Samples Submitted: September 5, 1997
Lab Traveler: 09-023
Project: Maple Valley

EPA 6010 TOTAL LEAD
METHOD BLANK QUALITY CONTROL

Date Extracted: 09-08-97
Date Analyzed: 09-08-97

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0908S1

Analyte	Method	Dilution Factor	Result	PQL
Lead	6010	50	**ND**	5.0

Date of Report: September 11, 1997
Samples Submitted: September 5, 1997
Lab Traveler: 09-023
Project: Maple Valley

EPA 6010 TOTAL LEAD
DUPLICATE QUALITY CONTROL

Date Extracted: 09-04-97
Date Analyzed: 09-08-97

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-008-2

Analyte	Dilution	Sample Result	Duplicate Result	RPD	Flags	PQL
Lead	50	**5.45**	**ND**	NA		5.0

Date of Report: September 11, 1997
Samples Submitted: September 5, 1997
Lab Traveler: 09-023
Project: Maple Valley

EPA 6010 TOTAL LEAD
MS/MSD QUALITY CONTROL

Date Extracted: 09-08-97
Date Analyzed: 09-08-97

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-008-2

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Lead	250	**200**	78	**207**	81	3.8	

Date of Report: September 11, 1997
Samples Submitted: September 5, 1997
Lab Traveler: 09-023
Project: Maple Valley

Date Analyzed: 9-05-97

% MOISTURE

Client ID	Lab ID	% Moisture
T1/2-PIPING-ESW-1	09-023-1	21
T2-PIPING-1	09-023-2	18
T2-PP-NSW-1	09-023-3	17

OnSite Environmental Inc.

DATA QUALIFIERS AND ABBREVIATIONS

A - Due to high sample concentration, amount spiked insufficient for meaningful MS/MSD data recovery.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD outside control limits due to analyte concentration within five times the quantitation limit.

D - Data from 1:____ dilution.

E - Value reported exceeds the quantitation range. Value is an estimate.

F - Surrogate recovery data not available due to the high concentration in the sample.

G - Insufficient sample quantity for duplicate analysis.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD outside control limits due to sample inhomogeniety. Sample re-extracted and re-analyzed with similar results.

L - Quantitated from C7-C34 as diesel fuel #2.

M - Predominantly_____ range hydrocarbons present in the sample.

N - Hydrocarbons in the gasoline range (C7-toluene) present in the sample.
N1 - Hydrocarbons in the gasoline range (C7-toluene) present in the sample which are elevating the diesel result.

O - Hydrocarbons in the heavy oil range (>C24) present in the sample.
O1 - Hydrocarbons in the heavy oil range (>C24) present in the sample which are elevating the diesel result.

R - Hydrocarbons outside defined gasoline range present in the sample.

S - Surrogate recovery data not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical_____.

U - Matrix Spike/Matrix Spike Duplicate RPD outside control limits due to matrix effects.

V - Matrix Spike/Matrix Spike Duplicate recoveries outside control limits due to matrix effects.

Z - Interferences were present which prevented the quantitation of the analyte below the detection limit reported.

ND - Not Detected

MRL - Method Reporting Limit

PQL - Practical Quantitation

Chain Of Custody

OnSite Environmental Inc.
14924 NE 31st Circle • Redmond, WA 98052
Fax: (206) 885-4603 • **Phone: (206) 883-3881**

Company:	FOSS
Project No:	Maple Valley
Project Name:	
Project Manager:	~~[illegible]~~ Verl

Turn Around Requested (Check One)

- ☐ Same Day
- ☒ 24 Hours MON. AM
- ☐ 48 Hours
- ☐ Standard
- ☐ ______ (other)

Project Chemist: AAB

Laboratory No. 09-023

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	WTPH-HCID	WTPH-G/BTEX	WTPH-D	WTPH-418.1	Volatiles by 8240/624	Volatiles by 8260	Chlorinated Volatiles by 8240/8260/624	Semivolatiles by 8270/625	PAHs by 8270/625	PCB's by 8080/608	Total RCRA Metals (8)	TCLP Metals	PB							% Moisture
1	T1/2-Piping-ESW-1						X	X										⊗							X
2	T2-Piping-1						X	X										⊗							X
3	T2-PP-NSW-1						X	X										⊗							X

RELINQUISHED BY	DATE	RECEIVED BY	DATE
K. H	9/5	V. Henzi	9/5/97
FIRM	TIME	FIRM	TIME
	11:10am	OSE	11:10am
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME

COMMENTS: ⊗ Add 9-8-97 @ Per Jettikar - KH

REVIEWED BY | DATE REVIEWED

UTIC END: -On v Y Repo Pink Copy

Chain Of Custody

OnSite Environmental Inc.
14924 NE 31st Circle • Redmond, WA 98052
Fax: (206) 885-4603 • Phone: (206) 883-3881

Company: FOSS
Project No: Maple Valley
Project Name:
Project Manager: ~~Kester~~ Kerl

Turn Around Requested (Check One)
- ☐ Same Day
- ☒ ~~24 Hours~~ MON. AM
- ☐ 48 Hours
- ☐ Standard
- ☐ _____ (other)

Project Chemist: AAB

Laboratory No.

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	#of Cont.	WTPH-HCID	WTPH-G/BTEX	WTPH-D	WTPH-418.1	Volatiles by 8240/624	Volatiles by 8260	Chlorinated Volatiles by 8240/8260/624	Semivolatiles by 8270/625	PAHs by 8270/625	PCB's by 8080/608	Total RCRA Metals (8)	TCLP Metals	PB						% Moisture
1	T1/2-Piping-ESW-1						X	X										2						X
2	T2-Piping-1						X	X										2						X
3	T2-PP-NSW-1						X	X										2						X

RELINQUISHED BY	DATE	RECEIVED BY	DATE
K.H	9/5	V. Henze	9/5/97
FIRM	TIME	FIRM	TIME
	11.10am	OSE	11.10am
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS: ☒AB 9.8.97 @ Per Schedule -KH

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OnSite Environmental Inc.
Analytical Testing and Mobile Laboratory Services

September 12, 1997

Vyrl Naumann
Foss Environmental
7440 West Marginal Way S.
Seattle, WA 98108

Re: Analytical Data for Project 71350
Laboratory Reference No. 9709-043

Dear Vyrl:

Enclosed are the analytical results and associated quality control data for samples submitted on September 9, 1997.

The standard policy of OnSite Environmental Inc., is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

Karl P. Hornyik
Lab Manager

Enclosures

14924 NE 31st Circle • Redmond, WA 98052 • (425) 883-3881 • Fax (425) 885-4603

Date of Report: September 12, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-043
Project: 71350

NWTPH-G/BTEX

Date Extracted: 9-10-97
Date Analyzed: 9-11-97

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID:	09-043-1			09-043-2		
Client ID:	**T1-DISPENSER-A**			**T1-DISPENSER-B**		
Dilution Factor	250			50		
	Result	Flags	PQL	**Result**	Flags	PQL
Benzene	**0.35**		0.30	**ND**		0.056
Toluene	**1.5**		0.30	**0.21**		0.056
Ethyl Benzene	**5.5**		0.30	**ND**		0.056
m,p-Xylene	**25**		0.30	**0.22**		0.056
o-Xylene	**3.2**		0.30	**0.063**		0.056
TPH-Gas	**990**		30	**ND**		5.6
Surrogate Recovery:						
Fluorobenzene	—	S		106%		

Date of Report: September 12, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-043
Project: 71350

NWTPH-G/BTEX

Date Extracted: 9-10-97
Date Analyzed: 9-11-97

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: 09-043-3
Client ID: **T2-DISPENSER**

Dilution Factor 50

	Result	Flags	PQL
Benzene	**ND**		0.057
Toluene	**ND**		0.057
Ethyl Benzene	**ND**		0.057
m,p-Xylene	**0.18**		0.057
o-Xylene	**0.070**		0.057
TPH-Gas	**93**		5.7

Surrogate Recovery:
Fluorobenzene 94%

Date of Report: September 12, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-043
Project: 71350

NWTPH-G/BTEX
METHOD BLANK QUALITY CONTROL

Date Extracted: 9-10-97
Date Analyzed: 9-10-97

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: MB0910S1

Dilution Factor 50

	Result	Flags	PQL
Benzene	ND		0.050
Toluene	ND		0.050
Ethyl Benzene	ND		0.050
m,p-Xylene	ND		0.050
o-Xylene	ND		0.050
TPH-Gas	ND		5.0

Surrogate Recovery:
Fluorobenzene 138%

Date of Report: September 12, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-043
Project: 71350

NWTPH-G/BTEX
DUPLICATE QUALITY CONTROL

Date Extracted: 9-10-97
Date Analyzed: 9-11-97

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID	09-050-1 **Original**	09-050-1 **Duplicate**	**RPD**
Dilution Factor	50	50	
Benzene	**ND**	**ND**	NA
Toluene	**ND**	**ND**	NA
Ethyl Benzene	**ND**	**ND**	NA
m,p-Xylene	**ND**	**ND**	NA
o-Xylene	**ND**	**ND**	NA
TPH-Gas	**ND**	**ND**	NA
Surrogate Recovery:			
Fluorobenzene	104%	106%	

Date of Report: September 12, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-043
Project: 71350

NWTPH-G/BTEX
MS/MSD QUALITY CONTROL

Date Extracted: 9-10-97
Date Analyzed: 9-11-97

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID	09-050-1		09-050-1		
spiked @ 1 ppm	**MS**	Percent Recovery	**MSD**	Percent Recovery	
Dilution Factor	50		50		RPD
Benzene	0.970	97	1.01	101	3.5
Toluene	0.990	99	1.03	103	4.0
Ethyl Benzene	1.00	100	1.04	104	3.9
m,p-Xylene	1.01	101	1.05	105	3.9
o-Xylene	0.985	99	1.02	102	3.5

Surrogate Recovery:

Fluorobenzene	104%	108%

Date of Report: September 12, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-043
Project: 71350

NWTPH-Dx

Date Extracted: 9-09-97
Date Analyzed: 9-10-97

Matrix: Soil

Units: mg/Kg (ppm)

Client ID:	T1-DISPENSER-A ✓	T1-DISPENSER-B ✓	T2-DISPENSER ✓
Lab ID:	09-043-01	09-043-02	09-043-03
Dilution Factor:	5.0	1.0	1.0
Diesel Fuel C12-C24:	7800	ND	1500
PQL:	150	28	28
Surrogate Recovery: o-Terphenyl	---	85%	---
Flags	S		F

Date of Report: September 12, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-043
Project: 71350

NWTPH-Dx
METHOD BLANK QUALITY CONTROL

Date Extracted:	9-09-97
Date Analyzed:	9-10-97
Matrix:	Soil
Units:	mg/Kg (ppm)
Lab ID:	MB0909S1
Dilution Factor:	1.0
Diesel Fuel C12-C24:	ND
PQL:	25
Surrogate Recovery:	95%
o-Terphenyl	

Date of Report: September 12, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-043
Project: 71350

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted: 9-09-97
Date Analyzed: 9-10-97

Matrix: Soil

Units: mg/Kg (ppm)

Lab ID:	09-043-02	09-043-02 DUP
Diesel Fuel C12-C24:	ND	ND
PQL:	25	25
RPD:	NA	
Surrogate Recovery: o-Terphenyl	85%	115%

Date of Report: September 12, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-043
Project: 71350

NWTPH-Dx
SB/SBD QUALITY CONTROL

Date Extracted:	9-09-97
Date Analyzed:	9-10-97
Matrix:	Soil
Units:	mg/Kg (ppm)
Spike Level:	100 ppm

Lab ID:	SB0909S1	SB0909S1 DUP
Diesel Fuel C12-C24:	92.3	97.2
PQL:	25	25
Percent Recovery:	92	97
RPD:	5.2	
Surrogate Recovery: o-Terphenyl	117%	108%

Date of Report: September 12, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-043
Project: 71350

EPA 6010 TOTAL LEAD

Date Extracted: 09-09-97
Date Analyzed: 09-09-97

Matrix: Soil
Units: mg/kg (ppm)

Client ID	Lab ID	Dilution Factor	Result	PQL
TI-DISPENSER-A	09-043-1	50	**ND**	6.0
TI-DISPENSER-B	09-043-2	50	**16**	5.6
T2-DISPENSER	09-043-3	50	**ND**	5.7

Date of Report: September 12, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-043
Project: 71350

EPA 6010 TOTAL LEAD
METHOD BLANK QUALITY CONTROL

Date Extracted: 09-09-97
Date Analyzed: 09-09-97

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0909S1

Analyte	Method	Dilution Factor	Result	PQL
Lead	6010	50	ND	5.0

Date of Report: September 12, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-043
Project: 71350

EPA 6010 TOTAL LEAD
DUPLICATE QUALITY CONTROL

Date Extracted: 09-09-97
Date Analyzed: 09-09-97

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-035-1

Analyte	Dilution	Sample Result	Duplicate Result	RPD	Flags	PQL
Lead	50	**5.45**	**ND**	NA		5.0

Date of Report: September 12, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-043
Project: 71350

EPA 6010 TOTAL LEAD
MS/MSD QUALITY CONTROL

Date Extracted: 09-09-97
Date Analyzed: 09-09-97

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-035-1

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD
Lead	250	**182**	70	**178**	69	2.0

Date of Report: September 12, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-043
Project: 71350

Date Analyzed: 9-09-97

% MOISTURE

Client ID	Lab ID	% Moisture
T1-DISPENSER-A	09-043-1	16
T1-DISPENSER-B	09-043-2	10
T2-DISPENSER	09-043-3	12

OnSite Environmental Inc.

DATA QUALIFIERS AND ABBREVIATIONS

A - Due to high sample concentration, amount spiked insufficient for meaningful MS/MSD data recovery.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD outside control limits due to analyte concentration within five times the quantitation limit.

D - Data from 1:____ dilution.

E - Value reported exceeds the quantitation range. Value is an estimate.

F - Surrogate recovery data not available due to the high concentration in the sample.

G - Insufficient sample quantity for duplicate analysis.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD outside control limits due to sample inhomogeniety. Sample re-extracted and re-analyzed with similar results.

L - Quantitated from C7-C34 as diesel fuel #2.

M - Predominantly _____ range hydrocarbons present in the sample.

N - Hydrocarbons in the gasoline range (C7-toluene) present in the sample.
N1 - Hydrocarbons in the gasoline range (C7-toluene) present in the sample which are elevating the diesel result.

O - Hydrocarbons in the heavy oil range (>C24) present in the sample.
O1 - Hydrocarbons in the heavy oil range (>C24) present in the sample which are elevating the diesel result.

R - Hydrocarbons outside defined gasoline range present in the sample.

S - Surrogate recovery data not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - Matrix Spike/Matrix Spike Duplicate RPD outside control limits due to matrix effects.

V - Matrix Spike/Matrix Spike Duplicate recoveries outside control limits due to matrix effects.

Z - Interferences were present which prevented the quantitation of the analyte below the detection limit reported.

ND - Not Detected

MRL - Method Reporting Limit

PQL - Practical Quantitation

Chain Of Custody

OnSite Environmental Inc.
14924 NE 31st Circle • Redmond, WA 98052
Fax: (206) 885-4603 • **Phone: (206) 883-3881**

Company: FOSS
Project No: 71350
Project Name:
Project Manager:

Turn Around Requested (Check One)
- ☐ Same Day
- ☐ 24 Hours
- ☐ 48 Hours
- ☐ Standard
- ☒ 24/48 (other)

Project Chemist: 09-043 | Laboratory No.: 1

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	#of Cont.	WTPH-HCID	WTPH-G/BTEX	WTPH-D	WTPH-418.1	Volatiles by 8240/624	Volatiles by 8260	Chlorinated Volatiles by 8240/8260/624	Semivolatiles by 8270/625	PAHs by 8270/625	PCB's by 8080/608	Total RCRA Metals (8)	TCLP Metals	Total Pb	% Moisture
1	T1-DISPENSER-A	8/26		S			X	X										X	X
2	T1-DISPENSER-B	"		"			X	X										X	X
3	T2-DISPENSER	"		"			X	X										X	X

RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:

9/9/97
1000

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Chain Of Custody

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Fax: (206) 885-4603 • **Phone: (206) 883-3881**

Company: FOSS

Project No: 71350

Project Name:

Project Manager:

Turn Around Requested (Check One)

- ☐ Same Day
- ☐ 24 Hours
- ☐ 48 Hours
- ☐ Standard
- ☒ 24/48 (other)

Project Chemist: 09-043

Laboratory No.: 1

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	#of Cont.	WtPH-HCID	WTRH-G/BTEX	WTPH-D	WTPH-418.1	Volatiles by 8240/624	Volatiles by 8260	Chlorinated Volatiles by 8240/8260/624	Semivolatiles by 8270/625	PAHs by 8270/625	PCB's by 8080/608	Total RCRA Metals (8)	TCLP Metals	Total Pb					% Moisture
1	T1-DISPENSER-A	8/26		S			X	X										X					X
2	T1-DISPENSER-B	1		1			X	X										X					X
3	T2-DISPENSER						X	X										X					X

RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME 1000
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS: 9/9/92

DISTRIBUTION LEGEND: White - OnSite Copy; Yellow - Report Copy; Pink - Client Copy

September 12, 1997

Vyrl Naumann
Foss Environmental
7440 West Marginal Way S.
Seattle, WA 98108

Re: Analytical Data for Project 71350
Laboratory Reference No. 9709-043

Dear Vyrl:

Enclosed are the analytical results and associated quality control data for samples submitted on September 9, 1997.

The standard policy of OnSite Environmental Inc., is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

Karl P. Hornyik
Lab Manager

Enclosures

OnSite Environmental Inc.

DATA QUALIFIERS AND ABBREVIATIONS

A - Due to high sample concentration, amount spiked insufficient for meaningful MS/MSD data recovery.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD outside control limits due to analyte concentration within five times the quantitation limit.

D - Data from 1:____ dilution.

E - Value reported exceeds the quantitation range. Value is an estimate.

F - Surrogate recovery data not available due to the high concentration in the sample.

G - Insufficient sample quantity for duplicate analysis.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD outside control limits due to sample inhomogeniety. Sample re-extracted and re-analyzed with similar results.

L - Quantitated from C7-C34 as diesel fuel #2.

M - Predominantly _____ range hydrocarbons present in the sample.

N - Hydrocarbons in the gasoline range (C7-toluene) present in the sample.
N1 - Hydrocarbons in the gasoline range (C7-toluene) present in the sample which are elevating the diesel result.

O - Hydrocarbons in the heavy oil range (>C24) present in the sample.
O1 - Hydrocarbons in the heavy oil range (>C24) present in the sample which are elevating the diesel result.

R - Hydrocarbons outside defined gasoline range present in the sample.

S - Surrogate recovery data not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - Matrix Spike/Matrix Spike Duplicate RPD outside control limits due to matrix effects.

V - Matrix Spike/Matrix Spike Duplicate recoveries outside control limits due to matrix effects.

Z - Interferences were present which prevented the quantitation of the analyte below the detection limit reported.

ND - Not Detected

MRL - Method Reporting Limit

PQL - Practical Quantitation

Date of Report: September 12, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-043
Project: 71350

Date Analyzed: 9-09-97

% MOISTURE

Client ID	Lab ID	% Moisture
T1-DISPENSER-A	09-043-1	16
T1-DISPENSER-B	09-043-2	10
T2-DISPENSER	09-043-3	12

Date of Report: September 12, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-043
Project: 71350

EPA 6010 TOTAL LEAD
MS/MSD QUALITY CONTROL

Date Extracted: 09-09-97
Date Analyzed: 09-09-97

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-035-1

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD
Lead	250	**182**	70	**178**	69	2.0

Date of Report: September 12, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-043
Project: 71350

EPA 6010 TOTAL LEAD
DUPLICATE QUALITY CONTROL

Date Extracted: 09-09-97
Date Analyzed: 09-09-97

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-035-1

Analyte	Dilution	Sample Result	Duplicate Result	RPD	Flags	PQL
Lead	50	**5.45**	**ND**	NA		5.0

Date of Report: September 12, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-043
Project: 71350

EPA 6010 TOTAL LEAD
METHOD BLANK QUALITY CONTROL

Date Extracted: 09-09-97
Date Analyzed: 09-09-97

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0909S1

Analyte	Method	Dilution Factor	Result	PQL
Lead	6010	50	**ND**	5.0

Date of Report: September 12, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-043
Project: 71350

EPA 6010 TOTAL LEAD

Date Extracted: 09-09-97
Date Analyzed: 09-09-97

Matrix: Soil
Units: mg/kg (ppm)

Client ID	Lab ID	Dilution Factor	Result	PQL
TI-DISPENSER-A	09-043-1	50	**ND**	6.0
TI-DISPENSER-B	09-043-2	50	**16**	5.6
T2-DISPENSER	09-043-3	50	**ND**	5.7

Date of Report: September 12, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-043
Project: 71350

NWTPH-Dx
SB/SBD QUALITY CONTROL

Date Extracted:	9-09-97
Date Analyzed:	9-10-97
Matrix:	Soil
Units:	mg/Kg (ppm)
Spike Level:	100 ppm

Lab ID:	SB0909S1	SB0909S1 DUP
Diesel Fuel C12-C24:	92.3	97.2
PQL:	25	25
Percent Recovery:	92	97
RPD:	5.2	
Surrogate Recovery: o-Terphenyl	117%	108%

Date of Report: September 12, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-043
Project: 71350

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted:	9-09-97	
Date Analyzed:	9-10-97	
Matrix:	Soil	
Units:	mg/Kg (ppm)	
Lab ID:	09-043-02	09-043-02 DUP
Diesel Fuel C12-C24:	ND	ND
PQL:	25	25
RPD:	NA	
Surrogate Recovery:	85%	115%
o-Terphenyl		

Date of Report: September 12, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-043
Project: 71350

NWTPH-Dx
METHOD BLANK QUALITY CONTROL

Date Extracted:	9-09-97
Date Analyzed:	9-10-97
Matrix:	Soil
Units:	mg/Kg (ppm)
Lab ID:	MB0909S1
Dilution Factor:	1.0
Diesel Fuel C12-C24:	ND
PQL:	25
Surrogate Recovery:	95%
o-Terphenyl	

Date of Report: September 12, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-043
Project: 71350

NWTPH-G/BTEX

Date Extracted: 9-10-97
Date Analyzed: 9-11-97

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: 09-043-3
Client ID: **T2-DISPENSER**

Dilution Factor 50

	Result	Flags	PQL
Benzene	**ND**		0.057
Toluene	**ND**		0.057
Ethyl Benzene	**ND**		0.057
m,p-Xylene	**0.18**		0.057
o-Xylene	**0.070**		0.057
TPH-Gas	**93**		5.7

Surrogate Recovery:
Fluorobenzene 94%

Date of Report: September 12, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-043
Project: 71350

NWTPH-G/BTEX

Date Extracted: 9-10-97
Date Analyzed: 9-11-97

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID:	09-043-1			09-043-2		
Client ID:	**T1-DISPENSER-A**			**T1-DISPENSER-B**		
Dilution Factor	250			50		
	Result	Flags	PQL	**Result**	Flags	PQL
Benzene	**0.35**		0.30	**ND**		0.056
Toluene	**1.5**		0.30	**0.21**		0.056
Ethyl Benzene	**5.5**		0.30	**ND**		0.056
m,p-Xylene	**25**		0.30	**0.22**		0.056
o-Xylene	**3.2**		0.30	**0.063**		0.056
TPH-Gas	**990**		30	**ND**		5.6
Surrogate Recovery:						
Fluorobenzene	---	S		106%		

Date of Report: September 12, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-043
Project: 71350

NWTPH-Dx

Date Extracted: 9-09-97
Date Analyzed: 9-10-97

Matrix: Soil

Units: mg/Kg (ppm)

Client ID:	T1-DISPENSER-A	T1-DISPENSER-B	T2-DISPENSER
Lab ID:	09-043-01	09-043-02	09-043-03
Dilution Factor:	5.0	1.0	1.0
Diesel Fuel C12-C24:	7800	ND	1500
PQL:	150	28	28
Surrogate Recovery: o-Terphenyl	---	85%	---
Flags	S		F

Date of Report: September 12, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-043
Project: 71350

NWTPH-G/BTEX
MS/MSD QUALITY CONTROL

Date Extracted: 9-10-97
Date Analyzed: 9-11-97

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID spiked @ 1 ppm	09-050-1 **MS**	Percent Recovery	09-050-1 **MSD**	Percent Recovery	RPD
Dilution Factor	50		50		
Benzene	0.970	97	1.01	101	3.5
Toluene	0.990	99	1.03	103	4.0
Ethyl Benzene	1.00	100	1.04	104	3.9
m,p-Xylene	1.01	101	1.05	105	3.9
o-Xylene	0.985	99	1.02	102	3.5
Surrogate Recovery:					
Fluorobenzene	104%		108%		

Date of Report: September 12, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-043
Project: 71350

NWTPH-G/BTEX
DUPLICATE QUALITY CONTROL

Date Extracted: 9-10-97
Date Analyzed: 9-11-97

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID	09-050-1 **Original**	09-050-1 **Duplicate**	**RPD**
Dilution Factor	50	50	
Benzene	**ND**	**ND**	NA
Toluene	**ND**	**ND**	NA
Ethyl Benzene	**ND**	**ND**	NA
m,p-Xylene	**ND**	**ND**	NA
o-Xylene	**ND**	**ND**	NA
TPH-Gas	**ND**	**ND**	NA
Surrogate Recovery:			
Fluorobenzene	104%	106%	

Date of Report: September 12, 1997
Samples Submitted: September 9, 1997
Lab Traveler: 09-043
Project: 71350

NWTPH-G/BTEX
METHOD BLANK QUALITY CONTROL

Date Extracted: 9-10-97
Date Analyzed: 9-10-97

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: MB0910S1

Dilution Factor 50

	Result	Flags	PQL
Benzene	**ND**		0.050
Toluene	**ND**		0.050
Ethyl Benzene	**ND**		0.050
m,p-Xylene	**ND**		0.050
o-Xylene	**ND**		0.050
TPH-Gas	**ND**		5.0

Surrogate Recovery:
Fluorobenzene 138%

APPENDIX C

Structural Assessment Report (RSP EQE)

Project Data

TO	King County Facilities Management Division 500 4th Ave., Room 320 Seattle, WA 98104	*DATE*	May 30, 1996
		PROJECT	Maple Valley Tank Removal 18825 SE Maple Valley Highway
		PROJECT NO	9344501-21
		BY	E. Ann Ferrese,PE
ATTN	Karen Heidergott		

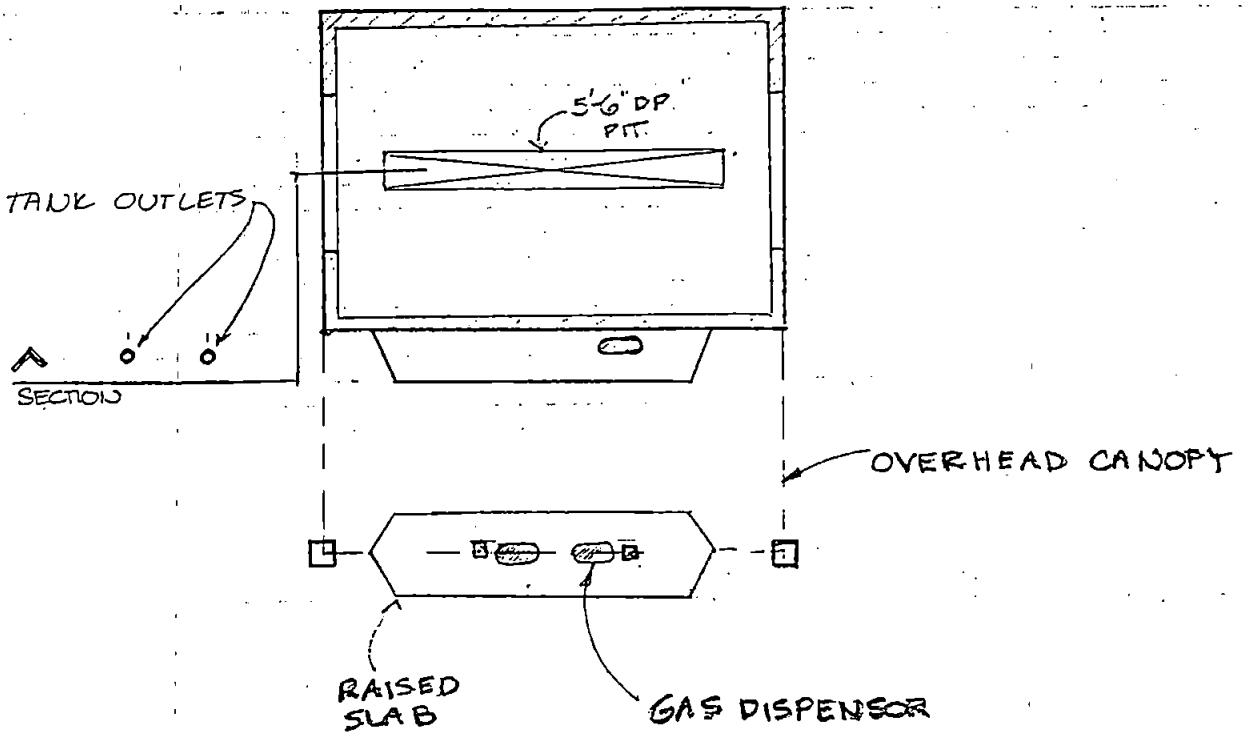
Memorandum

RE: Maple Valley Tank Removal : Utility Building

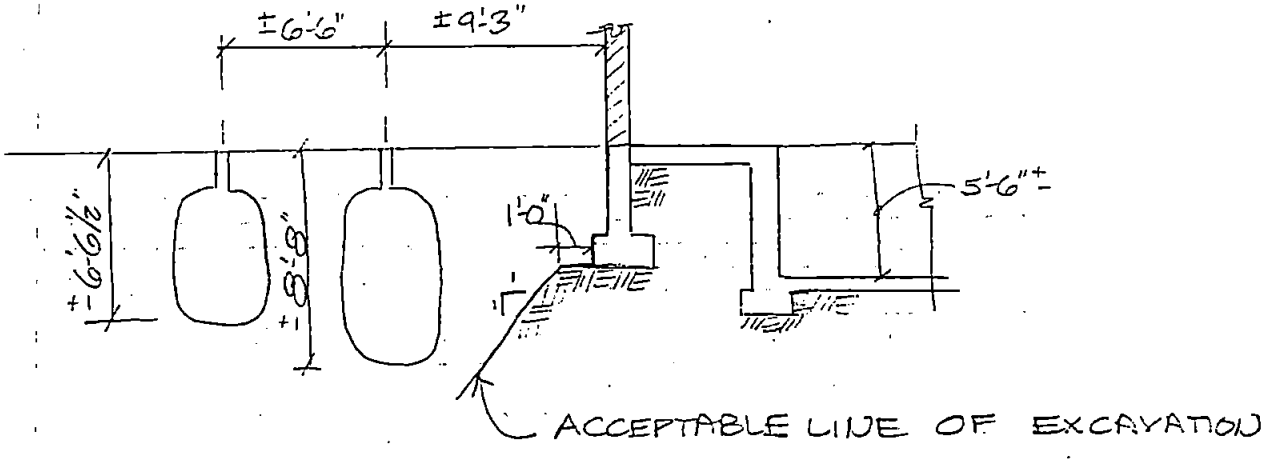
At your request, we have completed a brief review of the Utility Building at the Maple Valley Site. The purpose of this review was to make a determination of the impact the removal of two underground fuel tanks would have to the building. Our review consisted of a brief site visit to visually assess the structural configuration of the building and the proximity of the underground fuel tanks to the structure. No specific analysis of the building was performed as part of our work.

Based on engineering judgment and knowledge of how similar buildings are constructed, we recommend the following:

1. Soil may be removed down to the bottom of the utility building wall footings to a distance of 1"-0" horizontally from the edge of the footing. From that point the soil may be removed at a slope of 1-to- 1 sloping downward away from the building. (see the attached sketch)
2. Sawcut the slab under the drive-through canopy where required for pipe removal. No jack hammering adjacent to the building can be allowed.
3. The raised slab under the gas dispensers at the ~~west~~ EAST side of the drive-through canopy is required for support of the canopy columns and should not be removed.
4. Please note that the depth and configuration of the foundations is unknown and must be verified in the field.



PLAN VIEW



SECTION

RSP EQE
An EQE International Company 1411 4th Avenue Building, Suite 500 Seattle, Washington 98101 Phone 206.624.8687, Fax 206.624.8268

project: MAPLE VALLEY
date: 5-30-96
rsp no.:
design: EAF
sheet:
client:
check: