

Kaldveer Associates Geoscience Consultants

Oakland, CA • San Jose, CA • Bellevue, WA • Tacoma, WA

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Richard J. Bielefeld, R.G.P., C.E.G.

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S.R. done

RECEIVED

MAR 20 1991

DEPT. OF ECOLOGY

009632

Enc # 7940

March 19, 1991

WE-1034-01-042

A-1 Pump Service
P.O. Box 45
Mount Vernon, Washington 98273

Attention: Mr. Bud Ebeling

status: assessing
soil/GW
interim

RE: TANK REMOVAL AND SOIL SAMPLING
1001 14TH STREET, EVERETT BOAT HOUSE
PORT OF EVERETT
EVERETT, WASHINGTON

Dear Mr. Ebeling:

As requested, we are pleased to report the removal of the tanks and the backfilling of the excavation located at 1001-14th Street, Port of Everett, Everett, Washington as shown on the Vicinity Map, Figure 1.

Our efforts involved observation of the removal activities which were performed by your company, on January 17, 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. One five hundred gallon tank and one two-thousand gallon tank was removed. Both tanks were used for gasoline storage. Groundwater seepage was observed during and after the excavation was completed.

After the UST's were removed, both of which were in the same excavation, eight (8) soil samples were obtained from the sides and bottom of the excavation. 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.

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. The result of the chemical analyses indicates hydrocarbon contamination in the order of 3,300 ppm (part per million) in one sample (T-4) with Xylenes contamination level of 43 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 southwestern portion of the excavation (the shaded area in Figure 2). Accordingly, additional soil excavation and testing will be required on that side of the excavation. 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 then reused.

The water inside the excavation appeared to be contaminated as free product was floating on the surface. We recommend the installation of three monitoring wells, two downgradient and one upgradient from the excavation. Water samples should be obtained from these wells and remedial action taken, as needed.

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.

Nabil Dbaibo

Nabil T. Dbaibo
Geologist & Geotechnical Engineer

R. J. Bielefeld

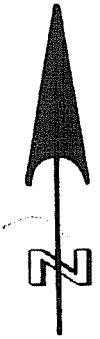
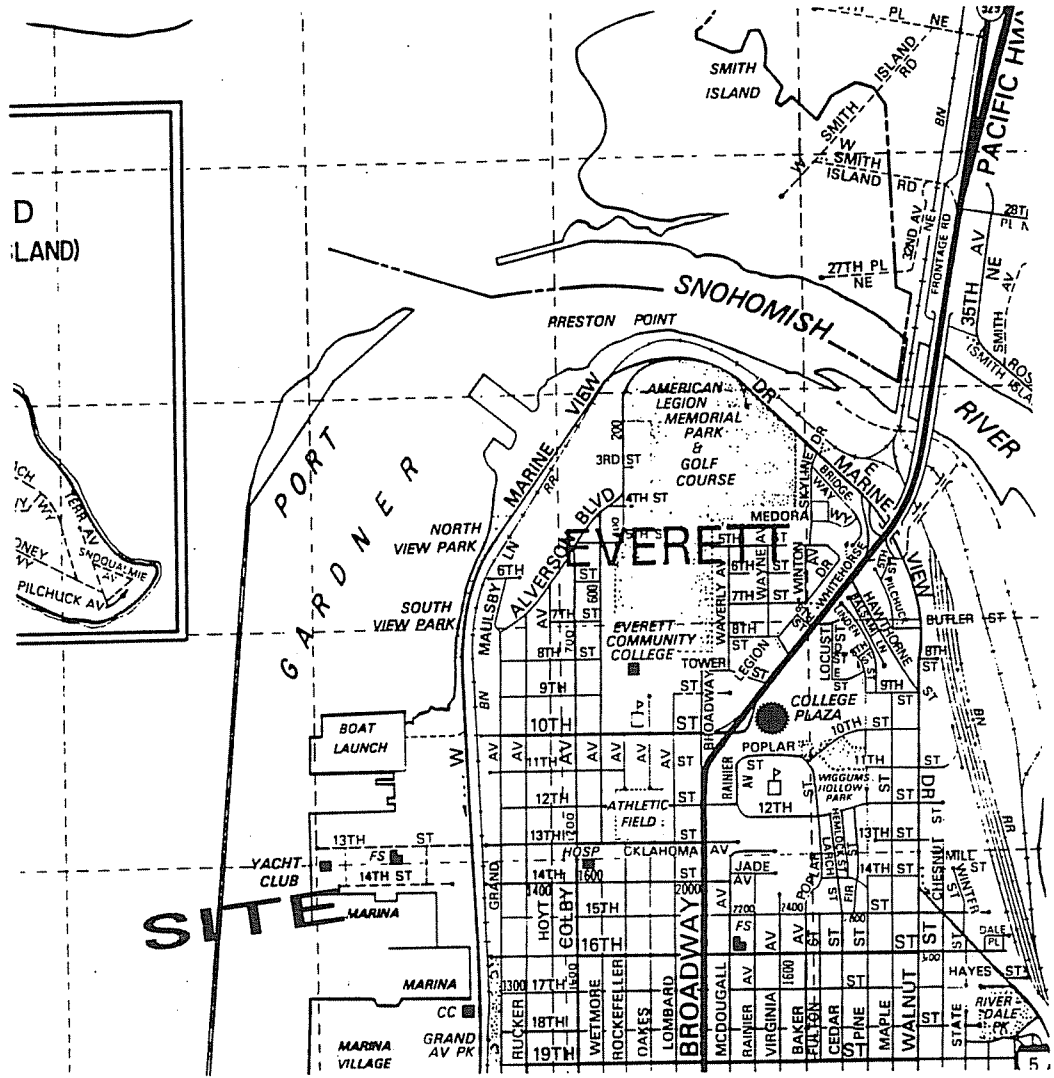
R.J. Bielefeld, CEG
Manager of Geological & Environmental Services

surface water impact?

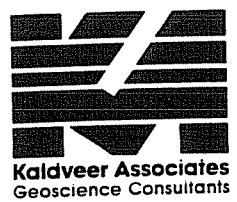
how much?

Attachments: 1. Vicinity Map
 2. Site Plan
 3. Chain-of-Custody
 4. Laboratory Test Data

cc: Ms. Anette Petrie, Department of Ecology



Reference:
 Snohomish County / Map 34
 The Thomas Guide, 1990 Edition
 By Thomas Bros Maps

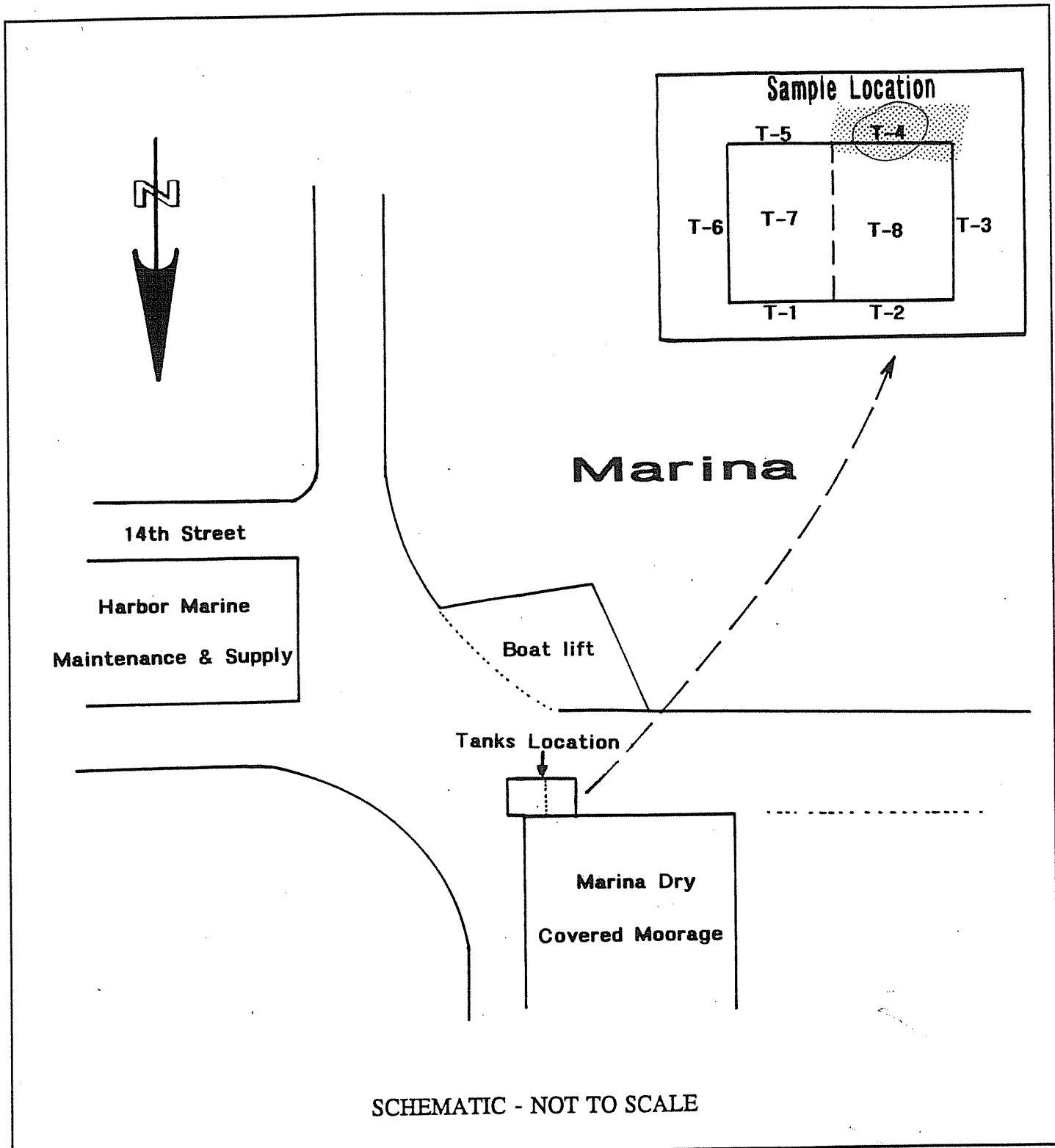



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VICINITY MAP

EVERETT BOAT HOUSE TANKS
 EVERETT, WASHINGTON

PROJECT NO.	DATE	FIGURE 1
WE-1034-01-042	2/15/91	



 <p>Kaldveer Associates Geoscience Consultants Incorporated</p>	SITE PLAN		
	EVERETT BOAT HOUSE TANKS EVERETT, WASHINGTON		
	PROJECT NO.	DATE	FIGURE 2
	WE-1034-01-042	2/15/91	

CHAIN-OF-CUSTODY RECORD

Project Number: WE 1034-01-042
 Project Name: Everett Boat House
 Location: Ever H, WA
 Sampler's Name (printed): NABIL T. DBAIBO

Analytical Tests	Method 8015 - TPH as Gasoline	Method 8015 - TPH as Diesel	Method 8240 - Volatile Organics	Method 8270 - Semi-Volatiles	Method 8010 - Volatile Organics	Method 8080 - Organochlorine Pesticides	Waste Oil -	Metals -	Remarks
T-1	X								
T-2	X								
T-3	X								
T-4	X								
T-5	X								
T-6	X								
T-7	X								
T-8	X								

Relinquished by: (Signature) *Nabil Dbaibo* Date/Time: 1/17/91 12:30
 Relinquished by: (Signature) _____ Date/Time: _____
 Relinquished by: (Signature) _____ Date/Time: _____

Received by: (Signature) _____
 Received by: (Signature) _____
 Received for Laboratory by: (Signature) _____ Date/Time: 1/17/91 12:30

Requested Turnaround Time: *Standard*
 Kaldveer Assoc. Contact: *Nabil Dbaibo*
 Attention: _____ Phone No: _____
 Ship To: _____
 Please address correspondence and return cooler # _____ to: _____
 Kaldveer Associates, Inc.
 1555 132nd Avenue Northeast
 Bellevue, Washington 98005
 (206) 451-1442
 Kaldveer Associates
 Geoscience Consultants
 A KALDVEER COMPANY

FAX 451-0503

Kaldveer Associates	Client Project ID: Everett Boat House. WE1034-01-042	Sampled: Jan 17, 1991
1555 132nd Avenue NE	Matrix Descript: Soil	Received: Jan 17, 1991
Bellevue, WA 98005	Analysis Method: EPA 5030/8015/8020	Analyzed: Jan 29, 1991
Attention: Nabil Dbaibo	First Sample #: 101-0389	Reported: Jan 31, 1991

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

Sample Number	Sample Description	Purgeable Hydrocarbons mg/kg (ppm)	Benzene mg/kg (ppm)	Toluene mg/kg (ppm)	Ethyl Benzene mg/kg (ppm)	Xylenes mg/kg (ppm)
101-0389	T-1	1.6	N.D.	N.D.	N.D.	N.D.
101-0390	T-2	5.2	N.D.	N.D.	N.D.	N.D.
101-0391	T-3	1.4	N.D.	N.D.	N.D.	N.D.
101-0392	T-4	3,300	N.D.	N.D.	5.8	43
101-0393	T-5	20	N.D.	N.D.	N.D.	N.D.
101-0394	T-6	N.D.	N.D.	N.D.	N.D.	N.D.
101-0395	T-7	3.6	N.D.	N.D.	N.D.	N.D.
101-0396	T-8	5.3	N.D.	N.D.	N.D.	N.D.

Detection Limits:

1.0

0.050

0.10

0.10

0.10

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

Kaldveer Associates	Client Project ID: Everett Boat House, WE1034-01-042
1555 132nd Avenue NE	Sample Matrix: Soil
Bellevue, WA 98005	QC Sample Group: 101-0389 to -0396
Attention: Nabil Dbaibo	Reported: Jan 31, 1991

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene		Ethyl Xylenes	
	Benzene	Toluene	Benzene	Xylenes
EPA Method:	8020	8020	8020	8020
Analyst:	B. Fletcher	B. Fletcher	B. Fletcher	B. Fletcher
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Jan 29, 1991	Jan 29, 1991	Jan 29, 1991	Jan 29, 1991
QC Sample #:	101-0400	101-0400	101-0400	101-0400
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	0.50	0.50	0.50	1.50
Conc. Matrix Spike:	0.40	0.43	0.47	1.37
Matrix Spike % Recovery:	80	86	94	91
Conc. Matrix Spike Dup.:	0.42	0.45	0.50	1.45
Matrix Spike Duplicate % Recovery:	84	90	100	97
Relative % Difference:	4.9	4.5	6.2	5.7

NORTH CREEK ANALYTICAL



Scot Cocanour
 Laboratory Director

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$