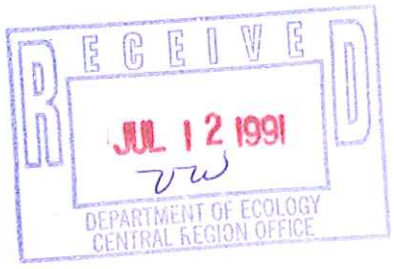
BURLINGTON ENVIRONMENTAL

SITE CHARACTERIZATION/
INTERM ACTION REPORT

BEKINS NORTHWEST
YAKIMA, WASHINGTON

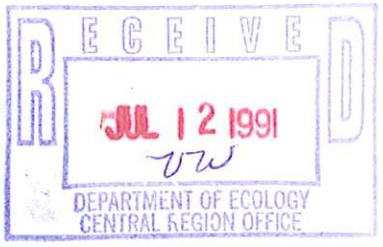


Prepared for
Bekins Northwest

June 1991

Prepared by
Burlington Environmental
Chempro Division

June 1991



BURLINGTON
ENVIRONMENTAL INC.
CHEMPRO Division

Site Characterization/Interm Action Report

SITE BACKGROUND:

Bekins Northwest Moving and Storage is located at 1891 North First Street, Yakima, WA. This site is located in an area developed for commercial use and is currently used as a transfer and storage facility by Bekins.

Chemical Processors, Inc. (Chempro) is employed by Bekins to remove Underground Storage Tanks (UST's) throughout the Northwest vicinity as a part of their regional UST closure program. Bekins owned and operated a one thousand (1,000) gallon gasoline (UST) located in the central portion of their property. As part of Chempro's standard operational procedure, the Washington State Department of Ecology (DOE) and the local Fire Department were notified 30 days in advance and again the morning of the UST excavation. On April 9, 1990, Chempro excavated, removed and disposed of this 1,000 gallon gasoline UST, and its contents in conformance with all applicable federal and state regulations.

As removal operations proceeded small rust holes were found in the East end of the tank, and a petroleum odor was detected in the surrounding soil. Lori Wunder of the D.O.E. was present during initial excavation and soil sampling. Under direction of the D.O.E. Chempro stockpiled excavated soil on-site and contained it on plastic sheeting.

Upon completion of this portion of the project all potential for fire, explosion and direct human exposure were mitigated. Two Benzene Toluene Ethylbenzene Xylene (BTEX) soil samples were obtained from the excavation (See results Table A). These samples were taken from the West wall of the excavation at a depth of five feet (5') and from the floor of the excavation at six and a half feet (6.5'). These samples were preliminary to indicate the extent and concentration of the contamination.

On May 1, 1990, Chempro returned to the Bekins facility to remediate contaminated soil. During excavation activities groundwater was encountered at a depth of eight feet (8'). Contaminated soil was found below the water table and extended beneath existing adjacent structures. Chempro determined that further excavation at this time would be ineffective.

At Chempro's request, Dave George of the DOE made a site visit to give further guidance in this matter. A water sample was retrieved from the excavation (results in Table A). The excavation was lined with plastic sheeting and backfilled with previously excavated soil as not to further effect Bekins operations.

7440 West Marginal Way South
Seattle, WA 98108
(206) 682-4898 • FAX: (206) 233-0869

It was Chempro's intention to return in early spring to excavate when groundwater is at a seasonal low.

On March 18, 1991, Chempro arrived on-site to resume excavation of contaminated soil and to install a soil containment area for implementation of a soil farming operation (as referenced in Chempro's March 7, 1991, letter to the D.O.E.). The extent of the excavation resulted in approximately 250 yards of soil being generated. The final dimensions of the excavation was approximately 20'x 25'x 11' feet deep. Groundwater was encountered at 10'. After excavation operations ceased soil and water samples were taken to determine if further remediation would be necessary. (Table B summarizes the analytical results.)

Water samples were taken on 6-8-91 from two (2) existing monitoring wells M-26 and M-24. Monitoring well M-26 is located up gradient 50' West of the excavation area monitoring well M-24 is located 20' South East of the excavation area. The sample analysis indicate minor to non detectable ground water contamination (Table C shows these results). Also, It should be noted that the soil within the soil containment area was sampled 5-24-91 and show it to be within acceptable levels for reuse. (These analyses are also contained in Table C).

DISCUSSION:

The contamination is attributed to multiple sources. Historical information indicates that smudging oil from orchard operations that occurred prior to Bekins' occupation of the property may have contributed to the contamination, along with the Tiger Oil, gas and diesel release which was discovered in the early 1980's. This release occurred just up gradient of Bekins' property approximately 100' and the resulting contamination migrated through Bekins property.

The Total Extractable Petroleum Hydrocarbon (TEPH) Modified 8015 analysis performed on soil samples show a two and three band composition of not only the shorter (lighter carbon chain constituents) typical of gasoline products, but longer (heavier carbon chain components) typical of other petroleum products such as heating fuel, diesel, motor oil (smudging oil). No free product was present in the excavation and resulting analytical data indicates that the grossly contaminated soil has been excavated.

SITE HYDROGEOLOGY:

The vicinity is generally flat and considered to be the alluvial flood plain of the Yakima River. The material excavated was primarily mixed course grained sand with gravel cobbles and boulders, no significant clay lenses existed within the excavation. Although clay and top soil was encountered in the

7440 West Marginal Way South
Seattle, WA 98108
(206) 682-4898 • FAX: (206) 233-0869

first 18" to 24" of the excavation. The groundwater fluctuates seasonally from approximately 8 to 11 feet below ground surface. Ground water horizontal gradient has been calculated between .0023 ft/ft to .0033 ft/ft depending on seasonal conditions and the discharge of the groundwater is into the Yakima River approximately .5 miles to the East.

SURROUNDING POPULATION:

Down gradient of the Bekins property are private residences and a Safeway truck terminal these sites as well as Bekins were put on city supplied water as a result of the Tiger petroleum release, the possibility of human exposure is remote.

CONCLUSION:

The BETX concentrations remaining within the soil were non detectable between less than 50 PPB and less than 1 PPB. The migration of contamination from the Tiger Oil, gas and diesel release was not addressed due to the inability to depress the water table. Concentration of TPH and BETX contamination up gradient and down gradient monitoring wells adjacent to the excavation are minor. It is recommended that no further action be implemented.

7440 West Marginal Way South
Seattle, WA 98108
(206) 682-4898 • FAX: (206) 233-0869

TABLE A

SOIL CHEMICAL ANALYSES

MAP INDICATOR	CHEMPRO SAMPLE #	ALDEN SAMPLE #	DEPTH	DATE TIME	LOCATION		ANALYSIS UNITS (PPB) METHOD BETX EPA 8240	ANALYSIS UNITS (PPM) METHOD TPH MODIFIED 8015	ANALYSIS UNITS PPM METHOD TOTAL LEAD
A	BETX-1-North	3644	5'	4/9/90 3:30	North side wall of tank pit	B	870	**	**
						T	5,100		
						E	1,100		
						X	11,700		
B	BETX-1-Bottom	3647	6.5'	4/9/90 3:35	Bottom of tank pit	B	<4.0	**	**
						T	<4.0		
						E	<4.0		
						X	2,800		

PIT WATER CHEMICAL ANALYSES

C	050-2A	3768B	8'	5/1/90 4:00	PIT WATER	B	31	**	**
						T	440		
						E	85		
						X	6,000		

NOTES: XYLENES ARE REPORTED AS A COMBINATION M, P&O ISOMERS

** INDICATES NOT ANALYZED FOR

7440 West Marginal Way South
Seattle, WA 98108
(206) 682-4898 • FAX: (206) 233-0869

TABLE B

PIT WATER AND SOIL CHEMICAL ANALYSES

MAP INDICATOR	CHEMPRO SAMPLE #	ALDEN SAMPLE #	DEPTH	DATE TIME	LOCATION	ANALYSIS UNITS (PPB) METHOD BETX EPA 8240		ANALYSIS UNITS (PPM) METHOD TPH MODIFIED 8015	ANALYSIS UNITS PPM METHOD TOTAL LEAD
I.	PIT WATER	BETX#-6760 TPH #-6769 LEAD#-6760	10.00	3/19/90 6:00	PIT WATER	B T E X	62 290 <50 3,800	11	0.28
II.	SW-A,B,C	BETX#-6761 TPH #-6762 LEAD#-6763	9.50	3/19/90 3:30	SOUTH WALL	B T E X	<1.0 <1.0 <1.0 <1.0	34	2.3
III.	EW-A,B,C	BETX#-6770 TPH #-6769 LEAD#-6771	9.50	3/19/90 5:00	EAST WALL	B T E X	<50 <50 <50 <50	250	3.5
IV	NW-A,B,C	BETX#-6767 TPH #-6766 LEAD#-6768	9.50	3/19/90 4:30	NORTH WALL	B T E X	<50 <50 <50 <50	940	<2.3
V	WW-A,B,C	BETX#-6765 TPH #-6764 LEAD#-**	9.50	3/19/90 4:00	WEST WALL	B T E X	<1.0 <1.0 <1.0 <1.0	29	**

NOTES: XYLENES ARE REPORTED AS A COMBINATION M, P & O ISOMERS

** INDICATES NOT ANALYZED FOR

7440 West Marginal Way South
Seattle, WA 98108
(206) 682-4898 • FAX: (206) 233-0869

TABLE C

GROUND WATER CHEMICAL ANALYSES

MAP INDICATOR	CHEMPRO SAMPLE #	ALDEN SAMPLE #	DEPTH	DATE TIME	LOCATION		ANALYSIS UNITS (PPB) METHOD BETX EPA 8240	ANALYSIS UNITS (PPM) METHOD TPH MODIFIED 8015	ANALYSIS UNITS PPM METHOD TOTAL LEAD
M-26	M-26		7.24	6/8/91 5:00	MONITORING WELL	B	<1.0	0.94	0.19
						T	<1.0		
						E	<1.0		
						X	5.8		
M-24	M-24		6.51	6/8/91 6:00	MONITORING WELL	B	<1.0	2	0.048
						T	<1.0		
						E	<1.0		
						X	<1.0		

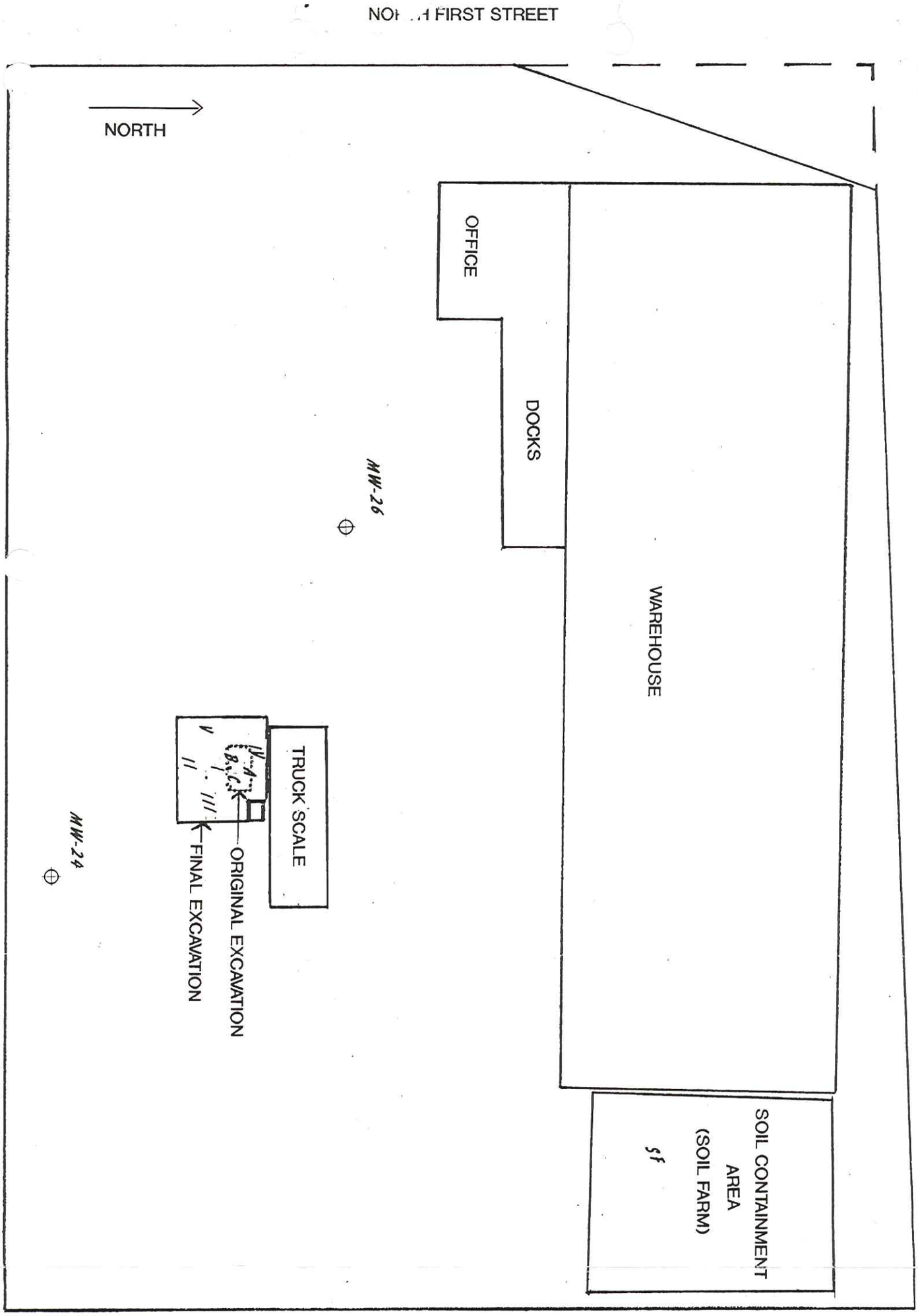
SOIL FARM CHEMICAL ANALYSES

SF	1B	BETX-7402 TPH-7400	1'	5/24/91 12:30	SOIL FARM	B	<1.0	56	**
						T	<1.0		
						E	<1.0		
						X	<1.0		

NOTES: XYLENES ARE REPORTED AS A COMBINATION M, P&O ISOMERS

** INDICATES NOT ANALYZED

7440 West Marginal Way South
Seattle, WA 98108
(206) 682-4898 • FAX: (206) 233-0869



BEKINS NORTHWEST
YAKIMA. WA
SITE MAP
90E050-2

SAMPLE LOCATIONS TYPED IN ITALICS

BURLINGTON ENVIRONMENTAL
CHEMPRO DIVISION

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: Chempro	Alden Job Number: 9004008/1
Client Sample Number: BETX-1-North	Alden Sample Number: 3644
Date of Sample Receipt: 4/10/90	Analysis Method: 8240
Date of Sample Extraction: N/A	Matrix: Soil
Date of Sample Analysis: 4/10/90	Reporting Units: ug/kg

Compound Name	Detection Limit	Result	Qualifier
Benzene	1.0	870	
Toluene	1.0	5100	
Ethylbenzene	1.0	1100	
m,p-Xylene**	1.0	7900	
o-Xylene	1.0	3800	

** 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: Chempro	Alden Job Number: 9004008/1
Client Sample Number: BETX-1-Bottom	Alden Sample Number: 3647
Date of Sample Receipt: 4/10/90	Analysis Method: 8240
Date of Sample Extraction: N/A	Matrix: Soil
Date of Sample Analysis: 4/10/90	Reporting Units: ug/kg

Compound Name	Detection Limit	Result	Qualifier
Benzene	1.0	< 4.0	
Toluene	1.0	< 4.0	
Ethylbenzene	1.0	< 4.0	
m,p-Xylene**	1.0	1300	
o-Xylene	1.0	1500	

** 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: Chempro	Alden Job Number: 9005001/1
Client Sample Number: 050-2A	Alden Sample Number: 3768B
Date of Sample Receipt: 5/2/90	Analysis Method: 8240
Date of Sample Extraction: N/A	Matrix: Water
Date of Sample Analysis: 5/3/90	Reporting Units: ug/L

Compound Name	Detection Limit	Result	Qualifier
Benzene	5.0	31	
Toluene	5.0	440	
Ethylbenzene	5.0	85	
m,p-Xylene**	25	3400	
o-Xylene	25	2600	

** 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: Chempro
Client Sample Number: Pit Water
Date of Sample Receipt: 3/21/91
Date of Sample Extraction: N/A
Date of Sample Analysis: 3/25/91

Alden Job Number: 9103016/1
Alden Sample Number: 6760B
Analysis Method: EPA 8240
Matrix: Water
Reporting Units: ug/L

Compound Name	CAS Number	Reporting Limit	Result
Benzene	71-43-2	50	62
Toluene	108-88-3	50	290
Ethylbenzene	100-41-4	50	< 50
m,p-Xylene*	1330-20-7	50	2200
o-Xylene	1330-20-7	50	1600

Surrogate	Percent Recovery	Advisory Limits
1,2-Dichloroethane-d_4	110	76-114
Toluene-d_8	110	88-110
Bromofluorobenzene	97	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: Chempro
Client Sample Number: See below
Date of Sample Receipt: 3/21/91
Matrix: Water

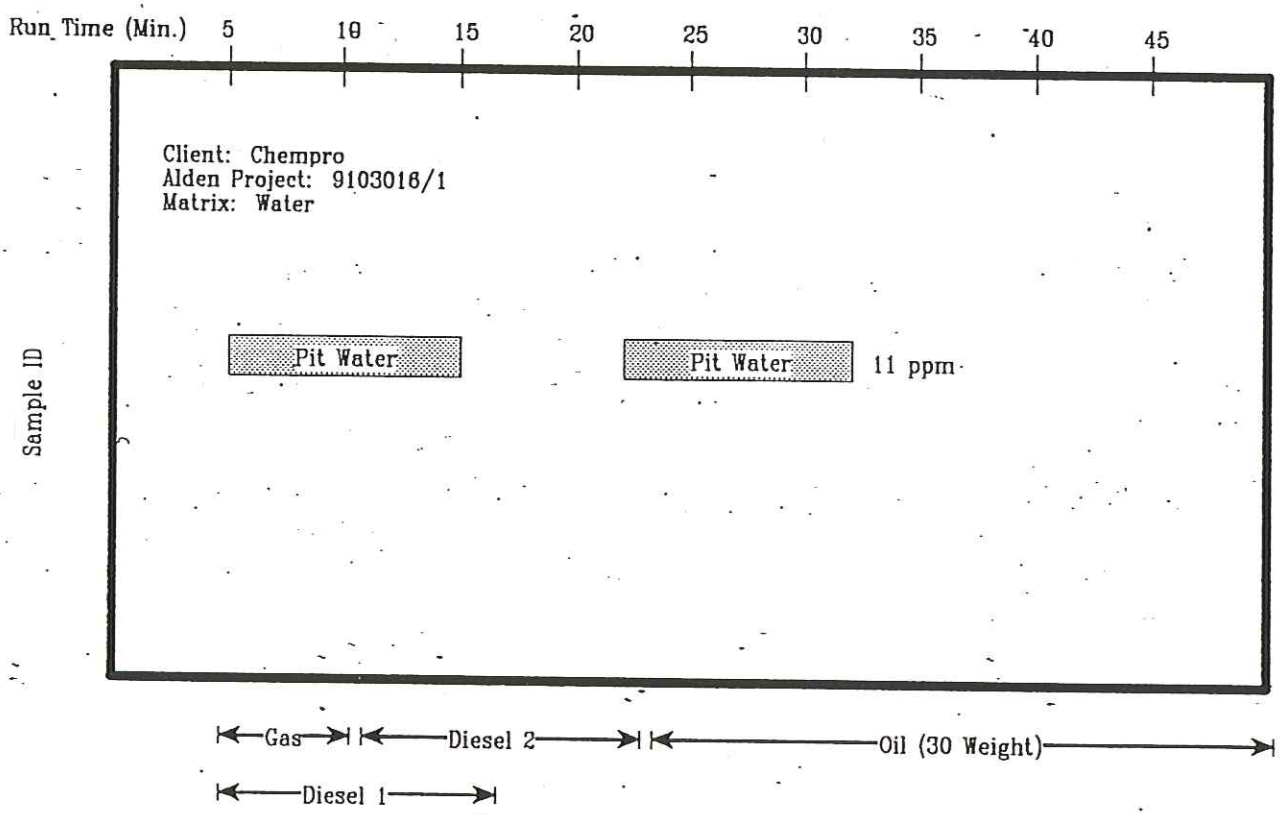
Alden Job Number: 9103016/1
Alden Sample Number: See below
Analysis Method: 8015-Modified
Reporting Units: mg/L

Client Sample ID	Alden Sample Number	Extraction Date	Analysis Date	Total Extractable Hydrocarbons
N/A	Blank	3/22/91	3/30/91	0.05
Pit Water	6760A	3/22/91	3/30/91	11

Note: Results are reported to two significant figures.

Alden Analytical
Laboratories, Inc.

TPH (8015-Mod) GRAPHICAL SUMMARY*



Elution Ranges: Gasoline 5-10 minutes
Diesel 1 5-17 minutes
Diesel 2 10-22 minutes
Oil (30W) 22-50 minutes

*Note: This graphical representation is intended to provide a qualitative measurement of the elution range of hydrocarbons present in the sample versus known petroleum standards.

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: Chempro
Client Sample Number: See below
Date of Sample Receipt: 3/21/91
Matrix: Soil

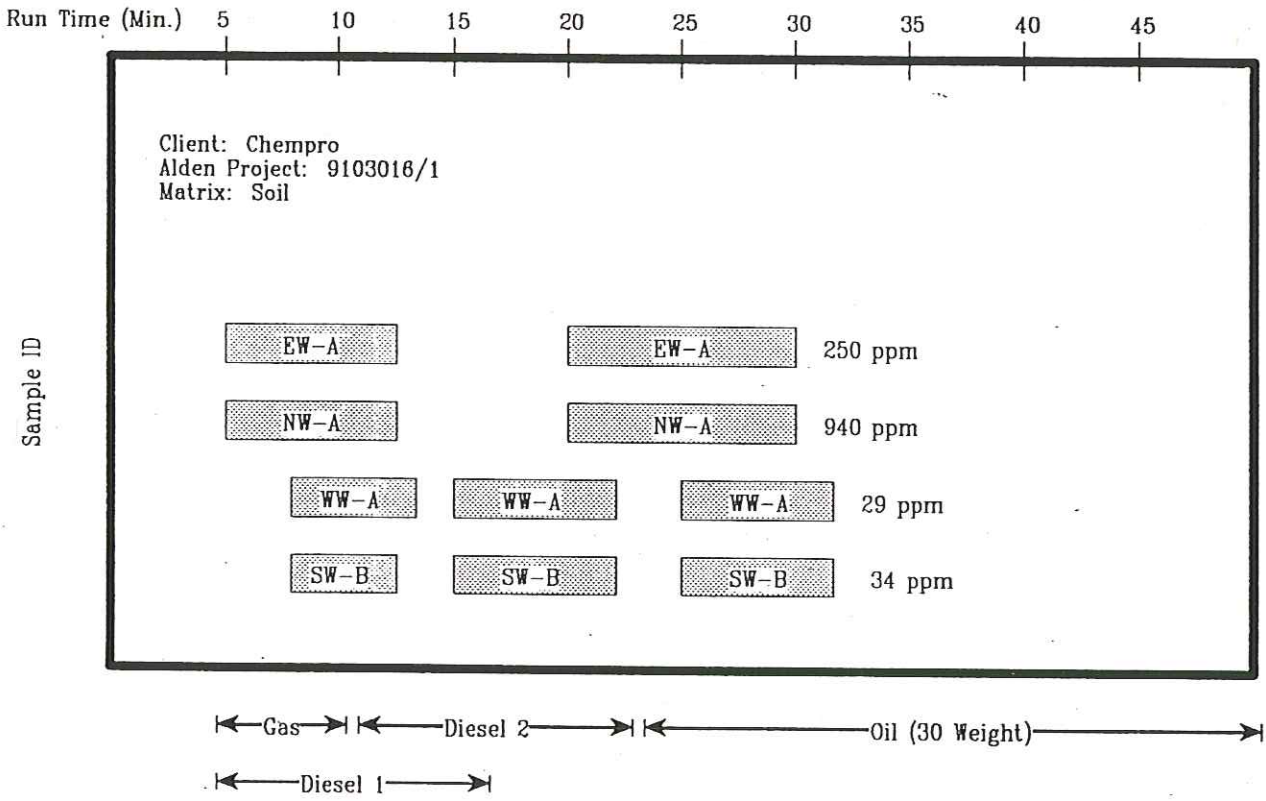
Alden Job Number: 9103016/1
Alden Sample Number: See below
Analysis Method: 8015-Modified
Reporting Units: mg/kg

Client Sample ID	Alden Sample Number	Extraction Date	Analysis Date	Total Extractable Hydrocarbons
SW-B	6762	3/25/91	3/30/91	34
WW-A	6764	3/25/91	3/30/91	29
NW-A	6766	3/25/91	3/30/91	940
EW-A	6769	3/25/91	4/2/91	250

Note: Results are reported to two significant figures.

Alden Analytical
Laboratories, Inc.

TPH (8015-Mod) GRAPHICAL SUMMARY*



Elution Ranges: Gasoline 5-10 minutes
Diesel 1 5-17 minutes
Diesel 2 10-22 minutes
Oil (30W) 22-50 minutes

*Note: This graphical representation is intended to provide a qualitative measurement of the elution range of hydrocarbons present in the sample versus known petroleum standards.

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: Chempro
Client Sample Number: SW-A
Date of Sample Receipt: 3/21/91
Date of Sample Extraction: N/A
Date of Sample Analysis: 3/25/91

Alden Job Number: 9103016/1
Alden Sample Number: 6761
Analysis Method: EPA 8240
Matrix: Soil
Reporting Units: ug/kg as received

Compound Name	CAS Number	Reporting Limit	Result
Benzene	71-43-2	1.0	< 1.0
Toluene	108-88-3	1.0	< 1.0
Ethylbenzene	100-41-4	1.0	< 1.0
m,p-Xylene*	1330-20-7	1.0	< 1.0
o-Xylene	1330-20-7	1.0	< 1.0

Surrogate	Percent Recovery	Advisory Limits
1,2-Dichloroethane-d_4	100	70-121
Toluene-d_8	100	81-117
Bromofluorobenzene	90	74-121

* 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: Chempro
Client Sample Number: EW-B
Date of Sample Receipt: 3/21/91
Date of Sample Extraction: N/A
Date of Sample Analysis: 3/25/91

Alden Job Number: 9103016/1
Alden Sample Number: 6770
Analysis Method: EPA 8240
Matrix: Soil
Reporting Units: ug/kg as received

Compound Name	CAS Number	Reporting Limit	Result
Benzene	71-43-2	50	< 50
Toluene	108-88-3	50	< 50
Ethylbenzene	100-41-4	50	< 50
m,p-Xylene*	1330-20-7	50	< 50
o-Xylene	1330-20-7	50	< 50

Surrogate	Percent Recovery	Advisory Limits
1,2-Dichloroethane-d_4	110	70-121
Toluene-d_8	100	81-117
Bromofluorobenzene	93	74-121

* 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: Chempro
Client Sample Number: NW-B
Date of Sample Receipt: 3/21/91
Date of Sample Extraction: N/A
Date of Sample Analysis: 3/25/91

Alden Job Number: 9103016/1
Alden Sample Number: 6767
Analysis Method: EPA 8240
Matrix: Soil
Reporting Units: ug/kg as received

Compound Name	CAS Number	Reporting Limit	Result
Benzene	71-43-2	50	< 50
Toluene	108-88-3	50	< 50
Ethylbenzene	100-41-4	50	< 50
m,p-Xylene*	1330-20-7	50	< 50
o-Xylene	1330-20-7	50	< 50

Surrogate	Percent Recovery	Advisory Limits
1,2-Dichloroethane-d_4	110	70-121
Toluene-d_8	110	81-117
Bromofluorobenzene	100	74-121

* 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: Chempro
Client Sample Number: WW-B
Date of Sample Receipt: 3/21/91
Date of Sample Extraction: N/A
Date of Sample Analysis: 3/25/91

Alden Job Number: 9103016/1
Alden Sample Number: 6765
Analysis Method: EPA 8240
Matrix: Soil
Reporting Units: ug/kg as received

Compound Name	CAS Number	Reporting Limit	Result
Benzene	71-43-2	1.0	< 1.0
Toluene	108-88-3	1.0	< 1.0
Ethylbenzene	100-41-4	1.0	< 1.0
m,p-Xylene*	1330-20-7	1.0	< 1.0
o-Xylene	1330-20-7	1.0	< 1.0

Surrogate	Percent Recovery	Advisory Limits
1,2-Dichloroethane-d_4	110	70-121
Toluene-d_8	100	81-117
Bromofluorobenzene	96	74-121

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

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: Alden Analytical Labs Date: March 27, 1991

Report On: Analysis of Water & Soil Lab No.: 16659

IDENTIFICATION:
Samples Received on 03-22-91
Project: 9103016/1

ANALYSIS:

Lab Sample No.	Client ID	Matrix	Total Lead, ppm
1	6760	Water	0.28
2	6763	Soil	2.3
3	6768	Soil	< 2.3
4	6771	Soil	3.5

SOUND ANALYTICAL SERVICES

STAN P. PALMQUIST

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: Chempro	Alden Job Number: 9106014/1
Client Sample Number: M-26	Alden Sample Number: 7577B
Date of Sample Receipt: 6/11/91	Analysis Method: EPA 624
Date of Sample Extraction: N/A	Matrix: Water
Date of Sample Analysis: 6/13/91	Reporting Units: ug/L

Compound Name	CAS Number	Reporting Limit	Result
Benzene	71-43-2	1.0	< 1.0
Ethylbenzene	1100-41-4	1.0	< 1.0
Toluene	108-88-3	1.0	< 1.0
o-Xylene	1330-20-7	1.0	< 1.0
m,p-Xylene	1330-20-7	1.0	5.8

Surrogate	Percent Recovery	Advisory Limits
1,2-Dichloroethane-d_4	100	76 - 114
Toluene-d_8	93	88 - 110
Bromofluorobenzene	100	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: Chempro	Alden Job Number: 9106014/1
Client Sample Number: M-24	Alden Sample Number: 7578B
Date of Sample Receipt: 6/11/91	Analysis Method: EPA 624
Date of Sample Extraction: N/A	Matrix: Water
Date of Sample Analysis: 6/13/91	Reporting Units: ug/L

Compound Name	CAS Number	Reporting Limit	Result
Benzene	71-43-2	1.0	< 1.0
Ethylbenzene	1100-41-4	1.0	< 1.0
Toluene	108-88-3	1.0	< 1.0
o-Xylene	1330-20-7	1.0	< 1.0
m,p-Xylene	1330-20-7	1.0	< 1.0

Surrogate	Percent Recovery	Advisory Limits
1,2-Dichloroethane-d_4	97	76 - 114
Toluene-d_8	88	88 - 110
Bromofluorobenzene	99	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

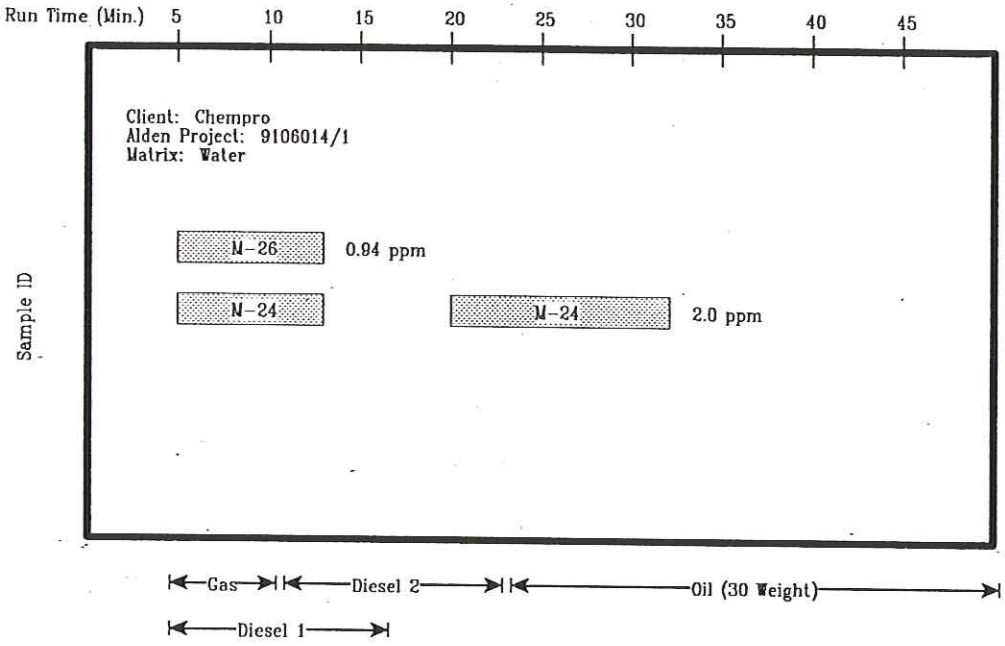
Client: Chempro	Alden Job Number: 9106014/1
Client Sample Number: See below	Alden Sample Number: See below
Date of Sample Receipt: 6/11/91	Analysis Method: 8015-Modified
Matrix: Water	Reporting Units: mg/L

Client Sample ID	Alden Sample Number	Extraction Date	Analysis Date	Total Extractable Hydrocarbons
N/A	Blank	6/13/91	6/13/91	< 0.05
M-26	7577	6/13/91	6/13/91	0.94
M-24	7578	6/13/91	6/13/91	2.0

Note: Results are reported to two significant figures.

Alden Analytical
Laboratories, Inc.

TPH (8015-Mod) GRAPHICAL SUMMARY*



Elution Ranges: Gasoline 5-10 minutes
Diesel 1 5-17 minutes
Diesel 2 10-22 minutes
Oil (30W) 22-50 minutes

*Note: This graphical representation is intended to provide a qualitative measurement of the elution range of hydrocarbons present in the sample versus known petroleum standards.

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: Alden Analytical Labs, Inc. Date: June 18, 1991

Report On: Analysis of Water Lab No.: 18171

IDENTIFICATION:
Samples Received on 06-14-91
Project: 9106014/1

ANALYSIS:

Lab Sample No.	Client ID	*Total Lead, mg/l
1	7577D	0.19
2	7578D	0.048

*by GFAA.

SOUND ANALYTICAL SERVICES

STAN P. PALMQUIST

Alden Analytical
Laboratories, Inc.

REPORT OF ANALYTICAL RESULTS

Client: Chempro
Client Sample Number: 2A
Date of Sample Receipt: 5/28/91
Date of Sample Extraction: N/A
Date of Sample Analysis: 6/3/91

Alden Job Number: 9105038/1
Alden Sample Number: 7401
Analysis Method: EPA 8240
Matrix: Soil
Reporting Units: ug/kg

Compound Name	CAS Number	Reporting Limit	Result
Benzene	71-43-2	1.0	< 1.0
Toluene	108-88-3	1.0	< 1.0
Ethylbenzene	100-41-4	1.0	< 1.0
m,p-Xylene*	1330-20-7	1.0	< 1.0
o-Xylene	1330-20-7	1.0	< 1.0

Surrogate	Percent Recovery	Advisory Limits
1,2-Dichloroethane-d_4	100	70 - 121
Toluene-d_8	100	81 - 117
Bromofluorobenzene	100	74 - 121

* 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: Chempro
Client Sample Number: 2B
Date of Sample Receipt: 5/28/91
Date of Sample Extraction: N/A
Date of Sample Analysis: 6/3/91

Alden Job Number: 9105038/1
Alden Sample Number: 7402
Analysis Method: EPA 8240
Matrix: Soil
Reporting Units: ug/kg

Compound Name	CAS Number	Reporting Limit	Result
Benzene	71-43-2	1.0	< 1.0
Toluene	108-88-3	1.0	< 1.0
Ethylbenzene	100-41-4	1.0	< 1.0
m,p-Xylene*	1330-20-7	1.0	< 1.0
o-Xylene	1330-20-7	1.0	< 1.0

Surrogate	Percent Recovery	Advisory Limits
1,2-Dichloroethane-d_4	100	70 - 121
Toluene-d_8	98	81 - 117
Bromofluorobenzene	100	74 - 121

* 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: Chempro
Client Sample Number: See below
Date of Sample Receipt: 5/28/91
Matrix: Soil

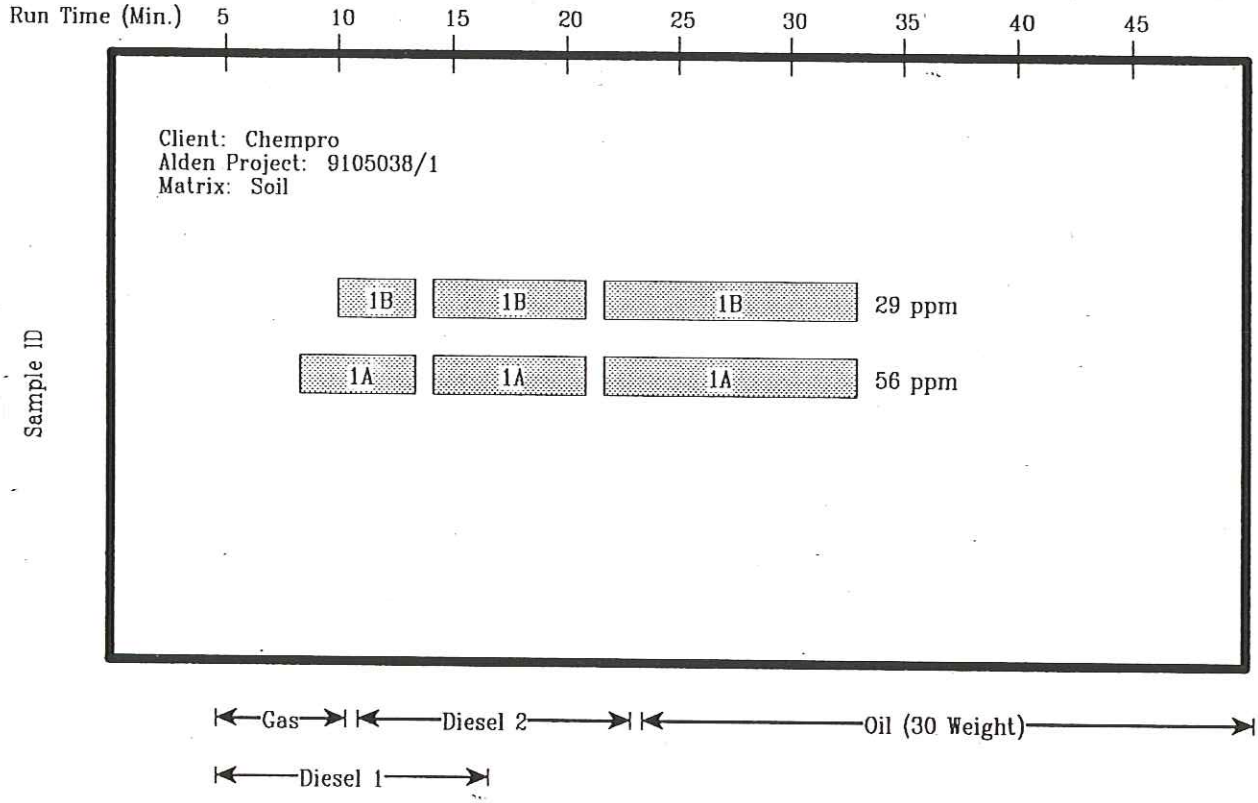
Alden Job Number: 9105038/1
Alden Sample Number: See below
Analysis Method: 8015-Modified
Reporting Units: mg/kg

Client Sample ID	Alden Sample Number	Extraction Date	Analysis Date	Total Extractable Hydrocarbons
1A	7399	6/7/91	6/8/91	56
1B	7400	6/7/91	6/8/91	29

Note: Results are reported to two significant figures.

Alden Analytical
Laboratories, Inc.

TPH (8015-Mod) GRAPHICAL SUMMARY*



Elution Ranges: Gasoline 5-10 minutes
Diesel 1 5-17 minutes
Diesel 2 10-22 minutes
Oil (30W) 22-50 minutes

*Note: This graphical representation is intended to provide a qualitative measurement of the elution range of hydrocarbons present in the sample versus known petroleum standards.

DEPARTMENT OF ECOLOGY
SITE VISIT DATA SHEET

DATE 4/11/91 TIME 3:00 PM INVESTIGATOR M. Cochran

SITE NAME Bekins N.W. CITY/COUNTY Yakima/Yakima

STREET ADDRESS 1891 N. First St.

SITE CONTACT Galen Sigars SITE PHONE (509) 453-8242

TANKS REMOVED: NO [ ] YES [✓] DATE REMOVED April 1990

EXCAVATION FIRM Chempro PHONE ( )

NO. OF TANKS ___	SIZE (GALS)	CONTENTS	AGE (YRS)	CONDITION
(1)	1000	leaded Gas	1958	poor - holes*
(2)				
(3)				
(4)				
(5)				

TANK/PIPING COMMENTS

TANK DISPOSITION Disposed at salvage yard

EXCAVATION PIT OPEN: NO [✓] YES [ ] BACKFILLED: NO [ ] YES [✓]

TYPE CONTAMINATION FOUND: GAS [✓] DIESEL [ ] OTHER

ESTIMATED QUANTITY RELEASED (GALS) ?

CONT. SOIL REMOVED (CYDS) ___ CONT. SOIL REMAINING (CYDS) ___

SOIL TYPE Cobble gravel and silty Sand

GROUND WATER VISIBLE: NO [ ] YES [ ] DEPTH TO G-WATER ___

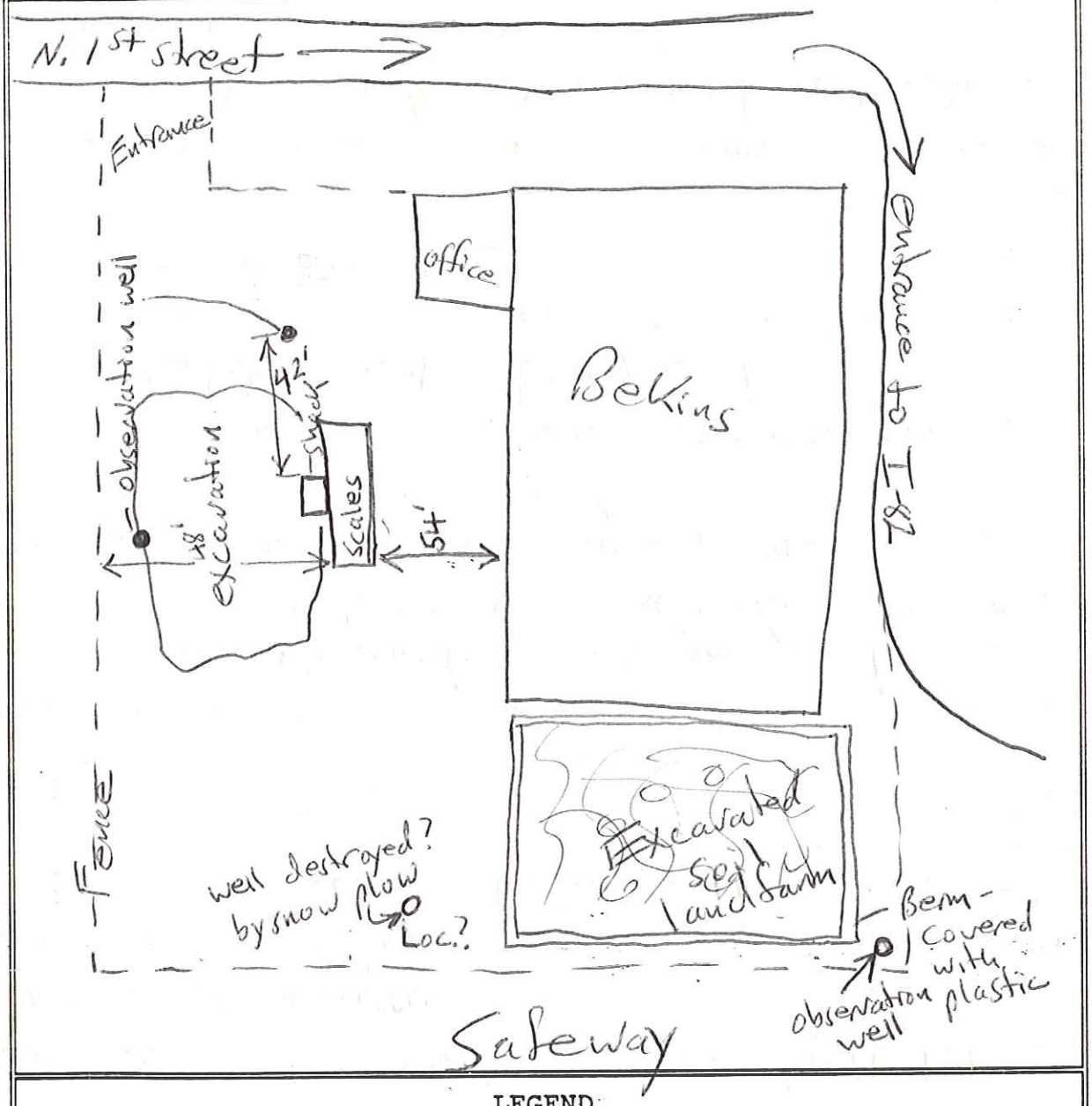
SIGNS OF SOIL/WATER CONT.

TIP READINGS TAKEN: NO [✓] YES [ ] PHOTOS: NO [ ] YES [✓]

COMMENTS Contammated soil removed in March of 1991 from tank basin

* see report by Laurie Winder, who was present at tank yank

SITE LAYOUT SKETCH



LEGEND

N

COMMENTS one grab sample of the excavated soil had a strong gasoline odor