File No. 7-93-556-SI

QUARTERLY GROUNDWSATER MONITORING AND SAMPLING AT THE PROPERTY LOCATED AT 2740 98TH AVENUE OAKLAND, CALIFORNIA AUGUST 2, 1995

PREPARED FOR:
MR. KIYOUMARS GHOFRANI
FREEWAY STATION AND SERVICE
2740 98TH AVENUE
OAKLAND, CALIFORNIA 94605

BY:
SOIL TECH ENGINEERING, INC.
298 BROKAW ROAD
SANTA CLARA, CALIFORNIA 95050

SOIL TECH ENGINEERING, INC.

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SOIL TECH ENGINEERING
Soil, Foundation and Geological Engineers
298 BROKAW ROAD, SANTA CLARA, CA 95050 ■ (408) 496-0265 OR (408) 496-0266

August 2, 1995

File No. 7-93-556-SI

Mr. Kiyoumars Ghofrani
Freeway Station and Service
2740 98th Avenue
Oakland, California 94605

SUBJECT: QUARTERLY GROUNDWATER MONITORING AND SAMPLING AT THE PROPERTY Located at 2740 98th Avenue, in Oakland, California

Dear Mr. Ghofrani:

This report presents the results of quarterly groundwater monitoring and sampling conducted by Soil Tech Engineering, Inc. (STE), on July 26, 1995, at the subject site (Figure 1).

Three monitoring wells (STMW-1 to STMW-3 and W-4) 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 "Environmental Site Assessment of Contaminated Soil and Groundwater for the Property", dated March 8, 1995.

BACKGROUND:

There are four underground storage tanks located on the subject property. A Phase I Environmental Site Assessment for the

subject site was conducted by Northwest Envirocon, Inc. (NE) of Sacramento. The detail of the site assessment is described in a report, dated July 22, 1992, prepared by Northwest Envirocon, Inc. According to NE's report, the building on-site is 26 years old. It has probably been used as an automobile service station since 1966. Based on information obtained from NE's report, there are two 10,000 gallon tanks and one 5,000 gallon tank used for the storage of gasoline, and 500 gallon tank used for the storage of waste oil. Based on the same report, the three gasoline storage tanks were installed in July of 1975 and are constructed of fiberglass. The reason new fiberglass tanks were installed is not known. The waste oil tank is constructed of metal. An installation date for this tank could not be confirmed. These tanks are tested yearly for tightness by American River Testing of Sacramento. Tightness refers to a precision test which determines the integrity of the tank. This test is required annually by the State of California.

According to NE's report, in May of 1989, there was an accidental spill of an unknown quantity of waste oil during removal of waste oil by Evergreen Environmental Services. The wast oil drained into exposed soil, leached onto/into a collection pipe that emptied into Stanley Avenue and drained down Stanley Avenue approximately fifty feet. In response to this spill, the following actions were taken: The waste oil was removed by U.S. Waste Oil Group, and three top soil samples were sent to Brown and Caldwell Laboratories for Total Oil & Grease (TOG) analysis. Three grab soil samples were taken at the Stanley Stree fence line and were

composited into one sample. Composite soil result showed TOG concentration to be 170 milligrams per kilogram (mg/Kg). No further remediation was performed for this spill.

In June 18, 1993, E&G Construction removed the product pipeline and conducted a soil sampling in the pipeline trenches. Eight soil samples were collected from the depth of approximately 3.5 feet below grade, under the supervision of Alameda County Health Department inspector, Mr. Ron Owcarz. Five of the shallow soil samples detected elevated levels of Total Petroleum Hydrocarbons as gasoline (TPHg) ranging from 310 mg/Kg to a maximum of 2,900 mg/Kg. E&G construction excavated additional soil from three locations (1, 4 & 5) where TPHg levels were 550 mg/Kg, 1,900 mg/Kg and 2,900 mg/Kg, respectively, to a depth of approximately 12 to 13 feet below grade. Three confirmation soil samples (A-1, B-1 and C-1) were collected on July 1 and 2, 1993. Two of the three soil samples detected no TPHg, and one sample detected TPHg level of 15 mg/Kg. The lateral extent of TPHg or impact to groundwater was not evaluated at that time.

Alameda County Health Department requested a preliminary site assessment in a letter, dated September 1, 1993. However, in a letter dated October 5, 1993, the Department agreed to conducting 4 exploratory soil borings in the vicinity of the contaminated areas and to collect one grab water sample to assess whether the groundwater has been impacted.

Soil Tech Engineering, Inc. (STE) was retained to conduct a preliminary site assessment near the product lines excavation area. In March 1994, four soil borings were drilled near the product line area. Groundwater was encountered between 6 to 12 feet below grade. A total of ten soil samples were collected from the four borings, and one water sample was collected from boring 1. The water samples did detect low to moderate elevated levels of Total Petroleum Hydrocarbons as gasoline (TPHg) and BTEX. Five out of ten soil samples also detected low to elevated levels of TPHg. The detail of the soil investigation is described in STE's report dated April 21, 1994, entitled "Preliminary Site Assessment at Freeway Station and Service Property".

Since elevated concentrations of TPHg and Benzene were detected in the groundwater samples collected from boring 1, further investigation was requested by the Alameda County Health Care Services Agency (ACHCSA) in a letter dated July 8, 1994.

STE was retained by Mr. Ghofrani to conduct further investigation as requested by ACHCSA. A work plan, dated December 5, 1994, was prepared describing the scope of work which included the 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 wells (STMW-1 to STMW-3) were conducted in February 1995. Soil results from the borings detected TPHg and

BTEX below laboratory detection limit. Levels of TPH as gasoline and BTEX were also below laboratory detection limit in the water samples. The detail of the environmental site assessment is described in STE's report dated March 8, 1995.

SCOPE OF PRESENT WORK:

- Measured depth-to-water table and monitored for presence of any floating product for three on-site wells STMW-1, STMW-2 and W-4.
- Purged each monitoring well prior to sampling.
- Sampled monitoring wells STMW-1, STMW--2 and W-4 for laboratory analyses.
- Submitted water samples to a State-Certified laboratory for analyses of Total Petroleum Hydrocarbons as gasoline (TPHg), Benzene, Toluene, Ethylbenzene and Total Xylenes (BTEX).
- Reviewed results and prepared a report of the investigation.

FIELD ACTIVITIES:

GROUNDWATER MONITORING:

On July 26, 1995, STE's staff monitored three on-site wells to measure water depth and check for the presence of FFP and/or odor. During monitoring of the wells, no sheen or odor were noted in any

of the monitoring wells. 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.

GROUNDWATER FLOW:

Groundwater elevation data were used to determine groundwater flow direction. Table 1 summarizes the groundwater elevations. The groundwater gradient beneath the site appears to be disrupted by a branch of the Hayward fault that may cross the site. The groundwater surface elevation appears to be anomalously high in well STMW-1 and anomalously low in well STMW-3 just 42 feet to the southeast. Using initial data from our three wells, the gradient appears to be steep to the east. The existing well W-4 is in southeast of our well STMW-2 and east of our dry well STMW-3. The groundwater surface elevation in well W-4 was higher than both wells STMW-2 and STMW-3 on July 26, 1995.

ANALYTICAL RESULTS:

Total Petroleum Hydrocarbons as gasoline (TPHg) and BTEX were below laboratory detection limit in monitoring wells STMW-1 and STMW-2. Monitoring well W-4 detected TPHg at 0.072 milligrams per liter (mg/L); Toluene at 0.0006 mg/L; Ethylbenzene at 0.0007 mg/L and Total Xylenes at 0.0021 mg/L. Benzene was not detected in monitoring well W-4.

SUMMARY:

No sheen or odor were noted in any of the monitoring wells (STMW-1, STMW-2 and MW-4). TPHg and BTEX concentrations were below laboratory detection limit in all three monitoring wells.

Monitoring well STMW-3 was not sampled and monitored because depth of groundwater was below the depth of well (dry well).

RECOMMENDATION:

STE recommends the continuation of quarterly monitoring for two more quarters. The proposed program should then be re-evaluate at the end of the year.

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.

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-Water	Groundwater Elevation	FFP	Odor
2/23/95	STMW-1 (101.33)	6.77	94.56	None	None
	STMW-2 (98.89)	17.19	81.70	None	None
	STMW-3 (98.99)	Dry	>79.49	None	None
	W-4 (90.50)	6.72	83.78	Rainbow Sheen	None
7/26/95	STMW-1 (101.33)	13.87	87.46	None	None
	STMW-2 (98.89)	18.39	80.50	None	None
	STMW-3 (98.99)	Dry	Dry	Dry	Dry
	W-4 (90.50)	15.51	74.99	None	None

FFP - Free Floating Product

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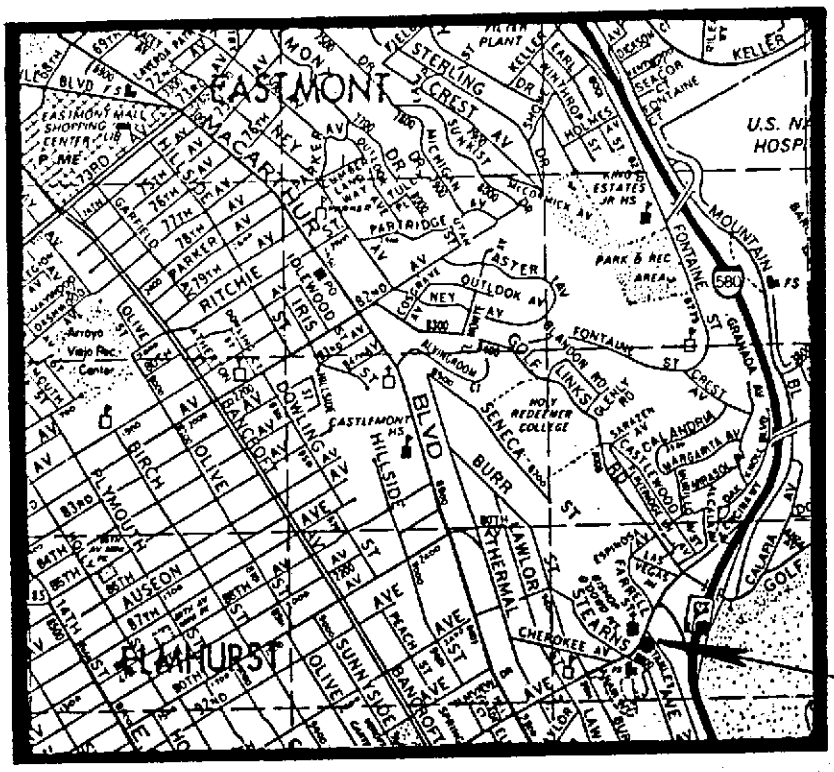
TABLE 2
GROUNDWATER SAMPLES ANALYTICAL RESULTS
IN
MILLIGRAMS PER LITER (mg/l)

Date	Well No.	TPHg	B	T	E	X
2/23/95	STMW-1	ND	ND	ND	ND	ND
	STMW-2	ND	ND	ND	ND	ND
	STMW-3	NA	NA	NA	NA	NA
	W-4	NA	NA	NA	NA	NA
7/26/95	STMW-1	ND	ND	ND	ND	ND
	STMW-2	ND	ND	ND	ND	ND
	STMW-3	NA	NA	NA	NA	NA
	W-4	0.072	ND	0.0006	0.0007	0.0021

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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M1

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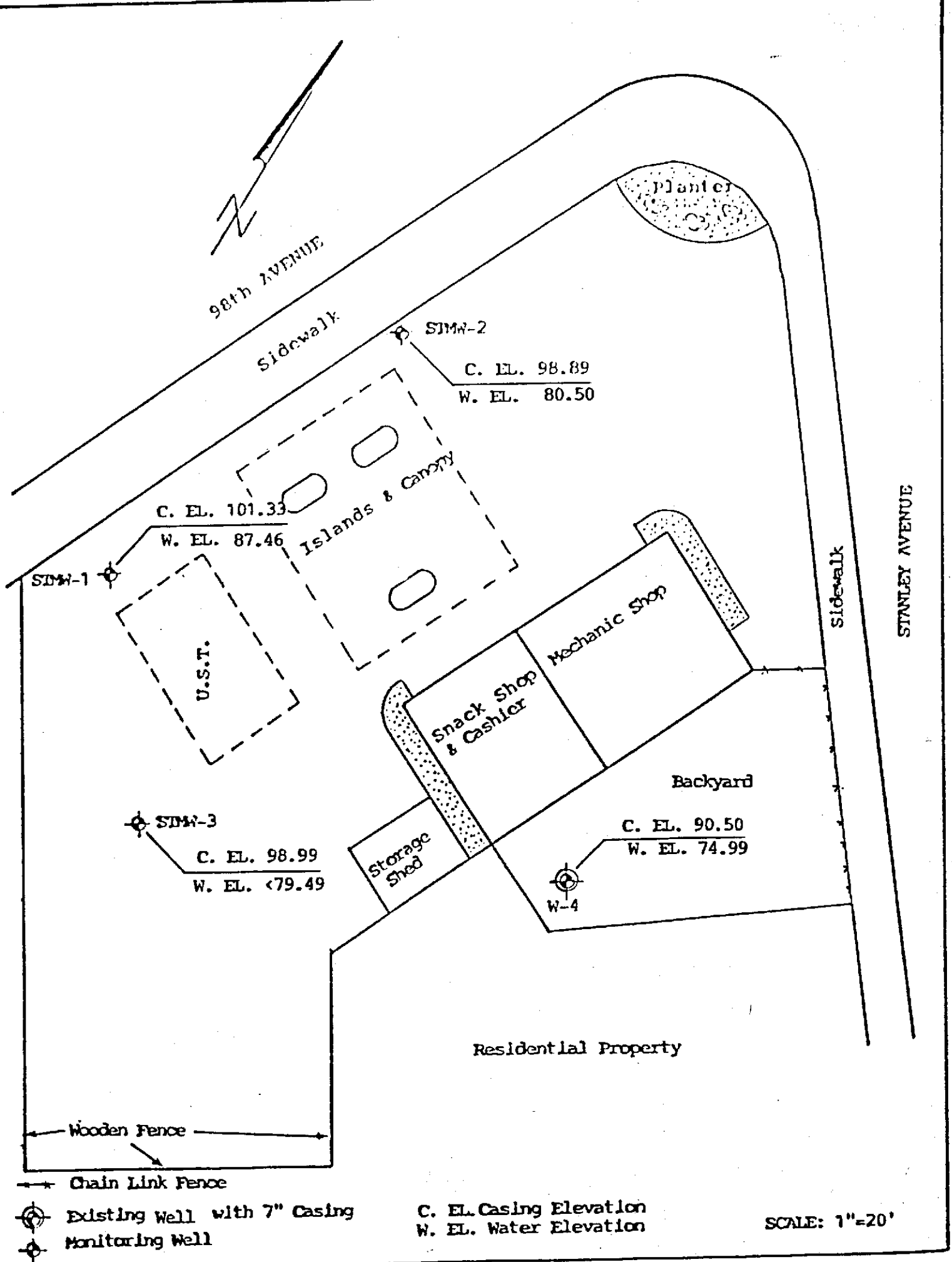

Figure 2

M2

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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

PEL # 9507078

August 02, 1995

SOIL TECH ENGINEERING, INC.

Attn: Noori Ameli

Re: Three water samples for Gasoline/BTEX analysis.

Project name: 2470 98th Ave., - Oakland
Project number: 7-93-556-SI

Date sampled: Jul 26, 1995
Date extracted: Jul 31-Aug 01,1995

Date submitted: Jul 31, 1995
Date analyzed: Jul 31-Aug 01,1995

RESULTS:

SAMPLE I.D.	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylene (ug/L)
STMW-1	N.D.	N.D.	N.D.	N.D.	N.D.
STMW-2	N.D.	N.D.	N.D.	N.D.	N.D.
W-4	72	N.D.	0.6	0.7	2.1
Blank	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	90.7%	84.3%	80.9%	105.2%	103.9%
Detection limit	50	0.5	0.5	0.5	0.5
Method of Analysis	5030 / 8015	602	602	602	602

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
7-93-556-S1	2740 98th. Av. OAKLAND

SAMPLERS: *(Signature)* D. Amuchastegui

NO.	DATE	TIME	SOIL	WATER	LOCATION	CONTAINER	ANALYSES REQUESTED (2) TPHG/BTEX	REMARKS
1	7/26/95	10:20		✓	STMW-1	1	✓	
2	7/26/95	11:05		✓	STMW-2	1	✓	
3	7/26/95	12:10		✓	W-4	1	✓	

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Receive by: *(Signature)*
D. Amuchastegui					
Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)*	Date / Time	Remarks	
			07/31/95 9:25 AM		

SOIL TECH ENGINEERING

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[redacted]98 [redacted]KAW [redacted]D, [redacted]A [redacted]A, [redacted]95050 [redacted] (408) 866-0919 [redacted] (415) 791-6496

PEL

CHAIN OF CUSTODY RECORD

PROJ. NO.	NAME
7-93-556-S1	2740 98th. Av. OAKLAND

SAMPLERS: (Signature) D. Arnold

PEL # 9507078

INV # 26196

NO.	DATE	TIME	SOIL	WATER	LOCATION	CONTAINER	Analyses Requested (2) TPHG / BTEXX
1	7/26/95	10:20		✓	STMW-1	1	✓
2	7/26/95	11:05		✓	STMW-2	1	✓
3	7/26/95	12:12		✓	W-4	1	✓

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Receive by: (Signature)
D. Arnold					
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
			07/31/95 9:24 AM		

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