File No. 10-93-570-ST

4/16 · Requested chromatogram from lab. can pick out surrogate & considering rule

QUARTERLY GROUNDWATER MONITORING AND SAMPLING AT THE PROPERTY LOCATED AT 525 98TH AVENUE OAKLAND, CALIFORNIA MARCH 8, 1996

PREPARED FOR:
MR. NISSAN SAIDIAN
5733 MEDALLIAN COURT
OAKLAND, CALIFORNIA 94552

BY:
SOIL TECH ENGINEERING, INC.
1761 JUNCTION AVENUE
SAN JOSE, CALIFORNIA 95112

SOIL TECH ENGINEERING, INC.

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SOIL TECH ENGINEERING
Soil, Foundation and Geological Engineers
1761 JUNCTION AVENUE, SAN JOSE, CA 95112 - (408) 441-1881

March 8, 1996

File No. 10-93-570-ST

Mr. Nissan Saidian
5733 Medallian Court
Castro Valley, California 94552

SUBJECT: QUARTERLY GROUNDWATER MONITORING AND SAMPLING AT THE PROPERTY Located at 525 98th Avenue, in Oakland, California

Dear Mr. Saidian:

This report presents the results of quarterly groundwater monitoring and sampling conducted by Soil Tech Engineering, Inc. (STE), on January 22, 1996, at the subject site (Figure 1).

Three monitoring wells (STMW-1 to STMW-3) are located on-site. The location of the wells are shown on Figure 2. This quarterly monitoring and sampling were conducted in accordance with STE's recommendations made in "Preliminary Site Assessment of Contaminated Soil and Groundwater for the Property", dated April 19, 1995.

BACKGROUND:

The site is located on the northwest side of 98th Avenue between Maddux Drive and Edes Avenue in Oakland, California. The

site was formerly used as a gasoline service station. When the current owner purchased the property in May 1986, it was not in operation as service station. In December 1993, Alpha Geo Services removed a 550 gallon waste oil tank, a 4,000 gallon and a 6,000 gallon underground storage tank (UST). The larger tanks were used to store gasoline. The three tanks were properly manifested and transported by Erickson, Inc. to their facility in Richmond. In addition, the fuel product lines and pump islands were excavated. Soil Tech Engineering, Inc. (STE) was retained by Mr. Nissan Saidian, the current owner of the property, to conduct soil sampling below the former UST's and fuel product lines. Seven soil samples were collected, four from the gasoline tank excavation at approximately 12 feet below grade, one from the waste oil tank excavation at approximately 8 feet below grade and two from the fuel product line excavation at approximately 2 and 3 feet below grade. All sampling was conducted under the supervision of Alameda County Health Department inspector Ms. Eva Chu. Elevated levels of Total Petroleum Hydrocarbons as gasoline (TPHg) ranging from 230 milligrams per kilogram (mg/Kg) to 12,000 mg/Kg, and BTEX were detected in the soil samples collected from the gasoline UST excavation. The detail of the soil sampling is described in the STE's report dated January 5, 1994.

Since TPHg and BTEX concentrations were detected in soil samples collected from beneath the removed tanks, Alameda County Health Care Services Agency (ACHCSA) requested additional investigation to determine the extent of soil and groundwater contamination in a letter dated January 14, 1994.

STE was retained by Mr. Saidian to conduct additional investigation as requested by ACHCSA. A work plan, dated April 27, 1994, was prepared describing the scope of work which included drilling and installation of three shallow monitoring wells (STMW-1 to STMW-3), well development, soil and water sampling, laboratory analysis and preparation of a technical report. The drilling and installation of three monitoring wells (STMW-1 to STMW-3) were conducted in March 1995. Soil sample results from the borings detected low levels TPHg and BTEX in four out of twelve soil samples. Low levels of TPHg and BTEX were also detected in the water samples. The detail of the additional investigation is described in STE's report dated April 19, 1995.

SCOPE OF PRESENT WORK:

- Measured depth-to-water table and monitored for presence of sheen for three on-site wells STMW-1 to STMW-3.

- Purged each monitoring well prior to sampling.

- Sampled monitoring wells STMW-1, STMW-2 and STMW-3 for laboratory analyses.

- Submitted water samples to a State-Certified laboratory for analyses of Total Petroleum Hydrocarbons as diesel and gasoline (TPHd and TPHg), Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX) and Total Oil & Grease (TOG).

- Reviewed results and prepared a report of the investigation.

FIELD ACTIVITIES:

GROUNDWATER MONITORING:

On January 22, 1996, STE's staff monitored three on-site wells to measure water depth and check for the presence of sheen and/or odor. During monitoring of the wells, no sheen or odor were noted in monitoring wells STMW-2 and STMW-3. Rainbow sheen spots and light petroleum odor were noted in well STMW-1. Table 1 summarizes the depth-of-groundwater measurements and observations made.

GROUNDWATER SAMPLING:

Following groundwater monitoring, the on-site wells were purged at least five well volumes and sampled in accordance with STE's Standard Operation Procedures (see Appendix "C"), which contain State and Local guidelines for sampling monitoring wells. The samples were submitted to a California State-Certified laboratory for analyses, accompanied by chain-of-custody.

The water samples from wells STMW-1 to STMW-3 were analyzed for Total Petroleum Hydrocarbons as diesel and gasoline (TPHd and TPHg), Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX) and Total Oil & Grease (TOG).

GROUNDWATER FLOW:

Groundwater elevation data were used to determine groundwater flow direction. Table 1 summarizes the groundwater elevations.

The groundwater direction beneath the site was in a northerly direction as of January 22, 1996 (Figure 2).

ANALYTICAL RESULTS:

Total Petroleum Hydrocarbons as diesel and gasoline (TPHd and TPHg), BTEX and TOG were below laboratory detection limit in monitoring well STMW-3. Monitoring well STMW-1 detected TPHd at 0.49 milligrams per liter (mg/L); TPHg at 23 mg/L; Benzene at 0.023 mg/L; Toluene at 0.022 mg/L; Ethylbenzene at 0.1 mg/L; Total Xylenes at 0.23 mg/L, and TOG at 1.7 mg/L. Monitoring well STMW-2 detected TPHd at 0.25 mg/L; TPHg at 0.082 mg/L; Benzene at 0.0007 mg/L; Total Xylenes at 0.0023 mg/L and TOG at 0.6 mg/L. Toluene and Ethylbenzene were not detected in monitoring well STMW-2. The laboratory results are summarized in Table 2, and the laboratory report is attached in Appendix "D".

SUMMARY:

No sheen or odor were noted in wells STMW-2 and STMW-3, but rainbow sheen spots and light petroleum odor were detected in well STMW-1. Water sample from monitoring well STMW-1 detected low concentrations of TPHd, TPHg, BTEX and TOG. Water sample from monitoring well STMW-2 detected low concentrations of TPHd, TPHg, Benzene, Total Xylenes and TOG.

RECOMMENDATION:

STE recommends the continuation of the quarterly monitoring. In addition, initiating a further investigation as requested by Alameda County Health Care Services Agency (ACHCSA) to define the extent of dissolve plume and migration control.

A copy of this report should be sent to Alameda County Health Care Services Agency (ACHCSA) and California Regional Water Quality Control Board--San Francisco Bay Region (CRWQCB--SFBR).

LIMITATIONS:

This report and the associated work has been provided in accordance with the general principles and practices currently employed in the environmental consulting profession. The contents of this report reflect the conditions of the site at this particular time. The findings of this reports are based on:

1) The observations of field personnel.

2) The results of laboratory analyses performed by a state-certified laboratory.

It is possible that variations in the soil and groundwater could exist beyond the points explored in this investigation. Also, changes in groundwater conditions of a property can occur with the passage of time due to variations in rainfall, temperature, regional water usage and other natural processes or the works of man on this property or adjacent properties.

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This report is issued with the understanding that it is the responsibility of the owner or his/her representative to ensure that the information and recommendations contained herein are called to the attention of the Local Environmental Agency.

Services performed by STE have been in accordance with generally accepted environmental professional practices for the nature and conditions of the work completed in the same or similar localities, at the time the work was performed. This report is not meant to represent a legal opinion. No other warranty, express or implied, is made.

If you have any questions or require additional information, please feel free to contact our office at your convenience.

Sincerely,

SOIL TECH ENGINEERING, INC.

NOORI AMELI
PROJECT ENGINEER

LAWRENCE KOO, P. E.
C. E. #34928

FRANK HAMEDI-FARD
GENERAL MANAGER

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TABLE 1
GROUNDWATER MONITORING DATA
(Measured in Feet)

Date	Well No./ Elevation	Depth-to-Well	Depth-to-Water	Groundwater Elevation	Sheen	Odor
4/10/95	STMW-1 (99.51)	20.00	9.69	89.82	Very Light Rainbow	Light Petroleum
	STMW-2 (98.95)	20.00	9.16	89.79	None	None
	STMW-3 (98.54)	20.00	8.68	89.86	None	None
7/25/95	STMW-1 (99.51)	20.00	10.39	89.12	None	None
	STMW-2 (98.95)	20.00	9.87	89.08	None	None
	STMW-3 (98.54)	20.00	9.40	89.14	None	None
10/25/95	STMW-1 (99.51)	20.00	10.71	88.80	None	Light Sewerage
	STMW-2 (98.95)	20.00	10.19	88.76	None	None
	STMW-3 (98.54)	20.00	9.73	88.81	None	None

TABLE 1 CONT'D
GROUNDWATER MONITORING DATA
(Measured in Feet)

Date	Well No./ Elevation	Depth-to-Well	Depth-to-Water	Groundwater Elevation	Sheen	Odor
1/22/96	STMW-1 (99.51)	20.00	8.21	91.30	Rainbow	Light Petroleum
	STMW-2 (98.95)	20.00	7.74	91.21	None	None
	STMW-3 (98.54)	20.00	7.19	91.35	None	None

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TABLE 2
GROUNDWATER SAMPLES ANALYTICAL RESULTS
IN
MILLIGRAMS PER LITER (mg/L)

A. TPHd, TPHg, BTEX and TOG Results

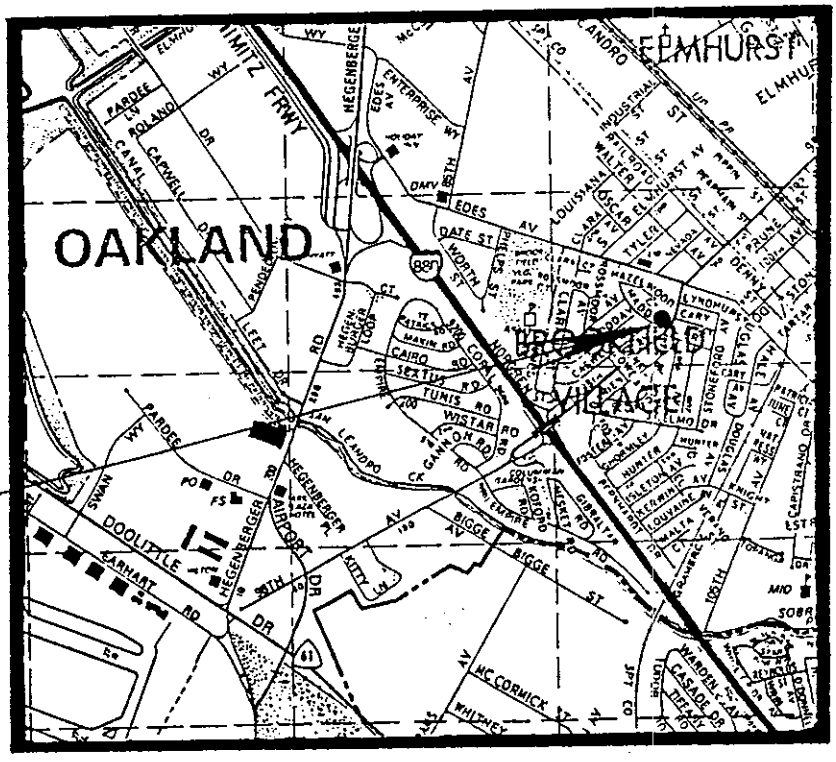
Date	Well No.	TPHd	TPHg	B	T	E	X	TOG
4/10/95	STMW-1	0.067	13	0.0059	0.0069	0.15	0.25	NA
	STMW-2	0.054	ND	ND	ND	ND	ND	NA
	STMW-3	ND	ND	ND	ND	ND	ND	15
7/25/95	STMW-1	ND	45	0.011	0.029	0.02	0.16	NA
	STMW-2	ND	ND	ND	ND	ND	ND	NA
	STMW-3	ND	ND	ND	ND	ND	ND	ND
10/25/95	STMW-1	ND	7.8	0.0036	0.0015	0.02	0.031	0.9
	STMW-2	ND	ND	ND	ND	ND	ND	ND
	STMW-3	ND	ND	ND	ND	ND	ND	ND
1/22/96	STMW-1	0.49	23.0	0.023	0.022	0.1	0.23	1.7
	STMW-2	0.25	0.082	0.0007	ND	ND	0.0023	0.6
	STMW-3	ND	ND	ND	ND	ND	ND	ND

TABLE 2 CONT'D
GROUNDWATER SAMPLES ANALYTICAL RESULTS
IN
MILLIGRAMS PER LITER (mg/L)

B. Cadmium, Chromium, Lead, Nickel and Zinc Results

Date	Well No.	Cd	Cr	Pb	Ni	Zn
4/10/95	STMW-1	NA	NA	NA	NA	NA
	STMW-2	NA	NA	NA	NA	NA
	STMW-3	ND	ND	ND	ND	ND
7/25/95	STMW-1	NA	NA	NA	NA	NA
	STMW-2	NA	NA	NA	NA	NA
	STMW-3	ND	ND	ND	ND	ND

TPHd - Total Petroleum Hydrocarbons as diesel
TPHg - Total Petroleum Hydrocarbons as gasoline
BTEX - Benzene, Toluene, Ethylbenzene, Total Xylenes
ND - Not Detected (Below Laboratory Detection Limit)
NA - Not Analyzed



Thomas Brothers Map 1993 Edition
San Francisco, Alameda
and Contra Costa Counties

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Figure 1

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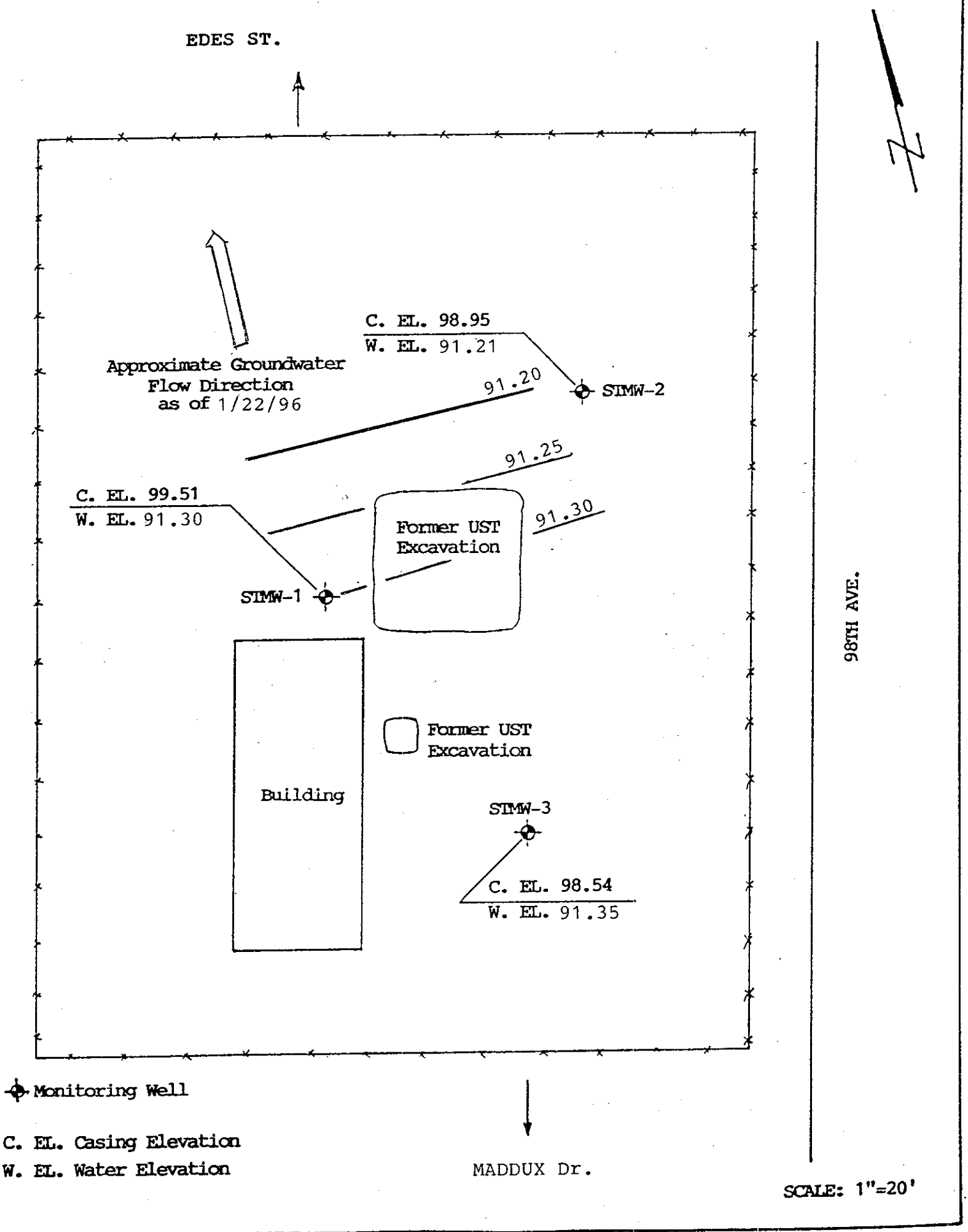

Figure 2

SOIL TECH ENGINEERING, INC.

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GROUNDWATER SAMPLING

Prior to collection of groundwater samples, all of the sampling equipment (i.e. bailer, cables, bladder pump, discharge lines and etc...) was cleaned by pumping TSP water solution followed by distilled water.

Prior to purging, the well "Water Sampling Field Survey Forms" were filled out (depth to water and total depth of water column were measured and recorded). The well was then bailed or pumped to remove four to ten well volumes or until the discharged water temperature, conductivity and pH stabilized. "Stabilized" is defined as three consecutive readings within 15% of one another.

The groundwater sample was collected when the water level in the well recovered to 80% of its static level.

Forty milliliter (ml.), glass volatile organic analysis (VOA) vials with Teflon septa were used as sample containers. The groundwater sample was decanted into each VOA vial in such a manner that there was a meniscus at the top. The cap was quickly placed over the top of the vial and securely tightened. The VOA vial was then inverted and tapped to see if air bubbles were present. If none were present, the sample was labeled and refrigerated for delivery under chain-of-custody to the laboratory. The label information would include a sample identification number, job identification number, date, time, type of analysis requested, and the sampler's name.

PRIORITY ENVIRONMENTAL LABS
Precision Environmental Analytical Laboratory

January 25, 1996 PEL # 9601049

SOIL TECH ENGINEERING

Attn: Noori Ameli

Re: Three water samples for Gasoline/BTEX, Diesel, and Oil & Grease analyses.

Project name: 525 98th Ave., - Oakland
Project number: 10-93-570-ST

Date sampled: Jan 22, 1996 Date submitted: Jan 22, 1996
Date extracted: Jan 23-24, 1996 Date analyzed: Jan 23-24, 1996

RESULTS:

SAMPLE I.D.	Gasoline (ug/L)	Diesel (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylene (ug/L)	Oil & Grease (mg/L)
STMW-1	23000	490	23	22	100	230	1.7
STMW-2	82	250	0.7	N.D.	N.D.	2.3	0.6
STMW-3	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Blank	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	87.9%	83.1%	84.0%	88.6%	107.2%	90.4%	---
Detection limit	50	50	0.5	0.5	0.5	0.5	0.5
Method of Analysis	5030 / 8015	3510 / 8015	602	602	602	602	5520 C & F

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA. 95035 Tel: 408-946-9636 Fax: 408-946-9663

CHAIN OF CUSTODY RECORD

PEL

PROJ. NO.	NAME
10-93-570-ST	525 98th. Av. OAKLAND

SAMPLERS: *(Signature)* N. Amyle

PEL # 9610049
INV # 26740

NO.	DATE	TIME	SOIL	WATER	LOCATION	CONTAINER	Analyses Requested (2) TPHG/BTEX	TPHD	T O&G				
1	1/22/96	14^{35}		✓	STMW-1	3	✓	✓	✓				
2	1/22/96	13^{25}		✓	STMW-2	3	✓	✓	✓				
3	1/22/96	14^{00}		✓	STMW-3	3	✓	✓	✓				

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Receive by: *(Signature)*
N. Amyle	1/22/96 16:13				
Relinquished by: *(Signature)*	**Date / Time**	**Received by: *(Signature)***	**Relinquished by: *(Signature)***	**Date / Time**	**Received by: *(Signature)***
		THANH LAM			
Relinquished by: *(Signature)*	**Date / Time**	**Received for Laboratory by: *(Signature)***	**Date / Time**	**Remarks**	
	1/23/96 15:13	PEL			

SOIL TECH ENGINEERING
Soil, Foundation and Geological Engineers

PEL

CHAIN OF CUSTODY RECORD

PROJ. NO.	NAME
10-93-570-ST	525 98th. Av. OAKLAND

SAMPLERS: *(Signature)* N. Ansul

NO.	DATE	TIME	SOIL	WATER	LOCATION	CONTAINER	Analyses Requested (2) TPHG/BTEX	TPHD	T C&G				REMARKS
1	1/22/96	14^{35}		✓	STMW-1	3	✓	✓	✓				
2	1/22/96	13^{25}		✓	STMW-2	3	✓	✓	✓				
3	1/22/96	14^{00}		✓	STMW-3	3	✓	✓	✓				

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Receive by: *(Signature)*
N. Ansul	1/22/96 16:15				
Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
		THARALAM			
Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)*	Date / Time	Remarks	
	1/22/96 16:15	PEL			

SOIL TECH ENGINEERING
Soil, Foundation and Geological Engineers
298 BROKAW ROAD, SANTA CLARA, CA 95050 ■ (408) 866-0919 ■ (415) 791-6406