

File No. 8-90-418-SI

ST 10 177

S21000-2 7:20

QUARTERLY GROUNDWATER MONITORING AND
SAMPLING FOR KAMUR INDUSTRIES CAR WASH
LOCATED AT 2351 SHORE LINE DRIVE
ALAMEDA, CALIFORNIA
FEBRUARY 5, 1992

PREPARED FOR:
KAMUR INDUSTRIES
2351 SHORE LINE DRIVE
ALAMEDA, CALIFORNIA 94501

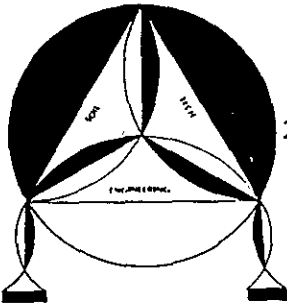
BY:
SOIL TECH ENGINEERING, INC.
298 BROKAW ROAD
SANTA CLARA, CALIFORNIA 95050

SOIL TECH ENGINEERING, INC.

TABLE OF CONTENTS

Page No.

LETTER OF TRANSMITTAL	1-2
INTRODUCTION	3
BACKGROUND	3-5
FIELD ACTIVITIES	
Groundwater Monitoring	5
Groundwater Sampling	6
CHEMICAL ANALYSIS AND RESULTS	6-7
GROUNDWATER FLOW DIRECTION	7
SUMMARY	8
RECOMMENDATION	8
LIMITATIONS	9
SCHEDULE	9
TABLE 1 - GROUNDWATER MONITORING DATA	10
TABLE 2 - GROUNDWATER ANALYTICAL RESULTS	11-12
APPENDIX "A"	
Figure 1 - Vicinity Map	13
Figure 2 - Site Plan	14
Figure 3 - Groundwater Flow Direction	15
APPENDIX "B"	
Groundwater Sampling	16
APPENDIX "C"	
ChromaLab, Inc. Laboratory Report with Chain-of-Custody	



SOIL TECH ENGINEERING

Soil, Foundation and Geological Engineers

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

February 5, 1992

File No. 8-90-418-SI

Kamur Industries, Inc.
2351 Shore Line Drive
Alameda, California 94501

ATTENTION: MR. MURRAY STEVENS

SUBJECT: QUARTERLY GROUNDWATER MONITORING AND SAMPLING
FOR KAMUR INDUSTRIES CAR WASH
Located at 2351 Shore Line Drive, in
Alameda, California

Dear Mr. Stevens:

This report presents the results of third quarterly ground-water sampling conducted by Soil Tech Engineering, Inc. (STE), on January 17, 1992, at the subject site (Figure 1).

Four monitoring wells (STMW-1 to STMW-4) are located on-site. See Figures 2 and 3 for the locations of the wells. This quarterly monitoring and sampling was conducted in accordance with STE's recommendations made in "Preliminary Subsurface Environmental Assessment", dated July 2, 1991. During this quarter's reporting period, the following field activities were performed:

File No. 8-90-418-SI

- Measured depth-to-groundwater in all wells.
- Purged each monitoring well prior to sampling.
- Sampled each monitoring well.
- Submitted water samples to a State-Certified laboratory for analysis.
- Reviewed results and prepared a report of the investigation.

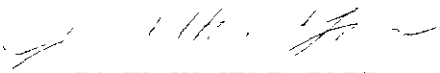
In addition, we have attached Figure 2, which shows the corrected direction of groundwater surveyed in October 1991. The direction of groundwater was inadvertently shown to be in southwest direction instead of northerly direction. Please include this Figure 2 in November 1991 quarterly report.


This report should be sent to Alameda County Health Department (ACHD) and the California Regional Water Quality Control Board (CRWQCB).

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

SOIL TECH ENGINEERING, INC.

QUARTERLY MONITORING AND SAMPLING REPORT
KAMUR INDUSTRIES, INC.
CAR WASH FACILITY
LOCATED AT 2351 SHORE LINE DRIVE
ALAMEDA, CALIFORNIA
FEBRUARY 5, 1992

INTRODUCTION:

This report presents the third quarterly groundwater monitoring and sampling program of the four on-site wells performed by Soil Tech Engineering, Inc. (STE), for Kamur Industries, Inc., car wash facility located at 2351 Shore Line Drive, in Alameda, California (Figure 1). The monitoring and sampling program was conducted in accordance with our recommendation described in STE's report, dated July 2, 1991.

BACKGROUND:

The site is located at 2351 Shore Line Drive, in Alameda, California (Figure 1). The site was formerly used as a gasoline service station and a car wash. In July 1990, three underground gasoline tanks (10,000 gallons each) were removed by Zacor Corporation. Soil sampling was conducted by Environmental Bio-Systems, Inc. (EBS). The soil sample analytical results taken beneath the underground tank showed high concentrations of Total Petroleum Hydrocarbons as gasoline (TPHg), which ranged from 360 parts per million (ppm) to a maximum of 9,500 ppm.

In addition to tank removal, EBS Consultants used a hand auger to conduct additional shallow soil sampling from the undisturbed area surrounding the former tank excavation. The depth of the soil sampling ranged from 5.1 to 7.1 feet below ground surface. The undisturbed soil analytical results showed moderate levels of TPHg and BTEX. No groundwater investigation was conducted by EBS.

Alameda County Health Care Services--Department of Environmental Health (ACHCS-DEH) requested a preliminary soil/groundwater investigation including the removal of contaminated soil and the further delineation of the extent of petroleum hydrocarbons in the soil and groundwater.

In August 1990, Kamur Industries, Inc., retained STE to conduct further investigation as requested by the ACHCS-DEH. STE prepared a work plan (dated August 30, 1990) to conduct further investigation for local agency approval. STE performed a preliminary subsurface investigation in February and March 1991 which were as follows:

- Task 1: Removed contaminated soil to the depth feasible and arranged for its proper disposal.
- Task 2: Drilled ten exploratory borings.
- Task 3: Installed four monitoring wells.

The preliminary investigation is described in STE's report, dated July 2, 1991, entitled "Preliminary Subsurface Environmental Assessment at Kamur Industries, Inc., Car Wash. . ." The report recommended quarterly monitoring and sampling of the four on-site wells.

In July 1991, quarterly groundwater monitoring and sampling of the four wells (STMW-1 to STMW-4) were initiated. The results of the first quarterly sampling are summarized in STE's report, dated July 30, 1991. The second quarterly sampling was conducted in October 1991, and the results are summarized in STE's report dated November 12, 1991.

FIELD ACTIVITIES:

GROUNDWATER MONITORING:

The four on-site wells (STMW-1 to STMW-4) were monitored on January 17, 1992, using an electronic probe capable of measuring free-floating product and determining depth-to-water. Blackish petroleum sheen and a strong petroleum odor was detected in well STMW-1 and STMW-3 only during field observation. Table 1 summarizes the monitoring data.

The elevation data indicated that the groundwater flow direction beneath the site was in northerly direction as of January 17, 1992 (Figure 3).

GROUNDWATER SAMPLING:

On January 17, 1992, following visual groundwater monitoring, each well was purged and sampled in accordance with STE's Standard Operation Procedures (Appendix "B"), which follows state and local agency guidelines. The samples were submitted for analysis to a state-certified laboratory, accompanied by a chain-of-custody record.

The groundwater extracted from the wells during purging and sampling process was stored in 55-gallons drums and remain on-site pending proper disposal.

CHEMICAL ANALYSIS AND RESULTS:

The samples were analyzed for Total Petroleum Hydrocarbons as gasoline (TPHg), Benzene, Toluene, Ethylbenzene and Xylenes (BTEX), per EPA Methods 5030 and 8015. The samples were also analyzed for Volatile Organic Compounds (VOC) per EPA Methods 601. Water sample STMW-3 was analyzed for Total Petroleum Hydrocarbons as diesel (TPHd) and Total Oil and Grease (TOG).

Well STMW-2 continue to showed TPHg, Toluene, Ethylbenzene and Xylenes below detection limit. The Benzene level in STMW-2 was also below detection limit. Low to moderate concentrations of TPHg were detected in wells STMW-1, STMW-3 and STMW-4, ranging from 0.06 milligrams per liter (mg/L) to a maximum of 390 mg/L. Benzene levels in three wells (STMW-1, STMW-3 and STMW-4) ranged from

File No. 8-90-418-SI

0.0008 mg/L to a maximum of 21 mg/L. Ethylbenzene concentrations ranged from 0.0005 mg/L to 6.4 mg/L; Toluene levels ranged from 0.0024 mg/L to 41 mg/L and Xylenes were 0.004 mg/L to 47 mg/L, respectively. TPH as diesel was not detected in well STMW-3, and the TOG concentration in well STMW-3 was 7.9 mg/L.

No Volatile Organic Compounds were detected in wells STMW-1, STMW-3 and STMW-4. Well STMW-2 showed two VOC's compounds which were Trichloroethene (0.0028 mg/L) and Tetrachloroethene (0.011 mg/L).

The analytical results are summarized in Table 2. The laboratory results and chain-of-custody records are in Appendix "C".

GROUNDWATER FLOW DIRECTION:

Per your request, the groundwater measured from the new reference point which has been established by other consultant. The elevation data indicated that the groundwater flow direction beneath the site was in northerly direction as of January 17, 1992 (Figure 3).

In addition, Figure 2 shows the corrected groundwater flow direction surveyed in October 1991, which was inadvertently determined to be in the south-southwesterly direction.

SUMMARY:

A comparison of the recent results with the last quarter (October 1991) results showed an increase in the concentrations of TPHg and Ethylbenzene in wells STMW-1 and STMW-3. Well STMW-4 showed a substantial decrease in TPHg and BTEX levels. Well STMW-2 continued to show non-detectable levels of TPHg, Toluene, Ethylbenzene and Xylenes, but Benzene increased slight from non-detectable to 0.004 mg/L. TOG concentrations in well STMW-3 decrease from 20 mg/L to 7.9 mg/L. The two VOC's compounds levels detected in the well STMW-2 decreased substantially compared to July 1991 results.

RECOMMENDATION:

Based on the recent analytical data obtained from sampling, STE recommends continuing the current quarterly monitoring and sampling of the on-site wells for one more quarter as recommended in STE's preliminary site assessment, dated July 2, 1991. At the end of the fourth quarter the program will be re-evaluated to determine a need for further investigation.

A copy of this report should be sent to Alameda County Health Department and to California Regional Water Quality Control Board, San Francisco Bay Region.

File No. 8-90-418-SI

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.

SCHEDULE:

The next monitoring and sampling will be conducted in April 1992.

TABLE 1
GROUNDWATER MONITORING DATA

Date	Well No.	Well Head Elevation (feet)	Depth-to Water (feet)	Water Elevation (feet)	Petroleum Thickness	Petroleum Odor
7/8/91	STMW-1	99.46	7.54	91.92	Sheen	Strong
	STMW-2	98.12	6.23	91.89	ND	ND
	STMW-3	99.90	7.96	91.94	ND	Mild
	STMW-4	98.78	6.90	91.88	ND	ND
10/21/91	STMW-1	99.46	7.63	91.83	L. Sheen	Strong
	STMW-2	98.12	6.33	91.79	ND	ND
	STMW-3	99.90	<u>7.83</u>	92.07	Sheen	Strong
	STMW-4	98.78	<u>6.54</u>	92.24	ND	ND
1/17/92*	STMW-1	8.10	6.96	1.14	Sheen	Strong
	STMW-2	7.01	5.69	1.32	ND	ND
	STMW-3	8.33	6.71	1.62	Sheen	Strong
	STMW-4	7.45	6.00	1.45	ND	ND

ND = Not Detected

* Well casing elevation surveyed by the other consultant.

**TABLE 2
GROUNDWATER ANALYTICAL RESULTS**

I. Dissolved Petroleum Hydrocarbons in Milligrams Per Liter (mg/L)

Well No.	Date	TPHg	TPHd	B	T	E	X	TOG
STMW-1	4/5/91	180	NA	11	20	3.2	18	NA
	7/4/91	58	NA	14	7	2.7	8.3	NA
	10/21/91	112.6	NA	19.6	19	ND	26.4	NA
	1/17/92	160	NA	16	6.8	2.6	16	NA
STMW-2	4/5/91	ND	NA	ND	ND	ND	ND	NA
	7/4/91	ND	NA	ND	ND	ND	ND	NA
	10/21/91	ND	NA	0.004	ND	ND	ND	NA
	1/17/92	ND	NA	ND	ND	ND	ND	NA
STMW-3	4/5/91	260	NA	20	34	3.6	19	NA
	7/4/91	66	11	11	17	1.9	8.9	ND
	10/21/91	165	ND	48.5	19	ND	46	20
	1/17/92	390	ND	21	41	6.4	47	7.9
STMW-4	4/5/91	ND	NA	0.3	0.3	ND	0.7	NA
	7/4/91	ND	NA	ND	ND	ND	ND	NA
	10/21/91	0.186	NA	0.011	0.005	ND	0.037	NA
	1/17/92	0.06	NA	0.0008	0.0024	0.0005	0.004	NA

TPHg = Total Petroleum Hydrocarbons as gasoline

TPHd = Total Petroleum Hydrocarbons as diesel

BTEX = Benzene, Toluene, Ethylbenzene, Xylenes

NA = Not Analyzed

ND = Not Detected (Below Detection Limit)

TABLE 2 CONT'D
GROUNDWATER ANALYTICAL RESULTS

II. Volatile Organic Compounds (VOC's) Results

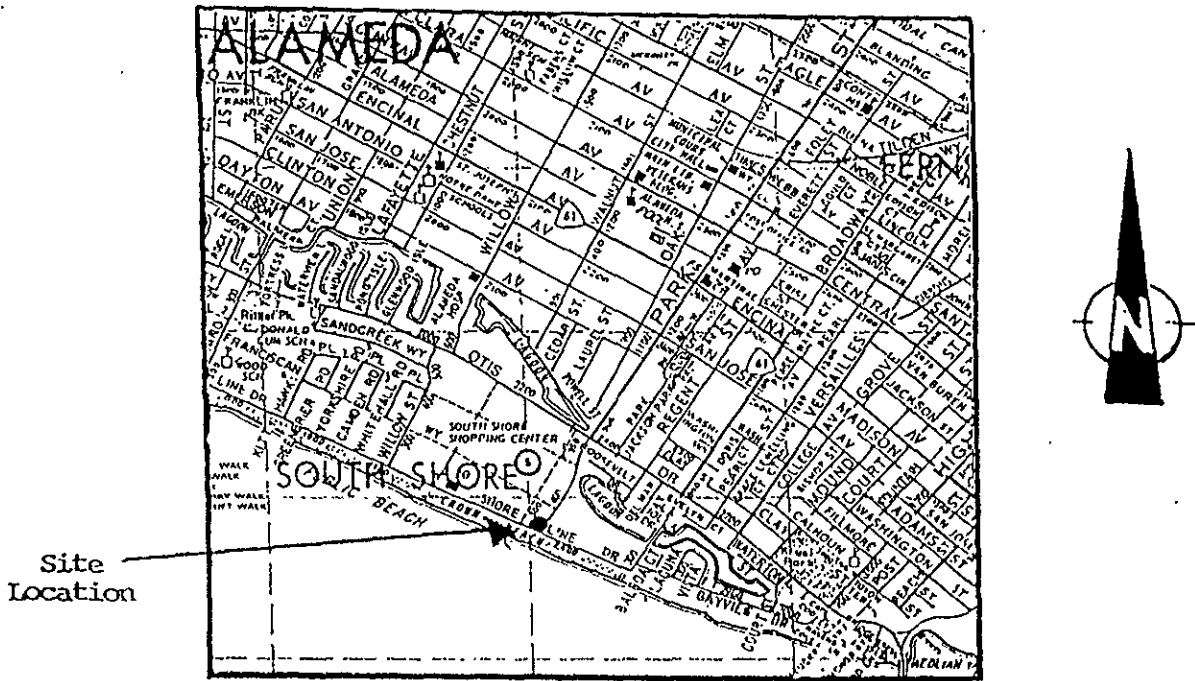
Date	Monitoring Well No.	VOC Compounds Detected Per EPA Method 8010 Results in Parts Per Billion (ppb)	DHS-DWS (ppb)
4/5/91	STMW-1	1,2-Dichloroethane	350
		Trichloroethylene	4
		1,1,2-Trichloroethane (PEC)	0.5
		Tetrachloroethene	0.9
		cis-1,2-Dichloroethene	1
7/4/91	STMW-1	1,2-Dichloroethane	290
10/21/91	STMW-1	Carbon Tetrachloride	
1/17/92	STMW-1	None Detected	
4/5/91	STMW-2	1,2-Dichloroethane	8
		Trichloroethylene	4
		Tetrachloroethene	27
7/4/91	STMW-2	Trichloroethene (Trichloroethylene)	1.3
		Tetrachloroethene	18
10/21/91	STMW-2	None Detected	
1/17/92	STMW-2	Trichloroethene	0.0028
		Tetrachloroethene	0.011
4/5/91	STMW-3	1,2-Dichloroethane	450
7/4/91	STMW-3	Methylene Chloride	9
		Trichloroethene (Trichloroethylene)	230
10/21/91	STMW-3	Carbon Tetrachloride	40
1/17/92	STMW-3	None Detected	
4/5/91	STMW-4	None Detected	
7/4/91	STMW-4	None Detected	
10/21/91	STMW-4	None Detected	
1/17/92	STMW-4	None Detected	

DHS-DWS = Department of Health Services--Drinking Water Standards

File No. 8-90-418-SI

A P P E N D I X "A"

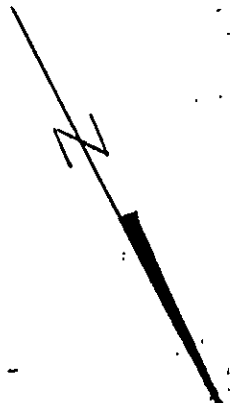
SOIL TECH ENGINEERING, INC.



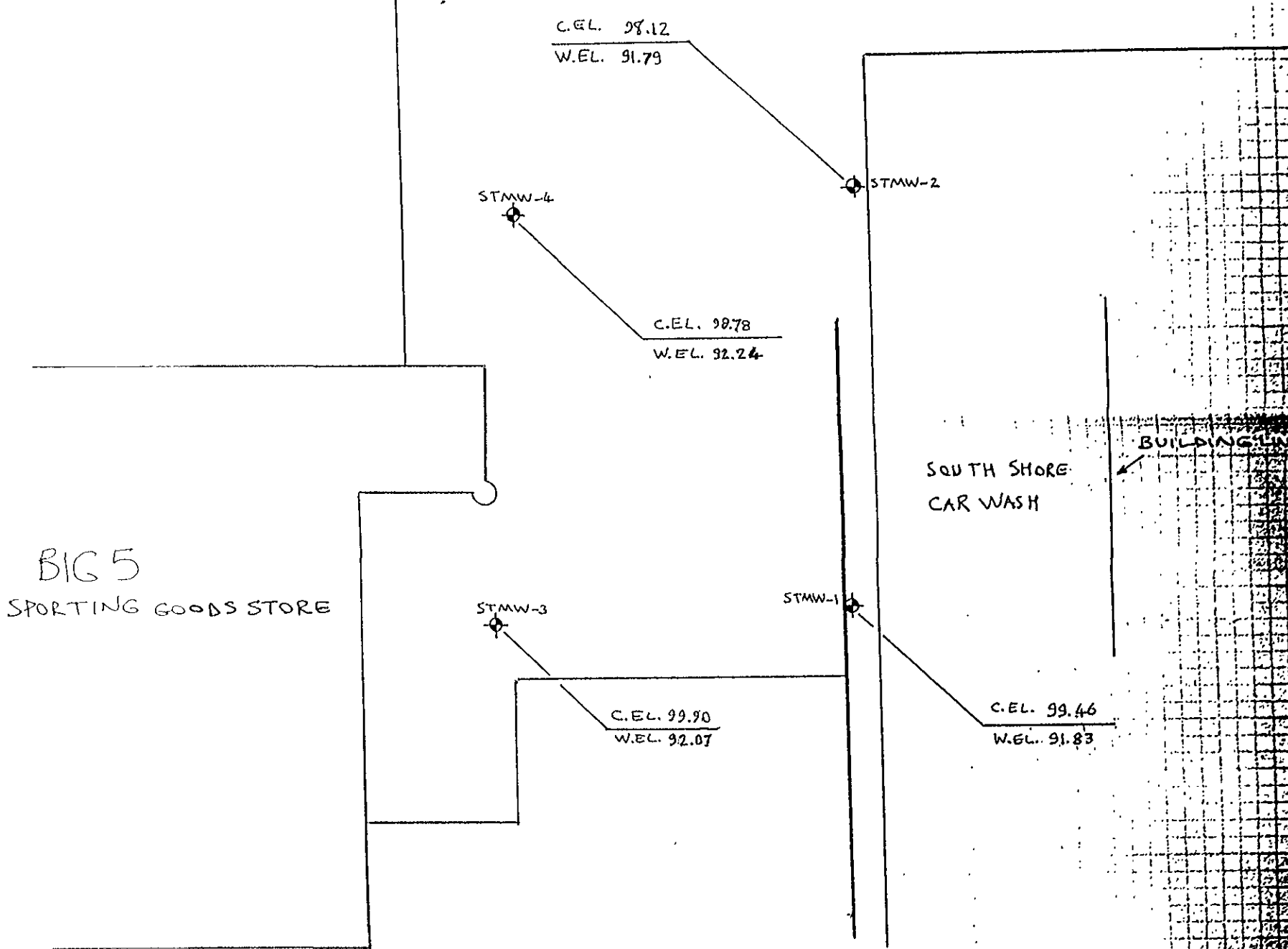
Thomas Brothers Map 1982 Edition
Alameda - Contra Costa Counties Map

Figure 1

SHORE LINE DR

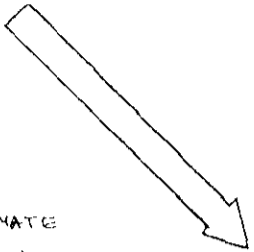
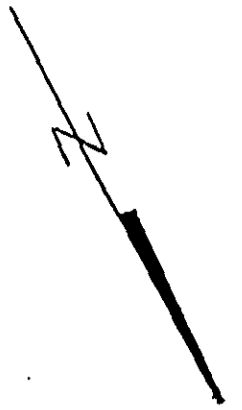


CORRECTED
APPROXIMATE
DIRECTION OF
GROUND WATER
FLOW AS 10-21-91

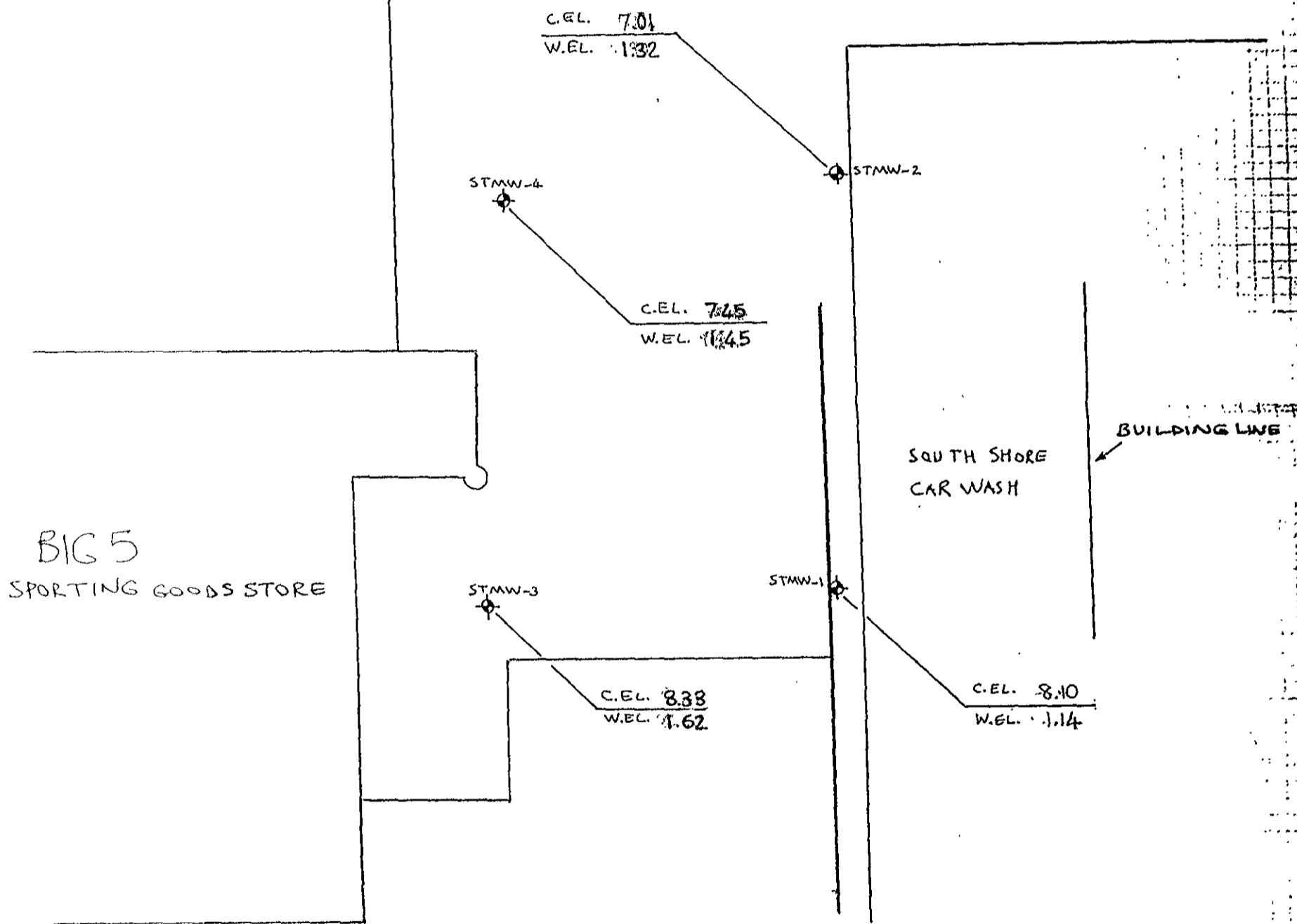


2351 SHORE LINE DR ALAMEDA CA		
$i=30'$	PROJECT NO 8-90-418-S1	FIG-2
DRAWN BY N.A.		10-21-91
SOILTECH ENGINEERING INC. 298 BROKAW RD. SANTA CLARA CA 95050		

SHORE LINE DR



APPROXIMATE
DIRECTION OF
GROUND WATER
FLOW AS 1-17-92



NOT:
NEW WELL ELEVATIONS ARE TIED
WITH THE OFFSITE WELL ELEVATIONS.

2351 SHORE LINE DR ALAMEDA CA		
$i=30'$	PROJECT NO 8-90-418-S1	FIG-3
DRAWN BY N.A.		1-17-92
SOILTECH ENGINEERING INC. 298 BROKAW RD. SANTA CLARA CA 95050		

File No. 8-90-418-SI

A P P E N D I X "B"

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.

File No. 8-90-418-SI

A P P E N D I X "C"

SOIL TECH ENGINEERING, INC.

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

January 29, 1992

ChromaLab File No.: 0192159

SOIL TECH ENGINEERING

Attn: Noori Ameli

RE: Four water samples for Gasoline/BTEX, Diesel and Oil & Grease analyses

Project Name: 2351 SHORELINE DR. ALAMEDA

Project Number: 8-90-418-SI

Date Sampled: Jan. 17, 1992

Date Submitted: Jan. 21, 1992

Date Extracted: Jan. 27, 1992

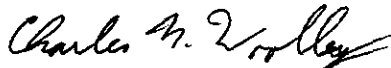
Date Analyzed: Jan. 27, 1992

RESULTS:

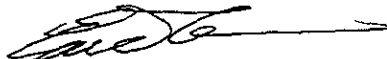
Sample I.D.	Gasoline ($\mu\text{g/L}$)	Diesel ($\mu\text{g/L}$)	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethyl Benzene ($\mu\text{g/L}$)	Total Xylenes ($\mu\text{g/L}$)	Oil & Grease (mg/L)
STMW-1	160000	----	16000	6800	2600	16000	----
STMW-2	N.D.	----	N.D.	N.D.	N.D.	N.D.	----
STMW-3	390000	N.D.*	21000	41000	6400	47000	7.9
STMW-4	60	----	0.8	2.4	0.5	4.0	----
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE REC.	89%	107%	88%	107%	102%	114%	----
DET. LIMIT	50	250*	0.5	0.5	0.5	0.5	0.5
METHOD OF ANALYSIS	5030/ 8015	3510/ 8015	602	602	602	602	5520 B/F

*High detection limit due to presence of gasoline in sample.

ChromaLab, Inc.



Charles Woolley
Analytical Chemist



Eric Tam
Laboratory Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

January 28, 1992

ChromaLab File # 0192159 A

Client: Soil Tech Engineering

Attn: Noori Ameli

Date Sampled: Jan. 17, 1992

Date Submitted: Jan. 21, 1992

Date of Analysis: Jan. 27, 1992

Project No.: 8-90-418-SI

Sample I.D.: STMW-1


Method of Analysis: 601

Detection Limit: 50 µg/l*

COMPOUND NAME	µg/l	Spike Recovery	
CHLOROMETHANE	N.D.	---	---
VINYL CHLORIDE	N.D.	---	---
BROMOMETHANE	N.D.	---	---
CHLOROETHANE	N.D.	---	---
TRICHLOROFLUOROMETHANE	N.D.	96.5%	93.2%
1,1-DICHLOROETHENE	N.D.	---	---
METHYLENE CHLORIDE	N.D.	---	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---	---
1,1-DICHLOROETHANE	N.D.	---	---
CHLOROFORM	N.D.	92.1%	93.7%
1,1,1-TRICHLOROETHANE	N.D.	---	---
CARBON TETRACHLORIDE	N.D.	---	---
1,2-DICHLOROETHANE	N.D.	---	---
TRICHLOROETHENE	N.D.	---	---
1,2-DICHLOROPROPANE	N.D.	---	---
BROMODICHLOROMETHANE	N.D.	---	---
2-CHLOROETHYLVINYLEETHER	N.D.	---	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---	---
CIS-1,3-DICHLOROPROPENE	N.D.	---	---
1,1,2-TRICHLOROETHANE	N.D.	95.8%	96.7%
TETRACHLOROETHENE	N.D.	---	---
DIBROMOCHLOROMETHANE	N.D.	---	---
CHLOROENZENE	N.D.	---	---
BROMOFORM	N.D.	---	---
1,1,2,2-TETRACHLOROETHANE	N.D.	---	---
1,3-DICHLOROENZENE	N.D.	---	---
1,4-DICHLOROENZENE	N.D.	---	---
1,2-DICHLOROENZENE	N.D.	94.2%	95.0%

*High detection limit due to presence of high gasoline in sample.

ChromaLab, Inc.



Yiu Tam
Analytical Chemist



Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

January 28, 1992

ChromaLab File # 0192159 D

Client: Soil Tech Engineering

Attn: Noori Ameli

Date Sampled: Jan. 17, 1992

Date Submitted: Jan. 21, 1992

Date of Analysis: Jan. 27, 1992

Project No.: 8-90-418-SI

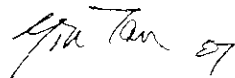
Sample I.D.: STMW-4

Method of Analysis: 601

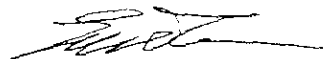
Detection Limit: 0.5 µg/l

<u>COMPOUND NAME</u>	<u>µg/l</u>	<u>Spike Recovery</u>	
CHLOROMETHANE	N.D.	---	---
VINYL CHLORIDE	N.D.	---	---
BROMOMETHANE	N.D.	---	---
CHLOROETHANE	N.D.	---	---
TRICHLOROFLUOROMETHANE	N.D.	96.5%	93.2%
1,1-DICHLOROETHENE	N.D.	---	---
METHYLENE CHLORIDE	N.D.	---	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---	---
1,1-DICHLOROETHANE	N.D.	---	---
CHLOROFORM	N.D.	92.1%	93.7%
1,1,1-TRICHLOROETHANE	N.D.	---	---
CARBON TETRACHLORIDE	N.D.	---	---
1,2-DICHLOROETHANE	N.D.	---	---
TRICHLOROETHENE	N.D.	---	---
1,2-DICHLOROPROPANE	N.D.	---	---
BROMODICHLOROMETHANE	N.D.	---	---
2-CHLOROETHYLVINYLEETHER	N.D.	---	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---	---
CIS-1,3-DICHLOROPROPENE	N.D.	---	---
1,1,2-TRICHLOROETHANE	N.D.	95.8%	96.7%
TETRACHLOROETHENE	N.D.	---	---
DIBROMOCHLOROMETHANE	N.D.	---	---
CHLOROENZENE	N.D.	---	---
BROMOFORM	N.D.	---	---
1,1,2,2-TETRACHLOROETHANE	N.D.	---	---
1,3-DICHLOROENZENE	N.D.	---	---
1,4-DICHLOROENZENE	N.D.	---	---
1,2-DICHLOROENZENE	N.D.	94.2%	95.0%

ChromaLab, Inc.



Yiu Tam
Analytical Chemist



Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

January 28, 1992

ChromaLab File # 0192159 C

Client: Soil Tech Engineering

Attn: Noori Ameli

Date Sampled: Jan. 17, 1992

Date Submitted: Jan. 21, 1992

Date of Analysis: Jan. 27, 1992

Project No.: 8-90-418-SI

Sample I.D.: STMW-3

Method of Analysis: 601

Detection Limit: 50 µg/l*

COMPOUND NAME	µg/l	Spike Recovery	
CHLOROMETHANE	N.D.	---	---
VINYL CHLORIDE	N.D.	---	---
BROMOMETHANE	N.D.	---	---
CHLOROETHANE	N.D.	---	---
TRICHLOROFLUOROMETHANE	N.D.	96.5%	93.2%
1,1-DICHLOROETHENE	N.D.	---	---
METHYLENE CHLORIDE	N.D.	---	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---	---
1,1-DICHLOROETHANE	N.D.	---	---
CHLOROFORM	N.D.	92.1%	93.7%
1,1,1-TRICHLOROETHANE	N.D.	---	---
CARBON TETRACHLORIDE	N.D.	---	---
1,2-DICHLOROETHANE	N.D.	---	---
TRICHLOROETHENE	N.D.	---	---
1,2-DICHLOROPROPANE	N.D.	---	---
BROMODICHLOROMETHANE	N.D.	---	---
2-CHLOROETHYLVINYLEETHER	N.D.	---	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---	---
CIS-1,3-DICHLOROPROPENE	N.D.	---	---
1,1,2-TRICHLOROETHANE	N.D.	95.8%	96.7%
TETRACHLOROETHENE	N.D.	---	---
DIBROMOCHLOROMETHANE	N.D.	---	---
CHLOROBENZENE	N.D.	---	---
BROMOFORM	N.D.	---	---
1,1,2,2-TETRACHLOROETHANE	N.D.	---	---
1,3-DICHLOROBENZENE	N.D.	---	---
1,4-DICHLOROBENZENE	N.D.	---	---
1,2-DICHLOROBENZENE	N.D.	94.2%	95.0%

*High detection limit due to presence of high gasoline in sample.

ChromaLab, Inc.



Yiu Tam
Analytical Chemist



Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

January 28, 1992

ChromaLab File # 0192159 B

Client: Soil Tech Engineering

Attn: Noori Ameli

Date Sampled: Jan. 17, 1992

Date Submitted: Jan. 21, 1992

Date of Analysis: Jan. 27, 1992

Project No.: 8-90-418-SI

Sample I.D.: STMW-2

Method of Analysis: 601

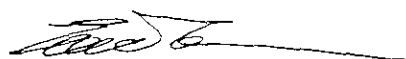
Detection Limit: 0.5 µg/l

COMPOUND NAME	µg/l	Spike Recovery	
CHLOROMETHANE	N.D.	---	---
VINYL CHLORIDE	N.D.	---	---
BROMOMETHANE	N.D.	---	---
CHLOROETHANE	N.D.	---	---
TRICHLOROFLUOROMETHANE	N.D.	96.5%	93.2%
1,1-DICHLOROETHENE	N.D.	---	---
METHYLENE CHLORIDE	N.D.	---	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---	---
1,1-DICHLOROETHANE	N.D.	---	---
CHLOROFORM	N.D.	92.1%	93.7%
1,1,1-TRICHLOROETHANE	N.D.	---	---
CARBON TETRACHLORIDE	N.D.	---	---
1,2-DICHLOROETHANE	N.D.	---	---
TRICHLOROETHENE	2.8	---	---
1,2-DICHLOROPROPANE	N.D.	---	---
BROMODICHLOROMETHANE	N.D.	---	---
2-CHLOROETHYLVINYLEETHER	N.D.	---	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---	---
CIS-1,3-DICHLOROPROPENE	N.D.	---	---
1,1,2-TRICHLOROETHANE	N.D.	95.8%	96.7%
TETRACHLOROETHENE	11	---	---
DIBROMOCHLOROMETHANE	N.D.	---	---
CHLOROBENZENE	N.D.	---	---
BROMOFORM	N.D.	---	---
1,1,2,2-TETRACHLOROETHANE	N.D.	---	---
1,3-DICHLOROBENZENE	N.D.	---	---
1,4-DICHLOROBENZENE	N.D.	---	---
1,2-DICHLOROBENZENE	N.D.	94.2%	95.0%

ChromaLab, Inc.



Yiu Tam
Analytical Chemist



Eric Tam
Lab Director

PROJ NO 8-20-418-3] NAME 2351 Shoreline Dr. Alameda

SAMPLERS (Signature) [Signature]

CON-TAINER

ANALYSES REQUESTED @ TPKG/BTEX 8010 TPHD TORG

REMARKS

Table with columns: NO, DATE, TIME, SOIL, WATER, LOCATION, CON-TAINER, ANALYSES REQUESTED @ TPKG/BTEX 8010 TPHD TORG, REMARKS. Contains 4 rows of data for STMW-1 to STMW-4.

Relinquished by (Signature) Date / Time Received by: (Signature) Relinquished by: (Signature) Date / Time Receive 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 N.T.A



SOIL TECH ENGINEERING

Soil, Foundation and Geological Engineers

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

CHAIN OF CUSTODY RECORD

CHROMA

PROJ NO. 8-90-418-S1 NAME 2351 Shoreline Dr. Alameda

SAMPLERS (Signature) *[Signature]*

ANALYSES REQUESTED
 TPHG/BTEX
 VOIOLX
 TPHD
 TO&G

CHROMALAB FILE # 192159
 ORDER # 5171

NO	DATE	TIME	SOIL		LOCATION	CON-TAINER	ANALYSES REQUESTED									
			SOIL	WATER			TPHG/BTEX	VOIOLX	TPHD	TO&G						
1	1/17/92	10 ³²		✓	STMW-1	5	✓	✓								
2	1/17/92	10 ³²		✓	STMW-2	5	✓	✓								
3	1/17/92	11 ¹⁵		✓	STMW-3	5	✓	✓	✓	✓						
4	1/17/92	11 ⁴⁵		✓	STMW-4	5	✓	✓								

Relinquished by (Signature) <i>[Signature]</i>	Date / Time 1/21/92 10:07	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 by: (Signature)
Relinquished by (Signature)	Date / Time	Received for Laboratory by: (Signature) <i>[Signature]</i>	Date / Time 1/21 1007	Remarks N.T.A	



SOIL TECH ENGINEERING

Soil, Foundation and Geological Engineers

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