PACIFIC TESTING LABORATORIES

EXECUTIVE OFFICES
3257 16th Ave. W. • Seattle, WA 98119
(206) 282-0666 • FAX (206) 282-0710

EASTSIDE DIVISION
11824 North Creek Parkway N. #101 • Bothell, WA 98011
(206) 485-4244 • 451-8436 • FAX (206) 485-4611

TACOMA DIVISION
2402 Pacific Highway E. • Tacoma, WA 98424
(206) 922-9299 • FAX (206) 922-1512

PENINSULA DIVISION
10726 Silverdale Way N.W. #105 • Silverdale, WA 98383
(206) 698-6650 • FAX (206) 698-6648

July 21, 1993
Certificate No. 9306-6635

Mr. Harry Rubin
U.S. BANK - TRUST REAL ESTATE
P.O. Box 720
MS #WWH231
Seattle, WA 98111

Subject: Sample Results from Sahlberg Equipment, Seattle, Washington

Dear Mr. Rubin:

Pacific Testing Laboratories is pleased to submit for your review the following ground water sample results, obtained from ground water monitoring wells located at 5950 Fourth Avenue South, Seattle, Washington, the former Sahlberg Equipment site.

Thank you for using Pacific Testing Laboratories. If you have any questions, or we can be of further service, please call us at (206) 282-0666.

Sincerely,

Robert P. Shopbell
Manager, Environmental Services

RPS/hlw

Enclosure

cc: Ms. Mary O'Herron
WASHINGTON STATE DEPARTMENT OF ECOLOGY

EXECUTIVE SUMMARY

Analytical results indicate that, although specific contaminants are still above Washington State Department of Ecology (WDOE) cleanup levels, a continued decrease in contaminant concentrations is occurring.

Further monitoring of ground water should be performed to verify contaminant levels.

SAMPLING METHODOLOGY

Pacific Testing Laboratories obtained ground water samples from MW-1 and MW-2. Greater than three well volumes was purged from each well prior to obtaining each sample, to assure a representative sample was obtained. Each sample was obtained with the use of a stainless steel bailer. The bailer was decontaminated between purging each well and obtaining each sample and between each well, to prevent cross contamination. Each ground water sample was placed in the appropriate previously labeled container, and properly preserved.

Purge water was placed in fifty-five gallon drums, to await disposal, pending analysis.

At the time of sampling, ground water level in MW-1 was approximately 5'5" below grade, in MW-2, ground water was located at approximately 4'0" below grade.

ANALYTICAL METHODOLOGY

Each sample was analyzed, by Friedman & Bruya, for concentrations of volatile and chlorinated volatile organic compounds, utilizing the United States Environmental Protection Agency (EPA) Methods 601 and 602, respectively.

Complete analytical laboratory results are contained in Appendix B. Included are analytical results given to Pacific Testing Laboratories by Applied Geotechnology, Inc.

ANALYTICAL RESULTS

Each table contains detectable concentrations of volatile and chlorinated volatile organic compound concentrations in ground water obtained from MW-1 and MW-2. All other parameters analyzed in EPA Methods 601 and 602 were below analytical detection limits. Included in each table are concentrations of contaminants which were previously above WDOE cleanup levels.

Table 1 contains analytical results from ground water MW-1, while Table 2 contains analytical results from ground water MW-2.

Table 1. - MW-1
Reported in µg/L (parts per billion)

	April 28, 1992 RZA AGRA	December 8, 1992 Pacific Testing Laboratories	May 11, 1993 Applied Geotechnology	WDOE Limit Method A
TPH-D	3,000	1,800	450	1,000
TPH-418.1	NA	NA	910	1,000

NA = Not Analyzed

Table 2. - MW-2
Reported in µg/L (parts per billion)

	April 28, 1992 RZA AGRA	May 11, 1993 Pacific Testing Laboratories	July 6, 1993 Pacific Testing Laboratories	WDOE Limit Method A
TPH-D	6,300	1,000	NA	1,000
Chlorobenzene	1,200	860	330	160*
1,4-Dichlorobenzene	NA	NA	74	1.82*
Ethylbenzene	200	31	52	30
Total Xylenes	1,000	110	80	20
Toluene	380	21	35	40

NA = Not Analyzed

* = Calculated Method B Cleanup levels

CONCLUSIONS AND RECOMMENDATIONS

Ground water sample MW-1, from the monitoring well located in the southwest corner of the previously excavated area currently does not contain concentrations of contaminants in excess of WDOE cleanup levels.

Pacific Testing Laboratories recommends no further action regarding MW-1. Monitoring well MW-1 should be properly abandoned as soon MW-2 is abandoned.

Ground water sample MW-2, from the monitoring well located in the northeast corner of the previously excavated area, continues to contain contaminants at concentrations exceeding WDOE cleanup levels. Of particular concern is the concentrations of 1,4-dichlorobenzene, and chlorobenzene. As with chlorobenzene, Pacific Testing Laboratories anticipates 1,4-dichlorobenzene concentrations to decrease over time, based upon the removal of contaminated soil. The slight increase in ethylbenzene concentrations must also be watched. Pacific Testing Laboratories anticipates ethylbenzene concentrations will continue to decrease in the near future.

Other contaminant concentrations continue with their anticipated decrease.

Pacific Testing Laboratories recommends further sampling and analysis of ground water from MW-2. Particular attention should be placed upon the concentrations of chlorobenzene, 1,4-dichlorobenzene, ethylbenzene and xylenes. A verification analysis for petroleum hydrocarbon concentrations should also be performed.

Pacific Testing Laboratories recommends the sampling event be completed within a three month period.

At your request, Pacific Testing Laboratories will be happy to provide you with a cost estimate to perform the recommend sampling and analysis.

LIMITATIONS

This report has been prepared to aid in the evaluation of the site. Our conclusions and recommendations have been prepared in accordance with generally accepted professional engineering principles and practices. We make no other warranty, either express or implied. Our conclusions are based on visual investigation of the site, and analytical data obtained. Limited subsurface analyses of samples were performed to aid the development of our conclusions and recommendations. If conditions are encountered that appear different from those described in this report, we must be notified so we may review and verify or modify our recommendations.

APPENDIX A
ANALYTICAL LABORATORY REPORTS

FRIEDMAN & BRUYA, IN(

ENVIRONMENTAL CHEMISTS

Date of Report: July 6, 1993
Date Received: June 28, 1993
Project: #9306 6635, Sahlberg

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR VOLATILE ORGANIC COMPOUNDS USING EPA METHODS 601 AND 602 per Washington DOE Guidelines

Results Reported as µg/L (ppb)

Samples ID	MW-1	MW-2
Analyte:		
Chloroethane	<1	<1
1,1-Dichloroethylene	<1	<1
Methylene Chloride	<1	<1
t-1,2-Dichloroethylene	<1	<1
1,1-Dichloroethane	<1	<1
Chloroform	<0.1	<0.1
1,1,1-Trichloroethane	<0.1	<0.1
Carbon Tetrachloride	<0.1	<0.1
1,2-Dichloroethane	<1	<1
Trichloroethylene	<0.1	<0.1
1,2-Dichloropropane	<1	<0.1
Bromodichloromethane	<0.1	<0.1
cis-1,3-Dichloropropene	<0.1	<0.1
t-1,3-Dichloropropene	<0.1	<0.1
1,1,2-Trichloroethane	<0.1	<0.1

Date of Report: July 6, 1993
Date Received: June 28, 1993
Project: #9306 6635, Sahlberg

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR VOLATILE ORGANIC COMPOUNDS USING EPA METHODS 601 AND 602 per Washington DOE Guidelines
Results Reported as µg/L (ppb)

Samples ID	MW-1	MW-2
Analyte:		
Tetrachloroethylene	<0.1	0.1
Chlorodibromomethane	<0.1	<0.1
Chlorobenzene	26	330
Bromoform	<10	<10
1,1,2,2-Tetrachloroethane	<1	<1
1,3-Dichlorobenzene	<1	25
1,4-Dichlorobenzene	<1	74
1,2-Dichlorobenzene	<1	550
Benzene	<1	<1
Toluene	<1	35
Ethylbenzene	<1	52
m,p-Xylenes	<1	180
o-Xylene	<1	80
Surrogate Standard % Recovery	77%	na

[na] The analyte indicated was not added to the matrix spike sample.

FRIEDMAN & BRUYA, INC
ENVIRONMENTAL CHEMISTS

Date of Report: July 6, 1993
Date Received: June 28, 1993
Project: #9306 6635, Sahlberg

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR VOLATILE ORGANIC COMPOUNDS USING EPA METHODS 601 AND 602
per Washington DOE Guidelines
Results Reported as µg/L (ppb)
Quality Assurance

Samples #	Tap Water Blank	MW-1 (Duplicate)
Analyte:		
Chloroethane	<1	<1
1,1-Dichloroethylene	<1	<1
Methylene Chloride	<1	<1
t-1,2-Dichloroethylene	<1	<1
1,1-Dichloroethane	<1	<1
Chloroform	<0.1	<0.1
1,1,1-Trichloroethane	<0.1	<0.1
Carbon Tetrachloride	<0.1	<0.1
1,2-Dichloroethane	<1	<1
Trichloroethylene	<0.1	<0.1
1,2-Dichloropropane	<0.1	<1
Bromodichloromethane	<0.1	<0.1
cis-1,3-Dichloropropene	<0.1	<0.1
t-1,3-Dichloropropene	<0.1	<0.1
1,1,2-Trichloroethane	<0.1	<0.1

FRIEDMAN & BRUYA, INC
ENVIRONMENTAL CHEMISTS

Date of Report: July 6, 1993
Date Received: June 28, 1993
Project: #9306 6635, Sahlberg

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR VOLATILE ORGANIC COMPOUNDS USING EPA METHODS 601 AND 602
per Washington DOE Guidelines
Results Reported as µg/L (ppb)
Quality Assurance

Samples #	Blank	MW-1 (Duplicate)
Analyte:		
Tetrachloroethylene	<0.1	<0.1
Chlorodibromomethane	<0.1	<0.1
Chlorobenzene	<1	27
Bromoform	<10	<10
1,1,2,2-Tetrachloroethane	<1	<1
1,3-Dichlorobenzene	<1	<1
1,4-Dichlorobenzene	<1	<1
1,2-Dichlorobenzene	<1	<1
Benzene	<1	<1
Toluene	<1	<1
Ethylbenzene	<1	<1
m,p-Xylenes	<1	<1
o-Xylene	<1	<1
Surrogate Standard % Recovery	77%	78%

FRIEDMAN & BRUYA, INC
ENVIRONMENTAL CHEMISTS

Date of Report: July 6, 1993
Date Received: June 28, 1993
Project: #9306 6635, Sahlberg

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR VOLATILE ORGANIC COMPOUNDS USING EPA METHODS 601 AND 602

per Washington DOE Guidelines
Results Reported as % Recovery
Quality Assurance

Samples #	Tap Water Matrix Spike % Recovery	Tap Water Matrix Spike Duplicate % Recovery	Spike Level
Analyte:			
Chloroethane	120%	130%	100
1,1-Dichloroethylene	86%	103%	100
Methylene Chloride	100%	120%	100
t-1,2-Dichloroethylene	91%	110%	100
1,1-Dichloroethane	93%	113%	100
Chloroform	84%	116%	100
1,1,1-Trichloroethane	94%	105%	100
Carbon Tetrachloride	86%	102%	100
1,2-Dichloroethane	110%	130%	100
Trichloroethylene	68%	110%	100
1,2-Dichloropropane	70%	120%	100
Bromodichloromethane	115%	130%	100
cis-1,3-Dichloropropene	105%	120%	100
t-1,3-Dichloropropene	113%	130%	100
1,1,2-Trichloroethane	114%	140%	100

Date of Report: July 6, 1993
Date Received: June 28, 1993
Project: #9306 6635, Sahlberg

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLES FOR VOLATILE ORGANIC COMPOUNDS USING EPA METHODS 601 AND 602 per Washington DOE Guidelines
Results Reported as % Recovery
Quality Assurance

Samples #	Tap Water Matrix Spike % Recovery	Tap Water Matrix Spike Duplicate % Recovery	Spike Level
Tetrachloroethylene	130%	105%	100
Chlorodibromomethane	120%	140%	100
Chlorobenzene	98%	120%	100
Bromoform	130%	150%	100
1,1,2,2-Tetrachloroethane	120%	150%	100
1,3-Dichlorobenzene	103%	130%	100
1,4-Dichlorobenzene	110%	130%	100
1,2-Dichlorobenzene	114%	71%	100
Benzene	115%	112%	100
Toluene	117%	114%	100
Ethylbenzene	111%	113%	100
m,p-Xylenes	117%	115%	100
o-Xylene	120%	119%	100
Surrogate Standard % Recovery	120%	110%	

FRIEDMAN & BRUYA, INC.
3008-B 16th Avenue West
Seattle, WA 98119

[redacted]

SAMPLE CHAIN OF CUSTODY

Send Report To:
Company Pacific Testing Labs Contact Elisabeth Black / Bob Shopbell
Address 3257 16th Ave W.
City, State, Zip Seattle, WA 98119
Phone # (206) 282-0606 Date 6/28/93

SITE NO.	PROJECT NAME	PURCHASE ORDER #
	Sahlberg	

SAMPLERS (signature): E. Black

PROJECT LOCATION: Sahlberg

REMARKS:

SAMPLE DISPOSAL INFORM.
- ☑ Dispose after 30 days
- ☐ Return Samples
- ☐ Call for Instructions

SAMPLE #	Date/Time Sampled	Type of Sample	# of Jars	Lab Sample #	Analyses Requested
MW-1	6/28 2:30	VOA	2	41238,36	8010/8020
MW-2	6/28 2:30	VOA	2	41235,37	8010/8020
					all 8010 anal per Phone 07/1/
					Samples were mislabeled Samples have relabeled correctly AS 07-01-93 KG

SIGNATURE	PRINT NAME	COMPANY	Date	Time
Relinquished by: E. Black	Elisabeth Black	PTL	6/28	4:15 P
Received by: Jeffrey P. Anderson	Jeffrey P. Anderson	EB&I	6/28/93	4:15P
Relinquished by:				
Received by:				

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

Karen L. Mixon, Laboratory Manager

ATI I.D. # 9305-100

May 27, 1993

Applied Geotechnology, Inc.
P.O. Box 3885
Bellevue WA 98009

Attention : Susan Penoyar

Project Number : 15,734.001

Project Name : St. Vincent De Paul

Dear Ms. Penoyar:

On May 12, 1993, Analytical Technologies, Inc. (ATI), received two 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.

Sincerely,

Donna M. McKinney
Senior Project Manager

DMM/hal/dmc

Enclosure

Analytical Technologies, Inc.

ATI I.D. # 9305-100

SAMPLE CROSS REFERENCE SHEET

CLIENT : APPLIED GEOTECHNOLOGY, INC.
PROJECT # : 15,734.001
PROJECT NAME : ST. VINCENT DE PAUL

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
9305-100-1	NE	05/11/93	WATER
9305-100-2	SW	05/11/93	WATER

----- TOTALS -----

MATRIX	# SAMPLES
WATER	2

ATI STANDARD DISPOSAL PRACTICE

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

Analytical Technologies, Inc.

ATI I.D. # 9305-100

ANALYTICAL SCHEDULE

CLIENT : APPLIED GEOTECHNOLOGY, INC.
PROJECT # : 15,734.001
PROJECT NAME : ST. VINCENT DE PAUL

ANALYSIS	TECHNIQUE	REFERENCE	LAB
PURGEABLE HALOCARBONS	GC/ELCD	EPA 8010	R
PURGEABLE AROMATICS	GC/PID	EPA 8020	R
TOTAL PETROLEUM HYDROCARBONS	GC/FID	WA DOE WTPH-D	R

= ATI - Renton
) = ATI - San Diego
IX = ATI - Phoenix
NR = ATI - Pensacola
: = ATI - Fort Collins
JB = Subcontract

Analytical Technologies, Inc.

ATI I.D. # 9305-100

CASE NARRATIVE

CLIENT : APPLIED GEOTECHNOLOGY, INC.
PROJECT # : 15,734.001
PROJECT NAME : ST. VINCENT DE PAUL

CASE NARRATIVE: VOLATILE ORGANICS ANALYSIS

Two (2) water samples were received by Analytical Technologies, Inc. (ATI), on May 12, 1993, for the following analysis: EPA methods 8010/8020.

Sample 9305-070-3 was used for the matrix spike/matrix spike duplicate (MS/MSD) for the analysis. The MS/MSD recoveries for benzene and toluene were not calculable due to high levels of target analytes. The corresponding blank spike (BS) is within established control limits. The analytical report has been flagged with the letter "G" and footnoted.

All surrogate recoveries are within the established control limits.

Analytical Technologies, Inc.

ATI I.D. # 9305-100

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: APPLIED GEOTECHNOLOGY, INC.	DATE SAMPLED	: N/A
PROJECT #	: 15,734.001	DATE RECEIVED	: N/A
PROJECT NAME	: ST. VINCENT DE PAUL	DATE EXTRACTED	: N/A
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 05/13/93
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8010/8020	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BENZENE	<0.5
BROMODICHLOROMETHANE	<0.2
BROMOFORM	<0.2
BROMOMETHANE	<1.0
CARBON TETRACHLORIDE	<0.2
CHLOROBENZENE	<0.5
CHLOROETHANE	<1.0
CHLOROFORM	<0.2
CHLOROMETHANE	<2.0
L,2-DIBROMOETHANE (EDB)	<0.5
L,2-DICHLOROBENZENE	<0.5
.,3-DICHLOROBENZENE	<0.5
L,4-DICHLOROBENZENE	<0.5
DIBROMOCHLOROMETHANE	<0.2
.,1-DICHLOROETHANE	<0.2
.,2-DICHLOROETHANE	<0.2
.,1-DICHLOROETHENE	<0.2
CIS-1,2-DICHLOROETHENE	<0.2
TRANS-1,2-DICHLOROETHENE	<0.2
,2-DICHLOROPROPANE	<0.2
CIS-1,3-DICHLOROPROPENE	<0.2
TRANS-1,3-DICHLOROPROPENE	<0.2
THYLBENZENE	<0.5
ETHYLENE CHLORIDE	<2.0
,1,2,2-TETRACHLOROETHANE	<0.2
ETRACHLOROETHENE	<0.2
OLUENE	<0.5
,1,1-TRICHLOROETHANE	<0.2
,1,2-TRICHLOROETHANE	<0.2
RICHLOROETHENE	<0.2
RICHLOROFLUOROMETHANE	<0.5
INYL CHLORIDE	<1.0
OTAL XYLENES	<0.5

SURROGATE PERCENT RECOVERY		LIMITS
ROMOCHLOROMETHANE	93	58 - 126
ROMOFLUOROBENZENE	108	76 - 136

Analytical Technologies, Inc.

ATI I.D. # 9305-100-1

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: APPLIED GEOTECHNOLOGY, INC.	DATE SAMPLED	: 05/11/93
PROJECT #	: 15,734.001	DATE RECEIVED	: 05/12/93
PROJECT NAME	: ST. VINCENT DE PAUL	DATE EXTRACTED	: N/A
CLIENT I.D.	: NE	DATE ANALYZED	: 05/13/93
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8010/8020	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	
BENZENE	3.7	
BROMODICHLOROMETHANE	<0.2	
BROMOFORM	<0.2	
BROMOMETHANE	<1.0	
CARBON TETRACHLORIDE	<0.2	
CHLOROBENZENE	790	D6
CHLOROETHANE	<1.0	
CHLOROFORM	<0.2	
CHLOROMETHANE	<2.0	
1,2-DIBROMOETHANE (EDB)	<0.5	
1,2-DICHLOROBENZENE	130	D4
.,3-DICHLOROBENZENE	10	
1,4-DICHLOROBENZENE	33	D4
DIBROMOCHLOROMETHANE	<0.2	
1,1-DICHLOROETHANE	1.4	
1,2-DICHLOROETHANE	<0.2	
1,1-DICHLOROETHENE	<0.2	
CIS-1,2-DICHLOROETHENE	0.7	
TRANS-1,2-DICHLOROETHENE	<0.2	
1,2-DICHLOROPROPANE	<0.2	
CIS-1,3-DICHLOROPROPENE	<0.2	
TRANS-1,3-DICHLOROPROPENE	<0.2	
ETHYLBENZENE	31	
METHYLENE CHLORIDE	<2.0	
.,1,2,2-TETRACHLOROETHANE	<0.2	
TETRACHLOROETHENE	<0.2	
TOLUENE	21	
.,1,1-TRICHLOROETHANE	<0.2	
,1,2-TRICHLOROETHANE	<0.2	
TRICHLOROETHENE	0.5	
TRICHLOROFLUOROMETHANE	<0.5	
VINYL CHLORIDE	<1.0	
TOTAL XYLENES	130	

SURROGATE PERCENT RECOVERY		LIMITS
BROMOCHLOROMETHANE	100	58 - 126
BROMOFLUOROBENZENE	107	76 - 136

4 = Value from a ten fold diluted analysis.
5 = Value from a 50 fold diluted analysis.

Analytical Technologies, Inc.

ATI I.D. # 9305-100-2

VOLATILE ORGANICS ANALYSIS
DATA SUMMARY

CLIENT	: APPLIED GEOTECHNOLOGY, INC.	DATE SAMPLED	: 05/11/93
PROJECT #	: 15,734.001	DATE RECEIVED	: 05/12/93
PROJECT NAME	: ST. VINCENT DE PAUL	DATE EXTRACTED	: N/A
CLIENT I.D.	: SW	DATE ANALYZED	: 05/13/93
SAMPLE MATRIX	: WATER	UNITS	: ug/L
EPA METHOD	: 8010/8020	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BENZENE	<0.5
BROMODICHLOROMETHANE	<0.2
BROMOFORM	<0.2
BROMOMETHANE	<1.0
CARBON TETRACHLORIDE	<0.2
CHLOROBENZENE	6.1
CHLOROETHANE	<1.0
CHLOROFORM	<0.2
CHLOROMETHANE	<2.0
1,2-DIBROMOETHANE (EDB)	<0.5
1,2-DICHLOROBENZENE	1.8
,3-DICHLOROBENZENE	<0.5
1,4-DICHLOROBENZENE	<0.5
DIBROMOCHLOROMETHANE	<0.2
1,1-DICHLOROETHANE	<0.2
1,2-DICHLOROETHANE	<0.2
1,1-DICHLOROETHENE	<0.2
CIS-1,2-DICHLOROETHENE	1.3
TRANS-1,2-DICHLOROETHENE	<0.2
,2-DICHLOROPROPANE	<0.2
CIS-1,3-DICHLOROPROPENE	<0.2
TRANS-1,3-DICHLOROPROPENE	<0.2
ETHYLBENZENE	<0.5
METHYLENE CHLORIDE	<2.0
,1,2,2-TETRACHLOROETHANE	<0.2
TETRACHLOROETHENE	<0.2
TOLUENE	<0.5
,1,1-TRICHLOROETHANE	<0.2
,1,2-TRICHLOROETHANE	<0.2
TRICHLOROETHENE	<0.2
TRICHLOROFLUOROMETHANE	<0.5
VINYL CHLORIDE	<1.0
TOTAL XYLENES	1.6

SURROGATE PERCENT RECOVERY		LIMITS
BROMOCHLOROMETHANE	91	58 - 126
BROMOFLUOROBENZENE	111	76 - 136

Analytical Technologies, Inc.

ATI I.D. # 9305-100

VOLATILE ORGANICS ANALYSIS
QUALITY CONTROL DATA

CLIENT : APPLIED GEOTECHNOLOGY, INC.
PROJECT # : 15,734.001
PROJECT NAME : ST. VINCENT DE PAUL
SAMPLE MATRIX : WATER
EPA METHOD : 8010/8020

SAMPLE I.D. # : 9305-070-3
DATE EXTRACTED : N/A
DATE ANALYZED : 05/13/93
UNITS : ug/L

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
BENZENE	>80.0	8.00	>80.0	G	>80.0	G	NC
CHLOROBENZENE	<0.500	8.00	8.03	100	7.87	98	2
1,1-DICHLOROETHENE	<0.200	8.00	8.92	112	8.47	106	5
TOLUENE	56.8	8.00	30.0	G	30.6	G	2
TRICHLOROETHENE	<0.200	8.00	8.70	109	8.31	104	5

CONTROL LIMITS	% REC.	RPD
BENZENE	55 - 148	20
CHLOROBENZENE	61 - 160	33
1,1-DICHLOROETHENE	37 - 182	22
TOLUENE	60 - 158	29
TRICHLOROETHENE	61 - 149	21

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
BROMOCHLOROMETHANE	104	105	58 - 126
BROMOFLUOROBENZENE	101	98	76 - 136

NC = Not Calculable.
G = Out of limits due to high level of target analytes in sample.

AnalyticalTechnologies,Inc.

ATI I.D. # 9305-100

VOLATILE ORGANICS ANALYSIS
QUALITY CONTROL DATA

CLIENT : APPLIED GEOTECHNOLOGY, INC.
PROJECT # : 15,734.001
PROJECT NAME : ST. VINCENT DE PAUL
SAMPLE MATRIX : WATER
EPA METHOD : 8010/8020

SAMPLE I.D. # : BLANK SPIKE
DATE EXTRACTED : N/A
DATE ANALYZED : 05/13/93
UNITS : ug/L

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
BENZENE	<0.500	16.0	16.5	103	N/A	N/A	N/A
CHLOROBENZENE	<0.500	16.0	16.9	106	N/A	N/A	N/A
1,1-DICHLOROETHENE	<0.200	16.0	16.6	104	N/A	N/A	N/A
TOLUENE	<0.500	16.0	16.6	104	N/A	N/A	N/A
TRICHLOROETHENE	<0.200	16.0	15.8	99	N/A	N/A	N/A

CONTROL LIMITS	% REC.	RPD
BENZENE	73 - 134	20
CHLOROBENZENE	79 - 141	33
1,1-DICHLOROETHENE	56 - 158	22
TOLUENE	83 - 136	29
TRICHLOROETHENE	72 - 138	21

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
BROMOCHLOROMETHANE	99	N/A	58 - 126
BROMOFLUOROBENZENE	104	N/A	76 - 136

Analytical Technologies, Inc.

ATI I.D. # 9305-100

TOTAL PETROLEUM HYDROCARBONS
DATA SUMMARY

CLIENT	: APPLIED GEOTECHNOLOGY, INC.	DATE SAMPLED	: N/A
PROJECT #	: 15,734.001	DATE RECEIVED	: N/A
PROJECT NAME	: ST. VINCENT DE PAUL	DATE EXTRACTED	: 05/12/93
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 05/12/93
SAMPLE MATRIX	: WATER	UNITS	: mg/L
METHOD	: WA DOE WTPH-D	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
FUEL HYDROCARBONS	<0.25
HYDROCARBON RANGE	C12 - C24
HYDROCARBON QUANTITATION USING	DIESEL
FUEL HYDROCARBONS	<0.75
HYDROCARBON RANGE	C24 - C34
HYDROCARBON QUANTITATION USING	MOTOR OIL

SURROGATE PERCENT RECOVERY		LIMITS
)-TERPHENYL	103	50 - 150

Analytical Technologies, Inc.

ATI I.D. # 9305-100-1

TOTAL PETROLEUM HYDROCARBONS
DATA SUMMARY

CLIENT	: APPLIED GEOTECHNOLOGY, INC.	DATE SAMPLED	: 05/11/93
PROJECT #	: 15,734.001	DATE RECEIVED	: 05/12/93
PROJECT NAME	: ST. VINCENT DE PAUL	DATE EXTRACTED	: 05/12/93
CLIENT I.D.	: NE	DATE ANALYZED	: 05/12/93
SAMPLE MATRIX	: WATER	UNITS	: mg/L
METHOD	: WA DOE WTPH-D	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
FUEL HYDROCARBONS	1.7
HYDROCARBON RANGE	C12 - C24
HYDROCARBON QUANTITATION USING	DIESEL
FUEL HYDROCARBONS	1.1
HYDROCARBON RANGE	C24 - C34
HYDROCARBON QUANTITATION USING	MOTOR OIL

SURROGATE PERCENT RECOVERY		LIMITS
`-TERPHENYL	89	50 - 150

Analytical Technologies, Inc.

ATI I.D. # 9305-100-2

TOTAL PETROLEUM HYDROCARBONS
DATA SUMMARY

CLIENT	: APPLIED GEOTECHNOLOGY, INC.	DATE SAMPLED	: 05/11/93
PROJECT #	: 15,734.001	DATE RECEIVED	: 05/12/93
PROJECT NAME	: ST. VINCENT DE PAUL	DATE EXTRACTED	: 05/12/93
CLIENT I.D.	: SW	DATE ANALYZED	: 05/13/93
SAMPLE MATRIX	: WATER	UNITS	: mg/L
METHOD	: WA DOE WTPH-D	DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
FUEL HYDROCARBONS	0.45
HYDROCARBON RANGE	C12 - C24
HYDROCARBON QUANTITATION USING	DIESEL
FUEL HYDROCARBONS	0.91
HYDROCARBON RANGE	C24 - C34
HYDROCARBON QUANTITATION USING	MOTOR OIL

SURROGATE PERCENT RECOVERY		LIMITS
)-TERPHENYL	96	50 - 150

Analytical Technologies, Inc.

ATI I.D. # 9305-100

TOTAL PETROLEUM HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: APPLIED GEOTECHNOLOGY, INC.	SAMPLE I.D. #	: 9305-101-4
PROJECT #	: 15,734.001	DATE EXTRACTED	: 05/12/93
PROJECT NAME	: ST. VINCENT DE PAUL	DATE ANALYZED	: 05/12/93
SAMPLE MATRIX	: WATER	UNITS	: mg/L
METHOD	: WA DOE WTPH-D		

COMPOUNDS	SAMPLE RESULT	DUP. SAMPLE RESULT	RPD	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
DIESEL	0.85	1.0	16	N/A	N/A	N/A	N/A	N/A	N/A

CONTROL LIMITS	% REC.	RPD
DIESEL	N/A	20

SURROGATE RECOVERIES	SAMPLE	SAMPLE DUP.	LIMITS
O-TERPHENYL	101	99	50 - 150

Analytical Technologies, Inc.

ATI I.D. # 9305-100

TOTAL PETROLEUM HYDROCARBONS
QUALITY CONTROL DATA

CLIENT : APPLIED GEOTECHNOLOGY, INC.
PROJECT # : 15,734.001
PROJECT NAME : ST. VINCENT DE PAUL
SAMPLE MATRIX : WATER
METHOD : WA DOE WTPH-D

SAMPLE I.D. # : 9305-108-1
DATE EXTRACTED : 05/12/93
DATE ANALYZED : 05/12/93
UNITS : mg/L

COMPOUNDS	SAMPLE RESULT	DUP. SAMPLE RESULT	RPD	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
DIESEL	0.43	0.48	11	N/A	N/A	N/A	N/A	N/A	N/A

CONTROL LIMITS	% REC.	RPD
DIESEL	N/A	20

SURROGATE RECOVERIES	SAMPLE	SAMPLE DUP.	LIMITS
O-TERPHENYL	109	107	50 - 150

Analytical Technologies, Inc.

ATI I.D. # 9305-100

TOTAL PETROLEUM HYDROCARBONS
QUALITY CONTROL DATA

CLIENT	: APPLIED GEOTECHNOLOGY, INC.	SAMPLE I.D. #	: BLANK SPIKE
PROJECT #	: 15,734.001	DATE EXTRACTED	: 05/12/93
PROJECT NAME	: ST. VINCENT DE PAUL	DATE ANALYZED	: 05/12/93
SAMPLE MATRIX	: WATER	UNITS	: mg/L
METHOD	: WA DOE WTPH-D		

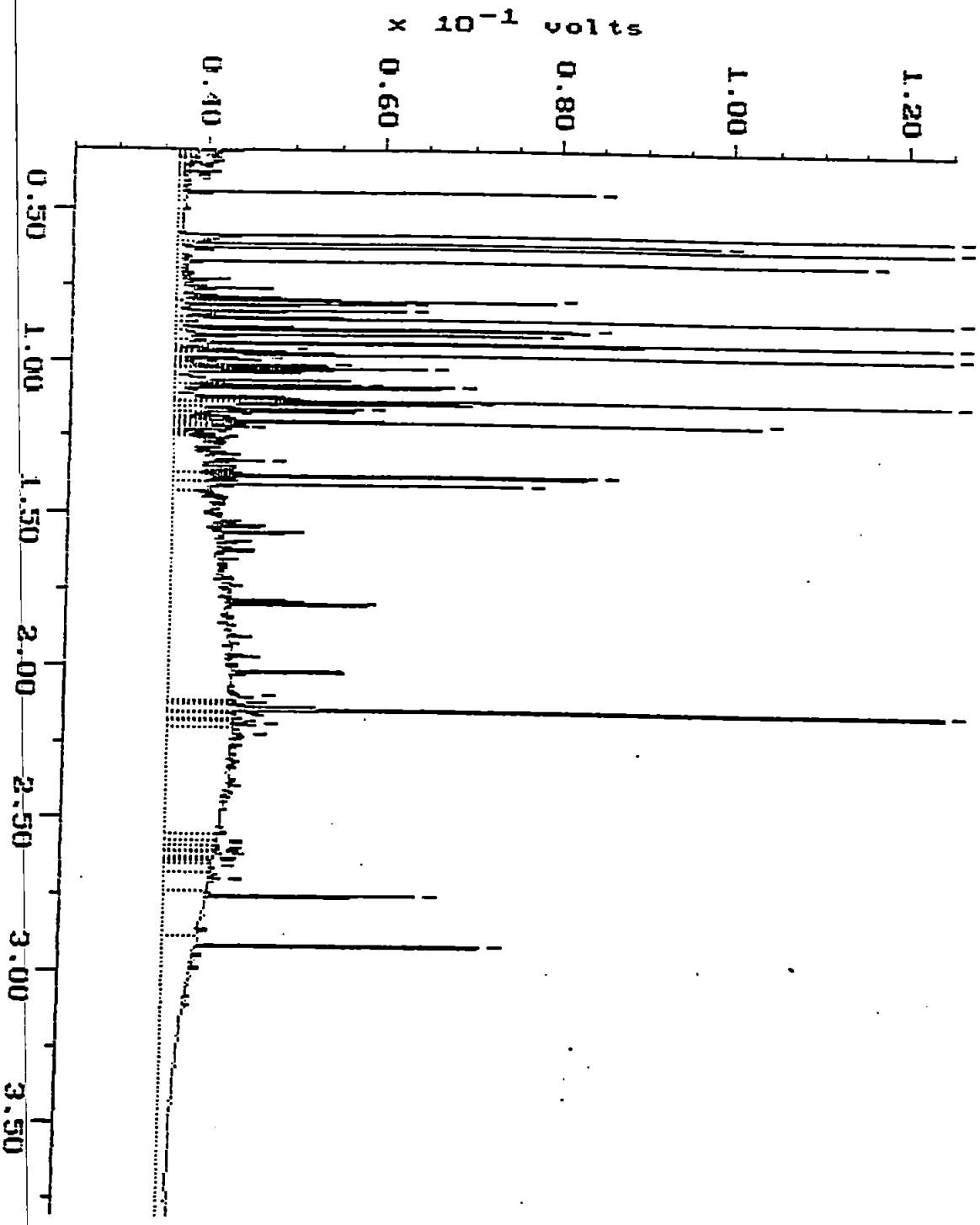
COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
DIESEL	<0.250	2.50	2.56	102	2.37	95	8

CONTROL LIMITS	% REC.	RPD
DIESEL	70 - 115	20

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
O-TERPHENYL	106	107	50 - 150

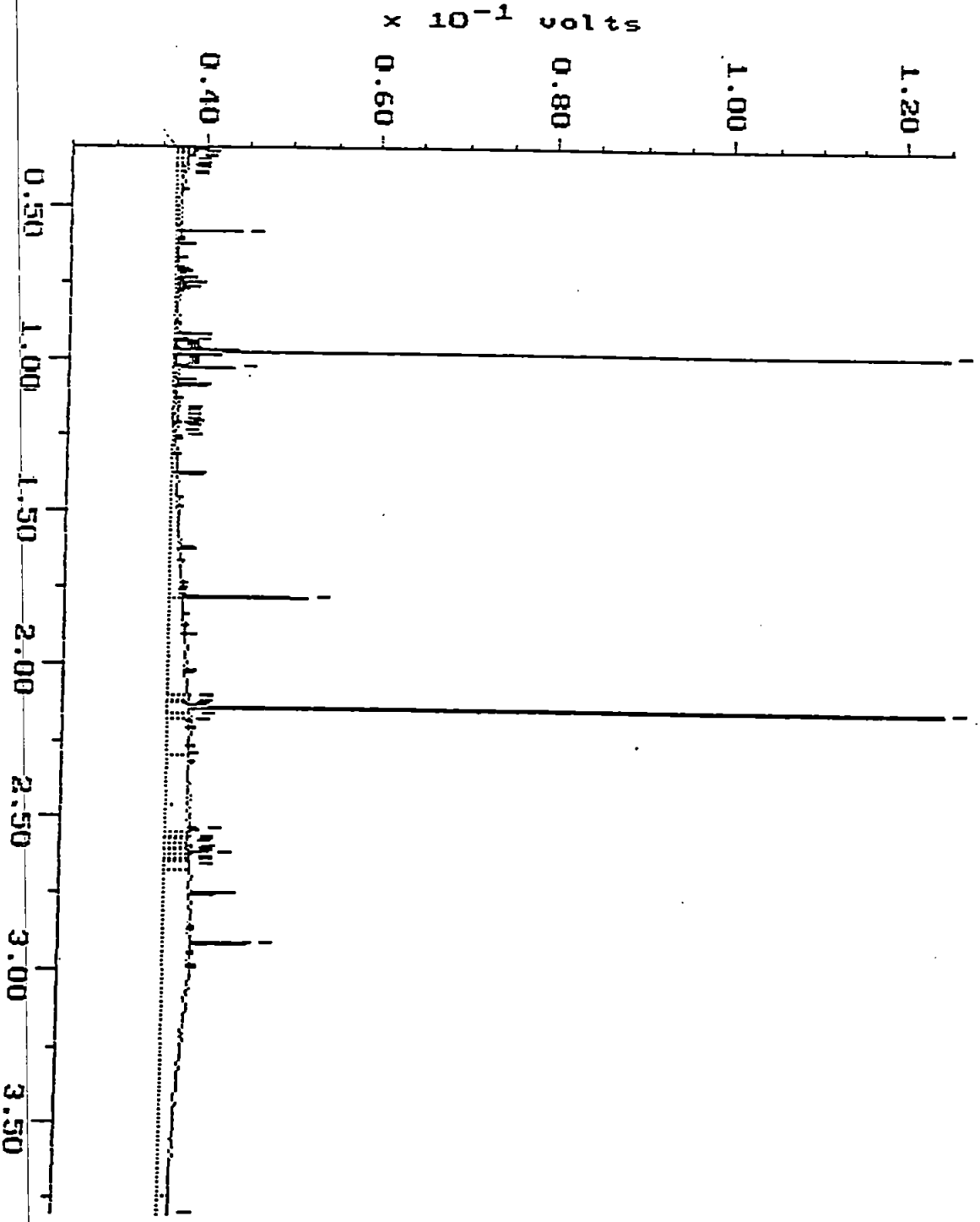
WA DOE WTPI)

Sample: 9305-100-1 Channel: DEMITRI
Acquired: 12-MAY-93 23:53 Method: F:\BRO2\MAXDATA\SERGE-D\FUEL0512 Filename: R5128D12
Comments: ATI RUSH FUELS: A MISSION OF EXCELLENCE IN ANALYTICAL CHROMATOGRAPHY Operator: ATI



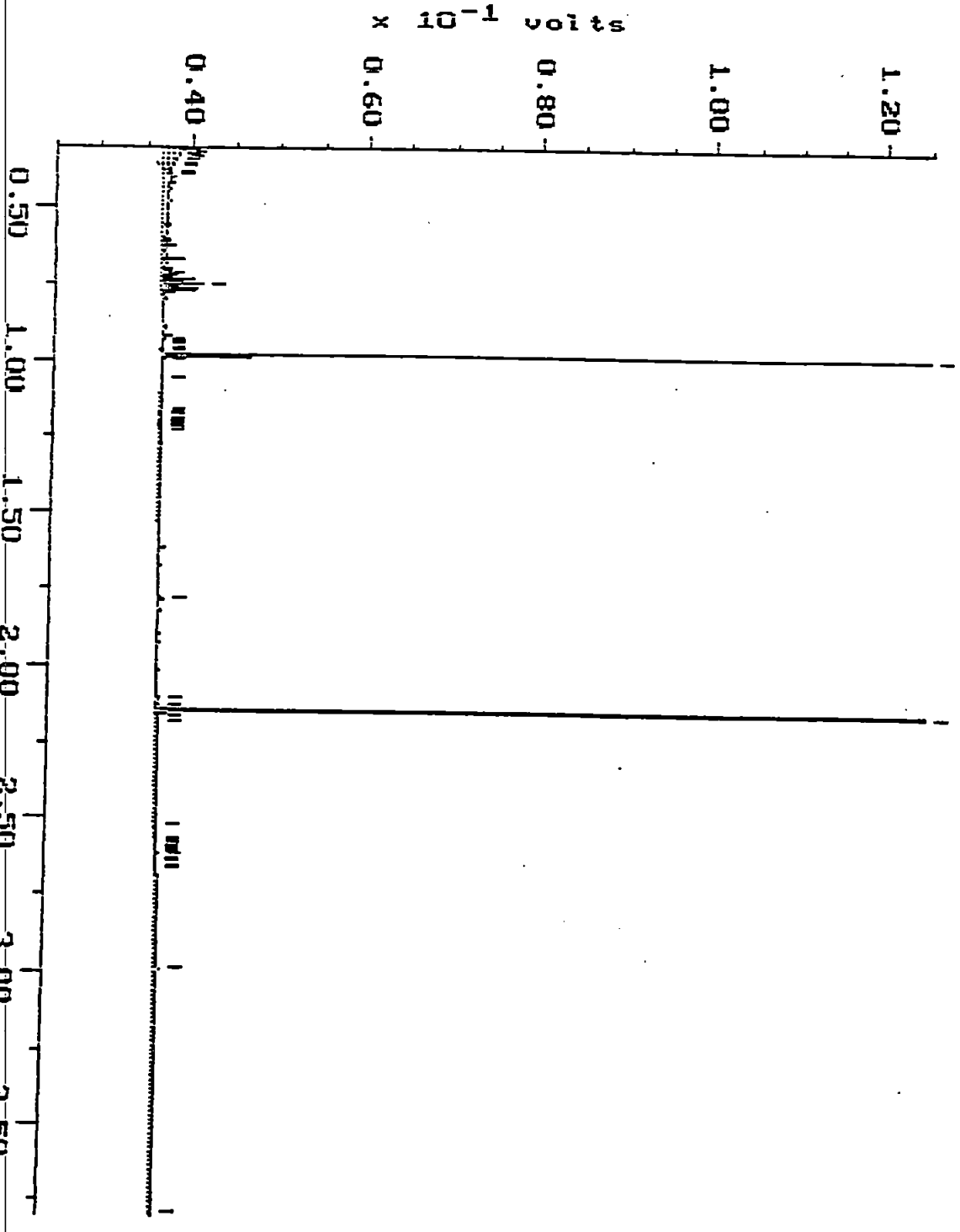
WA DOE W _PH-D

Sample: 9305-100-2 Channel: DEMITRI
Acquired: 13-MAY-93 8:39 Method: F:\BRO2\MAXDATA\SERGE-D\FUEL0512 Filename: R5128D13
Comments: ATI RUSH FUELS: A MISSION OF EXCELLENCE IN ANALYTICAL CHROMATOGRAPHY Operator: ATI



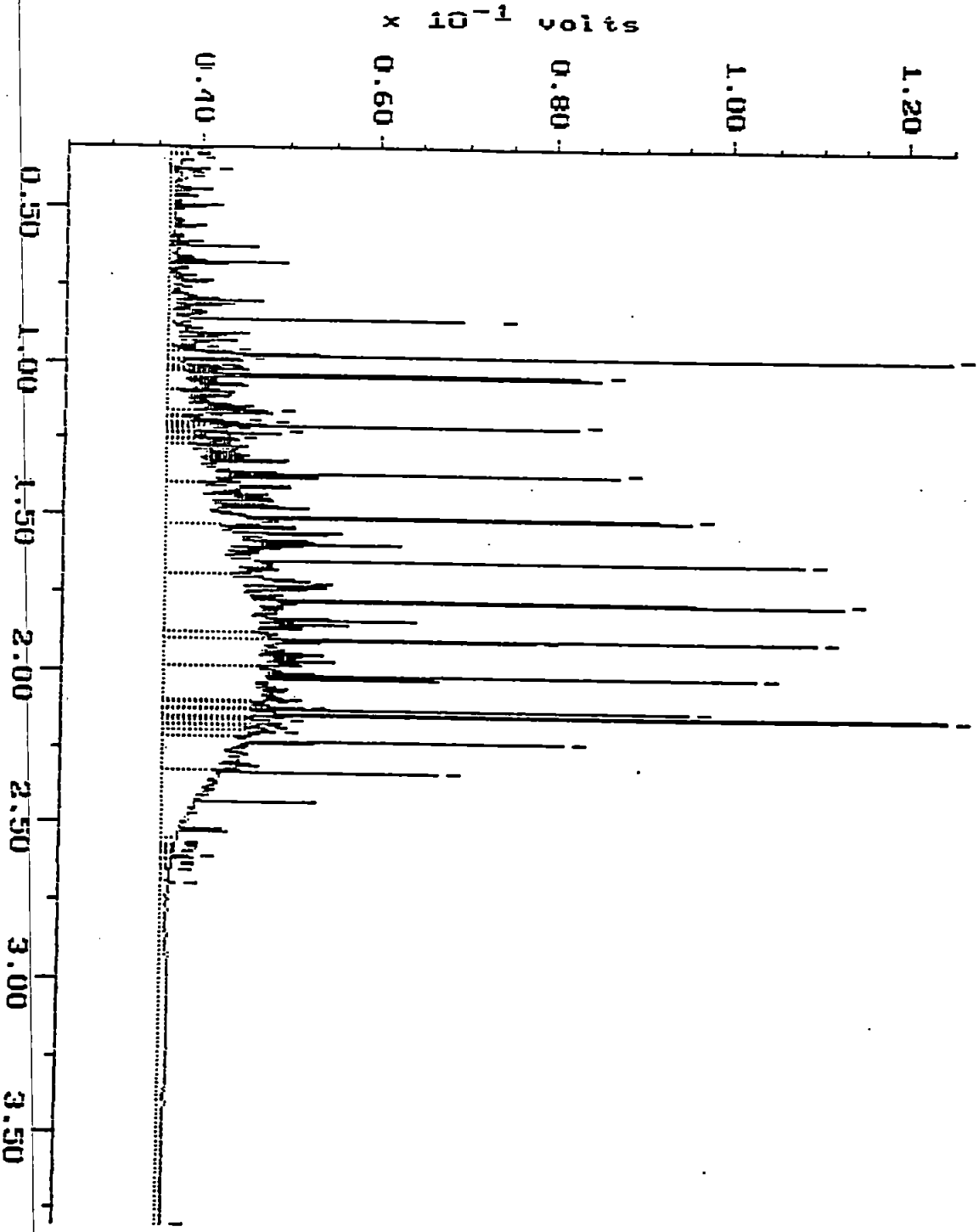
Blank

Sample: WRB 5-12 Channel: DEMITRI Filename: R5129D04
Acquired: 12-MAY-93 17:45 Method: F:\BR02\MAXDATA\SERGE-D\FUEL0512 Operator: ATI
Comments: ATI RUSH FUELS: A MISSION OF EXCELLENCE IN ANALYTICAL CHROMATOGRAPHY



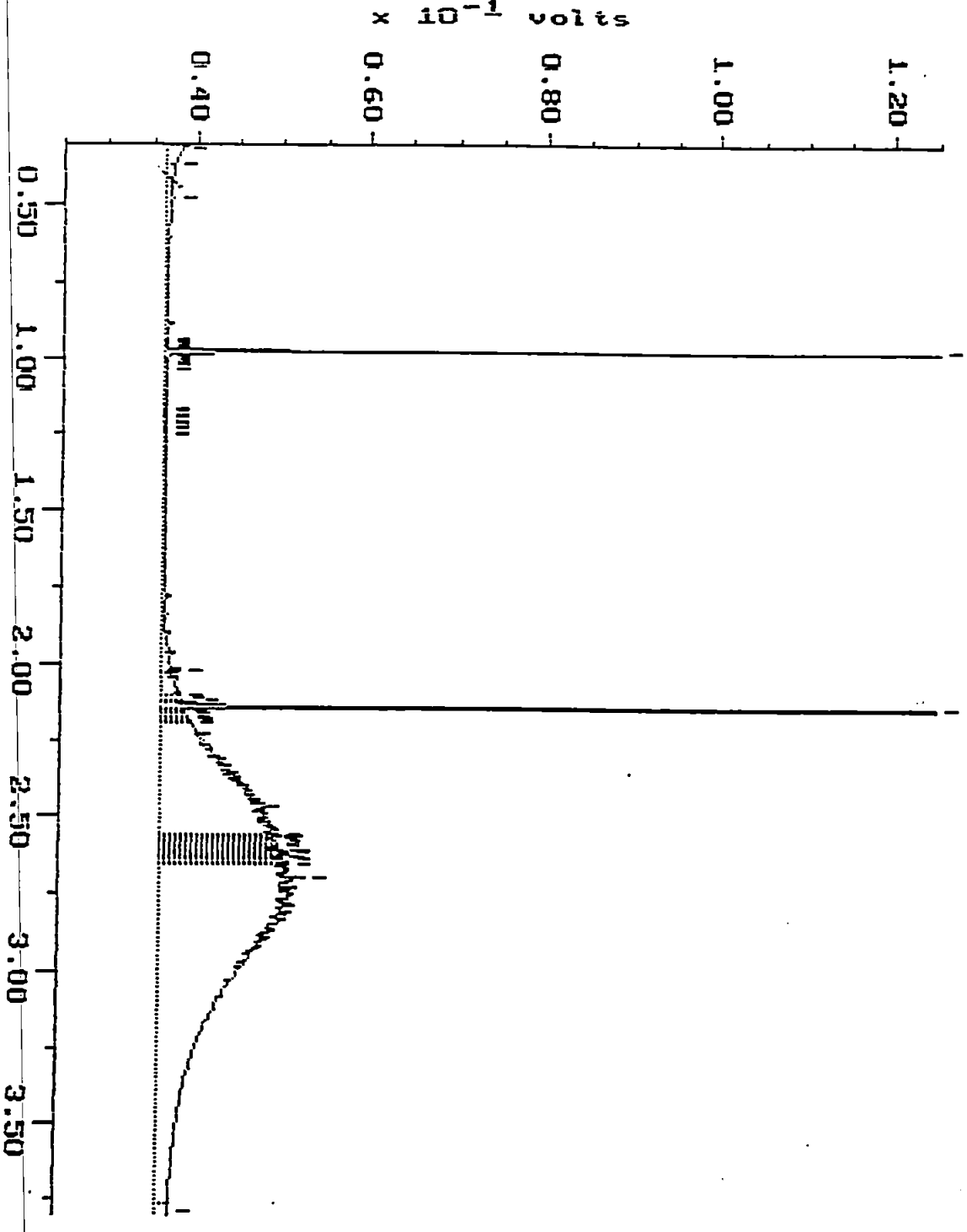
Continuing Calibration

Sample: D 500 Channel: DEMITRI Filename: R5128D02
Acquired: 12-MAY-93 15:01 Method: F:\BR02\MAXDATA\SERGE-D\FUEL0512 Operator: ATI
Comments: ATI RUSH FUELS: A MISSION OF EXCELLENCE IN ANALYTICAL CHROMATOGRAPHY



Continuing Calibration

Sample: MO 500 Channel: DEMITRI Filename: R512B003
Acquired: 12-MAY-93 15:48 Method: F:\BR02\MAXDATA\SERGE-D\FUEL0512 Operator: ATI
Comments: ATI RUSH FUELS: A MISSION OF EXCELLENCE IN ANALYTICAL CHROMATOGRAPHY

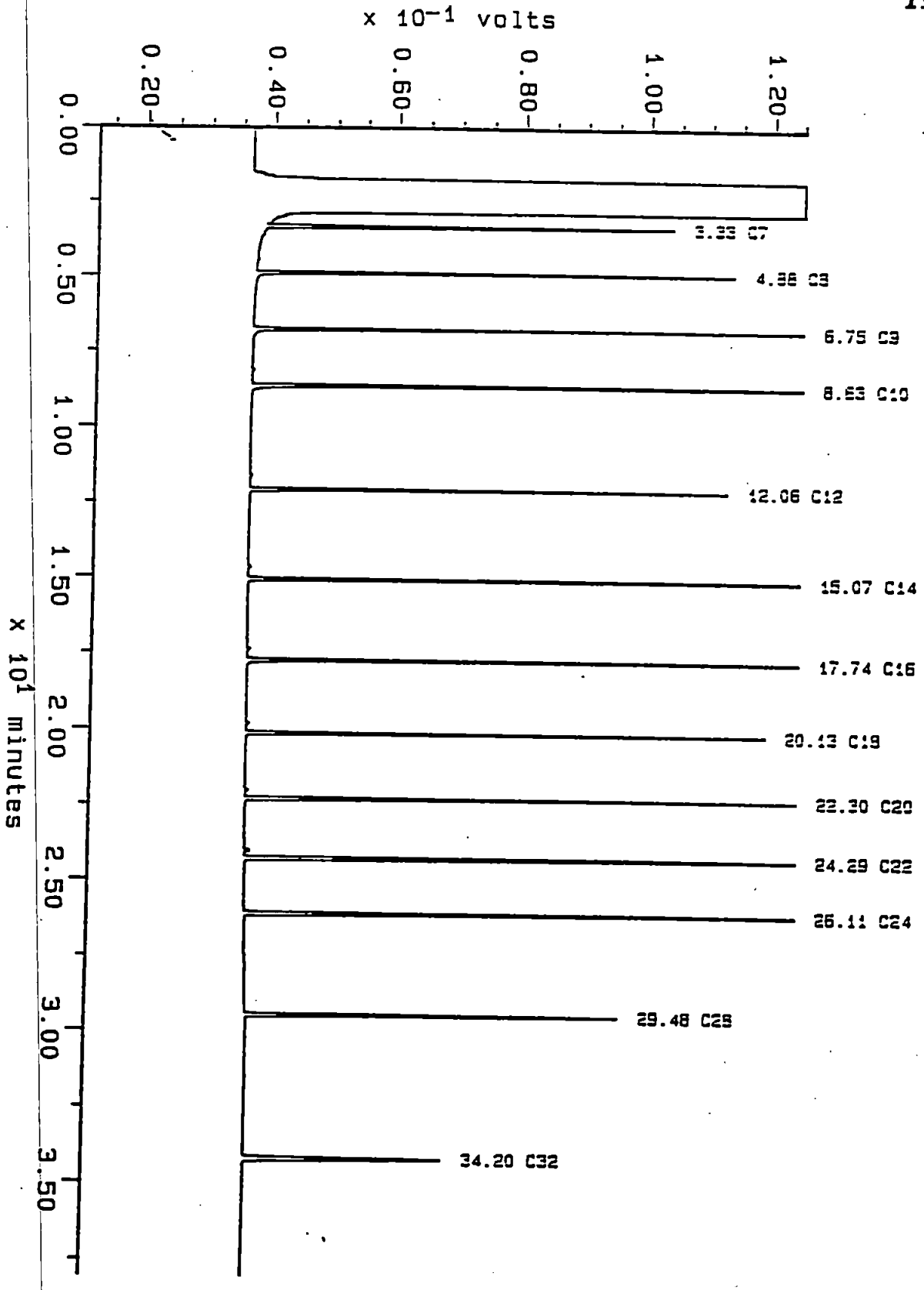


Sample: ALKANE
Acquired: 07-MAY-93 16:39
Inj Vol: 1.00

Ch[illegible]l: CEMITRI
Method: F:\BRC2\MAXDATA\SERGE-D\FUEL3507

[illegible]ename: R5076002
Operator: ATI

Alkane



Applied Geotechnology Inc.
Geotechnical Engineering
Geology & Hydrogeology

CHAIN-OF-CUSTODY

Date 5/11/93 Page 1 of 1

PROJECT INFORMATION

Project Manager: SUSAN PENOYAR
Project Name: ST. VINCENTS DE PAUL
Project Number: 15,934.001
Site Location: S. SEATTLE Sampled By: JMS

DISPOSAL INFORMATION

☒ Lab Disposal (return if not indicated)
Disposal Method:
Disposed by: Disposal Date:

QC INFORMATION (check one)

☐SW-846 ☐CLP ☐Screening ☒AGI Std. ☐Special

Laboratory Number: 9305-100

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
NE	5/11/93	1125	WATER	1
SW	5/11/93	1140	WATER	2

	PETROLEUM HYDROCARBONS						ORGANIC COMPOUNDS								PESTS/PCB's			METALS						LEACHING TESTS				OTHER				
	TPH-ID State:	TPH-G State:	TPH-D State: WA EXT.	TPH Special Instructions	418.1 State:	8015M	8010 Halogenated VOCs	8020 Aromatic VOCs	8020M - BETX only	8240 GCMS Volatiles	8270 GCMS Semivol.	8310 HPLC PAHs	8040 Phenols	DWS - Volatiles and Semivol.	8080 OC Pest/PCBs	8080M PCBs only	8140 OP Pesticides	8150 OC Herbicides	DWS - Herb/pest	Selected metals: Pb	Total Lead (Wa)	Organic Lead (Ca)	TCL Metals (23)	Priority Poll. Metals (13)	DWS - Metals	MFSP - Metals (Wa)	TCLP - Volatiles (ZHE)	TCLP - Semivolatiles	TCLP - Pesticides	TCLP - Metals					NUMBER OF CONTAINERS
NE			X				X	X																									2
SW			X				X	X																									2

LAB INFORMATION

Lab Name: ATL
Lab Address:
Via: COURIER

SAMPLE RECEIPT

Total Number of Containers:	6
Chain of Custody Seals: Y/N/NA	Y
Intact?: Y/N/NA	Y
Received in Good Condition/Cold:	Y/Y

Turn Around Time: ☒ Standard ☐24 hr. ☐48 hr. ☐72 hr. ☐1 wk.
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH DATA

Special Instructions:

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY:
Signature: Time: 0945	Signature: Time:	Signature: Time:
Printed Name: JOHN R. SCHWANTZ Date: 5/12/93	Printed Name: Date:	Printed Name: Date:
Company: AGI	Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY: 3.**
Signature: Time: 10:46	Signature: Time:	Signature: Time:
Printed Name: STNAKER 5/13/93	Printed Name: Date:	Printed Name: Date:
Company: ATL-WA	Company:	Company:

AGI OFFICES: Bellevue: (206) 453-8383 Tacoma: (206) 383-4380
Portland: (503) 222-2820 Pleasanton: (415) 460-5495

DISTRIBUTION: White, Canary to Analytical Laboratory; Pink to AGI Project Files; Gold to AGI Disposal Files

Rev. 4/92