Alden Analytical
Laboratories, Inc.

October 4, 1993

Shannon & Wilson
Attn: Brian Clark
P.O. Box 300303
Seattle, WA 98103

RE: ALDEN PROJECT NUMBER 9309038/1
(SHANNON & WILSON PROJECT NUMBER T-1336-03)

Dear Brian:

Enclosed are the analytical results for the water samples submitted to Alden Labs September 28, 1993. The samples were analyzed for TPH using Method WTPH-G with BTEX Distinction and for Total Lead using Method 7421. Please note that for sample number NWR-MW003-041-GW-0, we have provided WTPH-G with BTEX even though only WTPH-G was requested on the Chain-of-Custody. The sample was chosen as the QC sample for the batch and the full analyses was performed. The charges are the same for both analyses and we assume this causes no inconvenience to you.

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: Shannon and Wilson	*Alden Project Number: 9309038/1*
Client Sample Number: N/A	*Alden Sample Number: Blank*
Date of Sample Receipt: N/A	*Analysis Method: WTPH-G*
Date of Sample Extraction: N/A	*Matrix: Water*
Date of Sample Analysis: 09/29/93	*Reporting Units: ug/L*

Compound Name	*CAS No.*	*Reporting Limits(RL)*	*Reporting Results*
Total Petroleum Hydrocarbons	N/A	250	< RL
BTEX Distinction			
Benzene	71-43-2	2.0	< RL
Toluene	108-88-3	20	< RL
Ethylbenzene	100-41-4	10	< RL
m,p-Xylene*	1330-20-7	5.0	< RL
o-Xylene	1330-20-7	5.0	< RL

Surrogates	*Percent Recovery*	*Recovery Limits*
Trifluorotoluene	75	50 - 150
Bromofluorobenzene	84	50 - 150

* 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: Shannon and Wilson	*Alden Project Number: 9309038/1*
Client Sample Number: NWR-MW003-041-GW-0	*Alden Sample Number: 5035*
Date of Sample Receipt: 09/28/93	*Analysis Method: WTPH-G*
Date of Sample Extraction: N/A	*Matrix: Water*
Date of Sample Analysis: 09/29/93	*Reporting Units: ug/L*

Compound Name	*CAS No.*	*Reporting Limits(RL)*	*Reporting Results*
Total Petroleum Hydrocarbons	N/A	250	410
BTEX Distinction			
Benzene	71-43-2	2.0	<RL
Toluene	108-88-3	20	<RL
Ethylbenzene	100-41-4	10	<RL
m,p-Xylene*	1330-20-7	5.0	<RL
o-Xylene	1330-20-7	5.0	<RL

Surrogates	*Percent Recovery*	*Recovery Limits*
Trifluorotoluene	75	50 - 150
Bromofluorobenzene	82	50 - 150

* 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: Shannon and Wilson	*Alden Project Number: 9309038/1*
Client Sample Number: NWR-MW003-041-GW-0	*Alden Sample Number: 5035 Dup*
Date of Sample Receipt: 09/28/93	*Analysis Method: WTPH-G*
Date of Sample Extraction: N/A	*Matrix: Water*
Date of Sample Analysis: 09/29/93	*Reporting Units: ug/L*

Compound Name	*CAS No.*	*Reporting Limits(RL)*	*Reporting Results*
Total Petroleum Hydrocarbons	N/A	250	380
BTEX Distinction			
Benzene	71-43-2	2.0	<RL
Toluene	108-88-3	20	<RL
Ethylbenzene	100-41-4	10	<RL
m,p-Xylene*	1330-20-7	5.0	<RL
o-Xylene	1330-20-7	5.0	<RL

Surrogates	*Percent Recovery*	*Recovery Limits*
Trifluorotoluene	75	50 - 150
Bromofluorobenzene	82	50 - 150

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

Alden Analytical
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REPORT OF ANALYTICAL RESULTS

Client: Shannon and Wilson	*Alden Project Number: 9309038/1*
Client Sample Number: NWR-MW001-042-GW-0	*Alden Sample Number: 5036*
Date of Sample Receipt: 09/28/93	*Analysis Method: WTPH-G*
Date of Sample Extraction: N/A	*Matrix: Water*
Date of Sample Analysis: 09/29/93	*Reporting Units: ug/L*

Compound Name	*CAS No.*	*Reporting Limits(RL)*	*Reporting Results*
Total Petroleum Hydrocarbons	N/A	250	<RL
BTEX Distinction			
Benzene	71-43-2	2.0	<RL
Toluene	108-88-3	20	<RL
Ethylbenzene	100-41-4	10	<RL
m,p-Xylene*	1330-20-7	5.0	<RL
o-Xylene	1330-20-7	5.0	<RL

Surrogates	*Percent Recovery*	*Recovery Limits*
Trifluorotoluene	56	50 - 150
Bromofluorobenzene	61	50 - 150

* 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: Shannon and Wilson	*Alden Project Number: 9309038/1*
Client Sample Number: NWR-MW001-043-GW-0	*Alden Sample Number: 5037*
Date of Sample Receipt: 09/28/93	*Analysis Method: WTPH-G*
Date of Sample Extraction: N/A	*Matrix: Water*
Date of Sample Analysis: 09/29/93	*Reporting Units: ug/L*

Compound Name	*CAS No.*	*Reporting Limits(RL)*	*Reporting Results*
Total Petroleum Hydrocarbons	N/A	250	<RL
BTEX Distinction			
Benzene	71-43-2	2.0	<RL
Toluene	108-88-3	20	<RL
Ethylbenzene	100-41-4	10	<RL
m,p-Xylene*	1330-20-7	5.0	<RL
o-Xylene	1330-20-7	5.0	<RL

Surrogates	*Percent Recovery*	*Recovery Limits*
Trifluorotoluene	81	50 - 150
Bromofluorobenzene	86	50 - 150

* 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: Shannon & Wilson
Client Sample Number: See Below
Date of Sample Receipt: 09/28/93
Matrix: Water

Alden Project Number: 9309038/1
Alden Sample Number: See Below
Analysis Method: EPA 7421
Reporting Units: mg/L

Client Sample ID	*Alden Sample Number*	*Digestion Date*	*Analysis Date*	*Reporting Limit*	*Total Lead*
N/A	Blank	10/01/93	10/01/93	0.002	< RL
NWR-MW002-040-GW-0	5034	10/01/93	10/01/93	0.002	0.015

Note: Results are reported to two significant figures.

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Metals Blank Spike/Matrix Spike Recoveries

Client: Shannon & Wilson	*Alden Project Number: 9309038/1*
Client Sample Number: NWR-MW002-040-GW-0	*Alden Sample Number: 5034*
Date of Sample Receipt: 09/28/93	*Analysis Method: EPA 7421*
Date of Sample Digestion: 10/01/93	*Matrix: Water*
Date of Sample Analysis: 10/01/93	*Reporting Units: mg/L*

Compound	*Spike Added (mg/L)*	*Blank Spike Concentration (mg/L)*	*Blank Spike % Rec.*	*QC Limits Rec.*
Lead	1.00	0.70	70	50 - 135

Compound	Duplicate Concentration (mg/L)	*% RPD*	*Spike Added (mg/L)*	*Matrix Spike Concentration (mg/L)*	*Matrix Spike % Recovery*	*QC Limits*	
						RPD	*REC.*
Lead	0.009	50*	1.00	0.74	72	20	50 - 135

* Sample results are less than 10x the Reporting Limit. RPD is acceptable at this level.

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Alden Analytical Laboratories, Inc.

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

Date: 9/28/93 Page 1 of 1

Project/PO Number T1336-03

Contact: B. CLARK

Company/Address S & W

Phone: _____ Fax: _____

Samplers: _____

Alden Project Number: 9309088|1

Sample Date/Time	Sample ID #	Matrix	# Containers	WTPH-G	WTPH-G (BTEX	TOTAL LEAD	TAT	Lab ID #	Remarks
9/28/93	NWR-MW002-040-GW-0	WATER	1			X	E	5034	
	- MW003-041-GW-0		2	X				5035 A,B	
	- MW001-042-GW-0				X			5036 A,B	
	- MW001-043-GW-1		1		X			5037 A,B	

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

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

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

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

11500 Olive Blvd., Suite 276
St. Louis, MO 63141
(314) 872-8170

2055 Hill Road
Fairbanks, AK 99707
(907) 479-0600

5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907) 561-2120

CHAIN OF CUSTODY RECORD

Laboratory Alden
Attn: D B.

Analysis Parameters/Sample Container Description
(include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	WTPH-G	WTPH-G/BTEX	Total Lead				Total Number of Containers	Remarks/Matrix
NWR-MW002-042-GW-0		1315	9/28		X			X				1	WATER
NWR-MW003-041-GW-0		1317	"		"	X						2	"
NWR-MW001-042-GW-0		1325	"		"	X RE	X					2	"
NWR-MW001-043-GW-1		1325	"		"	X RE	X					2	"

Project Information		Sample Receipt	
Project Number:	T1336-03	Total Number of Containers	7
Project Name:	N.W.R	COC Seals/Intact? Y/N/NA	—
Contact:	B. Clark	Received Good Cond./Cold	Y
Ongoing Project?	Yes ☒ No ☐	Delivery Method:	HAND
Sampler:	T. FARKER	(attach shipping bill, if any)	

Instructions	
Requested Turn Around Time:	1- Week
Special Instructions:	FAX Prelim.

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: Tolli Forker Time: 1430	Signature: Time:	Signature: Time:
Printed Name: Tolli Forker Date: 9/28	Printed Name: Date:	Printed Name: Date:
Company: Shannon + Wilson	Company:	Company:

Received By: 1.	Received By: 2.	Received By: 3.
Signature: DN. PAUMISTER Time: 1440	Signature: Time:	Signature: Time:
Printed Name: D A Date: 9/28/93	Printed Name: Date:	Printed Name: Date:
Company: Alden	Company:	Company:

Distribution: White - w/shipment - returned to Shannon & Wilson w/ Laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

F-19-91/UR

No. 15125

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

Dated: October 8, 1993
To: Northwest Wire Rope & Equipment
Attn: Mr. Ron Kline

Important Information About Your Geotechnical Engineering/ Subsurface Waste Management (Remediation) Report

GEOTECHNICAL SERVICES ARE PERFORMED FOR SPECIFIC PURPOSES AND PERSONS.

Consulting geotechnical engineers prepare reports to meet the specific needs of specific individuals. A report prepared for a civil engineer may not be adequate for a construction contractor or even another civil engineer. Unless indicated otherwise, your consultant prepared your report expressly for you and expressly for purposes you indicated. No one other than you should apply this report for its intended purpose without first conferring with the consultant. No party should apply this report for any purpose other than that originally contemplated without first conferring with the geotechnical engineer/geoscientist.

AN ENGINEERING REPORT IS BASED ON PROJECT-SPECIFIC FACTORS.

A geotechnical engineering/subsurface waste management (remediation) report is based on a subsurface exploration plan designed to consider a unique set of project-specific factors. Depending on the project, these may include: the general nature of the structure and property involved; its size and configuration; its historical use and practice; the location of the structure on the site and its orientation; other improvements such as access roads, parking lots, and underground utilities; and the additional risk created by scope-of-service limitations imposed by the client. To help avoid costly problems, have the consulting engineer(s)/scientist(s) evaluate how any factors which change subsequent to the date of the report, may affect the recommendations. Unless your consulting geotechnical/ civil engineer and/or scientist indicates otherwise, your report should not be used: 1) when the nature of the proposed project is changed (for example, if an office building will be erected instead of a parking garage, or if a refrigerated warehouse will be built instead of an unrefrigerated one, or chemicals are discovered on or near the site); 2) when the size, elevation, or configuration of the proposed project is altered; 3) when the location or orientation of the proposed project is modified; 4) when there is a change of ownership; or 5) for application to an adjacent site. Geotechnical/civil engineers and/or scientists cannot accept responsibility for problems which may occur if they are not consulted after factors which were considered in the development of the report have changed.

SUBSURFACE CONDITIONS CAN CHANGE.

Subsurface conditions may be affected as a result of natural changes or human influence. Because a geotechnical/waste management engineering report is based on conditions which existed at the time of subsurface exploration, construction decisions should not be based on an engineering report whose adequacy may have been affected by time. Ask the geotechnical/waste management consultant to advise if additional tests are desirable before construction starts. For example, groundwater conditions commonly vary seasonally.

Construction operations at or adjacent to the site and natural events such as floods, earthquakes, or groundwater fluctuations may also affect subsurface conditions and, thus, the continuing adequacy of a geotechnical/waste management report. The geotechnical/civil engineer and/or scientist should be kept apprised of any such events, and should be consulted to determine if additional tests are necessary.

MOST GEOTECHNICAL RECOMMENDATIONS ARE PROFESSIONAL JUDGMENTS.

Site exploration and testing identifies actual surface and subsurface conditions only at those points where samples are taken. The data were extrapolated by your consultant who then applied judgment to render an opinion about overall subsurface conditions. The actual interface between materials may be far more gradual or abrupt than your report indicates. Actual conditions in areas not sampled may differ from those predicted in your report. While nothing can be done to prevent such situations, you and your consultant can work together to help minimize their impact. Retaining your consultant to observe subsurface construction operations can be particularly beneficial in this respect.

A REPORT'S CONCLUSIONS ARE PRELIMINARY.

The conclusions contained in your geotechnical engineer's report are preliminary because they must be based on the assumption that conditions revealed through selective exploratory sampling are indicative of actual conditions throughout a site. Because actual

subsurface conditions can be discerned only during earthwork, you should retain your geotechnical engineer to observe actual conditions and to finalize conclusions. Only the geotechnical engineer who prepared the report is fully familiar with the background information needed to determine whether or not the report's recommendations based on those conclusions are valid and whether or not the contractor is abiding by applicable recommendations. The geotechnical engineer who developed your report cannot assume responsibility or liability for the adequacy of the report's recommendations if another party is retained to observe construction.

THE GEOTECHNICAL ENGINEERING/SUBSURFACE WASTE MANAGEMENT (REMEDIATION) REPORT IS SUBJECT TO MISINTERPRETATION.

Costly problems can occur when other design professionals develop their plans based on misinterpretation of a geotechnical engineering/subsurface management (remediation) report. To help avoid these problems, the geotechnical/civil engineer and/or scientist should be retained to work with other project design professionals to explain relevant geotechnical, geological, hydrogeological and waste management findings and to review the adequacy of their plans and specifications relative to these issues.

BORING LOGS AND/OR MONITORING WELL DATA SHOULD NOT BE SEPARATED FROM THE ENGINEERING/WASTE MANAGEMENT REPORT.

Final boring logs developed by the geotechnical/civil engineer and/or scientist are based upon interpretation of field logs (assembled by site personnel), field test results, and laboratory and/or office evaluation of field samples and data. Only final boring logs and data are customarily included in geotechnical engineering/waste management reports. These final logs should not, under any circumstances, be redrawn for inclusion in architectural or other design drawings, because drafters may commit errors or omissions in the transfer process.

To minimize the likelihood of boring log or monitoring well misinterpretation, contractors should be given ready access to the complete geotechnical engineering/waste management report prepared or authorized for their use. If access is provided only to the report prepared for you, you should advise contractors of the report's limitations, assuming that a contractor was not one of the specific persons for whom the report was prepared and that developing construction cost estimates was not one of the specific purposes for which it was prepared. While a contractor may gain important knowledge from a report prepared for another party, the contractor should discuss the report with your consultant and perform the additional or alternative work believed necessary to obtain the data specifically appropriate for construction cost estimating purposes. Some clients hold the mistaken impression that simply disclaiming responsibility for the accuracy of subsurface information always insulates them from attendant liability. Providing the best available information to contractors helps prevent costly construction problems and the adversarial attitudes which aggravate them to a disproportionate scale.

READ RESPONSIBILITY CLAUSES CLOSELY.

Because geotechnical engineering/subsurface waste management (remediation) is based extensively on judgment and opinion, it is far less exact than other design disciplines. This situation has resulted in wholly unwarranted claims being lodged against geotechnical/ waste management consultants. To help prevent this problem, geotechnical/civil engineers and/or scientists have developed a number of clauses for use in their contracts, reports and other documents. These responsibility clauses are not exculpatory clauses designed to transfer the engineer's or scientist's liabilities to other parties; rather, they are definitive clauses which identify where the engineer's or scientist's responsibilities begin and end. Their use helps all parties involved recognize their individual responsibilities and take appropriate action. Some of these definitive clauses are likely to appear in your report, and you are encouraged to read them closely. Your engineer/scientist will be pleased to give full and frank answers to your questions.

The preceding paragraphs are based on information provided by the
ASFE/Association of Engineering Firms Practicing in the Geosciences, Silver Spring, Maryland