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Fax Transmittal Memo

Kaldveer Associates Geoscience Consultants

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April 8, 1991

WE-1032-01-038

R-Way Leasing, Inc. 815 Olivia Park Road Everett, Washington 98204

Attention:

Mr. Bruce Walden

Subject:

Tank Removal and Soil Sampling

1030 Highway 99

Everett, Washington 98204

Var. K.M. W.

CHERE 19/00

Dear Mr. Walden:

As requested, we are pleased to report the removal of the underground storage tanks and the backfilling of the excavation located at 1030 Highway 99, Everett, Washington as shown on the Vicinity Map, Figure 1.

Our efforts involved observation and soil sampling during the removal activities which were performed by A-1 Pumps, on January 10 and 11, 1991. A representative from Kaldveer Associates examined and sampled the excavation on the same day the tanks were removed.

The attached site plan, Figure 2, shows the location of the site in Everett and the orientation of the tanks when in place. The tanks removed totaled two four-thousand gallon (T1 and T2), one three thousand gallon (T3), and one three-hundred gallon (T4). Two of the tanks were used for gasoline storage, T1 and T2. Tanks, T3 and T4 were used for diesel storage.

Groundwater seepage was observed during and after the excavation was completed. The depth to the groundwater seepage was about four feet.

After the UST's were removed twenty-one (21) soil samples were obtained from the sides and bottom of the excavations. One water sample was obtained from the excavation. The location of the soil samples are shown on Figure 2. The samples were collected in sterilized glass jars with teflon sealed lids provided by the Project Laboratory, North Creek Analytical. The samples were stored on site and transported to the laboratory in an ice chest chilled to 4 degrees Celsius to minimize dissipation of volatile fraction hydrocarbons. EPA-recommended protocols for sample management, including chain-of-custody documents were followed for each stage of the project.

1555 132nd Avenue N.E., Bellevue, WA 98005 (206) 451-1442 FAX (206) 451-0503

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North Creek Analytical performed the chemical analysis on the soil samples. Soil samples were analyzed for potential petroleum-derived hydrocarbon contamination using EPA Method 8015 modified and 8020 for TPH as gasoline and BTEX and 8015 modified for TPH as diesel.

The result of the chemical analyses indicates hydrocarbon contamination in the order of 910 ppm (part per million) up to 1,200 ppm in three samples (T1-3, T1-4, and T2-3) with Xylenes contamination level of 60 to 110 ppm. This soil contamination level is above the allowable threshold level of 100 ppm for Total Petroleum Hydrocarbon and 20 ppm for Xylenes as referenced in "Policies and Procedures for UST Removal, by The Washington State Department of Ecology".

Based on the chemical analysis, inspection of the underground tanks, and the guidelines of The Washington Department of Ecology, it appears that the site is contaminated by residual hydrocarbons beyond State minimum requirements. The soil contamination appears confined to the southern portion of the excavation where the two gasoline tanks were present (the shaded area in Figure 2). Accordingly, additional soil excavation and testing will be required on that side of the excavation. In addition, the native soil that was used for backfilling the excavation should be also removed and the entire excavation backfilled with clean imported fill. The contaminated soil can be land farmed, tested and reused when clean. The excavations where the two diesel tanks, T3 and T4, were present do not appear to be contaminated with diesel beyond allowable limits.

The water inside the excavation appeared to be contaminated as free product was floating on the surface. One sample was obtained and tested. The results of the chemical analyses indicate contamination levels exceeding State minimum requirements. Even though this water sample is not representative of the groundwater conditions, we recommend the installation of monitoring wells around the excavations. Water samples should be obtained from these wells and remedial action taken, as needed.

We recommend that the contaminated soil be removed under supervision and that monitoring wells be designed and installed around the site to check the groundwater quality. This work may be scoped in detail upon request. Attached please find a copy of laboratory test results dated January 31, 1991, Chain of Custody, Vicinity map, and a site plan.

It has been a pleasure to be of service to you. If you have any questions, please call.

Very truly yours,

KALDVEER ASSOCIATES, INC.

R/J. Bielefeld, CEG

Manager of Geological & Environmental Services

Mr. Bruce Walden April 8, 1991

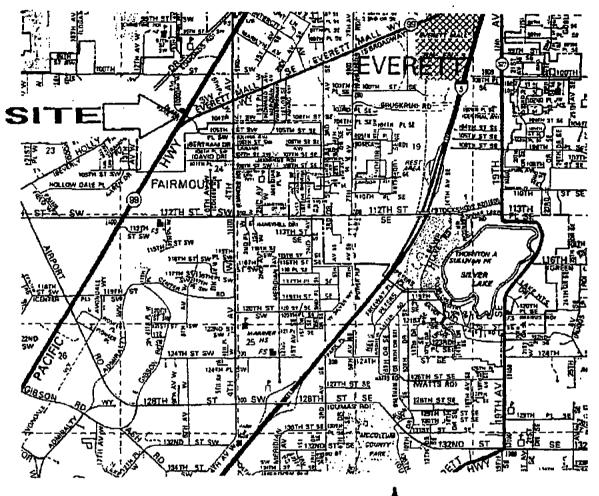
WE-1032-01-038 Page 3

Attachments:

Vicinity Map
 Site Plan

3. Chain-of-Custody 4. Laboratory Test Data

Ms. Anette Petrie, Department of Ecology cc:



Reference:

Snohomish County / Map 48 The Thomas Guide, 1990 Edition

By Thomas Bros Maps



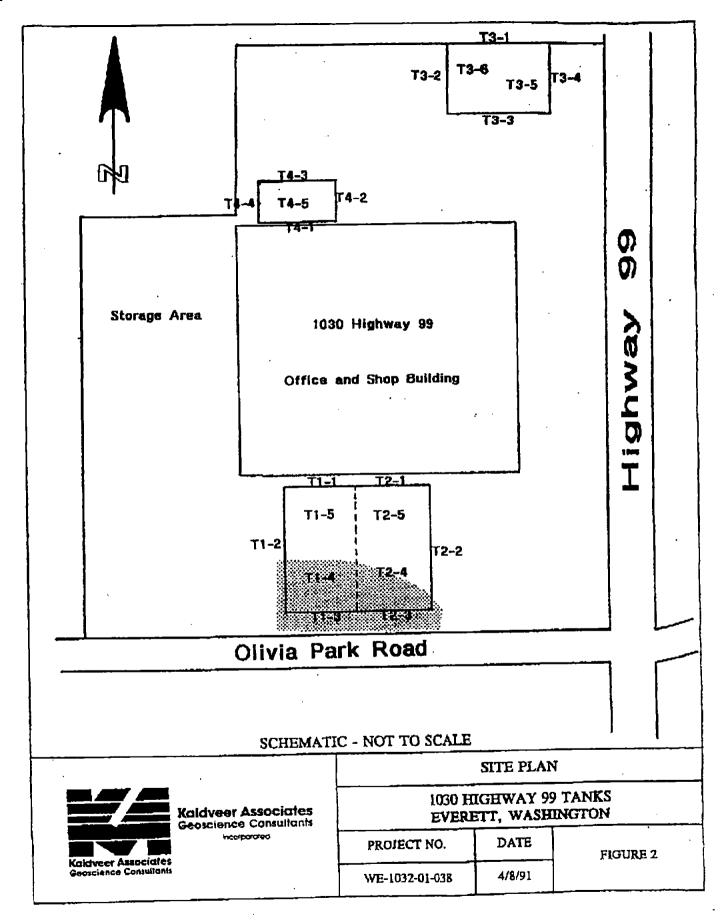


Kaldveer Associates Geoscience Consultants

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VICINITY MAP							
1030 HIGHWAY 99 TANKS EVERETT, WASHINGTON							
PROJECT NO.	DATE	FIGURE 1					
WE-1032-01-038 4/8/91							

COTBULK



Lab Job #\_\_\_\_

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**Haldveer** Associates

18939 120th Avenue N.E., Suite 101 • Bothell, WA 98011-2589 Phone (208) 481-9200 • FAX (208) 485-2992

Kaldveer Associates ∰1555 132nd Avenue NE

Matrix Descript:

Client Project ID: R-Way Leasing, WE1032-01-038 Soil

Sampled: Received:

Jan 10, 1991 🛣

Bellevue, WA 96005 Attention: Nabil Dbaibo

Analysis Method: First Sample #:

EPA 5030/8015/8020

Analyzed: Reported:

Jan 10, 1991 Jan 17-18, 1991 Jan 24, 1991

### TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

101-0270

Sample Number	Sample Description	Purgeable . Hydrocarbons mg/kg (ppm)	Benzene mg/kg (ppm)	Tolvene mg/kg (ppm)	Ethy! Benzene mg/kg (ppm)	Xylenes mg/kg (ppm)	
101-0270	11-1	N.D.	N.D.	N.D.	N.D.	N.D.	
101-0271	TI-2	22	<b>N.D.</b> .	N.D.	N.D.	1.3	
101-0272	тьз	1,200	N.D.	5.0	5.0	110	
101-0273	<b>†i-4</b>	1,200	1.7	8.7	2.5	<b>60</b>	
101-0274	TI-5	29	0.13	0.78	0.23	2.7	<b>\</b>
101-0276	T2-1	N.D.	N.D.	N.D.	N.D.	N.D.	
101-0277	<b>72-2</b>	. 16	N.D.	0.16	N.D.	0.90	•
101-0278	T2-3	910	N.D.	11	10	89	
101-0279	T2-4	45·	0.12	0.44	0.72	4.2	
101-0280	T <b>2-</b> 5	N.D.	N.D.	N.D.	N.D.	N.D.	
Detection Limits	:	1.0	0.050	0.10	0.10	0.10	,

Purgeable flow to medium boiling point) Hydrocarbons are quantitated against a gasoline standard. Analytes reported as N.D. were not present above the stated limit of detection.

NORTH CREEK ANALYTICAL

Scot Cocanour Laboratory Director Please Note:

The detection limits for Sample 101-0271 are as follows: Benzene = 0.25, Toluene & Ethyl Benzene = 0.5 mg/kg. The detection limits for Sample 101-0272 and -0278 are as follows:

Benzene = 1.25 mg/kg.

1010270.KDA <1>



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Sampled: Jan 10, 1991 Client Project ID: R-Way Leasing, WE1032-01-038 Kaldveer Associates Water, T1-W Received: Jan 10, 1991 Sample Descript.: 1555 132nd Avenue NE Jan 22, 1991 EPA 5030/8015/8020 Analyzed: Analysis Method: Bellevue, WA 98005 Reported: Jan 24, 1991 Attention: Nabil Obalbo Lab Number: 101-0275

## TOTAL PETROLEUM FUEL HYDROCARBONS WITH BTEX DISTINCTION (EPA 8015/8020)

Analyte

Detection Limit µg/L (ppb) Sample Results µg/L (ppb)

Purgeoble: Hydrocarbons: Size al. Commission of the Size of the Si
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Xylenes: 020 020 14 14 14 14 14 14 14 14 14 14 14 14 14

Purgeable (low to medium boiling point) Hydrocarbons are quantitated against a gasoline standard. Analytes reported as N.D. were not present above the stated limit of detection.

NORTH CREEK ANALYTICAL

Scot Cocanour Laboratory Director

1010270.KDA <2>



18939 120th Avenue N.E., Suite 101 - Bothell, WA 98011-2589 Phone (206) 481-9200 - FAX (206) 486-2992

Kaldveer Associates 21555 132nd Avenue NE Bellevue, WA 98005 Attention: Nabil Disaibo

Client Project 1D:

R-Way Leasing, WE1032-01-038

Sampled: Received: Jan 10, 1991 Jan 10, 1991

Matrix Descript: Analysis Method: First Sample #:

Soil EPA 3550/8015 101-0281

Extracted: Jan 11, 1991 Analyzed: Jan 23, 1991 Jan 24, 199 Reported:

# TOTAL PETROLEUM FUEL HYDROCARBONS (EPA 8015)

Sample Number	Sample Description	Extractable Hydrocarbons mg/kg (ppm)
101-0281	T3-1	N.D.
101-0282	T3-2	N.D.
101-0283	T3-3	N.D.
101-0284	T3-4	N.D.
101-0285	<b>T3</b> -5	N.D.
101-0286	T3-6	N.D.
101-0287	T4-1	100
101-0288	T4-2	200
101-0289	T <b>4-3</b>	N.D.
101-0290	T4-4	<b>120</b>
Detection Limits:		10

Detection Limits:

Extractable (high boiling point) Hydrocarbons are quantitated against a diesel tuel standard. Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

NORTH CREEK ANALYTICAL

Scot Cocanour Laboratory Director

1010270JKDA <3>



18939 120th Avenue N.E., Suite 101 - Bothell, WA 98011-2569 Phone (206) 481-9200 - FAX (206) 485-2992

R-Way Leasing, WE1032-01-038 Sampled: Jan 10, 1991 Client Project ID: Kaldveer Associates Received: Jan 10, 1991 🖁 Soil 1555 132nd Avenue NE Metrix Descript: Analysis Method: Extracted: Jan 11, 1991🏯 EPA 3550/8015 Believue, WA 98005 First Sample #: 101-0291 Analyzed: Jan 23, 1991 Attention: Nabil Dbaibo Jan 24, 1991 Reported:

#### TOTAL PETROLEUM FUEL HYDROCARBONS (EPA 8015)

Sample Number	Sample Description	Extractable Hydrocarbons mg/kg (ppm)
101-0291	T4-5	63

Detection Limits:

10

Extractable (high boiling point) Hydrocarbons are quantitated against a diesel fuel standard.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been reised.

NORTH CREEK ANALYTICAL

Scot Cocanour Laboratory Director

1010270.KDA <4>



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Kaldveer Associates

Client Project ID: R-Way Leasing, WE1032-01-038

1555 132nd Avenue NE Bellevue, WA 98005 Attention: Nabil Dibailoo

Sample Matrix: Soil

QC Sample Group: 101-0270 to -0291

Reported: Jan 24, 1991

## QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluens	Ethyl Benzene	Xylanes	Diesel Fuel
EPA Method: Analyst: Reporting Units: Date Analyzed: QC Sample #:	8020 B. Fletcher rng/kg Jan 18, 1991 101-0270	8020 B. Flatcher mg/kg Jan 18, 1991 101-0270	8020 B, Flatcher mg/kg Jan 18, 1991 101-0270	8020 B. Fietcher mg/kg Jan 18, 1991 101-0270	8015 S. Kouri mg/kg Jan 23-24, 1991 BLK011191
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	0.50	0.50	0.50	1.50	102
Conc. Matrix Spike:	0.39	0.44	0.47	1.45	<b>95</b>
Matrix Splke % Recovery:	78	88	94	97	93
Conc. Matrix Spike Dup.:	0.40	0.44	0.47	1.42	108
Matrix Spike Duplicate % Recovery:	80	88	<b>94</b>	95	<b>105</b>
Relative % Difference:	2.5	0	0	2.1	13

NORTH CREEK ANALYTICAL

Scot Cocanour Laboratory Director % Recovery: Conc. of M.S. - Conc. of Sample x 100
Spike Conc. Added

Helative % Difference: Conc. of M.S. - Conc. of M.S.D. x 100
(Conc. of M.S. + Conc. of M.S.D.) / 2

1010270.KDA <5>

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Kaldveer Associates £1555 132nd Avenue NE £Believue, WA 96005 Attention: Nabii Dbalbo

dveer Associates Client Project ID: R-Way Leasing, WE1032-01-038

Sample Matrix: Water

QC Sample Group: 101-0270 to -0291

Reported: Jan 24, 1991

## QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Elfhyl Benzene	Xylenes		
EPA Method: Analyst: Reporting Units: Date Analyzed: QC Sample #:	8020 B. Fletcher µg/L Jan 20, 1991 101-0292	8020 8. Fletcher µg/L Jan 20, 1991 101-0292	5020 B. Fletcher μg/L Jan 20, 1991 101-0292	8020 B. Fletcher µg/L Jan 20, 1991 101-0282		
Sample Conc.:	6.0	0.32	N.D.	0.48		,
Spike Conc. Added:	2.5	2.5	2.5	7.5	·	
Conc. Matrix Spike:	9.3	2.8	2.8	8.2		
Matrix Spike % Recovery:	132	91	112	103		
Conc. Matrix Spike Dup.:	8.8	. 2.6	2.8	8.0		
Matrix Spike Duplicate % Recovery:	112	91	112	100		
Relative % Difference:	5.5 ·	0.	0	2.5		

NORTH CREEK ANALYTICAL

Scot Cocanour Laboratory Director

% Recovery:	Conc. of M.S Conc. of Sample Spike Conc. Added	x 100	
Palative % Difference:	Conc. of M.S Conc. of M.S.D. (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100	

1010270.KCA <6>