GeoEngineers

February 14, 1994

Geotechnical,
Geoenvironmental and
Geologic Services

Washington State Department of Ecology
Northwest Region Office
3190 - 160th Avenue Southeast
Bellevue, Washington 98008-5452

Attention: Ms. Louise Bardy

Addendum to Phase II Environmental
Site Assessment Report
9th Avenue and Lenora Street Site
Seattle, Washington
File No. 2720-002-R28

As you requested on January 30, we prepared this addendum to our report entitled "Report of Geoenvironmental Services, Phase II Environmental Site Assessment, 9th Avenue and Lenora Street Site, Seattle, Washington," dated December 7, 1993. The information below is structured as comments to address the items that Ecology inquired about.

COMMENT 1

GeoEngineers conducted a Phase II ESA (environmental site assessment) during September through November 1993 at the 9th Avenue and Lenora Street site. Our Phase II ESA assessed the extent of chlorinated hydrocarbon ground water contamination beneath the subject site and evaluated if the source of ground water contamination is located on site or off site.

Our analysis of the chemical analytical data, ground water gradient and flow direction information indicates that the ground water beneath the 9th Avenue and Lenora Street site has been impacted by a chlorinated hydrocarbon contamination plume that has migrated on-site from an off-site source. The scope of our assessment did not determine the lateral and vertical extent of the plume or assess if the plume constitutes or is part of an area-wide ground water contamination problem.

GeoEngineers, Inc.
8410 154th Avenue N.E.
Redmond, WA 98052
Telephone (206) 861-6000
Fax (206) 861-6050

COMMENT 2

GeoEngineers assessed potential pathways by which the public may be exposed to the chlorinated hydrocarbon contamination in the ground water detected beneath the subject site and adjacent properties. Our assessment indicates the only potential exposure pathway is through the domestic use of ground water. Since no water wells are located within the area that may be impacted by the concentrations detected in the ground water, we conclude that the chlorinated hydrocarbon concentrations detected in ground water do not pose a risk to human health.

Our assessment was based on a comparison of the detected chlorinated hydrocarbon concentrations with MTCA Method A and Method B cleanup levels and on our observation that the ground water is located at a depth of 60 feet beneath the site. Since these cleanup levels are intended to protect human health, our assessment did not directly address the potential risk to the environment. Further, since the site was not the source of chlorinated hydrocarbons, we did not investigate the potential extent of contamination off site. It is possible that the chlorinated hydrocarbons in the ground water could pose a risk to the environment if they reach a discharge point to surface water. However, based on the foregoing, we conclude that the concentrations in the ground water do not pose a risk to the environment at the site.

COMMENT 3

Our Phase II ESA was conducted after completion of a subsurface investigation by SCS Engineers, a consultant working for the City of Seattle. SCS Engineers installed two monitoring wells designated as MW-1 and MW-2, approximately 230 feet apart at the east and south corners of the site along Virginia Street, the upgradient boundary of the site. MEK (methyl ethyl keytone) was detected at concentrations of 0.290 mg/kg (milligrams per kilogram) in a soil sample from MW-1 and at 0.260 mg/kg in a soil sample from MW-2.

The laboratory testing on these soil samples was performed by Alden Analytical Laboratories. Copies of the laboratory reports are attached. The reported concentrations of MEK are not of regulatory significance because the concentrations are much less than the Method B soil cleanup level for MEK (48,000 mg/kg). The reported concentrations also were only marginally higher than Alden's reporting limits for MEK (0.240 mg/kg and 0.230 mg/kg, respectively). Since MEK is a common laboratory solvent, the reported concentrations may be the result of laboratory contamination.

Since the drilling, soil sample collection and testing was not performed by GeoEngineers (or our subcontractor), we attempted to contact Alden to obtain copies of the EPA Method 8240 chromatograms and other documentation to determine the likely source of the MEK. Unfortunately, Alden Analytical Laboratories is no longer in business. Therefore, we are unable to determine whether the reported concentrations represent conditions at the site or laboratory contamination. In any event, such trace concentrations are not of a regulatory concern.

We trust that this letter contains the information you need. Please call Robert Breynaert if you have questions regarding this project.

Yours very truly,

GeoEngineers, Inc.

Robert G. Breynaert
Senior Hydrogeologist

Larry S. Peterson, P.E.
Associate

RGB:LSP:cms
Document ID: 2720002A.LET

Attachments

Two copies submitted

cc: C.D. Stimson Company
P.O. Box 17705
Seattle, WA 98107

Mr. Douglas E. Wheeler
Lane Powell Spears Luberski
1520 - 5th Avenue Suite 4100
Seattle, WA 98101

Alden Analytical
Laboratories, Inc.

August 31, 1993

SCS Engineers
Attn: Rick Alvord
2950 Northup Way
Bellevue, WA 98004

RE: ALDEN PROJECT NUMBER 9308019/1
(SCS Engineers Project Number: 489021.11)

Dear Rick:

Enclosed are the analytical results for the soil and groundwater samples submitted to Alden Labs August 12, 1993. The samples were analyzed for TPH using Methods WTPH-D and WTPH-418.1 and Volatiles using Method 8240.

No analyses were performed on soil samples 23905 and 23907 per your documentation on the Chain-of-Custody.

All samples met Alden's internal QA/QC criteria.

It is Alden's policy to dispose of all samples and extracts after the expiration of their hold time unless notified otherwise. If you have any questions, please do not hesitate to call me at the number below.

Sincerely,

Carole J Lee

Carole J. Lee
Project Coordinator

Enclosures

1001 SW Klickitat Way
Seattle, WA 98134
Telephone (206) 623-3660
Facsimile (206) 624-8778

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers
Client Sample Number: See Below
Date of Sample Receipt: 08/12/93
Matrix: Water

Alden Project Number: 9308019/1
Alden Sample Number: See Below
Analysis Method: EPA 418.1
Reporting Units: mg/L

Client Sample ID	*Alden Sample Number*	*Extraction Date*	*Analysis Date*	*TPH*
N/A	Blank	08/16/93	08/16/93	0.04
23909	4630	08/16/93	08/16/93	0.30
23910	4631	08/16/93	08/16/93	3.3

Note: Results are reported to two significant figures.

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers
Client Sample Number: See Below
Date of Sample Receipt: 08/12/93
Matrix: Soil

Alden Project Number: 9308019/1
Alden Sample Number: See Below
Analysis Method: EPA 418.1
Reporting Units: mg/kg

Client Sample ID	*Alden Sample Number*	*Extraction Date*	*Analysis Date*	*TPH*
N/A	Blank	08/16/93	08/16/93	3.5
23906	4627	08/16/93	08/16/93	41
23908	4629	08/16/93	08/16/93	5.1

Note: Results are reported to two significant figures.

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Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308019/1*
Client Sample Number: N/A	*Alden Sample Number: Blank*
Date of Sample Receipt: N/A	*Analysis Method: WTPH-D*
Date of Sample Extraction: 08/13/93	*Matrix: Water*
Date of Sample Analysis: 08/16/93	*Reporting Units: mg/L*

Compound Name	*Reporting Limits(RL)*	*Reporting Results*
Total Petroleum Hydrocarbons	0.70	<RL

Surrogates	*Percent Recovery*	*Recovery Limits*
Fluorobiphenyl	122	50 - 150
o-Terphenyl	133	50 - 150

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308019/1*
Client Sample Number: N/A	*Alden Sample Number: Blank Dup*
Date of Sample Receipt: N/A	*Analysis Method: WTPH-D*
Date of Sample Extraction: 08/13/93	*Matrix: Water*
Date of Sample Analysis: 08/16/93	*Reporting Units: mg/L*

Compound Name	*Reporting Limits(RL)*	*Reporting Results*
Total Petroleum Hydrocarbons	0.70	<RL

Surrogates	*Percent Recovery*	*Recovery Limits*
Fluorobiphenyl	130	50 - 150
o-Terphenyl	138	50 - 150

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Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308019/1*
Client Sample Number: 23909	*Alden Sample Number: 4630*
Date of Sample Receipt: 08/12/93	*Analysis Method: WTPH-D*
Date of Sample Extraction: 08/13/93	*Matrix: Water*
Date of Sample Analysis: 08/16/93	*Reporting Units: mg/L*

Compound Name	*Reporting Limits(RL)*	*Reporting Results*
Total Petroleum Hydrocarbons	0.7	1.2

Surrogates	*Percent Recovery*	*Recovery Limits*
Fluorobiphenyl	111	50 - 150
o-Terphenyl	120	50 - 150

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308019/1*
Client Sample Number: 23910	*Alden Sample Number: 4631*
Date of Sample Receipt: 08/12/93	*Analysis Method: WTPH-D*
Date of Sample Extraction: 08/13/93	*Matrix: Water*
Date of Sample Analysis: 08/16/93	*Reporting Units: mg/L*

Compound Name	*Reporting Limits(RL)*	*Reporting Results*
Total Petroleum Hydrocarbons	0.7	1.4

Surrogates	*Percent Recovery*	*Recovery Limits*
Fluorobiphenyl	133	50 - 150
o-Terphenyl	133	50 - 150

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Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308019/1*
Client Sample Number: N/A	*Alden Sample Number: Blank*
Date of Sample Receipt: N/A	*Analysis Method: WTPH-D*
Date of Sample Extraction: 08/13/93	*Matrix: Soil*
Date of Sample Analysis: 08/17/93	*Reporting Units: mg/kg*

Compound Name	*Reporting Limits(RL)*	*Reporting Results*
Total Petroleum Hydrocarbons	32	<RL

Surrogates	*Percent Recovery*	*Recovery Limits*
Fluorobiphenyl	132	50 - 150
o-Terphenyl	138	50 - 150

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308019/1*
Client Sample Number: 23906	*Alden Sample Number: 4627*
Date of Sample Receipt: 08/12/93	*Analysis Method: WTPH-D*
Date of Sample Extraction: 08/13/93	*Matrix: Soil*
Date of Sample Analysis: 08/17/93	*Reporting Units: mg/kg*

Compound Name	*Reporting Limits(RL)*	*Reporting Results*
Total Petroleum Hydrocarbons	32	39

Surrogates	*Percent Recovery*	*Recovery Limits*
Fluorobiphenyl	136	50 - 150
o-Terphenyl	143	50 - 150

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308019/1*
Client Sample Number: Duplicate	*Alden Sample Number: 4627 Dup*
Date of Sample Receipt: 08/12/93	*Analysis Method: WTPH-D*
Date of Sample Extraction: 08/13/93	*Matrix: Soil*
Date of Sample Analysis: 08/17/93	*Reporting Units: mg/kg*

Compound Name	*Reporting Limits(RL)*	*Reporting Results*
Total Petroleum Hydrocarbons	32	41

Surrogates	*Percent Recovery*	*Recovery Limits*
Fluorobiphenyl	141	50 - 150
o-Terphenyl	144	50 - 150

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308019/1*
Client Sample Number: 23908	*Alden Sample Number: 4629*
Date of Sample Receipt: 08/12/93	*Analysis Method: WTPH-D*
Date of Sample Extraction: 08/13/93	*Matrix: Soil*
Date of Sample Analysis: 08/17/93	*Reporting Units: mg/kg*

Compound Name	*Reporting Limits(RL)*	*Reporting Results*
Total Petroleum Hydrocarbons	32	37

Surrogates	*Percent Recovery*	*Recovery Limits*
Fluorobiphenyl	138	50 - 150
o-Terphenyl	141	50 - 150

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308019/1*
Client Sample Number: N/A	*Alden Sample Number: BLANK*
Date of Sample Receipt: N/A	*Analysis Method: EPA 8240*
Date of Sample Extraction: N/A	*Matrix: Water*
Date of Sample Analysis: 08/13/93	*Reporting Units: ug/L*

Compound Name	*CAS No.*	*Reporting Limits(RL)*	*Reporting Results*
Chloromethane	74-87-3	1	<RL
Vinyl Chloride	75-01-4	1	<RL
Bromomethane	74-83-9	1	<RL
Chloroethane	75-00-3	1	<RL
Trichlorofluoromethane	75-69-4	1	<RL
1,1-Dichloroethene	75-35-4	1	<RL
Carbon Disulfide	75-15-0	1	<RL
Acetone	67-64-1	10	<RL
Methylene Chloride	75-09-2	10	<RL
t-1,2-Dichloroethene	156-60-5	1	<RL
1,1-Dichloroethane	75-34-3	1	<RL
Vinyl Acetate	108-05-4	10	<RL
c-1,2-Dichloroethene	156-60-5	1	<RL
Chloroform	67-66-3	1	<RL
2-Butanone (Methyl Ethyl Ket)	78-93-3	10	<RL
1,2-Dichloroethane	107-06-2	1	<RL
1,1,1-Trichloroethane	71-55-6	1	<RL
Carbon Tetrachloride	56-23-5	1	<RL
Benzene	71-43-2	1	<RL
Trichloroethene	79-01-6	1	<RL
1,2-Dichloropropane	78-87-5	1	<RL
Bromodichloromethane	75-27-4	1	<RL
c-1,3-Dichloropropene	10061-01-5	1	<RL
t-1,3-Dichloropropene	10061-02-6	1	<RL
1,1,2-Trichloroethane	79-00-5	1	<RL
Dibromochloromethane	124-48-1	1	<RL
Bromoform	75-25-2	1	<RL
4-Methyl-2-Pentanone (MIBK)	108-10-1	10	<RL
Toluene	108-88-3	1	<RL
Tetrachloroethene	127-18-4	1	<RL
2-Hexanone	591-78-6	10	<RL
Chlorobenzene	108-90-7	1	<RL
Ethylbenzene	100-41-4	1	<RL
m,p-Xylene*	1330-20-7	1	<RL
Styrene	100-42-5	1	<RL
o-Xylene	1330-20-7	1	<RL
1,1,2,2,-Tetrachloroethane	79-34-5	1	<RL
1,3-Dichlorobenzene	541-73-1	1	<RL

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308019/1*
Client Sample Number: N/A	*Alden Sample Number: BLANK*
Date of Sample Receipt: N/A	*Analysis Method: EPA 8240*
Date of Sample Extraction: N/A	*Matrix: Water*
Date of Sample Analysis: 08/13/93	*Reporting Units: ug/L*

Compound Name	*CAS No.*	*Reporting Limits(RL)*	*Reporting Results*
1,4-Dichlorobenzene	106-46-7	1	<RL
1,2-Dichlorobenzene	95-50-1	1	<RL

Surrogates	*Amount Added*	*Percent Recovery*	*Recovery Limits*
d4-1,2-Dichloroethane	250 ng	97	76-114
d8-Toluene	250 ng	102	88-110
Bromofluorobenzene	250 ng	105	86-115

* m-Xylene and p-Xylene cannot be separated and are reported here as a total of the two isomers.

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Volatiles Matrix Spike/Matrix Spike Duplicate Recoveries

Client: SCS Engineers
Client Sample Number: N/A
Date of Sample Receipt: N/A
Date of Sample Extraction: N/A
Date of Sample Analysis: 08/10/93

Alden Project Number: 9308019/1
Alden Sample Number: 4597
Analysis Method: EPA 8240
Matrix: Water
Reporting Units: ug/L

Compound	*Spike Added (ug/L)*	*Sample Concentration (ug/L)*	*MS Concentration (ug/L)*	*MS % Rec.*	*QC Limits Rec.*
1,1-Dichloroethene	50.0	0	66.7	133	61 - 145
Trichloroethene	50.0	0	49.4	99	71 - 120
Benzene	50.0	0	47.6	95	76 - 127
Toluene	50.0	6	52.6	92	76 - 125
Chlorobenzene	50.0	0	49.0	98	75 - 130

Compound	*Spike Added (ug/L)*	*MSD Concentration (ug/L)*	*MSD % Rec.*	*% RPD*	*QC Limits*	
					RPD	*REC.*
1,1-Dichloroethene	50.0	69.2	138	4	14	61 - 145
Trichloroethene	50.0	50.2	100	2	14	71 - 120
Benzene	50.0	48.4	97	2	11	76 - 127
Toluene	50.0	54.2	96	3	13	76 - 125
Chlorobenzene	50.0	48.9	98	0	13	75 - 130

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308019/1*
Client Sample Number: 23909	*Alden Sample Number: 4630*
Date of Sample Receipt: 08/12/93	*Analysis Method: EPA 8240*
Date of Sample Extraction: N/A	*Matrix: Water*
Date of Sample Analysis: 08/13/93	*Reporting Units: ug/L*

Compound Name	*CAS No.*	*Reporting Limits(RL)*	*Reporting Results*
Chloromethane	74-87-3	1	<RL
Vinyl Chloride	75-01-4	1	<RL
Bromomethane	74-83-9	1	<RL
Chloroethane	75-00-3	1	<RL
Trichlorofluoromethane	75-69-4	1	<RL
1,1-Dichloroethene	75-35-4	1	<RL
Carbon Disulfide	75-15-0	1	<RL
Acetone	67-64-1	10	<RL
Methylene Chloride	75-09-2	10	<RL
t-1,2-Dichloroethene	156-60-5	1	<RL
1,1-Dichloroethane	75-34-3	1	9
Vinyl Acetate	108-05-4	10	<RL
c-1,2-Dichloroethene	156-60-5	1	1.4
Chloroform	67-66-3	1	3.7
2-Butanone (Methyl Ethyl Ket)	78-93-3	10	<RL
1,2-Dichloroethane	107-06-2	1	<RL
1,1,1-Trichloroethane	71-55-6	5	490
Carbon Tetrachloride	56-23-5	1	<RL
Benzene	71-43-2	1	<RL
Trichloroethene	79-01-6	1	19
1,2-Dichloropropane	78-87-5	1	<RL
Bromodichloromethane	75-27-4	1	<RL
c-1,3-Dichloropropene	10061-01-5	1	<RL
t-1,3-Dichloropropene	10061-02-6	1	<RL
1,1,2-Trichloroethane	79-00-5	1	1.4
Dibromochloromethane	124-48-1	1	<RL
Bromoform	75-25-2	1	<RL
4-Methyl-2-Pentanone (MIBK)	108-10-1	10	<RL
Toluene	108-88-3	1	<RL
Tetrachloroethene	127-18-4	1	<RL
2-Hexanone	591-78-6	10	<RL
Chlorobenzene	108-90-7	1	<RL
Ethylbenzene	100-41-4	1	<RL
m,p-Xylene*	1330-20-7	1	<RL
Styrene	100-42-5	1	<RL
o-Xylene	1330-20-7	1	<RL
1,1,2,2,-Tetrachloroethane	79-34-5	1	<RL
1,3-Dichlorobenzene	541-73-1	1	<RL

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308019/1*
Client Sample Number: 23909	*Alden Sample Number: 4630*
Date of Sample Receipt: 08/12/93	*Analysis Method: EPA 8240*
Date of Sample Extraction: N/A	*Matrix: Water*
Date of Sample Analysis: 08/13/93	*Reporting Units: ug/L*

Compound Name	*CAS No.*	*Reporting Limits(RL)*	*Reporting Results*
1,4-Dichlorobenzene	106-46-7	1	<RL
1,2-Dichlorobenzene	95-50-1	1	<RL

Surrogates	*Amount Added*	*Percent Recovery*	*Recovery Limits*
d4-1,2-Dichloroethane	250 ng	98	76-114
d8-Toluene	250 ng	105	88-110
Bromofluorobenzene	250 ng	106	86-115

* m-Xylene and p-Xylene cannot be separated and are reported here as a total of the two isomers.

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308019/1*
Client Sample Number: 23910	*Alden Sample Number: 4631*
Date of Sample Receipt: 08/12/93	*Analysis Method: EPA 8240*
Date of Sample Extraction: N/A	*Matrix: Water*
Date of Sample Analysis: 08/13/93	*Reporting Units: ug/L*

Compound Name	*CAS No.*	*Reporting Limits(RL)*	*Reporting Results*
Chloromethane	74-87-3	1	<RL
Vinyl Chloride	75-01-4	1	<RL
Bromomethane	74-83-9	1	<RL
Chloroethane	75-00-3	1	<RL
Trichlorofluoromethane	75-69-4	1	<RL
1,1-Dichloroethene	75-35-4	1	<RL
Carbon Disulfide	75-15-0	1	<RL
Acetone	67-64-1	10	<RL
Methylene Chloride	75-09-2	10	<RL
t-1,2-Dichloroethene	156-60-5	1	<RL
1,1-Dichloroethane	75-34-3	1	<RL
Vinyl Acetate	108-05-4	10	<RL
c-1,2-Dichloroethene	156-60-5	1	<RL
Chloroform	67-66-3	1	<RL
2-Butanone (Methyl Ethyl Ket)	78-93-3	10	<RL
1,2-Dichloroethane	107-06-2	1	<RL
1,1,1-Trichloroethane	71-55-6	1	<RL
Carbon Tetrachloride	56-23-5	1	<RL
Benzene	71-43-2	1	<RL
Trichloroethene	79-01-6	1	<RL
1,2-Dichloropropane	78-87-5	1	<RL
Bromodichloromethane	75-27-4	1	<RL
c-1,3-Dichloropropene	10061-01-5	1	<RL
t-1,3-Dichloropropene	10061-02-6	1	<RL
1,1,2-Trichloroethane	79-00-5	1	<RL
Dibromochloromethane	124-48-1	1	<RL
Bromoform	75-25-2	1	<RL
4-Methyl-2-Pentanone (MIBK)	108-10-1	10	<RL
Toluene	108-88-3	1	<RL
Tetrachloroethene	127-18-4	1	<RL
2-Hexanone	591-78-6	10	<RL
Chlorobenzene	108-90-7	1	<RL
Ethylbenzene	100-41-4	1	<RL
m,p-Xylene*	1330-20-7	1	<RL
Styrene	100-42-5	1	<RL
o-Xylene	1330-20-7	1	<RL
1,1,2,2,-Tetrachloroethane	79-34-5	1	<RL
1,3-Dichlorobenzene	541-73-1	1	<RL

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308019/1*
Client Sample Number: 23910	*Alden Sample Number: 4631*
Date of Sample Receipt: 08/12/93	*Analysis Method: EPA 8240*
Date of Sample Extraction: N/A	*Matrix: Water*
Date of Sample Analysis: 08/13/93	*Reporting Units: ug/L*

Compound Name	*CAS No.*	*Reporting Limits(RL)*	*Reporting Results*
1,4-Dichlorobenzene	106-46-7	1	<RL
1,2-Dichlorobenzene	95-50-1	1	<RL

Surrogates	*Amount Added*	*Percent Recovery*	*Recovery Limits*
d4-1,2-Dichloroethane	250 ng	98	76-114
d8-Toluene	250 ng	99	88-110
Bromofluorobenzene	250 ng	105	86-115

* m-Xylene and p-Xylene cannot be separated and are reported here as a total of the two isomers.

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308019/1*
Client Sample Number: N/A	*Alden Sample Number: BLANK*
Date of Sample Receipt: N/A	*Analysis Method: EPA 8240**
Date of Sample Extraction: N/A	*Matrix: Soil*
Date of Sample Analysis: 08/13/93	*Reporting Units: ug/kg*

Compound Name	*CAS No.*	*Reporting Limits(RL)*	*Reporting Results*
1,4-Dichlorobenzene	106-46-7	1	<RL
1,2-Dichlorobenzene	95-50-1	1	<RL

Surrogates	*Amount Added*	*Percent Recovery*	*Recovery Limits*
d4-1,2-Dichloroethane	250 ng	97	70-121
d8-Toluene	250 ng	102	81-117
Bromofluorobenzene	250 ng	105	74-121

* Please note that sample results have been corrected for moisture content.

** m-Xylene and p-Xylene cannot be separated and are reported here as a total of the two isomers.

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308019/1*
Client Sample Number: N/A	*Alden Sample Number: BLANK*
Date of Sample Receipt: N/A	*Analysis Method: EPA 8240**
Date of Sample Extraction: N/A	*Matrix: Soil*
Date of Sample Analysis: 08/13/93	*Reporting Units: ug/kg*

Compound Name	*CAS No.*	*Reporting Limits(RL)*	*Reporting Results*
Chloromethane	74-87-3	1	<RL
Vinyl Chloride	75-01-4	1	<RL
Bromomethane	74-83-9	1	<RL
Chloroethane	75-00-3	1	<RL
Trichlorofluoromethane	75-69-4	1	<RL
1,1-Dichloroethene	75-35-4	1	<RL
Carbon Disulfide	75-15-0	1	<RL
Acetone	67-64-1	10	<RL
Methylene Chloride	75-09-2	10	<RL
t-1,2-Dichloroethene	156-60-5	1	<RL
1,1-Dichloroethane	75-34-3	1	<RL
Vinyl Acetate	108-05-4	10	<RL
c-1,2-Dichloroethene	156-60-5	1	<RL
Chloroform	67-66-3	1	<RL
2-Butanone (Methyl Ethyl Ket)	78-93-3	10	<RL
1,2-Dichloroethane	107-06-2	1	<RL
1,1,1-Trichloroethane	71-55-6	1	<RL
Carbon Tetrachloride	56-23-5	1	<RL
Benzene	71-43-2	1	<RL
Trichloroethene	79-01-6	1	<RL
1,2-Dichloropropane	78-87-5	1	<RL
Bromodichloromethane	75-27-4	1	<RL
c-1,3-Dichloropropene	10061-01-5	1	<RL
t-1,3-Dichloropropene	10061-02-6	1	<RL
1,1,2-Trichloroethane	79-00-5	1	<RL
Dibromochloromethane	124-48-1	1	<RL
Bromoform	75-25-2	1	<RL
4-Methyl-2-Pentanone (MIBK)	108-10-1	10	<RL
Toluene	108-88-3	1	<RL
Tetrachloroethene	127-18-4	1	<RL
2-Hexanone	591-78-6	10	<RL
Chlorobenzene	108-90-7	1	<RL
Ethylbenzene	100-41-4	1	<RL
m,p-Xylene**	1330-20-7	1	<RL
Styrene	100-42-5	1	<RL
o-Xylene	1330-20-7	1	<RL
1,1,2,2,-Tetrachloroethane	79-34-5	1	<RL
1,3-Dichlorobenzene	541-73-1	1	<RL

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Volatiles Matrix Spike/Matrix Spike Duplicate Recoveries

Client: SCS Engineers
Client Sample Number: N/A
Date of Sample Receipt: N/A
Date of Sample Extraction: 08/03/93
Date of Sample Analysis: 08/09/93

Alden Project Number: 9308019/1
Alden Sample Number: 4528
Analysis Method: EPA 8240
Matrix: Soil
Reporting Units: ug/kg

Compound	*Spike Added (ug/kg)*	*Sample Concentration (ug/kg)*	*MS Concentration (ug/kg)*	*MS % Rec.*	*QC Limits Rec.*
1,1-Dichloroethene	50.0	0	49.4	99	59 - 172
Trichloroethene	50.0	0	46.6	93	62 - 137
Benzene	50.0	0	49.1	98	66 - 142
Toluene	50.0	0	51.8	104	59 - 139
Chlorobenzene	50.0	0	50.6	101	60 - 133

Compound	*Spike Added (ug/kg)*	*MSD Concentration (ug/kg)*	*MSD % Rec.*	*% RPD*	*QC Limits*	
					RPD	*REC.*
1,1-Dichloroethene	50.0	45.0	90	9	14	59 - 172
Trichloroethene	50.0	42.9	86	8	14	62 - 137
Benzene	50.0	45.1	90	8	11	66 - 142
Toluene	50.0	48.9	98	6	13	59 - 139
Chlorobenzene	50.0	47.0	94	7	13	60 - 133

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308019/1*
Client Sample Number: 23906	*Alden Sample Number: 4627*
Date of Sample Receipt: 08/12/93	*Analysis Method: EPA 8240**
Date of Sample Extraction: 08/13/93	*Matrix: Soil*
Date of Sample Analysis: 08/13/93	*Reporting Units: ug/kg*

Compound Name	*CAS No.*	*Reporting Limits(RL)*	*Reporting Results*
Chloromethane	74-87-3	24	<RL
Vinyl Chloride	75-01-4	24	<RL
Bromomethane	74-83-9	24	<RL
Chloroethane	75-00-3	24	<RL
Trichlorofluoromethane	75-69-4	24	<RL
1,1-Dichloroethene	75-35-4	24	<RL
Carbon Disulfide	75-15-0	24	<RL
Acetone	67-64-1	240	<RL
Methylene Chloride	75-09-2	240	<RL
t-1,2-Dichloroethene	156-60-5	24	<RL
1,1-Dichloroethane	75-34-3	24	<RL
Vinyl Acetate	108-05-4	240	<RL
c-1,2-Dichloroethene	156-60-5	24	<RL
Chloroform	67-66-3	24	<RL
2-Butanone (Methyl Ethyl Ket)	78-93-3	240	290
1,2-Dichloroethane	107-06-2	24	<RL
1,1,1-Trichloroethane	71-55-6	24	<RL
Carbon Tetrachloride	56-23-5	24	<RL
Benzene	71-43-2	24	<RL
Trichloroethene	79-01-6	24	<RL
1,2-Dichloropropane	78-87-5	24	<RL
Bromodichloromethane	75-27-4	24	<RL
c-1,3-Dichloropropene	10061-01-5	24	<RL
t-1,3-Dichloropropene	10061-02-6	24	<RL
1,1,2-Trichloroethane	79-00-5	24	<RL
Dibromochloromethane	124-48-1	24	<RL
Bromoform	75-25-2	24	<RL
4-Methyl-2-Pentanone (MIBK)	108-10-1	240	<RL
Toluene	108-88-3	24	<RL
Tetrachloroethene	127-18-4	24	<RL
2-Hexanone	591-78-6	240	<RL
Chlorobenzene	108-90-7	24	<RL
Ethylbenzene	100-41-4	24	<RL
m,p-Xylene**	1330-20-7	24	<RL
Styrene	100-42-5	24	<RL
o-Xylene	1330-20-7	24	<RL
1,1,2,2,-Tetrachloroethane	79-34-5	24	<RL
1,3-Dichlorobenzene	541-73-1	24	<RL

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308019/1*
Client Sample Number: 23906	*Alden Sample Number: 4627*
Date of Sample Receipt: 08/12/93	*Analysis Method: EPA 8240**
Date of Sample Extraction: 08/13/93	*Matrix: Soil*
Date of Sample Analysis: 08/13/93	*Reporting Units: ug/kg*

Compound Name	*CAS No.*	*Reporting Limits(RL)*	*Reporting Results*
1,4-Dichlorobenzene	106-46-7	24	<RL
1,2-Dichlorobenzene	95-50-1	24	<RL

Surrogates	*Amount Added*	*Percent Recovery*	*Recovery Limits*
d4-1,2-Dichloroethane	250 ng	101	70-121
d8-Toluene	250 ng	100	81-117
Bromofluorobenzene	250 ng	107	74-121

* Please note that sample results have been corrected for moisture content.

** m-Xylene and p-Xylene cannot be separated and are reported here as a total of the two isomers.

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308019/1*
Client Sample Number: 23908	*Alden Sample Number: 4629*
Date of Sample Receipt: 08/12/93	*Analysis Method: EPA 8240**
Date of Sample Extraction: 08/13/93	*Matrix: Soil*
Date of Sample Analysis: 08/13/93	*Reporting Units: ug/kg*

Compound Name	*CAS No.*	*Reporting Limits(RL)*	*Reporting Results*
Chloromethane	74-87-3	23	<RL
Vinyl Chloride	75-01-4	23	<RL
Bromomethane	74-83-9	23	<RL
Chloroethane	75-00-3	23	<RL
Trichlorofluoromethane	75-69-4	23	<RL
1,1-Dichloroethene	75-35-4	23	<RL
Carbon Disulfide	75-15-0	23	<RL
Acetone	67-64-1	230	<RL
Methylene Chloride	75-09-2	230	<RL
t-1,2-Dichloroethene	156-60-5	23	<RL
1,1-Dichloroethane	75-34-3	23	<RL
Vinyl Acetate	108-05-4	230	<RL
c-1,2-Dichloroethene	156-60-5	23	<RL
Chloroform	67-66-3	23	<RL
2-Butanone (Methyl Ethyl Ket)	78-93-3	230	260
1,2-Dichloroethane	107-06-2	23	<RL
1,1,1-Trichloroethane	71-55-6	23	<RL
Carbon Tetrachloride	56-23-5	23	<RL
Benzene	71-43-2	23	<RL
Trichloroethene	79-01-6	23	<RL
1,2-Dichloropropane	78-87-5	23	<RL
Bromodichloromethane	75-27-4	23	<RL
c-1,3-Dichloropropene	10061-01-5	23	<RL
t-1,3-Dichloropropene	10061-02-6	23	<RL
1,1,2-Trichloroethane	79-00-5	23	<RL
Dibromochloromethane	124-48-1	23	<RL
Bromoform	75-25-2	23	<RL
4-Methyl-2-Pentanone (MIBK)	108-10-1	230	<RL
Toluene	108-88-3	23	<RL
Tetrachloroethene	127-18-4	23	<RL
2-Hexanone	591-78-6	230	<RL
Chlorobenzene	108-90-7	23	<RL
Ethylbenzene	100-41-4	23	<RL
m,p-Xylene**	1330-20-7	23	<RL
Styrene	100-42-5	23	<RL
o-Xylene	1330-20-7	23	<RL
1,1,2,2,-Tetrachloroethane	79-34-5	23	<RL
1,3-Dichlorobenzene	541-73-1	23	<RL

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308019/1*
Client Sample Number: 23908	*Alden Sample Number: 4629*
Date of Sample Receipt: 08/12/93	*Analysis Method: EPA 8240**
Date of Sample Extraction: 08/13/93	*Matrix: Soil*
Date of Sample Analysis: 08/13/93	*Reporting Units: ug/kg*

Compound Name	*CAS No.*	*Reporting Limits(RL)*	*Reporting Results*
1,4-Dichlorobenzene	106-46-7	23	<RL
1,2-Dichlorobenzene	95-50-1	23	<RL

Surrogates	*Amount Added*	*Percent Recovery*	*Recovery Limits*
d4-1,2-Dichloroethane	250 ng	100	70-121
d8-Toluene	250 ng	103	81-117
Bromofluorobenzene	250 ng	102	74-121

* Please note that sample results have been corrected for moisture content.

** m-Xylene and p-Xylene cannot be separated and are reported here as a total of the two isomers.

Alden Analytical Laboratories, Inc.

1001 S.W. Klickitat way Suite 108 Seattle, WA 98134 (206) 623-3660 Fax (206) 624-8778

Date: 8/12/93 Page 1 of 1

Project/PO Number

Contact: RICK ALVORD

Company/Address SCS ENGINEERS

Phone: Fax:

Samplers:

Analyses Requested

Alden Project Number: 9308019/1

Sample Date/Time	Sample ID #	Matrix	# Containers	VOA 8240 (PLEASE RUN XYLENE)	TPH-D	TPH-418.1	TAT	Lab ID #	Remarks
8/11/93	23905	SOIL	2				C	4626 AB	(HOLD)
	23906			X	X	X		4627 AB	
	23907							4628 AB	(HOLD)
	23908			X	X	X		4629 AB	
8/12/93	23909	WATER	3	X	X	X		4630 A-C	
	23910			X	X	X		4631 A-C	

Relinquished By:	Received By:
Signature	Signature
Date Time	Date Time
Relinquished By:	Received By:
Signature 4:20	Signature
Date Time	Date Time

Please note that samples received after 3PM are considered received 8AM the following business day.

Special Instructions/Comments:
8/13. CALLED RICK, ASKED IF HE WANTED TO RUN A D-EXTENDED. (DUE TO NOT ENOUGH)
NO PROBLEM. DB. 8/13/93

TAT Codes
A Standard B 24hr
C 48 hr D 72hr
E 1 Week F Other:

CHAIN OF CUSTODY RECORD REQUEST FOR ANALYSIS

SCS ANALYTICAL LABORATORY

COMPANY NAME: SCS ENGINEERS		CARRIER:	
ADDRESS: 2950 NORTHUP WAY, BELLEVUE, WA		SHIPMENT DATE:	
PHONE NUMBER: 822-5800		SHIPPING NUMBER:	
P.O. NUMBER:		NUMBER OF SAMPLES:	PAGE 1 OF 1

TURNAROUND TIME REQUIRED:
- ☐ NORMAL
- ☐ 5-DAY
- ☐ 3-DAY ASAP 48 HOUR PROMISE DP
- ☒ 24-HOUR
- ☒ IMMEDIATE ATTENTION

PROJECT NAME:	STIMPSON
PROJECT ADDRESS:	SEATTLE, WA.
PROJECT NUMBER:	489021-11
SAMPLER NAME AND SIGNATURE:	Rick Alvord
REPORTS TO BE SENT TO:	RICK ALVORD

SAMPLE I.D. NUMBER	SAMPLE DESCRIPTION	SAMPLE MATRIX	SAMPLE PRESERVATIVE(S)	CONTAINER SIZE / TYPE	DATE / TIME COLLECTED	FIELD TEMP.	FIELD pH	FIELD EC	SPECIAL PROGRAM REQUIREMENTS OR EPA - SOP & QAM REF	ANALYSES REQUIRED: 418.1, TPH-D, 8240	LAB ONLY: SAMPLE CONDITION UPON RECEIPT
23905	MW-1	Soil	—	6-2oz -8oz	8/11/93	—	—	—		X (8) ARCHIVE	
23906	MW-1	"		"	"					X	
23907	MW-2	"		"	8/11/93					X (8) ARCHIVE	
23908	MW-2	"		"	8/11/93					X	
23909	MW-1	GW		1L & VOA	8/12/93					X	
23910	MW-2	"		1L & VOA	8/12/93					X	

SPECIAL INSTRUCTIONS / COMMENTS: Please run Xylene on 8240 For both Water & Soil Samples.

RELINQUISHED BY: (Signature)	DATE:	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE:	RECEIVED BY: (Signature)
Rick Alvord	8/12/93	[signature]			
COMPANY: SCS Engineers	TIME: 1610	COMPANY: Alder	COMPANY:	TIME:	COMPANY:
		1610			

Alden Analytical
Laboratories, Inc.

August 31, 1993

SCS Engineers
Attn: Rick Alvord
2950 Northup Way
Bellevue, WA 98004

RE: ALDEN PROJECT NUMBER 9308025/1
(SCS ENGINEERS PROJECT NUMBER 48921.11-STIMPSON)

Dear Rick:

Enclosed are the analytical results for the groundwater samples submitted to Alden Labs August 19, 1993. The samples were analyzed for Volatiles using Method 8240, TPH using Method WTPH-D and Method WTPH-418.1.

Samples 23914 and 23923 were not analyzed per your documentation on the Chain-of-Custody.

All samples met Alden's internal QA/QC criteria.

It is Alden's policy to dispose of all samples and extracts after the expiration of their hold time unless notified otherwise. If you have any questions, please do not hesitate to call me at the number below.

Sincerely,

Carole J. Lee
Project Coordinator

Enclosures

1001 SW Klickitat Way
Seattle, WA 98134
Telephone (206) 623-3660
Facsimile (206) 624-8778

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers
Client Sample Number: See Below
Date of Sample Receipt: 08/19/93
Matrix: Water

Alden Project Number: 9308025/1
Alden Sample Number: See Below
Analysis Method: EPA 418.1
Reporting Units: mg/L

Client Sample ID	*Alden Sample Number*	*Extraction Date*	*Analysis Date*	*TPH*
N/A	Blank	08/20/93	08/20/93	0.14
23912	4666	08/20/93	08/20/93	0.23
23921	4670	08/20/93	08/20/93	0.21
23919	4674	08/20/93	08/20/93	0.25

Note: Results are reported to two significant figures.

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308025/1*
Client Sample Number: N/A	*Alden Sample Number: Blank*
Date of Sample Receipt: N/A	*Analysis Method: WTPH-D*
Date of Sample Extraction: 08/19/93	*Matrix: Water*
Date of Sample Analysis: 08/19/93	*Reporting Units: mg/L*

Compound Name	*Reporting Limits(RL)*	*Reporting Results*
Total Petroleum Hydrocarbons	0.60	<RL

Surrogates	*Percent Recovery*	*Recovery Limits*
Fluorobiphenyl	125	50 - 150
o-Terphenyl	141	50 - 150

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308025/1*
Client Sample Number: N/A	*Alden Sample Number: Blank DUP*
Date of Sample Receipt: N/A	*Analysis Method: WTPH-D*
Date of Sample Extraction: 08/19/93	*Matrix: Water*
Date of Sample Analysis: 08/19/93	*Reporting Units: mg/L*

Compound Name	*Reporting Limits(RL)*	*Reporting Results*
Total Petroleum Hydrocarbons	0.60	<RL

Surrogates	*Percent Recovery*	*Recovery Limits*
Fluorobiphenyl	128	50 - 150
o-Terphenyl	136	50 - 150

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308025/1*
Client Sample Number: 23911	*Alden Sample Number: 4665*
Date of Sample Receipt: 08/19/93	*Analysis Method: WTPH-D*
Date of Sample Extraction: 08/19/93	*Matrix: Water*
Date of Sample Analysis: 08/19/93	*Reporting Units: mg/L*

Compound Name	*Reporting Limits(RL)*	*Reporting Results*
Total Petroleum Hydrocarbons	0.60	0.60

Surrogates	*Percent Recovery*	*Recovery Limits*
Fluorobiphenyl	132	50 - 150
o-Terphenyl	143	50 - 150

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308025/1*
Client Sample Number: 23920	*Alden Sample Number: 4669*
Date of Sample Receipt: 08/19/93	*Analysis Method: WTPH-D*
Date of Sample Extraction: 08/19/93	*Matrix: Water*
Date of Sample Analysis: 08/19/93	*Reporting Units: mg/L*

Compound Name	*Reporting Limits(RL)*	*Reporting Results*
Total Petroleum Hydrocarbons	0.60	<RL

Surrogates	*Percent Recovery*	*Recovery Limits*
Fluorobiphenyl	140	50 - 150
o-Terphenyl	143	50 - 150

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308025/1*
Client Sample Number: N/A	*Alden Sample Number: BLANK*
Date of Sample Receipt: N/A	*Analysis Method: EPA 8240**
Date of Sample Extraction: N/A	*Matrix: Water*
Date of Sample Analysis: 08/20/93	*Reporting Units: ug/L*

Compound Name	*CAS No.*	*Reporting Limits(RL)*	*Reporting Results*
Chloromethane	74-87-3	1	<RL
Vinyl Chloride	75-01-4	1	<RL
Bromomethane	74-83-9	1	<RL
Chloroethane	75-00-3	1	<RL
Trichlorofluoromethane	75-69-4	1	<RL
1,1-Dichloroethene	75-35-4	1	<RL
Carbon Disulfide	75-15-0	1	<RL
Acetone	67-64-1	10	<RL
Methylene Chloride	75-09-2	10	<RL
t-1,2-Dichloroethene	156-60-5	1	<RL
1,1-Dichloroethane	75-34-3	1	<RL
Vinyl Acetate	108-05-4	10	<RL
c-1,2-Dichloroethene	156-60-5	1	<RL
Chloroform	67-66-3	1	<RL
2-Butanone (Methyl Ethyl Ket)	78-93-3	10	<RL
1,2-Dichloroethane	107-06-2	1	<RL
1,1,1-Trichloroethane	71-55-6	1	<RL
Carbon Tetrachloride	56-23-5	1	<RL
Benzene	71-43-2	1	<RL
Trichloroethene	79-01-6	1	<RL
1,2-Dichloropropane	78-87-5	1	<RL
Bromodichloromethane	75-27-4	1	<RL
c-1,3-Dichloropropene	10061-01-5	1	<RL
t-1,3-Dichloropropene	10061-02-6	1	<RL
1,1,2-Trichloroethane	79-00-5	1	<RL
Dibromochloromethane	124-48-1	1	<RL
Bromoform	75-25-2	1	<RL
4-Methyl-2-Pentanone (MIBK)	108-10-1	10	<RL
Toluene	108-88-3	1	<RL
Tetrachloroethene	127-18-4	1	<RL
2-Hexanone	591-78-6	10	<RL
Chlorobenzene	108-90-7	1	<RL
Ethylbenzene	100-41-4	1	<RL
m,p-Xylene*	1330-20-7	1	<RL
Styrene	100-42-5	1	<RL
o-Xylene	1330-20-7	1	<RL
1,1,2,2,-Tetrachloroethane	79-34-5	1	<RL
1,3-Dichlorobenzene	541-73-1	1	<RL

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308025/1*
Client Sample Number: N/A	*Alden Sample Number: BLANK*
Date of Sample Receipt: N/A	*Analysis Method: EPA 8240**
Date of Sample Extraction: N/A	*Matrix: Water*
Date of Sample Analysis: 08/20/93	*Reporting Units: ug/L*

Compound Name	*CAS No.*	*Reporting Limits(RL)*	*Reporting Results*
1,4-Dichlorobenzene	106-46-7	1	<RL
1,2-Dichlorobenzene	95-50-1	1	<RL

Surrogates	*Amount Added*	*Percent Recovery*	*Recovery Limits*
d4-1,2-Dichloroethane	250 ng	95	76-114
d8-Toluene	250 ng	107	88-110
Bromofluorobenzene	250 ng	110	86-115

* m-Xylene and p-Xylene cannot be separated and are reported here as a total of the two isomers.

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Volatiles Matrix Spike/Matrix Spike Duplicate Recoveries

Client: SCS Engineers
Client Sample Number: N/A
Date of Sample Receipt: N/A
Date of Sample Extraction: N/A
Date of Sample Analysis: 08/17/93

Alden Project Number: 9308025/1
Alden Sample Number: 4637
Analysis Method: EPA 8240
Matrix: Water
Reporting Units: ug/L

Compound	*Spike Added (ug/L)*	*Sample Concentration (ug/L)*	*MS Concentration (ug/L)*	*MS % Rec.*	*QC Limits Rec.*
1,1-Dichloroethene	50.0	0	46.2	92	61 - 145
Trichloroethene	50.0	0	48.4	97	71 - 120
Benzene	50.0	0	49.7	99	76 - 127
Toluene	50.0	0	49.0	98	76 - 125
Chlorobenzene	50.0	0	48.6	97	75 - 130

Compound	*Spike Added (ug/L)*	*MSD Concentration (ug/L)*	*MSD % Rec.*	*% RPD*	*QC Limits*	
					RPD	*REC.*
1,1-Dichloroethene	50.0	47.8	96	3	14	61 - 145
Trichloroethene	50.0	51.3	103	6	14	71 - 120
Benzene	50.0	53.5	107	7	11	76 - 127
Toluene	50.0	49.5	99	1	13	76 - 125
Chlorobenzene	50.0	50.9	102	5	13	75 - 130

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308025/1*
Client Sample Number: 23913	*Alden Sample Number: 4667*
Date of Sample Receipt: 08/19/93	*Analysis Method: EPA 8240**
Date of Sample Extraction: N/A	*Matrix: Water*
Date of Sample Analysis: 08/20/93	*Reporting Units: ug/L*

Compound Name	*CAS No.*	*Reporting Limits(RL)*	*Reporting Results*
Chloromethane	74-87-3	1	<RL
Vinyl Chloride	75-01-4	1	<RL
Bromomethane	74-83-9	1	<RL
Chloroethane	75-00-3	1	<RL
Trichlorofluoromethane	75-69-4	1	<RL
1,1-Dichloroethene	75-35-4	1	<RL
Carbon Disulfide	75-15-0	1	<RL
Acetone	67-64-1	10	<RL
Methylene Chloride	75-09-2	10	<RL
t-1,2-Dichloroethene	156-60-5	1	<RL
1,1-Dichloroethane	75-34-3	1	<RL
Vinyl Acetate	108-05-4	10	<RL
c-1,2-Dichloroethene	156-60-5	1	<RL
Chloroform	67-66-3	1	<RL
2-Butanone (Methyl Ethyl Ket)	78-93-3	10	<RL
1,2-Dichloroethane	107-06-2	1	<RL
1,1,1-Trichloroethane	71-55-6	1	<RL
Carbon Tetrachloride	56-23-5	1	<RL
Benzene	71-43-2	1	<RL
Trichloroethene	79-01-6	1	<RL
1,2-Dichloropropane	78-87-5	1	<RL
Bromodichloromethane	75-27-4	1	<RL
c-1,3-Dichloropropene	10061-01-5	1	<RL
t-1,3-Dichloropropene	10061-02-6	1	<RL
1,1,2-Trichloroethane	79-00-5	1	<RL
Dibromochloromethane	124-48-1	1	<RL
Bromoform	75-25-2	1	<RL
4-Methyl-2-Pentanone (MIBK)	108-10-1	10	<RL
Toluene	108-88-3	1	8.3
Tetrachloroethene	127-18-4	1	<RL
2-Hexanone	591-78-6	10	<RL
Chlorobenzene	108-90-7	1	<RL
Ethylbenzene	100-41-4	1	<RL
m,p-Xylene*	1330-20-7	1	<RL
Styrene	100-42-5	1	<RL
o-Xylene	1330-20-7	1	<RL
1,1,2,2,-Tetrachloroethane	79-34-5	1	<RL
1,3-Dichlorobenzene	541-73-1	1	<RL

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308025/1*
Client Sample Number: 23913	*Alden Sample Number: 4667*
Date of Sample Receipt: 08/19/93	*Analysis Method: EPA 8240**
Date of Sample Extraction: N/A	*Matrix: Water*
Date of Sample Analysis: 08/20/93	*Reporting Units: ug/L*

Compound Name	*CAS No.*	*Reporting Limits(RL)*	*Reporting Results*
1,4-Dichlorobenzene	106-46-7	1	<RL
1,2-Dichlorobenzene	95-50-1	1	<RL

Surrogates	*Amount Added*	*Percent Recovery*	*Recovery Limits*
d4-1,2-Dichloroethane	250 ng	92	76-114
d8-Toluene	250 ng	109	88-110
Bromofluorobenzene	250 ng	112	86-115

* m-Xylene and p-Xylene cannot be separated and are reported here as a total of the two isomers.

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308025/1*
Client Sample Number: 23922	*Alden Sample Number: 4671*
Date of Sample Receipt: 08/19/93	*Analysis Method: EPA 8240**
Date of Sample Extraction: N/A	*Matrix: Water*
Date of Sample Analysis: 08/20/93	*Reporting Units: ug/L*

Compound Name	*CAS No.*	*Reporting Limits(RL)*	*Reporting Results*
Chloromethane	74-87-3	1	<RL
Vinyl Chloride	75-01-4	1	<RL
Bromomethane	74-83-9	1	<RL
Chloroethane	75-00-3	1	<RL
Trichlorofluoromethane	75-69-4	1	<RL
1,1-Dichloroethene	75-35-4	1	<RL
Carbon Disulfide	75-15-0	1	<RL
Acetone	67-64-1	10	<RL
Methylene Chloride	75-09-2	10	<RL
t-1,2-Dichloroethene	156-60-5	1	<RL
1,1-Dichloroethane	75-34-3	1	10
Vinyl Acetate	108-05-4	10	<RL
c-1,2-Dichloroethene	156-60-5	1	1.4
Chloroform	67-66-3	1	3.7
2-Butanone (Methyl Ethyl Ket)	78-93-3	10	<RL
1,2-Dichloroethane	107-06-2	1	<RL
1,1,1-Trichloroethane	71-55-6	10	650
Carbon Tetrachloride	56-23-5	1	<RL
Benzene	71-43-2	1	<RL
Trichloroethene	79-01-6	1	20
1,2-Dichloropropane	78-87-5	1	<RL
Bromodichloromethane	75-27-4	1	<RL
c-1,3-Dichloropropene	10061-01-5	1	<RL
t-1,3-Dichloropropene	10061-02-6	1	<RL
1,1,2-Trichloroethane	79-00-5	1	<RL
Dibromochloromethane	124-48-1	1	<RL
Bromoform	75-25-2	1	<RL
4-Methyl-2-Pentanone (MIBK)	108-10-1	10	<RL
Toluene	108-88-3	1	1.2
Tetrachloroethene	127-18-4	1	<RL
2-Hexanone	591-78-6	10	<RL
Chlorobenzene	108-90-7	1	<RL
Ethylbenzene	100-41-4	1	<RL
m,p-Xylene*	1330-20-7	1	<RL
Styrene	100-42-5	1	<RL
o-Xylene	1330-20-7	1	<RL
1,1,2,2,-Tetrachloroethane	79-34-5	1	<RL
1,3-Dichlorobenzene	541-73-1	1	<RL

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308025/1*
Client Sample Number: 23922	*Alden Sample Number: 4671*
Date of Sample Receipt: 08/19/93	*Analysis Method: EPA 8240**
Date of Sample Extraction: N/A	*Matrix: Water*
Date of Sample Analysis: 08/20/93	*Reporting Units: ug/L*

Compound Name	*CAS No.*	*Reporting Limits(RL)*	*Reporting Results*
1,4-Dichlorobenzene	106-46-7	1	<RL
1,2-Dichlorobenzene	95-50-1	1	<RL

Surrogates	*Amount Added*	*Percent Recovery*	*Recovery Limits*
d4-1,2-Dichloroethane	250 ng	94	76-114
d8-Toluene	250 ng	100	88-110
Bromofluorobenzene	250 ng	104	86-115

* m-Xylene and p-Xylene cannot be separated and are reported here as a total of the two isomers.

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308025/1*
Client Sample Number: 23916-T	*Alden Sample Number: 4673*
Date of Sample Receipt: 08/19/93	*Analysis Method: EPA 8240**
Date of Sample Extraction: N/A	*Matrix: Water*
Date of Sample Analysis: 08/20/93	*Reporting Units: ug/L*

Compound Name	*CAS No.*	*Reporting Limits(RL)*	*Reporting Results*
Chloromethane	74-87-3	1	<RL
Vinyl Chloride	75-01-4	1	<RL
Bromomethane	74-83-9	1	<RL
Chloroethane	75-00-3	1	<RL
Trichlorofluoromethane	75-69-4	1	<RL
1,1-Dichloroethene	75-35-4	1	<RL
Carbon Disulfide	75-15-0	1	<RL
Acetone	67-64-1	10	<RL
Methylene Chloride	75-09-2	10	<RL
t-1,2-Dichloroethene	156-60-5	1	<RL
1,1-Dichloroethane	75-34-3	1	<RL
Vinyl Acetate	108-05-4	10	<RL
c-1,2-Dichloroethene	156-60-5	1	<RL
Chloroform	67-66-3	1	<RL
2-Butanone (Methyl Ethyl Ket)	78-93-3	10	<RL
1,2-Dichloroethane	107-06-2	1	<RL
1,1,1-Trichloroethane	71-55-6	1	<RL
Carbon Tetrachloride	56-23-5	1	<RL
Benzene	71-43-2	1	<RL
Trichloroethene	79-01-6	1	<RL
1,2-Dichloropropane	78-87-5	1	<RL
Bromodichloromethane	75-27-4	1	<RL
c-1,3-Dichloropropene	10061-01-5	1	<RL
t-1,3-Dichloropropene	10061-02-6	1	<RL
1,1,2-Trichloroethane	79-00-5	1	<RL
Dibromochloromethane	124-48-1	1	<RL
Bromoform	75-25-2	1	<RL
4-Methyl-2-Pentanone (MIBK)	108-10-1	10	<RL
Toluene	108-88-3	1	<RL
Tetrachloroethene	127-18-4	1	<RL
2-Hexanone	591-78-6	10	<RL
Chlorobenzene	108-90-7	1	<RL
Ethylbenzene	100-41-4	1	<RL
m,p-Xylene*	1330-20-7	1	<RL
Styrene	100-42-5	1	<RL
o-Xylene	1330-20-7	1	<RL
1,1,2,2,-Tetrachloroethane	79-34-5	1	<RL
1,3-Dichlorobenzene	541-73-1	1	<RL

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308025/1*
Client Sample Number: 23916-T	*Alden Sample Number: 4673*
Date of Sample Receipt: 08/19/93	*Analysis Method: EPA 8240**
Date of Sample Extraction: N/A	*Matrix: Water*
Date of Sample Analysis: 08/20/93	*Reporting Units: ug/L*

Compound Name	*CAS No.*	*Reporting Limits(RL)*	*Reporting Results*
1,4-Dichlorobenzene	106-46-7	1	<RL
1,2-Dichlorobenzene	95-50-1	1	<RL

Surrogates	*Amount Added*	*Percent Recovery*	*Recovery Limits*
d4-1,2-Dichloroethane	250 ng	93	76-114
d8-Toluene	250 ng	101	88-110
Bromofluorobenzene	250 ng	105	86-115

* m-Xylene and p-Xylene cannot be separated and are reported here as a total of the two isomers.

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308025/1*
Client Sample Number: 23924	*Alden Sample Number: 4675*
Date of Sample Receipt: 08/19/93	*Analysis Method: EPA 8240**
Date of Sample Extraction: N/A	*Matrix: Water*
Date of Sample Analysis: 08/20/93	*Reporting Units: ug/L*

Compound Name	*CAS No.*	*Reporting Limits(RL)*	*Reporting Results*
Chloromethane	74-87-3	1	<RL
Vinyl Chloride	75-01-4	1	<RL
Bromomethane	74-83-9	1	<RL
Chloroethane	75-00-3	1	<RL
Trichlorofluoromethane	75-69-4	1	<RL
1,1-Dichloroethene	75-35-4	1	<RL
Carbon Disulfide	75-15-0	1	<RL
Acetone	67-64-1	10	<RL
Methylene Chloride	75-09-2	10	<RL
t-1,2-Dichloroethene	156-60-5	1	<RL
1,1-Dichloroethane	75-34-3	1	<RL
Vinyl Acetate	108-05-4	10	<RL
c-1,2-Dichloroethene	156-60-5	1	<RL
Chloroform	67-66-3	1	2.4
2-Butanone (Methyl Ethyl Ket)	78-93-3	10	<RL
1,2-Dichloroethane	107-06-2	1	<RL
1,1,1-Trichloroethane	71-55-6	1	5.1
Carbon Tetrachloride	56-23-5	1	<RL
Benzene	71-43-2	1	<RL
Trichloroethene	79-01-6	1	<RL
1,2-Dichloropropane	78-87-5	1	<RL
Bromodichloromethane	75-27-4	1	<RL
c-1,3-Dichloropropene	10061-01-5	1	<RL
t-1,3-Dichloropropene	10061-02-6	1	<RL
1,1,2-Trichloroethane	79-00-5	1	<RL
Dibromochloromethane	124-48-1	1	<RL
Bromoform	75-25-2	1	<RL
4-Methyl-2-Pentanone (MIBK)	108-10-1	10	<RL
Toluene	108-88-3	1	<RL
Tetrachloroethene	127-18-4	1	<RL
2-Hexanone	591-78-6	10	<RL
Chlorobenzene	108-90-7	1	<RL
Ethylbenzene	100-41-4	1	<RL
m,p-Xylene*	1330-20-7	1	<RL
Styrene	100-42-5	1	<RL
o-Xylene	1330-20-7	1	<RL
1,1,2,2,-Tetrachloroethane	79-34-5	1	<RL
1,3-Dichlorobenzene	541-73-1	1	<RL

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: SCS Engineers	*Alden Project Number: 9308025/1*
Client Sample Number: 23924	*Alden Sample Number: 4675*
Date of Sample Receipt: 08/19/93	*Analysis Method: EPA 8240**
Date of Sample Extraction: N/A	*Matrix: Water*
Date of Sample Analysis: 08/20/93	*Reporting Units: ug/L*

Compound Name	*CAS No.*	*Reporting Limits(RL)*	*Reporting Results*
1,4-Dichlorobenzene	106-46-7	1	<RL
1,2-Dichlorobenzene	95-50-1	1	<RL

Surrogates	*Amount Added*	*Percent Recovery*	*Recovery Limits*
d4-1,2-Dichloroethane	250 ng	94	76-114
d8-Toluene	250 ng	105	88-110
Bromofluorobenzene	250 ng	110	86-115

* m-Xylene and p-Xylene cannot be separated and are reported here as a total of the two isomers.

Alden Analytical Laboratories, Inc.

1001 S.W. Klickitat way Suite 108 Seattle, WA 98134 (206) 623-3660 Fax (206) 624-6778

Date: 8/19/93 Page 1 of 2

Project/PO Number 48921.11

Contact: RICK ALVORD

Company/Address SCS ENGINEERS

Phone: _____ Fax: _____

Samplers: _____

Alden Project Number: 9308025|1

Sample Date/Time	Sample ID #	Matrix	# Containers	NTPH-418.1	NTPH-D	8240 VOA	ARCHIVE				TAT	Lab ID #	Remarks
8/19/93	23911	WATER	1		X						B	4665	
	23912			X								4666	
	23913					X						4667	
	23914						X					4668	(HOLD)
	23920				X							4669	
	23921			X								4670	
	23922					X						4671	
	23923						X					4672	
	23916-T					X						4673	
	23919			X								4674	

Analyses Requested

Relinquished By:	Received By:	Special Instructions/Comments:
Signature	Signature	
Date Time	Date Time	
Relinquished By:	Received By:	
Signature	Signature	
Date Time	Date Time	

TAT Codes

A Standard B 24hr

C 48 hr D 72hr

E 1 Week F Other: _____

Please note that samples received after 3PM are considered received 8AM the following business day.

Alden Analytical Laboratories, Inc.

1001 S.W. Klickitat way Suite 108 Seattle, WA 98134 (206) 623-3660 Fax (206) 624-8778

Date: 8/19/93 Page 2 of 2

Project/PO Number 48921.11

Contact: RICK ALVORD

Company/Address SCS ENGINEERS

Phone: _____ Fax: _____

Samplers: _____

Alden Project Number: 9308025|1

Sample Date/Time	Sample ID #	Matrix	# Containers	NTPH-418.1	NTPH-D	8240 VOA					TAT	Lab ID #	Remarks
8/19/93	23924	WATER	1			X					B	4675	

Analyses Requested

Relinquished By:	Received By:
Signature	Signature
Date Time	Date Time
Relinquished By:	Received By:
Signature	Signature
Date Time	Date Time

Special Instructions/Comments:

TAT Codes
A Standard B 24hr
C 48 hr D 72hr
E 1 Week F Other: _____

Please note that samples received after 3PM are considered received 8AM the following business day.

CHAIN OF CUSTODY RECORD REQUEST FOR ANALYSIS

SCS ANALYTICAL LABORATORY

COMPANY NAME: SCS Engineers	CARRIER:	TURNAROUND TIME REQUIRED: ☐ NORMAL ☐ 5-DAY ☐ 3-DAY ☒ 24-HOUR ☒ IMMEDIATE ATTENTION	
ADDRESS: 2950 Nortilus Way	SHIPMENT DATE:		
PHONE NUMBER: 822-5800	SHIPPING NUMBER:		
P.O. NUMBER:	NUMBER OF SAMPLES:	PAGE 1 OF	
PROJECT NAME: Simpson			
PROJECT ADDRESS: Seattle, WA.			
PROJECT NUMBER: 48921-11			
SAMPLER NAME AND SIGNATURE: Rick Clark / Greg Helland			
REPORTS TO BE SENT TO: Rick Alvord			

SAMPLE I.D. NUMBER	SAMPLE DESCRIPTION	SAMPLE MATRIX	SAMPLE PRESERVATIVE(S)	CONTAINER SIZE / TYPE	DATE / TIME COLLECTED	FIELD TEMP.	FIELD pH	FIELD EC	SPECIAL PROGRAM REQUIREMENTS OR EPA - SOP & QAM REF	ANALYSES REQUIRED: WTPH 418.1	WTPH-D	8240								LAB ONLY: SAMPLE CONDITION UPON RECEIPT
23911	GW →			6-1l	8/19/93						X									
23912	"			6-1l	"					X										
23913	"		Acid	40 ml	"							X								
23914	"		"	40 ml	"							X	(ARCHIVE)							
23920	"			6-1l	"						X									
23921	"			6-1l	"					X										
23922	"		Acid	40ml	"							X								
23923	"		"	40ml	"							X	(ARCHIVE)							
23916-T	"		"	40ml	"							X								
23919	"			6-1l	"					X										

SPECIAL INSTRUCTIONS / COMMENTS: Please run xylene on 8240 water samples → ADD 23924 FOR VOA 8240 ANALYSIS. D.B 8/19/93

RELINQUISHED BY: (Signature)	DATE:	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE:	RECEIVED BY: (Signature)
Rick Clark	8/19/93	Rick Hyer			
COMPANY: SCS Engineers	TIME: 02:15 pm	COMPANY: AAL	COMPANY:	TIME:	COMPANY:

0030