REPORT OF REMEDIAL ACTION
UNDERGROUND STORAGE TANK REMOVAL
RENTON SERVICE CENTER
RENTON, WASHINGTON
FOR
PUGET SOUND POWER & LIGHT COMPANY

PUGET POWER

March 8, 1990

Mr. Joe Hickey
Northwest Region Office
Washington Department of Ecology
4350 - 150th Avenue NE
Redmond, WA 98052

Subject: Underground Storage Tank Report
Renton Service Center
620 South Grady Way, Renton, Washington

Dear Mr. Hickey;

Enclosed is our consultant's, GeoEngineers, report concerning the removal of three underground fuel storage tanks located at our Renton Service Center, 620 South Grady Way, Renton, Washington.

During removal of the tanks, some residual contamination was found and removed.

If you need additional information please call the Project Manager at GeoEngineers, Steve Perrigo, 746-5200, Puget's Project Manager Gary Reid, 462-3077, or me, 462-3066.

Very truly yours,

Ted Van Decar

T. Van Decar
Staff Environmental
Engineer

Enclosure

Geo Engineers

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GeoEngineers

REPORT OF REMEDIAL ACTION
UNDERGROUND STORAGE TANK REMOVAL
RENTON SERVICE CENTER
RENTON, WASHINGTON
FOR
PUGET SOUND POWER & LIGHT COMPANY

INTRODUCTION AND SCOPE

This summarizes the results of our observations during the removal of three underground fuel storage tanks at the Puget Sound Power & Light Company (PSP&L) Renton Service Center in Renton, Washington. The site is located at 620 South Grady Way, as shown on the Vicinity Map, Figure 1. The general layout of the site is shown on the Site Plan, Figure 2.

One 6,000-gallon steel diesel fuel tank, one 550-gallon steel diesel fuel tank and one 110-gallon steel gasoline tank were removed from the site between August 8 and 11, 1989. These tanks had previously been out of service. We understand that PSP&L does not intend to replace these tanks at this location.

The purpose of our services was to observe and evaluate subsurface soil and contaminant conditions in the underground storage tank excavations, and to assist PSP&L and their contractors with remediation and soil disposal activities. GeoEngineers' scope of services completed for this project is listed below.

1. Observe and document the excavation of underground fuel storage tanks and related fuel-contaminated soils.
2. Conduct field screening on soil removed from the tank excavations for evidence of contamination using visual, water sheen and headspace screening methods. These methods are described in Appendix A.
3. Obtain soil samples from the limits of the excavations and from soil stockpiles for chemical analysis to assess concentrations of fuel-related contaminants.
4. Test a ground water sample for the presence of petroleum-related contaminants.
5. Coordinate off-site disposal of contaminated soil with the Seattle-King County Department of Public Health.

6. Evaluate the field and laboratory data with regard to existing regulatory concerns.

SOIL EXCAVATION AND SAMPLING

Chempro Environmental Services removed the three underground fuel storage tanks from the locations shown in Figure 2 between August 8 and 11, 1989. The two diesel fuel tanks were removed from a single excavation, and the gasoline tank was removed from a separate excavation. A buried water line adjacent to the 550-gallon diesel tank was also removed and replaced. Soil removed from these excavations was stockpiled temporarily on-site. Excavation activities were completed by August 25, 1989 and the excavations were backfilled with crushed rock. A representative of our staff was present to observe tank removal activities and obtain soil samples.

Minor pitting and corrosion was observed on the two diesel fuel storage tanks. Several small holes were observed on both ends of the 550-gallon diesel fuel storage tank (Tank #217). There was no evidence of leakage from the 6,000-gallon diesel fuel tank (Tank #216). The gasoline tank (Tank #218) was covered with a tar-like coating and appeared to be in good condition. A small hole was observed in the fill pipe of the gasoline tank.

Ground water was encountered at a depth of approximately 8 feet in the excavation for the diesel fuel tanks. Ground water was not encountered in the gasoline tank excavation. A sheen and some black film was observed on the water in the excavation for Tank #216. The water was pumped out of the excavation on August 10, 1989 prior to obtaining a soil sample for chemical analysis from the base of the excavation. No significant sheen was observed on the ground water as it reached the static level in the excavation after the initial pump-out. A water sample was obtained from the excavation for Tank #216 for chemical analysis of fuel hydrocarbons (EPA Method 8015, modified) on August 15, 1989. The purpose of this analysis was to determine if the water remaining in the excavation prior to backfilling the tank cavity could be discharged to Metro. Fuel hydrocarbons were not detected in this water sample (Sample 216). Laboratory results are presented in Appendix B. The water was subsequently pumped out and discharged to Metro prior to backfilling the tank excavation.

Backfill surrounding the diesel fuel tanks consisted of coal spoils with variable amounts of silt, sand and gravel. Backfill surrounding the gasoline tank consisted of sand. Fill, previously placed to bring the site to the current grade, was encountered in the excavation walls and the base of the excavations. This fill consists of coal spoils with variable amounts of silt, sand and gravel.

Field screening was conducted on soil removed from the excavations in order to evaluate areas of potential petroleum-related contamination. Screening results were also used as a basis for selecting soils for chemical analysis. The screening methods used are described in Appendix A. There was no visual evidence of petroleum-related contamination in any of the samples observed. Sheen observations ranged from no detectable sheen (NS) to moderate sheen (MS). Vapor concentrations detected during headspace vapor testing ranged from nondetected to 160 ppm. These vapor levels are considered insignificant.

Eighteen soil samples were obtained from the excavations for chemical analysis between August 9 and August 25, 1989. The sample locations are shown in Figure 2. All of the soil samples were analyzed for the presence of total petroleum hydrocarbons (TPH by EPA Method 418.1). Samples obtained from the excavation for Tank #218 (the gasoline tank) were also analyzed for benzene, ethylbenzene, toluene and xylenes (BETX) by EPA Method 8020. Analytical results for the soil samples tested from the tank excavations are summarized in Table 1. Laboratory reports for the soil samples are included in Appendix B.

The current Washington State Department of Ecology (Ecology) cleanup guidelines for petroleum-contaminated soil are 200 ppm TPH. For soils contaminated with gasoline, further cleanup guidelines for specific chemical constituents of gasoline are used. These cleanup guidelines are 660 ppb (.66 ppm) for benzene, 143 ppm for toluene, and 14 ppm for ethylbenzene.

Test results indicated that concentrations of BETX in the soil samples analyzed from the excavation for Tank #218 were nondetected and below cleanup guidelines. TPH was detected in soils from this excavation at concentrations ranging from nondetected to 260 ppm. Upon completion of the excavation for Tank #218, TPH concentrations in the remaining sidewalls and base of the excavation did not exceed Ecology's guideline of 200 ppm.

Excavation of Tanks #216 and #217 was completed as one large excavation as shown in Figure 2. Some diesel contamination extended westward from Tank #217 along a buried water line. TPH concentrations of not detected to 1,000 ppm were initially detected in soil samples. Excavation and soil removal continued in areas where residual contamination exceeded Ecology's guideline of 200 ppm. Upon completion of excavation to the limits shown in Figure 2, analytical testing of soils in the base and sidewalls of the excavation showed TPH concentrations below Ecology's guideline of 200 ppm.

SOIL STOCKPILING AND DISPOSAL

Approximately 330 cubic yards of soil was removed from the excavations and temporarily stockpiled on-site. The stockpiles were placed on plastic sheeting and were covered with plastic. GeoEngineers obtained composite soil samples from the stockpiles for analytical testing on September 7, 1989. Analytical results for the composite soil samples tested from the stockpiles are summarized in Table 2. Laboratory reports for the composite soil samples are presented in Appendix B. Ground water analytical results included in the laboratory report are not related to this project.

The samples obtained from the diesel fuel tank excavation soil stockpile and the water line excavation soil stockpile were analyzed for TPH. TPH was detected at concentrations ranging from 49 ppm to 81 ppm in the composite samples from the diesel fuel tank excavation stockpiles (Samples A-1, C-South-1 and C-North-1). TPH was detected at a concentration in excess of regulatory cleanup guidelines in the composite sample from the water line excavation stockpile (Sample F-1).

The sample obtained from the gasoline tank excavation soil stockpile (Sample B-1) was analyzed for TPH and BETX. TPH was detected at a concentration of 27 ppm and BETX constituents were not detected.

GeoEngineers applied for and received clearance for disposal of these soil stockpiles from the Seattle-King County Department of Public Health (Appendix C). The water line soil stockpile (approximately 60 cubic yards) was cleared for disposal at the Cedar Hill Landfill. This disposal permit expired on December 13, 1989. Soil stockpiles from the diesel fuel tank excavation and the gasoline tank excavation (approximately 270 cubic yards) were cleared for disposal at the Coal Creek Landfill. This disposal permit

were cleared for disposal at the Coal Creek Landfill. This disposal permit expired on December 12, 1989. These soils were transported to the appropriate disposal facilities on November 1, 1989.

CONCLUSIONS

The results of this study indicate that subsurface petroleum-related contamination in the vicinity of the former diesel fuel tanks (Tanks #216 and #217) and gasoline tank (Tank #218) has been successfully removed. The remaining soils have TPH and BETX concentrations that are less than Ecology cleanup guidelines, based on our sampling and testing. We do not recommend any further remedial actions related to residual fuel contamination in the vicinity of these former underground fuel storage tanks.

LIMITATIONS

We have prepared this report for use by Puget Sound Power & Light Company. This report may be made available to regulatory agencies. This report is not intended for use by others and the information contained herein is not applicable to other sites.

Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted practices in this area at the time the report was prepared. No other conditions, express or implied, should be understood.

- o O o -

Please contact us if you have any questions regarding this report.

Respectfully submitted,
GeoEngineers, Inc.

Kathy S. Killman
Engineering Geologist

James A. Miller, P.E.
Principal

KSK:JAM:cs

TABLE 1
SUMMARY OF SOIL ANALYTICAL DATA

Soil Sample Number	Date Sampled	Depth of Sample (feet)	BETX in Soil (ppm)				Total Petroleum Hydrocarbons (ppm)	General Sample Location
			B	E	T	X		
216-WW	08/09/89	7	--	--	--	--	44	Tank #216 - West Wall
216-SW	08/09/89	7	--	--	--	--	380	Tank #216 - South Wall
216-B	08/10/89	9	--	--	--	--	66	Tank #216 - Base of Excavation
216-EW	08/10/89	7	--	--	--	--	23	Tank #216 - East Wall
217-EW	08/10/89	7	--	--	--	--	5.6	Tank #217 - East Wall
217-NW	08/10/89	6	--	--	--	--	1,000	Tank #217 - North Wall
218-B	08/11/89	5	<0.025	<0.025	<0.025	<0.025	16	Tank #218 - Base of Excavation
218-SW	08/11/89	5	<0.025	<0.025	<0.025	<0.025	62	Tank #218 - South Wall
218-EW	08/11/89	5	<0.025	<0.025	<0.025	<0.025	<1.0	Tank #218 - East Wall
218-NW	08/11/89	5	<0.025	<0.025	<0.025	<0.025	100	Tank #218 - North Wall
217-WW	08/11/89	7	--	--	--	--	18	Tank #217 - West Wall
218-WW	08/11/89	5	<0.025	<0.025	<0.025	<0.025	260	Tank #218 - West Wall
216-SW1	08/15/89	7	--	--	--	--	<1.0	Tank #216 - South Wall
218-WW1	08/15/89	4	--	--	--	--	<1.0	Tank #218 - West Wall
217-NW1	08/23/89	6	--	--	--	--	<1.0	Tank #217 - North Wall
217-B	08/23/89	10	--	--	--	--	6.8	Tank #217 - Base of Excavation
WM1	08/23/89	6	--	--	--	--	230	Water Line Excavation
WM2	08/25/89	8	--	--	--	--	11	Water Line Excavation

Notes:

"<" indicates "less than"

"ppm" indicates "parts per million"

"--" indicates "not tested"

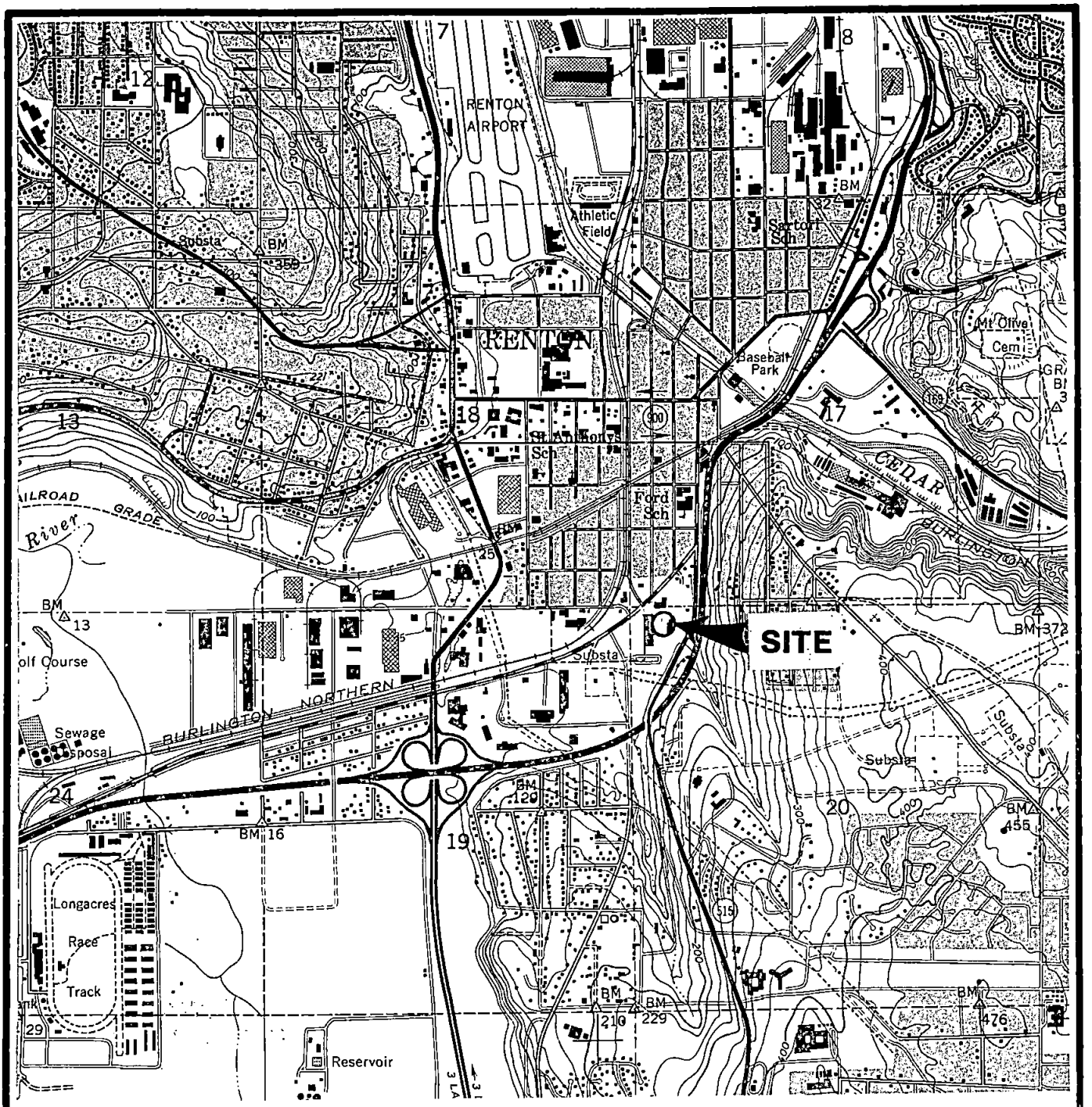
Total petroleum hydrocarbons analyzed by EPA Method 418.1.

BETX analyzed by EPA Method 8020. B = benzene, E = ethylbenzene, T = toluene, X = xylenes.

TABLE 2
CHEMICAL ANALYSIS OF STOCKPILED SOIL

Soil Sample Number	Date Sampled	BETX (ppm)				Total Petroleum Hydrocarbons (ppm)	General Sample Location
		B	E	T	X		
A-1	09/07/89	--	--	--	--	61	Composite Sample of Stockpiled Soil From Diesel Fuel Tank Excavation
C-South-1	09/07/89	--	--	--	--	81	Composite Sample of Stockpiled Soil From Diesel Fuel Tank Excavation
C-North-1	09/07/89	--	--	--	--	49	Composite Sample of Stockpiled Soil From Diesel Fuel Tank Excavation
F-1	09/07/89	--	--	--	--	220	Composite Sample of Stockpiled Soil From Water Line Excavation
B-1	09/07/89	<0.025	<0.025	<0.025	<0.025	27	Composite Sample of Stockpiled Soil From Gasoline Tank Excavation

Notes:
"<" indicates "less than"
"ppm" indicates "parts per million"
"--" indicates "not tested"
Total petroleum hydrocarbons analyzed by EPA Method 418.1.
BETX analyzed by EPA Method 8020. B = benzene, E = ethylbenzene, T = toluene, X = xylenes.



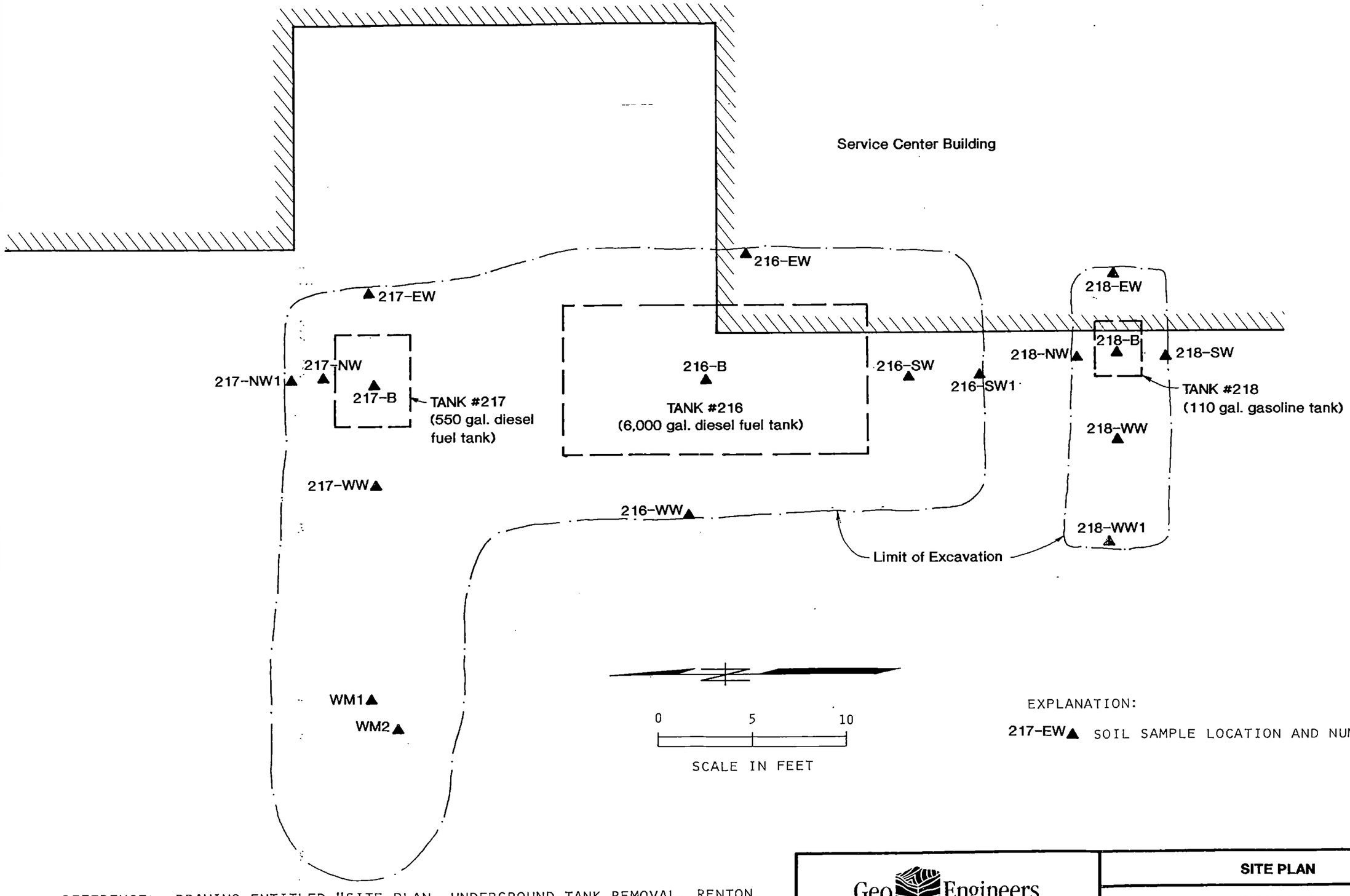
REFERENCE: USGS 7.5' TOPOGRAPHIC QUADRANGLE MAP "RENTON, WASH."

Geo Engineers

VICINITY MAP

FIGURE 1

0186-101-804 RSK:KKT 10.16.89



REFERENCE: DRAWING ENTITLED "SITE PLAN, UNDERGROUND TANK REMOVAL, RENTON SERVICE CENTER", DATED 7/7/89, BY PUGET POWER.

GeoEngineers

SITE PLAN

FIGURE 2

0186·101·804 KSK:KKT 10·16·89

APPENDIX A

Geo Engineers

A P P E N D I X A

FIELD SCREENING OF SOIL SAMPLES

Soil samples obtained from the excavations were split into two portions. One portion of the sample was retained for soil classification and laboratory analysis. The second portion was tested in the field for fuel-related contamination using (1) visual examination, (2) sheen testing, and (3) headspace vapor testing using the Bacharach TLV Sniffer. The results of all field screening methods are site specific.

Visual screening consisted of inspecting the soil for the presence of stains or sheen indicative of fuel-related contamination. Visual screening is generally more effective when contamination is related to heavier petroleum hydrocarbons, such as motor oil, or when hydrocarbon concentrations are high. Sheen testing and measuring headspace vapors are more sensitive screening methods which have been effective in detecting contamination at levels below regulatory cleanup guidelines.

Sheen testing involves immersion of the soil sample in water and observing the water surface for signs of a sheen. Sheens observed at the site were classified as follows:

No Sheen (NS):	No evidence of sheen.
Slight Sheen (SS):	Light colorless sheen, spread is irregular, not rapid; film dissipates rapidly.
Moderate Sheen (MS):	Light to heavy film, may have some color or iridescence; spread is irregular to flowing, may be rapid; few remaining areas of no sheen on water surface. Moderate sheen at this site generally is indicative of TPH concentrations in excess of Ecology's cleanup guideline of 200 ppm.

Headspace vapor screening involves placing a soil sample in a plastic sample bag. The sample bag is sealed and shaken slightly to expose more of the soil volume to the air trapped in the bag. After allowing a few minutes for the release of volatile compounds from the soil sample, the probe of a Bacharach TLV Sniffer is inserted into the bag. The TLV Sniffer measures the concentration of combustible vapors present within the sample bag headspace. The TLV Sniffer records concentration in part per million (ppm) and is calibrated to hexane. The results of headspace vapor screening vary with temperature, moisture content, soil lithology, organic content, and type of contaminant(s).

APPENDIX B

Analytical Technologies, Inc.

ATI I.D. # 8908-044

GeoEngineers

AUG 18 1989

Routing SCP S-F

File

August 15, 1989

GeoEngineers, Inc.
2404 140th Avenue N.E.
Suite 105
Bellevue, WA 98005

Attention : Steve Perrigo

Project Number : 186-101-B4

Project Name : Puget Power

On August 9, 1989 Analytical Technologies, Inc. received two soil samples for analyses. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and the quality control data are enclosed.

Mary C. Silva

Mary C. Silva
Senior Project Manager

Frederick W. Grothkopp/MS

Frederick W. Grothkopp
Technical Manager

FWG/nah

ATI I.D. # 8908-044

SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-101-B4
PROJECT NAME : PUGET POWER

ATI #	CLIENT DESCRIPTION	MATRIX	DATE SAMPLED
8908-044-1	216-WW	SOIL	08/09/89
8908-044-2	216-SW	SOIL	08/09/89

----- TOTALS -----

MATRIX	# SAMPLES
SOIL	2

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

Analytical Technologies, Inc.

ATI I.D. # 8908-044

ANALYTICAL SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-101-B4
PROJECT NAME : PUGET POWER

ANALYSIS	TECHNIQUE	REFERENCE/METHOD
PETROLEUM HYDROCARBONS	IR	EPA 418.1

ATI I.D. # 8908-044

GENERAL CHEMISTRY RESULTS

CLIENT : GEOENGINEERS, INC. SAMPLE MATRIX : SOIL
PROJECT # : 186-101-B4
PROJECT NAME : PUGET POWER

PARAMETER	UNITS	-1	-2
PETROLEUM HYDROCARBONS	mg/Kg	44	380

ATI I.D. # 8908-044

GENERAL CHEMISTRY QUALITY CONTROL

CLIENT : GEOENGINEERS, INC. SAMPLE MATRIX : SOIL
PROJECT # : 186-101-B4
PROJECT NAME : PUGET POWER

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED CONC	SPIKE ADDED	% REC
PETROLEUM HYDROCARBONS	mg/Kg	8908-040-2	11	14	24	N/A	N/A	N/A
PETROLEUM HYDROCARBONS	mg/Kg	BLANK SPIKE	N/A	N/A	N/A	64.5	63.7	101

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

Analytical Technologies, Inc.
560 Naches Avenue SW, Suite 101 Renton, WA 98055

Chain of Custody

DATE 8/9/89 PAGE ___ OF ___

PROJECT MANAGER: Steve Perrigo
COMPANY: GeoEngineers
ADDRESS: 2405 140th Ave NE Ste 105, Bellevue, WA 98005
PHONE: 746-5200 SAMPLED BY: KSK

LABORATORY NUMBER: 8908-044

SAMPLE DISPOSAL INSTRUCTIONS

☒ ATI Disposal @ $5.00 each hold for 30 days ☐ Return ☐ Pickup (will call)

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	NUMBER OF CONTAINERS
216-WW	8/9/89	1440	soil	-1	1
216-SW	"	1545	soil	-2	1

ANALYSIS REQUEST

SAMPLE ID	8010 Halogenated Volatiles	8020 Aromatic Volatiles	BETX ONLY	8240 GCMS Volatiles	8270 GCMS BNA	8310 HPLC PNA	8080 Pesticides & PCB's	PCB's ONLY	8140 Phosphate Pesticides	8150 Herbicides	WDOE PAH/HH (WAC 173)	418.1 (TPH)	413.2 Grease & Oil	8015 (Modified)	TOC 9060	TOX 9020	% Moisture	TCLP	Priority Pollutant Metals (13)	EPTOX Metals (8) Total	EP TOX Metals (8) EP EXT
216-WW												X									
216-SW												X									

PROJECT INFORMATION

PROJECT NUMBER: 186101-B4
PROJECT NAME: Puget Power
PURCHASE ORDER NUMBER:
VIA:

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS	2
CHAIN OF CUSTODY SEALS Y/N/NA	N
INTACT? Y/N/NA	Y
RECEIVED GOOD COND./COLD	Y

TAT: ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK ☐ 2 WKS (Normal)

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH DATA

SPECIAL INSTRUCTIONS: Soil is coal tailings, need silica gel cleanup.

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Kath Kill Time: 1632	Signature: Time:	Signature: Time:
Printed Name: Kathy Killmus Date: 8/9/89	Printed Name: Date:	Printed Name: Date:
Company: GET	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: (LAB) 3.**
Signature: Time:	Signature: Time:	Signature: Time: 4:43
Printed Name: Date:	Printed Name: Date:	Printed Name: Donna Hazlewood Date: 8/9/89
Company:	Company:	Analytical Technologies, Inc.

ATI Labs: San Diego (619)458-9141 • Phoenix (602)438-1530 • Seattle (206)228-8335 • Pensacola (904)474-1001 DISTRIBUTION: White, Canary - ANALYTICAL TECHNOLOGIES, INC. • Pink - ORIGINATOR

B-6

Analytical Technologies, Inc. 560 Naches Avenue, S.W., Suite 101, Renton, WA 98055, (206) 228-8335

ATI I.D. # 8908-055

August 16, 1989

GeoEngineers, Inc.
2405 140th Avenue N.E.
Suite 105
Bellevue, WA 98005

Attention : Steve Perrigo

Project Number : 186-101-B4

Project Name : Puget Power

On August 10, 1989 Analytical Technologies, Inc. received four soil samples for analyses. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and the quality control data are enclosed.

Mary C. Silva
Senior Project Manager

Frederick W. Grothkopp
Technical Manager

FWG/nah

ATI I.D. # 8908-055

SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-101-B4
PROJECT NAME : PUGET POWER

ATI #	CLIENT DESCRIPTION	MATRIX	DATE SAMPLED
8908-055-1	216-B	SOIL	08/10/89
8908-055-2	216-EW	SOIL	08/10/89
8908-055-3	217-EW	SOIL	08/10/89
8908-055-4	217-NW	SOIL	08/10/89

----- TOTALS -----

MATRIX	# SAMPLES
SOIL	4

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

Analytical Technologies, Inc.

ATI I.D. # 8908-055

ANALYTICAL SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-101-B4
PROJECT NAME : PUGET POWER

ANALYSIS	TECHNIQUE	REFERENCE/METHOD
PETROLEUM HYDROCARBONS	IR	EPA 418.1

Analytical Technologies, Inc.

ATI I.D. # 8908-055

GENERAL CHEMISTRY RESULTS

CLIENT : GEOENGINEERS, INC. SAMPLE MATRIX : SOIL
PROJECT # : 186-101-B4
PROJECT NAME : PUGET POWER

PARAMETER	UNITS	-1	-2	-3	-4
PETROLEUM HYDROCARBONS	mg/Kg	66	23	5.6	1,000

Analytical**Technologies**, Inc.

ATI I.D. # 8908-055

GENERAL CHEMISTRY QUALITY CONTROL

CLIENT : GEOENGINEERS, INC. SAMPLE MATRIX : SOIL
PROJECT # : 186-101-B4
PROJECT NAME : PUGET POWER

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED CONC	SPIKE ADDED	% REC
PETROLEUM HYDROCARBONS	mg/Kg	8908-050-3	3,700	3,500	6	N/A	N/A	N/A
PETROLEUM HYDROCARBONS	mg/Kg	BLANK SPIKE	N/A	N/A	N/A	65.1	63.6	102

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

Analytical Technologies, Inc.
560 Naches Avenue SW, Suite 101 Renton, WA 98055

Chain of Custody

DATE 8/10/89 PAGE 1 OF 1

PROJECT MANAGER: Steve Perrigo
COMPANY: GeoEngineers
ADDRESS: 2405-140th Ave NE, Ste 105 Bellevue, WA 98005
PHONE: 746-5200 SAMPLED BY: KSK

LABORATORY NUMBER: 8908-055

SAMPLE DISPOSAL INSTRUCTIONS

[X] ATI Disposal @ $5.00 each hold 30 days [ ] Return [ ] Pickup (will call)

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	8010 Halogenated Volatiles	8020 Aromatic Volatiles	BETX ONLY	8240 GCMS Volatiles	8270 GCMS BNA	8310 HPLC PNA	8080 Pesticides & PCB's	PCB's ONLY	8140 Phosphate Pesticides	8150 Herbicides	WDOE PAH/HH (WAC 173)	418.1 (TPH)	413.2 Grease & Oil	8015 (Modified)	TOC 9060	TOX 9020	% Moisture	TCLP	Priority Pollutant Metals (13)	EPTOX Metals (8) Total	EP TOX Metals (8) EP EXT	NUMBER OF CONTAINERS
216-B	8/10/89	1600	soil													X										1
216-EW	"	1615	"													X										1
217-EW	"	1640	"													X										1
217-NW	"	1625	"													X										1

PROJECT INFORMATION

PROJECT NUMBER: 186-101-B4
PROJECT NAME: Puget Power
PURCHASE ORDER NUMBER:
VIA:
TAT: [X] 24HR [ ] 48 HRS [ ] 72 HRS [ ] 1 WK [ ] 2 WKS (Normal)
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH DATA

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS
CHAIN OF CUSTODY SEALS Y/N/NA
INTACT? Y/N/NA
RECEIVED GOOD COND./COLD

SPECIAL INSTRUCTIONS: soil is coal tailings, need silica gel cleanup.

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Kathy Killman Time: 1700	Signature: Time:	Signature: Time:
Printed Name: Kathy Killman Date: 8/10/89	Printed Name: Date:	Printed Name: Date:
Company: GEI	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: (LAB) 3.**
Signature: Time:	Signature: Time:	Signature: Dayna L. Barkley Time: 2:00
Printed Name: Date:	Printed Name: Date:	Printed Name: Dayna L. Barkley Date: 8/10
Company:	Company:	Analytical Technologies, Inc.

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B-7-12

Analytical Technologies, Inc. 560 Naches Avenue, S.W., Suite 101, Renton, WA 98055, (206) 228-8335

ATI I.D. # 8908-060

GeoEngineers

AUG 22 1989

Routing

File

August 18, 1989

Geoengineers, Inc.
2405 140th Avenue N.E.
Suite 105
Bellevue, WA 98005

Attention : Steve Perrigo

Project Number : 186-101-B4

Project Name : Puget Power

On August 11, 1989 Analytical Technologies, Inc. received six soil samples for analyses. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and the quality control data are enclosed.

Mary C. Silva

Mary C. Silva
Senior Project Manager

Frederick W. Grothkopp

Frederick W. Grothkopp
Technical Manager

FWG/tpj

ATI I.D. # 8908-060

SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-101-B4
PROJECT NAME : PUGET POWER

ATI #	CLIENT DESCRIPTION	MATRIX	DATE SAMPLED
8908-060-1	218-B	SOIL	08/11/89
8908-060-2	218-SW	SOIL	08/11/89
8908-060-3	218-EW	SOIL	08/11/89
8908-060-4	218-NW	SOIL	08/11/89
8908-060-5	217-WW	SOIL	08/11/89
8908-060-6	218-WW	SOIL	08/11/89

----- TOTALS -----

MATRIX	# SAMPLES
SOIL	6

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

Analytical Technologies, Inc.

ATI I.D. # 8908-060

ANALYTICAL SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-101-B4
PROJECT NAME : PUGET POWER

ANALYSIS	TECHNIQUE	REFERENCE/METHOD
BETX	GC/PID	EPA 8020
PETROLEUM HYDROCARBONS	IR	EPA 418.1
MOISTURE	GRAVIMETRIC	METHOD 7-2.2

Analytical Technologies, Inc.

ATI I.D. # 8908-060

PURGEABLE AROMATICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 186-101-B4	DATE RECEIVED	: N/A
PROJECT NAME	: PUGET POWER	DATE EXTRACTED	: 08/11/89
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 08/11/89
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8020 (BETX)	DILUTION FACTOR	: 1

RESULTS BASED ON DRY WEIGHT

COMPOUND	RESULT
BENZENE	<0.025
ETHYLBENZENE	<0.025
TOLUENE	<0.025
META & PARA XYLENE	<0.025
ORTHO XYLENE	<0.025

SURROGATE PERCENT RECOVERY

BROMOFLUOROBENZENE	99

Analytical Technologies, Inc.

ATI I.D. # 8908-060-1

PURGEABLE AROMATICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 08/11/89
PROJECT #	: 186-101-B4	DATE RECEIVED	: 08/11/89
PROJECT NAME	: PUGET POWER	DATE EXTRACTED	: 08/11/89
CLIENT I.D.	: 218-B	DATE ANALYZED	: 08/11/89
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8020 (BETX)	DILUTION FACTOR	: 1

RESULTS BASED ON DRY WEIGHT

COMPOUND	RESULT
BENZENE	<0.025
ETHYLBENZENE	<0.025
TOLUENE	<0.025
META & PARA XYLENE	<0.025
ORTHO XYLENE	<0.025

SURROGATE PERCENT RECOVERY

BROMOFLUOROBENZENE	100

ATI I.D. # 8908-060-2

PURGEABLE AROMATICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 08/11/89
PROJECT #	: 186-101-B4	DATE RECEIVED	: 08/11/89
PROJECT NAME	: PUGET POWER	DATE EXTRACTED	: 08/11/89
CLIENT I.D.	: 218-SW	DATE ANALYZED	: 08/11/89
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8020 (BETX)	DILUTION FACTOR	: 1

RESULTS BASED ON DRY WEIGHT

COMPOUND	RESULT
BENZENE	<0.025
ETHYLBENZENE	<0.025
TOLUENE	<0.025
META & PARA XYLENE	<0.025
ORTHO XYLENE	<0.025

SURROGATE PERCENT RECOVERY

BROMOFLUOROBENZENE	91

Analytical Technologies, Inc.

ATI I.D. # 8908-060-3

PURGEABLE AROMATICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 08/11/89
PROJECT #	: 186-101-B4	DATE RECEIVED	: 08/11/89
PROJECT NAME	: PUGET POWER	DATE EXTRACTED	: 08/11/89
CLIENT I.D.	: 218-EW	DATE ANALYZED	: 08/11/89
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8020 (BETX)	DILUTION FACTOR	: 1

RESULTS BASED ON DRY WEIGHT

COMPOUND	RESULT
BENZENE	<0.025
ETHYLBENZENE	<0.025
TOLUENE	<0.025
META & PARA XYLENE	<0.025
ORTHO XYLENE	<0.025

SURROGATE PERCENT RECOVERY

BROMOFLUOROBENZENE	94

Analytical Technologies, Inc.

ATI I.D. # 8908-060-4

PURGEABLE AROMATICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 08/11/89
PROJECT #	: 186-101-B4	DATE RECEIVED	: 08/11/89
PROJECT NAME	: PUGET POWER	DATE EXTRACTED	: 08/11/89
CLIENT I.D.	: 218-NW	DATE ANALYZED	: 08/14/89
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8020 (BETX)	DILUTION FACTOR	: 1

RESULTS BASED ON DRY WEIGHT

COMPOUND	RESULT
BENZENE	<0.025
ETHYLBENZENE	<0.025
TOLUENE	<0.025
META & PARA XYLENE	<0.025
ORTHO XYLENE	<0.025

SURROGATE PERCENT RECOVERY

BROMOFLUOROBENZENE	95

Analytical Technologies, Inc.

ATI I.D. # 8908-060-6

PURGEABLE AROMATICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 08/11/89
PROJECT #	: 186-101-B4	DATE RECEIVED	: 08/11/89
PROJECT NAME	: PUGET POWER	DATE EXTRACTED	: 08/11/89
CLIENT I.D.	: 218-WW	DATE ANALYZED	: 08/11/89
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8020 (BETX)	DILUTION FACTOR	: 1

RESULTS BASED ON DRY WEIGHT

COMPOUND	RESULT
BENZENE	<0.025
ETHYLBENZENE	<0.025
TOLUENE	<0.025
META & PARA XYLENE	<0.025
ORTHO XYLENE	<0.025

SURROGATE PERCENT RECOVERY

BROMOFLUOROBENZENE	92

ATI I.D. # 8908-060

PURGEABLE AROMATICS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 8908-060-1
PROJECT #	: 186-101-B4	DATE ANALYZED	: 08/11/89
PROJECT NAME	: PUGET POWER	UNITS	: mg/Kg
EPA METHOD	: 8020 (BETX)	MATRIX	: SOIL

COMPOUND	SAMPLE RESULT	SPIKE ADDED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % REC	RPD
BENZENE	<0.025	0.400	0.415	104	0.398	100	4
TOLUENE	<0.025	0.400	0.399	100	0.392	98	2
META/PARA XYLENE	<0.025	1.10	1.14	104	1.11	101	3

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

Analytical Technologies, Inc.

ATI I.D. # 8908-060

GENERAL CHEMISTRY RESULTS

CLIENT : GEOENGINEERS, INC. SAMPLE MATRIX : SOIL
PROJECT # : 186-101-B4
PROJECT NAME : PUGET POWER

PARAMETER	UNITS	-1	-2	-3	-4	-5	-6
PETROLEUM HYDROCARBONS	mg/Kg	16	62	<1.0	100	18	260
MOISTURE	%	5.4	13	4.5	3.9	-	10

Analytical Technologies, Inc.

ATI I.D. # 8908-060

GENERAL CHEMISTRY QUALITY CONTROL

CLIENT : GEOENGINEERS, INC. SAMPLE MATRIX : SOIL
PROJECT # : 186-101-B4
PROJECT NAME : PUGET POWER

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED CONC	SPIKE ADDED	% REC
PETROLEUM HYDROCARBONS	mg/Kg	8908-060-3	<1.0	<1.0	0	N/A	N/A	N/A
PETROLEUM HYDROCARBONS	mg/Kg	BLANK SPK	N/A	N/A	N/A	67.3	63.5	106
MOISTURE	%	8908-060-1	5.4	5.7	5	N/A	N/A	N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

Analytical Technologies, Inc.
560 Naches Avenue SW, Suite 101 Renton, WA 98055

Chain of Custody

DATE 8/11/89 PAGE 1 OF 1

PROJECT MANAGER: Steve Perrigo
COMPANY: GeoEngineers
ADDRESS: 2405 140th Ave NE, Ste 105 Bellevue, WA 98005
PHONE: 746-5200 SAMPLED BY: KSK

LABORATORY NUMBER: 8908-000

SAMPLE DISPOSAL INSTRUCTIONS

☒ ATI Disposal @ $5.00 each hold 30 days ☐ Return ☐ Pickup (will call)

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	8010 Halogenated Volatiles	8020 Aromatic Volatiles	BETX ONLY	8240 GCMS Volatiles	8270 GCMS BNA	8310 HPLC PNA	8080 Pesticides & PCB's	PCB's ONLY	8140 Phosphate Pesticides	8150 Herbicides	WDOE PAH/H (WAC 173)	418.1 (TPH)	413.2 Grease & Oil	8015 (Modified)	TOC 9060	TOX 9020	% Moisture	TCLP	Priority Pollutant Metals (13)	EPTOX Metals (8) Total	EP TOX Metals (8) EP EXT	NUMBER OF CONTAINERS
218-B	8/11/89	1005	Soil	-1			X									X										1
218-SW	"	1015	"	-2			X									X										1
218-EW	"	1025	"	-3			X									X										1
218-NW	"	1035	"	-4			X									X										1
217-WW	"	1100	"	-5												X										1
218-WW	"	1130	"	-6			X									X										1

PROJECT INFORMATION		SAMPLE RECEIPT	
PROJECT NUMBER:	9186101-B4	TOTAL NUMBER OF CONTAINERS	6
PROJECT NAME:	Plant Power	CHAIN OF CUSTODY SEALS Y/N/NA	N
PURCHASE ORDER NUMBER:		INTACT? Y/N/NA	Y
VIA:		RECEIVED GOOD COND./COLD	Y

TAT: ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK ☐ 2 WKS (Normal)

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH DATA

SPECIAL INSTRUCTIONS:
Sample 217-WW is coal tailings, needs silica gel cleanup

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Time: 1741	Signature: Time:	Signature: Time:
Printed Name: Kathy Killham Date: 8/11/89	Printed Name: Date:	Printed Name: Date:
Company: GE	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: (LAB) 3.**
Signature: Time:	Signature: Time:	Signature: Time: 12:4
Printed Name: Date:	Printed Name: Date:	Printed Name: Date: 8/11/8
Company:	Company:	Analytical Technologies, Inc.

ATI Labs: San Diego (619)458-9141 • Phoenix (602)438-1530 • Seattle (206)228-8335 • Pensacola (904)474-1001 DISTRIBUTION: White, Canary - ANALYTICAL TECHNOLOGIES, INC. • Pink - ORIGINATOR

AnalyticalTechnologies,Inc. 560 Naches Avenue, S.W., Suite 101, Renton, WA 98055, (206) 228-8335

ATI I.D. # 8908-072

GeoEngineers

AUG 28 1989

Routing SCP

File

August 25, 1989

GeoEngineers, Inc.
2405 140th Ave. N.E.
Suite 105
Bellevue, WA 98005

Attention : Steve Perrigo

Project Number : 186-101-B4

Project Name : Puget Power

On August 15, 1989 Analytical Technologies, Inc. received one water sample and two soil samples for analyses. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and the quality control data are enclosed.

Mary C. Silva
Senior Project Manager

Frederick W. Grothkopp
Technical Manager

FWG/hbb

Analytical Technologies, Inc.

ATI I.D. # 8908-072

SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-101-B4
PROJECT NAME : PUGET POWER

ATI #	CLIENT DESCRIPTION	MATRIX	DATE SAMPLED
8908-072-1	216	WATER	08/15/89
8908-072-2	216-SW1	SOIL	08/15/89
8908-072-3	218-WW1	SOIL	08/15/89

----- TOTALS -----

MATRIX	# SAMPLES
WATER	1
SOIL	2

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

ATI I.D. # 8908-072

ANALYTICAL SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-101-B4
PROJECT NAME : PUGET POWER

ANALYSIS	TECHNIQUE	REFERENCE/METHOD
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED
PETROLEUM HYDROCARBONS	IR	EPA 418.1

Analytical Technologies, Inc.

ATI I.D. # 8908-072

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 186-101-B4	DATE RECEIVED	: N/A
PROJECT NAME	: PUGET POWER	DATE EXTRACTED	: 08/16/89
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 08/23/89
SAMPLE MATRIX	: WATER	UNITS	: mg/L
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND	RESULT
FUEL HYDROCARBONS	<1
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	GASOLINE
FUEL HYDROCARBONS	<1
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	DIESEL

Analytical Technologies, Inc.

ATI I.D. # 8908-072-1

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 08/15/89
PROJECT #	: 186-101-B4	DATE RECEIVED	: 08/15/89
PROJECT NAME	: PUGET POWER	DATE EXTRACTED	: 08/16/89
CLIENT I.D.	: 216	DATE ANALYZED	: 08/23/89
SAMPLE MATRIX	: WATER	UNITS	: mg/L
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND	RESULT
FUEL HYDROCARBONS	<1
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	GASOLINE
FUEL HYDROCARBONS	<1
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	DIESEL

Analytical Technologies, Inc.

ATI I.D. # 8908-072

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 8908-072-1
PROJECT #	: 186-101-B4	DATE ANALYZED	: 08/23/89
PROJECT NAME	: PUGET POWER	SAMPLE MATRIX	: WATER
EPA METHOD	: 8015 MODIFIED	UNITS	: mg/L

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<1	500	547	109	504	101	8

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

ATI I.D. # 8908-072

GENERAL CHEMISTRY RESULTS

CLIENT : GEOENGINEERS, INC. SAMPLE MATRIX : SOIL
PROJECT # : 186-101-B4
PROJECT NAME : PUGET POWER

PARAMETER	UNITS	-2	-3
PETROLEUM HYDROCARBONS	mg/Kg	<1.0	<1.0

Analytical Technologies, Inc.

ATI I.D. # 8908-072

GENERAL CHEMISTRY QUALITY CONTROL

CLIENT : GEOENGINEERS, INC. SAMPLE MATRIX : SOIL
PROJECT # : 186-101-B4
PROJECT NAME : PUGET POWER

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED CONC	SPIKE ADDED	% REC
PETROLEUM HYDROCARBONS	mg/Kg	8908-067-4	200	200	0	N/A	N/A	N/A
PETROLEUM HYDROCARBONS	mg/Kg	SPIKE BLANK	N/A	N/A	0	74.5	63.7	117

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

Analytical**Technologies**, Inc.
560 Naches Avenue SW, Suite 101 Renton, WA 98055

Chain of Custody

DATE 8/15/89 PAGE ___ OF ___

PROJECT MANAGER: Steve Perrigo
COMPANY: GeoEngineers
ADDRESS: 2405-140th Ave NE, Ste 105
Bellevue, WA 98005
PHONE: 746-5200 SAMPLED BY: KSK

LABORATORY NUMBER: 8908-072

SAMPLE DISPOSAL INSTRUCTIONS

☒ ATI Disposal @ $5.00 each 8610-3200 KS ☐ Return ☐ Pickup (will call)

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
216	8/15/89	1000	water	-1
216-SW1	"	1015	soil	-2
218-WW1	"	1130	soil	-3

ANALYSIS REQUEST

SAMPLE ID	8010 Halogenated Volatiles	8020 Aromatic Volatiles	BETX ONLY	8240 GCMS Volatiles	8270 GCMS BNA	8310 HPLC PNA	8080 Pesticides & PCB's	PCB's ONLY	8140 Phosphate Pesticides	8150 Herbicides	WDOE PAH/HH (WAC 173)	418.1 (TPH)	413.2 Grease & Oil	8015 (Modified)	TOC 9060	TOX 9020	% Moisture	TCLP	Priority Pollutant Metals (13)	EPTOX Metals (8) Total	EP TOX Metals (8) EP EXT	NUMBER OF CONTAINERS
216														X								1
216-SW1												X										1
218-WW1												X										1

PROJECT INFORMATION

PROJECT NUMBER: 1816-101-B4
PROJECT NAME: Puget Power
PURCHASE ORDER NUMBER:
VIA:

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS
CHAIN OF CUSTODY SEALS Y/N/NA
INTACT? Y/N/NA
RECEIVED GOOD COND./COLD

TAT: ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK ☐ 2 WKS (Normal)

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH DATA

SPECIAL INSTRUCTIONS:
24 hr for TPH only.
Sample 216-SW1 is coal tailings, need silica gel cleanup

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Kathy Killams Time: 1015	Signature: Time:	Signature: Time:
Printed Name: Kathy Killams Date: 8/15/89	Printed Name: Date:	Printed Name: Date:
Company: GEI	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: (LAB) 3.**
Signature: Time:	Signature: Time:	Signature: Time: 15:32
Printed Name: Date:	Printed Name: Date:	Printed Name: JANIE WARE Date: 8/15/89
Company:	Company:	Analytical Technologies, Inc.

ATI Labs: San Diego (619)458-9141 • Phoenix (602)438-1530 • Seattle (206)228-8335 • Pensacola (904)474-1001 DISTRIBUTION: White, Canary - ANALYTICAL TECHNOLOGIES, INC. • Pink - ORIGINATOR

AnalyticalTechnologies,Inc. 560 Naches Avenue, S.W., Suite 101, Renton, WA 98055, (206) 228-8335

ATI I.D. # 8908-121

GeoEngineers

AUG 3 1 1989

Routing KSK

File

August 29, 1989

GeoEngineers, Inc.
2405 140th Avenue N.E.
Suite 105
Bellevue, WA 98005

Attention : Kathy Killman

Project Number : 186-101-B4

Project Name : Puget Power Renton

On August 23, 1989 Analytical Technologies, Inc. received three soil samples for analyses. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and the quality control data are enclosed.

Mary C. Silva
Senior Project Manager

Frederick W. Grothkopp
Technical Manager

FWG/hbb

Analytical Technologies, Inc.

ATI I.D. # 8908-121

SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-101-B4
PROJECT NAME : PUGET POWER RENTON

ATI #	CLIENT DESCRIPTION	MATRIX	DATE SAMPLED
8908-121-1	#217NW1	SOIL	08/23/89
8908-121-2	#217B	SOIL	08/23/89
8908-121-3	WM1	SOIL	08/23/89

----- TOTALS -----

MATRIX	# SAMPLES
SOIL	3

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

Analytical Technologies, Inc.

ATI I.D. # 8908-121

ANALYTICAL SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-101-B4
PROJECT NAME : PUGET POWER RENTON

ANALYSIS	TECHNIQUE	REFERENCE/METHOD
PETROLEUM HYDROCARBONS	IR	EPA 418.1

ATI I.D. # 8908-121

GENERAL CHEMISTRY RESULTS

CLIENT : GEOENGINEERS, INC. SAMPLE MATRIX : SOIL
PROJECT # : 186-101-B4
PROJECT NAME : PUGET POWER RENTON

PARAMETER	UNITS	-1	-2	-3
PETROLEUM HYDROCARBONS	mg/Kg	<1.0	6.8	230

Analytical Technologies, Inc.

ATI I.D. # 8908-121

GENERAL CHEMISTRY QUALITY CONTROL

CLIENT : GEOENGINEERS, INC. SAMPLE MATRIX : SOIL
PROJECT # : 186-101-B4
PROJECT NAME : PUGET POWER RENTON

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED CONC	SPIKE ADDED	% REC
PETROLEUM HYDROCARBONS	mg/Kg	8908-119-1	2,100	2,000	5	N/A	N/A	N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

Analytical Technologies, Inc.
560 Naches Avenue SW, Suite 101 Renton, WA 98055

Chain of Custody

DATE 8/23 PAGE 1 OF

PROJECT MANAGER: Kathy Killman
COMPANY: GEI
ADDRESS:
PHONE: 746-5200 SAMPLED BY: JGR

LABORATORY NUMBER: 8908-121

SAMPLE DISPOSAL INSTRUCTIONS

☐ ATI Disposal @ $5.00 each ☐ Return ☐ Pickup (will call)

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	8010 Halogenated Volatiles	8020 Aromatic Volatiles	BETX ONLY	8240 GCMS Volatiles	8270 GCMS BNA	8310 HPLC PNA	8080 Pesticides & PCB's	PCB's ONLY	8140 Phosphate Pesticides	8150 Herbicides	WDOE PAH/HH (WAC 173)	418.1 (TPH)	413.2 Grease & Oil	8015 (Modified)	TOC 9060	TOX 9020	% Moisture	TCLP	Priority Pollutant Metals (13)	EPTOX Metals (8) Total	EP TOX Metals (8) EP EXT	NUMBER OF CONTAINERS
#217-NW1	8/23		Soil	-1												X										
#217B	↓		↓	-2												X										
WM1	↓		↓	-3												X										

PROJECT INFORMATION

PROJECT NUMBER: 186-101-R4
PROJECT NAME: Puget Power Renton
PURCHASE ORDER NUMBER:
VIA:

TAT: ☑ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK ☐ 2 WKS (Normal)

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH DATA

SPECIAL INSTRUCTIONS:
Hold soil for 30 days

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS	3
CHAIN OF CUSTODY SEALS Y/N/NA	N
INTACT? Y/N/NA	Y
RECEIVED GOOD COND./COLD	Y

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Time: 5:55	Signature: Time:	Signature: Time:
Printed Name: James Roth Date: 8/23	Printed Name: Date:	Printed Name: Date:
Company: GEI	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: (LAB) 3.**
Signature: Time:	Signature: Time:	Signature: Dayna L. Barkley Time: 5:52
Printed Name: Date:	Printed Name: Date:	Printed Name: Dayna L. Barkley Date: 8/23
Company:	Company:	Analytical Technologies, Inc.

ATI Labs: San Diego (619)458-9141 • Phoenix (602)438-1530 • Seattle (206)228-8335 • Pensacola (904)474-1001 DISTRIBUTION: White, Canary - ANALYTICAL TECHNOLOGIES, INC. • Pink - ORIGINATOR

B/L 40

Analytical Technologies, Inc. 560 Naches Avenue, S.W., Suite 101, Renton, WA 98055, (206) 228-8335

ATI I.D. # 8908-136

August 29, 1989

GeoEngineers, Inc.
2405 140th Ave. N.E.
Suite 105
Bellevue, WA 98005

Attention : Kathy Killman

Project Number : 186-101-B04

Project Name : PSPL

On August 25, 1989 Analytical Technologies, Inc. received one soil sample for analysis. The sample was analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and the quality control data are enclosed.

Mary C. Silva
Senior Project Manager

Frederick W. Grothkopp
Technical Manager

FWG/hbb

Analytical Technologies, Inc.

ATI I.D. # 8908-136

SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-101-B04
PROJECT NAME : PSPL

ATI #	CLIENT DESCRIPTION	MATRIX	DATE SAMPLED
8908-136-1	WM2	SOIL	08/25/89

----- TOTALS -----

MATRIX	# SAMPLES
SOIL	1

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

Analytical Technologies, Inc.

ATI I.D. # 8908-136

ANALYTICAL SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-101-B04
PROJECT NAME : PSPL

ANALYSIS	TECHNIQUE	REFERENCE/METHOD
PETROLEUM HYDROCARBONS	IR	EPA 418.1

Analytical Technologies, Inc.

ATI I.D. # 8908-136

GENERAL CHEMISTRY RESULTS

CLIENT : GEOENGINEERS, INC. SAMPLE MATRIX : SOIL
PROJECT # : 186-101-B04
PROJECT NAME : PSPL

PARAMETER	UNITS	-1
PETROLEUM HYDROCARBONS	mg/Kg	11

Analytical Technologies, Inc.

ATI I.D. # 8908-136

GENERAL CHEMISTRY QUALITY CONTROL

CLIENT : GEOENGINEERS, INC. SAMPLE MATRIX : SOIL
PROJECT # : 186-101-B04
PROJECT NAME : PSPL

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED CONC	SPIKE ADDED	% REC
PETROLEUM HYDROCARBONS	mg/Kg	8908-127-1	62,000	64,000	3	N/A	N/A	N/A
PETROLEUM HYDROCARBONS	mg/Kg	BLANK SPIKE	N/A	N/A	N/A	65.0	63.1	103

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

Analytical**Technologies**, Inc.
560 Naches Avenue SW, Suite 101 Renton, WA 98055

Chain of Custody

DATE 8/25 PAGE 1 OF 1

PROJECT MANAGER: KATHY KILLMAN
COMPANY: GEOENGINEERS
ADDRESS: 2405 140TH NE
BELLEVUE
PHONE: 746-5200 SAMPLED BY: LYNNE MILLER

LABORATORY NUMBER: 8908-136

SAMPLE DISPOSAL INSTRUCTIONS

☒ ATI Disposal @ $5.00 each ☐ Return ☐ Pickup (will call)

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	8010 Halogenated Volatiles	8020 Aromatic Volatiles	BETX ONLY	8240 GCMS Volatiles	8270 GCMS BNA	8310 HPLC PNA	8080 Pesticides & PCB's	PCB's ONLY	8140 Phosphate Pesticides	8150 Herbicides	WDOE PAH/HH (WAC 173)	418.1 (TPH)	413.2 Grease & Oil	8015 (Modified)	TOC 9060	TOX 9020	% Moisture	TCLP	Priority Pollutant Metals (13)	EPTOX Metals (8) Total	EP TOX Metals (8) EP EXT	NUMBER OF CONTAINERS
WM2	8/25	1230	SOIL	-1												✓										1

PROJECT INFORMATION

PROJECT NUMBER: 186-101-B04
PROJECT NAME: PSPL
PURCHASE ORDER NUMBER:
VIA:

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS
CHAIN OF CUSTODY SEALS Y/N/NA
INTACT? Y/N/NA
RECEIVED GOOD COND./COLD

TAT: ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK ☐ 2 WKS (Normal)

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH DATA

SPECIAL INSTRUCTIONS:

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Time: 1250	Signature: Time:	Signature: Time:
Printed Name: LYNNE MILLER Date: 8/25	Printed Name: Date:	Printed Name: Date:
Company: GEOENGINEERS	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: (LAB) 3.**
Signature: Time:	Signature: Time:	Signature: Jackie Ware Time: 15:52
Printed Name: Date:	Printed Name: Date:	Printed Name: JACKIE WARE Date: 8/25/89
Company:	Company:	Analytical Technologies, Inc.

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AnalyticalTechnologies,Inc. 560 Naches Avenue, S.W., Suite 101, Renton, WA 98055, (206) 228-8335

ATI I.D. # 8909-036

GeoEngineers

SEP 25 1989

Routing KSK

File

September 21, 1989

GeoEngineers, Inc.
2405 140th Ave. N.E.
Suite 105
Bellevue, WA 98005

Attention : Kathy Killman

Project Number : 0186-101-B04

Project Name : PSP&L

On September 7, 1989 Analytical Technologies, Inc. received six water and five soil samples for analyses. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and the quality control data are enclosed.

Donna M. McKinney
Project Manager

Frederick W. Grothkopp
Technical Manager

FWG/hbb

Analytical Technologies, Inc.

ATI I.D. # 8909-036

SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-101-B04
PROJECT NAME : PSP&L

ATI #	CLIENT DESCRIPTION	MATRIX	DATE SAMPLED
8909-036-1	MW-5	WATER	09/07/89
8909-036-2	MW-6	WATER	09/07/89
8909-036-3	MW-7	WATER	09/07/89
8909-036-4	MW-8	WATER	09/07/89
8909-036-5	MW-9	WATER	09/07/89
8909-036-6	MW-10	WATER	09/07/89
8909-036-7	A-1	SOIL	09/07/89
8909-036-8	C-SOUTH 1	SOIL	09/07/89
8909-036-9	C-NORTH 1	SOIL	09/07/89
8909-036-10	F-1	SOIL	09/07/89
8909-036-11	B-1	SOIL	09/07/89

----- TOTALS -----

MATRIX	# SAMPLES
WATER	6
SOIL	5

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

Analytical Technologies, Inc.

ATI I.D. # 8909-036

ANALYTICAL SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-101-B04
PROJECT NAME : PSP&L

ANALYSIS	TECHNIQUE	REFERENCE/METHOD
BETX	GC/PID	EPA 8020
PETROLEUM HYDROCARBONS	IR	EPA 418.1
MOISTURE	GRAVIMETRIC	METHOD 7-2.2

AnalyticalTechnologies, Inc.

ATI I.D. # 8909-036

PURGEABLE AROMATICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-101-B04	DATE RECEIVED	: N/A
PROJECT NAME	: PSP&L	DATE EXTRACTED	: 09/08/89
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 09/08/89
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8020 (BETX)	DILUTION FACTOR	: 1

RESULTS BASED ON DRY WEIGHT

COMPOUND	RESULT
BENZENE	<0.025
ETHYLBENZENE	<0.025
TOLUENE	<0.025
META & PARA XYLENE	<0.025
ORTHO XYLENE	<0.025

SURROGATE PERCENT RECOVERY

BROMOFLUOROBENZENE	97

AnalyticalTechnologies,Inc.

ATI I.D. # 8909-036-11

PURGEABLE AROMATICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 09/07/89
PROJECT #	: 0186-101-B04	DATE RECEIVED	: 09/07/89
PROJECT NAME	: PSP&L	DATE EXTRACTED	: 09/08/89
CLIENT I.D.	: B-1	DATE ANALYZED	: 09/08/89
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8020 (BETX)	DILUTION FACTOR	: 1

RESULTS BASED ON DRY WEIGHT

COMPOUND	RESULT
BENZENE	<0.025
ETHYLBENZENE	<0.025
TOLUENE	<0.025
META & PARA XYLENE	<0.025
ORTHO XYLENE	<0.025

SURROGATE PERCENT RECOVERY

BROMOFLUOROBENZENE	71

Analytical Technologies, Inc.

ATI I.D. # 8909-036

PURGEABLE AROMATICS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 8909-022-1
PROJECT #	: 0186-101-B04	DATE ANALYZED	: 09/07/89
PROJECT NAME	: PSP&L	UNITS	: mg/Kg
EPA METHOD	: 8020 (BETX)	MATRIX	: SOIL

COMPOUND	SAMPLE RESULT	SPIKE ADDED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % REC	RPD
BENZENE	<0.025	0.400	0.363	91	0.357	89	2
TOLUENE	<0.025	0.400	0.375	94	0.357	89	5
META & PARA XYLENE	<0.025	1.10	0.999	91	0.969	88	3

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

Analytical Technologies, Inc.

ATI I.D. # 8909-036

GENERAL CHEMISTRY RESULTS

CLIENT : GEOENGINEERS, INC. SAMPLE MATRIX : WATER
PROJECT # : 0186-101-B04
PROJECT NAME : PSP&L

PARAMETER	UNITS	-1	-2	-3	-4	-5	-6
PETROLEUM HYDROCARBONS	mg/L	0.21	140	49	0.48	22	0.34

ATI I.D. # 8909-036

GENERAL CHEMISTRY QUALITY CONTROL

CLIENT : GEOENGINEERS, INC. SAMPLE MATRIX : WATER
PROJECT # : 0186-101-B04
PROJECT NAME : PSP&L

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED CONC	SPIKE ADDED	% REC
PETROLEUM HYDROCARBONS	mg/L	8909-036-6	0.34	0.27	23	N/A	N/A	N/A
PETROLEUM HYDROCARBONS	mg/L	BLANK SPIKE	N/A	N/A	N/A	6.68	10.2	65

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

Analytical Technologies, Inc.

ATI I.D. # 8909-036

GENERAL CHEMISTRY RESULTS

CLIENT : GEOENGINEERS, INC. SAMPLE MATRIX : SOIL
PROJECT # : 0186-101-B04
PROJECT NAME : PSP&L

PARAMETER	UNITS	-7	-8	-9	-10	-11
PETROLEUM HYDROCARBONS	mg/Kg	61	81	49	220	27
MOISTURE	%	-	-	-	-	20

Analytical Technologies, Inc.

ATI I.D. # 8909-036

GENERAL CHEMISTRY QUALITY CONTROL

CLIENT : GEOENGINEERS, INC. SAMPLE MATRIX : SOIL
PROJECT # : 0186-101-B04
PROJECT NAME : PSP&L

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED CONC	SPIKE ADDED	% REC
PETROLEUM HYDROCARBONS	mg/Kg	8909-042-1	<1.0	<1.0	0	143	125	114
MOISTURE	%	8909-039-1	24	24	0	N/A	N/A	N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

Analytical**Technologies,**Inc.
San Diego ● Phoenix ● Seattle

Chain of Custody

DATE Sept 097 PAGE 1 OF 2

PROJ. MGR. Kathy Killman
COMPANY GeoEngineer
ADDRESS 2405 - 140th Ave NE, Suite K5
Bellevue Wa 98005

SAMPLERS (SIGNATURE) Deborah y Knuty (PHONE NO.) 9/07/89

SAMPLE ID.	DATE	TIME	MATRIX	LAB ID.	BASE/NEU/ACID CMPDS. GC/MS/ 625/8270	VOLATILE CMPDS. GC/MS/ 624/8240	PESTICIDES/PCB 608/8080	POLYNUCLEAR AROMATIC 610/8310	PHENOLS, SUB PHENOLS 604/8040	HALOGENATED VOLATILES 601/8010	AROMATIC VOLATILES 602/8020	TOTAL ORGANIC CARBON 415/9060	TOTAL ORGANIC HALIDES 9020	PETROLEUM HYDROCARBONS 418			PRIORITY POLLUTANT METALS (13)	CAM METALS (18) TTLC/STLC	EP TOX METALS (8)	SWDA-INORGANICS PRIMARY/SECONDARY	HAZARDOUS WASTE PROFILE				NUMBER OF CONTAINERS
mw-5	9/07		H_2O	-1										X											1
mw-6				-2										X											1
mw-7				-3										X											1
mw-8				-4										X											1
mw-9				-5										X											1
mw-10			↓	-6										X											1
A-1			Soil	-7										X											1
C-South 1			Soil	-8										X											1
C-North 1	↓		Soil	-9										X											1

ANALYSIS REQUEST

PROJECT INFORMATION	
PROJECT: PSP+L	
PO NO. 0186-101-B04	
SHIPPING ID. NO.	
VIA: Hand delivered	

SAMPLE RECEIPT	
TOTAL NO. OF CONTAINERS	11
CHAIN OF CUSTODY SEALS	N
REC'D GOOD CONDITION/COLD	Y
CONFORMS TO RECORD	Y
LAB NO.	8909-036

SPECIAL INSTRUCTIONS/COMMENTS:
Soils on a dry weighed basis

INVOICE TO:

RELINQUISHED BY	RELINQUISHED BY
Deborah y Knuty 14:48	
(Signature) (Time)	(Signature) (Time)
Deborah J. Kristof 9/07	
(Printed Name) (Date)	(Printed Name) (Date)
GeoEngineers	
(Company)	(Company)
RECEIVED BY	RECEIVED BY (LABORATORY)
	Jackie Ware 2:48
(Signature) (Time)	(Signature) (Time)
	JACKIE WARE 9/7/89
(Printed Name) (Date)	(Printed Name)
(Company)	ANALYTICAL TECHNOLOGIES, INC.

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Analytical **Technologies,** Inc.
San Diego ● Phoenix ● Seattle

Chain of Custody

DATE 9/07/89 PAGE 2 OF 2

PROJ. MGR. Kelly Killman
COMPANY GeoEng
ADDRESS 2405-140th Ave NE
Bellevue Wa

SAMPLERS (SIGNATURE) Deborah J Knotts (PHONE NO.) 746-5200

ANALYSIS REQUEST

SAMPLE ID.	DATE	TIME	MATRIX	LAB ID.	BASE/NEU/ACID CMPDS. GC/MS/ 625/8270	VOLATILE CMPDS. GC/MS/ 624/8240	PESTICIDES/PCB 608/8080	POLYNUCLEAR AROMATIC 610/8310	PHENOLS, SUB PHENOLS 604/8040	HALOGENATED VOLATILES 601/8010	AROMATIC VOLATILES 602/8020	TOTAL ORGANIC CARBON 415/9060	TOTAL ORGANIC HALIDES 9020	PETROLEUM HYDROCARBONS 418	BETX		PRIORITY POLLUTANT METALS (13)	CAM METALS (18) TTLC/STLC	EP TOX METALS (8)	SWDA-INORGANICS PRIMARY/SECONDARY	HAZARDOUS WASTE PROFILE				NUMBER OF CONTAINERS
F-1	9/07		So.1	-10										X										1	
B-1	↓		So.1	-11										X	X									1	

PROJECT INFORMATION	
PROJECT:	
PO NO. 0186-101-B04	
SHIPPING ID. NO.	
VIA:	

SAMPLE RECEIPT	
TOTAL NO. OF CONTAINERS	
CHAIN OF CUSTODY SEALS	
REC'D GOOD CONDITION/COLD	
CONFORMS TO RECORD	
LAB NO. 8909-036	

SPECIAL INSTRUCTIONS/COMMENTS:

INVOICE TO:

RELINQUISHED BY	RELINQUISHED BY
Deborah J Knotts 14:48	
(Signature) (Time)	(Signature) (Time)
Deborah J Knotts	
(Printed Name) (Date)	(Printed Name) (Date)
(Company)	(Company)
RECEIVED BY	RECEIVED BY (LABORATORY)
	Jackie Ware 2:48
(Signature) (Time)	(Signature) (Time)
	JACKIE WARE 9/7/89
(Printed Name) (Date)	(Printed Name)
(Company)	ANALYTICAL TECHNOLOGIES, INC.

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B-58

APPENDIX C

City of Seattle
Charles Royer, *Mayor*
King County
Tim Hill, *Executive*

Seattle-King County Department of Public Health
Bud Nicola, M.D., M.H.S.A., *Director*

TO: Roy Westmoreland, Coal Creek Landfill
Joe Underwood, Site Foreman, Coal Creek Landfill

FROM: Steve Burke, Senior Environmental Health Specialist
Chemical/Physical Hazards Program

DATE: October 10, 1989

SUBJECT: WASTE MATERIAL CLEARED FOR DISPOSAL AT COAL CREEK LANDFILL

This is to advise you that we find that the waste material listed from the following company currently acceptable for the landfill at Coal Creek.

Generator:	Puget Sound Power & Light Co. (PSPL) P.O. Box 97034 Bellevue, WA 98009-9734	Contact: Gary Reid at 463-3077
Transporter:	Chempro Environmental Services 3400 E. Marginal Way S. Seattle, WA 98134	Contact: R. Huston at 682-4898
Material:	Soil excavated with the removal of two underground diesel fuel storage tanks and the removal of an underground gasoline storage tank at the PSPL Renton Service Center at 620 S. Grady Way; Renton, WA.	
Amount:	270 cubic yards. Approximate total weight 400 tons.	
Frequency:	This one time.	
Expiration Date:	December 12, 1989	

The above substances were found not to meet the State DOE definitions for either extremely hazardous waste or dangerous waste or Federal EPA criteria for hazardous waste or toxic substances. A summary of the available chemical analysis is attached, if applicable.

Please note that it is only the described materials that are acceptable for disposal. Any other type of questionable waste from this company will require separate review and analysis.

If you have any questions or need additional information, please call me at 296-4633 (FAX 296-0188).

SJB:jl\pspl

cc: Chuck Shank, Hazardous Waste, Region X, EPA
John Conroy, Hazardous Waste, Northwest Office DOE
Larry Kirchner, EHS Supervisor, Southeast EHS Office
Greg Bishop, EHS Supervisor, Smith Tower, SKCDPH
Generator and Transporter listed above.
Geoengineers ATTN: K. Killman
2405 - 140th Ave. N.E.; Suite 105; Bellevue, WA 98005

Attachment

WASTE SCREENING CHECKLIST

Generator: Puget Sound Power
Materials: Soil

Date: 10/10/89

WAC 173-303	TITLE OR TEST	DONE	RESULT	COMMENTS
-090	D.W. Characteristics a) Ignitability b) Corrosivity c) Reactivity d) E.P. Tox			
-101	Toxic D.W. a) Equivalent Conc. b) Bioassay			
-102	Persistent D.W. a) Halogenates b) PAH's			
-103	Carcinogenic D.W.			
Other	a) TPH b) B-E-T-X	a) Y b) Y	a) l.t. 200 ppm b) all l.t. 250 ppb	a) four samples

Abbreviations

Y = Yes; N = No; NA = Not Applicable;
WAC = Washington Administrative Code; E.P. Tox = Extraction Procedure Toxicity;
D.W. = Dangerous Waste; PAH = Polycyclic Aromatic Hydrocarbons;
D.O.E. = Department of Ecology;
l.t. = less than
B = Benzene; E = Ethylbenzene; T = Toluene; X = Xylenes - total unless otherwise specified
TPH = total petroleum hydrocarbons; EDB = Ethylene dibromide
ND = Not Detected

City of Seattle
Charles Royer, *Mayor*

King County
Tim Hill, *Executive*

Seattle-King County Department of Public Health

Bud Nicola, M.D., M.H.S.A., *Director*

TO: Rod Hansen, Manager, King County Solid Waste Division
ATTN: Mel Andriesen, Cedar Hills

FROM: Steve Burke, Senior Environmental Health Specialist
Chemical/Physical Hazards Program

DATE: October 11, 1989

SUBJECT: WASTE MATERIAL CLEARED FOR DISPOSAL AT CEDAR HILLS LANDFILL

This is to advise you that we find that the waste material listed from the following company is a solid waste, and if disposed of in King County, must be disposed at Cedar Hills.

Generator:	Puget Sound Power & Light Co. (PSPL) P.O. Box 97034 Bellevue, WA 98009-9734	Contact: Gary Reid at 462-3077
Transporter:	Chempro Environmental Services 3400 E. Marginal Way S. Seattle, WA 98134	Contact: Robert Huston at 682-4898

Delivery must be scheduled with Dennis Trammell at 296-4490.

Material: Soil excavated from A) the removal of two underground waste oil storage tanks and B) the removal of an underground water line at the PSPL Renton Service Center at 620 South Grady Way; Renton, Washington.

Amount: A) 110 cubic yards, and
B) 60 cubic yards

Approximate total weight 255 tons.

Frequency: This one time.

Expiration Date: December 13, 1989

Consulted with: Dennis Trammell (10/11/89)

The above substances were found not to meet the State DOE definitions for either extremely hazardous waste or dangerous waste or Federal EPA criteria for hazardous waste or toxic substances. A summary of the available chemical analysis is attached, if applicable.

Please note that it is only the described materials that are acceptable for disposal. Any other type of questionable waste from this company will require separate review and analysis.

If you have any questions or need additional information, please call me at 296-4633 (FAX 296-0188).

SJB:jl/pspl2

cc: Chuck Shank, Hazardous Waste, Region X, EPA
John Conroy, Hazardous Waste, Northwest Office DOE
Larry Kirchner, EHS Supervisor, Southeast EHS Office
Greg Bishop, EHS Supervisor, Smith Tower, SKCDPH
Deborah Lambert, KCSW
Generator and Transporter listed above.
GeoEngineers, Inc. ATTN: K. Killman
2405 - 140th Ave. N.E.; Suite 105; Bellevue, WA 98005
Attachment

WASTE SCREENING CHECKLIST

Generator: Puget Sound Power
Materials: Soil

Date: 10/11/89

WAC 173-303	TITLE OR TEST	DONE	RESULT	COMMENTS
-090	D.W. Characteristics a) Ignitability b) Corrosivity c) Reactivity d) E.P. Tox	d) Y	d) not D.W.	
-101	Toxic D.W. a) Equivalent Conc. b) Bioassay			
-102	Persistent D.W. a) Halogenates b) PAH's	a) Y	a) not D.W.	a) method 8010/8020
-103	Carcinogenic D.W.			
Other	a) TPH b) B-E-T-X c) PCB's	a) Y b) Y c) Y	a) l.t. 0.5% b) not D.W. c) not D.W.	b) method 8010/8020 c) ND; l.t. 250ppb

Abbreviations

Y = Yes; N = No; NA = Not Applicable;
WAC = Washington Administrative Code; E.P. Tox = Extraction Procedure Toxicity;
D.W. = Dangerous Waste; PAH = Polycyclic Aromatic Hydrocarbons;
D.O.E. = Department of Ecology;
l.t. = less than
B = Benzene; E = Ethylbenzene; T = Toluene; X = Xylenes - total unless otherwise specified
TPH = total petroleum hydrocarbons; EDB = Ethylene dibromide
ND = Not Detected