File No. 11-92-528-ST

QUARTERLY GROUNDWATER MONITORING AND SAMPLING AT THE PROPERTY LOCATED AT 3800 FIRST STREET LIVERMORE, CALIFORNIA AUGUST 5, 1994

PREPARED FOR:
MR. EDWIN SPENCER
880 COLUMBINE COURT
DANVILLE, CALIFORNIA 94526

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

SOIL TECH ENGINEERING, INC.

File No. 11-92-528-ST

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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 5, 1994

File No. 11-92-528-ST

Mr. Edwin Spencer
880 Columbine Court
Danville, California 94526

SUBJECT: QUARTERLY GROUNDWATER MONITORING AND SAMPLING FOR THE PROPERTY Located at 3800 First Street, in Livermore, California

Dear Mr. Spencer:

This report presents the results of quarterly groundwater monitoring and sampling conducted by Soil Tech Engineering, Inc. (STE), on August 2, 1994, at the subject site (Figure 1).

SITE DESCRIPTION:

The site is located at 3800 First Street, in Livermore, California, at the intersection of First Street and Portola Avenue (Figure 1). The triangular-shaped parcel is bordered to the north by Portola Avenue, to the east and south First Street and a light industrial complex to the west. Currently, the site is used as an auto dealership. A site map (Figure 2) shows the location of the building, the former fuel storage tanks and the locations of three on-site monitoring wells.

PREVIOUS INVESTIGATION:

In December 1992, three underground storage tanks were removed by Alpha Geo Services (AGS) (2,000 gallon and 550 gallon gasoline and 550 gallon waste oil tanks). Laboratory results of soil samples taken beneath the tank detected moderate levels of TPH as gasoline [98 milligrams per kilogram (mg/Kg)], and BTEX concentrations were less than 1 mg/Kg in the gasoline tanks area. The waste oil tank excavation area showed very low levels of TPH as diesel (1.6 mg/Kg), Toluene, Ethylbenzene and Total Xylenes were less than 0.1 mg/Kg. The concentrations of TOG was 95 mg/Kg. No Volatile Organic Compounds (VOC's) were detected in the waste oil soil sample.

Soil Tech Engineering, Inc. (STE) conducted a remedial excavation and a preliminary soil and groundwater assessment at the site in July 1993.

The results of the remedial excavation activities and the preliminary site assessment were as follows:

- The site is immediately underlain by native soils consisting predominantly of interbedded sandy gravelly silty clay.
- The confirmatory soil samples taken after additional excavation of the former fuel tank areas detected no TPHg, BTEX or TOG. This indicated that most of the grossly contaminated soil was removed.

- Laboratory chemical analyses of soil samples collected from borings detected none of the petroleum hydrocarbons constituents analyzed. Gasoline and the BTEX compounds were not detected in the selected soil samples analyzed.

- Groundwater was encountered between the depths of 47 and 65 feet while drilling. The water samples from three on-site wells detected no TPH, BTEX or VOC's.

- The groundwater flow was toward southerly direction.

The detail of the remedial excavation activities and the preliminary site assessment is described in the STE's report dated August 16, 1993.

SCOPE OF PRESENT WORK:

The scope of present work consist of:

- Monitored wells STMW-1, STMW-2 and STMW-3 for presence of any free floating product (FFP) and measured the depth-to-water table.

- Purged the monitoring wells prior to sampling.

- Sampled the monitoring wells STMW-1, STMW-2 and STMW-3.

- Submitted water sample to a state-certified laboratory for chemical analyzed of Total Petroleum Hydrocarbons as diesel and gasoline (TPHd and TPHg), Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX), Total Oil and Grease (TOG) per EPA Methods 5030/ 8015, 602 and 3510/5520.
- Reviewed results and prepared a report of the investigation.

CURRENT FIELD WORK:

GROUNDWATER MONITORING:

On August 2, 1994, STE staff monitored the three on-site wells (STMW-1, STMW-2 and STMW-3) to measure water depth and check for the presence of FFP and/or petroleum odor. No FFP or petroleum odor were detected during monitoring of wells STMW-1, STMW-2 and STMW-3. The water table depths ranged from 41.24 to 50.32 feet below ground surface. Table 1 summarizes the depth of groundwater measurements and observations made.

GROUNDWATER SAMPLING:

Following groundwater monitoring, the wells were purged at least five well volumes and sampled in accordance with STE's Standard Operation Procedures (see Appendix "C"), which contains state and local guidelines for sampling of monitoring wells.

Water samples were decanted into clean VOA vials and were sealed with Teflon lined screw caps, labeled and placed in a cool ice chest and submitted to North State Environmental, a state-certified laboratory with a 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) per EPA Method 5030/8015, for Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX) per EPA Method 602 and Total Oil & Grease (TOG) per EPA Methods 3510/5520.

GROUNDWATER FLOW:

Water elevation data were used to determine groundwater flow direction. Table 1 summarizes the groundwater elevations. The groundwater flow direction beneath the site was in an easterly direction as of August 2, 1994 (Figure 2).

ANALYTICAL RESULTS:

Groundwater samples were analyzed by North State Environment of South San Francisco, California. The three groundwater samples were analyzed TPHd, TPHg, BTEX and TOG.

Analytical results of the three groundwater samples detected no TPHd, TPHg, BTEX or TOG above the laboratory detection limit, except for low levels of Ethylbenzene (0.001 mg/L) and Total

Xylenes (0.004 mg/L) in well STMW-1. Copy of the analytical results and chain-of-custody documentation are attached in Appendix "D". The groundwater analytical results are summarized in Table 1.

RECOMMENDATIONS:

A copy of this report should be sent to Alameda County Health Care Services Agency (ACHCSA) with a request for site closure.

LIMITATIONS:

This report was prepared in accordance with the currently accepted standards for environmental investigations. The contents of this report reflect the conditions of the subject site at this particular time. No other warranties, expressed or implied, as to the professional advice provided are made.

The findings of this report are based on the results of the independent laboratory analyses and are valid at the present date and conditions. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or the works of man, on this property or adjacent properties.

File No. 11-92-528-ST

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

Sincerely,

SOIL TECH ENGINEERING, INC.

FRANK HAMEDI-FARD
GENERAL MANAGER

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

File No. 11-92-528-ST

A P P E N D I X "A"

SOIL TECH ENGINEERING, INC.

File No. 11-92-528-ST

TABLE 1
GROUNDWATER MONITORING DATA
MEASUREMENT IN FEET

Date	Well No./ Elevation	Depth-to-Water	Groundwater Elevation	FFP Thickness	Petroleum Odor
7/27/93	STMW-1 (101.51)	60.00	55.99	None	None
	STMW-2 (95.82)	65.00	54.27	None	None
	STMW-3 (98.85)	45.52	45.69	None	None
11/19/93	STMW-1 (101.51)	45.11	56.40	None	None
	STMW-2 (95.82)	41.35	54.47	None	None
	STMW-3 (98.85)	50.27	48.58	None	None
2/23/94	STMW-1 (101.51)	44.99	56.52	None	None
	STMW-2 (95.82)	41.00	54.82	None	None
	STMW-3 (98.85)	50.53	48.32	None	None

FFP - Free Floating Product

TABLE 1 CONT'D
GROUNDWATER MONITORING DATA
MEASUREMENT IN FEET

Date	Well No./ Elevation	Depth-to-Water	Groundwater Elevation	FFP Thickness	Petroleum Odor
8/2/94	STMW-1 (101.51)	45.14	56.37	None	None
	STMW-2 (95.82)	41.24	54.58	None	None
	STMW-3 (98.85)	50.32	48.53	None	None

FFP - Free Floating Product

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

Date	Well Number	TPHd	TPHg	B	T	E	X	TOG	VOC's
7/29/93	STMW-1	NA	ND	ND	ND	ND	ND	ND	ND
	STMW-2	NA	ND	ND	ND	ND	ND	ND	ND
	STMW-3	ND	ND	ND	ND	ND	ND	ND	ND
11/19/93	STMW-1	ND	ND	ND	ND	ND	ND	ND	ND
	STMW-2	ND	ND	ND	ND	ND	ND	ND	ND
	STMW-3	ND	ND	ND	ND	ND	ND	ND	ND
2/23/94	STMW-1	ND	ND	ND	ND	ND	ND	ND	NA
	STMW-2	ND	ND	ND	ND	ND	ND	ND	NA
	STMW-3	ND	ND	ND	ND	ND	ND	ND	NA

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

Date	Well Number	TPHd	TPHg	B	T	E	X	TOG	VOC's
8/02/94	STMW-1	ND	ND	ND	ND	0.001	0.004	ND	NA
	STMW-2	ND	ND	ND	ND	ND	ND	ND	NA
	STMW-3	ND	ND	ND	ND	ND	ND	ND	NA

VOC's - Volatile Organic Compounds
TPHd - Total Petroleum Hydrocarbons as diesel
TPHg - Total Petroleum Hydrocarbons as gasoline
BTEX - Benzene, Toluene, Ethylbenzene, Total Xylenes
TOG - Total Oil and Grease
ND - Not Detected (Below Laboratory Detection Limit)

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A P P E N D I X "B"

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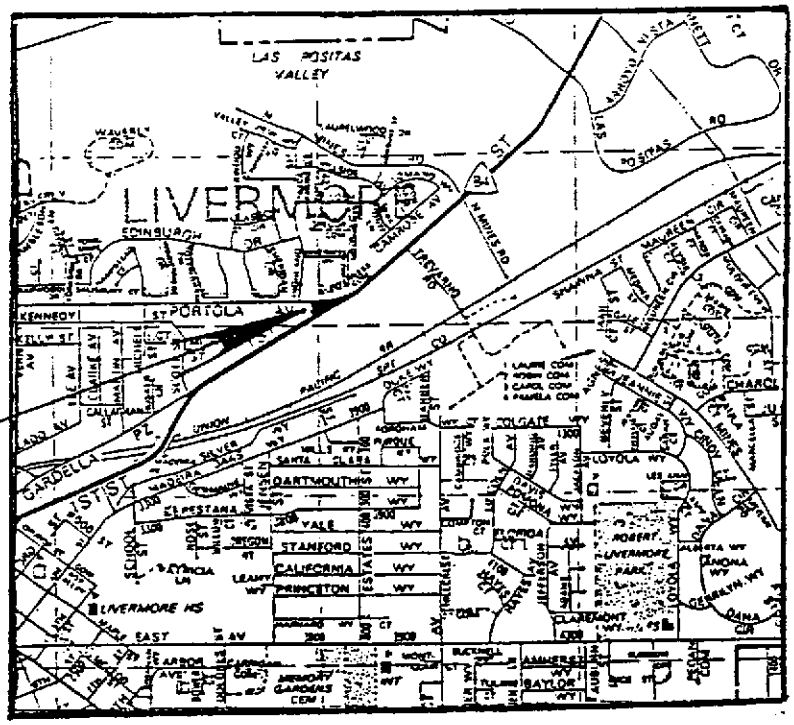
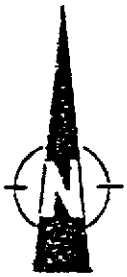


Site Location



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

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M1

Figure 1

SOIL TECH ENGINEERING, INC.

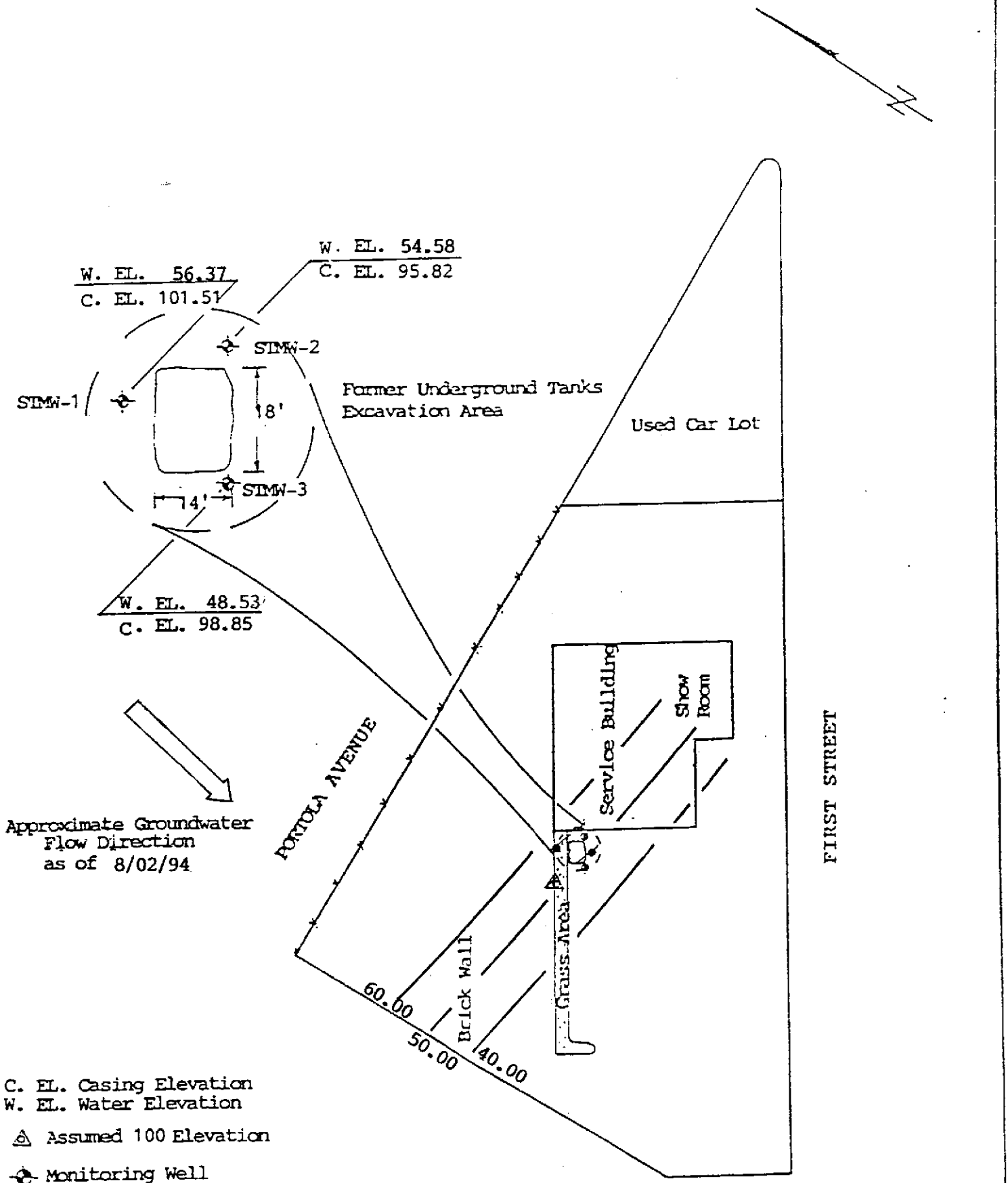

Figure 2

SOIL TECH ENGINEERING, INC.

M2

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A P P E N D I X "C"

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File No. 11-92-528-ST

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.

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A P P E N D I X "D"

SOIL TECH ENGINEERING, INC.

North State Environmental
Chemical Waste Disposal · Trucking · Consulting

C E R T I F I C A T E O F A N A L Y S I S

JOB NO: 94-476
CLIENT: SOIL TECH ENGINEERING
PROJECT NAME: 3800 FIRST STREET LIVERMORE
PROJECT NO: 11-92-528-ST

DATE SAMPLED: 08-02-94
DATE EXTRACTED: 08-04-94
DATE ANALYZED: 08-04-94

BTXE AND GASOLINE RANGE ORGANICS BY EPA METHOD 8020/5030 AND 8015 M
DIESEL RANGE HYDROCARBONS BY EPA METHOD 8015 M
TPH (OIL AND GREASE) BY EPA METHOD 413.1

Sample No.	Client ID	Analyte	Result	
94-476-01	STMW-1	Benzene	ND	
	Water	Toluene	ND	
		Ethylbenzene	1	ug/L
		Xylenes	4	ug/L
		Gasoline	ND	
		Diesel	ND	
		O&G	ND	
94-476-02	STMW-2	Benzene	ND	
	Water	Toluene	ND	
		Ethylbenzene	ND	
		Xylenes	ND	
		Gasoline	ND	
		Diesel	ND	
		O&G	ND	
94-476-03	STMW-3	Benzene	ND	
	Water	Toluene	ND	
		Ethylbenzene	ND	
		Xylenes	ND	
		Gasoline	ND	
		Diesel	ND	
		O&G	ND	
94-476-04	Field Blank	Benzene	ND	
	Water	Toluene	ND	
		Ethylbenzen	ND	
		Xylenes	ND	
		Gasoline	ND	

P.O.Box 5624 • South San Francisco, California 94083 • 415-588-2838 FAX 588-1950

North State Environmental
Chemical Waste Disposal · Trucking · Consulting

C E R T I F I C A T E O F A N A L Y S I S

JOB NO: 94-476 DATE SAMPLED: 08-02-94
CLIENT: SOIL TECH ENGINEERING DATE EXTRACTED: 08-04-94
PROJECT NAME: 3800 FIRST STREET DATE ANALYZED: 08-04-94
LIVERMORE PROJECT NO: 11-92-528-ST

BTXE AND GASOLINE RANGE ORGANICS BY
EPA METHOD 8020/5030 AND 8015 M
DIESEL RANGE HYDROCARBONS BY EPA METHOD 8015 M
TPH (OIL AND GREASE) BY EPA METHOD 413.1

Quality Control Quality Assurance Summary:Water

Analyte	Method	Reporting limit		Blank	MS/MSD Recovery	RPD
Benzene	8020	0.5	ug/L	ND	AVG 110%	12
Toluene	8020	0.5	ug/L	ND		
Ethylbenzene	8020	0.5	ug/L	ND		
Xylenes	8020	1	ug/L	ND		
Gasoline	8015/5030	50	ug/L	ND	AVG 95%	1
Diesel	8015 M	50	ug/L	ND	AVG 93%	16
TPH (O&G)	413.1	5	mg/L	ND	AVG 84%	4

DOHS CERTIFICATION NUMBER 1753

Reviewed and Approved by

John Murphy
Laboratory Director

P.O.Box 5624 • South San Francisco, California 94083 • 415-588-2838 FAX 588-1950

CHAIN OF CUSTODY RECORD

PROJ. NO.: 11-92-528-ST
NAME: 3800 First Street, Livermore
SAMPLERS (Signature): Richard Manley

NO.	DATE	TIME	SOIL	WATER	LOCATION	CONTAINER	Analyses Requested (2) TPH g/BTEX	TPH d	TDS	REMARKS
	8/2/94	4:00		✓	STMW-1	4	✓	✓	✓	
	8/2/94	4:10		✓	STMW-2	4	✓	✓	✓	
	8/2/94	4:30		✓	STMW-3	4	✓	✓	✓	
	8/2/94			✓	Field Blank	1				

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Richard Manley	8/3/94 17:16	[illegible] 8/3/94 17:16			
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	

SOIL TECH ENGINEERING
Soil, Foundation and Geological Engineers
298 [illegible] D[illegible] A C[illegible], C[illegible]95050 ■ (408) 866-0919 ■ (415) 791-6406

CHAIN OF CUSTODY RECORD

94-476

PROJ. NO.	NAME
11-92-528-ST	3800 First Street, Livermore

SAMPLERS (Signature) Richard Manley

NO.	DATE	TIME	SOIL	WATER	LOCATION	CONTAINER	ANALYSES REQUESTED (2) TPH/BTEX	TPHd	TOG	REMARKS
	8/2/94	4:00		✓	STMW-1	4	✓	✓	✓	94-476-01
	8/2/94	4:10		✓	STMW-2	4	✓	✓	✓	94-476-02
	8/2/94	4:30		✓	STMW-3	4	✓	✓	✓	94-476-03
	8/2/94			✓	Field Blank	1				94-476-04

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Receive by: (Signature)
Richard Manley	8/3/94 17:10	Jeffrey Xi	8/3/94 17:16		
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	

SOIL TECH ENGINEERING
Soil Foundation and Geological Engineers
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