

File No. 11-92-528-ST

Alameda County

FEB 18 2004

Environmental Health

QUARTERLY GROUNDWATER MONITORING
AND SAMPLING FOR THE PROPERTY
LOCATED AT 3800 FIRST STREET
LIVERMORE, CALIFORNIA
MARCH 9, 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.

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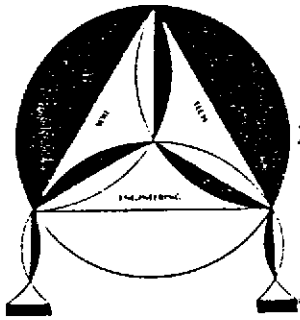
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SOIL TECH ENGINEERING

Soil, Foundation and Geological Engineers

298 BROKAW ROAD, SANTA CLARA, CA 95050 ■ (408) 496-0265 OR (408) 496-0266

March 9, 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 February 23, 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 February 23, 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 41.00 to 50.53 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 Argon Mobile Labs, 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 a southerly direction as of February 23, 1994 (Figure 2).

ANALYTICAL RESULTS:

Groundwater samples were analyzed by Argon Mobile Labs of Ceres, 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. 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:

STE recommends the continuation of quarterly monitoring for one more quarter. The proposed program should then be re-evaluated at the end of one 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 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.


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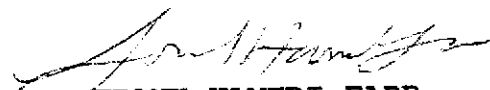
If you have any questions or require additional information,
please feel free to contact our office at your convenience.

Sincerely,

SOIL TECH ENGINEERING, INC.


NOORI AMELI
PROJECT ENGINEER


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


FRANK HAMEDI-FARD
GENERAL MANAGER

SOIL TECH ENGINEERING, INC.

File No. 11-92-528-ST

A P P E N D I X "A"

SOIL TECH ENGINEERING, INC.

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

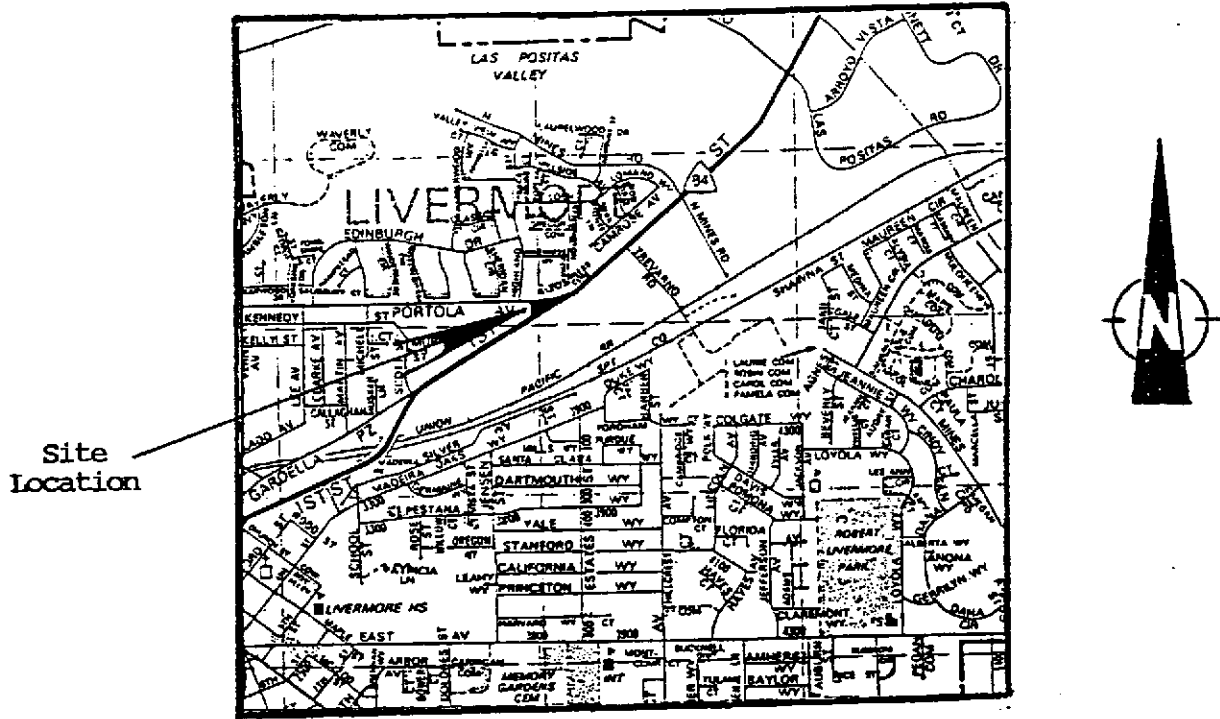
Date	Well No.	TPHd	TPHg	B	T	E	X	TOG	VOC's
7/29/93	STMW-1	NA	ND	ND	ND	ND	ND	NA	ND
	STMW-2	NA	ND	ND	ND	ND	ND	NA	ND
	STMW-3	ND	ND	ND	ND	ND	ND	ND	ND
11/19/93	STMW-1	ND	ND	ND	ND	ND	ND	ND	ND
	STMW-2	ND	ND	ND	ND	ND	ND	ND	ND
	STMW-3	ND	ND	ND	ND	ND	ND	ND	ND
2/23/94	STMW-1	ND	ND	ND	ND	ND	ND	ND	NA
	STMW-2	ND	ND	ND	ND	ND	ND	ND	NA
	STMW-3	ND	ND	ND	ND	ND	ND	ND	NA

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)

File No. 11-92-528-ST

A P P E N D I X "B"

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

Figure 1

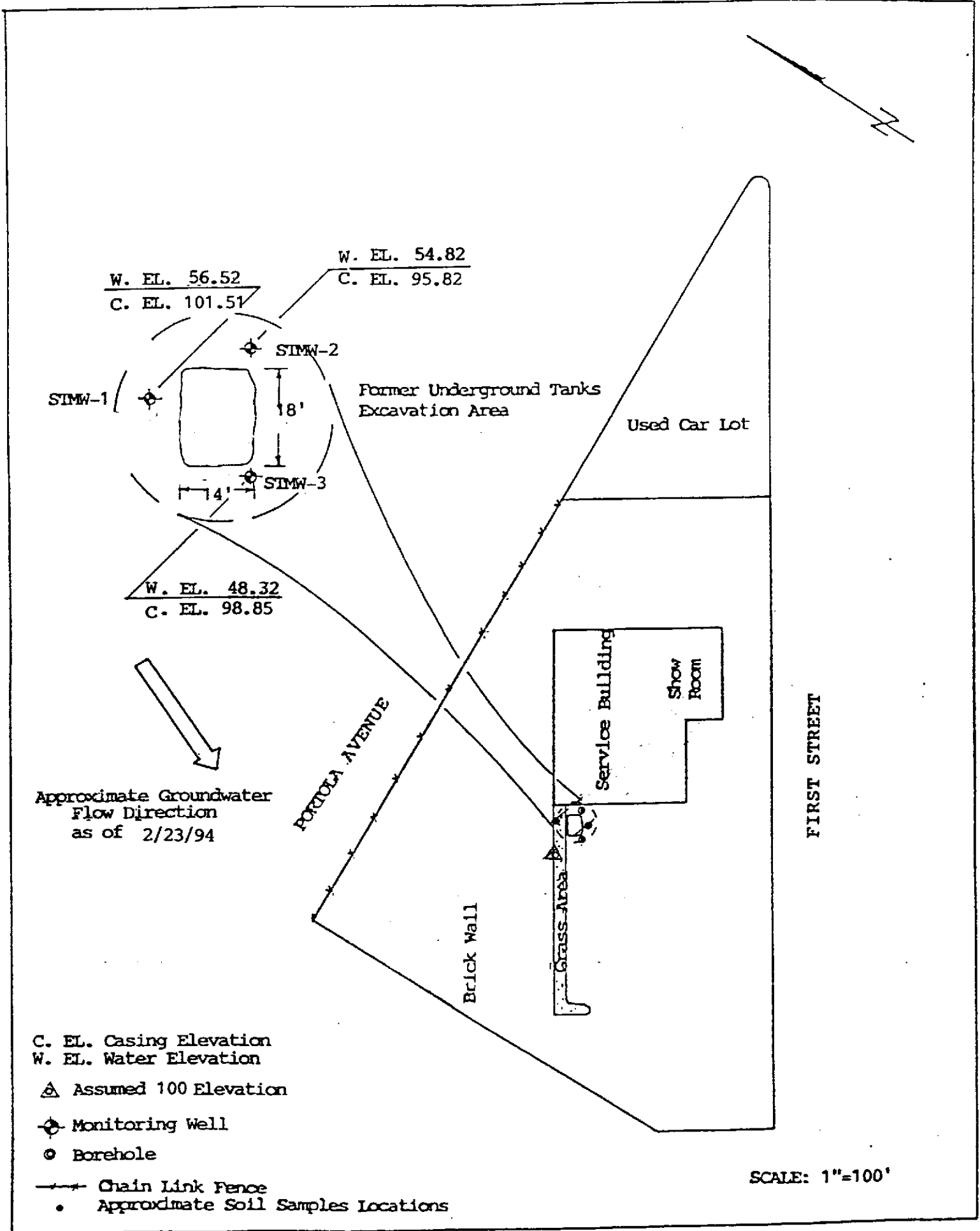


Figure 2

File No. 11-92-528-ST

A P P E N D I X "C"

SOIL TECH ENGINEERING, INC.

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.

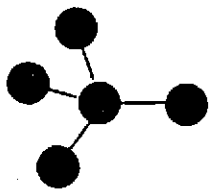
The groundwater sample was collected when the water level in the well recovered to 80% of its static level.

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.



Argon Mobile Labs

3008 McKittrick Ct., Suite N • Ceres, CA 95307 • (209) 537-7836

SOIL TECH ENGINEERING, INC.
298 Brokaw Rd
Santa Clara, CA 95050

Date Sampled: 02/23/94
Date Received: 02/23/94
Date Reported: 03/01/94

Project ID: 11-92-528-ST
Sample ID: STMW-1

Lab Number: T402011
Matrix: Water


TPH-gas/BTXE

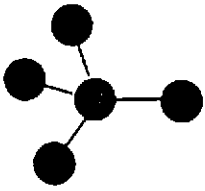
ANALYTE	Detection Limit ppb	Sample Results ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

QA/QC: Blank is none detected.
107% Matrix Spike Recovery
6.9% Duplicate Spike Deviation

Note: Analysis was performed using EPA methods 5030/8015/602
ppb = ug/L

ARGON MOBILE LABS


Hiram Cueto
Lab Director



Argon Mobile Labs

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SOIL TECH ENGINEERING, INC.
298 Brokaw Rd
Santa Clara, CA 95050

Date Sampled: 02/23/94
Date Received: 02/23/94
Date Reported: 03/01/94

Project ID: 11-92-528-ST
Sample ID: STMW-2

Lab Number: T402012
Matrix: Water

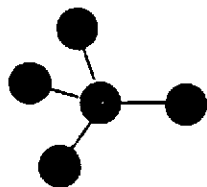
TPH-gas/BTXE

ANALYTE	Detection Limit ppb	Sample Results ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030/8015/602
ppb = ug/L

ARGON MOBILE LABS

Hiram Cueto
Lab Director



Argon Mobile Labs

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SOIL TECH ENGINEERING, INC.
298 Brokaw Rd
Santa Clara, CA 95050

Date Sampled: 02/23/94
Date Received: 02/23/94
Date Reported: 03/01/94

Project ID: 11-92-528-ST
Sample ID: STMW-3

Lab Number: T402013
Matrix: Water

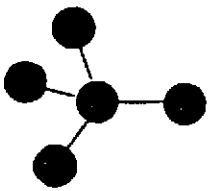
TPH-gas/BTXE

ANALYTE	Detection Limit ppb	Sample Results ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030/8015/602
ppb = ug/L

ARGON MOBILE LABS

Hiram Cueto
Lab Director



Argon Mobile Labs

3008 McKittrick Ct., Suite N • Ceres, CA 95307 • (209) 537-7836

SOIL TECH ENGINEERING, INC
298 Brokaw Rd.
Santa Clara CA. 95050

Date Sampled: 02/23/94
Date Received: 02/23/94
Date Reported: 03/01/94

Project ID: 11-92-528-ST

Matrix: Water

TPH-Diesel

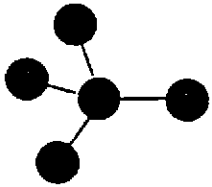
Sample Number	Sample Description	Detection Limit	Total Petroleum Hydrocarbons as Diesel
-----	-----	-----	-----
		ppb	ppb
T402011	STMW-1	50	<50
T402012	STMW-2	50	<50
T402013	STMW-3	50	<50

QA/QC: Blank is none detected.
88% Matrix Spike Recovery T402011
6.9% Duplicate Spike Deviation

Note: Analysis was performed by EPA methods 3510/TPH-LUFT
ppb = ug/L

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Hiram Cueto
Lab Director



Argon Mobile Labs

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SOIL TECH ENGINEERING, INC.
298 Brokaw Rd.
Santa Clara, CA 95050

Date Sampled: 02/23/94
Date Received: 02/23/94
Date Reported: 03/02/94

Project ID: 11-92-528-ST

Matrix: Water

TOTAL OIL & GREASE

Sample Number	Sample Description	Detection Limit	Gravimetric Waste Oil as Petroleum Oil
-----	-----	-----	-----
		ppm	ppm
T402011	STMW-1	5.0	<5.0
T402012	STMW-2	5.0	<5.0
T402013	STMW-3	5.0	<5.0

QA/QC: Freon Blank is none detected.
84% Matrix Spike Recovery T402011
93% Duplicate Spike Recovery

Note: Analysis was performed by standard EPA methods 3510/5520
ppm = mg/L

ARGON MOBILE LABS

Hiram Cueto

Hiram Cueto
Lab Director

CHAIN OF CUSTODY RECORD

ppoc

PROJ. NO.		NAME				CON-TAINER	ANALYSES REQUESTED (3)	TPHG/BTEX	TPHA	TO&G	REMARKS
11-92-528-ST		3800 First st. LIVERMORE									
SAMPLERS: (Signature)											
NO.	DATE	TIME	SOIL	WATER	LOCATION						
1	2/23/94	15 ¹⁵		✓	STMW-1	4	✓	✓	✓		
2	2/23/94	15 ²³		✓	STMW-2	4	✓	✓	✓		
3	2/23/94	15 ⁴²		✓	STMW-3	4	✓	✓	✓		

Relinquished by: (Signature) <i>N. Amato</i>	Date / Time 2/23/94 15 ⁵⁰	Received by: (Signature) <i>Wm. Goto</i>	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
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	



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