

DEPARTMENT OF ECOLOGY	
NWRJ/TCP TANKS UNIT	
INTERIM CLEANUP REPORT	☐ ☐ ☐ ☐ ☐ ☐ ☐
SITE CHARACTERIZATION	
FINAL CLEANUP REPORT	
OTHER _____	
AFFECTED MEDIA: SOIL	
OTHER _____ GW	
INSPECTOR (INIT.) _____ DATE _____	

REPORT OF REMEDIAL ACTION
AND GEOTECHNICAL SERVICES
HYDRULIC FLUID REMEDIAL PROGRAM
STORES BUILDING, RENTON SERVICE CENTER
RENTON, WASHINGTON
FOR
PUGET SOUND POWER & LIGHT COMPANY
VOLUME 2
APPENDIX B

A P P E N D I X B

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<u>Laboratory and I.D. Number</u>	<u>Contents</u>	<u>Pages</u>
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<u>Laboratory and I.D. Number</u>	<u>Contents</u>	<u>Pages</u>
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<u>Laboratory and I.D. Number</u>	<u>Contents</u>	<u>Pages</u>
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<u>Laboratory and I.D. Number</u>	<u>Contents</u>	<u>Pages</u>
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Analytical Technologies, Inc.

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

ATI I.D. # 9010-026

October 16, 1990

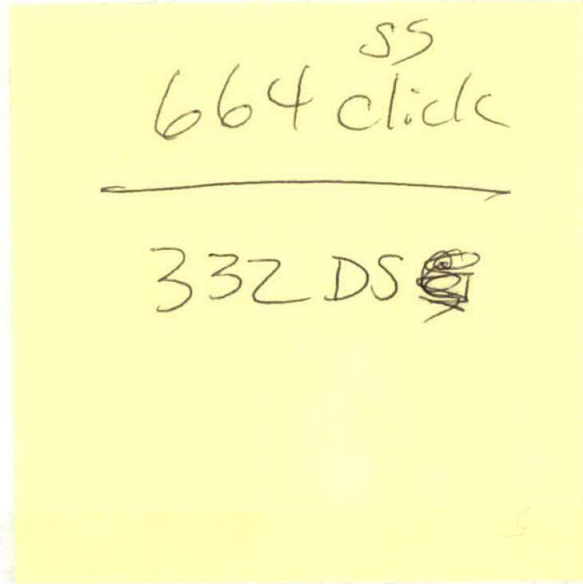
GeoEngineers, Inc.
2405 140th Avenue N.E.
Suite 105
Bellevue, WA 98005

Attention : Kathy Killman

Project Number : 0186-106-B69

Project Name : Renton PSPL

On October 2, 1990, 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
Mary C. Silva
Senior Project Manager

FWG/tc

Frederick W. Grothkopp
Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9010-026-1	901002-8	10/02/90	SOIL

----- 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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/03/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 10/03/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND	RESULT
FUEL HYDROCARBONS	<5
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	GASOLINE
FUEL HYDROCARBONS	<5
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	DIESEL

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/02/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 10/02/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/03/90
CLIENT I.D.	: 901002-8	DATE ANALYZED	: 10/03/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND	RESULT
FUEL HYDROCARBONS	<5
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	GASOLINE
FUEL HYDROCARBONS	<5
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	DIESEL

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9010-010-2
PROJECT #	: 0186-106-B69	DATE EXTRACTED	: 10/03/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 10/03/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	508	102	536	107	5 -

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

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



DATE 10/2/94 PAGE 1 OF 1

Chain of Custody LABORATORY NUMBER: 9010-026

[illegible]



Analytical**Technologies**, Inc.

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

GeoEngineers

ATI I.D. # 9010-042

OCT 17 1990

Routing ☐ ☐ ☐
File ☐ ☐ ☐

October 16, 1990

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

Attention : Kathy Killman

Project Number : 186-106-B69

Project Name : Renton PSPL

On October 3, 1990, Analytical Technologies, Inc. received two soil samples for analysis. 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

FWG/elf

Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-B69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9010-042-1	901003-9	10/03/90	SOIL
9010-042-2	901003-10	10/03/90	SOIL

----- 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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-B69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/04/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 10/05/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1.

COMPOUNDRESULT

FUEL HYDROCARBONS	<5
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	GASOLINE
FUEL HYDROCARBONS	<5
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	DIESEL

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/03/90
PROJECT #	: 186-106-B69	DATE RECEIVED	: 10/03/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/04/90
CLIENT I.D.	: 901003-9	DATE ANALYZED	: 10/05/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<5

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/03/90
PROJECT #	: 186-106-B69	DATE RECEIVED	: 10/03/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/04/90
CLIENT I.D.	: 901003-10	DATE ANALYZED	: 10/05/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND-----
RESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-B69
PROJECT NAME : RENTON PSPL
EPA METHOD : 8015 MODIFIED

SAMPLE I.D. : 9010-009-2
DATE EXTRACTED : 10/04/90
DATE ANALYZED : 10/05/90
MATRIX : SOIL
UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	536	107	531	106	1

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

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



560 Naches Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

Chain of Custody

LABORATORY NUMBER:

9010-012 DATE 10/3/90 PAGE 1 OF 1

[illegible]

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1		RELINQUISHED BY: 2		RELINQUISHED BY: 3	
PROJECT NUMBER: 180-106-849		TOTAL NUMBER OF CONTAINERS	2	Signature: [Signature] Time: 1800		Signature: Time:		Signature: Time:	
PROJECT NAME: RENTON PSPL		COC SEALS/INTACT? Y/N/NA	NA	Printed Name: Date:		Printed Name: Date:		Printed Name: Date:	
PURCHASE ORDER NUMBER:		RECEIVED GOOD COND/COLD	Y/Y	[Signature] Date: 10/3/91		Printed Name: Date:		Printed Name: Date:	
ONGOING PROJECT? YES ☒ NO ☐		RECEIVED VIA:	HD	Company: GEI		Company:		Company:	
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS				RECEIVED BY: 1		RECEIVED BY: 2		RECEIVED BY: (LAB) 3	
TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK				Signature: [Signature] Time: 1800		Signature: Time:		Signature: Time:	
GREATER THAN 24 HR. NOTICE? YES ☐ NO ☐ (LAB USE ONLY)				Printed Name: Date: 10/3/91		Printed Name: Date:		Printed Name: Date:	
SPECIAL INSTRUCTIONS: Please Rush & Fax results to Kufly Killian at GEI				Company: ATI		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 - ATI • Pink - ORIGINATOR

★ 8015 FOR HYDRAULIC FLUID ★

№ 1748

B-15



Analytical**Technologies**, Inc.

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

ATI I.D. # 9010-097

GeoEngineers

October 18, 1990

OCT 19 1990

Routing _____
File _____

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

Attention : Kathy Killman

Project Number : 0186-106-B69

Project Name : Renton PSPL

On October 10, 1990, Analytical Technologies, Inc. received one water 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

Mary C. Silva
Senior Project Manager

FWG/tc

Frederick W. Grothkopp

Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9010-097-1	901010-19	10/10/90	WATER

----- TOTALS -----

MATRIX	# SAMPLES
WATER	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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/10/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 10/11/90
SAMPLE MATRIX	: WATER	UNITS	: mg/L
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

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

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/10/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 10/10/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/10/90
CLIENT I.D.	: 901010-19	DATE ANALYZED	: 10/11/90
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

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9010-097-1
PROJECT #	: 0186-106-B69	DATE EXTRACTED	: 10/10/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 10/11/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: WATER
		UNITS	: mg/L

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<1	100	107	107	111	111	4

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

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



Analytical Technologies, Inc.

560 Naches Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

DATE 10/16/00 PAGE 1 OF 1

Chain of Custody

LABORATORY NUMBER: 9010-097

PROJECT MANAGER: <u>KATHY KILLMAN</u>					ANALYSIS REQUEST																								
COMPANY: <u>GEI</u>					8010	8020	BETX ONLY	8240	8270	8310	8080	PCB's ONLY	8140	8150	WDOE PAH/H (WAC 173)	418.1 (TPH)	413.2 Grease & Oil	8015 (Modified)	TOC	TOX	% Moisture	EP TOX Metals (8) EP EXT	Priority Pollutant Metals (13)	TCLP ONLY				NUMBER OF CONTAINERS	
ADDRESS: <u>2405 141st Ave Suite 105</u> <u>Bellevue, WA 98005</u>																							8080	8240	8270	8150	Metals (8)		
PHONE: <u>746-5206</u> SAMPLED BY: <u>CAH</u>																													
SAMPLE DISPOSAL INSTRUCTIONS																													
☒ ATI Disposal @ \$5.00 each ☐ Return																													
SAMPLE ID	DATE	TIME	MATRIX	LAB ID																									
901010-19	10/16/00	12:00	H ₂ O	-1												X	X												



Analytical**Technologies**, Inc.

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

ATI I.D. # 9010-142

GeoEngineers

October 22, 1990

OCT 24 1990

Routing ☐ ☐ ☐
File ☐ ☐ ☐

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

Attention : Kathy Killman

Project Number : 0186-106-B69

Project Name : Renton PSPL

On October 15, 1990, Analytical Technologies, Inc. received two soil samples for analysis. 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

FWG/tc

Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9010-142-1	901015-26	10/15/90	SOIL
9010-142-2	901015-27	10/15/90	SOIL

----- 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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/15/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 10/18/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<5

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/15/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 10/15/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/15/90
CLIENT I.D.	: 901015-26	DATE ANALYZED	: 10/16/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/15/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 10/15/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/15/90
CLIENT I.D.	: 901015-27	DATE ANALYZED	: 10/16/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9010-135-1
PROJECT #	: 0186-106-B69	DATE EXTRACTED	: 10/15/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 10/16/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	545	109	564	113	3

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

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

[illegible]

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: 1100-100-1100	TOTAL NUMBER OF CONTAINERS: 2	PROJECT NAME: BROWN 1100	COC SEALS/INTACT? Y/N/NA: NA	Signature: [Signature]	Time: 10/15/10	Signature:	Time:	Signature:	Time:
PURCHASE ORDER NUMBER:	RECEIVED GOOD COND./COLD: Y	ONGOING PROJECT? YES ☒ NO ☐	RECEIVED VIA: MD	Printed Name: [Signature]	Date: 10/15/10	Printed Name:	Date:	Printed Name:	Date:
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS				Company: 651		Company:		Company:	
TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK				RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.	
GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)				Signature: [Signature]	Time: 10/15/10	Signature:	Time:	Signature:	Time:
SPECIAL INSTRUCTIONS: 21 HR. RUSH FOR BROWN 1100, KILLIAN @ 651 2015 FOR HYDROPHILIC				Printed Name: Keith Stevenson	Date: 10/15/10	Printed Name:	Date:	Printed Name:	Date:
				Company: AT1		Company:		Analytical Technologies, Inc.	



Analytical**Technologies**, Inc.

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

ATI I.D. # 9010-154

GeoEngineers

October 26, 1990

OCT 31 1990
Routing *KSK*
File

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

Attention : Kathy Killman

Project Number : 0186-106-B69

Project Name : Renton PSPL

On October 16, 1990, Analytical Technologies, Inc. received two soil samples for analysis. 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

FWG/tc

Frederick W. Grothkopp
Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9010-154-1	901016-29	10/16/90	SOIL
9010-154-2	901016-30	10/16/90	SOIL

----- 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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
BETX	GC/PID	EPA 8020	R
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R
MOISTURE	GRAVIMETRIC	METHOD 7-2.2	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

PURGEABLE AROMATICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/16/90
CLIENT I.D.	: REAGENT BLANK A	DATE ANALYZED	: 10/22/90
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
TOTAL XYLENES	<0.025

SURROGATE PERCENT RECOVERY

BROMOFLUOROBENZENE	94

PURGEABLE AROMATICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/16/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 10/16/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/16/90
CLIENT I.D.	: 901016-29	DATE ANALYZED	: 10/23/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8020 (BETX)	DILUTION FACTOR	: 1
RESULTS BASED ON DRY WEIGHT			

COMPOUND	RESULT
BENZENE	0.15
ETHYLBENZENE	0.38
TOLUENE	0.71
TOTAL XYLENES	2.5

SURROGATE PERCENT RECOVERY

BROMOFLUOROBENZENE	70

PURGEABLE AROMATICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/16/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 10/16/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/16/90
CLIENT I.D.	: 901016-30	DATE ANALYZED	: 10/23/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8020 (BETX)	DILUTION FACTOR	: 1
RESULTS BASED ON DRY WEIGHT			

COMPOUNDRESULT

BENZENE	<0.025
ETHYLBENZENE	0.035
TOLUENE	0.045
TOTAL XYLENES	0.71

SURROGATE PERCENT RECOVERY

BROMOFLUOROBENZENE	63

PURGEABLE AROMATICS
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL
EPA METHOD : 8020 (BETX)

SAMPLE I.D. : 9010-150-8
DATE EXTRACTED : 10/16/90
DATE ANALYZED : 10/23/90
MATRIX : SOIL
UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	SPIKE ADDED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % REC	RPD
BENZENE	<0.025	0.60	0.601	100	0.562	94	7
TOLUENE	0.025	0.60	0.572	91	0.544	86	5
TOTAL XYLENES	<0.025	0.83	0.521	63	0.496	60	5

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

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

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/16/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 10/17/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
GASOLINE

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
DIESEL

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/16/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 10/16/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/16/90
CLIENT I.D.	: 901016-29	DATE ANALYZED	: 10/17/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
GASOLINE

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
DIESEL

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/16/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 10/16/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/16/90
CLIENT I.D.	: 901016-30	DATE ANALYZED	: 10/17/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND	RESULT
FUEL HYDROCARBONS	<5
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	GASOLINE
FUEL HYDROCARBONS	<5
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	DIESEL
FUEL HYDROCARBONS	290
HYDROCARBON RANGE	C14 - C24
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9010-141-4
PROJECT #	: 0186-106-B69	DATE EXTRACTED	: 10/16/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 10/17/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS (GASOLINE)	610	500	932	64	950	68	2

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

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



GENERAL CHEMISTRY RESULTS

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

SAMPLE MATRIX : SOIL

UNITS : %

ATI I.D. #	CLIENT I.D.	MOISTURE
9010-154-1	901016-29	23
9010-154-2	901016-30	21

GENERAL CHEMISTRY QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

SAMPLE MATRIX : SOIL

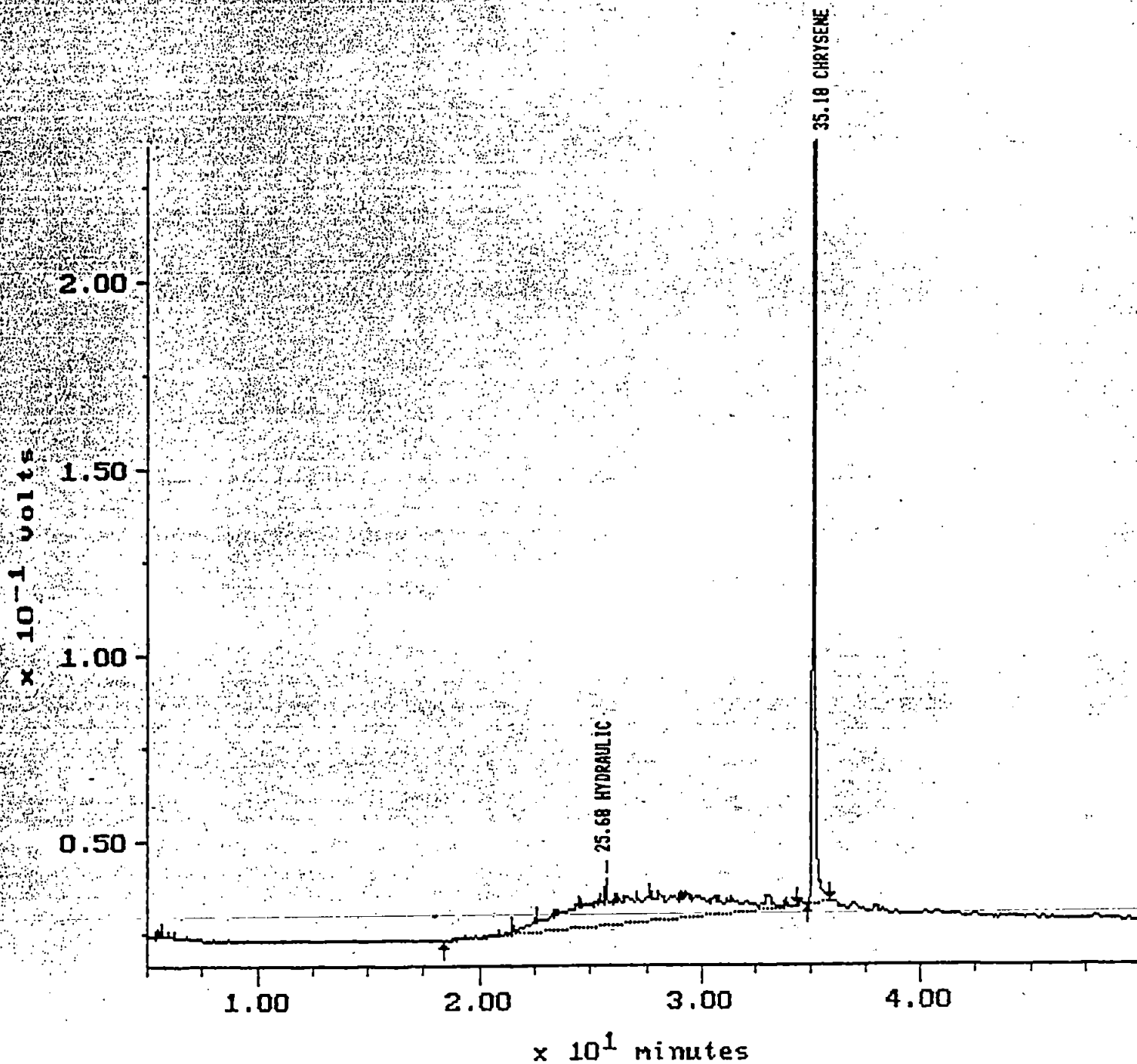
PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED RESULT	SPIKE ADDED	% REC
MOISTURE	%	9010-141-6	8.8	8.8	0	N/A	N/A	N/A

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

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

Filename: 0903983
Operator: LAL

Sample: 9010-154-2
Channels: FID REAR-B
Acquired: 17-OCT-90 16:48
Methods: M:\HAIDATA\PACK-R\FUEL1017
Comments: 8015 FUEL FINGERPRINT/ 3 uL INJECT ON PACKIE



Filename: QPR03981

Channel: FID REAR-B

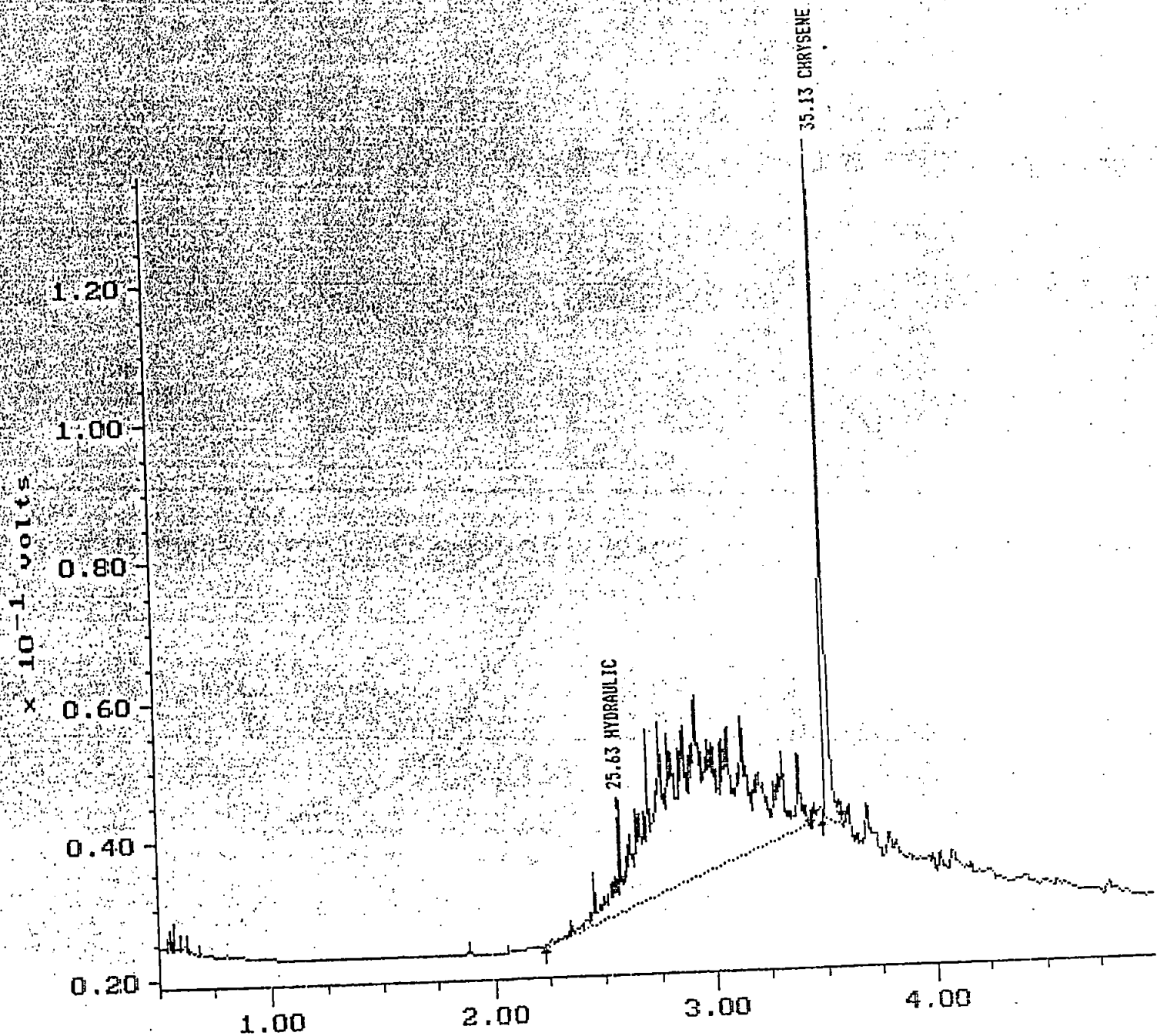
Sample: HYDROL STD

Acquired: 17-OCT-90 13:46

Method: M:\HA\DATA\PACK-R\FUEL1017

Operator: LAL

Comments: 8015 FUEL FINGERPRINT/ 3 ul INJECT ON PACKIE



Chain of Custody LABORATORY NUMBER: 9010-154

[illegible]

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: 0186-100-869		TOTAL NUMBER OF CONTAINERS 2		Signature: [Signature] Time: 1530		Signature: Time:		Signature: Time:	
PROJECT NAME: RENTON PSPL		COC SEALS/INTACT? Y/N/NA NA		Printed Name: Date:		Printed Name: Date:		Printed Name: Date:	
PURCHASE ORDER NUMBER:		RECEIVED GOOD COND./COLD 4/4		Craig Hart 10/16/10					
ONGOING PROJECT? YES ☒ NO ☐		RECEIVED VIA: H.D.		Company: GEI		Company:		Company:	
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS				RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.	
TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK				Signature: Time:		Signature: Time:		Signature: Time:	
GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)								J. Pennick 330	
SPECIAL INSTRUCTIONS: FAX RESULTS TO KATHY KILMANN @ GEI. Please RUSH 24 HR				Printed Name: Date:		Printed Name: Date:		Printed Name: Date:	
				Company:		Company:		Analytical Technologies, Inc	



Analytical **Technologies, Inc.**

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

ATI I.D. # 9010-199

November 2, 1990

GeoEngineers

NOV 5 1990

Routing ☐ ☐ ☐
To ☐ ☐ ☐

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

Attention : Kathy Killman

Project Number : 186-106-69

Project Name : Renton PSPL

On October 22, 1990, Analytical Technologies, Inc. received two soil samples for analysis. 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

FWG/elf

Frederick W. Grothkopp
Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9010-199-1	901022-31	10/22/90	SOIL
9010-199-2	901022-32	10/22/90	SOIL

----- 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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 186-106-69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/22/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 10/24/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/22/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 10/22/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/22/90
CLIENT I.D.	: 901022-31	DATE ANALYZED	: 10/25/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	97
HYDROCARBON RANGE	C22 - C32
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/22/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 10/22/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/22/90
CLIENT I.D.	: 901022-32	DATE ANALYZED	: 10/25/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

22
C22 - C32
HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9010-196-2
PROJECT #	: 186-106-69	DATE EXTRACTED	: 10/22/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 10/25/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	493	99	542	108	9

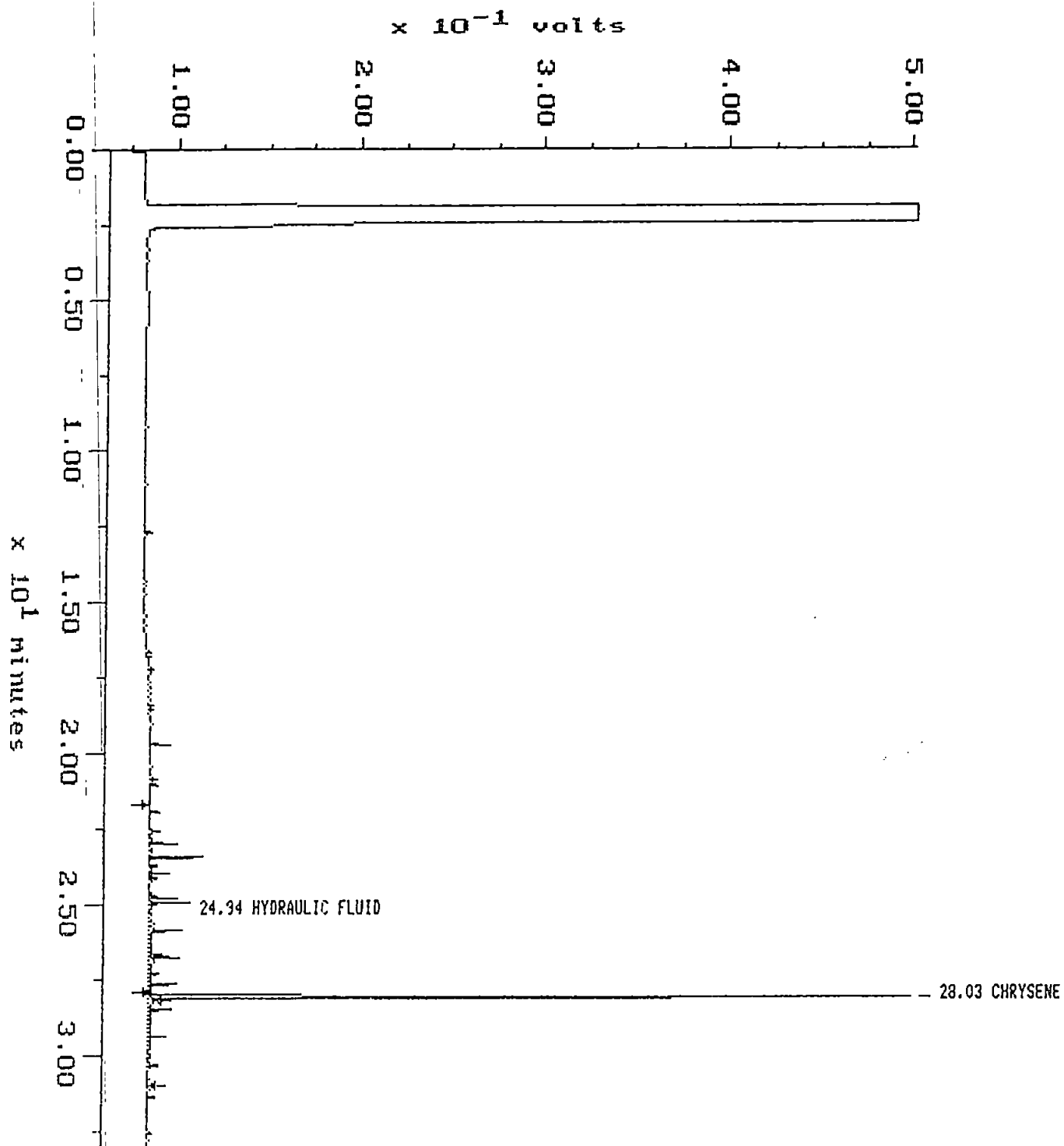
$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

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

Sample: 9010-199-1
Acquired: 24-OCT-90 15:54
Inj Vol: 1.00

Channel: DEMITRI
Method: L:\MAXDATA\SERGE-D\FUEL1024

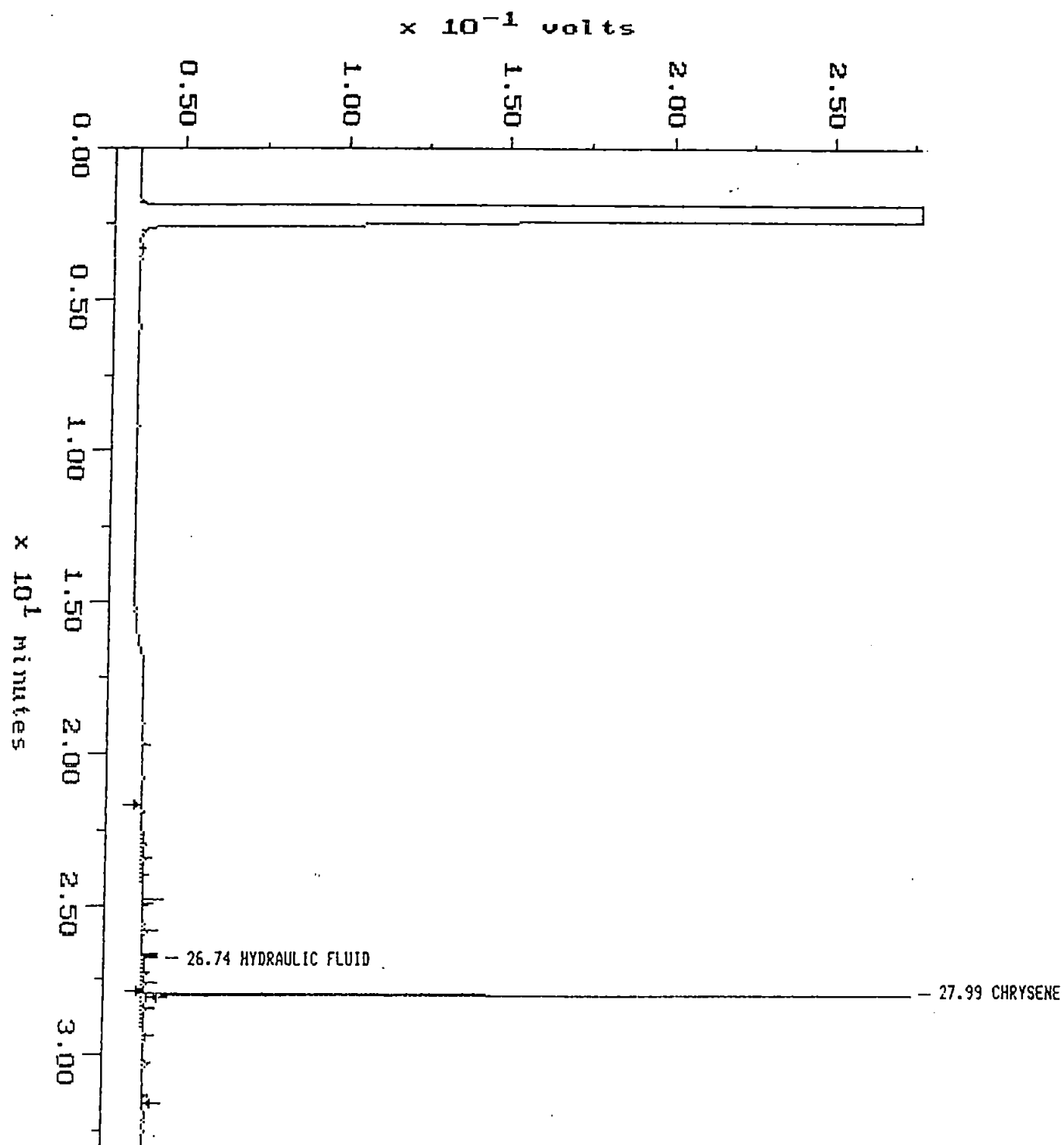
Filename: OSD00002
Operator:



Sample: 9010-199-2
Acquired: 24-OCT-90 16:35
Inj Vol: 1.00

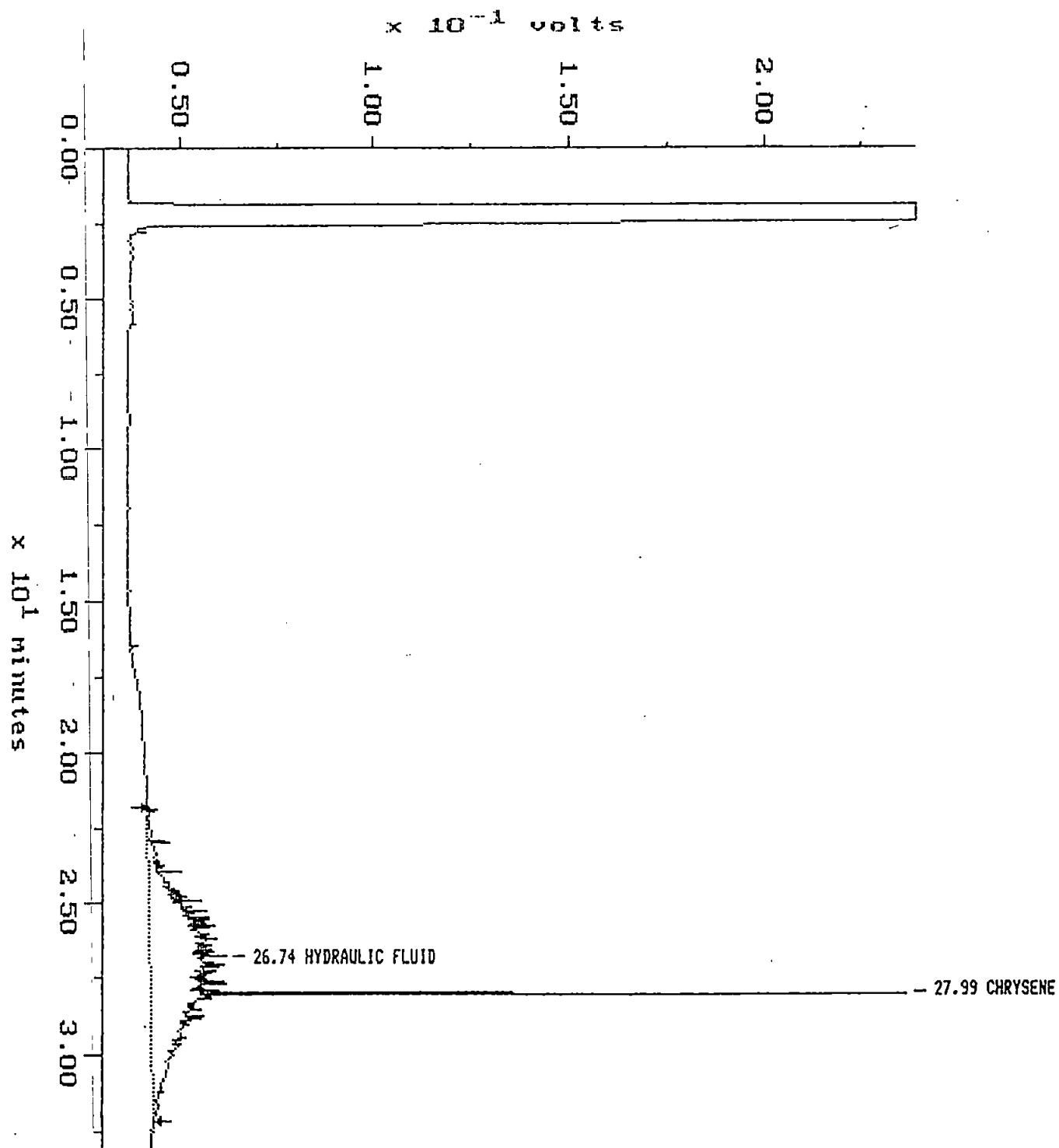
Channel: DEMITRI
Method: L:\MAXDATA\SERGE-D\FUEL1024

Filename: OSD00003
Operator:



Sample: Hyd. Std Channel: DEMITRI
Acquired: 24-OCT-90 13:15 Method: H:\MAXDATA\SERGE-D\FUEL1024
Inj Vol: 1.00

Filename: OSD00001
Operator:





Analytical**Technologies**, Inc.

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

GeoEngineers

ATI I.D. # 9010-202

NOV 5 1990

Routing ☐ ☐ ☐
File ☐ ☐ ☐

November 2, 1990

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

Attention : Kathy Killman

Project Number : 0186-106-B69

Project Name : Renton PSPL

On October 22, 1990, 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
Mary C. Silva
Senior Project Manager

FWG/elf

Frederick W. Grothkopp
Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9010-202-1	901022-33	10/22/90	SOIL

----- 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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/22/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 10/24/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND-----
RESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/22/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 10/22/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/22/90
CLIENT I.D.	: 901022-33	DATE ANALYZED	: 10/25/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

88
C22 - C32
HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9010-196-2
PROJECT #	: 0186-106-B69	DATE EXTRACTED	: 10/22/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 10/25/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	493	99	542	108	9

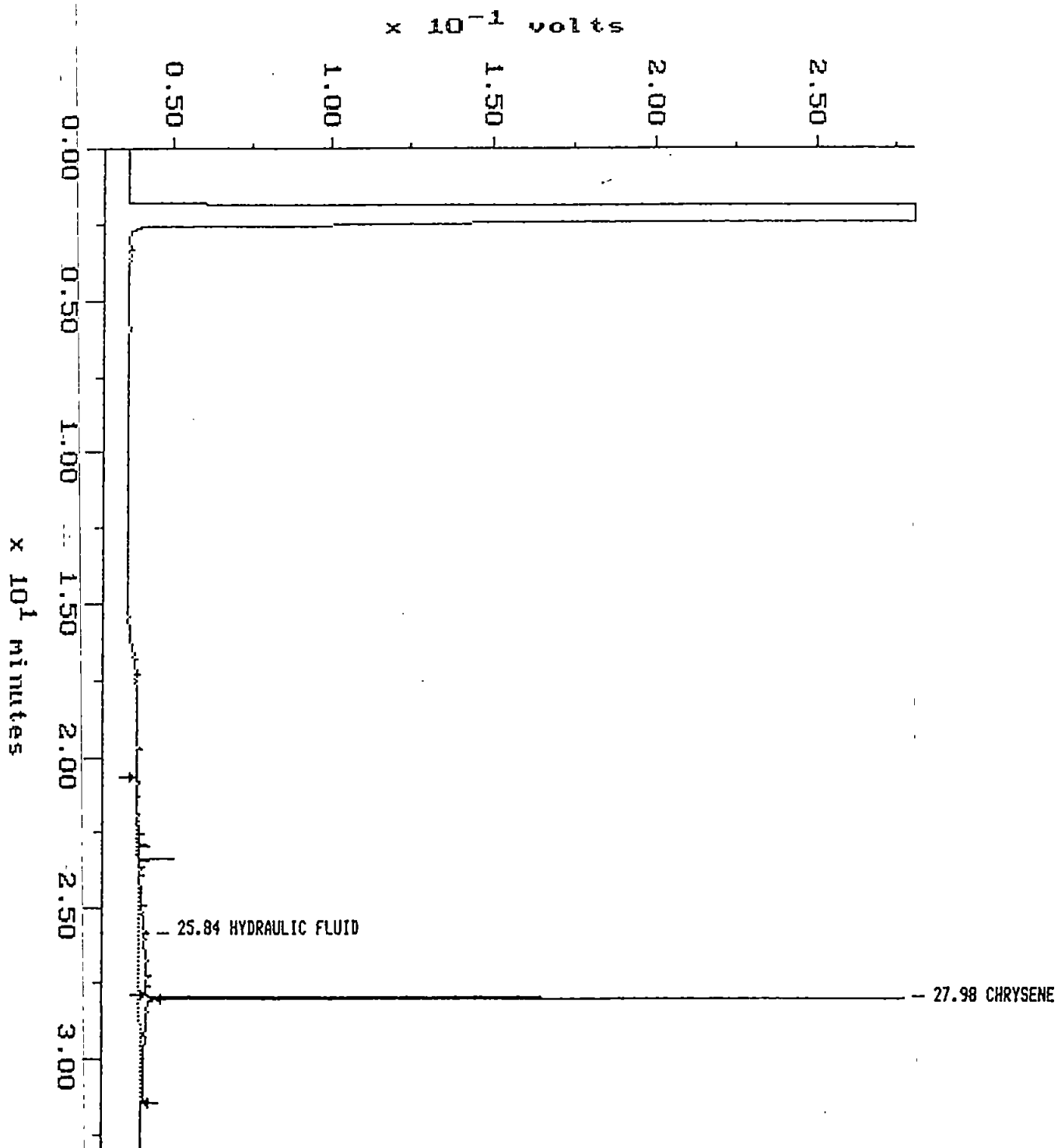
$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

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

Sample: 9010-202-1
Acquired: 24-OCT-90 18:40
Inj Vol: 1.00

Channel: DEMITRI
Method: L:\MAXDATA\SERGE-D\FUEL1024

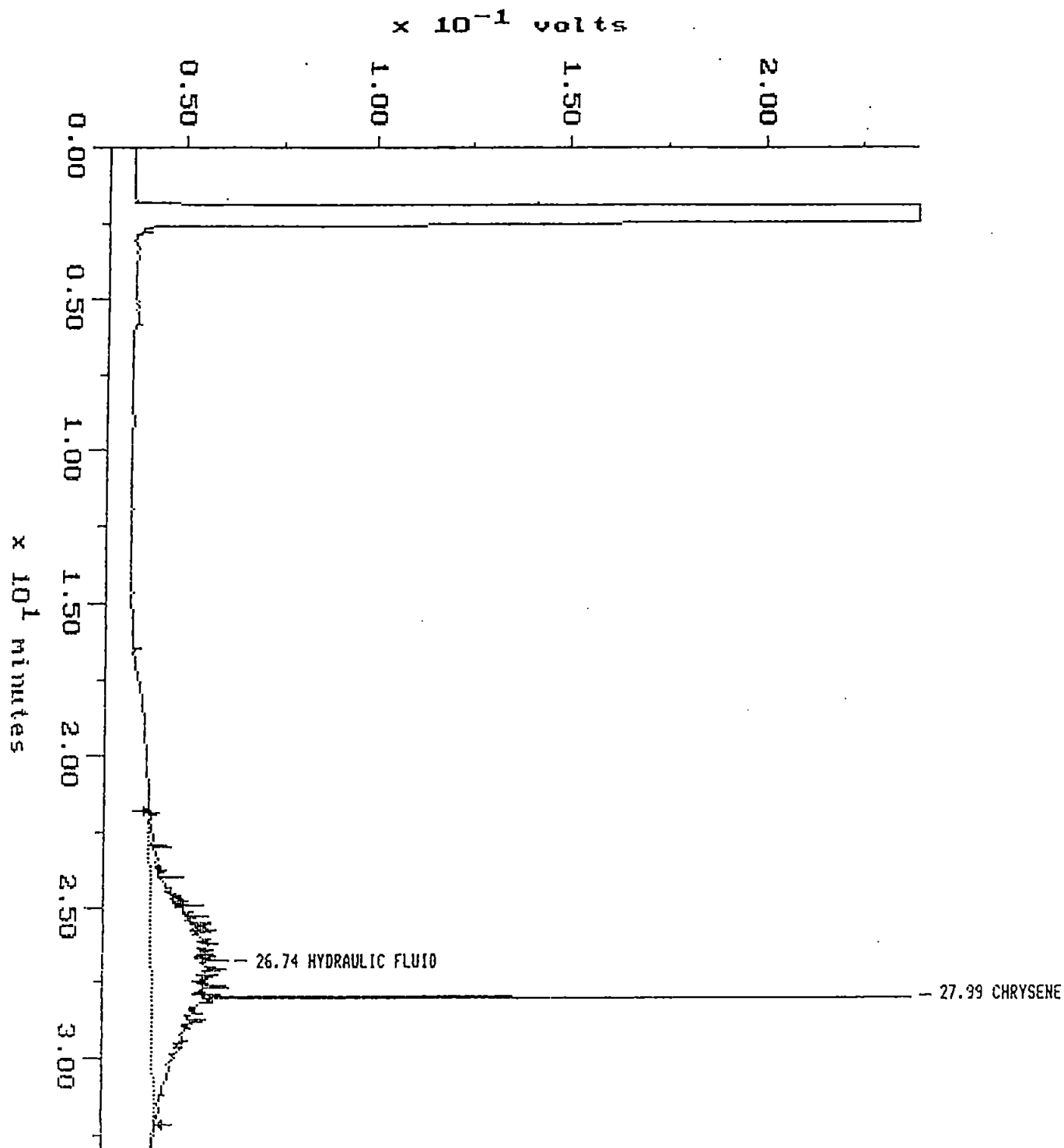
Filename: OSD00006
Operator:



Sample: Hyd. Std
Acquired: 24-OCT-90 13:15
Inj Vol: 1.00

Channel: DEMITRI
Method: M:\MAXDATA\SERGE-D\FUEL1024

Filename: OSD00001
Operator:



[illegible]

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: <u>0186-106-FL-9</u>	TOTAL NUMBER OF CONTAINERS <u>1</u>	COC SEALS/INTACT? Y/N/NA <u>NA</u>		Signature: <u>[Signature]</u>	Time: <u>1700</u>	Signature: _____	Time: _____	Signature: _____	Time: _____
PROJECT NAME: <u>KENTON P3 PL</u>	RECEIVED GOOD COND./COLD <u>✓</u>	RECEIVED VIA: <u>HD</u>		Printed Name: <u>Craig Hart</u>	Date: <u>10/21/90</u>	Printed Name: _____	Date: _____	Printed Name: _____	Date: _____
PURCHASE ORDER NUMBER: _____	ONGOING PROJECT? YES ☒ NO ☐	PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS		Company: <u>CEI</u>	Company: _____	Company: _____			
TAT: (NORMAL) ☐ 2WKS	(RUSH) ☒ 24HR	☐ 48 HRS	☐ 72 HRS	☐ 1 WK	RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY: (LAB)	RECEIVED BY: 3.	
GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)				Signature: <u>[Signature]</u>	Time: <u>1700</u>	Signature: _____	Time: _____	Signature: _____	Time: _____
SPECIAL INSTRUCTIONS: <u>GOOD FOR HD FLUID</u> <u>PLEASE RUSH AT 24 HR MAX AT</u>				Printed Name: <u>Keith Stevens</u>	Date: <u>10/21/90</u>	Printed Name: _____	Date: _____	Printed Name: _____	Date: _____
				Company: <u>ATI</u>	Company: _____	Company: _____	Analytical Technologies, Inc.		



Analytical**Technologies**, Inc.

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

ATI I.D. # 9010-212

GeoEngineers

NOV 5 1990

November 2, 1990

Routing ☐ ☐ ☐
For ☐ ☐ ☐

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

Attention : Kathy Killman

Project Number : 186-106-69

Project Name : Renton PSPL

On October 23, 1990, Analytical Technologies, Inc. received seven soil samples for analysis. 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

FWG/elf

Frederick W. Grothkopp

Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9010-212-1	901023-34	10/23/90	SOIL
9010-212-2	901023-35	10/23/90	SOIL
9010-212-3	901023-36	10/23/90	SOIL
9010-212-4	901023-37	10/23/90	SOIL
9010-212-5	901023-38	10/23/90	SOIL
9010-212-6	901023-39	10/23/90	SOIL
9010-212-7	901023-40	10/23/90	SOIL

----- TOTALS -----

MATRIX	# SAMPLES
SOIL	7

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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 186-106-69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/23/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 10/24/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/23/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 10/23/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/23/90
CLIENT I.D.	: 901023-34	DATE ANALYZED	: 10/24/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND-----
RESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

49
C22 - C32
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/23/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 10/23/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/23/90
CLIENT I.D.	: 901023-35	DATE ANALYZED	: 10/24/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/23/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 10/23/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/23/90
CLIENT I.D.	: 901023-36	DATE ANALYZED	: 10/24/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/23/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 10/23/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/23/90
CLIENT I.D.	: 901023-37	DATE ANALYZED	: 10/24/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/23/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 10/23/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/23/90
CLIENT I.D.	: 901023-38	DATE ANALYZED	: 10/24/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND-----
RESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

40
C22 - C32
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/23/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 10/23/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/23/90
CLIENT I.D.	: 901023-39	DATE ANALYZED	: 10/24/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	1,100
HYDROCARBON RANGE	C22 - C32
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/23/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 10/23/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/23/90
CLIENT I.D.	: 901023-40	DATE ANALYZED	: 10/24/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	46
HYDROCARBON RANGE	C22 - C32
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-69
PROJECT NAME : RENTON PSPL
EPA METHOD : 8015 MODIFIED

SAMPLE I.D. : 9010-209-1
DATE EXTRACTED : 10/23/90
DATE ANALYZED : 10/25/90
MATRIX : SOIL
UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	516	103	473	95	9

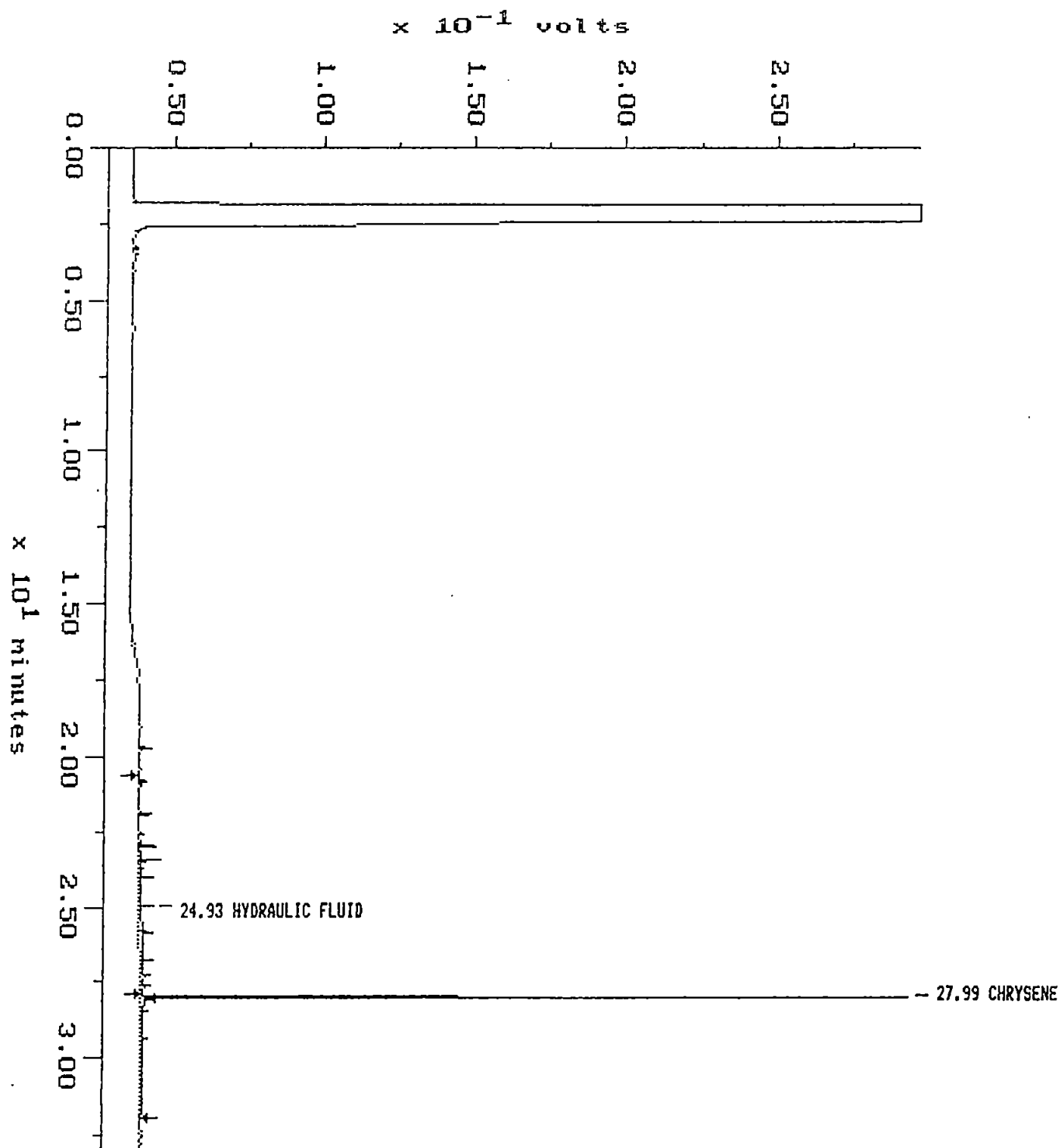
$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

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

Sample: 9010-212-1
Acquired: 24-OCT-90 19:21
Inj Vol: 1.00

Channel: DEMITRI
Method: L:\MAXDATA\SERGE-D\FUEL1024

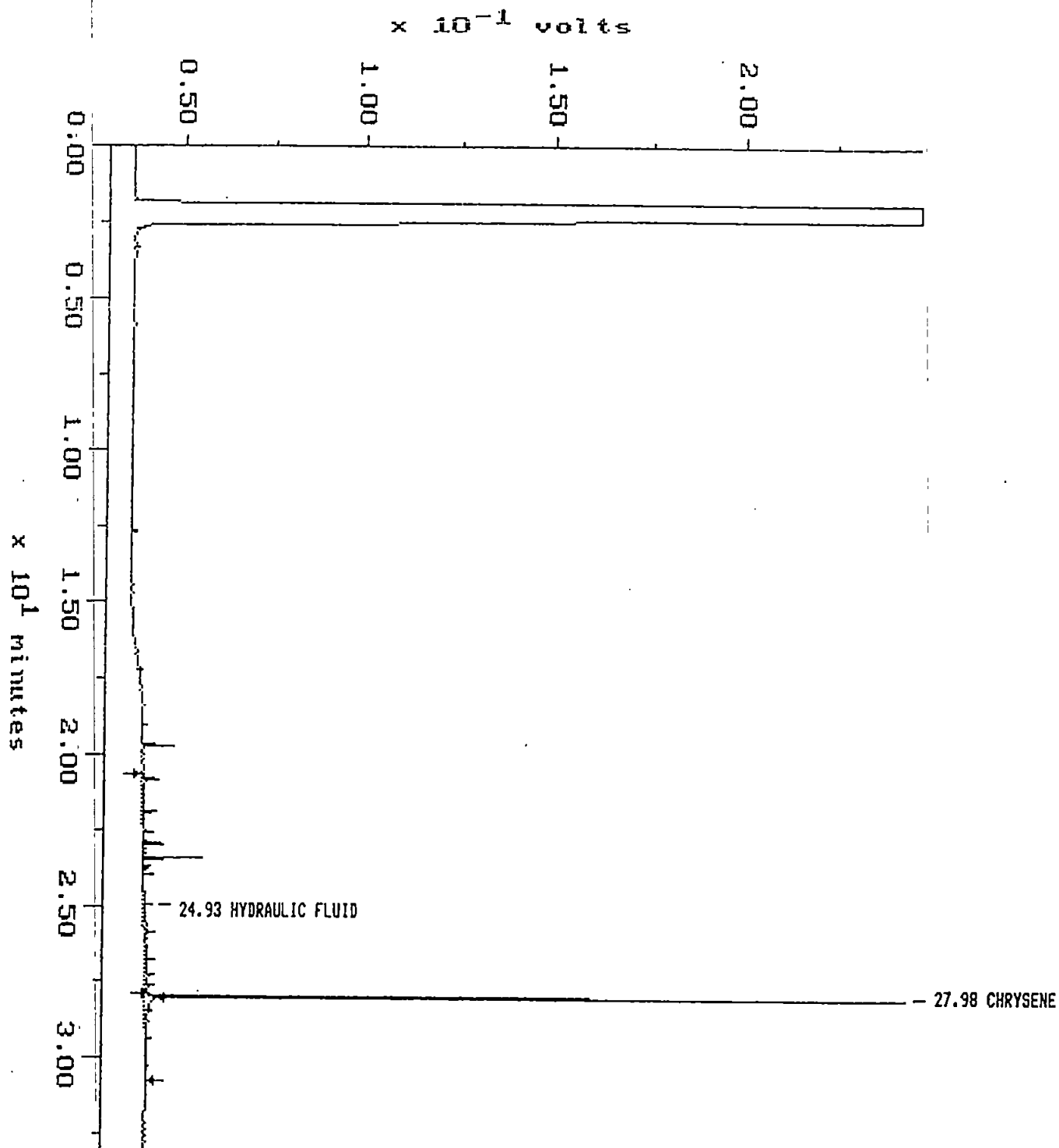
Filename: OSD00007
Operator:



Sample: 9010-212-5
Acquired: 24-OCT-90 22:07
Inj Vol: 1.00

Channel: DEMITRI
Method: L:\MAXDATA\SERGE-D\FUEL1024

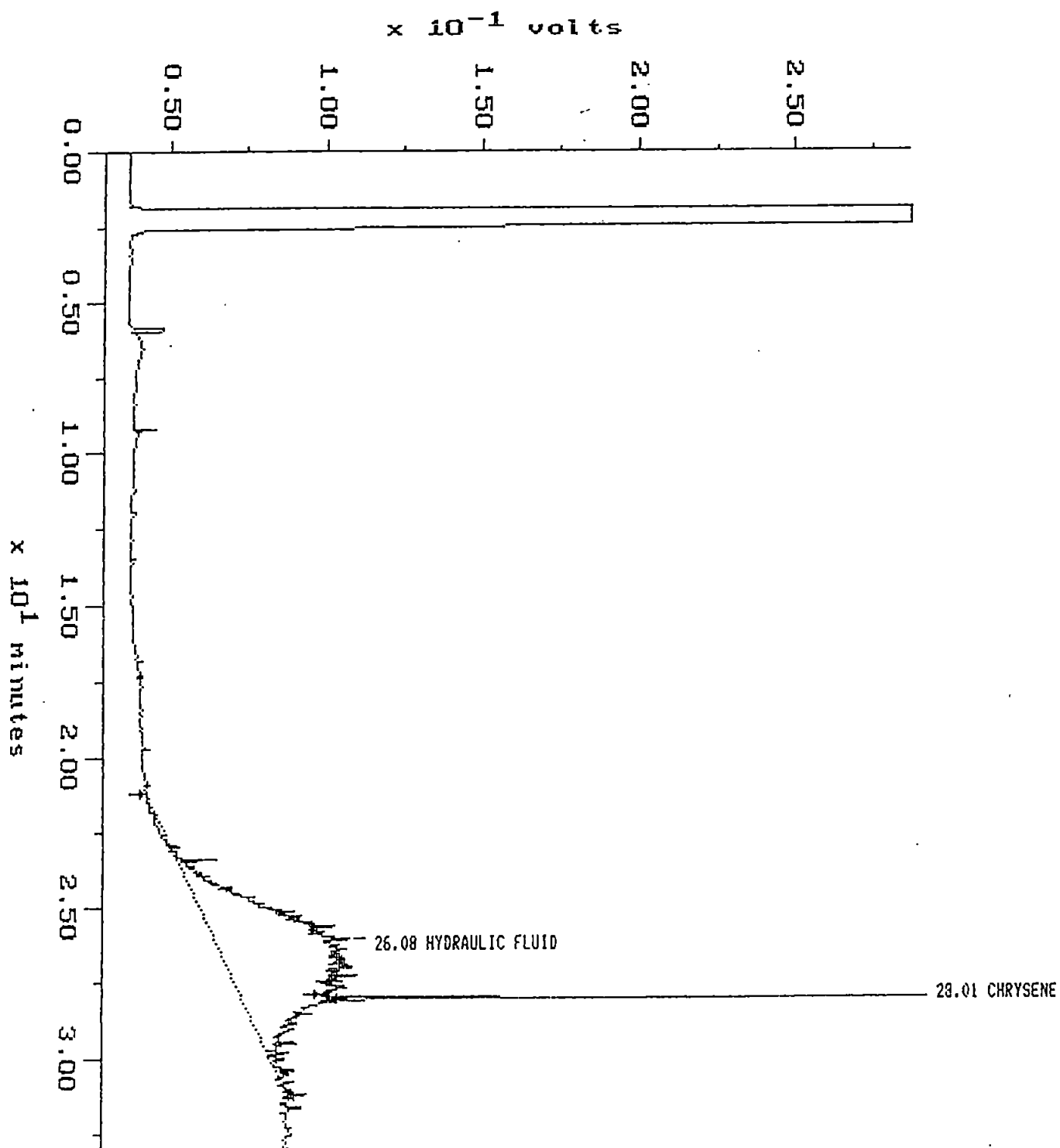
Filename: OSD00011
Operator:



Sample: 9010-212-6
Acquired: 24-OCT-90 23:30
Inj Vol: 1.00

Channel: DEMITRI
Method: L:\MAXDATA\SERGE-D\FUEL1024

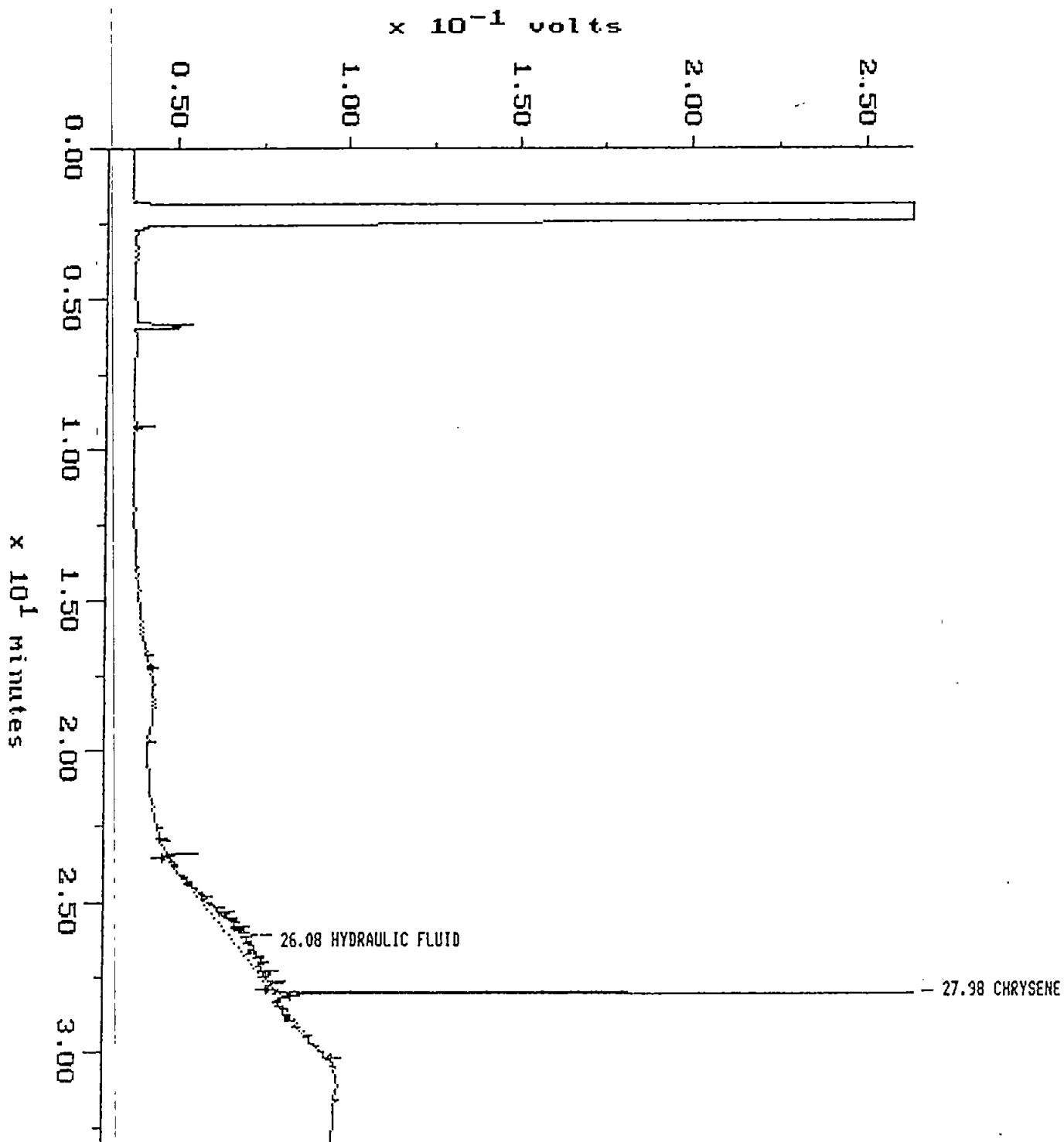
Filename: OSD00013
Operator:



Sample: 9010-212-7
Acquired: 25-OCT-90 0:11
Inj Vol: 1.00

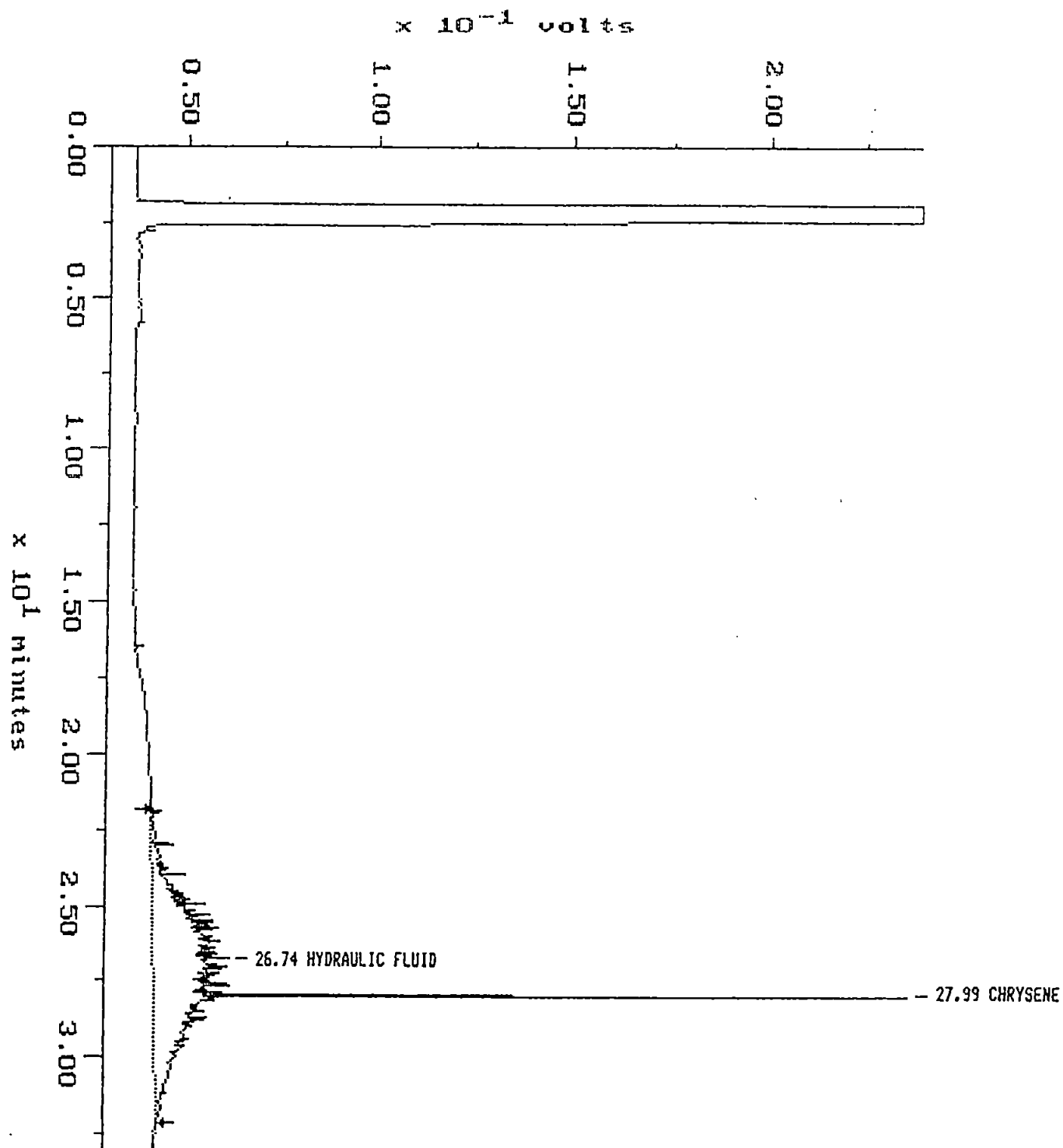
Channel: DEMITRI
Method: L:\MAXDATA\SERGE-D\FUEL1024

Filename: OSD00014
Operator: --



Sample: Hyd. Std Channel: DEMITRI
Acquired: 24-OCT-90 13:15 Method: H:\MAXDATA\SERGE-0\FUEL1024
Inj Vol: 1.00

Filename: 05000001
Operator:





Analytical Technologies, Inc.

560 Naches Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

DATE 10/23/10 PAGE 1 OF 1

Chain of Custody

LABORATORY NUMBER: 9010-212

PROJECT MANAGER: KATHI KILLMAN
 COMPANY: GEI
 ADDRESS: 2405 1410th Ave E, Suite 101
BELLEVUE, WA 98005
 PHONE: 746-5200 SAMPLED BY: CAH

SAMPLE DISPOSAL INSTRUCTIONS

☒ ATI Disposal @ \$5.00 each ☐ Return

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	8010 Halogenated Volatiles	8020 Aromatic Volatiles	8030 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	EP TOX Metals (6) EP EXT	Priority Pollutant Metals (13)	TCLP ONLY					NUMBER OF CONTAINERS
																								8080 Pesticide (4)	8240 ZH-EXT	8270	8150 Herbicides (2)	Metals (6)	
901023 - 34	10/13/10	1100	SOIL	-1														X											1
- 35				2														X											1
- 36				3														X											1
- 37				4														X											1
- 38				5														X											1
- 39				6														X											1
- 40	✓	✓	✓	7														X											1

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1		RELINQUISHED BY: 2		RELINQUISHED BY: 3	
PROJECT NUMBER: <u>126-106-6-9</u>		TOTAL NUMBER OF CONTAINERS: <u>7</u>		Signature: <u>Craig Hart</u> Time: <u>1230</u>		Signature: _____ Time: _____		Signature: _____ Time: _____	
PROJECT NAME: <u>RENTON WPL</u>		COC SEALS/INTACT? Y/N/NA: <u>N</u>		Printed Name: _____ Date: _____		Printed Name: _____ Date: _____		Printed Name: _____ Date: _____	
PURCHASE ORDER NUMBER: _____		RECEIVED GOOD COND/COLD: <u>Y/Y</u>		Craig Hart 10/23/10		Company: <u>GEI</u>		Company: _____	
ONGOING PROJECT? YES ☒ NO ☐		RECEIVED VIA: <u>Hand Del</u>		Company: _____		Company: _____		Company: _____	
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS									
TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK		GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)		RECEIVED BY: 1		RECEIVED BY: 2		RECEIVED BY: (LAB) 3	
SPECIAL INSTRUCTIONS: <u>Fix Results to KATHI KILLMAN</u> <u>GEI</u> <u>A 24 HR RUSH</u>				Signature: _____ Time: _____		Signature: _____ Time: _____		Signature: <u>U. Pennick</u> Time: <u>1230</u>	
				Printed Name: _____ Date: _____		Printed Name: _____ Date: _____		Printed Name: _____ Date: _____	
				Company: _____		Company: _____		Analytical Technologies, Inc.	



Analytical**Technologies, Inc.**

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

ATI I.D. # 9010-214

October 31, 1990

GeoEngineers

NOV 1 1990

Routing ☐ ☐ ☐ ☐
File ☐ ☐ ☐ ☐

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

Attention : Kathy Killman

Project Number : 186-106-69

Project Name : Renton PSPL

On October 23, 1990, Analytical Technologies, Inc. received four water samples for analysis. 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

FWG/elf

Frederick W. Grothkopp

Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9010-214-1	901023-41	10/23/90	WATER
9010-214-2	901023-42	10/23/90	WATER
9010-214-3	901023-43	10/23/90	WATER
9010-214-4	901023-44	10/23/90	WATER

----- TOTALS -----

MATRIX	# SAMPLES
WATER	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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
PETROLEUM HYDROCARBONS	IR	EPA 418.1	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

GENERAL CHEMISTRY RESULTS

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-69
PROJECT NAME : RENTON PSPL

MATRIX : WATER

UNITS : mg/L

ATI I.D. #	CLIENT I.D.	PETROLEUM HYDROCARBONS
9010-214-1	901023-41	<1
9010-214-2	901023-42	4
9010-214-3	901023-43	6
9010-214-4	901023-44	<1



GENERAL CHEMISTRY QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-69
PROJECT NAME : RENTON PSPL

MATRIX : WATER

UNITS : mg/L

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED RESULT	SPIKE ADDED	% REC
PETROLEUM HYDROCARBONS	mg/L	9010-214-4	<1	<1	0	6.1	10	61

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

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

9010-214

DATE 10/23/90 PAGE 1 OF 1

PROJECT MANAGER: Kathleen Killuane
COMPANY: GEI
ADDRESS: 2405 116th Ave E, Suite 105
Bellevue WA 98005
PHONE: 746-5200 SAMPLED BY: CAH

SAMPLE DISPOSAL INSTRUCTIONS

☒ **ATI Disposal @ \$5.00 each**

Return

[illegible]

ANALYSIS REQUEST

[illegible]

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: 126-106-69	TOTAL NUMBER OF CONTAINERS 4	Signature: [Signature] Time: 10-23-92		Signature: [Signature] Time: 10-23-92		Signature: [Signature] Time: [Blank]		Signature: [Signature] Time: [Blank]	
PROJECT NAME: Benton PSQL	COC SEALS/INTACT? Y/N/NA NA	Printed Name: [Signature] Date: 10/23/92		Printed Name: [Signature] Date: 10/23/92		Printed Name: [Blank] Date: [Blank]		Printed Name: [Blank] Date: [Blank]	
PURCHASE ORDER NUMBER:	RECEIVED GOOD COND/COLD Y/Y	Company: GEI		Company: [Blank]		Company: [Blank]		Company: [Blank]	
ONGOING PROJECT? YES ☒ NO ☐	RECEIVED VIA: HD	RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.			
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS		Signature: [Signature] Time: 10/23/92		Signature: [Signature] Time: 10/23/92		Signature: [Signature] Time: [Blank]		Signature: [Signature] Time: [Blank]	
TAT: (NORMAL) ☒ 2 WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK	GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)	Printed Name: [Signature] Date: 10/23/92		Printed Name: [Signature] Date: 10/23/92		Printed Name: [Blank] Date: [Blank]		Printed Name: [Blank] Date: [Blank]	
SPECIAL INSTRUCTIONS:		Company: Champro		Company: AT-1		Company: [Blank]		Company: [Blank]	
★ 24 HR ★ RUSH ★		Analytical Technologies, Inc.		Analytical Technologies, Inc.		Analytical Technologies, Inc.		Analytical Technologies, Inc.	



Analytical**Technologies, Inc.**

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

ATI I.D. # 9010-217

GeoEngineers

NOV 5 1990

November 2, 1990

Routing ☐ ☐ ☐
FY ☐ ☐ ☐

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

Attention : Kathy Killman

Project Number : 0186-106-69

Project Name : Renton PSPL

On October 23, 1990, Analytical Technologies, Inc. received seven soil samples for analysis. 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

FWG/tc

Frederick W. Grothkopp

Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9010-217-1	901023-45	10/23/90	SOIL
9010-217-2	901023-46	10/23/90	SOIL
9010-217-3	901023-47	10/23/90	SOIL
9010-217-4	901023-48	10/23/90	SOIL
9010-217-5	901023-49	10/23/90	SOIL
9010-217-6	901023-50	10/23/90	SOIL
9010-217-7	901023-51	10/23/90	SOIL

----- TOTALS -----

MATRIX	# SAMPLES
SOIL	7

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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/24/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 10/25/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/23/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 10/23/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/24/90
CLIENT I.D.	: 901023-45	DATE ANALYZED	: 10/25/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	560
HYDROCARBON RANGE	C22 - C32
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/23/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 10/23/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/24/90
CLIENT I.D.	: 901023-46	DATE ANALYZED	: 10/25/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/23/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 10/23/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/24/90
CLIENT I.D.	: 901023-47	DATE ANALYZED	: 10/25/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND-----
RESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/23/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 10/23/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/24/90
CLIENT I.D.	: 901023-48	DATE ANALYZED	: 10/25/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<5

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/23/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 10/23/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/24/90
CLIENT I.D.	: 901023-49	DATE ANALYZED	: 10/25/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/23/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 10/23/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/24/90
CLIENT I.D.	: 901023-50	DATE ANALYZED	: 10/25/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND	RESULT
FUEL HYDROCARBONS	<5
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/23/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 10/23/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/24/90
CLIENT I.D.	: 901023-51	DATE ANALYZED	: 10/25/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	22
HYDROCARBON RANGE	C22 - C32
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL
EPA METHOD : 8015 MODIFIED

SAMPLE I.D. : 9010-208-3
DATE EXTRACTED : 10/23/90
DATE ANALYZED : 10/26/90
MATRIX : SOIL
UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	437	87	438	88	0

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

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

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9010-195-26
PROJECT #	: 0186-106-69	DATE EXTRACTED	: 10/24/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 10/27/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	565	113	576	115	2

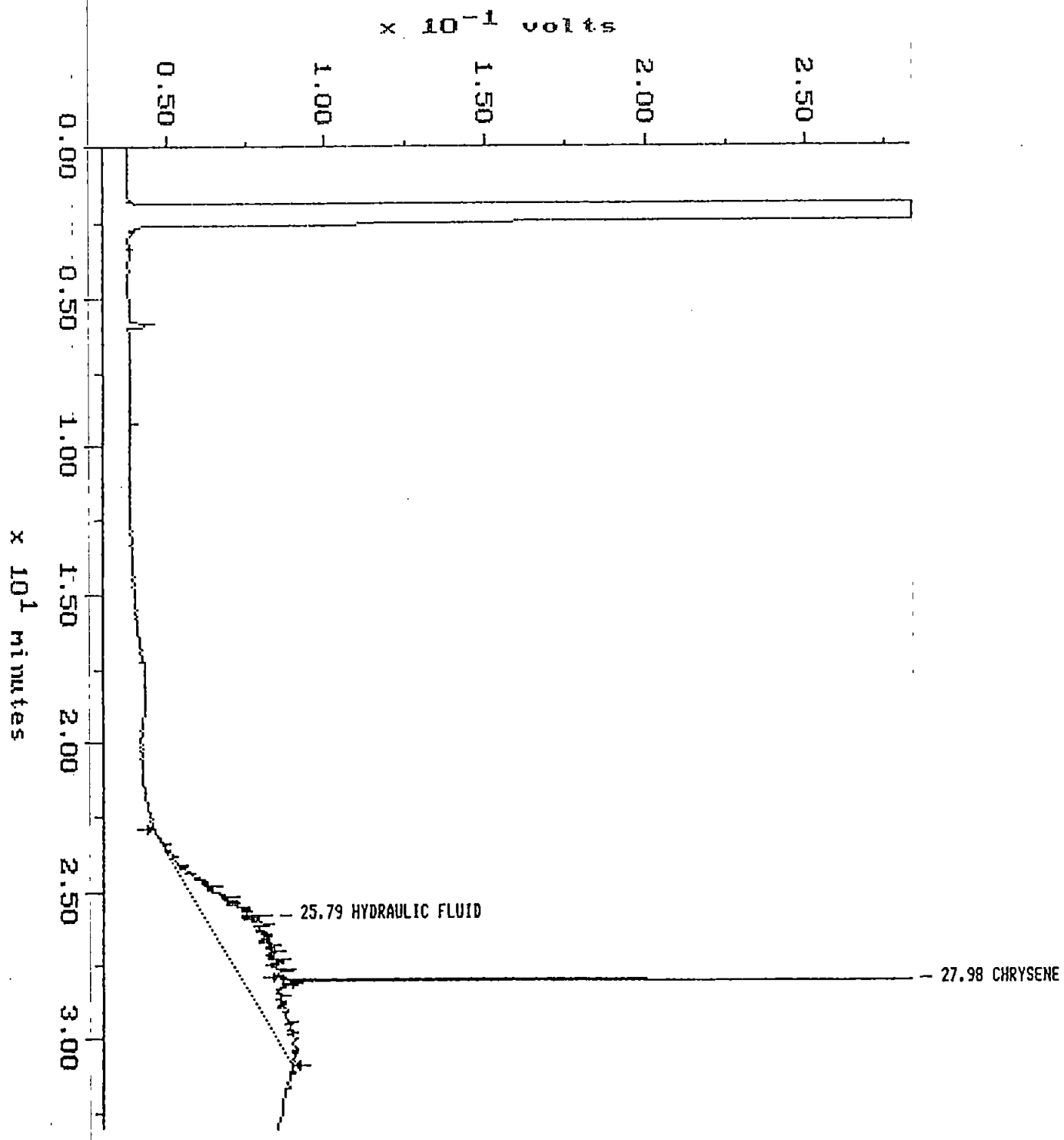
$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

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

Sample: 9010-217-1
Acquired: 25-OCT-90 1:34
Inj Vol: 1.00

Channel: DENITRI
Method: L:\MAXDATA\SERGE-D\FUEL1024

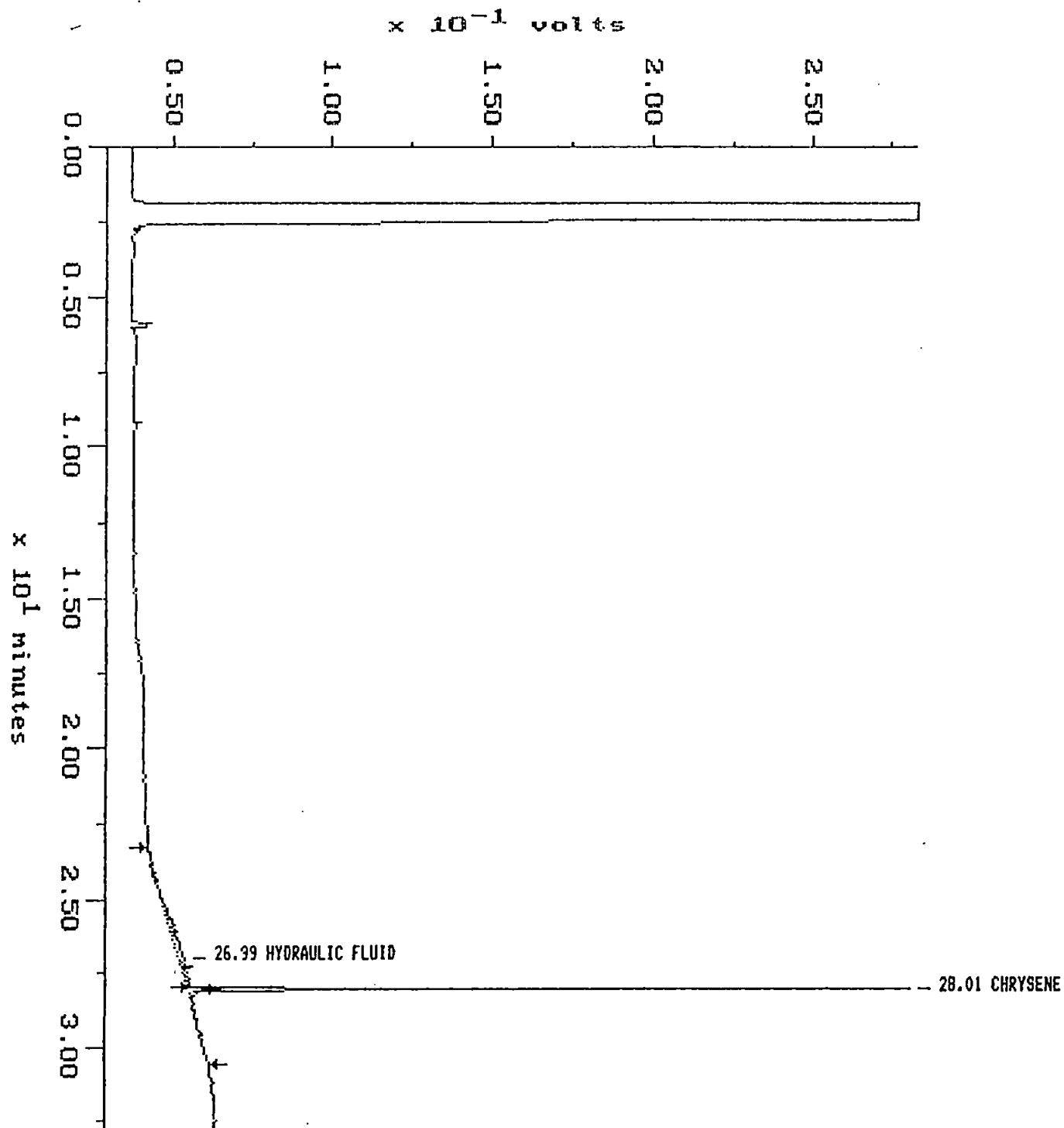
Filename: OSD00016
Operator:



Sample: 9010-217-7
Acquired: 25-OCT-90 5:43
Inj Vol: 1.00

Channel: BENITRI
Method: L:\MAXDATA\SERGE-D\FUEL1024

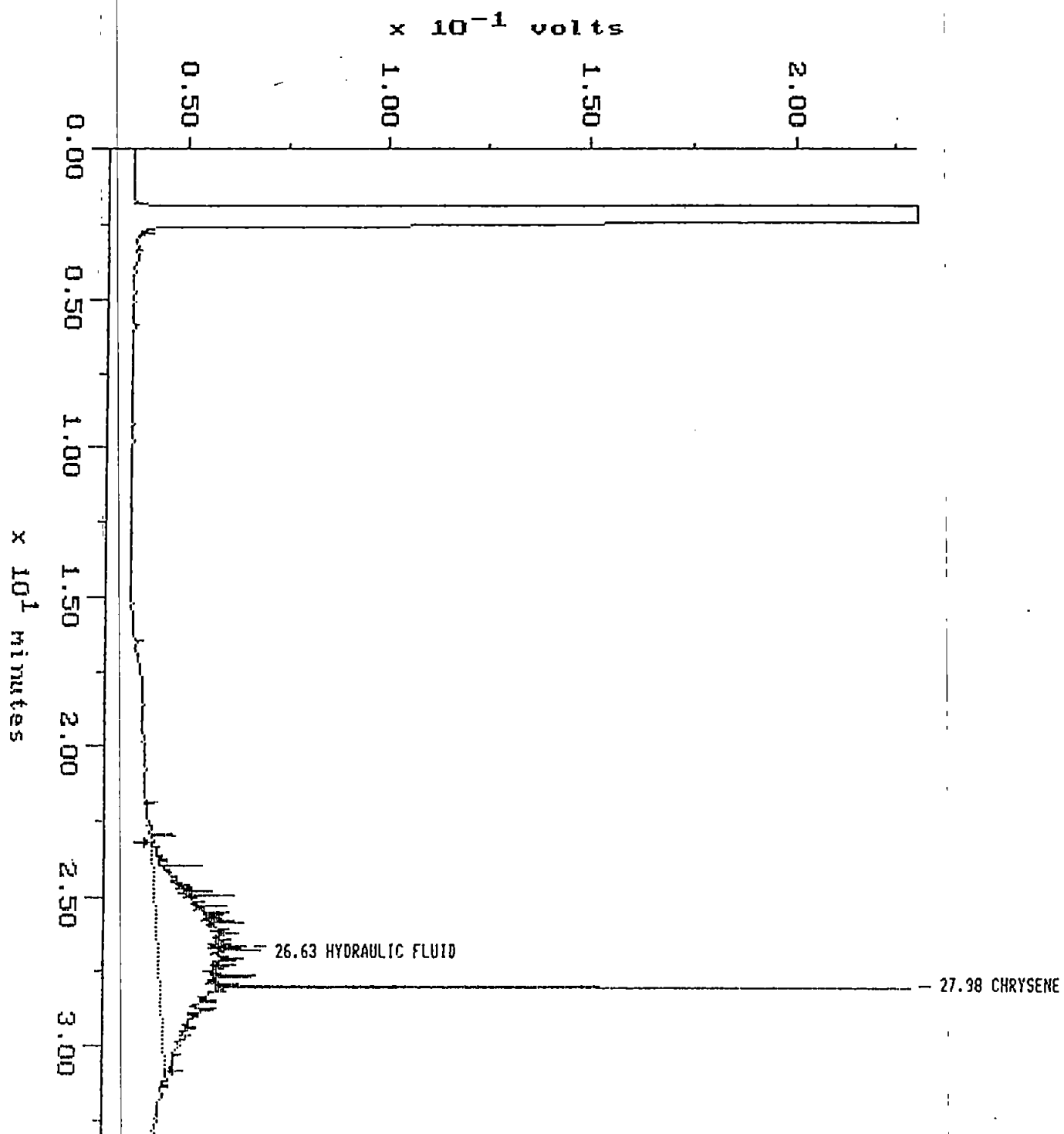
Filename: OSD00022
Operator:



Sample: Hyd. Std
Acquired: 24-OCT-90 22:48
Inj Vol: 1.00

Channel: DEMITRI
Method: L:\MAXDATA\SERGE-D\FUEL1024

Filename: OSD00012
Operator:





Analytical Technologies, Inc.

DATE 10/23/90 PAGE 9 OF 1

560 Naches Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

Chain of Custody LABORATORY NUMBER: 9010-217

PROJECT MANAGER: Katley Killman
 COMPANY: GEI
 ADDRESS: 21005 1410th Ave E, Suite 101
Bellevue, WA 98005
 PHONE: 716-5200 SAMPLED BY: CAH

SAMPLE DISPOSAL INSTRUCTIONS

☒ ATI Disposal @ \$5.00 each ☐ Return

ANALYSIS REQUEST

COMPANY: <u>GEI</u>				
ADDRESS: <u>21005 1410th Ave F, Suite 110</u> <u>Bellave WA 98005</u>				
PHONE: <u>716-5200</u> SAMPLED BY: <u>CAH</u>				
SAMPLE DISPOSAL INSTRUCTIONS				
☒ <u>ATI Disposal @ \$5.00 each</u> ☐ Return				
SAMPLE ID	DATE	TIME	MATRIX	LAB ID
<u>901023-45</u>	<u>10/23/90</u>	<u>1500</u>	<u>SOIL</u>	<u>-1</u>
<u>-46</u>	<u> </u>	<u> </u>	<u> </u>	<u>-2</u>
<u>-47</u>	<u> </u>	<u> </u>	<u> </u>	<u>-3</u>
<u>-48</u>	<u> </u>	<u>↓</u>	<u> </u>	<u>-4</u>
<u>-49</u>	<u> </u>	<u>1600</u>	<u> </u>	<u>-5</u>
<u>-50</u>	<u> </u>	<u> </u>	<u> </u>	<u>-6</u>
<u>-51</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>-7</u>

PROJECT INFORMATION

PROJECT NUMBER: 0166-106-69
 PROJECT NAME: Renton PSPL
 PURCHASE ORDER NUMBER:
 ONGOING PROJECT? YES ☒ NO ☐

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS 7
 COC SEALS/INTACT? Y/N/NA NA
 RECEIVED GOOD COND./COLD Y/N
 RECEIVED VIA: Hand Delivered

RELINQUISHED BY: 1. RELINQUISHED BY: 2. RELINQUISHED BY: 3.

Signature: _____ Time: _____
 Signature: _____ Time: _____
 Signature: _____ Time: _____
 Printed Name: _____ Date: _____
 Printed Name: _____ Date: _____
 Printed Name: _____ Date: _____
 Company: GEI Company: _____ Company: _____

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK
 GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)

SPECIAL INSTRUCTIONS:

(due 10/25 am)
24 HR RUSH

RECEIVED BY: 1. RECEIVED BY: 2. RECEIVED BY: (LAB) 3.

Signature: _____ Time: _____
 Signature: _____ Time: _____
 Signature: _____ Time: _____
 Printed Name: _____ Date: _____
 Printed Name: _____ Date: _____
 Printed Name: _____ Date: _____
 Company: _____ Company: _____ Company: Analytical Technologies, Inc.



ATI I.D. # 9010-223

GeoEngineers

November 7, 1990

NOV 8 1990

Receiving *KSF*

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

Attention : Kathy Killman

Project Number : 0186-106-B69

Project Name : Renton PSPL

On October 10, 1990, Analytical Technologies, Inc. received one water 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 were mailed to you on October 19, 1990, under ATI accession # 9010-097.

The sample was reaccessioned for an additional test on October 24, 1990. Enclosed is the report for the additional analysis.

Mary C. Silva

Mary C. Silva
Senior Project Manager

FWG/tc

Frederick W. Grothkopp

Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9010-223-1	901010-19	10/10/90	WATER

----- TOTALS -----

MATRIX	# SAMPLES
WATER	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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
PETROLEUM HYDROCARBONS	IR	EPA 418.1	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract



GENERAL CHEMISTRY RESULTS

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

MATRIX : WATER

UNITS : mg/L

ATI I.D.#	CLIENT I.D.	PETROLEUM HYDROCARBONS
9010-223-1	901010-19	<1



GENERAL CHEMISTRY QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

MATRIX : WATER

UNITS : mg/L

PARAMETER	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED RESULT	SPIKE ADDED	% REC
PETROLEUM HYDROCARBONS	9010-223-1	<1	<1	0	5.0	10	50

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

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



ATI I.D. # 9010-226

November 7, 1990

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

Attention : Kathy Killman

Project Number : 0186-106-69

Project Name : Renton PSPL

On October 24, 1990, Analytical Technologies, Inc. received four water samples and two soil samples for analysis. 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

FWG/elf

Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9010-226-1	901024-52	10/24/90	WATER
9010-226-2	901024-53	10/24/90	WATER
9010-226-3	901024-54	10/24/90	WATER
9010-226-4	901024-55	10/24/90	WATER
9010-226-5	901024-56	10/24/90	SOIL
9010-226-6	901024-57	10/24/90	SOIL

----- TOTALS -----

MATRIX	# SAMPLES
WATER	4
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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
BETX	GC/PID	EPA 8020	R
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

PURGEABLE AROMATICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: N/A
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 10/25/90*
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8020 (BETX)	DILUTION FACTOR	: 1

COMPOUND	RESULT

BENZENE	<0.5
ETHYLBENZENE	<0.5
TOLUENE	<0.5
TOTAL XYLENES	<0.5

SURROGATE PERCENT RECOVERY

BROMOFLUOROBENZENE	102

* Second shift.

PURGEABLE AROMATICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/24/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 10/24/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: N/A
CLIENT I.D.	: 901024-52	DATE ANALYZED	: 10/26/90
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8020 (BETX)	DILUTION FACTOR	: 1

COMPOUNDRESULT

BENZENE	<0.5
ETHYLBENZENE	1.8
TOLUENE	2.4
TOTAL XYLENES	11

SURROGATE PERCENT RECOVERY

BROMOFLUOROBENZENE	86

PURGEABLE AROMATICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/24/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 10/24/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: N/A
CLIENT I.D.	: 901024-53	DATE ANALYZED	: 10/26/90
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8020 (BETX)	DILUTION FACTOR	: 1

COMPOUND	RESULT
BENZENE	<0.5
ETHYLBENZENE	<0.5
TOLUENE	<0.5
TOTAL XYLENES	<0.5

SURROGATE PERCENT RECOVERY

BROMOFLUOROBENZENE	87

PURGEABLE AROMATICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/24/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 10/24/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: N/A
CLIENT I.D.	: 901024-54	DATE ANALYZED	: 10/26/90
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8020 (BETX)	DILUTION FACTOR	: 1

COMPOUND	RESULT
BENZENE	<0.5
ETHYLBENZENE	<0.5
TOLUENE	<0.5
TOTAL XYLENES	1.7

SURROGATE PERCENT RECOVERY

BROMOFLUOROBENZENE	89

PURGEABLE AROMATICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/24/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 10/24/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: N/A
CLIENT I.D.	: 901024-55	DATE ANALYZED	: 10/26/90
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8020 (BETX)	DILUTION FACTOR	: 1

COMPOUND	RESULT

BENZENE	<0.5
ETHYLBENZENE	0.6
TOLUENE	<0.5
TOTAL XYLENES	6.7

SURROGATE PERCENT RECOVERY

BROMOFLUOROBENZENE	87

PURGEABLE AROMATICS
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC. SAMPLE I.D. : 9010-155-4
PROJECT # : 0186-106-69 DATE ANALYZED : 10/25/90
PROJECT NAME : RENTON PSPL MATRIX : WATER
EPA METHOD : 8020 (BETX) UNITS : ug/L

COMPOUND	SAMPLE RESULT	SPIKE ADDED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % REC	RPD
BENZENE	<0.5	12.0	12.1	101	11.6	96	5
TOLUENE	<0.5	12.0	12.3	103	11.6	97	6
TOTAL XYLENES	<0.5	16.6	17.1	103	15.8	95	8

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

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

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/25/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 10/26/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/24/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 10/24/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/25/90
CLIENT I.D.	: 901024-56	DATE ANALYZED	: 10/25/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<5

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/24/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 10/24/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/25/90
CLIENT I.D.	: 901024-57	DATE ANALYZED	: 10/25/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<5

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9010-213-2
PROJECT #	: 0186-106-69	DATE EXTRACTED	: 10/24/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 10/25/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	538	108	589	118	9

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

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



560 Naches Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

Chain of Custody

LABORATORY NUMBER: _____

PROJECT MANAGER: Kelly Killman
 COMPANY: GEI
 ADDRESS: 2405 14th Ave E, Suite 101
Bellevue WA 98005
 PHONE: 746-5200 SAMPLED BY: CAH

SAMPLE DISPOSAL INSTRUCTIONS

☒ ATI Disposal @ \$5.00 each☐ Return

ANALYSIS REQUEST										NUMBER OF CONTAINERS
8010	8020	BETX ONLY	8240	8270	8310	8080	PCB's ONLY	8140	8150	
Halogenated Volatiles	Aromatic Volatiles		GCMS Volatiles	GCMS BNA	HPLC PNA	Pesticides & PCB's		Phosphate Pesticides	Herbicides	
								WDOE PAH/H (WAC 173)		
								418.1 (TPH)		
								413.2 Grease & Oil		
								8015 (Modified)		
								TOC 9060		
								TOX 9020		
								% Moisture		
								EP TOX Metals (8) EP EXT		
								Priority Pollutant Metals (13)		
								8080 Pesticide (4)		
								8240 ZH-EXT		
								8270		
								8150 Herbicides (2)		
								Metals (8)		

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
901024 - 52	10/24/90	12:00	U.O	-1
- 53				-2
- 54				-3
- 55				-4
- 56		15:00	SOIL	-5
- 57				-6

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1		RELINQUISHED BY: 2		RELINQUISHED BY: 3	
PROJECT NUMBER: <u>0186-KG-109</u>	TOTAL NUMBER OF CONTAINERS: <u>14</u>	COC SEALS/INTACT? <u>Y/N/A</u>	<u>NA</u>	Signature: <u>[Signature]</u>	Time: <u>10:30</u>	Signature: _____	Time: _____	Signature: _____	Time: _____
PROJECT NAME: <u>RENTON P.C.P.L.</u>	RECEIVED GOOD COND./COLD: <u>Y/N</u>	RECEIVED VIA: <u>HD</u>		Printed Name: <u>Craig Hart</u>	Date: <u>10/24/90</u>	Printed Name: _____	Date: _____	Printed Name: _____	Date: _____
PURCHASE ORDER NUMBER: _____				Company: <u>GEI</u>		Company: _____		Company: _____	
ONGOING PROJECT? YES ☒ NO ☐	PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS			RECEIVED BY: 1		RECEIVED BY: 2		RECEIVED BY: (LAB) 3	
TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK	GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)			Signature: <u>[Signature]</u>	Time: <u>10:30</u>	Signature: _____	Time: _____	Signature: _____	Time: _____
SPECIAL INSTRUCTIONS: <u>Fix results to PSK @ GEI</u> <u>24 HR ON 8015 & 72 HRS ON H2O samples</u>				Printed Name: <u>Keith Stevenson</u>	Date: <u>10/24/90</u>	Printed Name: _____	Date: _____	Printed Name: _____	Date: _____
				Company: <u>ATI</u>		Company: _____		Company: <u>Analytical Technologies, Inc.</u>	



Analytical **Technologies, Inc.**

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

ATI I.D. # 9010-237

November 7, 1990

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

Attention : Kathy Killman

Project Number : 0186-106-69

Project Name : Renton PSPL

On October 26, 1990, Analytical Technologies, Inc. received two water samples and six soil samples for analysis. 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.

GOLF

NOV 8 1990

Routing

Mary C. Silva
Mary C. Silva
Senior Project Manager

FWG/tc

Frederick W. Grothkopp
Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9010-237-1	901025-58	10/25/90	WATER
9010-237-2	901025-59	10/25/90	WATER
9010-237-3	901025-60	10/25/90	SOIL
9010-237-4	901025-61	10/25/90	SOIL
9010-237-5	901025-62	10/25/90	SOIL
9010-237-6	901025-63	10/25/90	SOIL
9010-237-7	901025-64	10/25/90	SOIL
9010-237-8	901025-65	10/25/90	SOIL

----- TOTALS -----

MATRIX	# SAMPLES
WATER	2
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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R
LEAD	AA/GF	EPA 7421	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/26/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 10/26/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND-----
RESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/25/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 10/26/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/26/90
CLIENT I.D.	: 901025-60	DATE ANALYZED	: 10/26/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<5

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/25/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 10/26/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/26/90
CLIENT I.D.	: 901025-61	DATE ANALYZED	: 10/26/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND-----
RESULT

FUEL HYDROCARBONS	<5
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/25/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 10/26/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/26/90
CLIENT I.D.	: 901025-62	DATE ANALYZED	: 10/26/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/25/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 10/26/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/26/90
CLIENT I.D.	: 901025-63	DATE ANALYZED	: 10/26/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND-----
RESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/25/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 10/26/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/26/90
CLIENT I.D.	: 901025-64	DATE ANALYZED	: 10/26/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<5

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/25/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 10/26/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/26/90
CLIENT I.D.	: 901025-65	DATE ANALYZED	: 10/26/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9010-213-2
PROJECT #	: 0186-106-69	DATE EXTRACTED	: 10/24/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 10/25/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	538	108	589	118	9

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

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

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9010-235-1
PROJECT #	: 0186-106-69	DATE EXTRACTED	: 10/26/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 10/26/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	555	111	507	101	9

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

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



METALS RESULTS

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

MATRIX : WATER

UNITS : mg/L

ATI I.D. #	CLIENT I.D.	LEAD
9010-237-1	901025-58	<0.005
9010-237-2	901025-59	<0.005



METALS QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

MATRIX : WATER

UNITS : mg/L

PARAMETER	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED SAMPLE	SPIKE CONC	% REC
LEAD	9010-205-1	<0.005	<0.005	0	0.027	0.025	108

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

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

Chain of Custody LABORATORY NUMBER: 1010 - 237

PROJECT MANAGER: Kathley Killman
COMPANY: GEI
ADDRESS: 2405 12th Ave Site 105
Bellvue WA 98005
PHONE: 716-5200 SAMPLED BY: CAN

SAMPLE DISPOSAL INSTRUCTIONS

☒ ATI Disposal @ \$5.00 each ☐ Return

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
701025 - 58	10/25/10	0900	H ₂ O	1
- 59	↓	↓	↓	2
- 60	↓	1200	SOL	3
- 61	↓	↓	↓	4
- 62	↓	1300	↓	5
- 63	↓	↓	↓	6
- 64	↓	↓	↓	7
- 65	↓	↓	↓	8

ANALYSIS REQUEST

[illegible]

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: 0186-116-69	TOTAL NUMBER OF CONTAINERS 8	Signature: [Signature] Date: 07/10		Signature: [Signature] Date: [Blank]		Signature: [Signature] Date: [Blank]		Signature: [Signature] Date: [Blank]	
PROJECT NAME: Dental Dept	COC SEALS/INTACT? Y/N/NA NA	Printed Name: [Blank] Date: [Blank]		Printed Name: [Blank] Date: [Blank]		Printed Name: [Blank] Date: [Blank]		Printed Name: [Blank] Date: [Blank]	
PURCHASE ORDER NUMBER: [Blank]	RECEIVED GOOD COND/OLD 1/4	Company: GEI		Company: [Blank]		Company: [Blank]		Company: [Blank]	
ONGOING PROJECT? YES ☒ NO ☐	RECEIVED VIA: [Blank]	RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.		RECEIVED BY: (LAB) 3.	
TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK		Signature: [Blank] Date: [Blank]		Signature: [Blank] Date: [Blank]		Signature: [Blank] Date: [Blank]		Signature: [Blank] Date: [Blank]	
GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)		Printed Name: [Blank] Date: [Blank]		Printed Name: [Blank] Date: [Blank]		Printed Name: [Blank] Date: [Blank]		Printed Name: [Blank] Date: [Blank]	
SPECIAL INSTRUCTIONS: SEND RESULTS TO KATHY KILLIAN@GA ALL 8015s ARE FOR HYDRAULIC FLUID ONLY! ★ 24 HR ★ RUSH ★		Company: [Blank]		Company: [Blank]		Company: [Blank]		Analytical Technologies, Inc.	



Analytical**Technologies**, Inc.

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

ATI I.D. # 9010-243

GeoEngineers

NOV 5 1990

November 2, 1990

Routing ☐ ☐ ☐
File ☐

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

Attention : Kathy Killman

Project Number : 0186-106-69

Project Name : Renton PSPL

On October 26, 1990, Analytical Technologies, Inc. received two soil samples for analysis. 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

FWG/tc

Frederick W. Grothkopp

Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9010-243-1	901026-66	10/26/90	SOIL
9010-243-2	901026-67	10/26/90	SOIL

----- 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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/26/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 10/27/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/26/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 10/26/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/26/90
CLIENT I.D.	: 901026-66	DATE ANALYZED	: 10/28/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND-----
RESULT

FUEL HYDROCARBONS	580
HYDROCARBON RANGE	C22 - C32
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/26/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 10/26/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/26/90
CLIENT I.D.	: 901026-67	DATE ANALYZED	: 10/28/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	66
HYDROCARBON RANGE	C22 - C32
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9010-244-2
PROJECT #	: 0186-106-69	DATE EXTRACTED	: 10/26/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 10/27/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	518	104	467	93	10

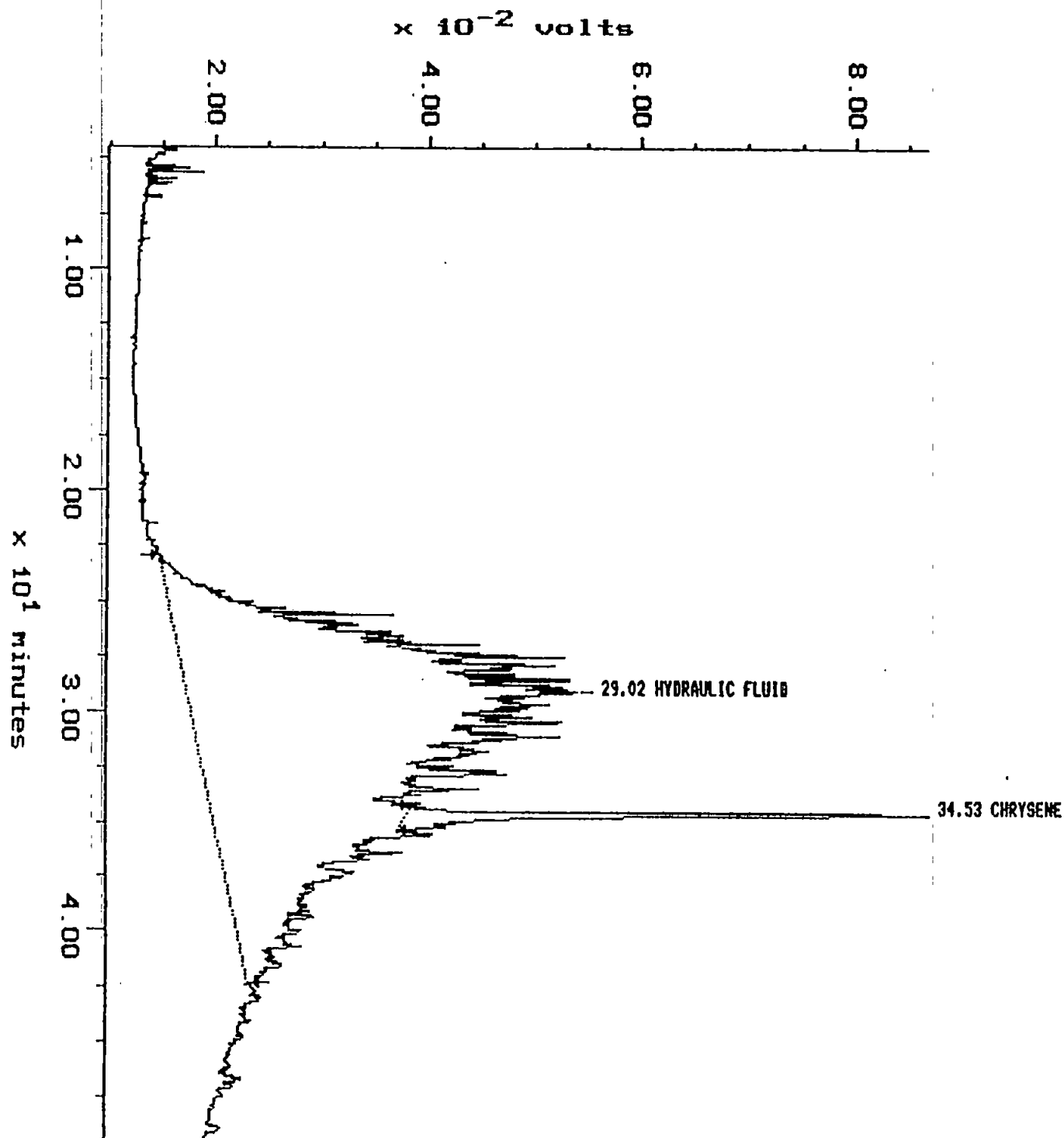
$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

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

Sample: 9010-243-1
Acquired: 28-OCT-90 17:42
Inj Vol: 1.00

Channel: CLAUDIA
Method: L:\MAXDATA\WINS-C\FUEL1028

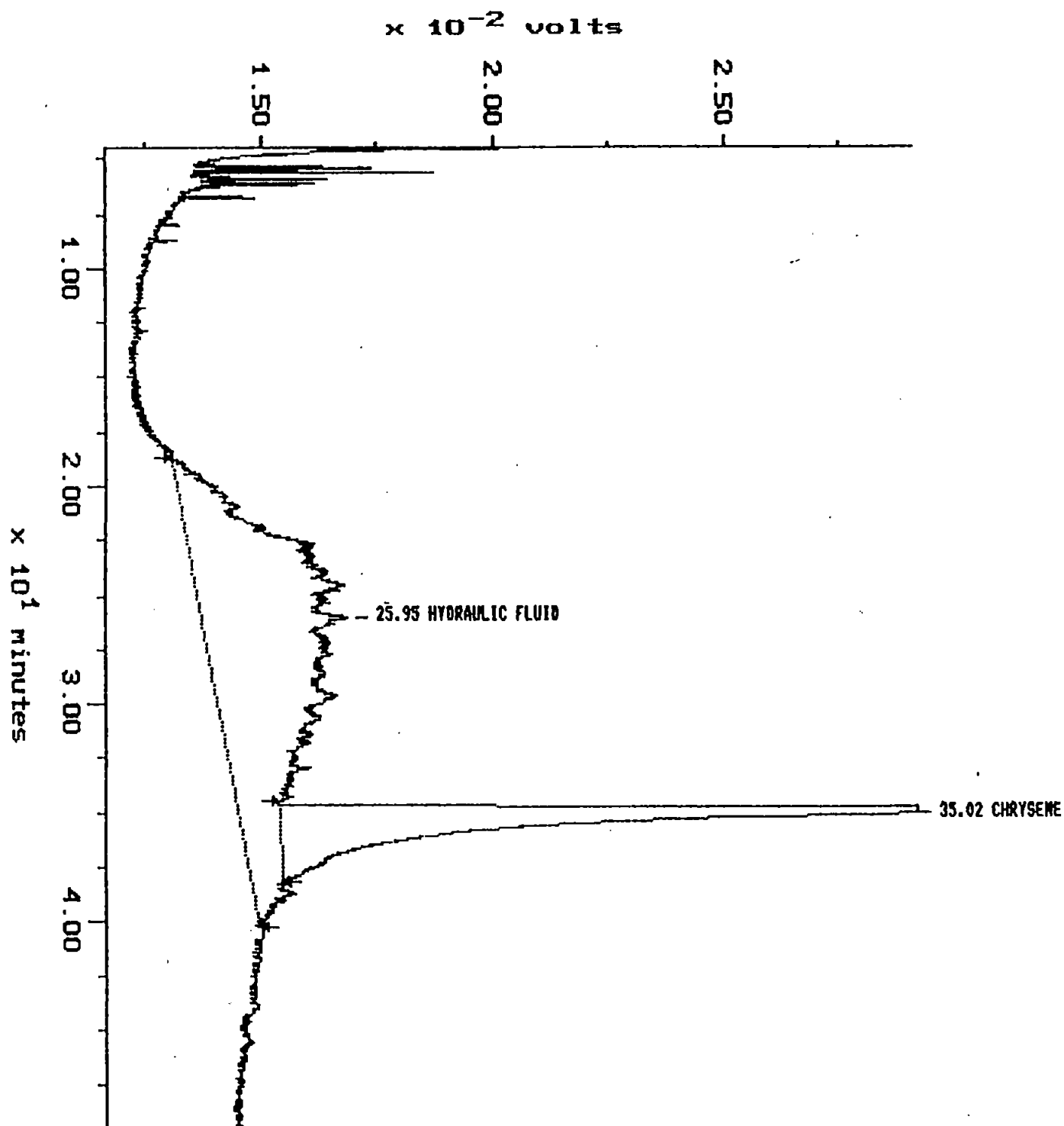
Filename: 1028vc5
Operator:



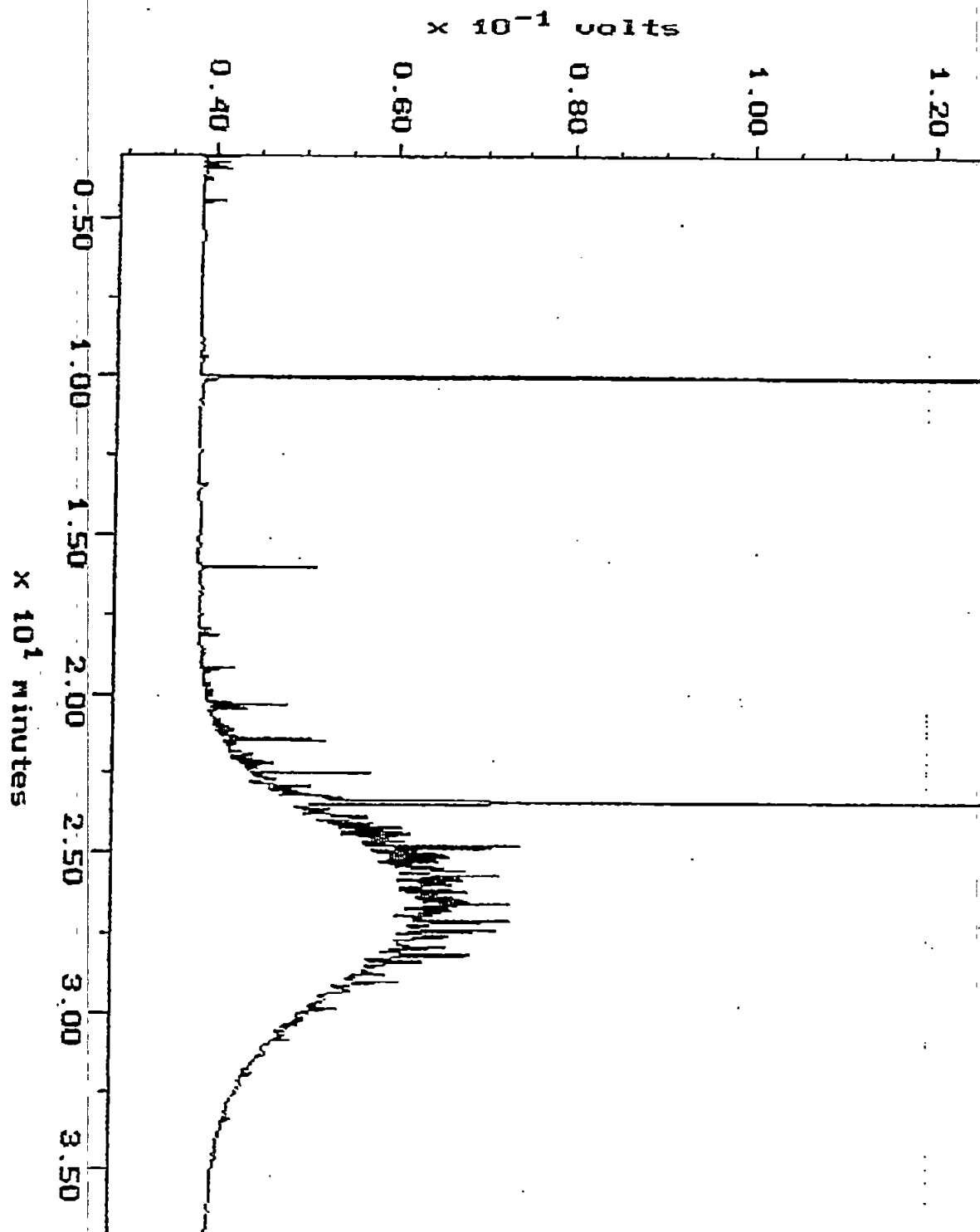
Sample: 9010-243-2
Acquired: 28-OCT-90 18:42
Inj Vol: 1.00

Channel: CLAUDIA
Method: L:\MAXDATA\WINS-C\FUEL102B

Filename: 1028vc6
Operator:



Sample: 15 Channel: CLARENCE Filename: 0108SC15
Acquired: 08-JAN-91 20:46 Method: N:\MAZDATA\SERGE-CAFUEL0108 Operator: BRE -
Comments: THIS IS A CHROMATOGRAM OF A 500 ppm HYDRAULIC FLUID STANDARD IN PENTANE





Analytical Technologies, Inc.

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

ATI I.D. # 9010-257

GeoEngineers

NOV 13 1990

November 12, 1990

Routing ☐ ☐ ☐
File ☐ ☐ ☐

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

Attention : Kathy Killman

Project Number : 0186-106-B69

Project Name : Renton PSPL

On October 29, 1990, Analytical Technologies, Inc. received five soil samples for analysis. 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.

Bob A. Olsiewski

Bob A. Olsiewski
Project Manager

FWG/tc

Frederick W. Grothkopp

Frederick W. Grothkopp
Technical Manager

SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9010-257-1	901029-68	10/29/90	SOIL
9010-257-2	901029-69	10/29/90	SOIL
9010-257-3	901029-70	10/29/90	SOIL
9010-257-4	901029-71	10/29/90	SOIL
9010-257-5	901029-72	10/29/90	SOIL

----- TOTALS -----

MATRIX	# SAMPLES
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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/30/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 10/30/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/29/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 10/29/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/30/90
CLIENT I.D.	: 901029-68	DATE ANALYZED	: 10/30/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/29/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 10/29/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/30/90
CLIENT I.D.	: 901029-69	DATE ANALYZED	: 10/30/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/29/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 10/29/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/30/90
CLIENT I.D.	: 901029-70	DATE ANALYZED	: 10/30/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/29/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 10/29/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/30/90
CLIENT I.D.	: 901029-71	DATE ANALYZED	: 11/01/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 25

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

10,000
C20 - C32
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/29/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 10/29/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/30/90
CLIENT I.D.	: 901029-72	DATE ANALYZED	: 10/30/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9010-244-2
PROJECT #	: 0186-106-B69	DATE EXTRACTED	: 10/26/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 10/28/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	518	104	467	93	10

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

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

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC.	SAMPLE I.D. : 9010-248-2
PROJECT # : 0186-106-B69	DATE EXTRACTED : 10/30/90
PROJECT NAME : RENTON PSPL	DATE ANALYZED : 10/30/90
EPA METHOD : 8015 MODIFIED	MATRIX : SOIL
	UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	480	96	447	89	7

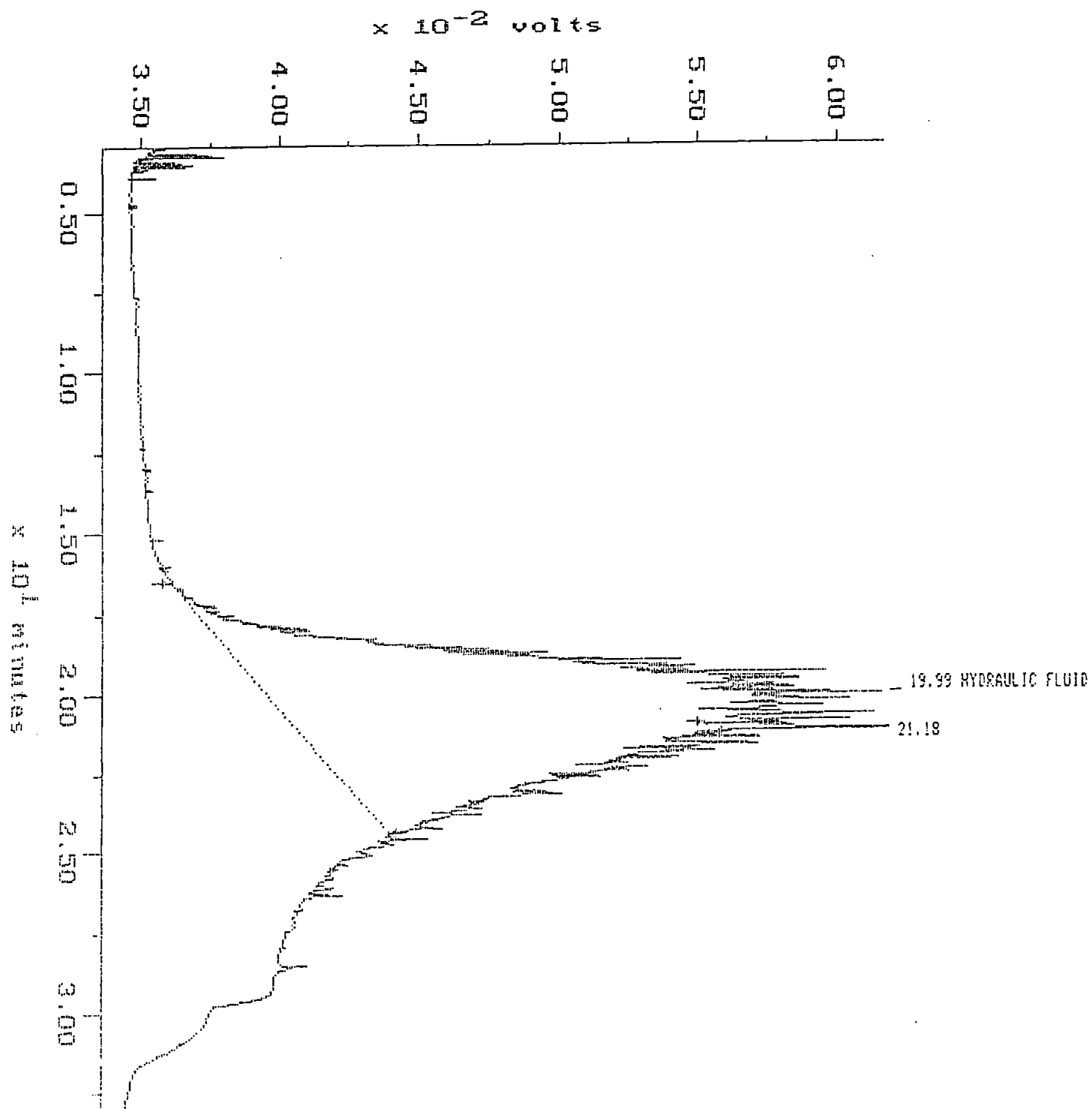
$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

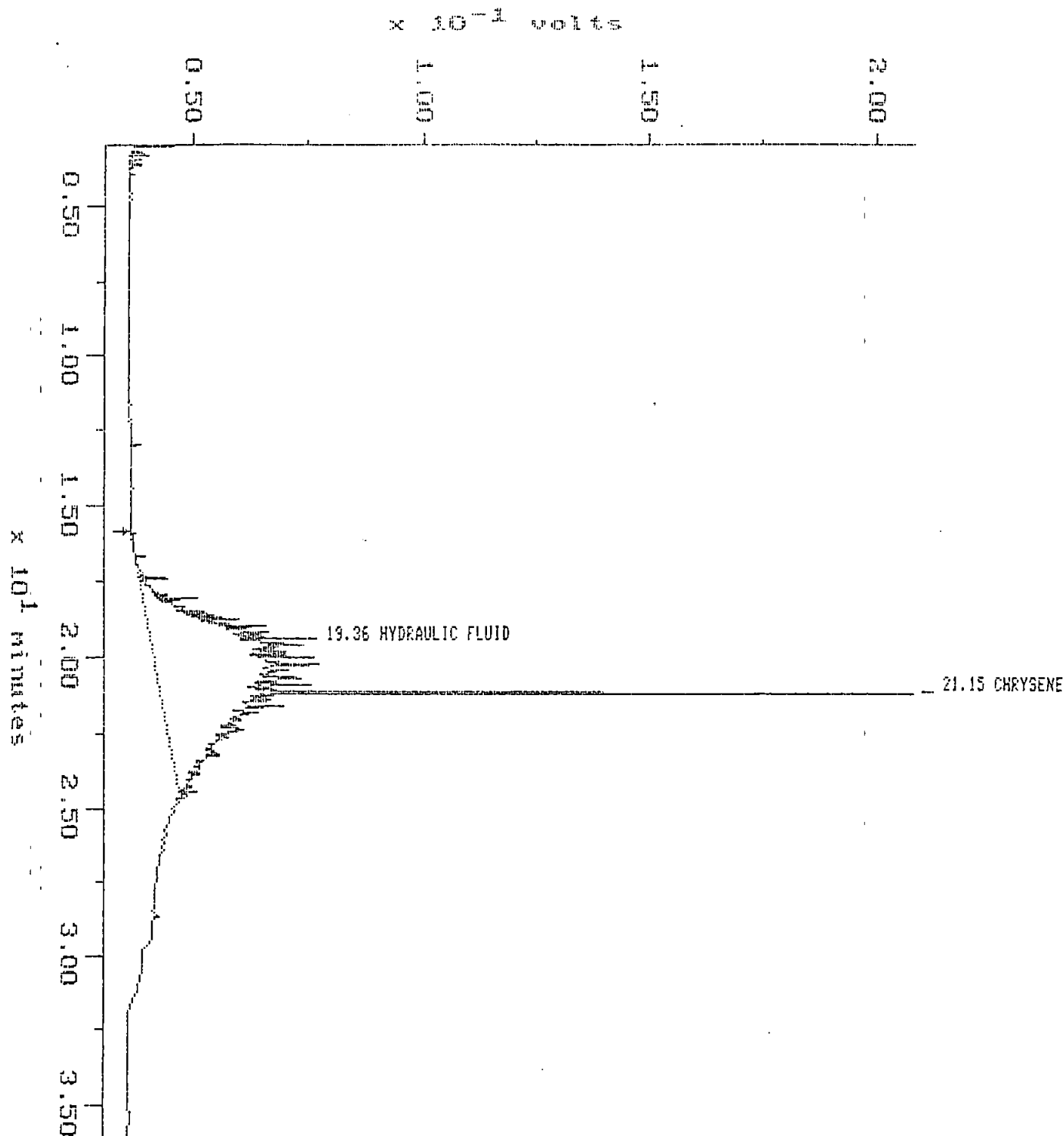
$$\text{RPD (Relative \% Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

Sample: 9010-257-4
Acquired: 01-NOV-90 16:31
Dilution: 1 : 25.000

Channel: DEMITRI
Method: M:\MAXDATA\SERGE-D\FUEL1032
Inj Vol: 1.00

Filename: 1101SD03
Operator: BRE







Analytical Technologies, Inc.

560 Naches Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

Chain of Custody

LABORATORY NUMBER: 9010-257

DATE 10/29/00 PAGE 1 OF 1

PROJECT MANAGER: Kathy Killman
 COMPANY: GEI
 ADDRESS: 2105 140th Ave, Suite 105
 Burien, WA 98148
 PHONE: 206-822-5200 SAMPLED BY: CAH

SAMPLE DISPOSAL INSTRUCTIONS

☒ ATJ Disposal @ \$5.00 each ☐ Return

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	8010 Halogenated Volatiles	8020 Aromatic Volatiles	8030 BETX ONLY	8040 GCMS Volatiles	8070 GCMS BNA	8080 HPLC PNA	8080 Pesticides & PCB's	8090 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	EP TOX Metals (8) EP EXT	Priority Pollutant Metals (13)	8080 Pesticide (4)	8240 ZH-EXT	8270	8150 Herbicides (2)	Metals (8)	NUMBER OF CONTAINERS
9010-257-68	10/29/00	1000	SOIL	-1																									1
-69		1200		2																									1
-70		1200		3																									1
-71		1500		4																									1
-72		1500		5																									1

PROJECT INFORMATION

PROJECT NUMBER: 0186-100-369
 PROJECT NAME: Renton P-PL
 PURCHASE ORDER NUMBER:
 ONGOING PROJECT? YES ☒ NO ☐

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS 5
 COC SEALS/INTACT? Y/N/NA NA
 RECEIVED GOOD COND./COLD Y
 RECEIVED VIA: CH.D.

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK
 GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)

SPECIAL INSTRUCTIONS: For results to KSK @ GEI
 8015 FOR HYDRAULIC FLUID ONLY
 2241 HR A RUSH

RELINQUISHED BY:

1: Signature: Time: 1700
 Printed Name: Date: 10/29/00
 Company: GEI
 2: Signature: Time:
 Printed Name: Date:
 Company:
 3: Signature: Time:
 Printed Name: Date:
 Company:

RECEIVED BY:

1: Signature: Time:
 Printed Name: Date:
 Company:
 2: Signature: Time:
 Printed Name: Date:
 Company:
 3: Signature: Time: 500 PM
 Printed Name: Date:
 Company: V. PENNICK 10/29/00
 Analytical Technologies, Inc.



Analytical**Technologies**, Inc.

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

ATI I.D. # 9010-259

November 5, 1990

NOV 6 1990

Routing

7651C

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

Attention : Kathy Killman

Project Number : 0186-106-B69

Project Name : Renton PSPL

On October 30, 1990, 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.

Bob Olsiewski
Project Manager

FWG/elf

Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9010-259-1	901030-73	10/30/90	SOIL

----- 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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/30/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 10/30/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/30/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 10/30/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/30/90
CLIENT I.D.	: 901030-73	DATE ANALYZED	: 10/30/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9010-248-2
PROJECT #	: 0186-106-B69	DATE EXTRACTED	: 10/30/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 10/30/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	480	96	447	89	7

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

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



560 Naches Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

Chain of Custody LABORATORY NUMBER:

7010-258 DATE 11/30/70 PAGE 1 OF 1

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
PROJECT NUMBER: 0000-100-100	TOTAL NUMBER OF CONTAINERS	1		Signature: _____ Time: _____	Signature: _____ Time: _____	Signature: _____ Time: _____
PROJECT NAME: KENTON HSP	COC SEALS/INTACT? Y/N/NA	IVA		Signature: _____ Time: _____	Signature: _____ Time: _____	Signature: _____ Time: _____
PURCHASE ORDER NUMBER:	RECEIVED GOOD COND/COLD	Y/N		Signature: _____ Time: _____	Signature: _____ Time: _____	Signature: _____ Time: _____
ONGOING PROJECT? YES ☒ NO ☐	RECEIVED VIA:	HD		Signature: _____ Time: _____	Signature: _____ Time: _____	Signature: _____ Time: _____
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS				Company: GEI	Company: _____	Company: _____
TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK				RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY: (LAB) 3.
GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)				Signature: _____ Time: _____	Signature: _____ Time: _____	Signature: _____ Time: _____
SPECIAL INSTRUCTIONS: RESULTS TO KATHY KILLMAN (PH) 8015 FOR HYDRAULIC FLUID				Signature: _____ Time: _____	Signature: _____ Time: _____	Signature: _____ Time: _____
PLEASE RUN WITH SAMPLES FROM 10/29				Printed Name: _____ Date: _____	Printed Name: _____ Date: _____	Printed Name: _____ Date: _____
				Company: _____	Company: _____	Analytical Technologies, Inc.

R - 174



Analytical Technologies, Inc.

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

ATI I.D. # 9010-265

GeoEngineers

November 12, 1990

NOV 13 1990

Routing ☐ ☐ ☐
File ☐ ☐ ☐

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

Attention : Kathy Killman

Project Number : 0186-106-B69

Project Name : Renton PSPL

On October 30, 1990, Analytical Technologies, Inc. received three soil samples for analysis. 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.

Bob Olsiewski

Bob A. Olsiewski
Project Manager

FWG/tc

Frederick W. Grothkopp

Frederick W. Grothkopp
Technical Manager

SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9010-265-1	901030-74	10/30/90	SOIL
9010-265-2	901030-75	10/30/90	SOIL
9010-265-3	901030-76	10/30/90	SOIL

----- 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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/31/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 11/02/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/30/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 10/30/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/31/90
CLIENT I.D.	: 901030-74	DATE ANALYZED	: 10/31/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/30/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 10/30/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/31/90
CLIENT I.D.	: 901030-75	DATE ANALYZED	: 10/31/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/30/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 10/30/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 10/31/90
CLIENT I.D.	: 901030-76	DATE ANALYZED	: 10/31/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC.	SAMPLE I.D. : 9010-265-1
PROJECT # : 0186-106-B69	DATE EXTRACTED : 10/31/90
PROJECT NAME : RENTON PSPL	DATE ANALYZED : 11/02/90
EPA METHOD : 8015 MODIFIED	MATRIX : SOIL
	UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	499	100	381	76	27*

* Out of limits due to matrix effect.

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

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



560 Naches Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

DATE 10/30/78 PAGE 1 OF 1

Chain of Custody LABORATORY NUMBER: 9010-245

LABORATORY NUMBER: 9010-265

[illegible]

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: 0186 106- 1507	TOTAL NUMBER OF CONTAINERS 3	Signature: [Signature] Time: 1650		Signature: [Signature] Time: [Blank]		Signature: [Signature] Time: [Blank]		Signature: [Signature] Time: [Blank]	
PROJECT NAME: RENTON PEOPLE	COC SEALS/INTACT? Y/N/NA NA	Printed Name: [Signature] Date: 10/30/90		Printed Name: [Blank] Date: [Blank]		Printed Name: [Blank] Date: [Blank]		Printed Name: [Blank] Date: [Blank]	
PURCHASE ORDER NUMBER: [Blank]	RECEIVED GOOD COND./COLD 1/1	Company: GEI		Company: [Blank]		Company: [Blank]		Company: [Blank]	
ONGOING PROJECT? YES ☒ NO ☐	RECEIVED VIA: Hand Delivered	RECEIVED BY: 1. Signature: [Blank] Time: [Blank]		RECEIVED BY: 2. Signature: [Blank] Time: [Blank]		RECEIVED BY: (LAB) 3. Signature: [Blank] Time: [Blank]		RECEIVED BY: (LAB) 3. Signature: [Blank] Time: [Blank]	
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS		Printed Name: [Blank] Date: [Blank]		Printed Name: [Blank] Date: [Blank]		Printed Name: [Blank] Date: [Blank]		Printed Name: [Blank] Date: [Blank]	
TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK	GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)	Company: [Blank]		Company: [Blank]		Company: [Blank]		Company: [Blank]	
SPECIAL INSTRUCTIONS: FAX RESULTS TO KSK @ GEI 8015 FOR HYDRAULIC FLUID ONLY		[Blank]		[Blank]		[Blank]		[Blank]	
★ RUSH ★ 24 HRS ★		[Blank]		[Blank]		[Blank]		[Blank]	



Analytical **Technologies, Inc.**

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

ATI I.D. # 9010-283

REV 10/11/90
KSK

November 15, 1990

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

Attention : Kathy Killman

Project Number : 0186-106-B69

Project Name : Renton PSPL

On October 31, 1990, Analytical Technologies, Inc. received one water sample and one soil sample for analysis. 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/tc

SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9010-283-1	901031-77	10/31/90	WATER
9010-283-2	901031-78	10/31/90	SOIL

----- TOTALS -----

MATRIX	# SAMPLES
WATER	1
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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
BETX	GC/PID	EPA 8020	R
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R
LEAD	AA/GF	EPA 7421	R
PETROLEUM HYDROCARBONS	IR	EPA 418.1	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

PURGEABLE AROMATICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: N/A
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 11/01/90
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8020 (BETX)	DILUTION FACTOR	: 1

COMPOUND	RESULT

BENZENE	<0.5
ETHYLBENZENE	<0.5
TOLUENE	<0.5
TOTAL XYLENES	<0.5

SURROGATE PERCENT RECOVERY

BROMOFLUOROBENZENE	90

PURGEABLE AROMATICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/31/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 10/31/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: N/A
CLIENT I.D.	: 901031-77	DATE ANALYZED	: 11/01/90
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8020 (BETX)	DILUTION FACTOR	: 1

COMPOUND	RESULT

BENZENE	0.7
ETHYLBENZENE	2.1
TOLUENE	7.6
TOTAL XYLENES	13

SURROGATE PERCENT RECOVERY

BROMOFLUOROBENZENE	94

PURGEABLE AROMATICS
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC.	SAMPLE I.D. : 9010-189-19
PROJECT # : 0186-106-B69	DATE ANALYZED : 10/27/90
PROJECT NAME : RENTON PSPL	MATRIX : WATER
EPA METHOD : 8020 (BETX)	UNITS : ug/L

COMPOUND	SAMPLE RESULT	SPIKE ADDED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % REC	RPD
BENZENE	<0.5	20	15.7	79	15.1	76	4
TOLUENE	<0.5	20	15.4	77	14.5	73	5
TOTAL XYLENES	<0.5	40	30.1	75	29.8	74	1

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

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

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/01/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 11/02/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 10/31/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 10/31/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/01/90
CLIENT I.D.	: 901031-78	DATE ANALYZED	: 11/02/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID.

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL
EPA METHOD : 8015 MODIFIED

SAMPLE I.D. : 9010-234-5
DATE EXTRACTED : 10/31/90
DATE ANALYZED : 11/02/90
MATRIX : SOIL
UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	305	61	338	68	10

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

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

METALS RESULTS

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

MATRIX : WATER

UNITS : mg/L

ATI I.D. #	CLIENT I.D.	LEAD
9010-283-1	901031-77	0.005



METALS QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

MATRIX : WATER

UNITS : mg/L

PARAMETER	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED SAMPLE	SPIKE CONC	% REC
LEAD	9010-283-1	0.005	0.005	0	0.033	0.025	112

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

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

GENERAL CHEMISTRY RESULTS

CLIENT : GEOENGINEERS, INC. MATRIX : WATER
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL UNITS : mg/L

ATI I.D. #	CLIENT I.D.	PETROLEUM HYDROCARBONS

9010-283-1	901031-77	<1



GENERAL CHEMISTRY QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

SAMPLE MATRIX : WATER

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED RESULT	SPIKE ADDED	% REC
PETROLEUM HYDROCARBONS	mg/L	9010-283-1	<1	<1	0	7.8	10	78

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

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

Chain of Custody

LABORATORY NUMBER: 9010-283

PROJECT MANAGER: Kathley Killman
COMPANY: GEI
ADDRESS: 2405 140th Ave, Suite 10
Bellevue WA 98005
PHONE: 746.5200 SAMPLED BY: CAH

SAMPLE DISPOSAL INSTRUCTIONS

☒ ATI Disposal @ \$5.00 each ☐ Return[illegible][illegible]

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: 0196-106-B69		TOTAL NUMBER OF CONTAINERS 4		Signature: [Signature] Time: 1700		Signature: Time:		Signature: Time:	
PROJECT NAME: RENTON PSPL		COC SEALS/INTACT? Y/N/NA NA		Printed Name: Date: 10/31/10		Printed Name: Date:		Printed Name: Date:	
PURCHASE ORDER NUMBER:		RECEIVED GOOD COND/COLD N/A		Company: GEI		Company:		Company:	
ONGOING PROJECT? YES ☒ NO ☐		RECEIVED VIA: Hand Delivered		RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.	
TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK				Signature: Time:		Signature: Time:		Signature: Time:	
GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)				Printed Name: Date:		Printed Name: Date:		Printed Name: Date:	
SPECIAL INSTRUCTIONS: 24 HR. RUSH ON SOIL SAMPLES				Company:		Company:		Company:	
8015 FOR HYDRAULIC FLUID ONLY									
Fax RESULTS to Kathy Killman									



ATI I.D. # 9011-008

GeoEngineers

November 12, 1990

NOV 13 1990

Routing ☐ ☐ ☐
File ☐ ☐ ☐

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

Attention : Kathy Killman

Project Number : 0186-106-B69

Project Name : Renton PSPL

On November 1, 1990, Analytical Technologies, Inc. received four soil samples for analysis. 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.

Bob A. Olsiewski
Project Manager

FWG/tc

Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9011-008-1	901101-79	11/01/90	SOIL
9011-008-2	901101-80	11/01/90	SOIL
9011-008-3	901101-81	11/01/90	SOIL
9011-008-4	901101-82	11/01/90	SOIL

----- 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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/01/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 11/02/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/01/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/01/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/01/90
CLIENT I.D.	: 901101-79	DATE ANALYZED	: 11/01/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/01/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/01/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/01/90
CLIENT I.D.	: 901101-80	DATE ANALYZED	: 11/01/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/01/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/01/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/01/90
CLIENT I.D.	: 901101-81	DATE ANALYZED	: 11/01/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/01/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/01/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/01/90
CLIENT I.D.	: 901101-82	DATE ANALYZED	: 11/01/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9011-008-1
PROJECT #	: 0186-106-B69	DATE EXTRACTED	: 11/01/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 11/02/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	477	95	494	99	4

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

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



560 Naches Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

DATE 14/01/10 PAGE 1 OF 1

Chain of Custody

LABORATORY NUMBER: 9010-008

[illegible]

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: 0186-106-867		TOTAL NUMBER OF CONTAINERS 3		Signature: [Signature] Time: 1:00		Signature: Time:		Signature: Time:	
PROJECT NAME: RENTON PSDL		COC SEALS/INTACT? Y/N/NA NA		Printed Name: Date:		Printed Name: Date:		Printed Name: Date:	
PURCHASE ORDER NUMBER:		RECEIVED GOOD COND./COLD 4/1		Signature: [Signature] Time: 11/1/90		Signature: Time:		Signature: Time:	
ONGOING PROJECT? YES ☒ NO ☐		RECEIVED VIA: Hand-delivered		Company: GEI		Company:		Company:	
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS				RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.	
TAT: (NORMAL) ☐ 2WKS		(RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK		Signature: Time:		Signature: Time:		Signature: Time:	
GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)				Printed Name: Date:		Printed Name: Date:		Printed Name: Date:	
SPECIAL INSTRUCTIONS: 8015 FOR HYDRAULIC ONLY. FAX RESULTS TO KENTON KILLMAN ASAP, & RUSH ☒ 24 HR ☒				Company:		Company:		Analytical Technologies, Inc.	

B - 207



ATI I.D. # 9011-011

GeoEngineers

November 12, 1990

NOV 13 1990

Routing ☐ ☐ ☐
File ☐ ☐ ☐

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

Attention : Kathy Killman

Project Number : 0186-106-B69

Project Name : Renton PSPL

On November 2, 1990, 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.

Bob A. Olsiewski
Project Manager

FWG/elf

Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9011-011-1	901101-83	11/01/90	SOIL

----- 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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/02/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 11/02/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/01/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/02/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/02/90
CLIENT I.D.	: 901101-83	DATE ANALYZED	: 11/03/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND	RESULT
FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9010-271-3
PROJECT #	: 0186-106-B69	DATE EXTRACTED	: 11/02/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 11/02/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	107	21	40	8	91*

* Out of limits due to matrix effect.

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

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

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC.	SAMPLE I.D. : BLANK SPIKE
PROJECT # : 0186-106-B69	DATE EXTRACTED : 11/02/90
PROJECT NAME : RENTON PSPL	DATE ANALYZED : 11/06/90
EPA METHOD : 8015 MODIFIED	MATRIX : SOIL
	UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	501	100	N/A	N/A	N/A

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

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

560 Naches Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

Chain of Custody

LABORATORY NUMBER: 9011-01

[illegible]

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: 0186-106-1369		TOTAL NUMBER OF CONTAINERS 1		Signature: [Signature] Time: 0730		Signature: Time:		Signature: Time:	
PROJECT NAME: Renton PSL		COC SEALS/INTACT? Y/N/NA NA		Printed Name: Date:		Printed Name: Date:		Printed Name: Date:	
PURCHASE ORDER NUMBER:		RECEIVED GOOD COND./COLD 4/4		Craig Hunt 11/2/90					
ONGOING PROJECT? YES ☒ NO ☐		RECEIVED VIA: Hand Del		Company: GEI		Company:		Company:	
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS				RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.	
TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK				Signature: Time:		Signature: Time:		Signature: Time:	
GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)				Printed Name: Date:		Printed Name: Date:		Printed Name: Date:	
SPECIAL INSTRUCTIONS: Fax to Kathy Killian 241: HR				Company:		Company:		Analytical Technologies, Inc.	



Analytical **Technologies, Inc.**

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

ATI I.D. # 9011-045

GeoEngineers

November 19, 1990

NOV 20 1990

Routing ☐ ☐ ☐
File ☐ ☐ ☐

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

Attention : Kathy Killman

Project Number : 0186-106-B69

Project Name : Renton PSPL

On November 7, 1990, Analytical Technologies, Inc. received one water sample and two soil samples for analysis. 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
FWG/tc

Frederick W. Grothkopp
Frederick W. Grothkopp
Technical Manager

SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9011-045-1	901107-84	11/07/90	WATER
9011-045-2	901107-85	11/07/90	SOIL
9011-045-3	901107-86	11/07/90	SOIL

----- 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.

ANALYTICAL SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
BETX	GC/PID	EPA 8020	R
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R
LEAD	AA/GF	EPA 7421	R
PETROLEUM HYDROCARBONS	IR	EPA 418.1	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

PURGEABLE AROMATICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: N/A
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 11/08/90
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8020 (BETX)	DILUTION FACTOR	: 1

COMPOUND	RESULT

BENZENE	<0.5
ETHYLBENZENE	<0.5
TOLUENE	<0.5
TOTAL XYLENES	<0.5

SURROGATE PERCENT RECOVERY

BROMOFLUOROBENZENE	86

PURGEABLE AROMATICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/07/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/07/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: N/A
CLIENT I.D.	: 901107-84	DATE ANALYZED	: 11/08/90
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8020 (BETX)	DILUTION FACTOR	: 1

COMPOUND	RESULT

BENZENE	<0.5
ETHYLBENZENE	<0.5
TOLUENE	0.9
TOTAL XYLENES	2.3

SURROGATE PERCENT RECOVERY

BROMOFLUOROBENZENE	88

PURGEABLE AROMATICS
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC. SAMPLE I.D. : 9010-189-19
PROJECT # : 0186-106-B69 DATE ANALYZED : 10/27/90
PROJECT NAME : RENTON PSPL MATRIX : WATER
EPA METHOD : 8020 (BETX) UNITS : ug/L

COMPOUND	SAMPLE RESULT	SPIKE ADDED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % REC	RPD
BENZENE	<0.5	20	15.7	79	15.1	76	4
TOLUENE	<0.5	20	15.4	77	14.5	73	5
TOTAL XYLENES	<0.5	40	30.1	75	29.8	74	1

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

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

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/07/90
CLIENT I.D.	: REAGENT BLANK A	DATE ANALYZED	: 11/08/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/07/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/07/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/07/90
CLIENT I.D.	: 901107-85	DATE ANALYZED	: 11/08/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/07/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/07/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/07/90
CLIENT I.D.	: 901107-86	DATE ANALYZED	: 11/08/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9011-036-8
PROJECT #	: 0186-106-B69	DATE EXTRACTED	: 11/07/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 11/08/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	442	88	477	95	8

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

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



METALS RESULTS

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

MATRIX : WATER

UNITS : mg/L

ATI I.D. #	CLIENT I.D.	LEAD
9011-045-1	901107-84	0.008



METALS QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

MATRIX : WATER

UNITS : mg/L

PARAMETER	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED SAMPLE	SPIKE CONC	% REC
LEAD	9011-045-1	0.008	0.006	.29	0.026	0.025	72

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

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



GENERAL CHEMISTRY RESULTS

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

MATRIX : WATER

UNITS : mg/L

ATI I.D. #	CLIENT I.D.	PETROLEUM HYDROCARBONS

9011-045-1

901107-84

2



GENERAL CHEMISTRY QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

SAMPLE MATRIX : WATER

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED RESULT	SPIKE ADDED	% REC
PETROLEUM HYDROCARBONS	mg/L	9011-045-1	2	2	0	6.9	10	49
PETROLEUM HYDROCARBONS	mg/L	BLANK SPIKE	N/A	N/A	N/A	5.3	10	53

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

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

Chain-of-Custody

LABORATORY NUMBER: 9011-045

[illegible]

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: 0126-100-B49		TOTAL NUMBER OF CONTAINERS 6		Signature: <i>[Signature]</i> Time: 1625		Signature: _____ Time: _____		Signature: _____ Time: _____	
PROJECT NAME: Ventan P&PL		COC SEALS/INTACT? Y/N/NA NA		Printed Name: _____ Date: _____		Printed Name: _____ Date: _____		Printed Name: _____ Date: _____	
PURCHASE ORDER NUMBER: _____		RECEIVED GOOD COND./COLD ☒		Printed Name: <i>Craig Hart</i> Date: <i>11/7/90</i>		Printed Name: _____ Date: _____		Printed Name: _____ Date: _____	
ONGOING PROJECT? YES ☒ NO ☐		RECEIVED VIA: <i>Hand del</i>		Company: <i>GEI</i>		Company: _____		Company: _____	
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS									
TAT: (NORMAL) ☐ 2WKS		(RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK		RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.	
GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)				Signature: _____ Time: _____		Signature: _____ Time: _____		Signature: <i>DL Thomas</i> Time: <i>4:25</i>	
SPECIAL INSTRUCTIONS: Fax Results to KSK @ GEI				Printed Name: _____ Date: _____		Printed Name: _____ Date: _____		Printed Name: <i>DL Thomas</i> Date: <i>11-7-90</i>	
24 HR ON SOIL SAMPLES				Company: _____		Company: _____		Analytical Technologies, Inc.	
72 HR ON H ₂ O SAMPLES									

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Analytical**Technologies**, Inc.

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

ATI I.D. # 9011-058

GeoEngineers

November 19, 1990

NOV 21 1990

Routing KSK ☐ ☐ ☐
File ☐ ☐ ☐

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

Attention : Kathy Killman

Project Number : 0186-106-69

Project Name : Renton PSPL

On November 8, 1990, Analytical Technologies, Inc. received two soil samples for analysis. 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.

Bob A. Olsiewski
Project Manager

FWG/tc

Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9011-058-1	901108-87	11/08/90	SOIL
9011-058-2	901108-88	11/08/90	SOIL

----- 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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/09/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 11/09/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/08/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 11/08/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/09/90
CLIENT I.D.	: 901108-87	DATE ANALYZED	: 11/10/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/08/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 11/08/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/09/90
CLIENT I.D.	: 901108-88	DATE ANALYZED	: 11/10/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9011-058-2
PROJECT #	: 0186-106-69	DATE EXTRACTED	: 11/09/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 11/10/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	443	89	433	87	2

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

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

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: BLANK SPIKE
PROJECT #	: 0186-106-69	DATE EXTRACTED	: 11/09/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 11/10/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	461	92	N/A	N/A	N/A

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

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



Chain of Custody

DATE 11/8/70 PAGE 1 OF 1

LABORATORY NUMBER: 9011-058

[illegible]

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: 0126-106-69		TOTAL NUMBER OF CONTAINERS 2		Signature: [Signature] Time: 1700		Signature: [Signature] Time: [Blank]		Signature: [Signature] Time: [Blank]	
PROJECT NAME: Benton SPL		COC SEALS/INTACT? Y/N/NA N/A		Printed Name: [Signature] Date: 11/8/90		Printed Name: [Blank] Date: [Blank]		Printed Name: [Blank] Date: [Blank]	
PURCHASE ORDER NUMBER: [Blank]		RECEIVED GOOD COND./COLD 1		Company: GEI		Company: [Blank]		Company: [Blank]	
ONGOING PROJECT? YES ☒ NO ☐		RECEIVED VIA: Hand del		RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.	
TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK		GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)		Signature: [Blank] Time: [Blank]		Signature: [Blank] Time: [Blank]		Signature: [Signature] Time: [Blank]	
SPECIAL INSTRUCTIONS: 24 HR RUSH Fax Results to KSK 8015 For HYDRAULIC ONLY				Printed Name: [Blank] Date: [Blank]		Printed Name: [Blank] Date: [Blank]		Printed Name: T. Landreth 11/8/90 Date: [Blank]	
				Company: [Blank]		Company: [Blank]		Analytical Technologies, Inc.	

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Analytical**Technologies**, Inc.

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

ATI I.D. # 9011-076

GeoEngineers

NOV 21 1990

Routing KSK ☐ ☐ ☐
File ☐ ☐ ☐

November 20, 1990

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

Attention : Kathy Killman

Project Number : 0186-106-B69

Project Name : Renton PSPL

On November 9, 1990, Analytical Technologies, Inc. received three soil samples for analysis. 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

FWG/tc

Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9011-076-1	901109-89	11/09/90	SOIL
9011-076-2	901109-90	11/09/90	SOIL
9011-076-3	901109-91	11/09/90	SOIL

----- 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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
PURGEABLE HALOCARBONS	GC/ELCD	EPA 8010	R
PURGEABLE AROMATICS	GC/PID	EPA 8020	R
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R
MOISTURE	GRAVIMETRIC	METHOD 7-2.2	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

VOLATILE ORGANIC ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/12/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 11/13/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8010/8020	DILUTION FACTOR	: 1
RESULTS BASED ON DRY WEIGHT			

COMPOUND	RESULT
BENZENE	<0.025
BROMODICHLOROMETHANE	<0.010
BROMOFORM	<0.010
BROMOMETHANE	<0.025
CARBON TETRACHLORIDE	<0.010
CHLOROBENZENE	<0.025
CHLOROETHANE	<0.025
CHLOROFORM	<0.010
CHLOROMETHANE	<0.10
DIBROMOCHLOROMETHANE	<0.010
1,2-DICHLOROBENZENE	<0.025
1,3-DICHLOROBENZENE	<0.025
1,4-DICHLOROBENZENE	<0.025
1,1-DICHLOROETHANE	<0.010
1,2-DICHLOROETHANE	<0.010
1,1-DICHLOROETHENE	<0.010
CIS-1,2,-DICHLOROETHENE	<0.010
TRANS-1,2-DICHLOROETHENE	<0.010
1,2-DICHLOROPROPANE	<0.010
CIS-1,3-DICHLOROPROPENE	<0.010
TRANS-1,3-DICHLOROPROPENE	<0.010
ETHYLBENZENE	<0.025
METHYLENE CHLORIDE	<0.10
1,1,2,2-TETRACHLOROETHANE	<0.010
TETRACHLOROETHENE	<0.010
TOLUENE	<0.025
1,1,1-TRICHLOROETHANE	<0.010
1,1,2-TRICHLOROETHANE	<0.010
TRICHLOROETHENE	<0.010
TRICHLOROFLUOROMETHANE	<0.025
VINYL CHLORIDE	<0.025
TOTAL XYLENES	<0.025

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE	91
BROMOFLUOROBENZENE	102

VOLATILE ORGANIC ANALYSIS DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/09/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/09/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/12/90
CLIENT I.D.	: 901109-90	DATE ANALYZED	: 11/12/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8010/8020	DILUTION FACTOR	: 1
RESULTS BASED ON DRY WEIGHT			

COMPOUND	RESULT
BENZENE	<0.025
BROMODICHLOROMETHANE	<0.010
BROMOFORM	<0.010
BROMOMETHANE	<0.025
CARBON TETRACHLORIDE	<0.010
CHLOROBENZENE	<0.025
CHLOROETHANE	<0.025
CHLOROFORM	<0.010
CHLOROMETHANE	<0.10
DIBROMOCHLOROMETHANE	<0.010
1,2-DICHLOROBENZENE	<0.025
1,3-DICHLOROBENZENE	<0.025
1,4-DICHLOROBENZENE	<0.025
1,1-DICHLOROETHANE	<0.010
1,2-DICHLOROETHANE	<0.010
1,1-DICHLOROETHENE	<0.010
CIS-1,2,-DICHLOROETHENE	<0.010
TRANS-1,2-DICHLOROETHENE	<0.010
1,2-DICHLOROPROPANE	<0.010
CIS-1,3-DICHLOROPROPENE	<0.010
TRANS-1,3-DICHLOROPROPENE	<0.010
ETHYLBENZENE	<0.025
METHYLENE CHLORIDE	<0.10
1,1,2,2-TETRACHLOROETHANE	<0.010
TETRACHLOROETHENE	<0.010
TOLUENE	<0.025
1,1,1-TRICHLOROETHANE	<0.010
1,1,2-TRICHLOROETHANE	<0.010
TRICHLOROETHENE	<0.010
TRICHLOROFLUOROMETHANE	<0.025
VINYL CHLORIDE	<0.025
TOTAL XYLENES	<0.025

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE	75
BROMOFLUOROBENZENE	85

VOLATILE ORGANIC ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/09/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/09/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/12/90
CLIENT I.D.	: 901109-91	DATE ANALYZED	: 11/13/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8010/8020	DILUTION FACTOR	: 1
RESULTS BASED ON DRY WEIGHT			

COMPOUND	RESULT
BENZENE	<0.025
BROMODICHLOROMETHANE	<0.010
BROMOFORM	<0.010
BROMOMETHANE	<0.025
CARBON TETRACHLORIDE	<0.010
CHLOROBENZENE	<0.025
CHLOROETHANE	<0.025
CHLOROFORM	<0.010
CHLOROMETHANE	<0.10
DIBROMOCHLOROMETHANE	<0.010
1,2-DICHLOROBENZENE	<0.025
1,3-DICHLOROBENZENE	<0.025
1,4-DICHLOROBENZENE	<0.025
1,1-DICHLOROETHANE	<0.010
1,2-DICHLOROETHANE	<0.010
1,1-DICHLOROETHENE	<0.010
CIS-1,2,-DICHLOROETHENE	<0.010
TRANS-1,2-DICHLOROETHENE	<0.010
1,2-DICHLOROPROPANE	<0.010
CIS-1,3-DICHLOROPROPENE	<0.010
TRANS-1,3-DICHLOROPROPENE	<0.010
ETHYLBENZENE	<0.025
METHYLENE CHLORIDE	<0.10
1,1,2,2-TETRACHLOROETHANE	<0.010
TETRACHLOROETHENE	0.038
TOLUENE	<0.025
1,1,1-TRICHLOROETHANE	<0.010
1,1,2-TRICHLOROETHANE	<0.010
TRICHLOROETHENE	<0.010
TRICHLOROFLUOROMETHANE	<0.025
VINYL CHLORIDE	<0.025
TOTAL XYLENES	<0.025

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE	69
BROMOFLUOROBENZENE	78

VOLATILE ORGANIC
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL
EPA METHOD : 8010/8020

SAMPLE I.D. : 9011-076-3
DATE EXTRACTED : 11/12/90
DATE ANALYZED : 11/13/90
MATRIX : SOIL
UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	SPIKE ADDED	SPIKED SAMPLE	% REC	DUP	DUP	RPD
					SPIKED SAMPLE	% REC	
BENZENE	<0.025	0.60	0.467	78	0.466	78	0
CHLOROBENZENE	<0.025	0.60	0.470	78	0.476	79	1
1,1-DICHLOROETHENE	<0.010	0.20	0.150	75	0.153	76	2
TETRACHLOROETHENE	0.028	0.20	0.204	88	0.220	96	8
TOLUENE	<0.025	0.60	0.480	80	0.483	80	1
TRICHLOROETHENE	<0.010	0.20	0.187	94	0.206	103	10
TOTAL XYLENES	<0.025	0.83	0.648	78	0.654	79	1

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

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

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/09/90
CLIENT I.D.	: REAGENT BLANK B	DATE ANALYZED	: 11/09/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/09/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/09/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/09/90
CLIENT I.D.	: 901109-89	DATE ANALYZED	: 11/09/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/09/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/09/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/09/90
CLIENT I.D.	: 901109-90	DATE ANALYZED	: 11/09/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/09/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/09/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/09/90
CLIENT I.D.	: 901109-91	DATE ANALYZED	: 11/09/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9011-076-2
PROJECT #	: 0186-106-B69	DATE EXTRACTED	: 11/09/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 11/09/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	510	102	470	94	8

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

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



GENERAL CHEMISTRY RESULTS

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

SAMPLE MATRIX : SOIL

UNITS : %

ATI I.D. #	CLIENT I.D.	MOISTURE

9011-076-2	901109-90	20
9011-076-3	901109-91	26



GENERAL CHEMISTRY QUALITY CONTROL

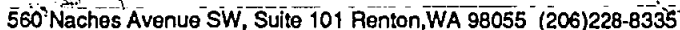
CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

SAMPLE MATRIX : SOIL

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED RESULT	SPIKE ADDED	% REC
MOISTURE	%	9011-076-3	26	28	7	N/A	N/A	N/A

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

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



DATE 7/9/90 PAGE 1 OF 1

Chain of Custody

LABORATORY NUMBER: 9011-076

[illegible]

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: 0186-106-B39		TOTAL NUMBER OF CONTAINERS 5		Signature: [Signature] Time: 1230		Signature: Time:		Signature: Time:	
PROJECT NAME: Benton PSPL		COC SEALS/INTACT? Y/N/NA NA		Printed Name: Date:		Printed Name: Date:		Printed Name: Date:	
PURCHASE ORDER NUMBER:		RECEIVED GOOD COND./COLD U		Craig Hart 11/9/90					
ONGOING PROJECT? YES ☒ NO ☐		RECEIVED VIA: Hand Delivered		Company: GEI		Company:		Company:	
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS				RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.	
TAT: (NORMAL) ☐ 2WKS		(RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK		Signature: Time:		Signature: Time:		Signature: Time:	
GREATER THAN 24 HR. NOTICE? YES ☒ NO ☒		8:15 (LAB USE ONLY)		Printed Name: Date:		Printed Name: Date:		Printed Name: Date:	
SPECIAL INSTRUCTIONS: 24 HR RUSH ON ~~BEHAVIOR~~ ALL. Fax Results to KSK @ GEI. 8015 FOR HYDRAULIC FLUID ONLY				Company:		Company:		Analytical Technologies, Inc.	



Analytical**Technologies**, Inc.

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

ATI I.D. # 9011-093

GeoEngineers

November 19, 1990

NOV 26 1990

Routing ☐ ☐ ☐
File ☐ ☐ ☐

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

Attention : Kathy Killman

Project Number : 0186-106-B69

Project Name : Renton PSPL

On November 12, 1990, Analytical Technologies, Inc. received seven soil samples for analysis. 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.

Bob Olsiewski

Bob A. Olsiewski
Project Manager

FWG/tc

Frederick W. Grothkopp

Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9011-093-1	901112-92	11/12/90	SOIL
9011-093-2	901112-93	11/12/90	SOIL
9011-093-3	901112-94	11/12/90	SOIL
9011-093-4	901112-95	11/12/90	SOIL
9011-093-5	901112-96	11/12/90	SOIL
9011-093-6	901112-97	11/12/90	SOIL
9011-093-7	901112-98	11/12/90	SOIL

----- TOTALS -----

MATRIX	# SAMPLES
SOIL	7

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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/12/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 11/14/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/12/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/12/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/12/90
CLIENT I.D.	: 901112-92	DATE ANALYZED	: 11/13/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND	RESULT
FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/12/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/12/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/12/90
CLIENT I.D.	: 901112-93	DATE ANALYZED	: 11/13/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/12/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/12/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/12/90
CLIENT I.D.	: 901112-94	DATE ANALYZED	: 11/13/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/12/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/12/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/12/90
CLIENT I.D.	: 901112-95	DATE ANALYZED	: 11/12/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/12/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/12/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/12/90
CLIENT I.D.	: 901112-96	DATE ANALYZED	: 11/12/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/12/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/12/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/12/90
CLIENT I.D.	: 901112-97	DATE ANALYZED	: 11/13/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
GASOLINE

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
DIESEL

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/12/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/12/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/12/90
CLIENT I.D.	: 901112-98	DATE ANALYZED	: 11/13/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	<5
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	GASOLINE
FUEL HYDROCARBONS	<5
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	DIESEL
FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9011-087-1
PROJECT #	: 0186-106-B69	DATE EXTRACTED	: 11/12/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 11/14/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	530	106	585	117	10

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

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

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: BLANK SPIKE
PROJECT #	: 0186-106-B69	DATE EXTRACTED	: 11/12/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 11/13/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	500	100	N/A	N/A	N/A

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

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

DATE 11/13/90 PAGE 1 OF 1

Chain of Custody

LABORATORY NUMBER: 9011-093 RF

[illegible]

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: 0186-1126-1569		TOTAL NUMBER OF CONTAINERS 7		Signature: [Signature] Time: 1640		Signature: Time:		Signature: Time:	
PROJECT NAME: Renton PSPL		COC SEALS/INTACT? Y/N/NA N/A		Printed Name: Date:		Printed Name: Date:		Printed Name: Date:	
PURCHASE ORDER NUMBER:		RECEIVED GOOD COND./COLD Y		Craig Hart 11/12/90		Printed Name: Date:		Printed Name: Date:	
ONGOING PROJECT? YES ☒ NO ☐		RECEIVED VIA: Hand Del.		Company: GEI		Company:		Company:	
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS				RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.	
TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK				Signature: Time:		Signature: Time:		Signature: Time:	
GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)				Printed Name: Date:		Printed Name: Date:		Printed Name: Date:	
SPECIAL INSTRUCTIONS: Fax Results to KSK @ GEI Samples: 92 → 96 Hydraulic only, 97 & 98 = Gas, Diesel and Hydraulic Fluid				Company:		Company:		Analytical Technologies, Inc.	



ATI I.D. # 9011-113

GeoEngineers

November 29, 1990

NOV 29 1990

Routing ☐ ☐ ☐
File ☐ ☐ ☐

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

Attention : Kathy Killman

Project Number : 0186-106-B69

Project Name : Renton PSPL

On November 14, 1990, Analytical Technologies, Inc. received one soil sample and one water sample for analysis. 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

FWG/tc

Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9011-113-1	901114-99	11/14/90	WATER
9011-113-2	901114-100	11/14/90	SOIL

----- TOTALS -----

MATRIX	# SAMPLES
WATER	1
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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
BETX	GC/PID	EPA 8020	R
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R
LEAD	AA/GF	EPA 7421	R
PETROLEUM HYDROCARBONS	IR	EPA 418.1	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

PURGEABLE AROMATICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: N/A
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 11/15/90
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8020 (BETX)	DILUTION FACTOR	: 1

COMPOUND	RESULT

BENZENE	<0.5
ETHYLBENZENE	<0.5
TOLUENE	<0.5
TOTAL XYLENES	<0.5

SURROGATE PERCENT RECOVERY

BROMOFLUOROBENZENE	107

PURGEABLE AROMATICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/14/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/14/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: N/A
CLIENT I.D.	: 901114-99	DATE ANALYZED	: 11/15/90
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8020 (BETX)	DILUTION FACTOR	: 1

COMPOUND	RESULT

BENZENE	8.4
ETHYLBENZENE	2.3
TOLUENE	18
TOTAL XYLENES	13

SURROGATE PERCENT RECOVERY

BROMOFLUOROBENZENE	89

PURGEABLE AROMATICS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9011-088-2
PROJECT #	: 0186-106-B69	DATE ANALYZED	: 11/14/90
PROJECT NAME	: RENTON PSPL	MATRIX	: WATER
EPA METHOD	: 8020 (BETX)	UNITS	: ug/L

COMPOUND	SAMPLE RESULT	SPIKE ADDED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % REC	RPD
BENZENE	<0.5	20.0	18.4	92	17.3	86	6
TOLUENE	<0.5	20.0	18.6	93	18.0	90	3
TOTAL XYLENES	<0.5	40.0	33.8	85	33.8	85	0

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

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

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/14/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 11/14/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/14/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/14/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/15/90
CLIENT I.D.	: 901114-100	DATE ANALYZED	: 11/15/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9011-105-3
PROJECT #	: 0186-106-B69	DATE EXTRACTED	: 11/14/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 11/15/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	516	103	554	111	7

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

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



METALS RESULTS

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

MATRIX : WATER

UNITS : mg/L

ATI I.D. #	CLIENT I.D.	LEAD
9011-113-1	901114-99	0.007

METALS QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

MATRIX : WATER

UNITS : mg/L

PARAMETER	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED SAMPLE	SPIKE CONC	% REC
LEAD	9011-062-1	<0.005	<0.005	0	0.024	0.025	96

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

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



GENERAL CHEMISTRY RESULTS

CLIENT : GEOENGINEERS, INC. SAMPLE MATRIX : WATER
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL UNITS : mg/L

ATI I.D. # CLIENT I.D. PETROLEUM HYDROCARBONS

9011-113-1 901114-99 <1



GENERAL CHEMISTRY QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

SAMPLE MATRIX : WATER

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED RESULT	SPIKE ADDED	% REC
PETROLEUM HYDROCARBONS	mg/L	9011-111-4	6	5	9	12	10	60

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

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

Chain of Custody LABORATORY NUMBER: 9011-113

[illegible]

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: 121546-116-21-9		TOTAL NUMBER OF CONTAINERS 4		Signature: [Signature] Time: 1750		Signature: Time:		Signature: Time:	
PROJECT NAME: Bonton DSP		COC SEALS/INTACT? Y/N/NA N/A		Printed Name: Date:		Printed Name: Date:		Printed Name: Date:	
PURCHASE ORDER NUMBER:		RECEIVED GOOD COND./COLD 1/1		Craig Hart 11/14/96					
ONGOING PROJECT? YES ☒ NO ☐		RECEIVED VIA: Hand del		Company: GFI		Company:		Company:	
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS									
TAT: (NORMAL) ☐ 2WKS		(RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK		RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.	
GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)				Signature: [Signature] Time: 5130		Signature: Time:		Signature: Time:	
SPECIAL INSTRUCTIONS: 24 HR ★ RUSH ★ BOIS ON SOILS FOR HYDRAULIC ONLY Fax results to RSK @ GFI				Printed Name: Date: DL Thomas 11-14-96		Printed Name: Date:		Printed Name: Date:	
				Company: ATI		Company:		Analytical Technologies, Inc.	



Analytical**Technologies**, Inc.

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

ATI I.D. # 9011-121

GeoEngineers

November 28, 1990

NOV 30 1990

Routing ☐ ☐ ☐
File ☐ ☐ ☐

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

Attention : Kathy Killman

Project Number : 0186-106-69

Project Name : Renton PSPL

On November 16, 1990, Analytical Technologies, Inc. received five soil samples for analysis. 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

FWG/tc

Frederick W. Grothkopp

Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9011-121-1	901115-101	11/15/90	SOIL
9011-121-2	901115-102	11/15/90	SOIL
9011-121-3	901115-103	11/15/90	SOIL
9011-121-4	901115-104	11/15/90	SOIL
9011-121-5	901115-105	11/15/90	SOIL

----- TOTALS -----

MATRIX	# SAMPLES
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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
PURGEABLE HALOCARBONS	GC/ELCD	EPA 8010	R
PURGEABLE AROMATICS	GC/PID	EPA 8020	R
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R
MOISTURE	GRAVIMETRIC	METHOD 7-2.2	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

VOLATILE ORGANIC ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/16/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 11/17/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8010/8020	DILUTION FACTOR	: 1
RESULTS BASED ON DRY WEIGHT			

COMPOUND	RESULT
BENZENE	<0.025
BROMODICHLOROMETHANE	<0.010
BROMOFORM	<0.010
BROMOMETHANE	<0.025
CARBON TETRACHLORIDE	<0.010
CHLOROBENZENE	<0.025
CHLOROETHANE	<0.025
CHLOROFORM	<0.010
CHLOROMETHANE	<0.10
DIBROMOCHLOROMETHANE	<0.010
1,2-DICHLOROBENZENE	<0.025
1,3-DICHLOROBENZENE	<0.025
1,4-DICHLOROBENZENE	<0.025
1,1-DICHLOROETHANE	<0.010
1,2-DICHLOROETHANE	<0.010
1,1-DICHLOROETHENE	<0.010
CIS-1,2,-DICHLOROETHENE	<0.010
TRANS-1,2-DICHLOROETHENE	<0.010
1,2-DICHLOROPROPANE	<0.010
CIS-1,3-DICHLOROPROPENE	<0.010
TRANS-1,3-DICHLOROPROPENE	<0.010
ETHYLBENZENE	<0.025
METHYLENE CHLORIDE	<0.10
1,1,2,2-TETRACHLOROETHANE	<0.010
TETRACHLOROETHENE	<0.010
TOLUENE	<0.025
1,1,1-TRICHLOROETHANE	<0.010
1,1,2-TRICHLOROETHANE	<0.010
TRICHLOROETHENE	<0.010
TRICHLOROFLUOROMETHANE	<0.025
VINYL CHLORIDE	<0.025
TOTAL XYLENES	<0.025

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE	62
BROMOFLUOROBENZENE	57

VOLATILE ORGANIC ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/15/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 11/16/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/16/90
CLIENT I.D.	: 901115-101	DATE ANALYZED	: 11/16/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8010/8020	DILUTION FACTOR	: 1
RESULTS BASED ON DRY WEIGHT			

COMPOUND	RESULT

BENZENE	<0.025
BROMODICHLOROMETHANE	<0.010
BROMOFORM	<0.010
BROMOMETHANE	<0.025
CARBON TETRACHLORIDE	<0.010
CHLOROBENZENE	<0.025
CHLOROETHANE	<0.025
CHLOROFORM	<0.010
CHLOROMETHANE	<0.10
DIBROMOCHLOROMETHANE	<0.010
1,2-DICHLOROBENZENE	<0.025
1,3-DICHLOROBENZENE	<0.025
1,4-DICHLOROBENZENE	<0.025
1,1-DICHLOROETHANE	<0.010
1,2-DICHLOROETHANE	<0.010
1,1-DICHLOROETHENE	<0.010
CIS-1,2,-DICHLOROETHENE	<0.010
TRANS-1,2-DICHLOROETHENE	<0.010
1,2-DICHLOROPROPANE	<0.010
CIS-1,3-DICHLOROPROPENE	<0.010
TRANS-1,3-DICHLOROPROPENE	<0.010
ETHYLBENZENE	<0.025
METHYLENE CHLORIDE	<0.10
1,1,2,2-TETRACHLOROETHANE	<0.010
TETRACHLOROETHENE	<0.010
TOLUENE	<0.025
1,1,1-TRICHLOROETHANE	<0.010
1,1,2-TRICHLOROETHANE	<0.010
TRICHLOROETHENE	<0.010
TRICHLOROFLUOROMETHANE	<0.025
VINYL CHLORIDE	<0.025
TOTAL XYLENES	<0.025

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE	78
BROMOFLUOROBENZENE	81

VOLATILE ORGANIC ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/15/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 11/16/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/16/90
CLIENT I.D.	: 901115-102	DATE ANALYZED	: 11/16/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8010/8020	DILUTION FACTOR	: 1
RESULTS BASED ON DRY WEIGHT			

COMPOUND	RESULT

BENZENE	<0.025
BROMODICHLOROMETHANE	<0.010
BROMOFORM	<0.010
BROMOMETHANE	<0.025
CARBON TETRACHLORIDE	<0.010
CHLOROBENZENE	<0.025
CHLOROETHANE	<0.025
CHLOROFORM	<0.010
CHLOROMETHANE	<0.10
DIBROMOCHLOROMETHANE	<0.010
1,2-DICHLOROBENZENE	<0.025
1,3-DICHLOROBENZENE	<0.025
1,4-DICHLOROBENZENE	<0.025
1,1-DICHLOROETHANE	<0.010
1,2-DICHLOROETHANE	<0.010
1,1-DICHLOROETHENE	<0.010
CIS-1,2,-DICHLOROETHENE	<0.010
TRANS-1,2-DICHLOROETHENE	<0.010
1,2-DICHLOROPROPANE	<0.010
CIS-1,3-DICHLOROPROPENE	<0.010
TRANS-1,3-DICHLOROPROPENE	<0.010
ETHYLBENZENE	<0.025
METHYLENE CHLORIDE	<0.10
1,1,2,2-TETRACHLOROETHANE	<0.010
TETRACHLOROETHENE	<0.010
TOLUENE	<0.025
1,1,1-TRICHLOROETHANE	<0.010
1,1,2-TRICHLOROETHANE	<0.010
TRICHLOROETHENE	<0.010
TRICHLOROFLUOROMETHANE	<0.025
VINYL CHLORIDE	<0.025
TOTAL XYLENES	<0.025

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE	97
BROMOFLUOROBENZENE	89

VOLATILE ORGANIC ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/15/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 11/16/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/16/90
CLIENT I.D.	: 901115-103	DATE ANALYZED	: 11/16/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8010/8020	DILUTION FACTOR	: 1
RESULTS BASED ON DRY WEIGHT			

COMPOUND	RESULT

BENZENE	<0.025
BROMODICHLOROMETHANE	<0.010
BROMOFORM	<0.010
BROMOMETHANE	<0.025
CARBON TETRACHLORIDE	<0.010
CHLOROBENZENE	<0.025
CHLOROETHANE	<0.025
CHLOROFORM	<0.010
CHLOROMETHANE	<0.10
DIBROMOCHLOROMETHANE	<0.010
1,2-DICHLOROBENZENE	<0.025
1,3-DICHLOROBENZENE	<0.025
1,4-DICHLOROBENZENE	<0.025
1,1-DICHLOROETHANE	<0.010
1,2-DICHLOROETHANE	<0.010
1,1-DICHLOROETHENE	<0.010
CIS-1,2,-DICHLOROETHENE	<0.010
TRANS-1,2-DICHLOROETHENE	<0.010
1,2-DICHLOROPROPANE	<0.010
CIS-1,3-DICHLOROPROPENE	<0.010
TRANS-1,3-DICHLOROPROPENE	<0.010
ETHYLBENZENE	<0.025
METHYLENE CHLORIDE	<0.10
1,1,2,2-TETRACHLOROETHANE	<0.010
TETRACHLOROETHENE	<0.010
TOLUENE	<0.025
1,1,1-TRICHLOROETHANE	<0.010
1,1,2-TRICHLOROETHANE	<0.010
TRICHLOROETHENE	<0.010
TRICHLOROFLUOROMETHANE	<0.025
VINYL CHLORIDE	<0.025
TOTAL XYLENES	<0.025

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE	94
BROMOFLUOROBENZENE	90

VOLATILE ORGANIC ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/15/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 11/16/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/16/90
CLIENT I.D.	: 901115-104	DATE ANALYZED	: 11/16/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8010/8020	DILUTION FACTOR	: 1
RESULTS BASED ON DRY WEIGHT			

COMPOUND	RESULT

BENZENE	<0.025
BROMODICHLOROMETHANE	<0.010
BROMOFORM	<0.010
BROMOMETHANE	<0.025
CARBON TETRACHLORIDE	<0.010
CHLOROBENZENE	<0.025
CHLOROETHANE	<0.025
CHLOROFORM	<0.010
CHLOROMETHANE	<0.10
DIBROMOCHLOROMETHANE	<0.010
1,2-DICHLOROBENZENE	<0.025
1,3-DICHLOROBENZENE	<0.025
1,4-DICHLOROBENZENE	<0.025
1,1-DICHLOROETHANE	<0.010
1,2-DICHLOROETHANE	<0.010
1,1-DICHLOROETHENE	<0.010
CIS-1,2,-DICHLOROETHENE	<0.010
TRANS-1,2-DICHLOROETHENE	<0.010
1,2-DICHLOROPROPANE	<0.010
CIS-1,3-DICHLOROPROPENE	<0.010
TRANS-1,3-DICHLOROPROPENE	<0.010
ETHYLBENZENE	<0.025
METHYLENE CHLORIDE	<0.10
1,1,2,2-TETRACHLOROETHANE	<0.010
TETRACHLOROETHENE	<0.010
TOLUENE	<0.025
1,1,1-TRICHLOROETHANE	<0.010
1,1,2-TRICHLOROETHANE	<0.010
TRICHLOROETHENE	<0.010
TRICHLOROFLUOROMETHANE	<0.025
VINYL CHLORIDE	<0.025
TOTAL XYLENES	<0.025

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE	88
BROMOFLUOROBENZENE	82

VOLATILE ORGANIC ANALYSIS DATA SUMMARY

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL
CLIENT I.D. : 901115-105
SAMPLE MATRIX : SOIL
EPA METHOD : 8010/8020
RESULTS BASED ON DRY WEIGHT

DATE SAMPLED : 11/15/90
DATE RECEIVED : 11/16/90
DATE EXTRACTED : 11/16/90
DATE ANALYZED : 11/16/90
UNITS : mg/Kg
DILUTION FACTOR : 1

----- COMPOUND

RESULT -----

BENZENE	<0.025
BROMODICHLOROMETHANE	<0.010
BROMOFORM	<0.010
BROMOMETHANE	<0.025
CARBON TETRACHLORIDE	<0.010
CHLOROBENZENE	<0.025
CHLOROETHANE	<0.025
CHLOROFORM	<0.010
CHLOROMETHANE	<0.10
DIBROMOCHLOROMETHANE	<0.010
1,2-DICHLOROBENZENE	<0.025
1,3-DICHLOROBENZENE	<0.025
1,4-DICHLOROBENZENE	<0.025
1,1-DICHLOROETHANE	<0.010
1,2-DICHLOROETHANE	<0.010
1,1-DICHLOROETHENE	<0.010
CIS-1,2,-DICHLOROETHENE	<0.010
TRANS-1,2-DICHLOROETHENE	<0.010
1,2-DICHLOROPROPANE	<0.010
CIS-1,3-DICHLOROPROPENE	<0.010
TRANS-1,3-DICHLOROPROPENE	<0.010
ETHYLBENZENE	<0.025
METHYLENE CHLORIDE	0.17
1,1,2,2-TETRACHLOROETHANE	<0.010
TETRACHLOROETHENE	<0.010
TOLUENE	<0.025
1,1,1-TRICHLOROETHANE	<0.010
1,1,2-TRICHLOROETHANE	<0.010
TRICHLOROETHENE	<0.010
TRICHLOROFLUOROMETHANE	<0.025
VINYL CHLORIDE	<0.025
TOTAL XYLENES	<0.025

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE	90
BROMOFLUOROBENZENE	88

VOLATILE ORGANIC
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC.	SAMPLE I.D. : 9010-195-24
PROJECT # : 0186-106-69	DATE EXTRACTED : 11/14/90
PROJECT NAME : RENTON PSPL	DATE ANALYZED : 11/15/90
EPA METHOD : 8010/8020	MATRIX : SOIL
	UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	SPIKE ADDED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % REC	RPD
BENZENE	<0.025	0.60	0.442	74	0.460	77	4
CHLOROBENZENE	<0.025	0.60	0.464	77	0.482	80	4
1,1-DICHLOROETHENE	<0.010	0.20	0.131	66	0.141	70	7
TETRACHLOROETHENE	<0.010	0.20	0.154	77	0.164	82	6
TOLUENE	<0.025	0.60	0.461	77	0.476	79	3
TRICHLOROETHENE	<0.010	0.20	0.149	74	0.164	82	10
TOTAL XYLENES	<0.025	0.83	0.728	88	0.650	78	11

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

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

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/16/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 11/17/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	<5
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	GASOLINE
FUEL HYDROCARBONS	<5
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	DIESEL
FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/15/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 11/16/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/16/90
CLIENT I.D.	: 901115-101	DATE ANALYZED	: 11/17/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
GASOLINE

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
DIESEL

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/15/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 11/16/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/16/90
CLIENT I.D.	: 901115-102	DATE ANALYZED	: 11/17/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	<5
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	GASOLINE
FUEL HYDROCARBONS	<5
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	DIESEL
FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/15/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 11/16/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/16/90
CLIENT I.D.	: 901115-103	DATE ANALYZED	: 11/17/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
GASOLINE

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
DIESEL

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/15/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 11/16/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/16/90
CLIENT I.D.	: 901115-104	DATE ANALYZED	: 11/17/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND	RESULT
FUEL HYDROCARBONS	<5
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	GASOLINE
FUEL HYDROCARBONS	<5
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	DIESEL
FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/15/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 11/16/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/16/90
CLIENT I.D.	: 901115-105	DATE ANALYZED	: 11/17/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
GASOLINE

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
DIESEL

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL
EPA METHOD : 8015 MODIFIED

SAMPLE I.D. : 9011-098-1
DATE EXTRACTED : 11/16/90
DATE ANALYZED : 11/17/90
MATRIX : SOIL
UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	657	131	675	135	3

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

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

GENERAL CHEMISTRY RESULTS

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

SAMPLE MATRIX : SOIL

UNITS : %

ATI I.D. #	CLIENT I.D.	MOISTURE

9011-121-1	901115-101	26
9011-121-2	901115-102	22
9011-121-3	901115-103	23
9011-121-4	901115-104	24
9011-121-5	901115-105	24

GENERAL CHEMISTRY QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

SAMPLE MATRIX : SOIL

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED RESULT	SPIKE ADDED	% REC
MOISTURE	%	9011-121-5	24	24	0	N/A	N/A	N/A

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

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



Chain of Custody

DATE 7/25/70 PAGE 2 OF 1

LABORATORY NUMBER: 9601-121

ATI Labs: San Diego (619)458-9141 • Phoenix (602)438-1530 • Seattle (206)228-8335 • Pensacola (904)474-1001

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Analytical **Technologies, Inc.**

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

ATI I.D. # 9011-135

GeoEngineers

November 28, 1990

NOV 29 1990

Routing KSK ☐ ☐ ☐
File ☐ ☐ ☐

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

Attention : Kathy Killman

Project Number : 186-106-69

Project Name : Renton PSPL

On November 16, 1990, Analytical Technologies, Inc. received three soil samples for analysis. 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.

Bob A. Olsiewski
Project Manager

FWG/tc

Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9011-135-1	901116-106	11/16/90	SOIL
9011-135-2	901116-107	11/16/90	SOIL
9011-135-3	901116-108	11/16/90	SOIL

----- 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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 186-106-69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/17/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 11/18/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/16/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 11/16/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/17/90
CLIENT I.D.	: 901116-106	DATE ANALYZED	: 11/18/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/16/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 11/16/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/17/90
CLIENT I.D.	: 901116-107	DATE ANALYZED	: 11/18/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/16/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 11/16/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/17/90
CLIENT I.D.	: 901116-108	DATE ANALYZED	: 11/18/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9011-135-1
PROJECT #	: 186-106-69	DATE EXTRACTED	: 11/17/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 11/18/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	429	86	482	96	12

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

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



560 Naches Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

DATE 11/16/64 PAGE 1 OF 1

Chain of Custody

LABORATORY NUMBER: 9011-135

[illegible]

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.			
PROJECT NUMBER: 1836-106-16	TOTAL NUMBER OF CONTAINERS: 3	Signature: [Signature]		Time: 1650		Signature: [Signature]		Time: [Time]			
PROJECT NAME: Boston BSI	COC SEALS/INTACT? Y/N/NA: N/A	Signature: [Signature]		Time: [Time]		Signature: [Signature]		Time: [Time]			
PURCHASE ORDER NUMBER:	RECEIVED GOOD COND./COLD: VV	Printed Name: [Signature]		Date: 11/16/90		Printed Name: [Signature]		Date: [Date]			
ONGOING PROJECT? YES ☒ NO ☐	RECEIVED VIA: Hand Delivered	Company: CEI		Company: [Company]		Company: [Company]		Company: [Company]			
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS				RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.			
TAT: (NORMAL) ☐ 2WKS	(RUSH) ☒ 24HR	☐ 48 HRS	☐ 72 HRS	☐ 1 WK	Signature: [Signature]		Time: [Time]		Signature: [Signature]		
GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)				Signature: [Signature]		Time: [Time]		Signature: [Signature]		Time: [Time]	
SPECIAL INSTRUCTIONS: 241 HR RUSH Hydraulic Only				Printed Name: [Signature]		Date: [Date]		Printed Name: [Signature]		Date: [Date]	
				Company: [Company]		Company: [Company]		Company: [Company]		Company: [Company]	
				Company: [Company]		Company: [Company]		Company: [Company]		Company: [Company]	

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Analytical**Technologies, Inc.**

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

ATI I.D. # 9011-142

GeoEngineers

NOV 20 1990

November 28, 1990

Routing ☐ ☐ ☐
File ☐ ☐ ☐

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

Attention : Kathy Killman

Project Number : 0186-106-69

Project Name : Renton PSPL

On November 19, 1990, Analytical Technologies, Inc. received four soil samples for analysis. 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

FWG/tc

Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9011-142-1	901119-109	11/19/90	SOIL
9011-142-2	901119-110	11/19/90	SOIL
9011-142-3	901119-111	11/19/90	SOIL
9011-142-4	901119-112	11/19/90	SOIL

----- 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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
PURGEABLE HALOCARBONS	GC/ELCD	EPA 8010	R
PURGEABLE AROMATICS	GC/PID	EPA 8020	R
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R
MOISTURE	GRAVIMETRIC	METHOD 7-2.2	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

VOLATILE ORGANIC ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/20/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 11/21/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8010/8020	DILUTION FACTOR	: 1
RESULTS BASED ON DRY WEIGHT			

COMPOUND	RESULT

BENZENE	<0.025
BROMODICHLOROMETHANE	<0.010
BROMOFORM	<0.010
BROMOMETHANE	<0.025
CARBON TETRACHLORIDE	<0.010
CHLOROBENZENE	<0.025
CHLOROETHANE	<0.025
CHLOROFORM	<0.010
CHLOROMETHANE	<0.10
DIBROMOCHLOROMETHANE	<0.010
1,2-DICHLOROBENZENE	<0.025
1,3-DICHLOROBENZENE	<0.025
1,4-DICHLOROBENZENE	<0.025
1,1-DICHLOROETHANE	<0.010
1,2-DICHLOROETHANE	<0.010
1,1-DICHLOROETHENE	<0.010
CIS-1,2,-DICHLOROETHENE	<0.010
TRANS-1,2-DICHLOROETHENE	<0.010
1,2-DICHLOROPROPANE	<0.010
CIS-1,3-DICHLOROPROPENE	<0.010
TRANS-1,3-DICHLOROPROPENE	<0.010
ETHYLBENZENE	<0.025
METHYLENE CHLORIDE	<0.10
1,1,2,2-TETRACHLOROETHANE	<0.010
TETRACHLOROETHENE	<0.010
TOLUENE	<0.025
1,1,1-TRICHLOROETHANE	<0.010
1,1,2-TRICHLOROETHANE	<0.010
TRICHLOROETHENE	<0.010
TRICHLOROFLUOROMETHANE	<0.025
VINYL CHLORIDE	<0.025
TOTAL XYLENES	<0.025

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE	98
BROMOFLUOROBENZENE	108

VOLATILE ORGANIC ANALYSIS
DATA SUMMARY

CLIENT : GEOENGINEERS, INC.	DATE SAMPLED : 11/19/90
PROJECT # : 0186-106-69	DATE RECEIVED : 11/19/90
PROJECT NAME : RENTON PSPL	DATE EXTRACTED : 11/20/90
CLIENT I.D. : 901119-111	DATE ANALYZED : 11/21/90
SAMPLE MATRIX : SOIL	UNITS : mg/Kg
EPA METHOD : 8010/8020	DILUTION FACTOR : 1
RESULTS BASED ON DRY WEIGHT	

COMPOUND	RESULT
BENZENE	<0.025
BROMODICHLOROMETHANE	<0.010
BROMOFORM	<0.010
BROMOMETHANE	<0.025
CARBON TETRACHLORIDE	<0.010
CHLOROBENZENE	<0.025
CHLOROETHANE	<0.025
CHLOROFORM	<0.010
CHLOROMETHANE	<0.10
DIBROMOCHLOROMETHANE	<0.010
1,2-DICHLOROBENZENE	<0.025
1,3-DICHLOROBENZENE	<0.025
1,4-DICHLOROBENZENE	<0.025
1,1-DICHLOROETHANE	<0.010
1,2-DICHLOROETHANE	<0.010
1,1-DICHLOROETHENE	<0.010
CIS-1,2,-DICHLOROETHENE	<0.010
TRANS-1,2-DICHLOROETHENE	<0.010
1,2-DICHLOROPROPANE	<0.010
CIS-1,3-DICHLOROPROPENE	<0.010
TRANS-1,3-DICHLOROPROPENE	<0.010
ETHYLBENZENE	<0.025
METHYLENE CHLORIDE	<0.10
1,1,2,2-TETRACHLOROETHANE	<0.010
TETRACHLOROETHENE	<0.010
TOLUENE	<0.025
1,1,1-TRICHLOROETHANE	<0.010
1,1,2-TRICHLOROETHANE	<0.010
TRICHLOROETHENE	<0.010
TRICHLOROFLUOROMETHANE	<0.025
VINYL CHLORIDE	<0.025
TOTAL XYLENES	<0.025

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE	78
BROMOFLUOROBENZENE	80

VOLATILE ORGANIC ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/19/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 11/19/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/20/90
CLIENT I.D.	: 901119-112	DATE ANALYZED	: 11/20/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8010/8020	DILUTION FACTOR	: 1
RESULTS BASED ON DRY WEIGHT			

COMPOUND	RESULT
BENZENE	<0.036
BROMODICHLOROMETHANE	<0.014
BROMOFORM	<0.014
BROMOMETHANE	<0.036
CARBON TETRACHLORIDE	<0.014
CHLOROBENZENE	<0.036
CHLOROETHANE	<0.036
CHLOROFORM	<0.014
CHLOROMETHANE	<0.14
DIBROMOCHLOROMETHANE	<0.014
1,2-DICHLOROBENZENE	<0.036
1,3-DICHLOROBENZENE	<0.036
1,4-DICHLOROBENZENE	<0.036
1,1-DICHLOROETHANE	<0.014
1,2-DICHLOROETHANE	<0.014
1,1-DICHLOROETHENE	<0.014
CIS-1,2,-DICHLOROETHENE	<0.014
TRANS-1,2-DICHLOROETHENE	<0.014
1,2-DICHLOROPROPANE	<0.014
CIS-1,3-DICHLOROPROPENE	<0.014
TRANS-1,3-DICHLOROPROPENE	<0.014
ETHYLBENZENE	<0.036
METHYLENE CHLORIDE	<0.14
1,1,2,2-TETRACHLOROETHANE	<0.014
TETRACHLOROETHENE	<0.014
TOLUENE	<0.036
1,1,1-TRICHLOROETHANE	<0.014
1,1,2-TRICHLOROETHANE	<0.014
TRICHLOROETHENE	<0.014
TRICHLOROFLUOROMETHANE	<0.036
VINYL CHLORIDE	<0.036
TOTAL XYLENES	<0.036

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE	85
BROMOFLUOROBENZENE	83

VOLATILE ORGANIC
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC.	SAMPLE I.D. : 9011-118-9
PROJECT # : 0186-106-69	DATE EXTRACTED : 11/16/90
PROJECT NAME : RENTON PSPL	DATE ANALYZED : 11/21/90
EPA METHOD : 8010/8020	MATRIX : SOIL
	UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	SPIKE ADDED	SPIKED SAMPLE	% REC	DUP	DUP	RPD
					SPIKED SAMPLE	% REC	
BENZENE	<0.025	0.60	0.652	109	0.644	107	1
CHLOROBENZENE	<0.025	0.60	0.952	159*	1.10	183*	14
1,1-DICHLOROETHENE	<0.010	0.20	0.174	87	0.203	102	15
TETRACHLOROETHENE	<0.010	0.20	0.156	78	0.181	90	15
TOLUENE	<0.025	0.60	0.648	108	0.666	111	3
TRICHLOROETHENE	<0.010	0.20	0.160	80	0.195	98	20
TOTAL XYLENES	0.418	0.83	0.955	65	1.01	71	6

* Out of limits.

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

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

VOLATILE ORGANIC
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: BLANK SPIKE
PROJECT #	: 0186-106-69	DATE EXTRACTED	: 11/16/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 11/21/90
EPA METHOD	: 8010/8020	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	SPIKE ADDED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % REC	RPD
BENZENE	<0.025	0.60	0.556	93	N/A	N/A	N/A
CHLOROBENZENE	<0.025	0.60	0.545	91	N/A	N/A	N/A
1,1-DICHLOROETHENE	<0.010	0.20	0.230	115	N/A	N/A	N/A
TETRACHLOROETHENE	<0.010	0.20	0.210	105	N/A	N/A	N/A
TOLUENE	<0.025	0.60	0.550	92	N/A	N/A	N/A
TRICHLOROETHENE	<0.010	0.20	0.211	106	N/A	N/A	N/A
TOTAL XYLENES	<0.025	0.83	0.736	89	N/A	N/A	N/A

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

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

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/20/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 11/20/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND	RESULT
FUEL HYDROCARBONS	<5
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	GASOLINE
FUEL HYDROCARBONS	<5
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	DIESEL
FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/19/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 11/19/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/20/90
CLIENT I.D.	: 901119-109	DATE ANALYZED	: 11/21/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/19/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 11/19/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/20/90
CLIENT I.D.	: 901119-110	DATE ANALYZED	: 11/21/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/19/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 11/19/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/20/90
CLIENT I.D.	: 901119-111	DATE ANALYZED	: 11/21/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
GASOLINE

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
DIESEL

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/19/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 11/19/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/20/90
CLIENT I.D.	: 901119-112	DATE ANALYZED	: 11/21/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 10

COMPOUND	RESULT
FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	GASOLINE
FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	DIESEL
FUEL HYDROCARBONS	3,000
HYDROCARBON RANGE	C24+
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9011-141-4
PROJECT #	: 0186-106-69	DATE EXTRACTED	: 11/20/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 11/20/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	479	96	469	94	2

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

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

GENERAL CHEMISTRY RESULTS

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

MATRIX : SOIL

UNITS : %

ATI I.D.#	CLIENT I.D.	MOISTURE
9011-142-3	901119-111	23
9011-142-4	901119-112	30

GENERAL CHEMISTRY QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

MATRIX : SOIL

UNITS : %

PARAMETER	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED RESULT	SPIKE ADDED	% REC
MOISTURE	9011-142-4	30	31	3	N/A	N/A	N/A

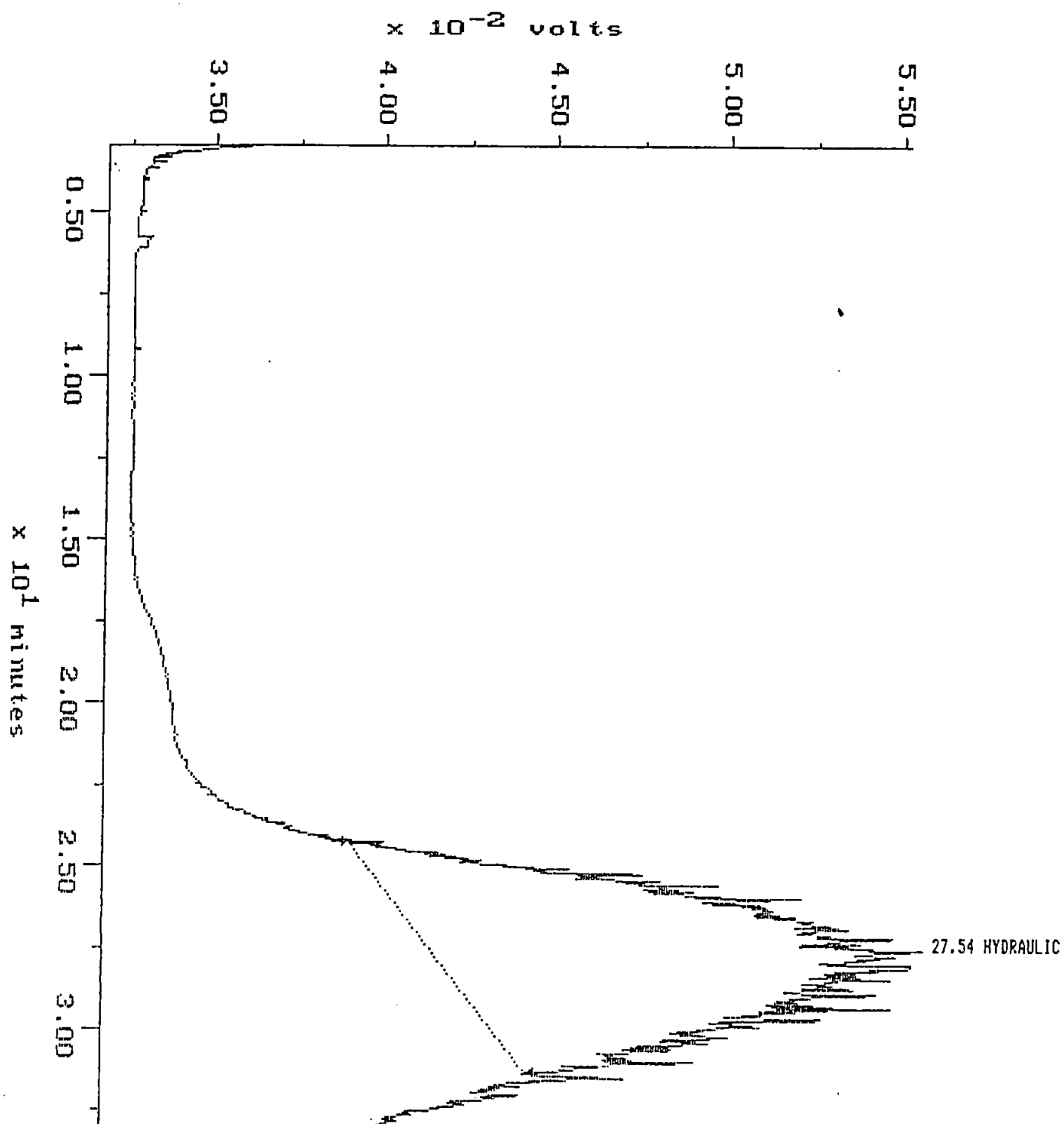
$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

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

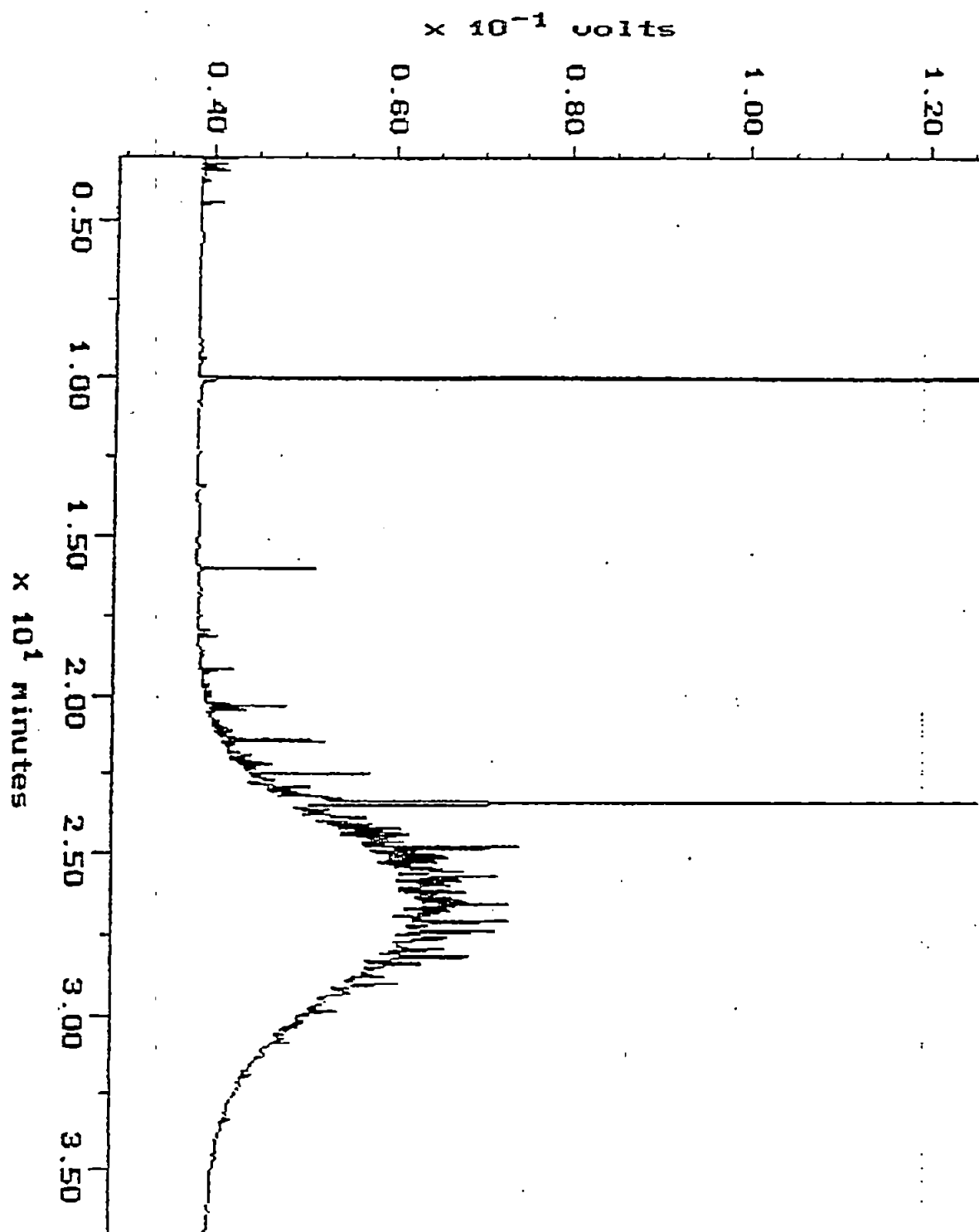
Sample: 9011-142-4
Acquired: 21-NOV-90 10:27
Dilution: 1 : 10.000

Channel: DEMITRI
Method: M:\MAXDATA\SERGE-D\FUEL1120
Inj Vol: 1.00

Filename: 1120SD31
Operator: BRE



Sample: 15 Channel: CLARENCE Filename: 0108SC15
Acquired: 08-JAN-91 20:46 Method: N:\MAXDATA\SERGE-C\FUEL0108 Operator: BRE -
Comments: THIS IS A CHROMATOGRAM OF A 500 ppm HYDRAULIC FLUID STANDARD IN PENTANE





Analytical Technologies, Inc.

560 Naches Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

Chain of Custody

LABORATORY NUMBER: 9011-142

DATE 11/19 PAGE 1 OF 1

PROJECT MANAGER: <u>Kathy Killian</u>					ANALYSIS REQUEST																								
COMPANY: <u>GEI</u>																													
ADDRESS: <u>2405 140th Ave, Suite 105</u>																													
PHONE: <u>746-5200</u> SAMPLED BY: <u>CAH</u>																													
SAMPLE DISPOSAL INSTRUCTIONS																													
☒ ATI Disposal @ \$5.00 each ☐ Return																													
SAMPLE ID	DATE	TIME	MATRIX	LAB ID	8010	8020	BETX ONLY	8240	8270	8310	8080	PCB's ONLY	8140	8150	WDOE PAH/HH (WAC 173)	418.1 (TPH)	413.2 Grease & Oil	8015 (Modified)	TOC 9060	TOX 9020	% Moisture	EP TOX Metals (8) EP EXT	Priority Pollutant Metals (13)	TCLP ONLY				NUMBER OF CONTAINERS	
																							8080 Pesticide (4)	8240 ZH-EXT	8270	8150 Herbicides (2)	Metals (8)		
1111	11/19/90	10:00	ML	-1																									
1112	11/19/90	10:00	ML	-2																									
1113	11/19/90	10:00	ML	-3																									
1114	11/19/90	10:00	ML	-4																									

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: <u>0126-106-69</u>	TOTAL NUMBER OF CONTAINERS <u>4</u>	COC SEALS/INTACT? <u>Y/N/A</u>	<u>NA</u>	Signature: <u>[Signature]</u>	Time: <u>1740</u>	Signature: _____	Time: _____	Signature: _____	Time: _____
PROJECT NAME: <u>Penton PSPL</u>	RECEIVED GOOD COND./COLD <u>4/4</u>	RECEIVED VIA: <u>Hand</u>	<u>1</u>	Printed Name: <u>Craig Kent</u>	Date: <u>11/19/90</u>	Printed Name: _____	Date: _____	Printed Name: _____	Date: _____
PURCHASE ORDER NUMBER: _____	ONGOING PROJECT? YES ☒ NO ☐			Company: <u>GEI</u>		Company: _____		Company: _____	
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS				RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.	
TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK	GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)			Signature: <u>Dr. Thomas</u>	Time: <u>5:45</u>	Signature: _____	Time: _____	Signature: _____	Time: _____
SPECIAL INSTRUCTIONS: <u>24 112 RUSH</u>				Printed Name: <u>Dr. Thomas</u>	Date: <u>11-19-90</u>	Printed Name: _____	Date: _____	Printed Name: _____	Date: _____
<u>Fax Results to KSK @ GEI</u>				Company: <u>ATI</u>		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 - ATI • Pink - ORIGINATOR

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4630 PACIFIC HIGHWAY EAST, SUITE B-14, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: GeoEngineers, Inc.

Date: November 20, 1990

Report On: PCB in Soil

Lab No.: 14671

GeoEngineers

NOV 26 1990

IDENTIFICATION:

Samples Received on 11-20-90

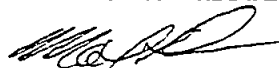
KSK

186-106-B69

ANALYSIS:

<u>Laboratory Sample No.</u>	<u>Client Identification</u>	<u>PCB Type</u>	<u>PCB (mg/kg)</u>
RUSH 1	901119-113	---	< 0.1

SOUND ANALYTICAL SERVICES


MARTY FRENCH

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4630 PACIFIC HIGHWAY EAST, SUITE B-14, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

QUALITY CONTROL REPORT

Average () Method Blank = < 0.01 mg/l

EMSL QUALITY CONTROL REPORT

Sample Matrix - Transformer Oil

Units: mg/kg

Compound	Weight	Dilution	True Value (TV)	Result	*RPD
PE 1260	.1006		8.2	7.9	3.7
PE 1242	.1002		10.0	10.6	5.8

* RPD = $\left[\frac{(TV-R)}{(TV+R)/2} \right] \times 100$

CHAIN OF CUSTODY RECORD

Page 1 of 1

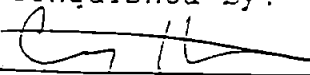
CUSTOMER: GeoEngineers

PROJECT: Renton PSDL

P.O./JOB NO.: 0186-106-B69

SAMPLER: CRAIG A HART

Lab No.	Sample No.	Date	Time	Cont.	Analysis Required
	901119-113	11/19/90	1730	SOIL	PCB'S ONLY
					PLEASE RUSH ★ 24 HR ★
					CONFIRMED 24 HR
					FAX RESULTS TO KATHY
					KILLMAN @ GEENGINEERS

Relinquished by:	Date	Time	Received by:	Date	Time
	11/20/90	0700	Mary Cuthbert	11-20-90	8.3
Relinquished by:	Date	Time	Received by:	Date	Time
Dispatched by:	Date	Time	Received at lab by:	Date	Time

SOUND ANALYTICAL SERVICES, INC.
 4630 Pacific Hwy East Suite B-14
 Tacoma, WA 98424 (206) 922-2310
 FAX (206) 922-5047



Analytical **Technologies, Inc.**

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

ATI I.D. # 9011-155

GeoEngineers

NOV 30 1990

KSK

November 29, 1990

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

Attention : Kathy Killman

Project Number : 0186-106-B69

Project Name : Renton PSPL

On November 20, 1990, Analytical Technologies, Inc. received two soil samples for analysis. 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

FWG/elf


Frederick W. Grothkopp
Technical Manager

SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9011-155-1	901120-114	11/20/90	SOIL
9011-155-2	901120-115	11/20/90	SOIL

----- 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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
PURGEABLE HALOCARBONS	GC/ELCD	EPA 8010	R
PURGEABLE AROMATICS	GC/PID	EPA 8020	R
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R
MOISTURE	GRAVIMETRIC	METHOD 7-2.2	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

VOLATILE ORGANIC ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/21/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 11/21/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8010/8020	DILUTION FACTOR	: 1
RESULTS BASED ON DRY WEIGHT			

COMPOUND	RESULT
BENZENE	<0.025
BROMODICHLOROMETHANE	<0.010
BROMOFORM	<0.010
BROMOMETHANE	<0.025
CARBON TETRACHLORIDE	<0.010
CHLOROBENZENE	<0.025
CHLOROETHANE	<0.025
CHLOROFORM	<0.010
CHLOROMETHANE	<0.10
DIBROMOCHLOROMETHANE	<0.010
1,2-DICHLOROBENZENE	<0.025
1,3-DICHLOROBENZENE	<0.025
1,4-DICHLOROBENZENE	<0.025
1,1-DICHLOROETHANE	<0.010
1,2-DICHLOROETHANE	<0.010
1,1-DICHLOROETHENE	<0.010
CIS-1,2,-DICHLOROETHENE	<0.010
TRANS-1,2-DICHLOROETHENE	<0.010
1,2-DICHLOROPROPANE	<0.010
CIS-1,3-DICHLOROPROPENE	<0.010
TRANS-1,3-DICHLOROPROPENE	<0.010
ETHYLBENZENE	<0.025
METHYLENE CHLORIDE	0.11
1,1,2,2-TETRACHLOROETHANE	<0.010
TETRACHLOROETHENE	<0.010
TOLUENE	<0.025
1,1,1-TRICHLOROETHANE	<0.010
1,1,2-TRICHLOROETHANE	<0.010
TRICHLOROETHENE	<0.010
TRICHLOROFLUOROMETHANE	<0.025
VINYL CHLORIDE	<0.025
TOTAL XYLENES	<0.025

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE	95
BROMOFLUOROBENZENE	118

VOLATILE ORGANIC ANALYSIS
DATA SUMMARY

CLIENT : GEOENGINEERS, INC.	DATE SAMPLED : 11/20/90
PROJECT # : 0186-106-B69	DATE RECEIVED : 11/20/90
PROJECT NAME : RENTON PSPL	DATE EXTRACTED : 11/21/90
CLIENT I.D. : 901120-114	DATE ANALYZED : 11/21/90
SAMPLE MATRIX : SOIL	UNITS : mg/Kg
EPA METHOD : 8010/8020	DILUTION FACTOR : 1
RESULTS BASED ON DRY WEIGHT	

COMPOUND	RESULT
BENZENE	<0.025
BROMODICHLOROMETHANE	<0.010
BROMOFORM	<0.010
BROMOMETHANE	<0.025
CARBON TETRACHLORIDE	<0.010
CHLOROBENZENE	<0.025
CHLOROETHANE	<0.025
CHLOROFORM	<0.010
CHLOROMETHANE	<0.10
DIBROMOCHLOROMETHANE	<0.010
1,2-DICHLOROBENZENE	<0.025
1,3-DICHLOROBENZENE	<0.025
1,4-DICHLOROBENZENE	<0.025
1,1-DICHLOROETHANE	<0.010
1,2-DICHLOROETHANE	<0.010
1,1-DICHLOROETHENE	<0.010
CIS-1,2,-DICHLOROETHENE	<0.010
TRANS-1,2-DICHLOROETHENE	<0.010
1,2-DICHLOROPROPANE	<0.010
CIS-1,3-DICHLOROPROPENE	<0.010
TRANS-1,3-DICHLOROPROPENE	<0.010
ETHYLBENZENE	<0.025
METHYLENE CHLORIDE	0.20 B
1,1,2,2-TETRACHLOROETHANE	<0.010
TETRACHLOROETHENE	<0.010
TOLUENE	<0.025
1,1,1-TRICHLOROETHANE	<0.010
1,1,2-TRICHLOROETHANE	<0.010
TRICHLOROETHENE	<0.010
TRICHLOROFLUOROMETHANE	<0.025
VINYL CHLORIDE	<0.025
TOTAL XYLENES	<0.025

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE	81
BROMOFLUOROBENZENE	89

B = Also found in blank.

VOLATILE ORGANIC ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/20/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/20/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/21/90
CLIENT I.D.	: 901120-115	DATE ANALYZED	: 11/21/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8010/8020	DILUTION FACTOR	: 1
RESULTS BASED ON DRY WEIGHT			

COMPOUNDRESULT

BENZENE	<0.025
BROMODICHLOROMETHANE	<0.010
BROMOFORM	<0.010
BROMOMETHANE	<0.025
CARBON TETRACHLORIDE	<0.010
CHLOROBENZENE	<0.025
CHLOROETHANE	<0.025
CHLOROFORM	<0.010
CHLOROMETHANE	<0.10
DIBROMOCHLOROMETHANE	<0.010
1,2-DICHLOROBENZENE	<0.025
1,3-DICHLOROBENZENE	<0.025
1,4-DICHLOROBENZENE	<0.025
1,1-DICHLOROETHANE	<0.010
1,2-DICHLOROETHANE	<0.010
1,1-DICHLOROETHENE	<0.010
CIS-1,2,-DICHLOROETHENE	<0.010
TRANS-1,2-DICHLOROETHENE	<0.010
1,2-DICHLOROPROPANE	<0.010
CIS-1,3-DICHLOROPROPENE	<0.010
TRANS-1,3-DICHLOROPROPENE	<0.010
ETHYLBENZENE	<0.025
METHYLENE CHLORIDE	0.20 B
1,1,2,2-TETRACHLOROETHANE	<0.010
TETRACHLOROETHENE	<0.010
TOLUENE	<0.025
1,1,1-TRICHLOROETHANE	<0.010
1,1,2-TRICHLOROETHANE	<0.010
TRICHLOROETHENE	<0.010
TRICHLOROFLUOROMETHANE	<0.025
VINYL CHLORIDE	<0.025
TOTAL XYLENES	<0.025

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE	88
BROMOFLUOROBENZENE	98

B = Also found in blank.

VOLATILE ORGANIC
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC.	SAMPLE I.D. : 9011-118-9
PROJECT # : 0186-106-B69	DATE EXTRACTED : 11/16/90
PROJECT NAME : RENTON PSPL	DATE ANALYZED : 11/21/90
EPA METHOD : 8010/8020	MATRIX : SOIL
	UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	SPIKE ADDED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % REC	RPD
BENZENE	<0.025	0.60	0.652	109	0.644	107	1
CHLOROBENZENE	<0.025	0.60	0.952	159*	1.10	183*	14
1,1-DICHLOROETHENE	<0.010	0.20	0.174	87	0.203	102	15
TETRACHLOROETHENE	<0.010	0.20	0.156	78	0.181	90	15
TOLUENE	<0.025	0.60	0.648	108	0.666	111	3
TRICHLOROETHENE	<0.010	0.20	0.160	80	0.195	98	20
TOTAL XYLENES	0.418	0.83	0.955	65	1.01	71	6

* Out of limits.

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

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

VOLATILE ORGANIC
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL
EPA METHOD : 8010/8020

SAMPLE I.D. : BLANK SPIKE
DATE EXTRACTED : 11/16/90
DATE ANALYZED : 11/21/90
MATRIX : SOIL
UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	SPIKE ADDED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % REC	RPD
BENZENE	<0.025	0.60	0.556	93	N/A	N/A	N/A
CHLOROBENZENE	<0.025	0.60	0.545	91	N/A	N/A	N/A
1,1-DICHLOROETHENE	<0.010	0.20	0.230	115	N/A	N/A	N/A
TETRACHLOROETHENE	<0.010	0.20	0.210	105	N/A	N/A	N/A
TOLUENE	<0.025	0.60	0.550	92	N/A	N/A	N/A
TRICHLOROETHENE	<0.010	0.20	0.211	106	N/A	N/A	N/A
TOTAL XYLENES	<0.025	0.83	0.736	89	N/A	N/A	N/A

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

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

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/21/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 11/22/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	<5
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	GASOLINE

FUEL HYDROCARBONS	<5
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	DIESEL

FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/20/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/20/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/21/90
CLIENT I.D.	: 901120-114	DATE ANALYZED	: 11/22/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
GASOLINE

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
DIESEL

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/20/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/20/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/21/90
CLIENT I.D.	: 901120-115	DATE ANALYZED	: 11/22/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
GASOLINE

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
DIESEL

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC.	SAMPLE I.D. : 9011-148-5
PROJECT # : 0186-106-B59	DATE EXTRACTED : 11/21/90
PROJECT NAME : RENTON PSPL	DATE ANALYZED : 11/22/90
EPA METHOD : 8015 MODIFIED	MATRIX : SOIL
	UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	510	102	518	104	2

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

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

GENERAL CHEMISTRY RESULTS

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

MATRIX : SOIL

UNITS : %

ATI I.D.#	CLIENT I.D.	MOISTURE

9011-155-1	901120-114	18
9011-155-2	901120-115	11



GENERAL CHEMISTRY QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

MATRIX : SOIL

UNITS : %

PARAMETER	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED RESULT	SPIKE ADDED	% REC
MOISTURE	9011-155-2	11	13	17	N/A	N/A	N/A

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

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



560 Naches Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

DATE 11/20/20 PAGE 1 OF 1

Chain of Custody

LABORATORY NUMBER: 9011-185

[illegible]

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: 0186-106-029	TOTAL NUMBER OF CONTAINERS: 2	PROJECT NAME: D. A. M. RPL	COC SEALS/INTACT? Y/N/NA NA	Signature: [Signature]	Time: 1800	Signature:	Time:	Signature:	Time:
PURCHASE ORDER NUMBER:	RECEIVED GOOD COND./COLD 4	ONGOING PROJECT? YES ☒ NO ☐	RECEIVED VIA: 7/D	Printed Name: Craig Hunt	Date: 11/20/11	Printed Name:	Date:	Printed Name:	Date:
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS				Company: GEI		Company:		Company:	
TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☒ 48 HRS ☒ 72 HRS ☐ 1 WK				RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.	
GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)				Signature:	Time:	Signature:	Time:	Signature:	Time:
SPECIAL INSTRUCTIONS: Fax Results to KSK@G51				Printed Name:	Date:	Printed Name:	Date:	Printed Name:	Date:
★ RUSH ★				Company:		Company:		Analytical Technologies, Inc.	

ATI Labs: San Diego (619)458-9141 • Phoenix (602)438-1530 • Seattle (206)228-8335 • Pensacola (904)474-1001

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№ - 2604

B - 348

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4630 PACIFIC HIGHWAY EAST, SUITE B-14, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922- 5047

Report To: GeoEngineers, Inc.

Date: November 26, 1990

Report On: Analysis of Soil

Lab No.: 14704

Page 1 of 2

IDENTIFICATION:

Samples Received on 11-21-90

Project: 0186-106-B69 PSPL, Renton

ANALYSIS:

Lab Sample No.	RUSH 1	RUSH 2	RUSH 3	RUSH 4
Client ID	901120 -117	901120 -118	901120 -119	901121 -121
Matrix/Units	Soil ppm	Soil ppm	Soil ppm	Soil ppm
Purgeable Aromatics per EPA SW-846 Method 8020				
Benzene	< 0.05	< 0.05	< 0.05	< 0.05
Toluene	< 0.05	< 0.05	< 0.05	< 0.05
Chlorobenzene	< 0.05	< 0.05	< 0.05	< 0.05
Ethyl benzene	< 0.05	< 0.05	< 0.05	< 0.05
meta & para xylene	< 0.05	< 0.05	< 0.05	< 0.05
ortho xylene	< 0.05	< 0.05	< 0.05	< 0.05
1,3 dichlorobenzene	< 0.05	< 0.05	< 0.05	< 0.05
1,4 dichlorobenzene	< 0.05	< 0.05	< 0.05	< 0.05
1,2 dichlorobenzene	< 0.05	< 0.05	< 0.05	< 0.05
Total Petroleum Fuel Hydrocarbons by EPA SW-846 Modified Method 8015	< 10	< 10	< 10	< 10
PCB - Type	---			
PCB	< 0.1	NT	NT	NT

NT - Not Tested.

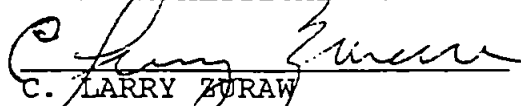
Continued

SOUND ANALYTICAL SERVICES, INC.

GeoEngineers, Inc.
Project: 0186-106-B69
Page 2 of 2
Lab No. 14704
November 26, 1990

Lab Sample No.	RUSH 1	RUSH 2	RUSH 3	RUSH 4
Client Identification	901120 -117	901120 -118	901120 -119	901121 -121
Matrix/Units	Soil ppm	Soil ppm	Soil ppm	Soil ppm
Halogenated Volatiles Per EPA SW-846 Method 8010.				
Methylene chloride	< 0.05	< 0.05	< 0.05	< 0.05
1,1-dichloroethylene	< 0.05	< 0.05	< 0.05	< 0.05
1,1-dichloroethane	< 0.05	< 0.05	< 0.05	< 0.05
1,2-transdichloroethylene	< 0.05	< 0.05	< 0.05	< 0.05
1,2-dichloroethane	< 0.05	< 0.05	< 0.05	< 0.05
1,1,1-trichloroethane	< 0.05	< 0.05	< 0.05	< 0.05
Carbon Tetrachloride	< 0.05	< 0.05	< 0.05	< 0.05
1,2-dichloropropane	< 0.05	< 0.05	< 0.05	< 0.05
Trans-1,3-dichloropropene	< 0.05	< 0.05	< 0.05	< 0.05
Trichloroethylene	< 0.05	< 0.05	< 0.05	< 0.05
Cis-1,3-dichloropropene	< 0.05	< 0.05	< 0.05	< 0.05
1,1,2-trichloroethane	< 0.05	< 0.05	< 0.05	< 0.05
Tetrachloroethylene	< 0.05	< 0.05	< 0.05	< 0.05
1,1,2,2-tetrachloroethane	< 0.05	< 0.05	< 0.05	< 0.05
Chlorobenzene	< 0.05	< 0.05	< 0.05	< 0.05
1,2 Dichlorobenzene	< 0.05	< 0.05	< 0.05	< 0.05
1,3 Dichlorobenzene	< 0.05	< 0.05	< 0.05	< 0.05
1,4 Dichlorobenzene	< 0.05	< 0.05	< 0.05	< 0.05

SOUND ANALYTICAL SERVICES


C. LARRY ZURAW

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4630 PACIFIC HIGHWAY EAST, SUITE B-14, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922- 5047

QUALITY CONTROL REPORT

DUPLICATES

Lab No: 14704
Date: November 26, 1990
Client: GeoEngineers Inc.

Client ID: 901120-117
Matrix: Soil
Units: ppm

Compound	Sample(S)	Duplicate(D)	RPD*	
Benzene	< 0.05	< 0.05	---	
Toluene	< 0.05	< 0.05	---	
Chlorobenzene	< 0.05	< 0.05	---	
Ethyl Benzene	< 0.05	< 0.05	---	
meta & para				
xylene	< 0.05	< 0.05	---	
ortho xylene	< 0.05	< 0.05	---	
1,3 dichloro-				
benzene	< 0.05	< 0.05	---	
1,4 dichloro-				
benzene	< 0.05	< 0.05	---	
1,2 dichloro-				
benzene	< 0.05	< 0.05	---	
Total Petroleum				
Fuel Hydrocarbons	< 10	< 10	---	

*RPD = relative percent difference
= $[(S - D) / ((S + D) / 2)] \times 100$

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4630 PACIFIC HIGHWAY EAST, SUITE B-14, TACOMA, WASHINGTON 98424 - TELEPHONE (206) 922-2310 - FAX (206) 922-5047

QUALITY CONTROL REPORT

DUPLICATES

Lab No: 14704 Client ID: 901120-117
Date: November 26, 1990 Matrix: Soil
Client: GeoEngineers Inc. Units: ppm

PURGEABLE HALOCARBONS PER SW-846 METHOD 8010

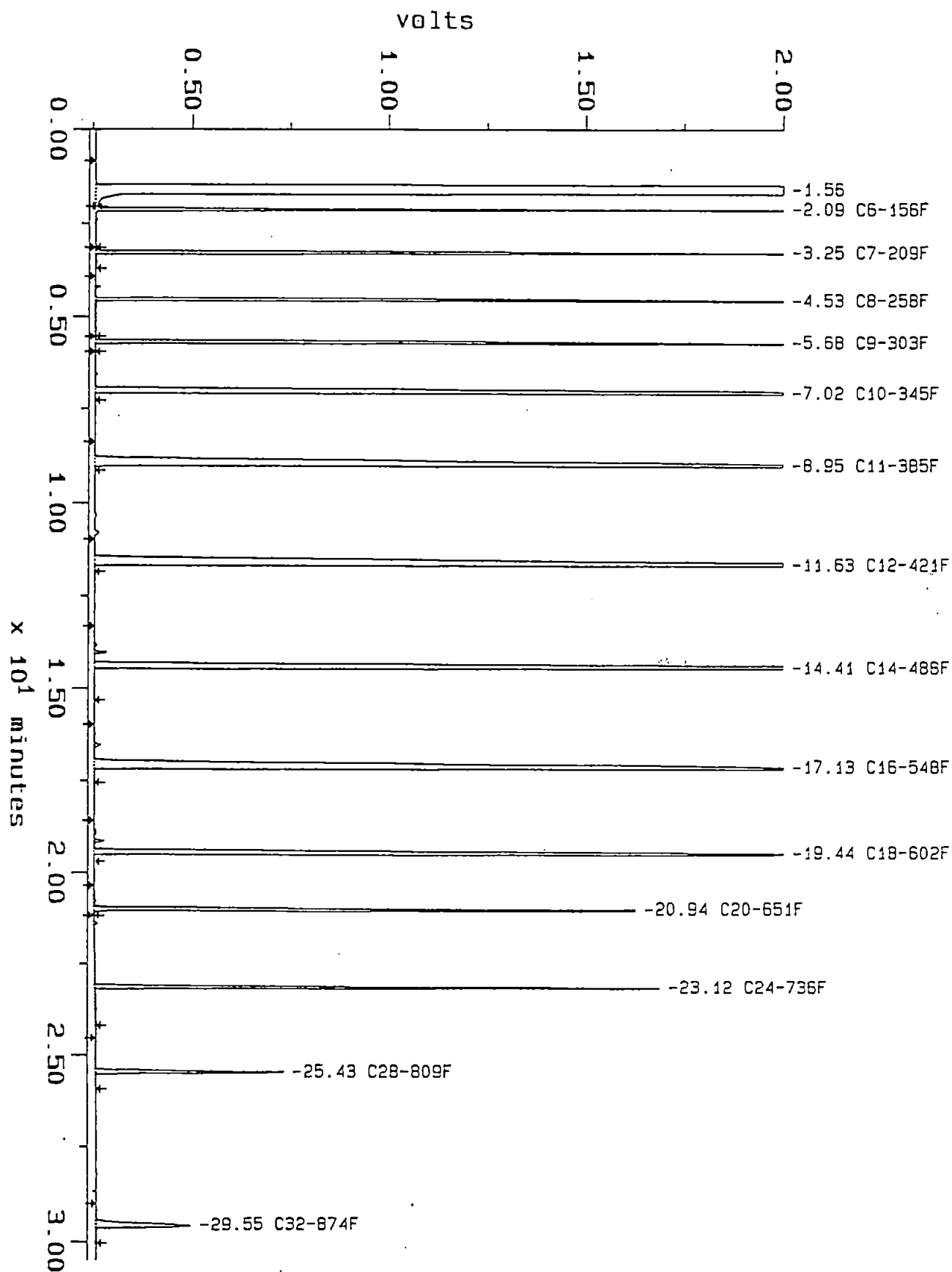
COMPOUND	SAMPLE (S)	DUPLICATE (D)	RPD*
Methylene chloride	< 0.05	< 0.05	---
1,1-dichloroethylene	< 0.05	< 0.05	---
1,1-dichloroethane	< 0.05	< 0.05	---
1,2-transdichloroethylene	< 0.05	< 0.05	---
1,2-dichloroethane	< 0.05	< 0.05	---
1,1,1-trichloroethane	< 0.05	< 0.05	---
Carbon Tetrachloride	< 0.05	< 0.05	---
1,2-dichloropropane	< 0.05	< 0.05	---
Trans-1,3-dichloropropene	< 0.05	< 0.05	---
Trichloroethylene	< 0.05	< 0.05	---
Cis-1,3-dichloropropene	< 0.05	< 0.05	---
1,1,2-trichloroethane	< 0.05	< 0.05	---
Tetrachloroethylene	< 0.05	< 0.05	---
1,1,2,2-tetrachloroethane	< 0.05	< 0.05	---
Chlorobenzene	< 0.05	< 0.05	---
1,2 Dichlorobenzene	< 0.05	< 0.05	---
1,3 Dichlorobenzene	< 0.05	< 0.05	---
1,4 Dichlorobenzene	< 0.05	< 0.05	---

*RPD = Relative Percent Difference
= $[(S - D) / ((S + D) / 2)] \times 100$

Sample: CALB STD
Acquired: 07-SEP-90 14:50

Channel: detector 1
Method: C:\MAX\DATA4\8015D

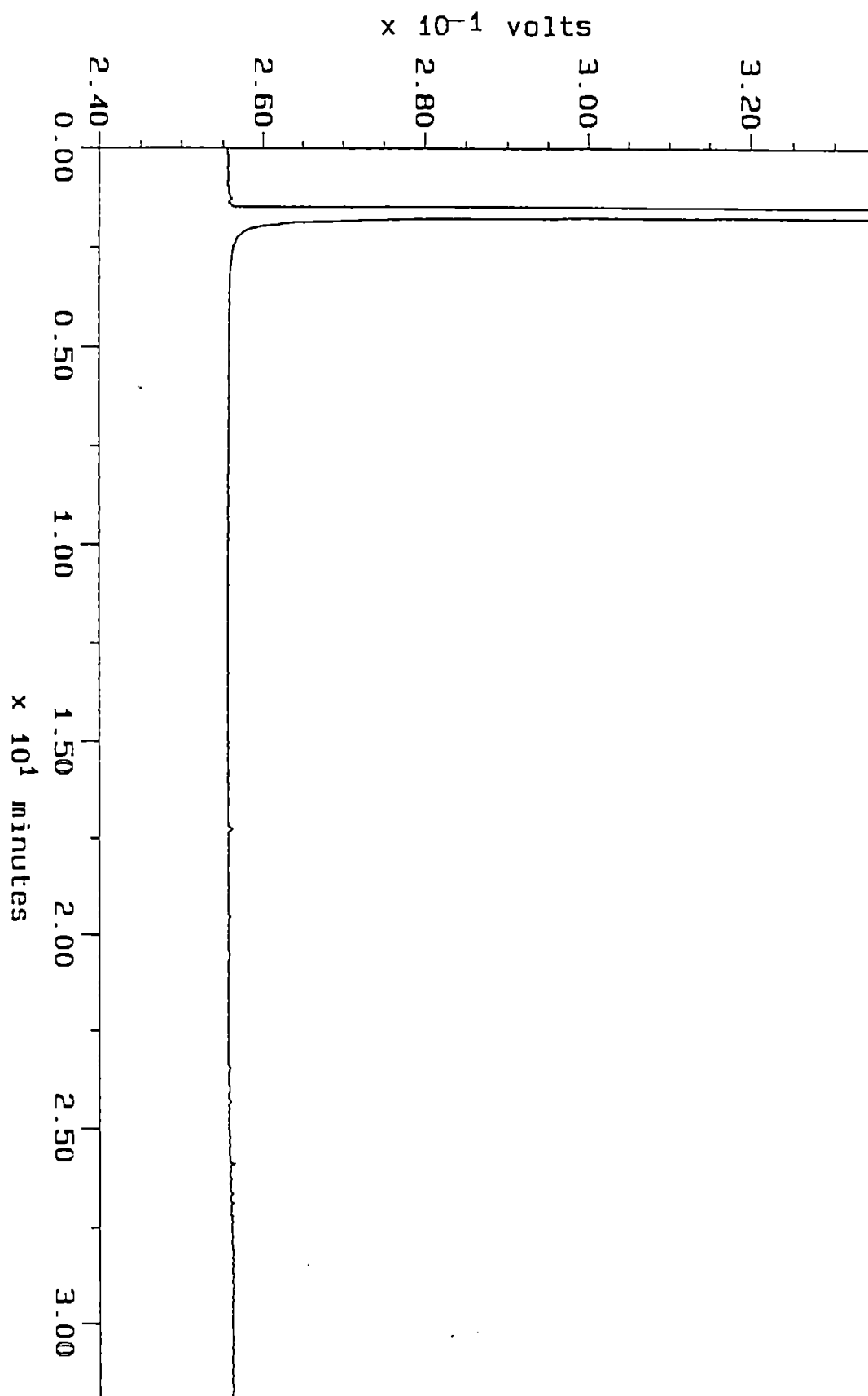
Filename: CS3
Operator:

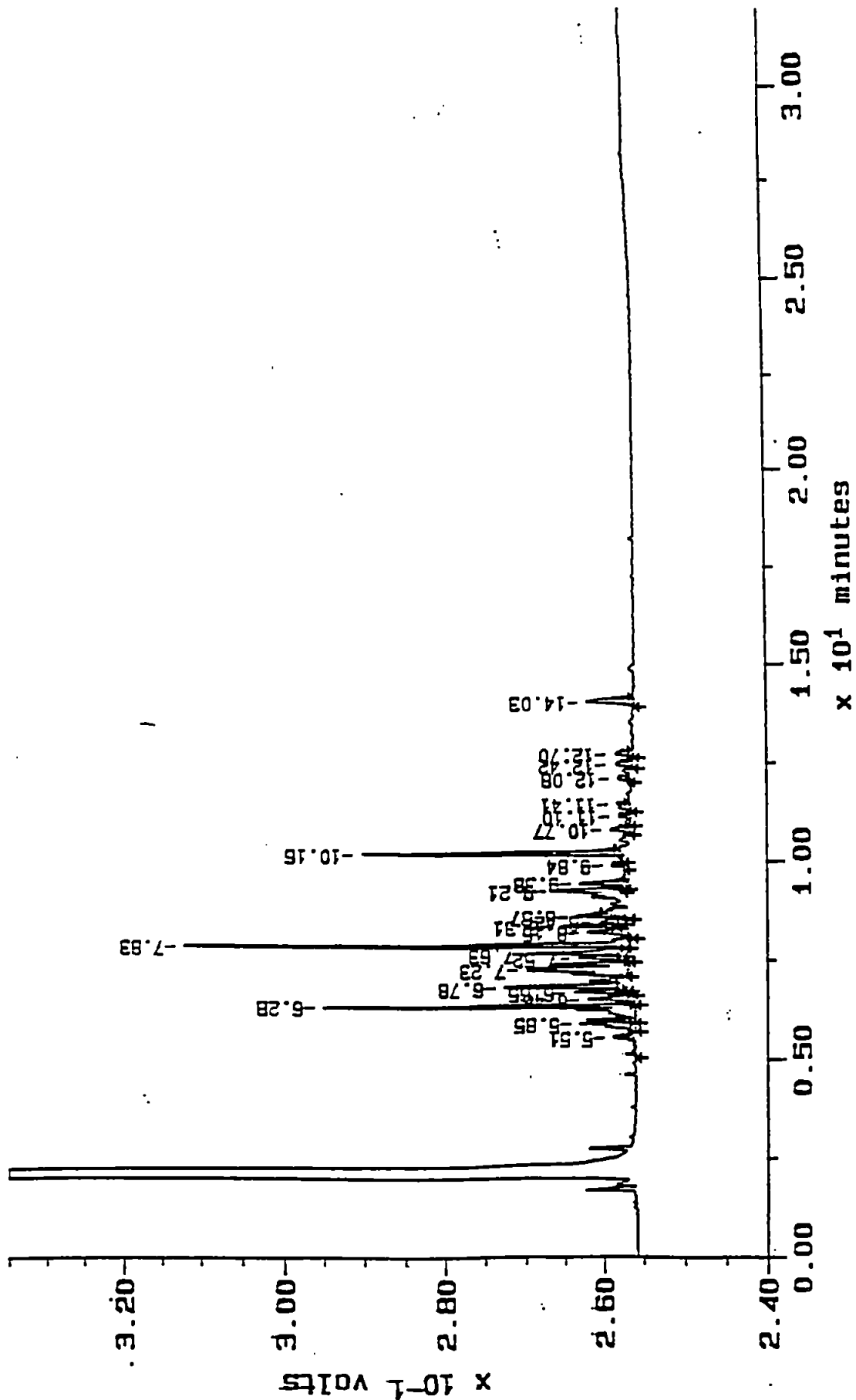


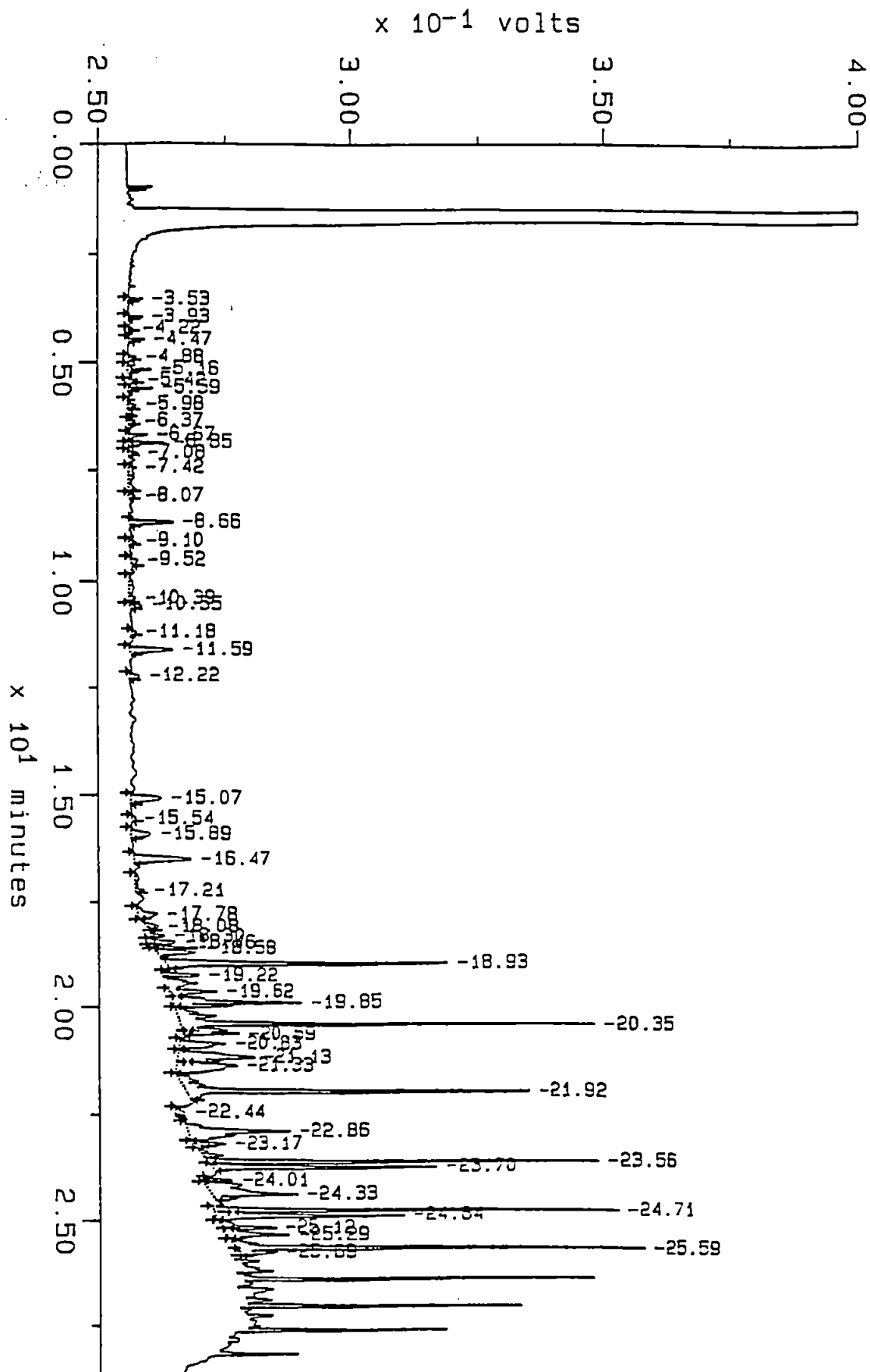
Sample: BLANK
Acquired: 24-OCT-90 17:46

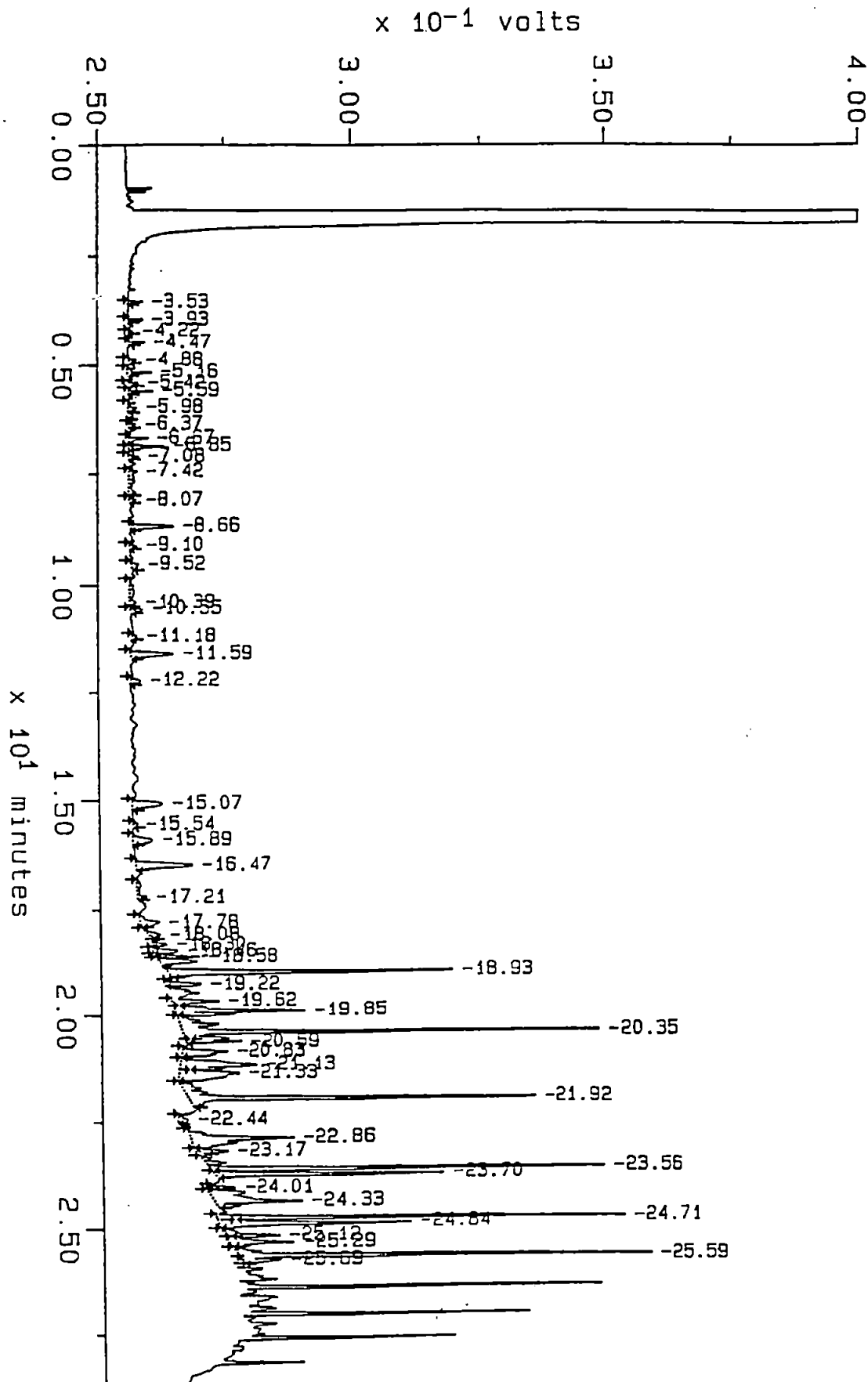
Channel: detector 1
Method: C:\MAX\DATA4\8015

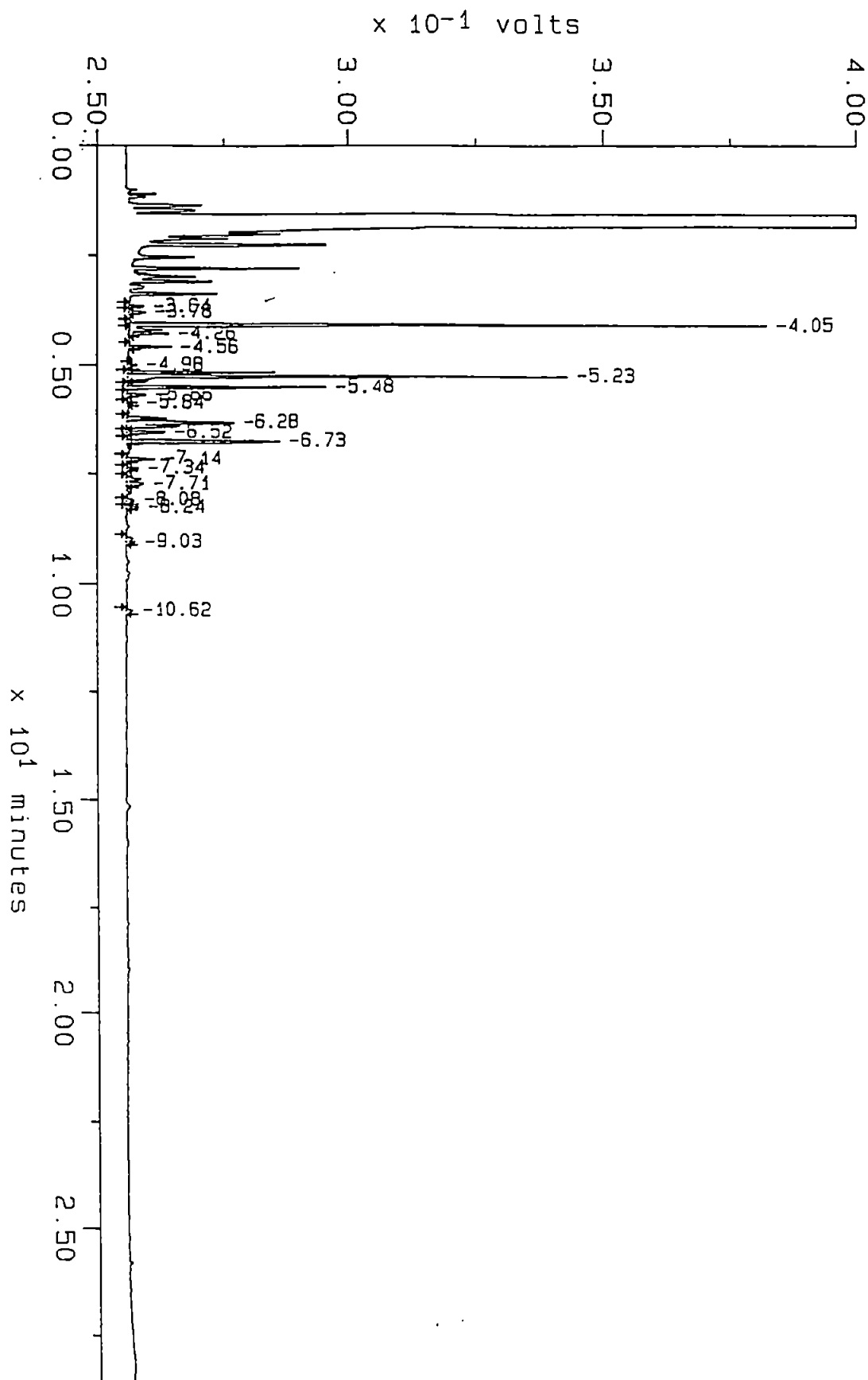
Filename: BL1
Operator:







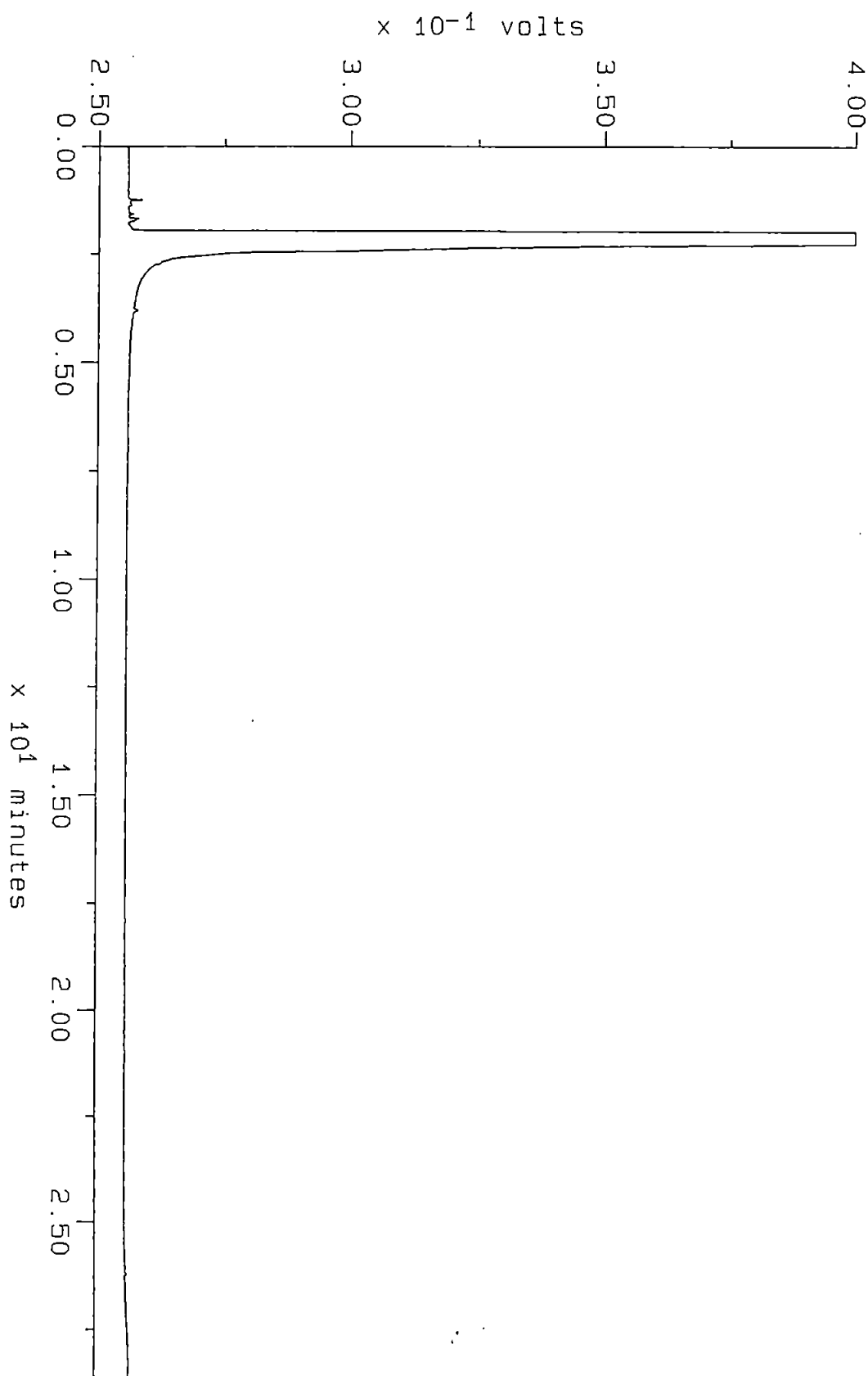




Sample: 14704-1
Acquired: 22-NOV-90 4:27
Dilution: 1 : 10.000

Channel: detector 1
Method: C:\MAX\DATA4\8015
Amount: 2.298.

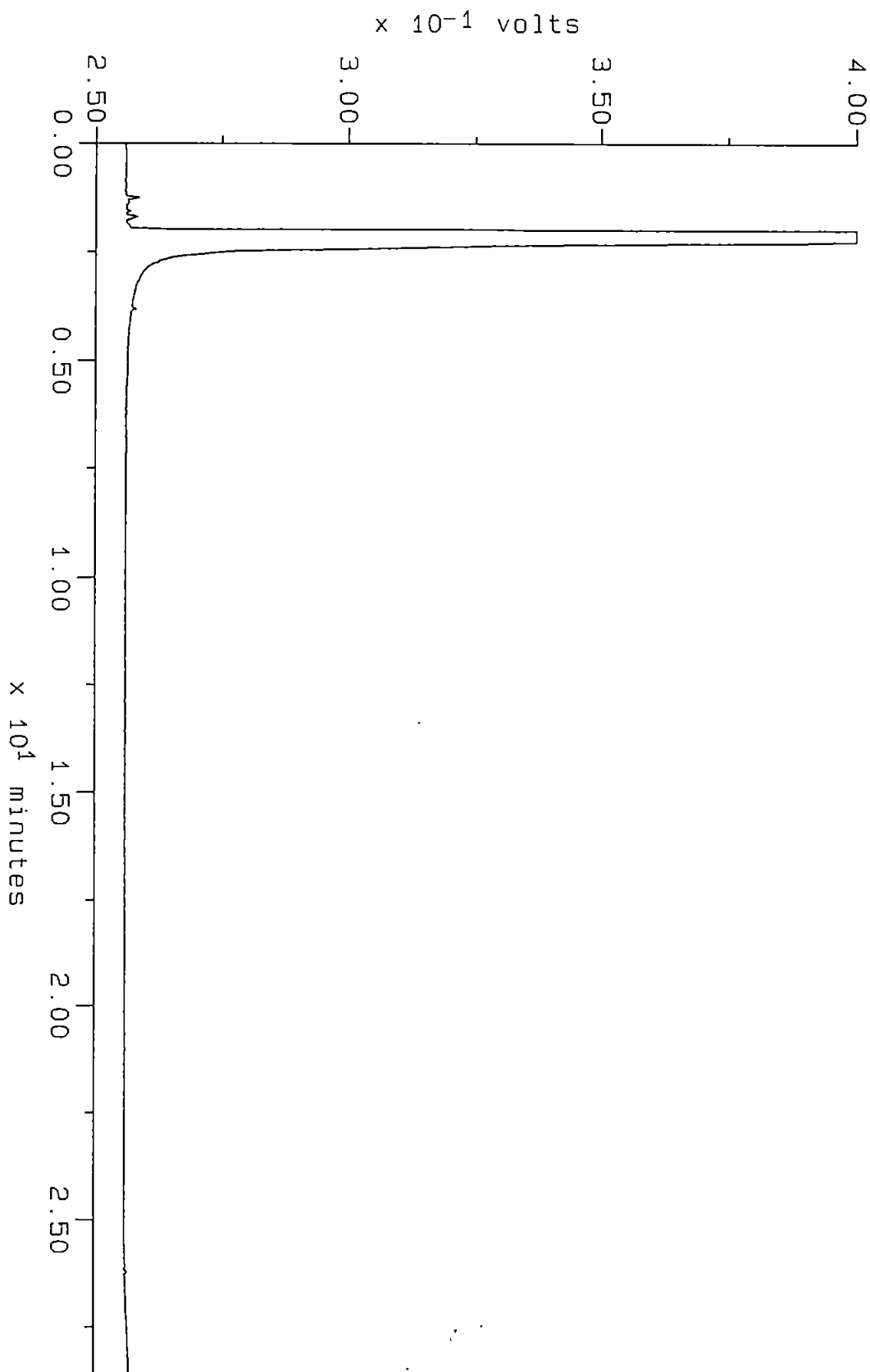
Filename: 14704-1
Operator:



Sample: 14704-1D
Acquired: 22-NOV-90 5:11
Dilution: 1 : 10.000

Channel: detector 1
Method: C:\MAX\DATA4\8015
Amount: 1.743

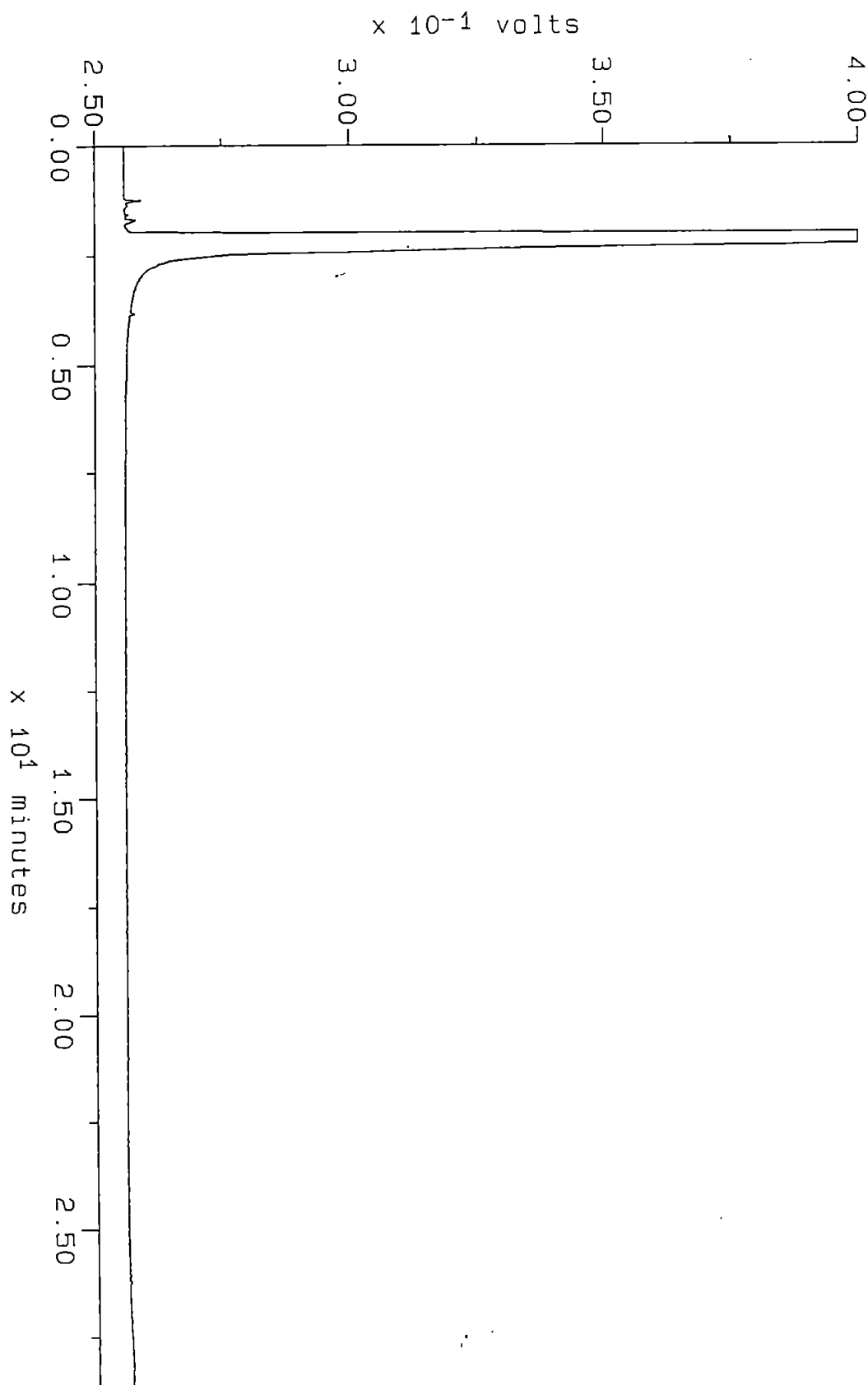
Filename: 14704-1D
Operator:



Sample: 14704-2
Acquired: 22-NOV-90 5:55
Dilution: 1 : 10.000

Channel: detector 1
Method: C:\MAX\DATA4\8015
Amount: 2.413

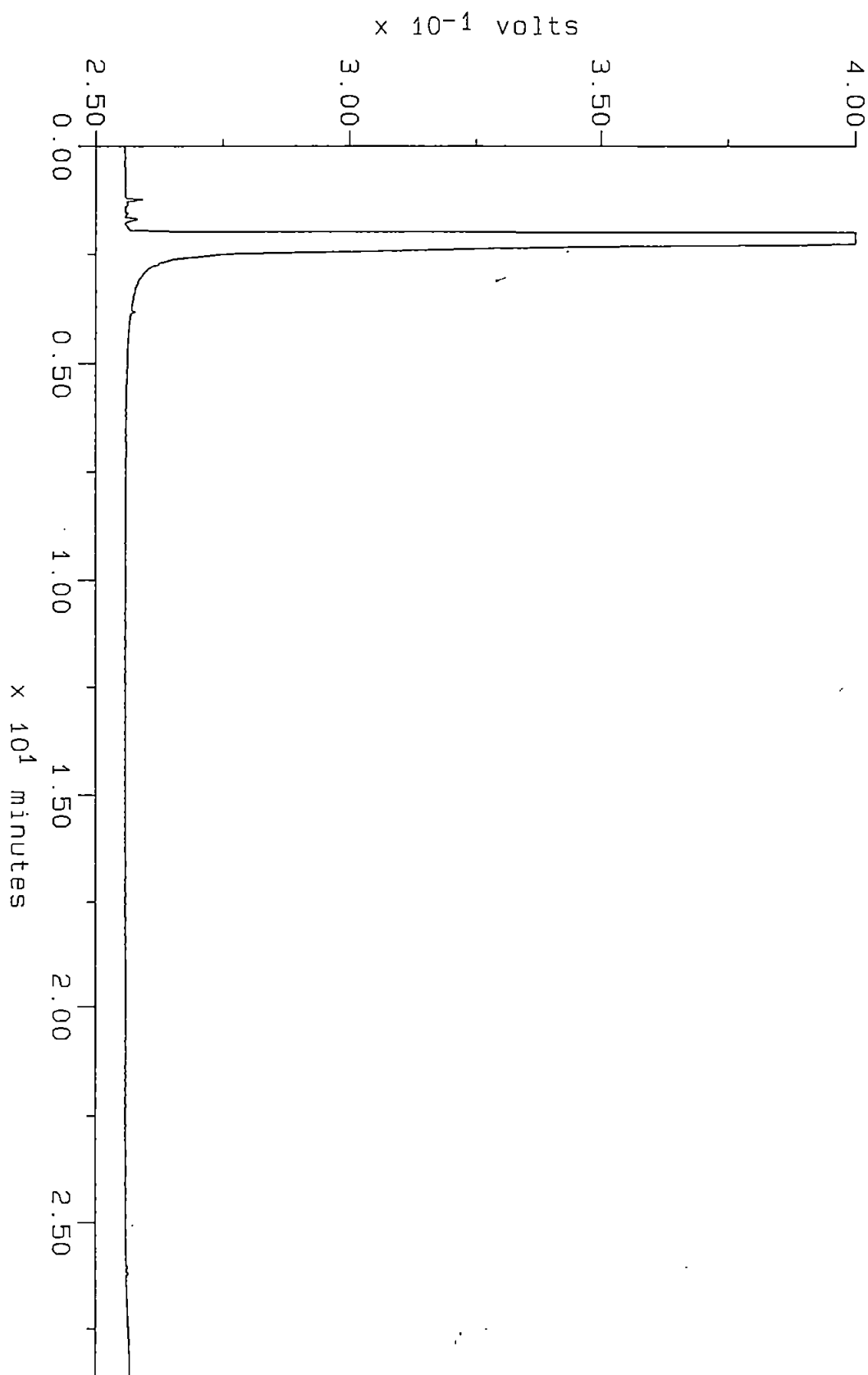
Filename: 14704-2
Operator:



Sample: 14704-3
Acquired: 22-NOV-90 6:38
Dilution: 1 : 10.000

Channel: detector 1
Method: C:\MAX\DATA4\8015
Amount: 2.181

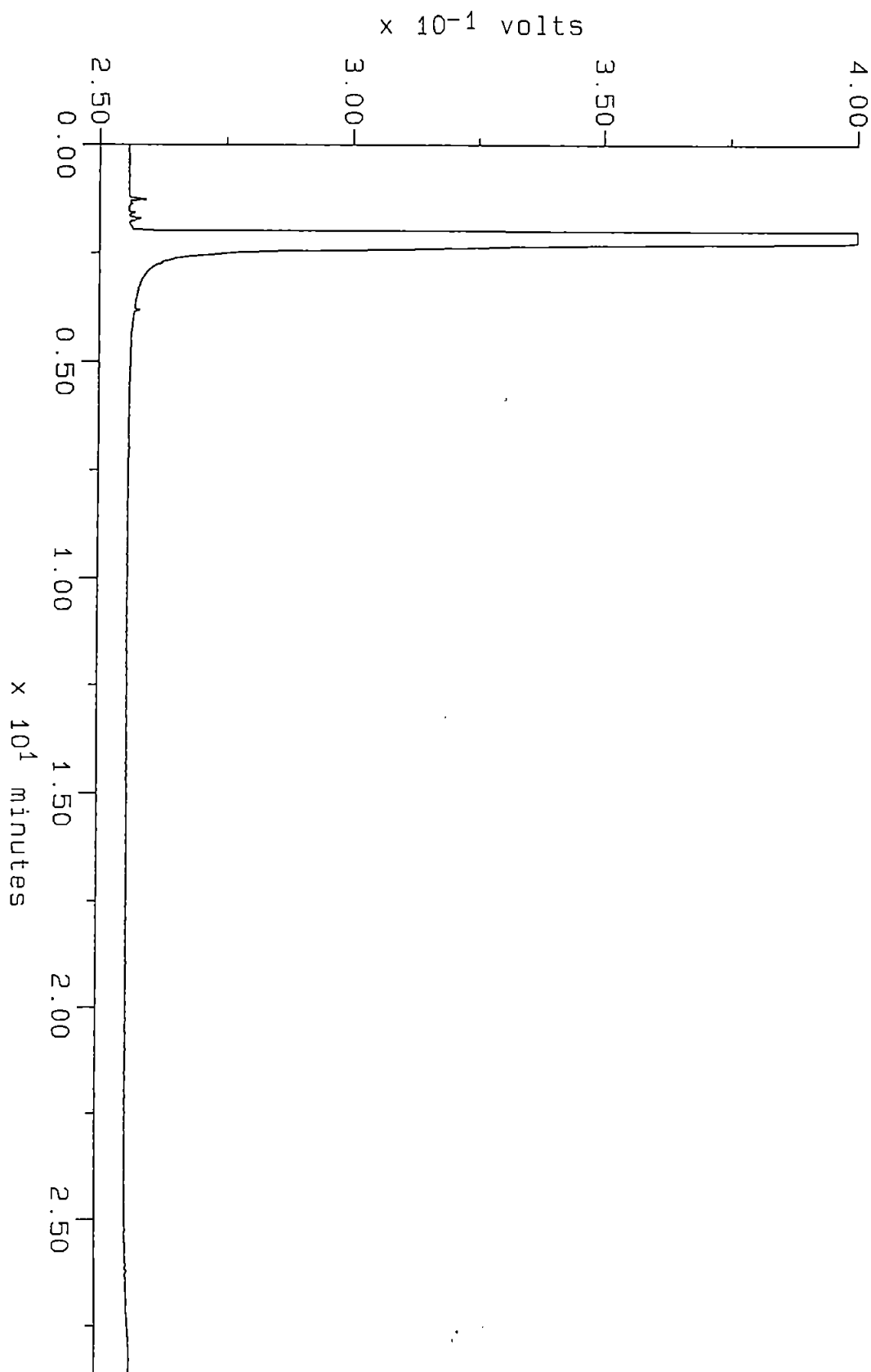
Filename: 14704-3
Operator:



Sample: 14704-4
Acquired: 22-NOV-90 7:22
Dilution: 1 : 10.000

Channel: detector 1
Method: C:\MAX\DATA4\8015
Amount: 2.256

Filename: 14704-4
Operator:



GEI FILE NO. 0186-106-B62

SAMPLED BY CRAIG HART

DATE 11/21/90

RELINQUISHED BY (SIGNATURE) NAME <u>Carmy N...</u> FIRM <u>GEI</u>	DATE <u>11/21/90</u>	TIME <u>0800</u>	RECEIVED BY (SIGNATURE) NAME <u>[Signature]</u> FIRM <u>S...</u>	DATE	TIME
RELINQUISHED BY (SIGNATURE) NAME _____ FIRM _____	DATE	TIME	RECEIVED BY (SIGNATURE) NAME <u>[Signature]</u> FIRM <u>S...</u>	DATE <u>11/21/90</u>	TIME <u>8:55</u>
ADDITIONAL COMMENTS:					

ADDITIONAL COMMENTS:

- 8010, 8015 (GAS, DIESEL & HYDRAULIC), 8020 ON ALL SAMPLES
- PCB ANALYSIS ON SAMPLE NUMBER 901120-117 IN ADDITION TO THE ABOVE ANALYSES.
- FAX RESULTS TO KATHY KILLMAN @ GEI
- RUSH

2. NO PLEASE



Analytical**Technologies, Inc.**

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

ATI I.D. # 9011-169

GeoEngineers

December 5, 1990

DEC 07 1990

Routing ☐ ☐ ☐
File ☐ ☐ ☐

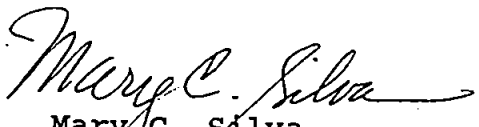
GeoEngineers, Inc.
2405 140th Avenue N.E.
Suite 105
Bellevue, WA 98005

Attention : Kathy Killman

Project Number : 0186-106-B69

Project Name : Renton PSPL

On November 21, 1990, Analytical Technologies, Inc. received one water and six soil samples for analysis. 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
FWG/tc


Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9011-169-1	901121-120	11/21/90	WATER
9011-169-2	901121-122	11/21/90	SOIL
9011-169-3	901121-123	11/21/90	SOIL
9011-169-4	901121-124	11/21/90	SOIL
9011-169-5	901121-125	11/21/90	SOIL
9011-169-6	901121-126	11/21/90	SOIL
9011-169-7	901121-127	11/21/90	SOIL

----- TOTALS -----

MATRIX	# SAMPLES
WATER	1
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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
BETX	GC/PID	EPA 8020	R
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R
LEAD	AA/GF	EPA 7421	R
PETROLEUM HYDROCARBONS	IR	EPA 418.1	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

PURGEABLE AROMATICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: N/A
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 11/27/90
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8020 (BETX)	DILUTION FACTOR	: 1

COMPOUNDRESULT

BENZENE	<0.5
ETHYLBENZENE	<0.5
TOLUENE	<0.5
TOTAL XYLENES	<0.5

SURROGATE PERCENT RECOVERY

BROMOFLUOROBENZENE	102

PURGEABLE AROMATICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/21/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/21/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: N/A
CLIENT I.D.	: 901121-120	DATE ANALYZED	: 11/27/90
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8020 (BETX)	DILUTION FACTOR	: 1

COMPOUNDRESULT

BENZENE	<0.5
ETHYLBENZENE	<0.5
TOLUENE	0.6
TOTAL XYLENES	<0.5

SURROGATE PERCENT RECOVERY

BROMOFLUOROBENZENE	100

PURGEABLE AROMATICS
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC.	SAMPLE I.D. : 9011-179-1
PROJECT # : 0186-106-B69	DATE ANALYZED : 11/27/90
PROJECT NAME : RENTON PSPL	MATRIX : WATER
EPA METHOD : 8020 (BETX)	UNITS : ug/L

COMPOUND	SAMPLE RESULT	SPIKE ADDED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % REC	RPD
BENZENE	<0.5	20.0	18.3	92	18.2	91	0
TOLUENE	<0.5	20.0	17.6	88	16.9	85	3
TOTAL XYLENES	<0.5	40.0	26.4	66	25.9	65	2

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

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

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/26/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 11/27/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/21/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/21/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/26/90
CLIENT I.D.	: 901121-122	DATE ANALYZED	: 11/27/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/21/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/21/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/26/90
CLIENT I.D.	: 901121-123	DATE ANALYZED	: 11/27/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/21/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/21/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/26/90
CLIENT I.D.	: 901121-124	DATE ANALYZED	: 11/27/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/21/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/21/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/26/90
CLIENT I.D.	: 901121-125	DATE ANALYZED	: 11/27/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/21/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/21/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/26/90
CLIENT I.D.	: 901121-126	DATE ANALYZED	: 11/27/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/21/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/21/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/26/90
CLIENT I.D.	: 901121-127	DATE ANALYZED	: 11/29/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 5

COMPOUNDRESULT

FUEL HYDROCARBONS	3,500
HYDROCARBON RANGE	C22 - C28
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC.	SAMPLE I.D. : 9011-169-5
PROJECT # : 0186-106-B69	DATE EXTRACTED : 11/26/90
PROJECT NAME : RENTON PSPL	DATE ANALYZED : 11/27/90
EPA METHOD : 8015 MODIFIED	MATRIX : SOIL
	UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<5	500	508	102	415	83	20

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

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



METALS RESULTS

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

MATRIX : WATER

UNITS : mg/L

ATI I.D. #	CLIENT I.D.	LEAD
9011-169-1	901121-120	0.025



METALS QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

MATRIX : WATER

UNITS : mg/L

PARAMETER	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED SAMPLE	SPIKE CONC	% REC
LEAD	9011-151-2	0.020	0.021	5	0.038	0.025	72

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

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



GENERAL CHEMISTRY RESULTS

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSP%

SAMPLE MATRIX : WATER

UNITS : mg/L

ATI I.D. #	CLIENT I.D.	PETROLEUM HYDROCARBONS

9011-169-1	901121-120	5

GENERAL CHEMISTRY QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.
 PROJECT # : 0186-106-B69
 PROJECT NAME : RENTON PSPL

SAMPLE MATRIX : WATER

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED RESULT	SPIKE ADDED	% REC
PETROLEUM HYDROCARBONS	mg/L	9011-175-5	<1	<1	0	5.3	10	53

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

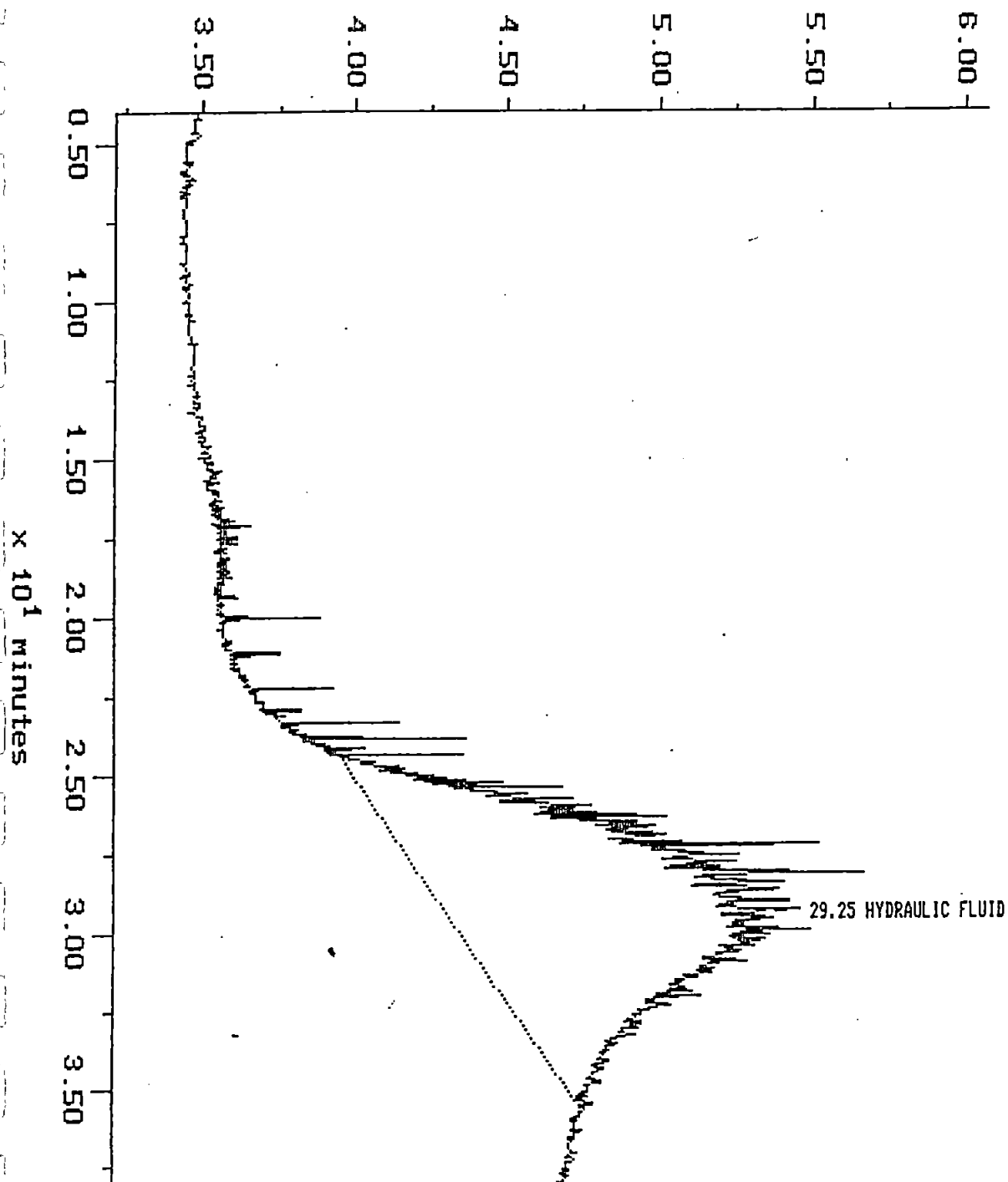
$$\text{RPD (Relative \% Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

Sample: 9011-169-7 DIL
Acquired: 29-NOV-90 16:19

Channel: CLAUDIA
Method: L:\MAXDATA\WINS-C\FUEL1128

Filename: 1128WC35
Operator:

$\times 10^{-2}$ volts

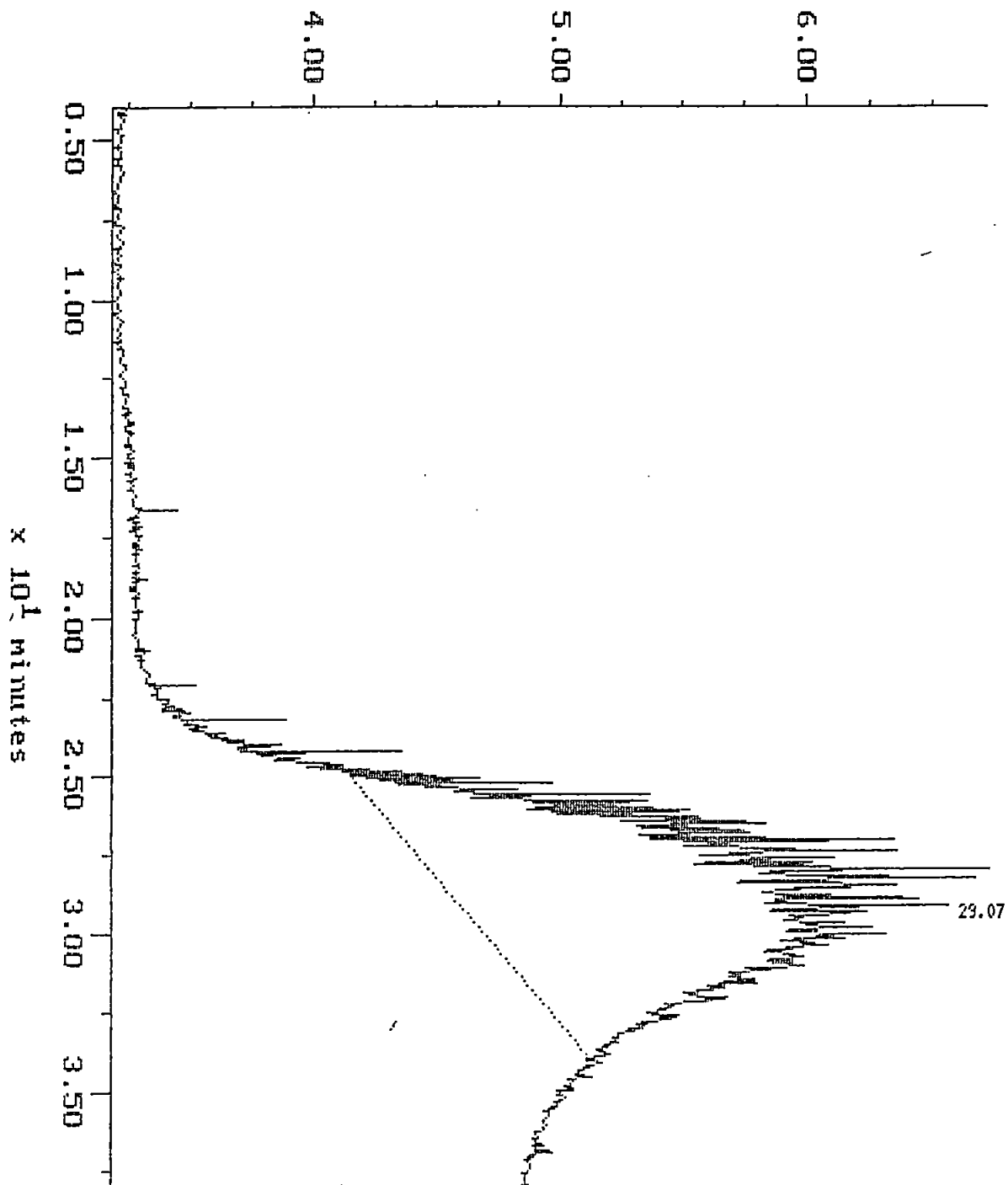


Sample: *Hydro 6 Std*
512
Acquired: 27-NOV-90 17:45

Channel: CLAUDIA
Method: L:\MAXDATA\WINS-C\FUEL1127

Filename: 1127WC12
Operator:

$\times 10^{-2}$ volts



560 Naches Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

Chain of Custody

LABORATORY NUMBER: 9011-169

[illegible]

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: 0186-106-1369	TOTAL NUMBER OF CONTAINERS 10	Signature: [Signature]		Time: 1730		Signature: [Signature]		Time: [Time]	
PROJECT NAME: RENTON WSD	COC SEALS/INTACT? Y/N/NA N/A	Printed Name: [Signature]		Date: 1/21/10		Printed Name: [Signature]		Date: [Date]	
PURCHASE ORDER NUMBER:	RECEIVED GOOD COND./COLD 1/	Company: GEI		Company: [Company]		Company: [Company]		Company: [Company]	
ONGOING PROJECT? YES ☒ NO ☐	RECEIVED VIA: Hand-delivered	RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.		RECEIVED BY: (LAB) 3.	
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS		Signature: [Signature]		Time: [Time]		Signature: [Signature]		Time: [Time]	
TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK	GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)	Printed Name: [Signature]		Date: [Date]		Printed Name: [Signature]		Date: [Date]	
SPECIAL INSTRUCTIONS: Fax Results to KSK @ GEI 24 HR. ON ALL SOIL SAMPLES 48-72 HR. ON H ₂ O SAMPLES IS O.K.		Company: [Company]		Company: [Company]		Company: [Company]		Analytical Technologies, Inc.	



Analytical**Technologies**, Inc.

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

ATI I.D. # 9011-193

GeoEngineers

DEC 07 1990

December 5, 1990

Routing ☐ ☐ ☐ ☐
File ☐ ☐ ☐ ☐

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

Attention : Kathy Killman

Project Number : 186-106-69

Project Name : Renton PSPL

On November 27, 1990, Analytical Technologies, Inc., received four soil samples for analysis. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and quality control data are enclosed.

Bob A. Olsiewski
Project Manager

FWG/tc

Frederick W. Grothkopp
Technical Manager

SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9011-193-1	901127-128	11/27/90	SOIL
9011-193-2	901127-129	11/27/90	SOIL
9011-193-3	901127-130	11/27/90	SOIL
9011-193-4	901127-131	11/27/90	SOIL

----- 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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 186-106-69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/28/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 11/28/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/27/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 11/27/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/28/90
CLIENT I.D.	: 901127-128	DATE ANALYZED	: 11/29/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/27/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 11/27/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/28/90
CLIENT I.D.	: 901127-129	DATE ANALYZED	: 11/29/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/27/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 11/27/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/28/90
CLIENT I.D.	: 901127-130	DATE ANALYZED	: 11/29/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/27/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 11/27/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/28/90
CLIENT I.D.	: 901127-131	DATE ANALYZED	: 11/29/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC.	SAMPLE I.D. : 9011-193-2
PROJECT # : 186-106-69	DATE EXTRACTED : 11/28/90
PROJECT NAME : RENTON PSPL	DATE ANALYZED : 11/29/90
EPA METHOD : 8015 MODIFIED	MATRIX : SOIL
	UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<50	500	573	115	541	108	6

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

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

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: BLANK SPIKE
PROJECT #	: 186-106-69	DATE EXTRACTED	: 11/28/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 11/28/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<50	500	566	113	596	119	5

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

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

9011-193

PROJECT LOC. RENTON

DATE 11 / 27 / 90

PROJECT NAME *PSPL*

GEI FILE NO. 186-106-69

— 1
2
3
4

8015 FOR
HYDRAULIC
ONLY

ADDITIONAL COMMENTS:

★ 24 HR ★ RUSH ★

Please Fax Results to KSK @ GEI

Thanks Bob



Analytical**Technologies**, Inc.

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

ATI I.D. # 9011-199

GeoEngineers

December 5, 1990

DEC 07 1990

Routing ☐ ☐ ☐
File ☐ ☐ ☐

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

Attention : Kathy Killman

Project Number : 0186-106-69

Project Name : Renton PSPL

On November 28, 1990, Analytical Technologies, Inc., received four soil samples for analysis. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and quality control data are enclosed.

Bob A. Olsiewski
Project Manager

FWG/tc

Frederick W. Grothkopp
Technical Manager

SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9011-199-1	901128-132	11/28/90	SOIL
9011-199-2	901128-133	11/28/90	SOIL
9011-199-3	901128-134	11/28/90	SOIL
9011-199-4	901128-135	11/28/90	SOIL

----- 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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/28/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 11/28/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/28/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 11/28/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/28/90
CLIENT I.D.	: 901128-132	DATE ANALYZED	: 11/29/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/28/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 11/28/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/28/90
CLIENT I.D.	: 901128-133	DATE ANALYZED	: 11/29/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/28/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 11/28/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/28/90
CLIENT I.D.	: 901128-134	DATE ANALYZED	: 11/29/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/28/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 11/28/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/28/90
CLIENT I.D.	: 901128-135	DATE ANALYZED	: 11/29/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL
EPA METHOD : 8015 MODIFIED

SAMPLE I.D. : 9011-193-2
DATE EXTRACTED : 11/28/90
DATE ANALYZED : 11/29/90
MATRIX : SOIL
UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<50	500	573	115	541	108	6

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

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



560 Naches Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

DATE 11/28/10 PAGE 1 OF 1

Chain of Custody LABORATORY NUMBER: 9011-199

LABORATORY NUMBER: 9011-190

PROJECT MANAGER: Kelly Killman
COMPANY: GEI
ADDRESS: _____
PHONE: 716-5200 SAMPLED BY: CAH

SAMPLE DISPOSAL INSTRUCTIONS

☒ ATI Disposal @ \$5.00 each☐ **Return**[illegible][illegible]

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: 01R6-106-6-9		TOTAL NUMBER OF CONTAINERS 4		Signature: [Signature] Time: 11/4/5		Signature: Time:		Signature: Time:	
PROJECT NAME: Renton PSLH		COC SEALS/INTACT? Y/N/NA 4		Printed Name: Date:		Printed Name: Date:		Printed Name: Date:	
PURCHASE ORDER NUMBER:		RECEIVED GOOD COND./COLD 4		Signature: [Signature] Time: 11/4/5		Signature: Time:		Signature: Time:	
ONGOING PROJECT? YES ☒ NO ☐		RECEIVED VIA: Hand		Company: GCI		Company:		Company:	
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS				RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.	
TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK				Signature: [Signature] Time: 11:45		Signature: Time:		Signature: Time:	
GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)				Printed Name: Date:		Printed Name: Date:		Printed Name: Date:	
SPECIAL INSTRUCTIONS: 24 HR (RUSH) For Results to KSK				Signature: [Signature] Time: 11-28-90		Signature: Time:		Signature: Time:	
				Company: ATF		Company:		Analytical Technologies, Inc.	



Analytical**Technologies**, Inc.

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

ATI I.D. # 9011-204

GeoEngineers

DEC 11 1990

Routing

KSJ

December 10, 1990

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

Attention : Kathy Killman

Project Number : 0186-106-69

Project Name : Renton PSPL

On November 28, 1990, Analytical Technologies, Inc., received one water 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 quality control data are enclosed.

Mary C. Silva
Senior Project Manager

FWG/tc

Frederick W. Grothkopp
Technical Manager

SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9011-204-1	901128-136	11/28/90	WATER

----- TOTALS -----

MATRIX	# SAMPLES
WATER	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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
BETX	GC/PID	EPA 8020	R
LEAD	AA/GF	EPA 7421	R
PETROLEUM HYDROCARBONS	IR	EPA 418.1	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

PURGEABLE AROMATICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: N/A
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 11/29/90
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8020 (BETX)	DILUTION FACTOR	: 1

COMPOUND	RESULT
BENZENE	<0.5
ETHYLBENZENE	<0.5
TOLUENE	<0.5
TOTAL XYLENES	<0.5

SURROGATE PERCENT RECOVERY

BROMOFLUOROBENZENE	79

PURGEABLE AROMATICS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/28/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 11/28/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: N/A
CLIENT I.D.	: 901128-136	DATE ANALYZED	: 11/29/90
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8020 (BETX)	DILUTION FACTOR	: 1

COMPOUNDRESULT

BENZENE	<0.5
ETHYLBENZENE	<0.5
TOLUENE	<0.5
TOTAL XYLENES	0.5

SURROGATE PERCENT RECOVERY

BROMOFLUOROBENZENE	95

PURGEABLE AROMATICS
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC. SAMPLE I.D. : 9011-161-2
PROJECT # : 0186-106-69 DATE ANALYZED : 11/29/90
PROJECT NAME : RENTON PSPL MATRIX : WATER
EPA METHOD : 8020 (BETX) UNITS : ug/L

COMPOUND	SAMPLE RESULT	SPIKE ADDED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % REC	RPD
BENZENE	<0.5	20.0	18.7	93	18.9	94	1
TOLUENE	<0.5	20.0	18.6	93	18.5	93	0
TOTAL XYLENES	<0.5	40.0	37.2	93	36.8	92	1

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

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

METALS RESULTS

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

MATRIX : WATER

UNITS : mg/L

ATI I.D. #	CLIENT I.D.	LEAD
9011-204-1	901128-136	0.017



METALS QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

MATRIX : WATER

UNITS : mg/L

PARAMETER	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED SAMPLE	SPIKE CONC	% REC
LEAD	9011-204-1	0.017	0.014	19	0.028	0.025	44*
LEAD	BLANK SPIKE	N/A	N/A	N/A	0.024	0.025	96

* Out of limits due to matrix interference.

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

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



GENERAL CHEMISTRY RESULTS

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

SAMPLE MATRIX : WATER

UNITS : mg/L

ATI I.D. #	CLIENT I.D.	PETROLEUM HYDROCARBONS

9011-204-1	901128-136	<1

GENERAL CHEMISTRY QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

SAMPLE MATRIX : WATER

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED RESULT	SPIKE ADDED	% REC
PETROLEUM HYDROCARBONS	mg/L	9011-211-6	<1	<1	0	5.4	10	54

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

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

Chain of Custody

LABORATORY NUMBER: 9011-204

[illegible]



Analytical **Technologies, Inc.**

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

ATI I.D. # 9011-213

December 10, 1990

GeoEngineers

DEC 11 1990

Routing KSK ☐ ☐ ☐

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

Attention : Kathy Killman

Project Number : 0186-106-69

Project Name : Renton PSPL

On November 29, 1990, Analytical Technologies, Inc., received six soil samples for analysis. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and quality control data are enclosed.

Bob A. Olsiewski
Project Manager

FWG/tc

Frederick W. Grothkopp
Technical Manager

SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9011-213-1	901129-137	11/29/90	SOIL
9011-213-2	901129-138	11/29/90	SOIL
9011-213-3	901129-139	11/29/90	SOIL
9011-213-4	901129-140	11/29/90	SOIL
9011-213-5	901129-141	11/29/90	SOIL
9011-213-6	901129-142	11/29/90	SOIL

----- 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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/29/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 11/29/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/29/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 11/29/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/29/90
CLIENT I.D.	: 901129-137	DATE ANALYZED	: 11/30/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/29/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 11/29/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/29/90
CLIENT I.D.	: 901129-138	DATE ANALYZED	: 11/30/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/29/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 11/29/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/29/90
CLIENT I.D.	: 901129-139	DATE ANALYZED	: 11/30/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	100
HYDROCARBON RANGE	C20 - C32
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/29/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 11/29/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/29/90
CLIENT I.D.	: 901129-140	DATE ANALYZED	: 11/30/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/29/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 11/29/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/29/90
CLIENT I.D.	: 901129-141	DATE ANALYZED	: 11/29/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/29/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 11/29/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/29/90
CLIENT I.D.	: 901129-142	DATE ANALYZED	: 11/30/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC.	SAMPLE I.D. : 9011-213-5
PROJECT # : 0186-106-69	DATE EXTRACTED : 11/29/90
PROJECT NAME : RENTON PSPL	DATE ANALYZED : 11/29/90
EPA METHOD : 8015 MODIFIED	MATRIX : SOIL
	UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<50	500	543	109	506	101	7

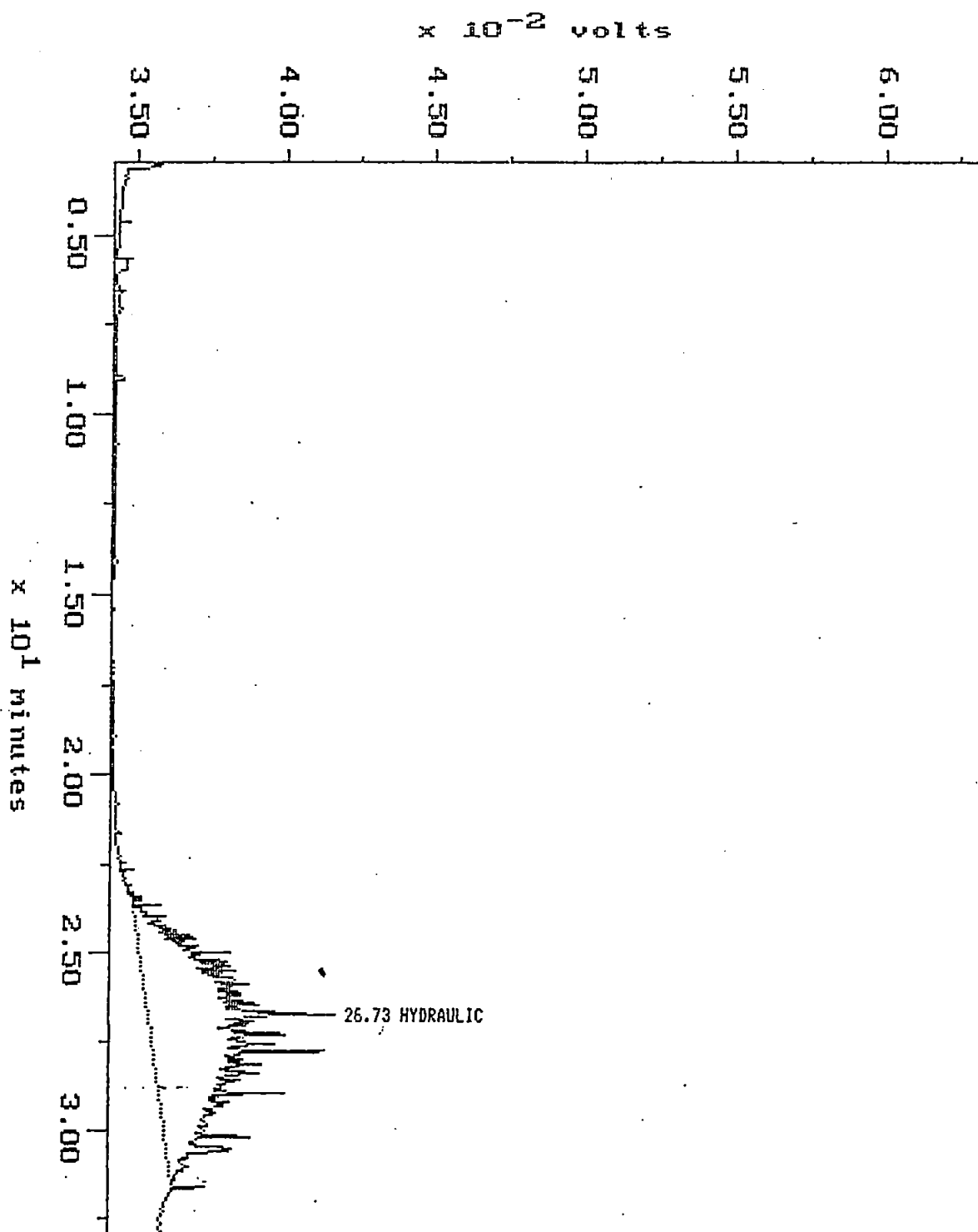
$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

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

Sample: 9011-213-3
Acquired: 30-NOV-90 1:36
Inj Vol: 1.00

Channel: CLARENCE
Method: M:\MAXDATA\SERGE-C\FUEL1129

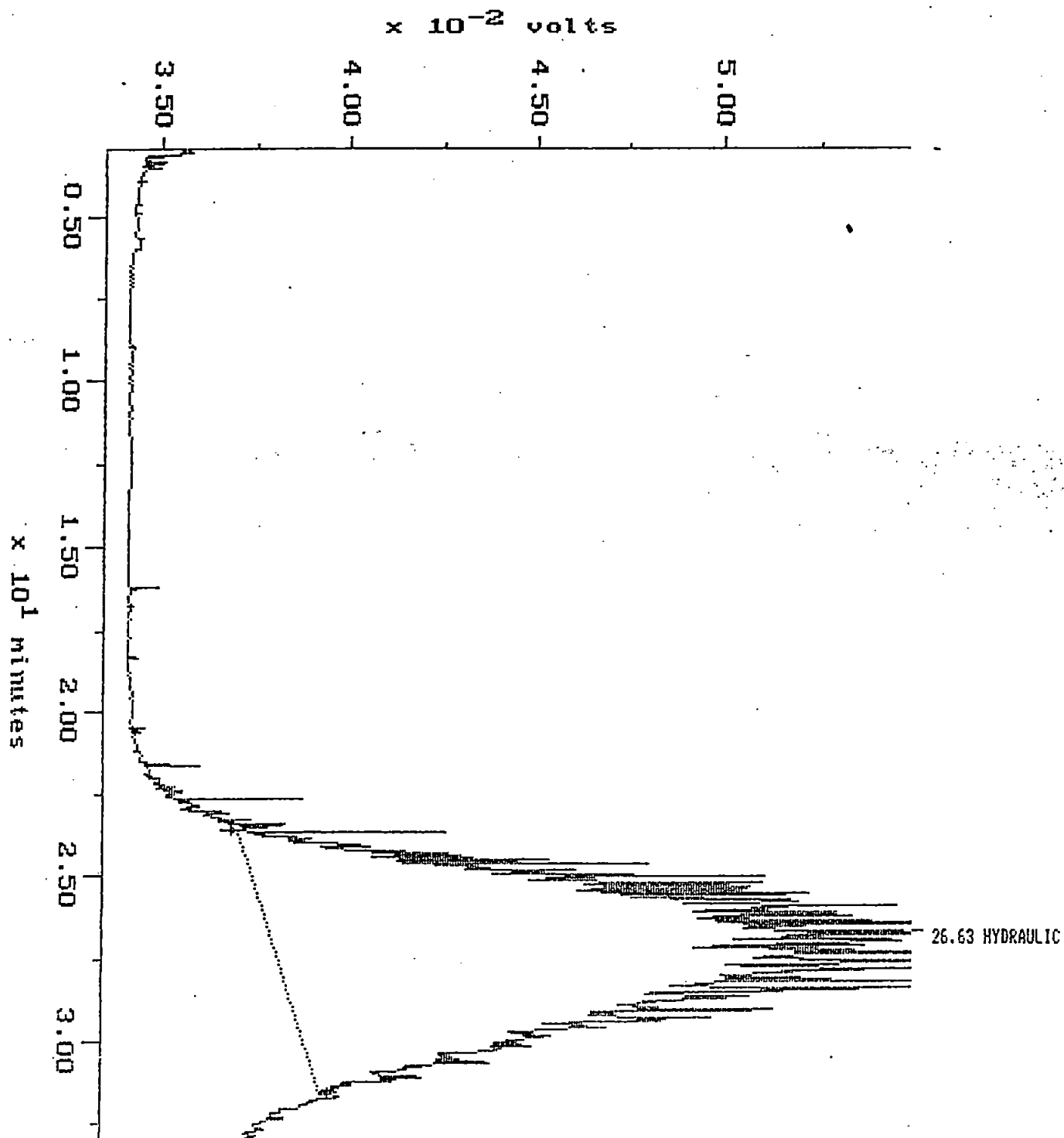
Filename: 1129SC20
Operator: BRE



Sample: 504 HYD *Standard*
Acquired: 29-NOV-90 18:09
Inj Vol: 1.00

Channel: CLARENCE
Method: M:\MAXDATA\SERGE-CA\FUEL1129

Filename: 1129SC10
Operator: BRE



560 Naches Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

Chain of Custody LABORATORY NUMBER: 9011-213

PROJECT MANAGER: Kelly Williams

COMPANY: GE

ADDRESS: _____

PHONE: 711-5200 SAMPLED BY: CAH

SAMPLE DISPOSAL INSTRUCTIONS

☒ ATN Disposal @ \$5.00 each ☐ Return[illegible]

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: 0186-106-69	TOTAL NUMBER OF CONTAINERS: 6			Signature: [Signature]	Time: 1310	Signature:	Time:	Signature:	Time:
PROJECT NAME: Benthon TSPCL	COC SEALS/INTACT? Y/N/NA: Y			Printed Name:	Date:	Printed Name:	Date:	Printed Name:	Date:
PURCHASE ORDER NUMBER:	RECEIVED GOOD COND./COLD: Y			Company: C.E.I.		Company:		Company:	
ONGOING PROJECT? YES ☒ NO ☐	RECEIVED VIA: Courier			RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.	
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS				Signature: [Signature]	Time: 2:10	Signature:	Time:	Signature:	Time:
TAT: (NORMAL) ☐ 2WKS (RUSH): ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK	GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)			Printed Name: DL Thomas	Date: 11-29-90	Printed Name:	Date:	Printed Name:	Date:
SPECIAL INSTRUCTIONS: 24 HR RUSH				Company: ATC		Company:		Analytical Technologies, Inc.	
Thank You									



Analytical**Technologies**, Inc.

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

ATI I.D. # 9011-213

January 4, 1991

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

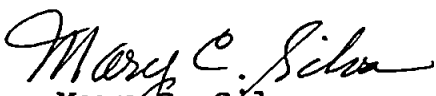
Attention : Kathy Killman

Project Number : 0186-106-69

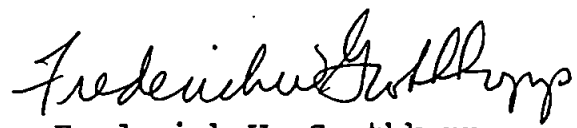
Project Name : Renton PSPL

On November 29, 1990, Analytical Technologies, Inc., received six soil samples for analysis. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and quality control data were issued on December 10, 1990.

One sample was rescheduled for additional analyses on December 12, 1990. Enclosed is the report for the additional analyses. Please note that the sample was extracted past the recommended 14 day holding time.


Mary C. Silva
Senior Project Manager

FWG/tc


Frederick W. Grothkopp
Technical Manager

SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9011-213-1	901129-137	11/29/90	SOIL
9011-213-2	901129-138	11/29/90	SOIL
9011-213-3	901129-139	11/29/90	SOIL
9011-213-4	901129-140	11/29/90	SOIL
9011-213-5	901129-141	11/29/90	SOIL
9011-213-6	901129-142	11/29/90	SOIL

----- 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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
POLYCHLORINATED BIPHENYLS (PCBs)	GC/ECD	EPA 8080	R
MOISTURE	GRAVIMETRIC	METHOD 7-2.2	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

POLYCHLORINATED BIPHENYLS (PCB) ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/14/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 12/17/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8080 (PCB)	DILUTION FACTOR	: 1
RESULTS BASED ON DRY WEIGHT			

COMPOUND	RESULT

PCB 1016	<0.033
PCB 1221	<0.033
PCB 1232	<0.033
PCB 1242	<0.033
PCB 1248	<0.033
PCB 1254	<0.033
PCB 1260	<0.033

SURROGATE PERCENT RECOVERY

DECACHLOROBIPHENYL	89
DIBUTYLCHLORENDATE	74

POLYCHLORINATED BIPHENYLS (PCB) ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/29/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 11/29/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/14/90
CLIENT I.D.	: 901129-139	DATE ANALYZED	: 12/28/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8080 (PCB)	DILUTION FACTOR	: 1
RESULTS BASED ON DRY WEIGHT			

COMPOUND	RESULT
PCB 1016	<0.033
PCB 1221	<0.033
PCB 1232	<0.033
PCB 1242	<0.033
PCB 1248	<0.033
PCB 1254	<0.033
PCB 1260	<0.033

SURROGATE PERCENT RECOVERY

DECACHLOROBIPHENYL	72
DIBUTYLCHLORENDATE	47

POLYCHLORINATED BIPHENYLS (PCB)
QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL
EPA METHOD : 8080 (PCB)

SAMPLE ID : 9012-100-8
DATE EXTRACTED : 12/13/90
DATE ANALYZED : 12/17/90
MATRIX : SOIL
UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
PCB 1260	<0.033	0.36	0.311	86	0.310	86	0

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

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

POLYCHLORINATED BIPHENYLS (PCB)
QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL
EPA METHOD : 8080 (PCB)

SAMPLE ID : BLANK SPIKE
DATE EXTRACTED : 12/14/90
DATE ANALYZED : 12/17/90
MATRIX : SOIL
UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
PCB 1260	<0.033	0.33	0.314	95	N/A	N/A	N/A

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

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



GENERAL CHEMISTRY RESULTS

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

MATRIX : SOIL

UNITS : %

ATI I.D.#	CLIENT I.D.	MOISTURE

9011-213-3	901129-139	26



GENERAL CHEMISTRY QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

MATRIX : SOIL

UNITS : %

PARAMETER	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED RESULT	SPIKE ADDED	% REC
MOISTURE	9012-111-2	23	22	4	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 (206)228-8335

DATE 11/29/90 PAGE 1 OF 1Chain of Custody LABORATORY NUMBER: 9011-213

PROJECT MANAGER: <u>Kathy Killman</u>					ANALYSIS REQUEST																						
COMPANY: <u>GEI</u>					8010	8020	BETX ONLY	8240	8270	8310	8080	PCB's ONLY	8140	8150	WDOE PAH/HH (WAC 173)	418.1	413.2	8015	TOC	TOX	%	EP TOX Metals (8) EP EXT	TCLP ONLY				NUMBER OF CONTAINERS
ADDRESS:					Halogenated Volatiles	Aromatic Volatiles	GCMS Volatiles	GCMS BNA	HPLC/PNA	Pesticides & PCB's	Phosphate Pesticides	Herbicides	WDOE PAH/HH (WAC 173)	418.1 (TPH)	413.2 Grease & Oil	8015 (Modified)	9060	9020	Moisture	Priority Pollutant Metals (13)	8080 Pesticide (4)	8240 ZH-EXT	8270	8150 Herbicides (2)	Metals (8)		
PHONE: <u>746-5200</u> SAMPLED BY: <u>CH</u>					SAMPLE DISPOSAL INSTRUCTIONS																						
☒ ATI Disposal @ \$5.00 each ☐ Return																											
SAMPLE ID	DATE	TIME	MATRIX	LAB ID																							
901129-137	11/29/90	1330	SOIL	-1																						1	
-138				-2																						1	
+139				-3																						1	
-140				-4																						1	
-141				-5																						1	
-142				-6																						1	

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: <u>0186-106-69</u>		TOTAL NUMBER OF CONTAINERS <u>6</u>		Signature: <u>Craig Hart</u> Time: <u>1340</u>		Signature: _____ Time: _____		Signature: _____ Time: _____	
PROJECT NAME: <u>Renton RSP</u>		COC SEALS/INTACT? Y/N/NA <u>Y</u>		Printed Name: _____ Date: _____		Printed Name: _____ Date: _____		Printed Name: _____ Date: _____	
PURCHASE ORDER NUMBER: _____		RECEIVED GOOD COND./COLD <u>Y</u>		Craig Hart 11/29/90					
ONGOING PROJECT? YES ☒ NO ☐		RECEIVED VIA: <u>Courier</u>		Company: <u>GEI</u>		Company: _____		Company: _____	
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS				RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.	
TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK				Signature: <u>D.L. Thomas</u> Time: <u>2:10</u>		Signature: _____ Time: _____		Signature: _____ Time: _____	
GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)				Printed Name: _____ Date: <u>11-29-90</u>		Printed Name: _____ Date: _____		Printed Name: _____ Date: _____	
SPECIAL INSTRUCTIONS: <u>24 HR RUSH</u> <u>Thank You</u>				Company: <u>ATI</u>		Company: _____		Analytical Technologies, Inc.	



Analytical**Technologies**, Inc.

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

ATI I.D. # 9011-216

GeoEngineers

December 6, 1990

DEC 10 1990

Routing KSK
File _____

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

Attention : Kathy Killman

Project Number : 1186-106-69

Project Name : Renton PSPL

On November 29, 1990, Analytical Technologies, Inc., received three soil samples for analysis. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and quality control data are enclosed.

Bob Olsiewski

Bob A. Olsiewski
Project Manager

FWG/tc

Frederick W. Grothkopp

Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 1186-106-69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9011-216-1	901129-143	11/29/90	SOIL
9011-216-2	901129-144	11/29/90	SOIL
9011-216-3	901129-145	11/29/90	SOIL

----- 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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 1186-106-69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 1186-106-69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/29/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 11/29/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/29/90
PROJECT #	: 1186-106-69	DATE RECEIVED	: 11/29/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/29/90
CLIENT I.D.	: 901129-143	DATE ANALYZED	: 11/30/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/29/90
PROJECT #	: 1186-106-69	DATE RECEIVED	: 11/29/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/29/90
CLIENT I.D.	: 901129-144	DATE ANALYZED	: 11/30/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/29/90
PROJECT #	: 1186-106-69	DATE RECEIVED	: 11/29/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 11/29/90
CLIENT I.D.	: 901129-145	DATE ANALYZED	: 11/30/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC.
PROJECT # : 1186-106-69
PROJECT NAME : RENTON PSPL
EPA METHOD : 8015 MODIFIED

SAMPLE I.D. : 9011-213-5
DATE EXTRACTED : 11/29/90
DATE ANALYZED : 11/29/90
MATRIX : SOIL
UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<50	500	543	109	506	101	7

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

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



560 Naches Avenue SW, Suite 101/Renton, WA 98055 . (206)228-8335

Chain of Custody

DATE _____ PAGE _____ OF _____

LABORATORY NUMBER: 9011-216

[illegible]



Analytical **Technologies, Inc.**

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

ATI I.D. # 9012-004

Geo. Tech. Inc.

DEC 12 1990

KSK

December 6, 1990

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

Attention : Kathy Killman

Project Number : 186-106-69

Project Name : Renton PSPL

On December 1, 1990, Analytical Technologies, Inc., received six soil samples for analysis. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and quality control data are enclosed.

Bob A. Olsiewski
Project Manager

FWG/tc

Frederick W. Grothkopp
Technical Manager

SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9012-004-1	901201-146	12/01/90	SOIL
9012-004-2	901201-147	12/01/90	SOIL
9012-004-3	901201-148	12/01/90	SOIL
9012-004-4	901201-149	12/01/90	SOIL
9012-004-5	901201-150	12/01/90	SOIL
9012-004-6	901201-151	12/01/90	SOIL

----- 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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 186-106-69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/01/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 12/01/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/01/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 12/01/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/01/90
CLIENT I.D.	: 901201-146	DATE ANALYZED	: 12/02/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/01/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 12/01/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/01/90
CLIENT I.D.	: 901201-147	DATE ANALYZED	: 12/02/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/01/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 12/01/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/01/90
CLIENT I.D.	: 901201-148	DATE ANALYZED	: 12/02/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/01/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 12/01/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/01/90
CLIENT I.D.	: 901201-149	DATE ANALYZED	: 12/02/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/01/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 12/01/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/01/90
CLIENT I.D.	: 901201-150	DATE ANALYZED	: 12/02/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/01/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 12/01/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/01/90
CLIENT I.D.	: 901201-151	DATE ANALYZED	: 12/02/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9012-004-6
PROJECT #	: 186-106-69	DATE EXTRACTED	: 12/01/90
PROJECT NAME	: RENTON PSPCL	DATE ANALYZED	: 12/01/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<50	500	493	99	494	99	0

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

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

Chain of Custody

LABORATORY NUMBER: 9012-004

DATE 12/1/90 PAGE 1 OF 1

PROJECT MANAGER: Kathy Killman
 COMPANY: GFI
 ADDRESS:
 PHONE: 716-5200 SAMPLED BY: C.H.

SAMPLE DISPOSAL INSTRUCTIONS

☐ ATI Disposal @ \$5.00 each ☐ Return

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	8010	8020	BETX	8240	8270	8310	8080	PCB's	8140	8150	WDOB	418.1	413.2	8015	TOC	TOX	%	EP TOC	Priority	8080	8240	8270	8150	Metals		NUMB
901201-146	12/1/00	1000	SOIL	-1														X												1
-147				-2														X												1
-148				-3														X												1
-149				-4														X												1
-150				-5														X												1
-151				-6														X												1

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: 186-106-69	TOTAL NUMBER OF CONTAINERS: 6	COC SEALS/INTACT? Y/N/NA	Y/N/NA	Signature: [Signature]	Time: 1630	Signature:	Time:	Signature:	Time:
PROJECT NAME: Pesticide Residues	RECEIVED GOOD COND./COLD	YES		Printed Name: [Signature]	Date: 12/1/90	Printed Name:	Date:	Printed Name:	Date:
PURCHASE ORDER NUMBER:	RECEIVED VIA: [Signature]			Company: GFI		Company:		Company:	
ONGOING PROJECT? YES ☒ NO ☐	PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS			RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.	
TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48HRS ☐ 72HRS ☐ 1WK	GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)			Signature:	Time:	Signature:	Time:	Signature:	Time:
SPECIAL INSTRUCTIONS: 24 HR PYS-11				Printed Name:	Date:	Printed Name:	Date:	Printed Name: [Signature]	Date: 12/1/90
				Company:		Company:		Company: Analytical Technologies, Inc.	



ATI I.D. # 9012-004

January 4, 1991

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

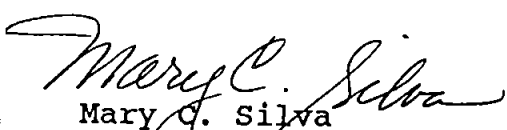
Attention : Kathy Killman

Project Number : 186-106-69

Project Name : Renton PSPL

On December 1, 1990, Analytical Technologies, Inc., received six soil samples for analysis. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and quality control data were issued on December 6, 1990.

One sample was rescheduled for additional analyses on December 12, 1990. Enclosed is the report for the additional analyses.


Mary C. Silva
Senior Project Manager

FWG/tc


Frederick W. Grothkopp
Technical Manager

SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9012-004-1	901201-146	12/01/90	SOIL
9012-004-2	901201-147	12/01/90	SOIL
9012-004-3	901201-148	12/01/90	SOIL
9012-004-4	901201-149	12/01/90	SOIL
9012-004-5	901201-150	12/01/90	SOIL
9012-004-6	901201-151	12/01/90	SOIL

----- 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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
POLYCHLORINATED BIPHENYLS (PCBs)	GC/ECD	EPA 8080	R
MOISTURE	GRAVIMETRIC	METHOD 7-2.2	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

POLYCHLORINATED BIPHENYLS (PCB) ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 186-106-69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/14/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 12/17/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8080 (PCB)	DILUTION FACTOR	: 1
RESULTS BASED ON DRY WEIGHT			

COMPOUND	RESULT

PCB 1016	<0.033
PCB 1221	<0.033
PCB 1232	<0.033
PCB 1242	<0.033
PCB 1248	<0.033
PCB 1254	<0.033
PCB 1260	<0.033

SURROGATE PERCENT RECOVERY

DECACHLOROBIPHENYL	89
DIBUTYLCHLORENDATE	74

POLYCHLORINATED BIPHENYLS (PCB) ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/01/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 12/01/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/14/90
CLIENT I.D.	: 901201-147	DATE ANALYZED	: 12/28/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8080 (PCB)	DILUTION FACTOR	: 1
RESULTS BASED ON DRY WEIGHT			

COMPOUNDRESULT

PCB 1016	<0.033
PCB 1221	<0.033
PCB 1232	<0.033
PCB 1242	<0.033
PCB 1248	<0.033
PCB 1254	<0.033
PCB 1260	0.040

SURROGATE PERCENT RECOVERY

DECACHLOROBIPHENYL	67
DIBUTYLCHLORENDATE	33 *

* Out of limits due to matrix interference.

POLYCHLORINATED BIPHENYLS (PCB)
QUALITY CONTROL

CLIENT	: GEOENGINEERS, INC.	SAMPLE ID	: 9012-100-8
PROJECT #	: 186-106-69	DATE EXTRACTED	: 12/13/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 12/17/90
EPA METHOD	: 8080 (PCB)	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
PCB 1260	<0.033	0.36	0.311	86	0.310	86	0

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

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

POLYCHLORINATED BIPHENYLS (PCB)
QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.	SAMPLE ID : BLANK SPIKE
PROJECT # : 186-106-69	DATE EXTRACTED : 12/14/90
PROJECT NAME : RENTON PSPL	DATE ANALYZED : 12/17/90
EPA METHOD : 8080 (PCB)	MATRIX : SOIL
	UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
PCB 1260	<0.033	0.33	0.314	95	N/A	N/A	N/A

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

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

GENERAL CHEMISTRY RESULTS

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-69
PROJECT NAME : RENTON PSPL

MATRIX : SOIL

UNITS : %

ATI I.D.#	CLIENT I.D.	MOISTURE

9012-004-2	901201-147	23



GENERAL CHEMISTRY QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-69
PROJECT NAME : RENTON PSPL

MATRIX : SOIL

UNITS : %

PARAMETER	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED RESULT	SPIKE ADDED	% REC
MOISTURE	9012-111-2	23	22	4	N/A	N/A	N/A

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

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



Chain of Custody

LABORATORY NUMBER:

DATE 12/1/90 PAGE 1 OF 1

[illegible]

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: 186-106-69		TOTAL NUMBER OF CONTAINERS 6		Signature: [Signature] Time: 1630		Signature: Time:		Signature: Time:	
PROJECT NAME: Benton SPL		COC SEALS/INTACT? Y/N/NA Y/N		Printed Name: Date:		Printed Name: Date:		Printed Name: Date:	
PURCHASE ORDER NUMBER:		RECEIVED GOOD COND./COLD YES		Printed Name: Date: Craig H. 2/1/90		Printed Name: Date:		Printed Name: Date:	
ONGOING PROJECT? YES ☐ NO ☐		RECEIVED VIA: Hand Del --		Company: GEI		Company:		Company:	
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS									
TAT: (NORMAL) ☐ 2WKS		(RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK		RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.	
GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)				Signature: Time:		Signature: Time:		Signature: Time:	
SPECIAL INSTRUCTIONS:				Printed Name: Date:		Printed Name: Date:		Printed Name: Date:	
24 HR RUSH				Company:		Company:		Analytical Technologies, Inc.	

B - 472



Analytical**Technologies**, Inc.

560 Naches Avenue, S.W., Suite 101, Renton, WA 98055, (206) 228-6335

ATI I.D. # 9012-019

December 6, 1990

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

Attention : Kathy Killman

Project Number : 0186-106-69

Project Name : Renton PSPL

On December 3, 1990, Analytical Technologies, Inc., received four soil samples for analysis. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and quality control data are enclosed.

Bob Olsiewski

Bob A. Olsiewski
Project Manager

FWG/tc

Frederick W. Grothkopp

Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9012-019-1	901203-152	12/03/90	SOIL
9012-019-2	901203-153	12/03/90	SOIL
9012-019-3	901203-154	12/03/90	SOIL
9012-019-4	901203-155	12/03/90	SOIL

----- 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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/03/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 12/03/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/03/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 12/03/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/03/90
CLIENT I.D.	: 901203-152	DATE ANALYZED	: 12/04/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/03/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 12/03/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/03/90
CLIENT I.D.	: 901203-153	DATE ANALYZED	: 12/04/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/03/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 12/03/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/03/90
CLIENT I.D.	: 901203-154	DATE ANALYZED	: 12/04/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/03/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 12/03/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/03/90
CLIENT I.D.	: 901203-155	DATE ANALYZED	: 12/04/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

54

HYDROCARBON RANGE

C20 - C32

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9012-019-2
PROJECT #	: 0186-106-69	DATE EXTRACTED	: 12/03/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 12/04/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<50	500	573	115	589	118	3

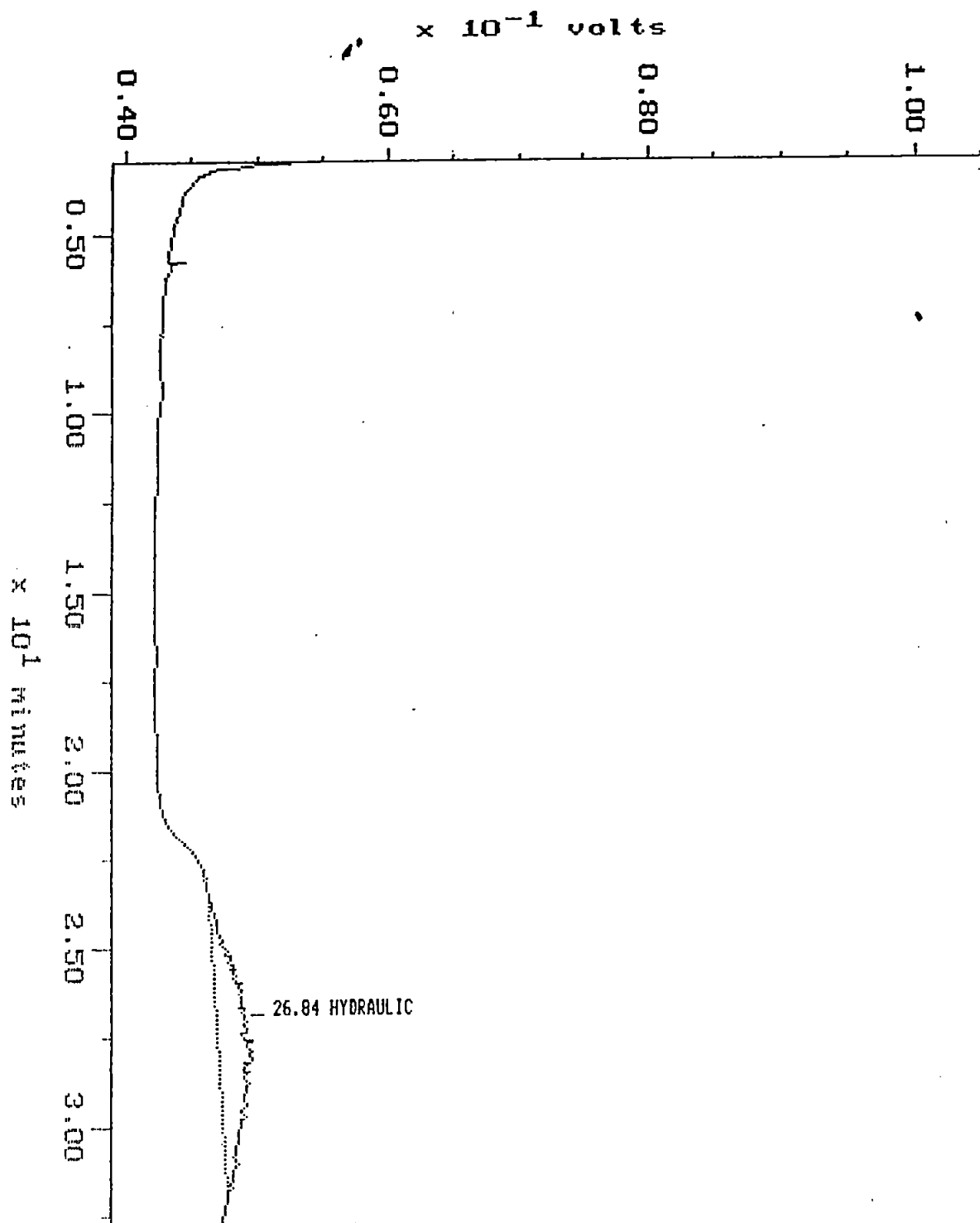
$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

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

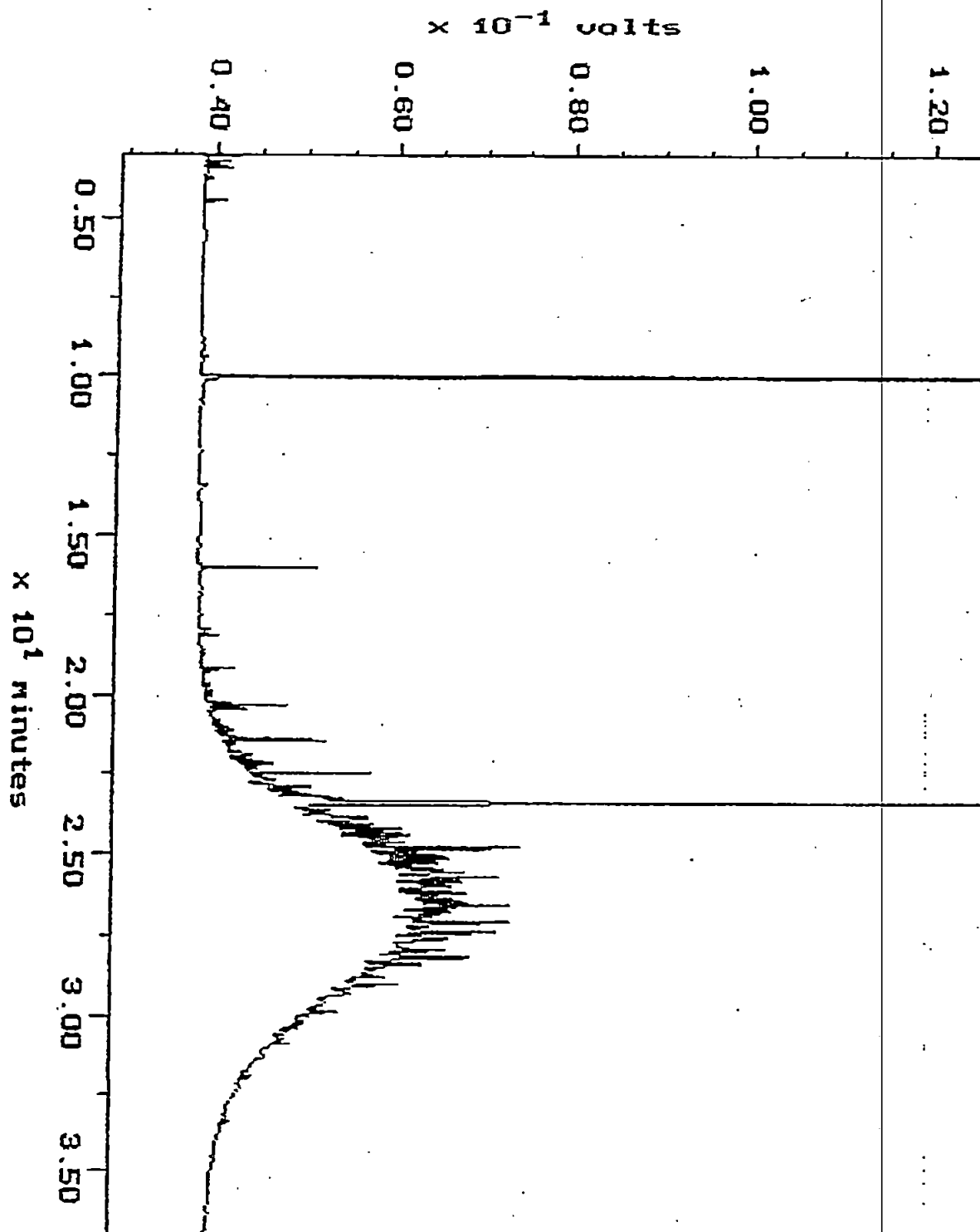
Sample: 9012-019-4
Acquired: 04-DEC-90 4:39
Inj Vol: 1.00

Channel: DEMITRI
Method: M:\MAXDATA\SERGE-D\FUEL1203

Filename: 1203SD20
Operator: BRE



Sample: 15 Channel: CLARENCE
Acquired: 08-JAN-91 20:46 Method: M:\MAXDATA\SERGE-C\FUEL0108
Comments: THIS IS A CHROMATOGRAM OF A 500 ppm HYDRAULIC FLUID STANDARD IN PENTANE
Filename: 0108SC15
Operator: BRE-





560 Naches Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

DATE 12/3/00 PAGE 0 OF 0

Chain of Custody

LABORATORY NUMBER: 9012-019

PROJECT MANAGER: K. H. Killian

COMPANY: GEI

ADDRESS:

PHONE: 746-5200

SAMPLED BY: *[Signature]*

SAMPLE DISPOSAL INSTRUCTIONS

☒ ATI Disposal @ \$5.00 each

☐ Return[illegible]

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: 0186-106-69		TOTAL NUMBER OF CONTAINERS 4		Signature: [Signature] Time: 1700		Signature: Time:		Signature: Time:	
PROJECT NAME: Renton PSPL		COC SEALS/INTACT? Y/N/NA 4/1/17		Printed Name: Date:		Printed Name: Date:		Printed Name: Date:	
PURCHASE ORDER NUMBER:		RECEIVED GOOD COND./COLD 4		Craig H. + 12/3/17		Printed Name: Date:		Printed Name: Date:	
ONGOING PROJECT? YES ☒ NO ☐		RECEIVED VIA: Courier		Company: GEI		Company:		Company:	
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS				RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.	
TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK				Signature: Time:		Signature: Time:		Signature: Time:	
GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)				Lundreth 6:00		Printed Name: Date:		Printed Name: Date:	
SPECIAL INSTRUCTIONS:				Lundreth 12/3/17		Printed Name: Date:		Printed Name: Date:	
☆ 24 HR ☆ RUSH + 1 ☆				Company: ATI		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 - ATI • Pink - ORIGINATOR



Analytical **Technologies, Inc.**

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

ATI I.D. # 9012-023

GeoEngineers

December 10, 1990

DEC 10 1990

Routing ☐ ☐ ☐
File ☐ ☐ ☐

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

Attention : Kathy Killman

Project Number : 0186-106-69

Project Name : Renton PSPL

On December 12, 1990, Analytical Technologies, Inc., received three soil samples for analysis. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and quality control data are enclosed.

Bob A. Olsiewski
Project Manager

FWG/tc

Frederick W. Grothkopp
Technical Manager

SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9012-023-1	901204-156	12/04/90	SOIL
9012-023-2	901204-157	12/04/90	SOIL
9012-023-3	901204-158	12/04/90	SOIL

----- 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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/04/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 12/04/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/04/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 12/04/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/04/90
CLIENT I.D.	: 901204-156	DATE ANALYZED	: 12/05/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/04/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 12/04/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/04/90
CLIENT I.D.	: 901204-157	DATE ANALYZED	: 12/05/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/04/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 12/04/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/04/90
CLIENT I.D.	: 901204-158	DATE ANALYZED	: 12/05/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND-----
RESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9012-023-1
PROJECT #	: 0186-106-69	DATE EXTRACTED	: 12/04/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 12/05/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<50	500	346	69	335	67	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.

560 Nachos Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

DATE 12/11/90 PAGE 1 OF 1

Chain of Custody

LABORATORY NUMBER: 9012-023 RC

PROJECT MANAGER: <u>Kathy Killman</u>					ANALYSIS REQUEST																						
COMPANY: <u>GFI</u>					8010	8020	BETX ONLY	8240	8270	8310	8080	PCB's ONLY	8140	8150	WDOE PAH/HH (WAC 173)	418.1	413.2	8015	TOC	TOX	%	EP TOX Metals (8) EP EXT	TCLP ONLY				NUMBER OF CONTAINERS
ADDRESS:					Halogenated Volatiles	Aromatic Volatiles		GCMS Volatiles	GCMS BNA	HPLC PNA	Pesticides & PCB's	Phosphate Pesticides	Herbicides	PAH/HH (WAC 173)	(TPH)	Grease & Oil	(Modified)	9060	9020	Moisture	Priority Pollutant Metals (13)	Pesticide (4)	ZH-EXT	Herbicides (2)	Metals (8)		
PHONE: <u>716-5200</u> SAMPLED BY: <u>CAH</u>																											
SAMPLE DISPOSAL INSTRUCTIONS																											
☒ ATI Disposal @ \$5.00 each ☐ Return																											
SAMPLE ID	DATE	TIME	MATRIX	LAB ID																							
901204-156	12/11/90	1100	SOIL	-1																						1	
-157	↓	↓	↓	-2																						1	
-158	↓	↓	↓	-3																						1	

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1		RELINQUISHED BY: 2		RELINQUISHED BY: 3	
PROJECT NUMBER: <u>0136-106-69</u>		TOTAL NUMBER OF CONTAINERS <u>3</u>		Signature: <u>CAH</u> Time: <u>12:00</u>		Signature: Time:		Signature: Time:	
PROJECT NAME: <u>Renton P-PL</u>		COC SEALS/INTACT? Y/N/NA <u>Y/N</u>		Printed Name: <u>CAH</u> Date: <u>12/11/90</u>		Printed Name: Date:		Printed Name: Date:	
PURCHASE ORDER NUMBER:		RECEIVED GOOD COND/COLD <u>Y</u>		Company: <u>GFI</u>		Company:		Company:	
ONGOING PROJECT? YES ☒ NO ☐		RECEIVED VIA: <u>Hand</u>		RECEIVED BY: 1		RECEIVED BY: 2		RECEIVED BY: (LAB) 3	
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS				Signature: <u>DL Thomas</u> Time: <u>12:02</u>		Signature: Time:		Signature: Time:	
TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK				Printed Name: <u>DL Thomas</u> Date: <u>12-11-90</u>		Printed Name: Date:		Printed Name: Date:	
GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)				Company:		Company:		Analytical Technologies, Inc.	
SPECIAL INSTRUCTIONS:									
<u>24 HR RUSH</u>									



Analytical**Technologies**, Inc.

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

ATI I.D. # 9012-023

January 4, 1991

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

Attention : Kathy Killman

Project Number : 0186-106-69

Project Name : Renton PSPL

On December 4, 1990, Analytical Technologies, Inc., received three soil samples for analysis. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and quality control data were issued on December 10, 1990.

One sample was rescheduled for additional analyses on December 12, 1990. Enclosed is the report for the additional analyses.

Mary C. Silva
Senior Project Manager

FWG/tc

Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9012-023-1	901204-156	12/04/90	SOIL
9012-023-2	901204-157	12/04/90	SOIL
9012-023-3	901204-158	12/04/90	SOIL

----- 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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
POLYCHLORINATED BIPHENYLS (PCBs)	GC/ECD	EPA 8080	R
MOISTURE	GRAVIMETRIC	METHOD 7-2.2	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

POLYCHLORINATED BIPHENYLS (PCB) ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/14/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 12/17/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8080 (PCB)	DILUTION FACTOR	: 1
RESULTS BASED ON DRY WEIGHT			

COMPOUND	RESULT
PCB 1016	<0.033
PCB 1221	<0.033
PCB 1232	<0.033
PCB 1242	<0.033
PCB 1248	<0.033
PCB 1254	<0.033
PCB 1260	<0.033

SURROGATE PERCENT RECOVERY

DECACHLOROBIPHENYL	89
DIBUTYLCHLORENDATE	74

POLYCHLORINATED BIPHENYLS (PCB) ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/04/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 12/04/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/14/90
CLIENT I.D.	: 901204-158	DATE ANALYZED	: 12/28/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8080 (PCB)	DILUTION FACTOR	: 1
RESULTS BASED ON DRY WEIGHT			

COMPOUND	RESULT
PCB 1016	<0.033
PCB 1221	<0.033
PCB 1232	<0.033
PCB 1242	<0.033
PCB 1248	<0.033
PCB 1254	<0.033
PCB 1260	<0.033

SURROGATE PERCENT RECOVERY

DECACHLOROBIPHENYL	42 *
DIBUTYLCHLORENDATE	32 *

* Out of limits due to matrix interference.

POLYCHLORINATED BIPHENYLS (PCB)
QUALITY CONTROL

CLIENT	: GEOENGINEERS, INC.	SAMPLE ID	: 9012-100-8
PROJECT #	: 0186-106-69	DATE EXTRACTED	: 12/13/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 12/17/90
EPA METHOD	: 8080 (PCB)	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
PCB 1260	<0.033	0.36	0.311	86	0.310	86	0

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

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

POLYCHLORINATED BIPHENYLS (PCB)
QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.	SAMPLE ID : BLANK SPIKE
PROJECT # : 0186-106-69	DATE EXTRACTED : 12/14/90
PROJECT NAME : RENTON PSPL	DATE ANALYZED : 12/17/90
EPA METHOD : 8080 (PCB)	MATRIX : SOIL
	UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
PCB 1260	<0.033	0.33	0.314	95	N/A	N/A	N/A

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

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

GENERAL CHEMISTRY RESULTS

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

MATRIX : SOIL

UNITS : %

ATI I.D.#	CLIENT I.D.	MOISTURE

9012-023-3	901204-158	24

GENERAL CHEMISTRY QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

MATRIX : SOIL
UNITS : %

PARAMETER	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED RESULT	SPIKE ADDED	% REC
MOISTURE	9012-111-2	23	22	4	N/A	N/A	N/A

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

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



560 Naches Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

DATE 12/9/90 PAGE 1 OF 1

Chain of Custody LABORATORY NUMBER: 9012-023 RC

PROJECT MANAGER: Kathy Kilman

COMPANY: CEI

ADDRESS: _____

PHONE: 746-5200 SAMPLED BY: CAH

SAMPLE DISPOSAL INSTRUCTIONS

☒ ATI Disposal @ \$5.00 each

☐ Return[illegible]

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
PROJECT NUMBER: 0186-106-69	TOTAL NUMBER OF CONTAINERS 3	Signature: [Signature]		Signature: [Signature]	Signature: [Signature]	Signature: [Signature]
PROJECT NAME: Benton P&PL	COC SEALS/INTACT? Y/N/NA 7/NA	Time: 12:00		Time: [Time]	Time: [Time]	Time: [Time]
PURCHASE ORDER NUMBER:	RECEIVED GOOD COND./COLD 4	Printed Name: [Name]		Printed Name: [Name]	Printed Name: [Name]	Printed Name: [Name]
ONGOING PROJECT? YES ☒ NO ☐	RECEIVED VIA: Hand	Date: 12/4/90		Date: [Date]	Date: [Date]	Date: [Date]
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS				Company: GEI	Company: [Company]	Company: [Company]
TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK	RECEIVED BY: 1.		RECEIVED BY: 2.	RECEIVED BY: (LAB) 3.		
GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)	Signature: [Signature]		Signature: [Signature]	Signature: [Signature]	Signature: [Signature]	
SPECIAL INSTRUCTIONS: 24 HRC RUSH	Time: 12:00		Time: [Time]	Time: [Time]	Time: [Time]	
	Printed Name: DL Thomas		Printed Name: [Name]	Printed Name: [Name]	Printed Name: [Name]	
	Date: 12-4-90		Date: [Date]	Date: [Date]	Date: [Date]	
		Company: [Company]		Company: [Company]	Analytical Technologies, Inc.	

B - 503



Analytical**Technologies**, Inc.

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

ATI I.D. # 9012-031

GeoEngineers

December 10, 1990

DEC 11 1990

Routing KSI B E

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

Attention : Kathy Killman

Project Number : 186-106-69

Project Name : Renton PSPL

On December 4, 1990, Analytical Technologies, Inc., received five soil samples for analysis. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and quality control data are enclosed.

Bob Olsiewski

Bob A. Olsiewski
Project Manager

FWG/elf

Frederick W. Grothkopp

Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9012-031-1	901204-159	12/04/90	SOIL
9012-031-2	901204-160	12/04/90	SOIL
9012-031-3	901204-161	12/04/90	SOIL
9012-031-4	901204-162	12/04/90	SOIL
9012-031-5	901204-163	12/04/90	SOIL

----- TOTALS -----

MATRIX	# SAMPLES
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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 186-106-69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/04/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 12/04/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/04/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 12/04/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/04/90
CLIENT I.D.	: 901204-159	DATE ANALYZED	: 12/05/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/04/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 12/04/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/04/90
CLIENT I.D.	: 901204-160	DATE ANALYZED	: 12/05/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/04/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 12/04/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/04/90
CLIENT I.D.	: 901204-161	DATE ANALYZED	: 12/05/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/04/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 12/04/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/04/90
CLIENT I.D.	: 901204-162	DATE ANALYZED	: 12/05/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/04/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 12/04/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/04/90
CLIENT I.D.	: 901204-163	DATE ANALYZED	: 12/05/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9012-023-1
PROJECT #	: 186-106-69	DATE EXTRACTED	: 12/04/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 12/05/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<50	500	346	69	335	67	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.

560 Naches Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

DATE 12/1/00 PAGE 1 OF 1

Chain of Custody LABORATORY NUMBER: 9012-031

PROJECT MANAGER: <u>Kathy K. Thomas</u>					ANALYSIS REQUEST																							
COMPANY: <u>GEI</u>					8010	8020	BETX ONLY	8240	8270	8310	8080	PCB's ONLY	8140	8150	WDOE PAH/H (WAC 173)	418.1	413.2	8015	TOC	TOX	%	EP TOX Metals (8) EP EXT	Priority Pollutant Metals (13)	TCLP ONLY				NUMBER OF CONTAINERS
ADDRESS:					Halogenated Volatiles	Aromatic Volatiles		GCMS Volatiles	GCMS BNA	HPLC PNA	Pesticides & PCB's	Phosphate Pesticides	Herbicides			Grease & Oil	(Modified)	9060	9020	Moisture			Pesticide (4)	ZH-EXT	8270	Herbicides (2)	Metals (8)	
PHONE: <u>206-520-5200</u> SAMPLED BY: <u>CA-1</u>					SAMPLE DISPOSAL INSTRUCTIONS																							
☒ ATI Disposal @ \$5.00 each ☐ Return																												
SAMPLE ID	DATE	TIME	MATRIX	LAB ID																								
9012 0-1 - 157	12/1/00	16:00	Soil	-1																					1			
- 160				-2																					1			
- 161				-3																					1			
- 167				-4																					1			
- 163				-5																					1			

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: <u>126-106-67</u>		TOTAL NUMBER OF CONTAINERS: <u>5</u>		Signature: <u>Craig</u> Time: <u>1630</u>		Signature: _____ Time: _____		Signature: _____ Time: _____	
PROJECT NAME: <u>Renton RSPD</u>		COC SEALS/INTACT? Y/N/NA <u>Y/N/NA</u>		Printed Name: _____ Date: <u>12/1/00</u>		Printed Name: _____ Date: _____		Printed Name: _____ Date: _____	
PURCHASE ORDER NUMBER: _____		RECEIVED GOOD COND./COLD <u>Y</u>		Company: <u>GEI</u>		Company: _____		Company: _____	
ONGOING PROJECT? YES ☒ NO ☐		RECEIVED VIA: <u>Hand</u>		RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.	
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS				Signature: <u>DJ Thomas</u> Time: <u>4:30</u>		Signature: _____ Time: _____		Signature: _____ Time: _____	
TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK				Printed Name: <u>DJ Thomas</u> Date: <u>12-1-00</u>		Printed Name: _____ Date: _____		Printed Name: _____ Date: _____	
GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)				Company: <u>ATI</u>		Company: _____		Analytical Technologies, Inc.	
SPECIAL INSTRUCTIONS: <u>24 HR RUSH</u>									

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

N^o 3232



Analytical**Technologies, Inc.**

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

ATI I.D. # 9012-048

December 12, 1990

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

Attention : Kathy Killman

Project Number : 0186-106-B69

Project Name : Renton PSPL

On December 5, 1990, Analytical Technologies, Inc., received 17 soil samples for analysis. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and quality control data are enclosed.

Bob A. Olsiewski
Project Manager

FWG/elf

Frederick W. Grothkopp
Technical Manager

SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9012-048-1	901205-164	12/05/90	SOIL
9012-048-2	901205-165	12/05/90	SOIL
9012-048-3	901205-166	12/05/90	SOIL
9012-048-4	901205-167	12/05/90	SOIL
9012-048-5	901205-168	12/05/90	SOIL
9012-048-6	901205-169	12/05/90	SOIL
9012-048-7	901205-170	12/05/90	SOIL
9012-048-8	901205-171	12/05/90	SOIL
9012-048-9	901205-172	12/05/90	SOIL
9012-048-10	901205-173	12/05/90	SOIL
9012-048-11	901205-174	12/05/90	SOIL
9012-048-12	901205-175	12/05/90	SOIL
9012-048-13	901205-176	12/05/90	SOIL
9012-048-14	901205-177	12/05/90	SOIL
9012-048-15	901205-178	12/05/90	SOIL
9012-048-16	901205-179	12/05/90	SOIL
9012-048-17	901205-180	12/05/90	SOIL

----- TOTALS -----

MATRIX	# SAMPLES
SOIL	17

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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/05/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 12/06/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/05/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 12/06/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/05/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 12/05/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/05/90
CLIENT I.D.	: 901205-164	DATE ANALYZED	: 12/06/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/05/90
PROJECT #	: 0186-106-369	DATE RECEIVED	: 12/05/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/05/90
CLIENT I.D.	: 901205-165	DATE ANALYZED	: 12/06/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/05/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 12/05/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/05/90
CLIENT I.D.	: 901205-166	DATE ANALYZED	: 12/06/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/05/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 12/05/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/05/90
CLIENT I.D.	: 901205-167	DATE ANALYZED	: 12/06/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/05/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 12/05/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/05/90
CLIENT I.D.	: 901205-168	DATE ANALYZED	: 12/06/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND-----
RESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/05/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 12/05/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/05/90
CLIENT I.D.	: 901205-169	DATE ANALYZED	: 12/06/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND-----
RESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/05/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 12/05/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/05/90
CLIENT I.D.	: 901205-170	DATE ANALYZED	: 12/06/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/05/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 12/05/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/05/90
CLIENT I.D.	: 901205-171	DATE ANALYZED	: 12/06/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/05/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 12/05/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/05/90
CLIENT I.D.	: 901205-172	DATE ANALYZED	: 12/06/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND	RESULT
FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/05/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 12/05/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/05/90
CLIENT I.D.	: 901205-173	DATE ANALYZED	: 12/06/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/05/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 12/05/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/05/90
CLIENT I.D.	: 901205-174	DATE ANALYZED	: 12/06/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/05/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 12/05/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/05/90
CLIENT I.D.	: 901205-175	DATE ANALYZED	: 12/06/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/05/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 12/05/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/05/90
CLIENT I.D.	: 901205-176	DATE ANALYZED	: 12/06/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND-----
RESULT

FUEL HYDROCARBONS	74
HYDROCARBON RANGE	C20 - C32
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/05/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 12/05/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/05/90
CLIENT I.D.	: 901205-177	DATE ANALYZED	: 12/06/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/05/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 12/05/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/05/90
CLIENT I.D.	: 901205-178	DATE ANALYZED	: 12/06/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND-----
RESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/05/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 12/05/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/05/90
CLIENT I.D.	: 901205-179	DATE ANALYZED	: 12/06/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND-----
RESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/05/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 12/05/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/05/90
CLIENT I.D.	: 901205-180	DATE ANALYZED	: 12/06/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9012-048-10
PROJECT #	: 0186-106-B69	DATE EXTRACTED	: 12/05/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 12/06/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<50	500	510	102	580	116	13

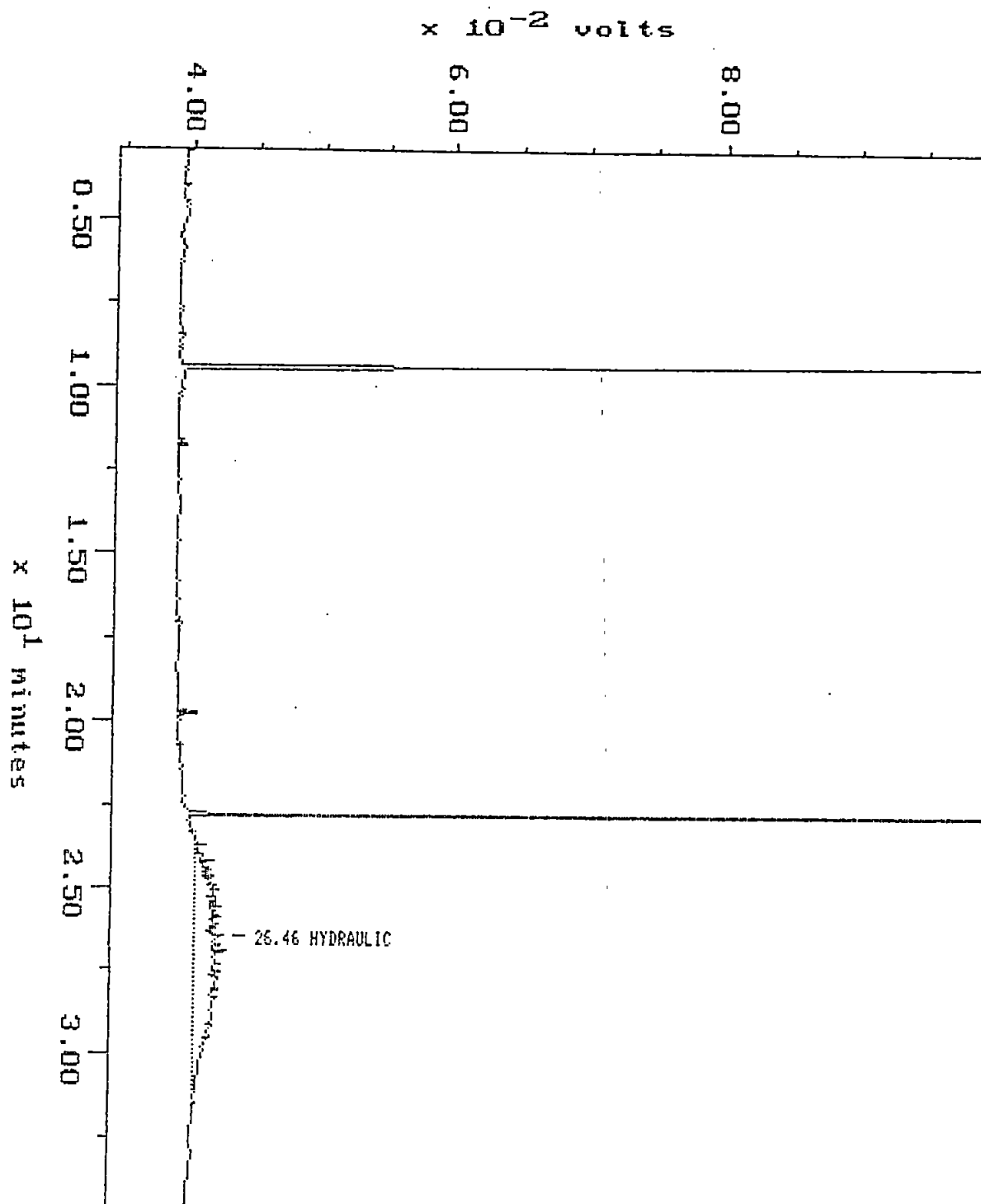
$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

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

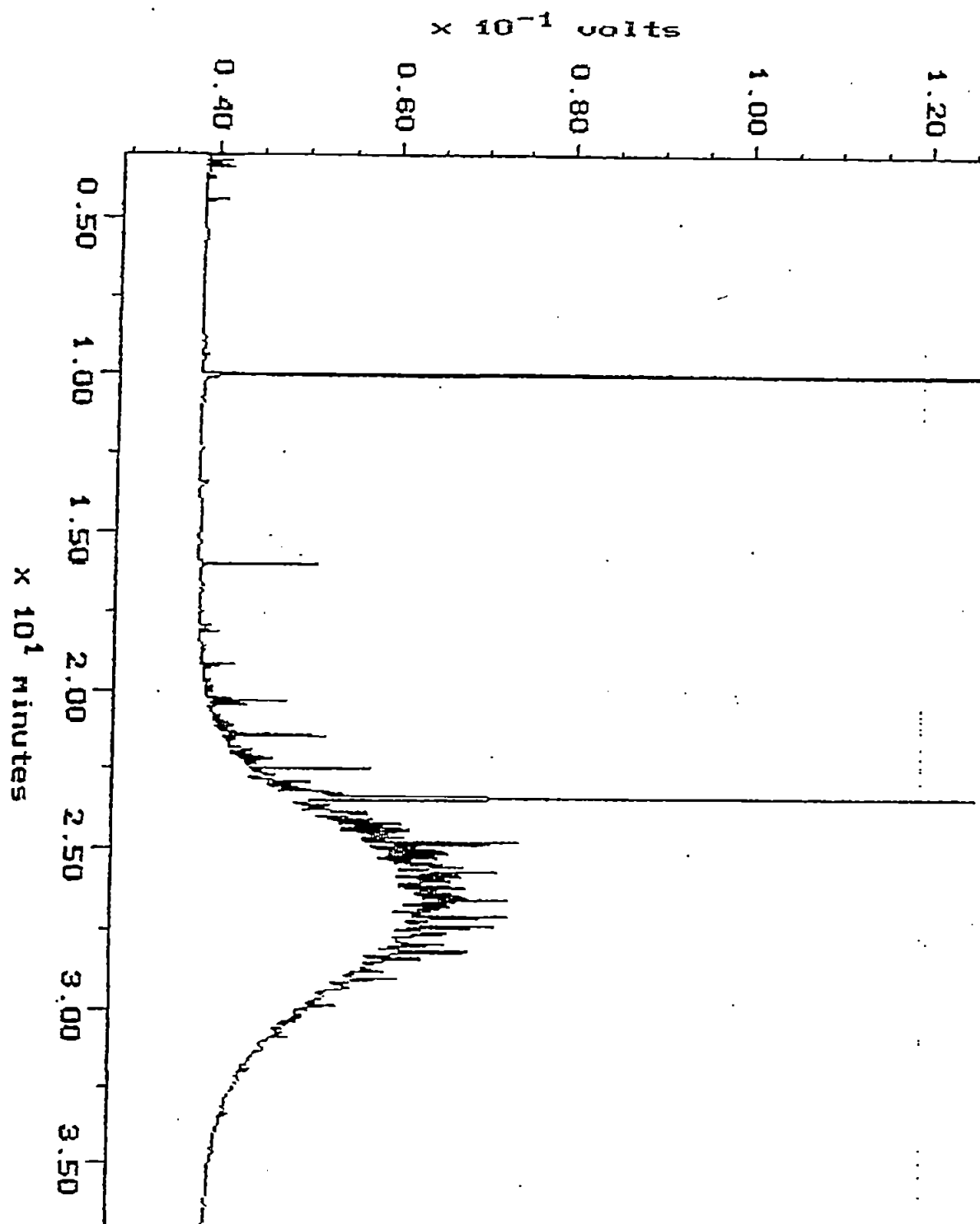
Sample: 9012-048-13
Acquired: 06-DEC-90 13:24
Inj Vol: 1.00

Channel: DEMITRI
Method: M:\MAXDATA\SERGE-D\FUEL1206

Filename: 1206SD06
Operator: BRE



Sample: 15 Channel: CLARENCE Filename: 0108SC15
Acquired: 08-JAN-91 20:46 Method: N:\MAXDATA\SERGE-CL\FUEL0108 Operator: BRE
Comments: THIS IS A CHROMATOGRAM OF A 500 ppm HYDRAULIC FLUID STANDARD IN PENTANE





Analytical Technologies, Inc.

560 Naches Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

DATE 12/5/10 PAGE 1 OF 2

Chain of Custody LABORATORY NUMBER: 9012-048

PROJECT MANAGER: <u>Kathy Killman</u> COMPANY: <u>G E I</u> ADDRESS: _____ PHONE: <u>716-5200</u> SAMPLED BY: <u>CAH</u>					ANALYSIS REQUEST																											
																		TCLP ONLY					NUMBER OF CONTAINERS									
SAMPLE DISPOSAL INSTRUCTIONS					8010	8020	BETX ONLY	8240	8270	8310	8080	PCB's ONLY	8140	8150	WDOE PAH/HH (WAC 173)	418.1	413.2	8015	TOC	TOX	%	EP TOX Metals (9) EP EXT	Priority Pollutant Metals (13)	8080	8240	8270	8150	Metals (9)				
☒ ATI Disposal @ \$5.00 each ☐ Return																																
SAMPLE ID	DATE	TIME	MATRIX	LAB ID																												
9012-05-164	12/5/10	1000	SOIL	-1																												
-165				-2																												
-166				-3																												
-167				-4																												
-168		1200		-5																												
-169				-6																												
-170				-7																												
-171				-8																												
-172		1400		-9																												
-173				-10																												
-174				-11																												
-175				-12																												

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1		RELINQUISHED BY: 2		RELINQUISHED BY: 3	
PROJECT NUMBER: <u>0186-106-B69</u>		TOTAL NUMBER OF CONTAINERS <u>17</u>		Signature: <u>CAH</u> Time: <u>1600</u>		Signature: _____ Time: _____		Signature: _____ Time: _____	
PROJECT NAME: <u>Renton P&PL</u>		COC SEALS/INTACT? Y/N/NA <u>Y</u>		Printed Name: _____ Date: <u>12/5/10</u>		Printed Name: _____ Date: _____		Printed Name: _____ Date: _____	
PURCHASE ORDER NUMBER: _____		RECEIVED GOOD COND./COLD <u>Y</u>		Company: <u>G E I</u>		Company: _____		Company: _____	
ONGOING PROJECT? YES ☒ NO ☐		RECEIVED VIA: <u>Box</u>		RECEIVED BY: 1		RECEIVED BY: 2		RECEIVED BY: (LAB) 3	
TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK		GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)		Signature: <u>D Thomas</u> Time: <u>5:30</u>		Signature: _____ Time: _____		Signature: _____ Time: _____	
SPECIAL INSTRUCTIONS: <u>24 HR RUSH</u>				Printed Name: <u>D Thomas</u> Date: <u>12-5-10</u>		Printed Name: _____ Date: _____		Printed Name: _____ Date: _____	
				Company: <u>ATI</u>		Company: _____		Analytical Technologies, Inc.	



560 Naches Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

DATE 7/5/90 PAGE 2 OF 2

Chain of Custody

LABORATORY NUMBER: 9012-048

[illegible]

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: 0186-106-6.9		TOTAL NUMBER OF CONTAINERS		Signature: [Signature] Time: 11:00		Signature: Time:		Signature: Time:	
PROJECT NAME: [Signature]		COC SEALS/INTACT? Y/N/NA		Printed Name: Date:		Printed Name: Date:		Printed Name: Date:	
PURCHASE ORDER NUMBER:		RECEIVED GOOD COND./COLD		Craig [Signature] 12/5/90		Company: Company:		Company: Company:	
ONGOING PROJECT? YES ☒ NO ☐		RECEIVED VIA: [Signature]		RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.	
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS				Signature: Time: 5:30		Signature: Time:		Signature: Time:	
TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK				Printed Name: Date: 12-5-90		Printed Name: Date:		Printed Name: Date:	
GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)				Company: ATF		Company:		Analytical Technologies, Inc.	
SPECIAL INSTRUCTIONS: 24 HR RUSH									

B - 541



Analytical **Technologies, Inc.**

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

ATI I.D. # 9012-048

GeoEngineers

January 2, 1991

1991 3 1991

Routing ☐ ☐ ☐
File ☐ ☐ ☐

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

Attention : Kathy Killman

Project Number : 0186-106-B69

Project Name : Renton PSPL

On December 5, 1990, Analytical Technologies, Inc., received 17 soil samples for analysis. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and quality control data were issued on December 12, 1990.

The samples were rescheduled for additional tests on December 12, 1990. Enclosed is the report for the additional analyses.

Mary C. Silva
Mary C. Silva
Senior Project Manager

FWG/elf

Frederick W. Grothkopp
Frederick W. Grothkopp
Technical Manager

SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9012-048-1	901205-164	12/05/90	SOIL
9012-048-2	901205-165	12/05/90	SOIL
9012-048-3	901205-166	12/05/90	SOIL
9012-048-4	901205-167	12/05/90	SOIL
9012-048-5	901205-168	12/05/90	SOIL
9012-048-6	901205-169	12/05/90	SOIL
9012-048-7	901205-170	12/05/90	SOIL
9012-048-8	901205-171	12/05/90	SOIL
9012-048-9	901205-172	12/05/90	SOIL
9012-048-10	901205-173	12/05/90	SOIL
9012-048-11	901205-174	12/05/90	SOIL
9012-048-12	901205-175	12/05/90	SOIL
9012-048-13	901205-176	12/05/90	SOIL
9012-048-14	901205-177	12/05/90	SOIL
9012-048-15	901205-178	12/05/90	SOIL
9012-048-16	901205-179	12/05/90	SOIL
9012-048-17	901205-180	12/05/90	SOIL

----- TOTALS -----

MATRIX	# SAMPLES
SOIL	17

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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
POLYCHLORINATED BIPHENYLS (PCBs)	GC/ECD	EPA 8080	R
MOISTURE	GRAVIMETRIC	METHOD 7-2.2	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

POLYCHLORINATED BIPHENYLS (PCB) ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/14/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 12/17/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8080 (PCB)	DILUTION FACTOR	: 1
RESULTS BASED ON DRY WEIGHT			

COMPOUND	RESULT
PCB 1016	<0.033
PCB 1221	<0.033
PCB 1232	<0.033
PCB 1242	<0.033
PCB 1248	<0.033
PCB 1254	<0.033
PCB 1260	<0.033

SURROGATE PERCENT RECOVERY

DECACHLOROBIPHENYL	89
DIBUTYLCHLORENDATE	74

POLYCHLORINATED BIPHENYLS (PCB) ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/05/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 12/05/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/14/90
CLIENT I.D.	: 901205-174	DATE ANALYZED	: 12/26/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8080 (PCB)	DILUTION FACTOR	: 1
RESULTS BASED ON DRY WEIGHT			

COMPOUND	RESULT
PCB 1016	<0.033
PCB 1221	<0.033
PCB 1232	<0.033
PCB 1242	<0.033
PCB 1248	<0.033
PCB 1254	<0.033
PCB 1260	<0.033

SURROGATE PERCENT RECOVERY

DECACHLOROBIPHENYL	74
DIBUTYLCHLORENDATE	54

POLYCHLORINATED BIPHENYLS (PCB)
QUALITY CONTROL

CLIENT	: GEOENGINEERS, INC.	SAMPLE ID	: 9012-100-8
PROJECT #	: 0186-106-B69	DATE EXTRACTED	: 12/13/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 12/17/90
EPA METHOD	: 8080 (PCB)	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
PCB 1260	<0.033	0.36	0.311	86	0.310	86	0

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

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

POLYCHLORINATED BIPHENYLS (PCB)
QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL
EPA METHOD : 8080 (PCB)

SAMPLE ID : BLANK SPIKE
DATE EXTRACTED : 12/14/90
DATE ANALYZED : 12/17/90
MATRIX : SOIL
UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
PCB 1260	<0.033	0.33	0.314	95	N/A	N/A	N/A

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

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



GENERAL CHEMISTRY RESULTS

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

MATRIX : SOIL

UNITS : %

ATI I.D. #	CLIENT I.D.	MOISTURE

9012-048-11	901205-174	22

GENERAL CHEMISTRY QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

MATRIX : SOIL

UNITS : %

PARAMETER	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED RESULT	SPIKE ADDED	% REC
MOISTURE	9012-111-2	23	22	4	N/A	N/A	N/A

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

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

560 Naches Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

Chain of Custody LABORATORY NUMBER: 9012-048

PROJECT MANAGER: Kathy Kilman
 COMPANY: GEI
 ADDRESS: _____

PHONE: 746-5200 SAMPLED BY: CAH

SAMPLE DISPOSAL INSTRUCTIONS

☒ ATI Disposal @ \$5.00 each ☐ Return

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	8010	8020	BETX	8240	8270	8310	8080	PCB8	8140	8150	WDO	418.1	413.2	8015	TOC	TOX	%	EP TT	Prion	8080	8240	8270	8150	Metal			NUM		
901205-164	12/5/90	1000	SOIL	-1														X	HYDRAULIC ONLY												1		
-165		↓	↓	-2													X																1
-166		↓	↓	-3													X																1
-167		↓	↓	-4													X																1
-168		1200	↓	-5													X																1
-169		↓	↓	-6													X																1
-170		↓	↓	-7													X																1
-171		↓	↓	-8													X																1
-172		1400	↓	-9													X																1
-173		↓	↓	-10													X																1
-174		↓	↓	-11								X	12/10/90				X																1
-175		↓	↓	-12									12/10/90				X																1



Chain of Custody

DATE 12/5/90 PAGE 2 OF 2

LABORATORY NUMBER: 9012-048

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: 0186-106-69		TOTAL NUMBER OF CONTAINERS		Signature: [Signature] Time: 1600		Signature: Time:		Signature: Time:	
PROJECT NAME: [Signature]		COC SEALS/INTACT? Y/N/NA		Printed Name: Date:		Printed Name: Date:		Printed Name: Date:	
PURCHASE ORDER NUMBER:		RECEIVED GOOD COND./COLD		Craig [Signature] 12/5/90		Company: GEI		Company:	
ONGOING PROJECT? YES ☒ NO ☐		RECEIVED VIA: Taxi		RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.	
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS				Signature: Time: 5:30		Signature: Time:		Signature: Time:	
TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK				Printed Name: Date: 12-5-90		Printed Name: Date:		Printed Name: Date:	
GREATER THAN 24 HR. NOTICE? YES ☐ NO ☒ (LAB USE ONLY)				DL Thomas		Company: ATI		Analytical Technologies, Inc.	
SPECIAL INSTRUCTIONS: 24 HR RUSH									



Analytical Technologies, Inc.

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

ATI I.D. # 9012-061

December 12, 1990

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

Attention : Kathy Killman

Project Number : 0186-106-69

Project Name : Renton PSPL

On December 6, 1990, Analytical Technologies, Inc., received nine soil samples for analysis. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and quality control data are enclosed.

Bob A. Olsiewski
Project Manager

FWG/tc

Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9012-061-1	901206-181	12/06/90	SOIL
9012-061-2	901206-182	12/06/90	SOIL
9012-061-3	901206-183	12/06/90	SOIL
9012-061-4	901206-184	12/06/90	SOIL
9012-061-5	901206-185	12/06/90	SOIL
9012-061-6	901206-186	12/06/90	SOIL
9012-061-7	901206-187	12/06/90	SOIL
9012-061-8	901206-188	12/06/90	SOIL
9012-061-9	901206-189	12/06/90	SOIL

----- TOTALS -----

MATRIX	# SAMPLES
SOIL	9

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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/06/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 12/06/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/06/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 12/06/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/06/90
CLIENT I.D.	: 901206-181	DATE ANALYZED	: 12/07/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/06/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 12/06/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/06/90
CLIENT I.D.	: 901206-182	DATE ANALYZED	: 12/07/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND-----
RESULTFUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING440
C20 - C32
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/06/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 12/06/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/06/90
CLIENT I.D.	: 901206-183	DATE ANALYZED	: 12/07/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	67
HYDROCARBON RANGE	C20 - C32
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/06/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 12/06/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/06/90
CLIENT I.D.	: 901206-184	DATE ANALYZED	: 12/07/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/06/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 12/06/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/06/90
CLIENT I.D.	: 901206-185	DATE ANALYZED	: 12/07/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 100

COMPOUNDRESULT

FUEL HYDROCARBONS	36,000
HYDROCARBON RANGE	C22 - C32
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/06/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 12/06/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/06/90
CLIENT I.D.	: 901206-186	DATE ANALYZED	: 12/07/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/06/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 12/06/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/06/90
CLIENT I.D.	: 901206-187	DATE ANALYZED	: 12/07/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 10

COMPOUNDRESULT

FUEL HYDROCARBONS	5,600
HYDROCARBON RANGE	C22 - C32
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/06/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 12/06/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/06/90
CLIENT I.D.	: 901206-188	DATE ANALYZED	: 12/06/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/06/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 12/06/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/06/90
CLIENT I.D.	: 901206-189	DATE ANALYZED	: 12/07/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9012-061-8
PROJECT #	: 0186-106-69	DATE EXTRACTED	: 12/06/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 12/06/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<50	500	535	107	554	111	3

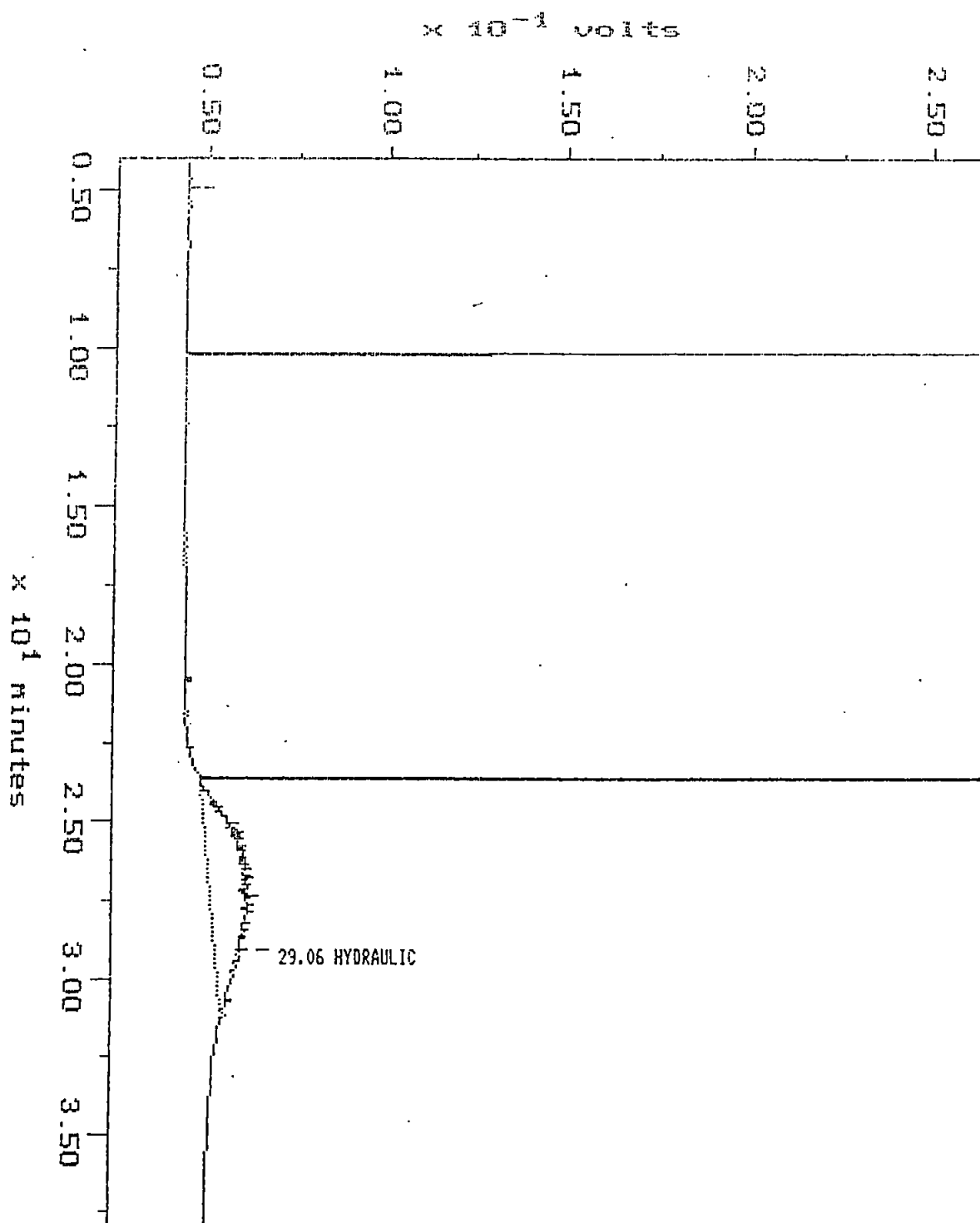
$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

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

Sample: 9012-061-2
Acquired: 07-DEC-90 12:23

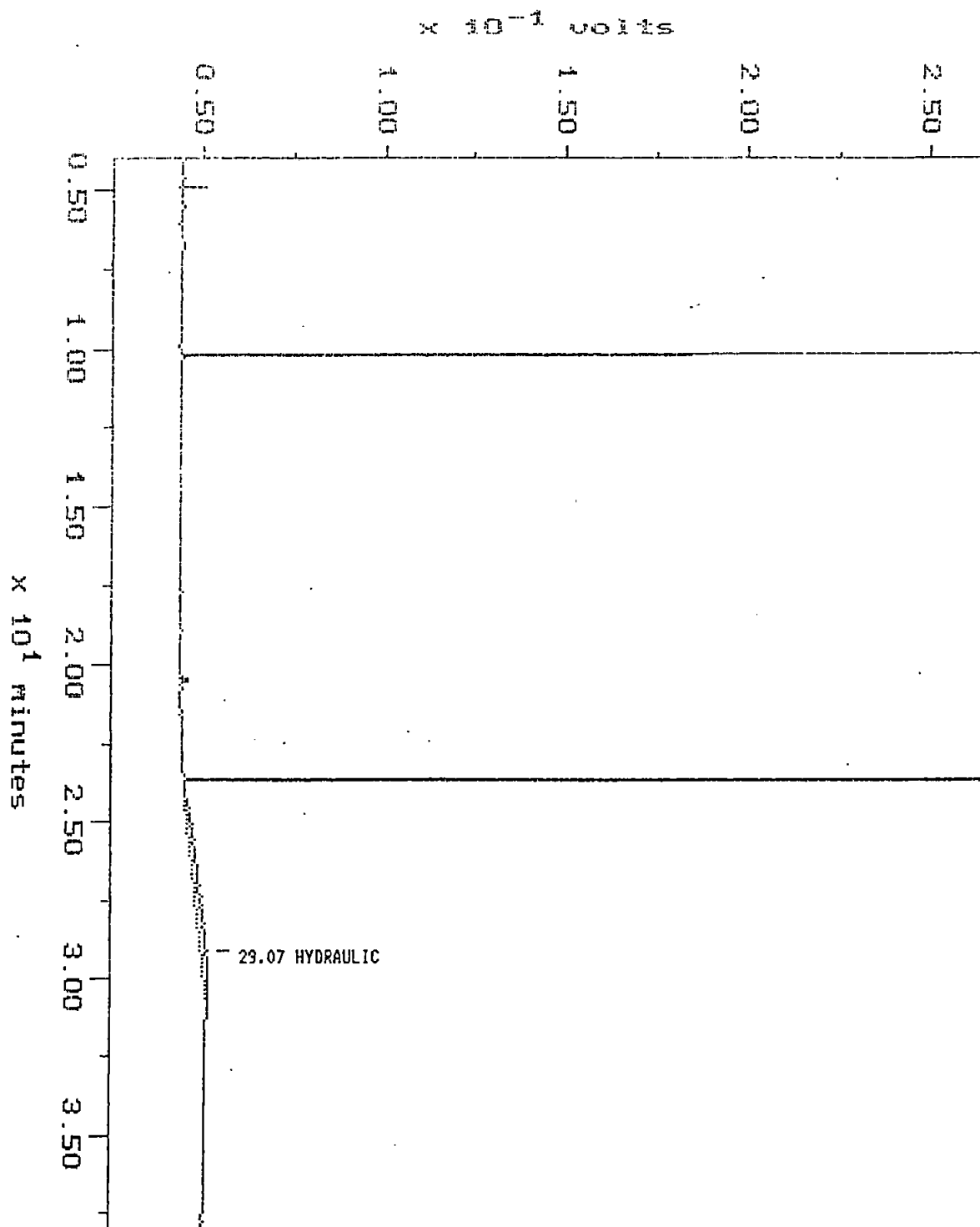
Channel: LISA
Method: L:\MAXDATA\WINS-L\FUEL1206

File name: 1206HL26
Operator:



Sample: 9012-061-3 Channel: LISA
Acquired: 07-DEC-90 13:09 Method: L:\MAXDATA\WINS-L\FUEL1206

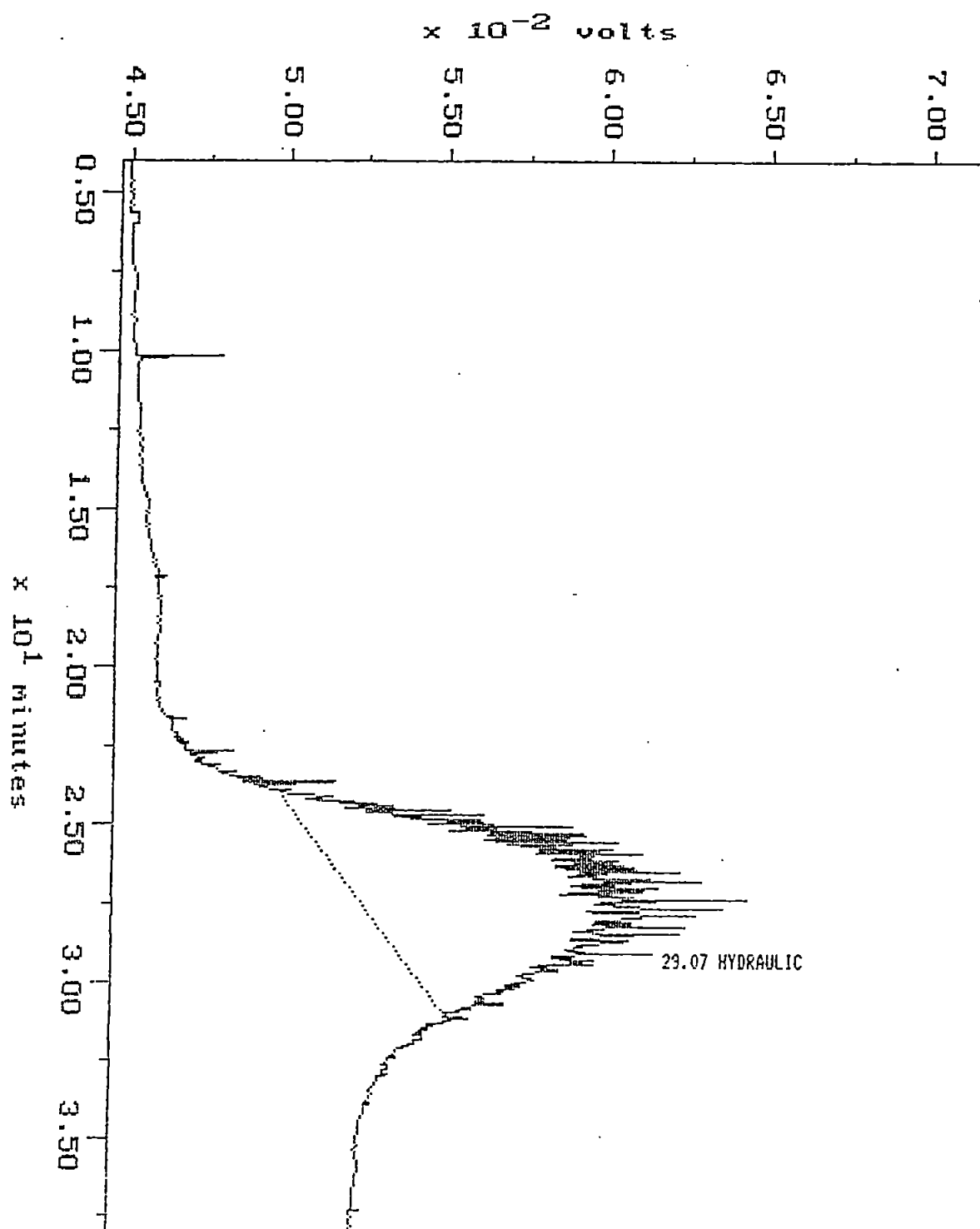
Filename: 1206ML27
Operator:



Sample: 9012-061-5 DIL
Acquired: 07-DEC-90 21:03
Dilution: 1 : 100.000

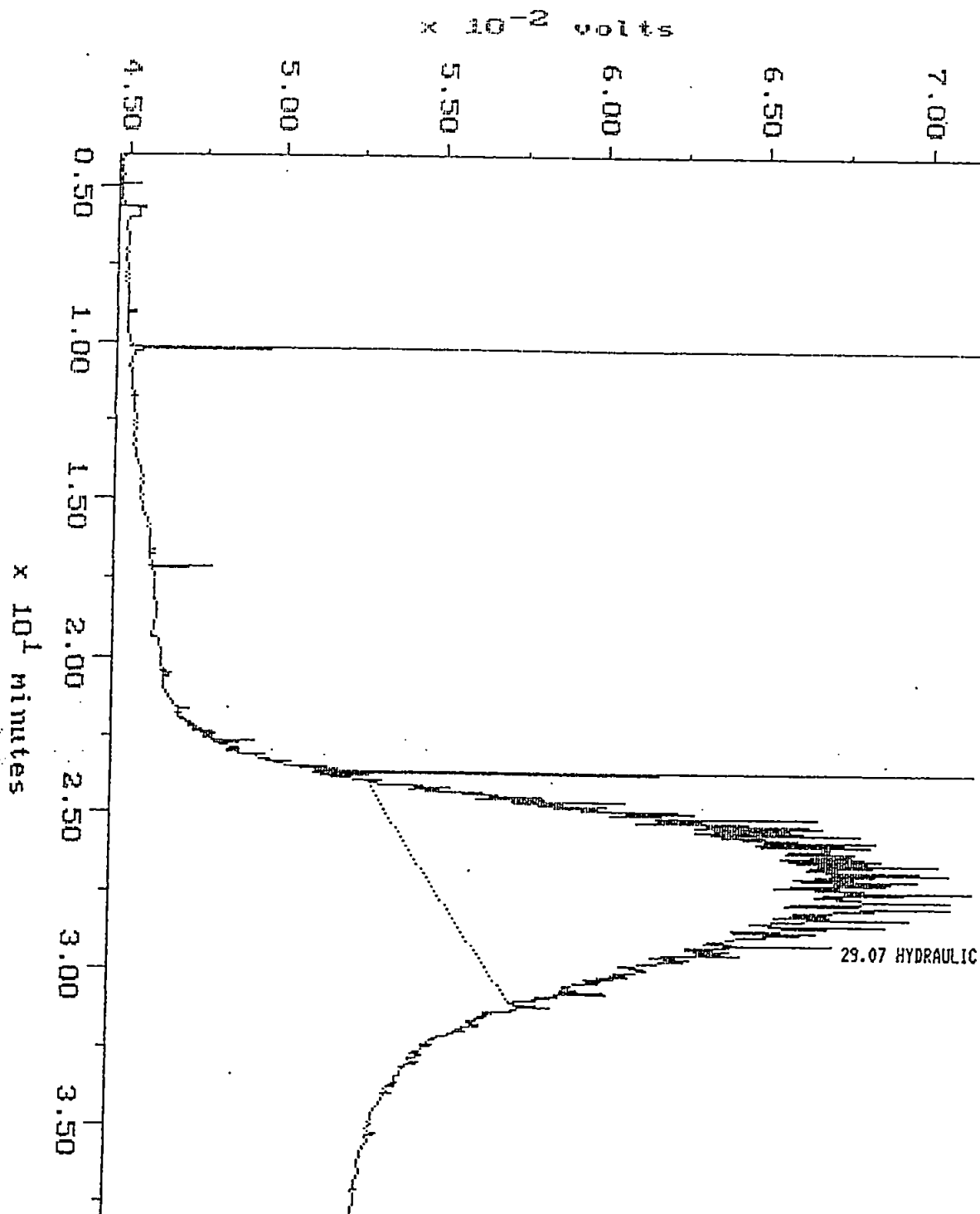
Channel: LISA
Method: L:\MAXDATA\WINS-L\FUEL1207

Filename: 1207WL04
Operator:

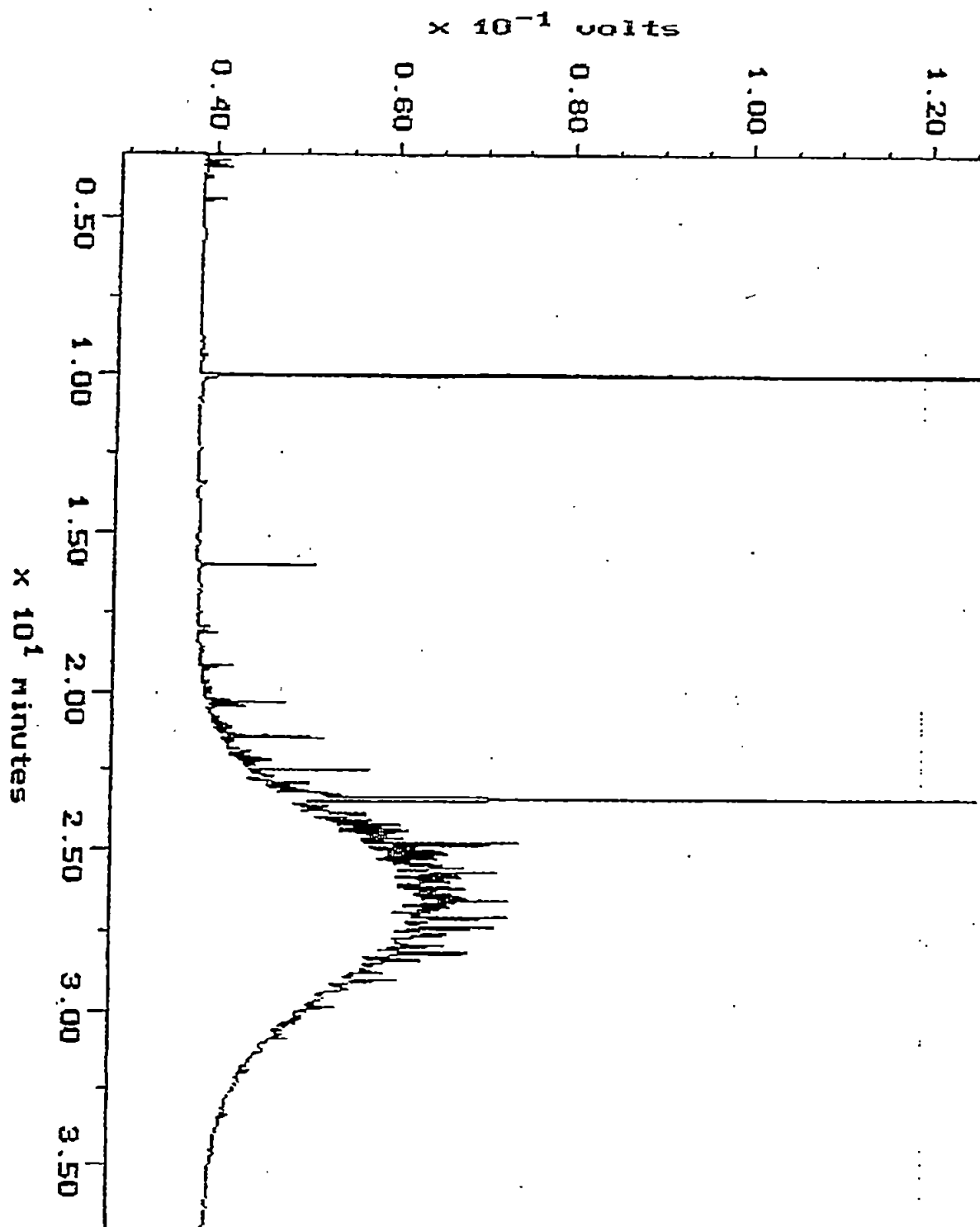


Sample: 9012-061-7 DIL Channel: LISA
Acquired: 07-DEC-90 20:17 Method: L:\MAXDATA\WINS-L\FUEL1207
Dilution: 1 : 10.000

Filename: 1207HL03
Operator:



Sample: 15 Channel: CLARENCE Filename: 0108SC15
Acquired: 08-JAN-91 20:46 Method: M:\MAIDATA\SERGE-C\FUEL0108 Operator: BRE -
Comments: THIS IS A CHROMATOGRAM OF A 500 ppm HYDRAULIC FLUID STANDARD IN PENTANE





Analytical Technologies, Inc.

560 Naches Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

Chain of Custody

LABORATORY NUMBER: 9012-061

DATE 12/6/10 PAGE 1 OF 1

PROJECT MANAGER: Kentley Kilman
COMPANY: GEI
ADDRESS: _____

PHONE: 746-5200 SAMPLED BY: CU

SAMPLE DISPOSAL INSTRUCTIONS

☒ ATI Disposal @ \$5.00 each ☐ Return

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	8010 Halogenated Volatiles	8020 Aromatic Volatiles	BETX ONLY	8240 GC/MS Volatiles	8270 GC/MS 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	EP TOX Metals (8) EP EXT	Priority Pollutant Metals (13)	TCLP ONLY					NUMBER OF CONTAINERS
																								8080 Pesticide (4)	8240 ZH-EXT	8270	8150 Herbicides (2)	Metals (8)	
901206-181	12/6/10	0900	Soil	1																									1
-182		↓		2																									1
-183		1000		3																									1
-184		↓		4																									1
-185		↓		5																									1
-186		1200		6																									1
-187		↓		7																									1
-188		↓		8																									1
-189		1600		9																									1

HYDRAULIC
ONLY

PROJECT INFORMATION

PROJECT NUMBER: 0186-100-109
PROJECT NAME: Renton PSL
PURCHASE ORDER NUMBER: _____
ONGOING PROJECT? YES ☒ NO ☐

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS 9
COC SEALS/INTACT? Y/N/NA NA
RECEIVED GOOD COND./COLD ✓
RECEIVED VIA: Hand Del.

RELINQUISHED BY:

Signature: [Signature] Time: 16:31
Printed Name: [Name] Date: 12/6/10
Company: GEI

RELINQUISHED BY: 2.

Signature: _____ Time: _____
Printed Name: _____ Date: _____
Company: _____

RELINQUISHED BY: 3.

Signature: _____ Time: _____
Printed Name: _____ Date: _____
Company: _____

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK
GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)

SPECIAL INSTRUCTIONS:

24 HR RUSH

RECEIVED BY:

Signature: _____ Time: _____
Printed Name: _____ Date: _____
Company: _____

RECEIVED BY: 2

Signature: _____ Time: _____
Printed Name: _____ Date: _____
Company: _____

RECEIVED BY: (LAB) 3.

Signature: [Signature] Time: 16:31
Printed Name: T. Landreth Date: 12/6/10
Company: Analytical Technologies, Inc.



Analytical**Technologies**, Inc.

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

ATI I.D. # 9012-075

December 12, 1990

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

Attention : Kathy Killman

Project Number : 0186-106-B69

Project Name : Renton PSPL

On December 7, 1990, Analytical Technologies, Inc., received seven soil samples for analysis. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and quality control data are enclosed.

Bob A. Olsiewski
Project Manager

FWG/elf

Frederick W. Grothkopp
Technical Manager

SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9012-075-1	901207-190	12/07/90	SOIL
9012-075-2	901207-191	12/07/90	SOIL
9012-075-3	901207-192	12/07/90	SOIL
9012-075-4	901207-193	12/07/90	SOIL
9012-075-5	901207-194	12/07/90	SOIL
9012-075-6	901207-195	12/07/90	SOIL
9012-075-7	901207-196	12/07/90	SOIL

----- TOTALS -----

MATRIX	# SAMPLES
SOIL	7

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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/07/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 12/07/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/07/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 12/07/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/07/90
CLIENT I.D.	: 901207-190	DATE ANALYZED	: 12/08/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/07/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 12/07/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/07/90
CLIENT I.D.	: 901207-191	DATE ANALYZED	: 12/07/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/07/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 12/07/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/07/90
CLIENT I.D.	: 901207-192	DATE ANALYZED	: 12/08/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND-----
RESULT

FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/07/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 12/07/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/07/90
CLIENT I.D.	: 901207-193	DATE ANALYZED	: 12/08/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/07/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 12/07/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/07/90
CLIENT I.D.	: 901207-194	DATE ANALYZED	: 12/08/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND-----
RESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

120
C22 - C32
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/07/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 12/07/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/07/90
CLIENT I.D.	: 901207-195	DATE ANALYZED	: 12/08/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	230
HYDROCARBON RANGE	C22 - C32
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/07/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 12/07/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/07/90
CLIENT I.D.	: 901207-196	DATE ANALYZED	: 12/08/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC.	SAMPLE I.D. : 9012-075-2
PROJECT # : 0186-106-B69	DATE EXTRACTED : 12/07/90
PROJECT NAME : RENTON PSPL	DATE ANALYZED : 12/07/90
EPA METHOD : 8015 MODIFIED	MATRIX : SOIL
	UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<50	500	440	88	409	82	7

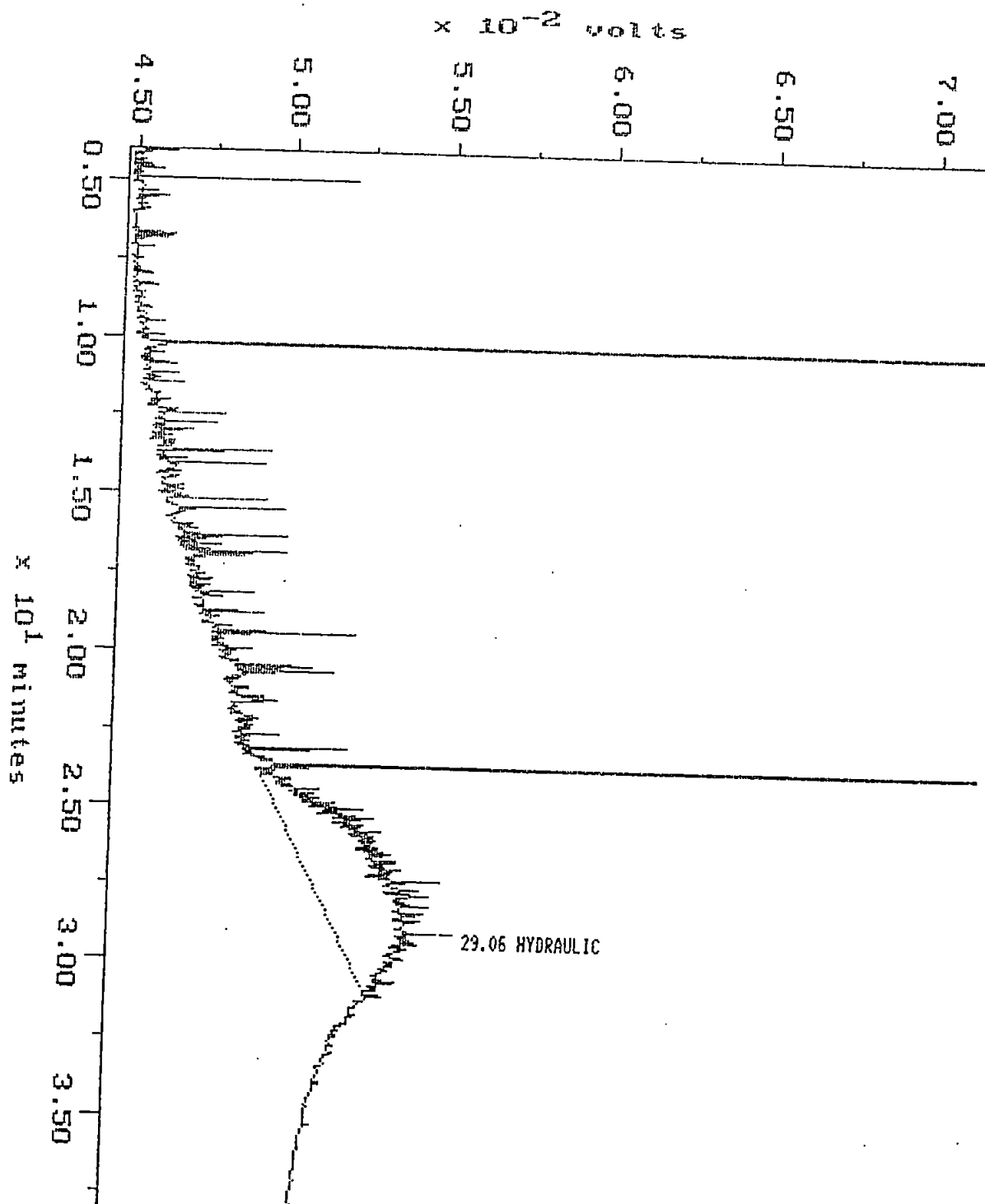
$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

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

Sample: 9012-075-5
Acquired: 08-DEC-90 6:23

Channel: LISA
Method: L:\MAXDATA\WINS-L\FUEL1207

Filename: 1207WL16
Operator:



Sample: 9012-075-6
Acquired: 08-DEC-90

7:09

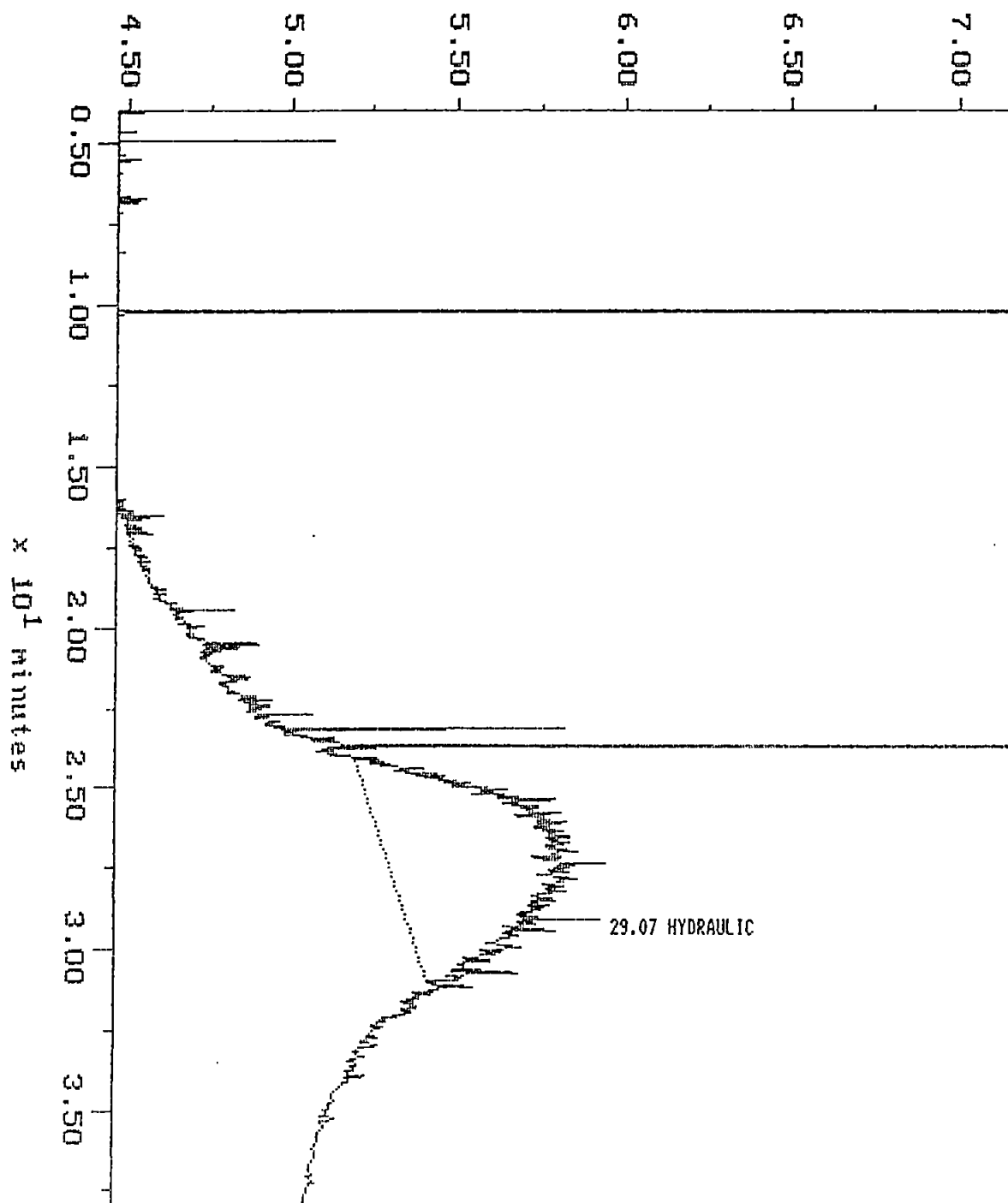
Channel: LISA

Method: L:\MAXDATA\WINS-L\FUEL1207

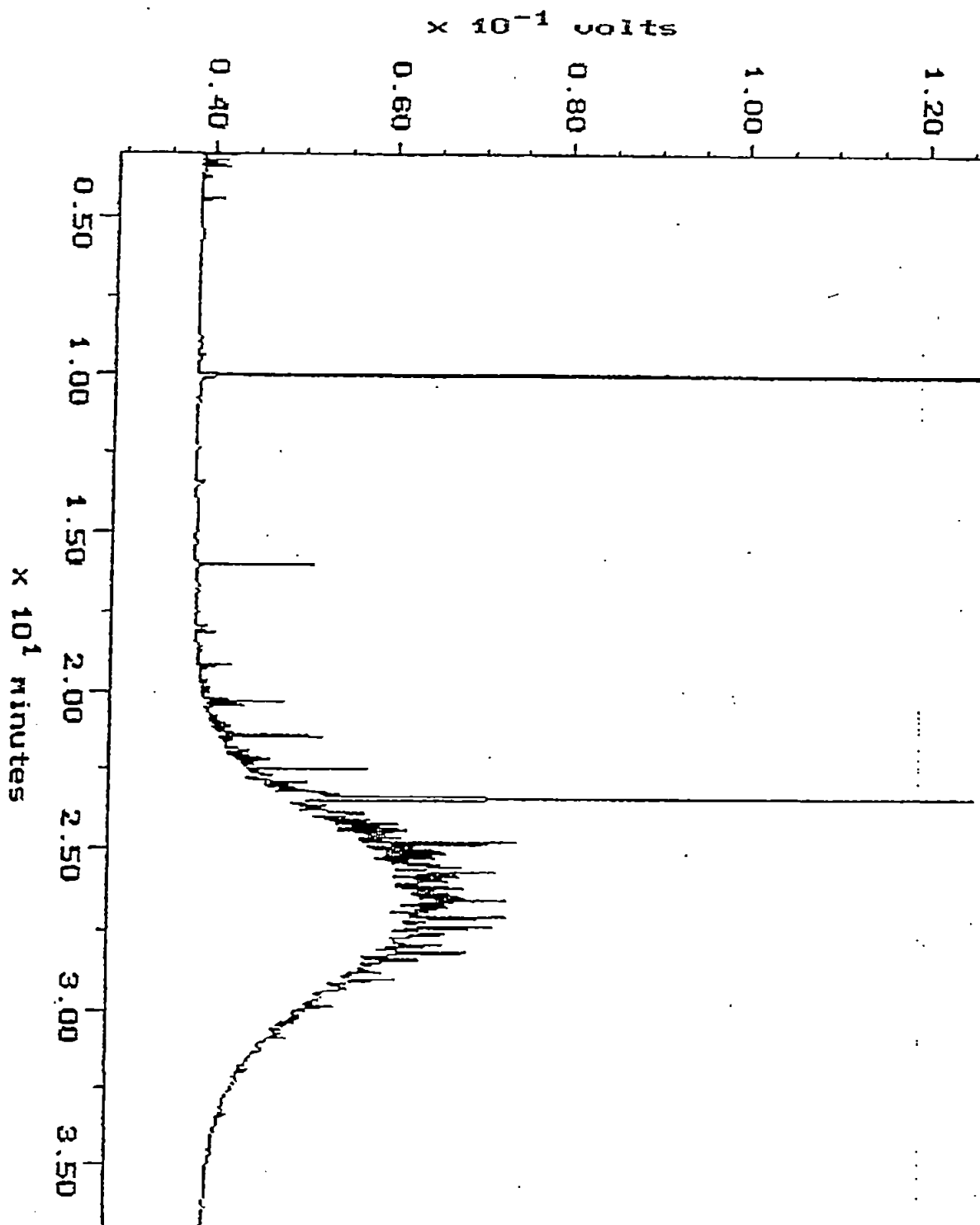
Filename: 1207WL17

Operator:

$\times 10^{-2}$ volts



Sample: 15 Channel: CLARENCE Filename: 0108SC15
Acquired: 08-JAN-91 20:46 Method: H:\MAIDATA\SERGE-C\FUEL0108 Operator: BRE
Comments: THIS IS A CHROMATOGRAM OF A 500 ppm HYDRAULIC FLUID STANDARD IN PENTANE





Analytical Technologies, Inc.

560 Naches Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

Chain of Custody

LABORATORY NUMBER: 9012-075

DATE 12/7/10 PAGE 1 OF 1

PROJECT MANAGER: Kathy Killman
 COMPANY: GEI
 ADDRESS: _____
 PHONE: 716-5200 SAMPLED BY: CAH

SAMPLE DISPOSAL INSTRUCTIONS

☒ ATI Disposal @ \$5.00 each

☐ Return

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	8010	8020	BETX	8240	8270	8310	8080	PCBs	8140	8150	WDOE	418.1	413.2	8015	TOC	TOX	%	EP TOX	Priority	8080 P	8240 Z	8270	8150 H	Metals	NUMBER
901207-190	12/7/10	1000	Soil	-1														X											1
-191	↓	↓	↓	-2														X											1
-192	↓	↓	↓	-3														X											1
-193	↓	↓	↓	-4														X											1
-194	↓	1100	↓	-5														X											1
-195	↓	↓	↓	-6														X											1
-196	↓	↓	↓	-7														X											1

PROJECT INFORMATION

PROJECT NUMBER: 0186-100-BC-1
 PROJECT NAME: Renton Road
 PURCHASE ORDER NUMBER: _____
 ONGOING PROJECT? YES ☒ NO ☐

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS 7
 COC SEALS/INTACT? Y/N/NA 4/NA
 RECEIVED GOOD COND/COLD 4
 RECEIVED VIA: Hand

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK
 GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)

SPECIAL INSTRUCTIONS:

24 Hr Rush

RELINQUISHED BY: 1

Signature: [Signature] Time: 1100
 Printed Name: Greg H Date: 12/7/10
 Company: GEI

RELINQUISHED BY: 2

Signature: _____ Time: _____
 Printed Name: _____ Date: _____
 Company: _____

RELINQUISHED BY: 3

Signature: _____ Time: _____
 Printed Name: _____ Date: _____
 Company: _____

RECEIVED BY: 1

Signature: [Signature] Time: 4:53
 Printed Name: D. Thomas Date: 12-7-10
 Company: ATI

RECEIVED BY: 2

Signature: _____ Time: _____
 Printed Name: _____ Date: _____
 Company: _____

RECEIVED BY: (LAB) 3

Signature: _____ Time: _____
 Printed Name: _____ Date: _____
 Analytical Technologies, Inc.



Analytical**Technologies**, Inc.

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

ATI I.D. # 9012-079

December 12, 1990

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

Attention : Kathy Killman

Project Number : 186-106-69

Project Name : Renton PSPL

On December 8, 1990, Analytical Technologies, Inc., received 12 soil samples for analysis. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and quality control data are enclosed.

Bob A. Olsiewski
Project Manager

FWG/elf

Frederick W. Grothkopp
Technical Manager

SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9012-079-1	901208-197	12/08/90	SOIL
9012-079-2	901208-198	12/08/90	SOIL
9012-079-3	901208-199	12/08/90	SOIL
9012-079-4	901208-200	12/08/90	SOIL
9012-079-5	901208-201	12/08/90	SOIL
9012-079-6	901208-202	12/08/90	SOIL
9012-079-7	901208-203	12/08/90	SOIL
9012-079-8	901208-204	12/08/90	SOIL
9012-079-9	901208-205	12/08/90	SOIL
9012-079-10	901208-206	12/08/90	SOIL
9012-079-11	901208-207	12/08/90	SOIL
9012-079-12	901208-208	12/08/90	SOIL

----- TOTALS -----

MATRIX	# SAMPLES
SOIL	12

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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 186-106-69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/08/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 12/08/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/08/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 12/08/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/08/90
CLIENT I.D.	: 901208-197	DATE ANALYZED	: 12/09/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/08/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 12/08/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/08/90
CLIENT I.D.	: 901208-198	DATE ANALYZED	: 12/09/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/08/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 12/08/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/08/90
CLIENT I.D.	: 901208-199	DATE ANALYZED	: 12/09/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/08/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 12/08/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/08/90
CLIENT I.D.	: 901208-200	DATE ANALYZED	: 12/09/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/08/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 12/08/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/08/90
CLIENT I.D.	: 901208-201	DATE ANALYZED	: 12/09/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/08/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 12/08/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/08/90
CLIENT I.D.	: 901208-202	DATE ANALYZED	: 12/09/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/08/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 12/08/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/08/90
CLIENT I.D.	: 901208-203	DATE ANALYZED	: 12/09/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND-----
RESULT

FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/08/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 12/08/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/08/90
CLIENT I.D.	: 901208-204	DATE ANALYZED	: 12/09/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/08/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 12/08/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/08/90
CLIENT I.D.	: 901208-205	DATE ANALYZED	: 12/09/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS

<50

HYDROCARBON RANGE

-

HYDROCARBONS QUANTITATED USING

HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/08/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 12/08/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/08/90
CLIENT I.D.	: 901208-206	DATE ANALYZED	: 12/09/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/08/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 12/08/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/08/90
CLIENT I.D.	: 901208-207	DATE ANALYZED	: 12/09/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND-----
RESULT

FUEL HYDROCARBONS	120
HYDROCARBON RANGE	C20 - C32
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/08/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 12/08/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/08/90
CLIENT I.D.	: 901208-208	DATE ANALYZED	: 12/09/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND-----
RESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

120
C20 - C32
HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT : GEOENGINEERS, INC.	SAMPLE I.D. : 9012-079-1
PROJECT # : 186-106-69	DATE EXTRACTED : 12/08/90
PROJECT NAME : RENTON PSPL	DATE ANALYZED : 12/09/90
EPA METHOD : 8015 MODIFIED	MATRIX : SOIL
	UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	<50	500	334	67	355	71	6

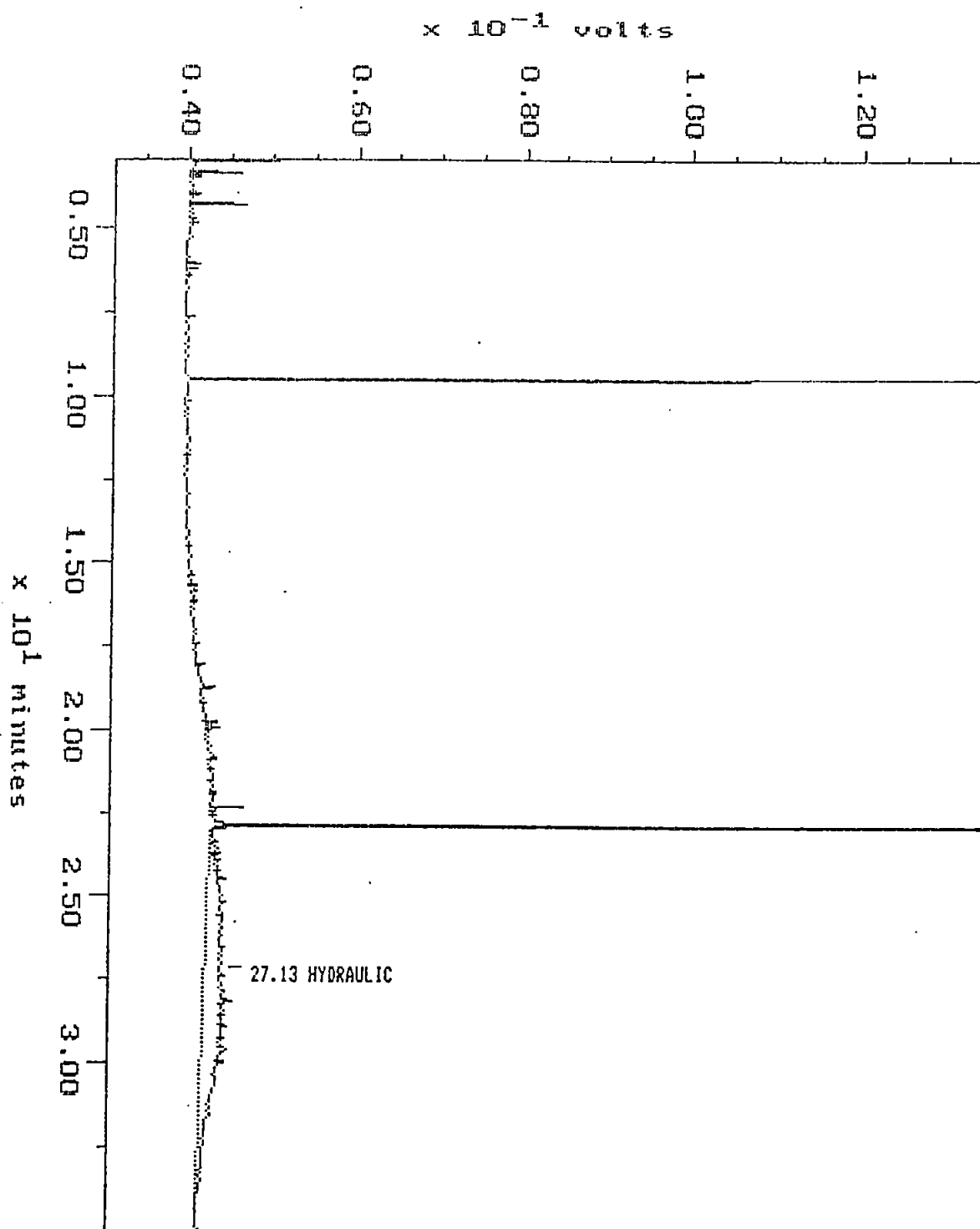
$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

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

Sample: 9012-079-11
Acquired: 09-DEC-90 11:08
Inj Vol: 1.00

Channel: DEMITRI
Method: M:\MAXDATA\SERGE-D\FUEL1208

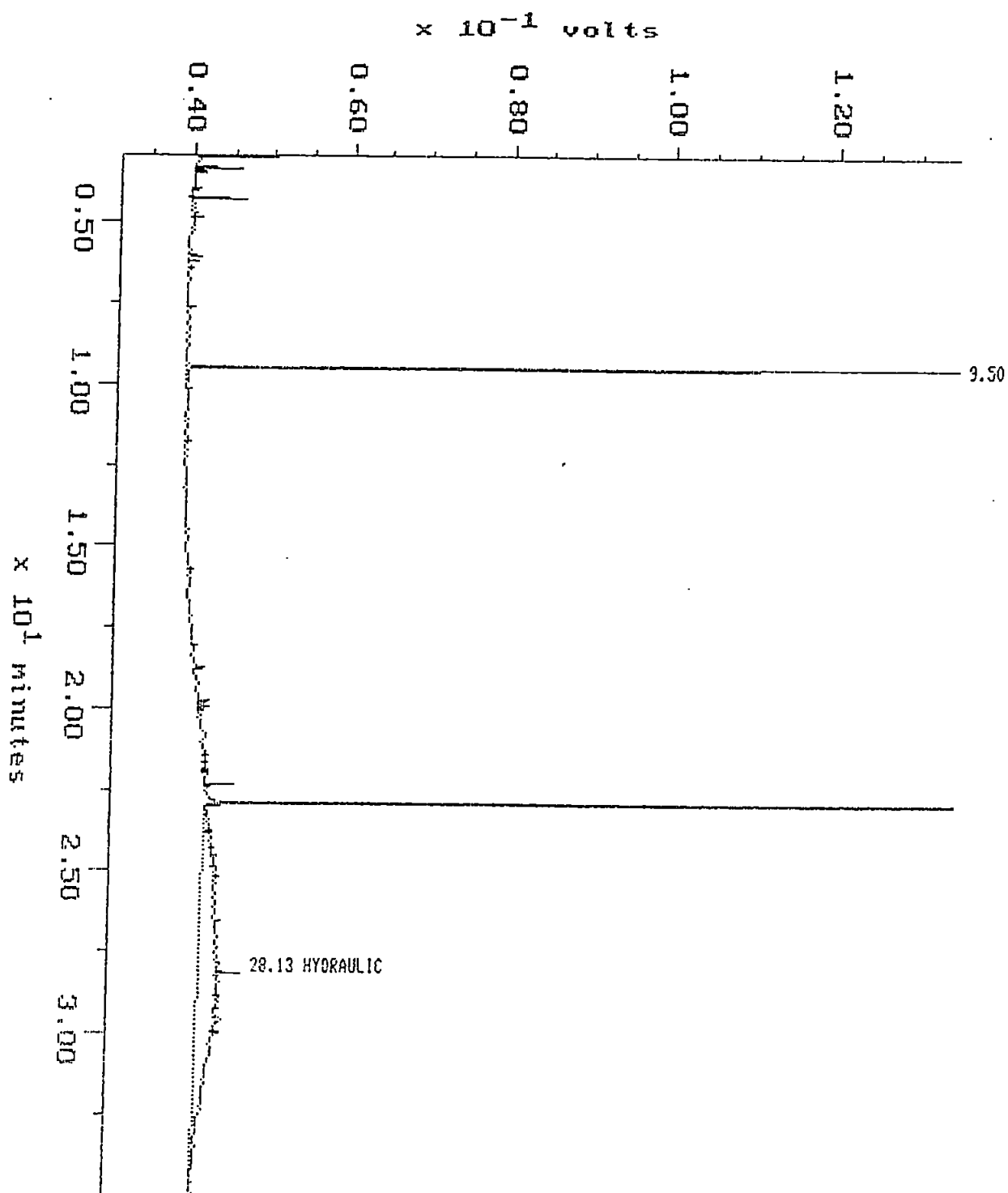
Filename: 1208SD20
Operator: BRE



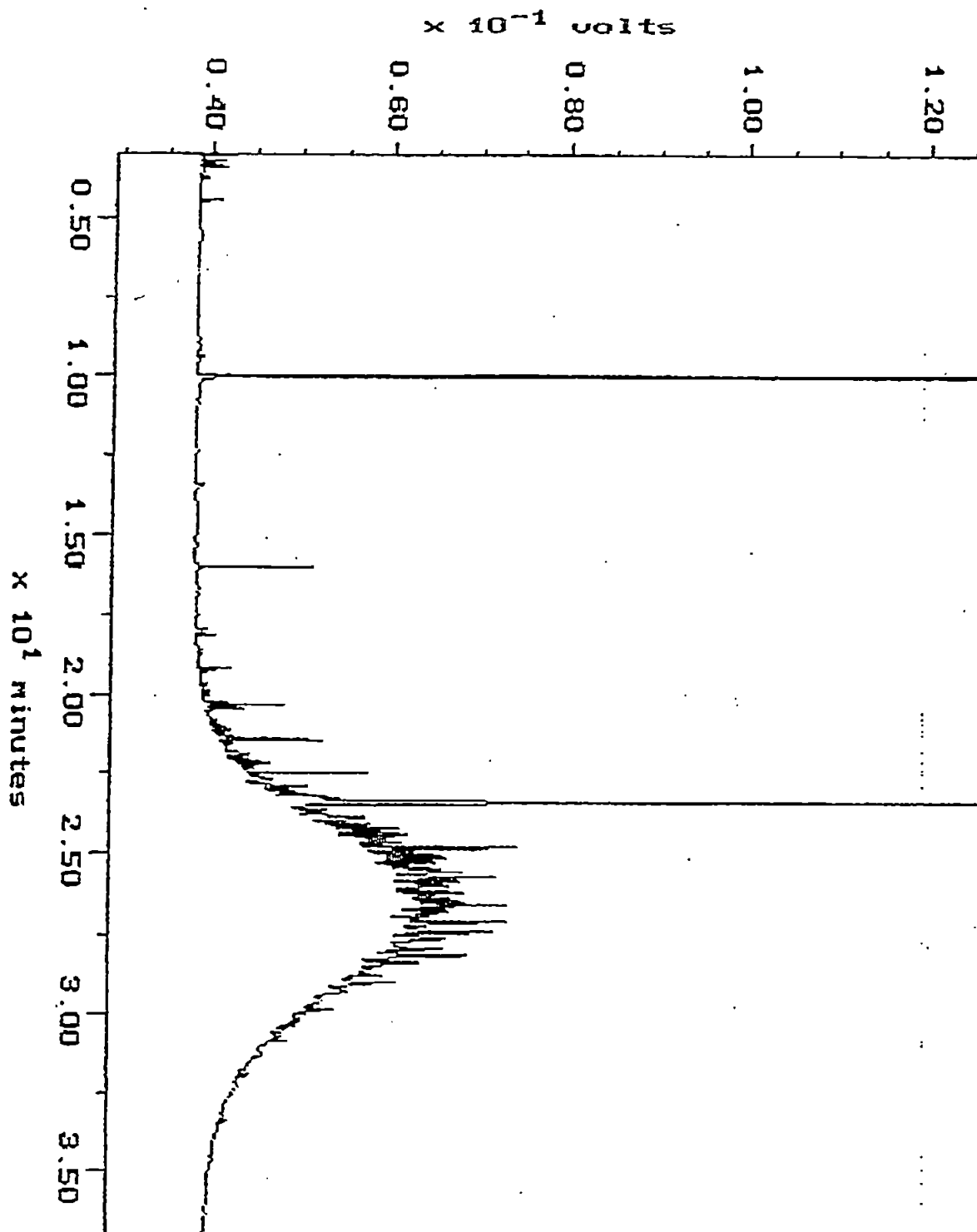
Sample: 9012-079-12
Acquired: 09-DEC-90 11:52
Inj Vol: 1.00

Channel: DEMITRI
Method: M:\MAXDATA\SERGE-D\FUEL1208

Filename: 1208SD21
Operator: BRE



Sample: 15 Channel: CLARENCE Filename: 0108SC15
Acquired: 08-JAN-91 20:46 Method: N:\MAXDATA\SERGE-C\FUEL0108 Operator: BRE -
Comments: THIS IS A CHROMATOGRAM OF A 500 ppm HYDRAULIC FLUID STANDARD IN PENTANE





Analytical Technologies, Inc.

560 Naches Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

9012-079

DATE 12/23/00 PAGE 1 OF 1

Chain of Custody

LABORATORY NUMBER:

PROJECT MANAGER: Kathy Killman
 COMPANY: GFI
 ADDRESS: _____
 PHONE: 206-5200 SAMPLED BY: Carl

SAMPLE DISPOSAL INSTRUCTIONS

☒ ATI Disposal @ \$5.00 each ☐ Return

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	8010	8020	BETX	8240	8270	8310	8080	PCB's	8140	8150	WDOE	418.1	413.2	8015	TOC	TOX	%	EP TOX	Priority	8080 F	8240 Z	8270	8150 F	Metals		NUMBER
701208-177	12/8/00	noon	Soil	-1																										1
-178				-2																										1
-199				-3																										1
-200				-4																										1
-201		12:00		-5																										1
-202				-6																										1
-203				-7																										1
-204				-8																										1
-205				-9																										1
-206				-10																										1
-207		6:00		-11																										1
-208				-12																										1

PROJECT INFORMATION

SAMPLE RECEIPT

PROJECT NUMBER: 186 106-69 TOTAL NUMBER OF CONTAINERS 12
 PROJECT NAME: Porter PSL COC SEALS/INTACT? Y/N/NA N/NA
 PURCHASE ORDER NUMBER: RECEIVED GOOD COND./COLD Y
 ONGOING PROJECT? YES ☒ NO ☐ RECEIVED VIA: Hand Del

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HRS ☐ 48 HRS ☐ 72 HRS ☐ 1 WK
 GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)

SPECIAL INSTRUCTIONS:

211 HR POST

RELINQUISHED BY: 1	RELINQUISHED BY: 2	RELINQUISHED BY: 3
Signature: <u>[Signature]</u> Time: <u>11:00</u>	Signature: _____ Time: _____	Signature: _____ Time: _____
Printed Name: _____ Date: <u>12/8/00</u>	Printed Name: _____ Date: _____	Printed Name: _____ Date: _____
Company: <u>GFI</u>	Company: _____	Company: _____
RECEIVED BY: 1	RECEIVED BY: 2	RECEIVED BY: (LAB) 3
Signature: <u>[Signature]</u> Time: <u>12:30</u>	Signature: _____ Time: _____	Signature: _____ Time: _____
Printed Name: <u>Bob Olsiewski</u> Date: _____	Printed Name: _____ Date: _____	Printed Name: _____ Date: _____
Company: <u>ATI</u>	Company: _____	Company: <u>Analytical Technologies, Inc.</u>



Analytical **Technologies, Inc.**

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

ATI I.D. # 9012-079

GeoEngineers

January 4, 1991

JAN 8 1991

Routing KSK ☐ ☐ ☐
File ☐ ☐ ☐

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

Attention : Kathy Killman

Project Number : 186-106-69

Project Name : Renton PSPL

On December 8, 1990, Analytical Technologies, Inc., received 12 soil samples for analysis. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and quality control data were issued on December 12, 1990.

The samples were rescheduled for additional tests on December 12, 1990. Enclosed is the report for the additional analyses.

Bob A. Olsiewski
Project Manager

FWG/elf

Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9012-079-1	901208-197	12/08/90	SOIL
9012-079-2	901208-198	12/08/90	SOIL
9012-079-3	901208-199	12/08/90	SOIL
9012-079-4	901208-200	12/08/90	SOIL
9012-079-5	901208-201	12/08/90	SOIL
9012-079-6	901208-202	12/08/90	SOIL
9012-079-7	901208-203	12/08/90	SOIL
9012-079-8	901208-204	12/08/90	SOIL
9012-079-9	901208-205	12/08/90	SOIL
9012-079-10	901208-206	12/08/90	SOIL
9012-079-11	901208-207	12/08/90	SOIL
9012-079-12	901208-208	12/08/90	SOIL

----- TOTALS -----

MATRIX	# SAMPLES
SOIL	12

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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
POLYCHLORINATED BIPHENYLS (PCBs)	GC/ECD	EPA 8080	R
MOISTURE	GRAVIMETRIC	METHOD 7-2.2	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

POLYCHLORINATED BIPHENYLS (PCB) ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 186-106-69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/14/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 12/17/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8080 (PCB)	DILUTION FACTOR	: 1
RESULTS BASED ON DRY WEIGHT			

COMPOUND	RESULT

PCB 1016	<0.033
PCB 1221	<0.033
PCB 1232	<0.033
PCB 1242	<0.033
PCB 1248	<0.033
PCB 1254	<0.033
PCB 1260	<0.033

SURROGATE PERCENT RECOVERY

DECACHLOROBIPHENYL	89
DIBUTYLCHLORENDATE	74

POLYCHLORINATED BIPHENYLS (PCB) ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/08/90
PROJECT #	: 186-106-69	DATE RECEIVED	: 12/08/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/14/90
CLIENT I.D.	: 901208-203	DATE ANALYZED	: 12/28/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8080 (PCB)	DILUTION FACTOR	: 1
RESULTS BASED ON DRY WEIGHT			

COMPOUND	RESULT

PCB 1016	<0.033
PCB 1221	<0.033
PCB 1232	<0.033
PCB 1242	<0.033
PCB 1248	<0.033
PCB 1254	<0.033
PCB 1260	<0.033

SURROGATE PERCENT RECOVERY

DECACHLOROBIPHENYL	55
DIBUTYLCHLORENDATE	43 *

* Out of limits due to matrix interference.

POLYCHLORINATED BIPHENYLS (PCB)
QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.	SAMPLE ID : 9012-100-8
PROJECT # : 186-106-69	DATE EXTRACTED : 12/13/90
PROJECT NAME : RENTON PSPL	DATE ANALYZED : 12/17/90
EPA METHOD : 8080 (PCB)	MATRIX : SOIL
	UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
PCB 1260	<0.033	0.36	0.311	86	0.310	86	0

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

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

POLYCHLORINATED BIPHENYLS (PCB)
QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.	SAMPLE ID : BLANK SPIKE
PROJECT # : 186-106-69	DATE EXTRACTED : 12/14/90
PROJECT NAME : RENTON PSPL	DATE ANALYZED : 12/17/90
EPA METHOD : 8080 (PCB)	MATRIX : SOIL
	UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
PCB 1260	<0.033	0.33	0.314	95	N/A	N/A	N/A

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

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



GENERAL CHEMISTRY RESULTS

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-69
PROJECT NAME : RENTON PSPL

MATRIX : SOIL

UNITS : %

ATI I.D.#	CLIENT I.D.	MOISTURE
9012-079-7	901208-203	27

GENERAL CHEMISTRY QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-69
PROJECT NAME : RENTON PSPL

MATRIX : SOIL

UNITS : %

PARAMETER	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED RESULT	SPIKE ADDED	% REC
MOISTURE	9012-111-2	23	22	4	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.

DATE 12/8/90 PAGE 1 OF 1

560 Naches Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

Chain of Custody LABORATORY NUMBER:

PROJECT MANAGER: <u>Kathy Killman</u>					ANALYSIS REQUEST																							
COMPANY: <u>GEI</u>					8010	8020	BETX ONLY	8240	8270	8310	8080	PCB's ONLY	8140	8150	WDOE PAH/H (WAC 173)	418.1	413.2	8015	TOC	TOX	%	EP TOX Metals (8)	Priority Pollutant Metals (13)	TCLP ONLY				NUMBER OF CONTAINERS
ADDRESS:					Halogenated Volatiles	Aromatic Volatiles		GCMS Volatiles	GCMS BNA	HPLC PNA	Pesticides & PCB's		Phosphate Pesticides	Herbicides				9060	9020	Moisture			8080	8240	8270	8150	Metals (8)	
PHONE: <u>746-5200</u> SAMPLED BY: <u>Carl</u>					SAMPLE DISPOSAL INSTRUCTIONS:																							
☒ ATI Disposal @ \$5.00 each ☐ Return																												
SAMPLE ID	DATE	TIME	MATRIX	LAB ID																								
901208-197	12/8/90	1000	Soil	-1																								
-198				-2																								
-199				-3																								
-200				-4																								
-201		1200		-5																								
-202				-6																								
-203				-7																								
-204				-8																								
-205				-9																								
-206				-10																								
-207		600		-11																								
-208				-12																								

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: <u>186-106-69</u>		TOTAL NUMBER OF CONTAINERS <u>12</u>		Signature: <u>[Signature]</u> Time: <u>1630</u>		Signature: _____ Time: _____		Signature: _____ Time: _____	
PROJECT NAME: <u>Ruben PSPL</u>		COC SEALS/INTACT? Y/N/NA <u>N/NA</u>		Printed Name: _____ Date: _____		Printed Name: _____ Date: _____		Printed Name: _____ Date: _____	
PURCHASE ORDER NUMBER: _____		RECEIVED GOOD COND/COLD <u>Y</u>		Signature: <u>[Signature]</u> Date: <u>12/8/90</u>		Signature: _____ Date: _____		Signature: _____ Date: _____	
ONGOING PROJECT? YES ☒ NO ☐		RECEIVED VIA: <u>Hand Del</u>		Company: <u>GEI</u>		Company: _____		Company: _____	
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS				RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.	
TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK				Signature: <u>[Signature]</u> Time: <u>1630</u>		Signature: _____ Time: _____		Signature: _____ Time: _____	
GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)				Printed Name: <u>Bob Olsiewski</u> Date: _____		Printed Name: _____ Date: _____		Printed Name: _____ Date: _____	
SPECIAL INSTRUCTIONS: <u>24 Hr RUSH</u>				Company: <u>ATI</u>		Company: _____		Analytical Technologies, Inc.	



Analytical**Technologies, Inc.**

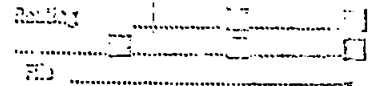
560 Naches Avenue, S.W., Suite 101, Renton, WA 98055, (206) 228-8335

ATI I.D. # 9012-090

GeoEngineers

December 20, 1990

DEC 20 1990



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

Attention : Kathy Killman

Project Number : 0186-106-B69

Project Name : Renton PSPL

On December 10, 1990, Analytical Technologies, Inc., received three soil samples for analysis. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and quality control data are enclosed.

Bob A. Olsiewski
Project Manager

FWG/elf

Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9012-090-1	901210-209	12/10/90	SOIL
9012-090-2	901210-210	12/10/90	SOIL
9012-090-3	901210-211	12/10/90	SOIL

----- 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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/10/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 12/10/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND	RESULT
FUEL HYDROCARBONS	<5
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	GASOLINE
FUEL HYDROCARBONS	<5
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	DIESEL
FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/10/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 12/10/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/10/90
CLIENT I.D.	: 901210-209	DATE ANALYZED	: 12/10/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
GASOLINE

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
DIESEL

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

130
C20 - C32
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/10/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 12/10/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/10/90
CLIENT I.D.	: 901210-210	DATE ANALYZED	: 12/10/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
GASOLINE

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

<5
-
DIESEL

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

220
C20 - C32
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/10/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 12/10/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/10/90
CLIENT I.D.	: 901210-211	DATE ANALYZED	: 12/11/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUND	RESULT
FUEL HYDROCARBONS	<5
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	GASOLINE
FUEL HYDROCARBONS	<5
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	DIESEL
FUEL HYDROCARBONS	150
HYDROCARBON RANGE	C20 - C32
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9012-090-1
PROJECT #	: 0186-106-B69	DATE EXTRACTED	: 12/10/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 12/10/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	128	500	582	91	582	91	0

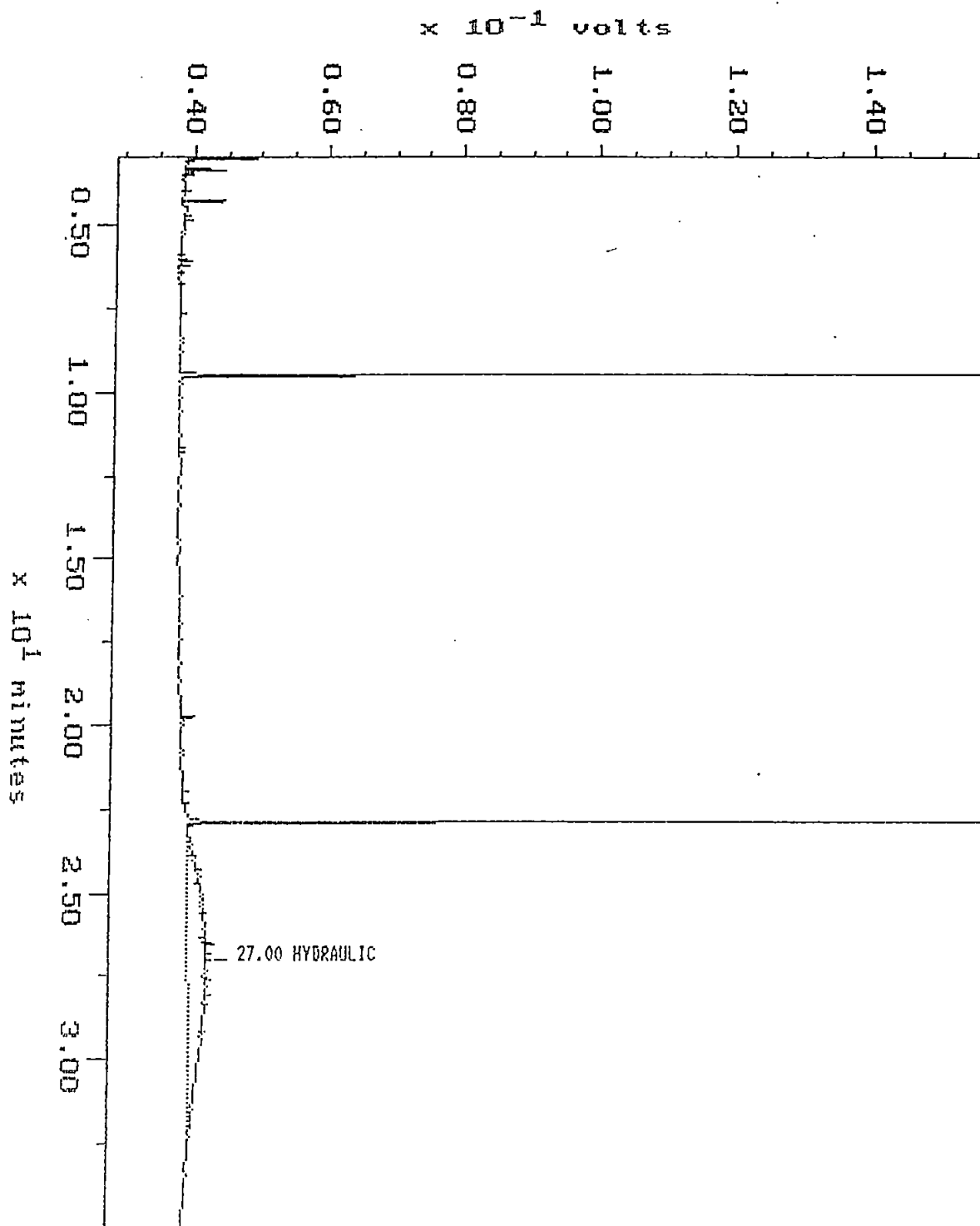
$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

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

Sample: 9012-090-1
Acquired: 10-DEC-90 20:55
Inj Vol: 1.00

Channel: DEMITRI
Method: M:\MAXDATA\SERGE-D\FUEL1210

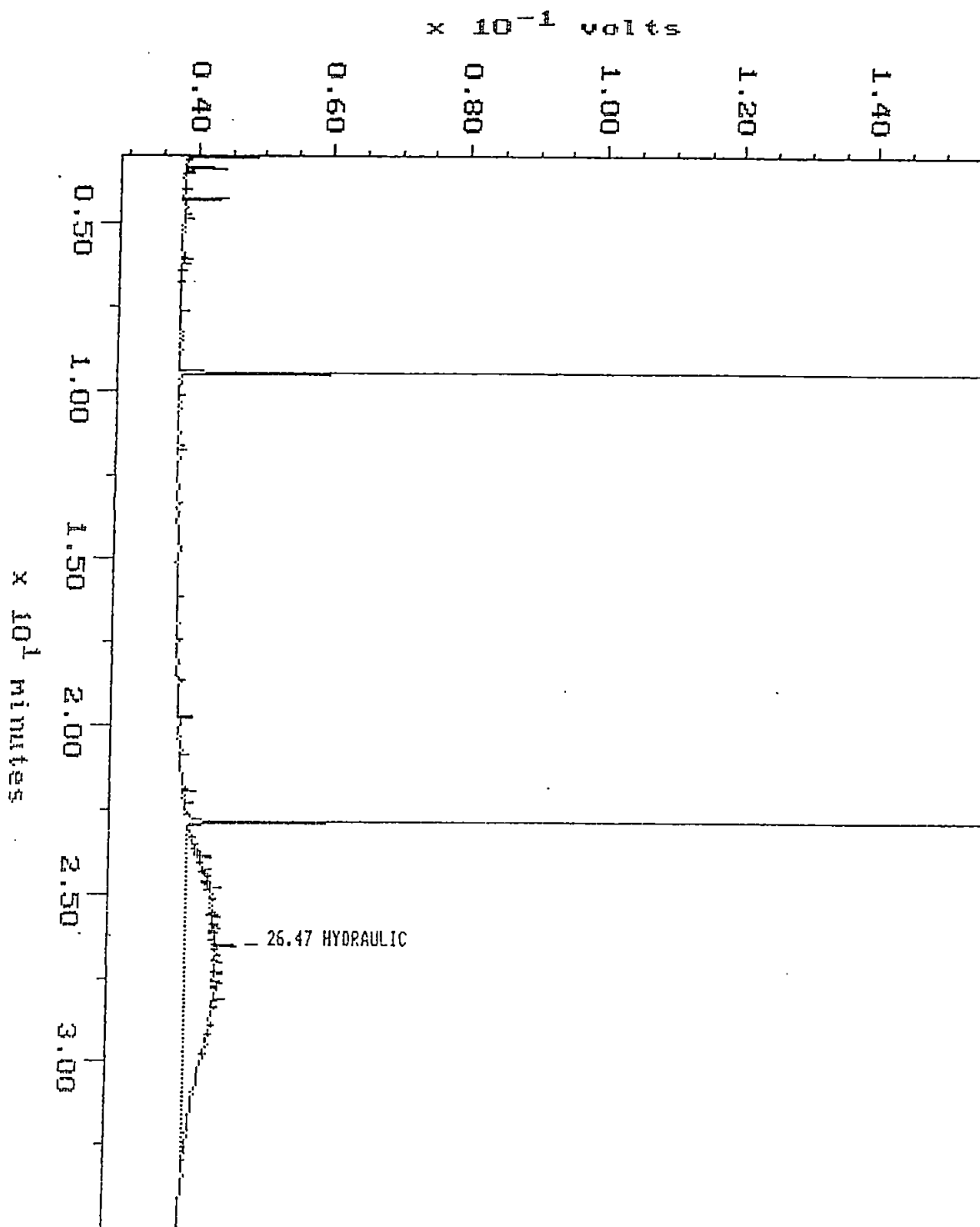
Filename: 1210SD06
Operator: BRE



Sample: 9012-090-2
Acquired: 10-DEC-90 23:10
Inj Vol: 1.00

Channel: DEHITRI
Method: M:\MAXDATA\SERGE-D\FUEL1210

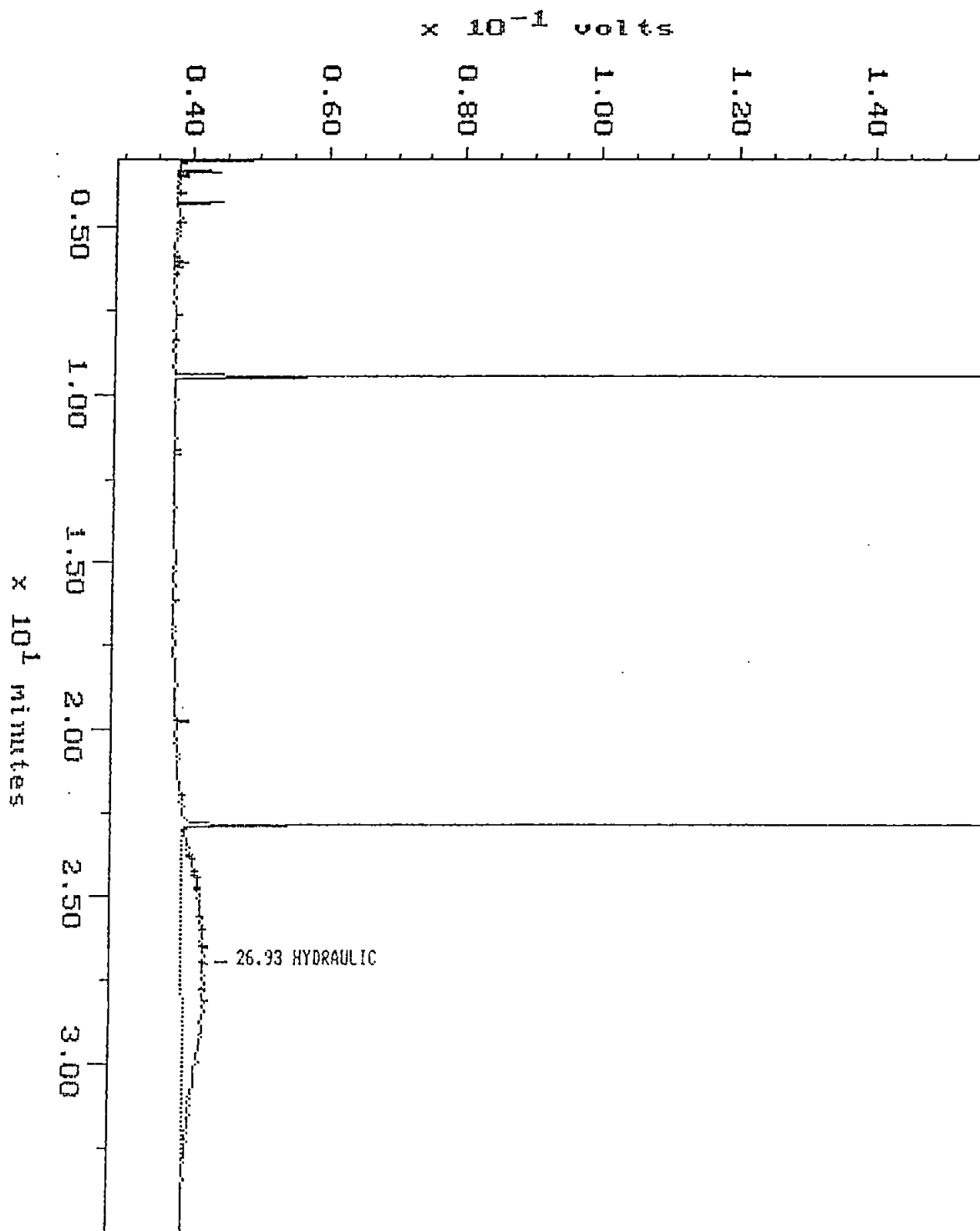
Filename: 1210SD09
Operator: BRE



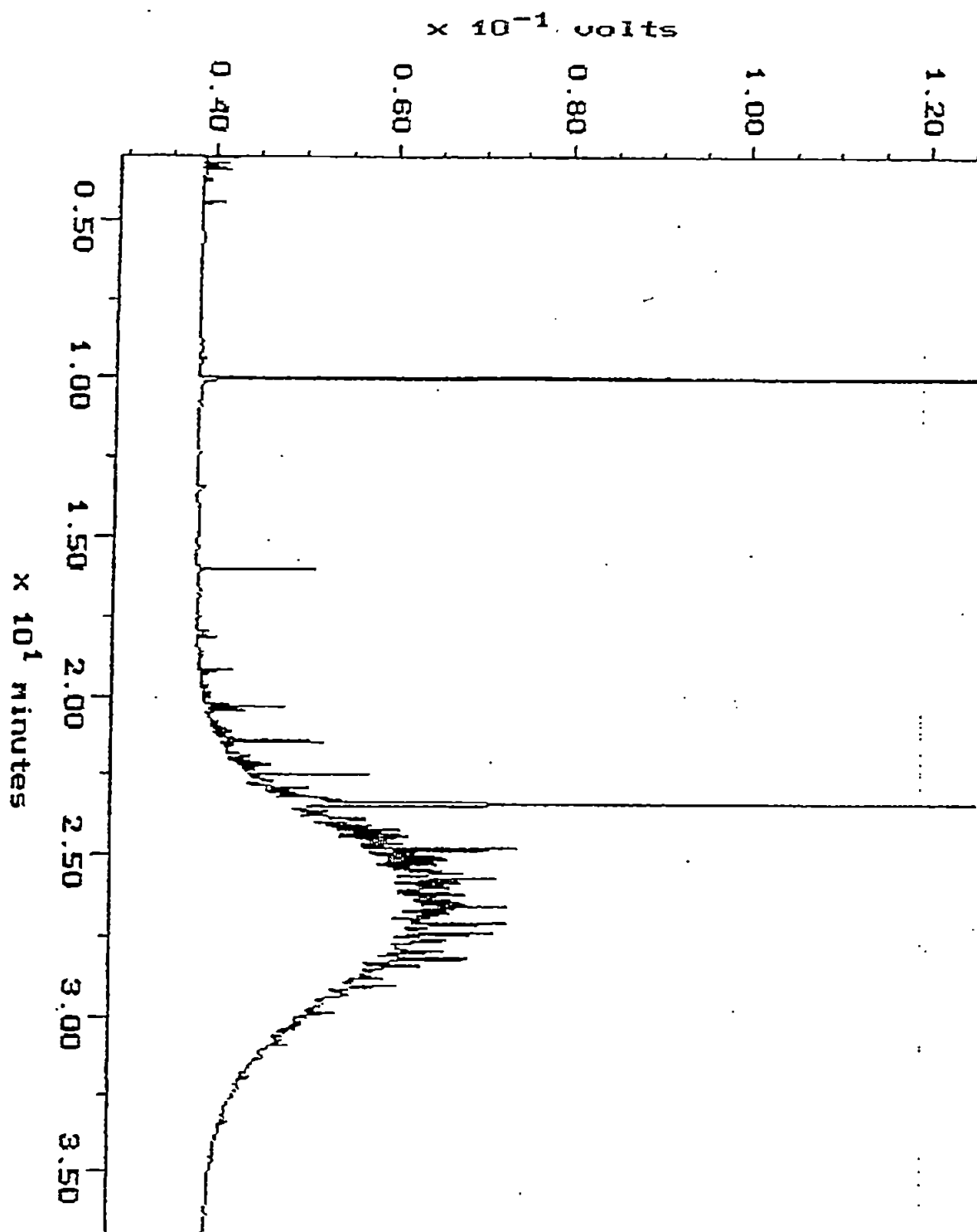
Sample: 9012-090-3
Acquired: 11-DEC-90 2:09
Inj Vol: 1.00

Channel: DEMITRI
Method: M:\MAXDATA\SERGE-DA\FUEL1210

Filename: 1210SD13
Operator: BRE



Sample: 15 Channel: CLARENCE Filename: 0108SC15
Acquired: 08-JAN-91 20:46 Method: M:\MAXDATA\SERGE-CLFUEL0108 Operator: BRE
Comments: THIS IS A CHROMATOGRAM OF A 500 ppm HYDRAULIC FLUID STANDARD IN PENTANE





Analytical Technologies, Inc.

560 Naches Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

DATE 12/10/10 PAGE 1 OF 1

Chain of Custody

LABORATORY NUMBER: 9012-090

PROJECT MANAGER: <u>Kathy Killman</u>					ANALYSIS REQUEST																							
COMPANY: <u>CEI</u>					8010	8020	BETX ONLY	8240	8270	8310	8080	PCB's ONLY	8140	8150	WDOE PAH/HH (WAC 173)	418.1	413.2	8015	TOC	TOX	%	EP TOX	Priority	TCLP ONLY				NUMBER OF CONTAINERS
ADDRESS:					Halogenated Volatiles	Aromatic Volatiles	GCMS Volatiles	GCMS BNA	HPLC PNA	Pesticides & PCB's	Phosphate Pesticides	Herbicides	Grease & Oil	(Modified)	9060	9020	Moisture	Metals (8)	Metals (13)	Metals (4)	ZH-EXT	Herbicides (2)	Metals (8)					
PHONE: <u>206-5200</u> SAMPLED BY: <u>CEI</u>																												
SAMPLE DISPOSAL INSTRUCTIONS																												
☒ ATI Disposal @ \$5.00 each ☐ Return																												
SAMPLE ID	DATE	TIME	MATRIX	LAB ID																								
901210-709	12/10/10	1600	206/11/10-1																									
710				-2																								
711				-3																								

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1		RELINQUISHED BY: 2		RELINQUISHED BY: 3	
PROJECT NUMBER: <u>9012-106-567</u>	TOTAL NUMBER OF CONTAINERS: <u>3</u>	COC SEALS/INTACT? Y/N/NA <u>NA</u>		Signature: <u>[Signature]</u>	Time: <u>1615</u>	Signature:	Time:	Signature:	Time:
PROJECT NAME: <u>Renton PSD</u>	RECEIVED GOOD COND/COLD <u>NA</u>	RECEIVED VIA: <u>Hand</u>		Printed Name: <u>Craig</u>	Date: <u>12/10/10</u>	Printed Name:	Date:	Printed Name:	Date:
PURCHASE ORDER NUMBER:	RECEIVED VIA:		Company: <u>CEI</u>	Company:		Company:		Company:	
ONGOING PROJECT? YES ☐ NO ☒	PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS		RECEIVED BY: 1		RECEIVED BY: 2		RECEIVED BY: (LAB) 3		
TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK	GREATER THAN 24 HR. NOTICE? YES ☒ NO ☐ (LAB USE ONLY)		Signature: <u>[Signature]</u>	Time: <u>1615</u>	Signature:	Time:	Signature:	Time:	
SPECIAL INSTRUCTIONS: <u>211 H2 ST RUSH</u>			Printed Name: <u>DH Thomas</u>	Date: <u>12-10-10</u>	Printed Name:	Date:	Printed Name:	Date:	
			Company: <u>ATI</u>	Company:		Company:		Analytical Technologies, Inc.	



Analytical **Technologies, Inc.**

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

ATI I.D. # 9012-112

GeoEngineers

January 2, 1991

1991 3 1991

Routing ☐ ☐ ☐
File ☐ ☐ ☐

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

Attention : Kathy Killman

Project Number : 0186-106-B69

Project Name : Renton PSPL

On November 14, 1990, Analytical Technologies, Inc., received two soil samples for analysis. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and quality control data were issued on November 29, 1990 under ATI accession number 9011-113.

One sample was reaccessioned for additional tests on December 12, 1990. Enclosed is the report for the additional analyses. Please note that samples were reaccessioned past the recommended holding time for extraction.

Mary C. Silva

Mary C. Silva
Senior Project Manager

FWG/elf

Frederick W. Grothkopp

Frederick W. Grothkopp
Technical Manager

SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9012-112-1	901114-100	11/14/90	SOIL

----- 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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
POLYCHLORINATED BIPHENYLS (PCBs)	GC/ECD	EPA 8080	R
MOISTURE	GRAVIMETRIC	METHOD 7-2.2	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

POLYCHLORINATED BIPHENYLS (PCB) ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-B69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/14/90
CLIENT I.D.	: REAGENT BLANK	DATE ANALYZED	: 12/17/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8080 (PCB)	DILUTION FACTOR	: 1
RESULTS BASED ON DRY WEIGHT			

COMPOUND	RESULT
PCB 1016	<0.033
PCB 1221	<0.033
PCB 1232	<0.033
PCB 1242	<0.033
PCB 1248	<0.033
PCB 1254	<0.033
PCB 1260	<0.033

SURROGATE PERCENT RECOVERY

DECACHLOROBIPHENYL	89
DIBUTYLCHLORENDATE	74

POLYCHLORINATED BIPHENYLS (PCB) ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 11/14/90
PROJECT #	: 0186-106-B69	DATE RECEIVED	: 11/14/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/14/90
CLIENT I.D.	: 901114-100	DATE ANALYZED	: 12/26/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8080 (PCB)	DILUTION FACTOR	: 1
RESULTS BASED ON DRY WEIGHT			

COMPOUND	RESULT
PCB 1016	<0.033
PCB 1221	<0.033
PCB 1232	<0.033
PCB 1242	<0.033
PCB 1248	<0.033
PCB 1254	<0.033
PCB 1260	<0.033

SURROGATE PERCENT RECOVERY

DECACHLOROBIPHENYL	63
DIBUTYLCHLORENDATE	49

POLYCHLORINATED BIPHENYLS (PCB)
QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.	SAMPLE ID : 9012-100-8
PROJECT # : 0186-106-B69	DATE EXTRACTED : 12/13/90
PROJECT NAME : RENTON PSPL	DATE ANALYZED : 12/17/90
EPA METHOD : 8080 (PCB)	MATRIX : SOIL
	UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
PCB 1260	<0.033	0.36	0.311	86	0.310	86	0

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

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

POLYCHLORINATED BIPHENYLS (PCB)
QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.	SAMPLE ID : BLANK SPIKE
PROJECT # : 0186-106-B69	DATE EXTRACTED : 12/14/90
PROJECT NAME : RENTON PSPL	DATE ANALYZED : 12/17/90
EPA METHOD : 8080 (PCB)	MATRIX : SOIL
	UNITS : mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
PCB 1260	<0.033	0.33	0.314	95	N/A	N/A	N/A

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

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



ATI I.D. # 9012-112

GENERAL CHEMISTRY RESULTS

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

MATRIX : SOIL

UNITS : %

ATI I.D.#	CLIENT I.D.	MOISTURE
9012-112-1	901114-100	24

GENERAL CHEMISTRY QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-B69
PROJECT NAME : RENTON PSPL

MATRIX : SOIL

UNITS : %

PARAMETER	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED RESULT	SPIKE ADDED	% REC
MOISTURE	9012-111-2	23	22	4	N/A	N/A	N/A

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

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



560 Naches Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

9042-112 DATE 11/14/92 PAGE 1 OF 1
LABORATORY NUMBER: 9042-113 11/24/92

LABORATORY NUMBER: 9011-113 11/34

B - 642

Paul P. H.



Analytical **Technologies, Inc.**

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

ATI I.D. # 9012-132

GeoEngineers

DEC 26 1990

Routing KSK ☐ ☐ ☐
File ☐ ☐ ☐

December 20, 1990

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

Attention : Kathy Killman

Project Number : 0186-106-69

Project Name : Renton PSPL

On December 14, 1990, Analytical Technologies, Inc., received four soil samples for analysis. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and quality control data are enclosed.

Ken Wahl for BAO.
Bob A. Olsiewski
Project Manager

Frederick W. Grothkopp
Frederick W. Grothkopp
Technical Manager

FWG/elf

SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9012-132-1	901213-212	12/13/90	SOIL
9012-132-2	901213-213	12/13/90	SOIL
9012-132-3	901213-214	12/13/90	SOIL
9012-132-4	901213-215	12/13/90	SOIL

----- 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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 0186-106-69
PROJECT NAME : RENTON PSPL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
FUEL HYDROCARBONS	GC/FID	EPA 8015 MODIFIED	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: N/A
PROJECT #	: 0186-106-69	DATE RECEIVED	: N/A
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/14/90
CLIENT I.D.	: REAGENT BLANK A	DATE ANALYZED	: 12/14/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT
-----FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING<50
-
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/13/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 12/14/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/14/90
CLIENT I.D.	: 901213-212	DATE ANALYZED	: 12/14/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	<50
HYDROCARBON RANGE	-
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/13/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 12/14/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/14/90
CLIENT I.D.	: 901213-213	DATE ANALYZED	: 12/14/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	120
HYDROCARBON RANGE	C18 - C34
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/13/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 12/14/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/14/90
CLIENT I.D.	: 901213-214	DATE ANALYZED	: 12/15/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS
HYDROCARBON RANGE
HYDROCARBONS QUANTITATED USING

51
C18 - C34
HYDRAULIC FLUID

FUEL HYDROCARBONS ANALYSIS
DATA SUMMARY

CLIENT	: GEOENGINEERS, INC.	DATE SAMPLED	: 12/13/90
PROJECT #	: 0186-106-69	DATE RECEIVED	: 12/14/90
PROJECT NAME	: RENTON PSPL	DATE EXTRACTED	: 12/14/90
CLIENT I.D.	: 901213-215	DATE ANALYZED	: 12/15/90
SAMPLE MATRIX	: SOIL	UNITS	: mg/Kg
EPA METHOD	: 8015 MODIFIED	DILUTION FACTOR	: 1

COMPOUNDRESULT

FUEL HYDROCARBONS	55
HYDROCARBON RANGE	C18 - C34
HYDROCARBONS QUANTITATED USING	HYDRAULIC FLUID

FUEL HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: GEOENGINEERS, INC.	SAMPLE I.D.	: 9012-132-2
PROJECT #	: 0186-106-69	DATE EXTRACTED	: 12/14/90
PROJECT NAME	: RENTON PSPL	DATE ANALYZED	: 12/14/90
EPA METHOD	: 8015 MODIFIED	MATRIX	: SOIL
		UNITS	: mg/Kg

COMPOUND	SAMPLE RESULT	CONC SPIKED	SPIKED SAMPLE	% REC	DUP SPIKED SAMPLE	DUP % RECOVERY	RPD
FUEL HYDROCARBONS	120	500	631	102	764	129	19

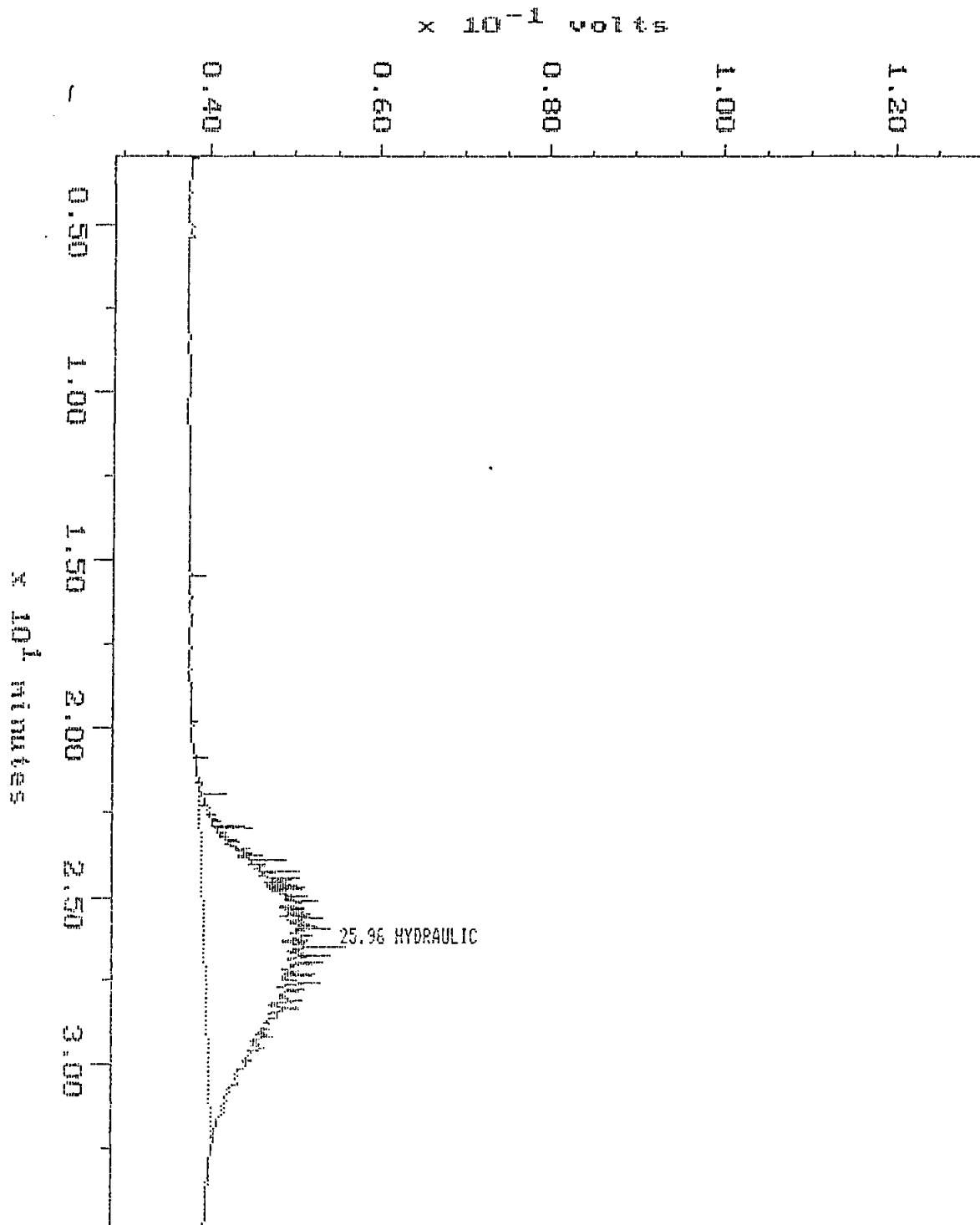
$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

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

Sample: 500 HYD *Standard*
Acquired: 14-DEC-90 20:11
Inj Vol: 1.00

Channel: DEMITRI
Method: M:\MAXDATA\SERGE-DA\FUEL1214

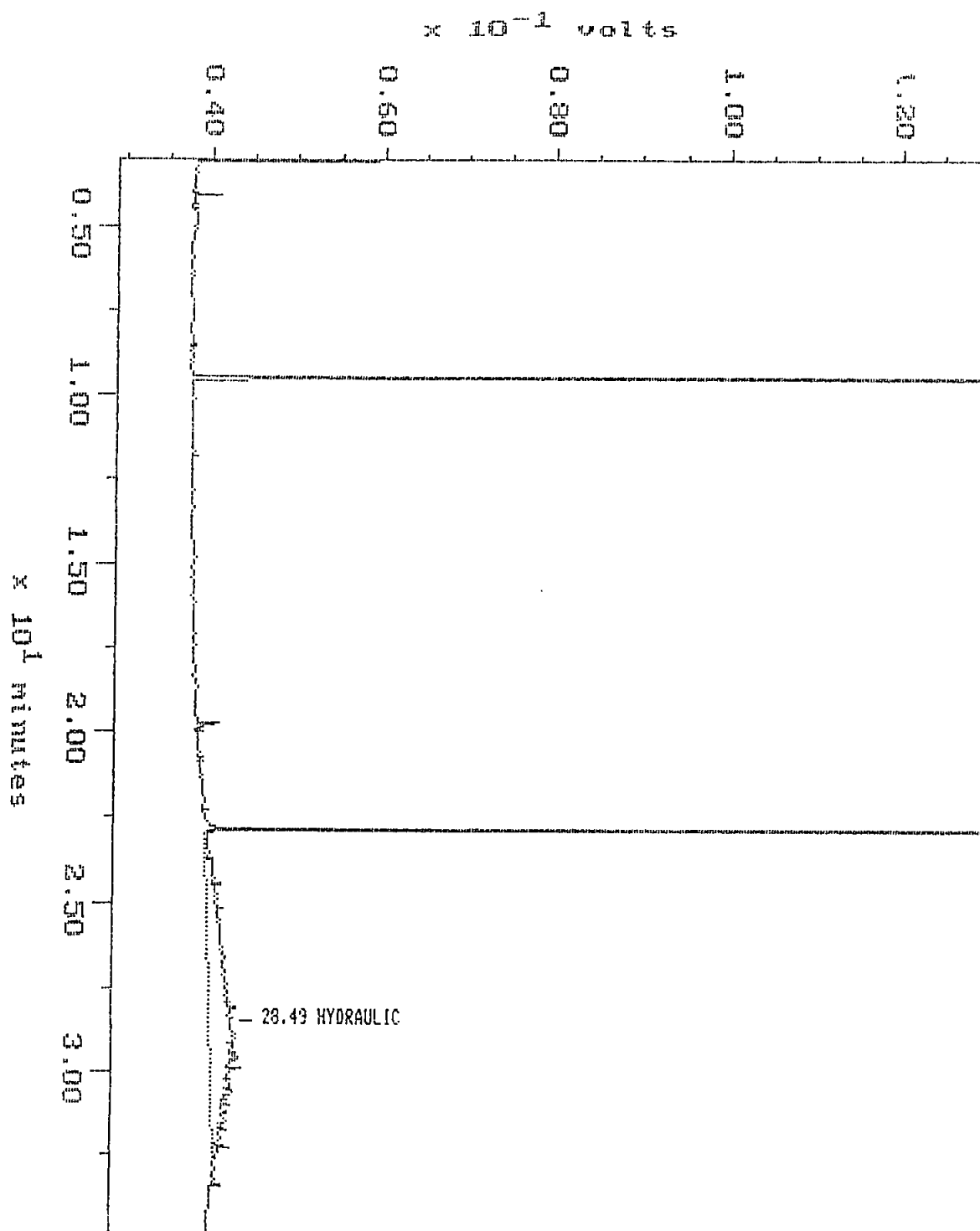
Filename: 1214SD06
Operator: BRE



Sample: 9012-132-2
Acquired: 14-DEC-90 21:40
Inj Vol: 1.00

Channel: DEMITRI
Method: M:\MAXDATA\SERGE-D\FUEL1214

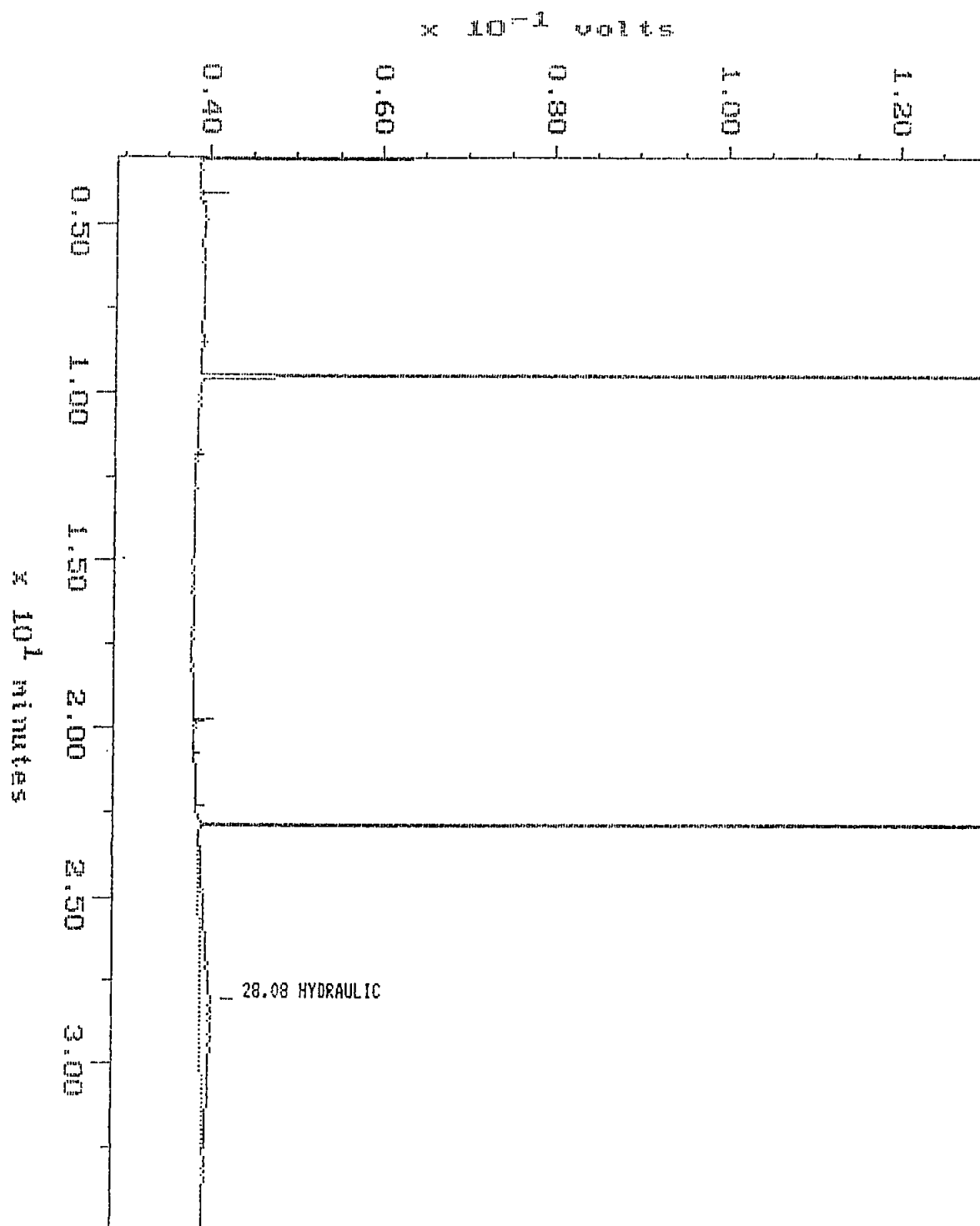
Filename: 1214SD08
Operator: BRE



Sample: 9012-132-3
Acquired: 15-DEC-90 1:21
Inj Vol: 1.00

Channel: DEMITRI
Method: M:\MAXDATA\SERGE-DA\FUEL1214

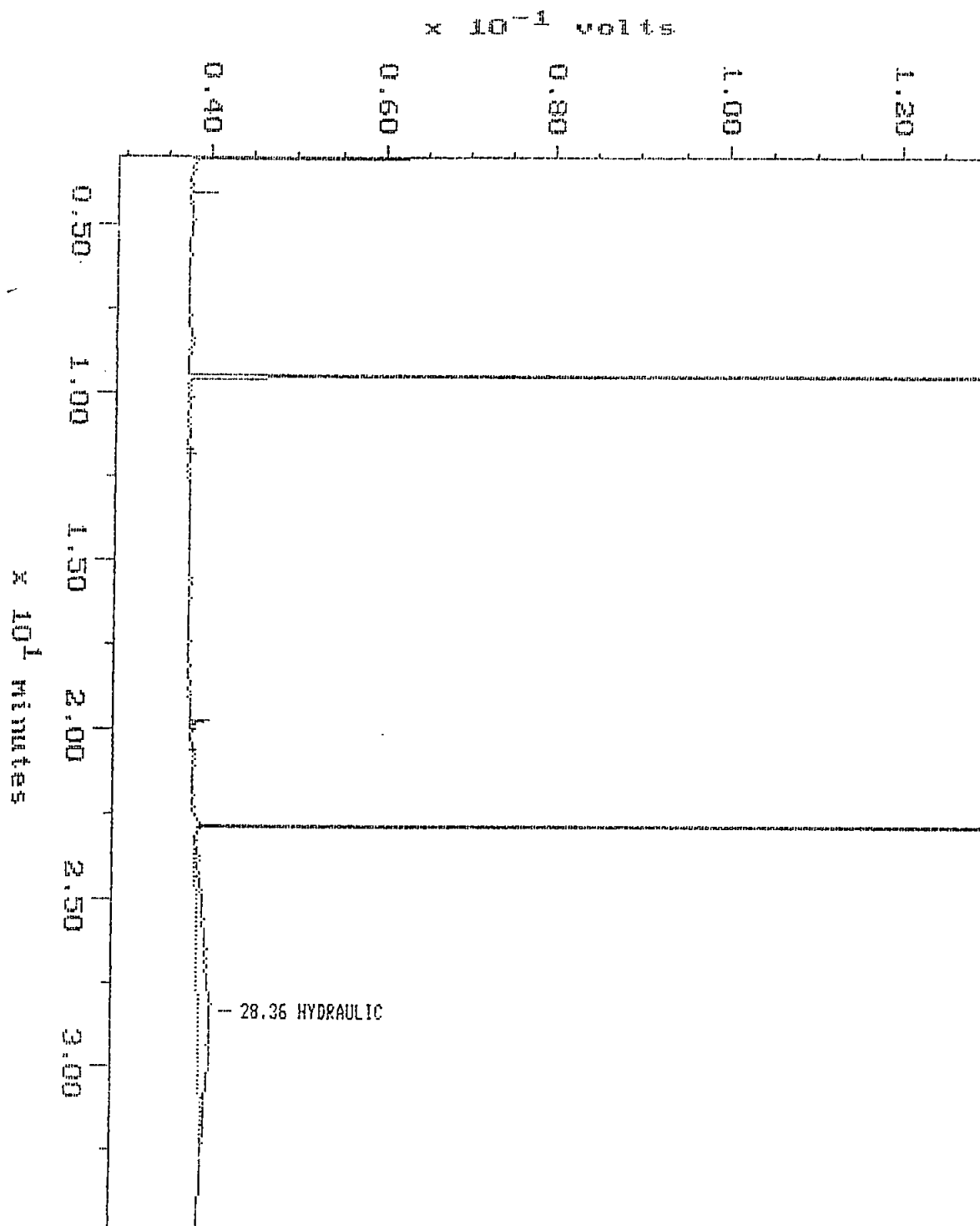
Filename: 1214SD13
Operator: BRE



Sample: 9012-132-4
Acquired: 15-DEC-90 2:05
Inj Vol: 1.00

Channel: DEMITRI
Method: M:\MAXDATA\SERGE-DA\FUEL1214

Filename: 1214SD14
Operator: BRE





Analytical Technologies, Inc.

560 Naches Avenue SW, Suite 101 Renton, WA 98055 (206)228-8335

DATE 12/14/92 PAGE 1 OF 1

Chain of Custody

LABORATORY NUMBER: 9012-132

PROJECT MANAGER: <u>Katley Kilham</u>					ANALYSIS REQUEST																						
COMPANY: <u>GEI</u>					8010	8020	BETX ONLY	8240	8270	8310	8080	PCB's ONLY	8140	8150	WDOE PAH/HH (WAC 173)	418.1	413.2	8015	TOC	TOX	%	EP TOX Metals (8) EP EXT	TCLP ONLY				NUMBER OF CONTAINERS
ADDRESS: _____					Aromatic Volatiles	GCMS Volatiles	GCMS BNA	HPLC PNA	Pesticides & PCB's	Phosphate Pesticides	Herbicides	TPH	Grease & Oil	(Modified)	9060	9020	Moisture	Priority Pollutant Metals (13)	Pesticide (4)	ZH-EXT	Herbicides (2)	Metals (8)					
PHONE: <u>746-5200</u> SAMPLED BY: <u>CAH</u>					SAMPLE DISPOSAL INSTRUCTIONS																						
☒ ATI Disposal @ \$5.00 each ☐ Return																											
SAMPLE ID	DATE	TIME	MATRIX	LAB ID																							
901213-212	12/13/90	1600	SOIL	1																							
-213	↓	↓	↓	2																							
-214	↓	↓	↓	3																							
-215	↓	↓	↓	4																							

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1:		RELINQUISHED BY: 2:		RELINQUISHED BY: 3:	
PROJECT NUMBER: <u>0186-106-69</u>		TOTAL NUMBER OF CONTAINERS <u>4</u>		Signature: <u>[Signature]</u> Time: <u>0900</u>		Signature: _____ Time: _____		Signature: _____ Time: _____	
PROJECT NAME: <u>Renton P&PL</u>		COC SEALS/INTACT? Y/N/NA <u>N/NA</u>		Printed Name: <u>Craig H...</u> Date: <u>12/13/90</u>		Printed Name: _____ Date: _____		Printed Name: _____ Date: _____	
PURCHASE ORDER NUMBER: _____		RECEIVED GOOD COND./COLD <u>L</u>		Company: <u>GEI</u>		Company: _____		Company: _____	
ONGOING PROJECT? YES ☐ NO ☐		RECEIVED VIA: <u>Courier</u>		RECEIVED BY: 1:		RECEIVED BY: 2:		RECEIVED BY: (LAB) 3:	
TAT: (NORMAL) ☐ 2WKS (RUSH) ☒ 24HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK				Signature: _____ Time: _____		Signature: _____ Time: _____		Signature: <u>[Signature]</u> Time: <u>1130</u>	
GREATER THAN 24 HR. NOTICE? YES ☐ NO ☐ (LAB USE ONLY)				Printed Name: _____ Date: _____		Printed Name: _____ Date: _____		Printed Name: <u>V. PENNICK</u> Date: <u>12/14/92</u>	
SPECIAL INSTRUCTIONS: <u>★211 11K ★RUSH ★</u>				Company: _____		Company: _____		Analytical Technologies, Inc.	



Analytical**Technologies**, Inc.

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

ATI I.D. # 9102-010

GeoEngineers

February 7, 1991

FEB 08 1991

Routing ☐ ☐ ☐
File ☐ ☐ ☐

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

Attention : Kathy Killman

Project Number : 186-106-B69

Project Name : Puget Power - Renton

On February 1, 1991, Analytical Technologies, Inc., received four water samples for analysis. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and quality control data are enclosed.

Mary C. Silva
Mary C. Silva
Senior Project Manager

FWG/elf

Mary C. Silva for
Frederick W. Grothkopp
Technical Manager



SAMPLE CROSS REFERENCE SHEET

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-B69
PROJECT NAME : PUGET POWER - RENTON

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9102-010-1	MW8	02/01/91	WATER
9102-010-2	MW10	02/01/91	WATER
9102-010-3	MW19	02/01/91	WATER
9102-010-4	MW20	02/01/91	WATER

----- TOTALS -----

MATRIX	# SAMPLES
WATER	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 SCHEDULE

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-B69
PROJECT NAME : PUGET POWER - RENTON

ANALYSIS	TECHNIQUE	REFERENCE	LAB
PETROLEUM HYDROCARBONS	IR	EPA 418.1	R

R = ATI - Renton
SD = ATI - San Diego
T = ATI - Tempe
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract



GENERAL CHEMISTRY

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-B69
PROJECT NAME : PUGET POWER - RENTON
SAMPLE MATRIX : WATER

ANALYSIS

DATE PREPARED

DATE ANALYZED

PETROLEUM HYDROCARBONS

02/01/91

02/01/91



GENERAL CHEMISTRY RESULTS

CLIENT : GEOENGINEERS, INC.

PROJECT # : 186-106-B69

PROJECT NAME : PUGET POWER - RENTON

MATRIX : WATER

UNITS : mg/L

ATI I.D.#	CLIENT I.D.	PETROLEUM HYDROCARBONS
9102-010-1	MW8	<1
9102-010-2	MW10	<1
9102-010-3	MW19	<1
9102-010-4	MW20	<1
REAGENT BLANK	-	<1



GENERAL CHEMISTRY QUALITY CONTROL

CLIENT : GEOENGINEERS, INC.
PROJECT # : 186-106-B69
PROJECT NAME : PUGET POWER - RENTON

MATRIX : WATER

UNITS : mg/L

PARAMETER	ATI I.D.	SAMPLE RESULT	DUP RESULT	RPD	SPIKED RESULT	SPIKE ADDED	% REC
PETROLEUM HYDROCARBONS	9102-010-4	<1	<1	0	5.12	10.0	51

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

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

Chain of Custody

LABORATORY NUMBER: 9102-010

[illegible]

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
PROJECT NUMBER: 186-106-869		TOTAL NUMBER OF CONTAINERS 4		Signature: Time: Will. A. Park 1/3/8		Signature: Time:		Signature: Time:	
PROJECT NAME: Puget Power - Renton		COC SEALS/INTACT? Y/N/NA 4		Printed Name: Date: Will. A. Park 2/1/91		Printed Name: Date:		Printed Name: Date:	
PURCHASE ORDER NUMBER:		RECEIVED GOOD COND./COLD 4							
ONGOING PROJECT? YES ☒ NO ☐		RECEIVED VIA: Hand		Company: GEI		Company:		Company:	
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS				RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.	
TAT: (NORMAL) ☐ 2WKS (RUSH) ☐ 24HR ☐ 48 HRS ☒ 72 HRS ☐ 1 WK				Signature: Time: D. Thomas 1/3/8		Signature: Time:		Signature: Time:	
GREATER THAN 24 HR. NOTICE? YES ☐ NO ☐ (LAB USE ONLY)				Printed Name: Date: D. Thomas 2-1-91		Printed Name: Date:		Printed Name: Date:	
SPECIAL INSTRUCTIONS: Final Report by 2/8/91				Company: A.T.F.		Company:		Analytical Technologies, Inc.	