

File No. 8-90-421-SI

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QUARTERLY GROUNDWATER MONITORING  
AND SAMPLING FOR KAMUR INDUSTRIES  
AT PLAZA CAR WASH  
LOCATED AT 400 SAN PABLO AVENUE  
ALBANY, CALIFORNIA  
MAY 27, 1992

PREPARED FOR:  
KAMUR INDUSTRIES  
2351 SHORELINE DRIVE  
ALAMEDA, CALIFORNIA 94501

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

SOIL TECH ENGINEERING, INC.

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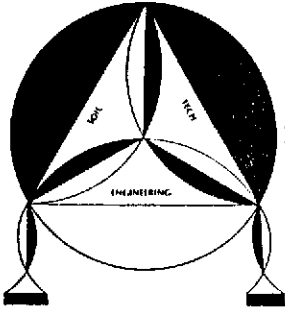
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GeoChem Labs Analytical Report and Chain-of-Custody Record



# SOIL TECH ENGINEERING

*Soil, Foundation and Geological Engineers*

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

May 27, 1992

File No. 8-90-421-SI

Kamur Industries  
2351 Shoreline Drive  
Alameda, California 94501

ATTENTION: MR. MURRAY STEVENS

SUBJECT: QUARTERLY GROUNDWATER MONITORING AND SAMPLING  
FOR KAMUR INDUSTRIES AT PLAZA CAR WASH  
Located at 400 San Pablo Avenue, in  
Albany, California

Dear Mr. Stevens:

This report presents the results of the fourth quarterly groundwater monitoring and sampling conducted by Soil Tech Engineering, Inc. (STE), on May 7, 1992, at the subject site (Figure 1).

#### BACKGROUND:

Currently there are four monitoring wells (MW-2, MW-3, STMW-1 and STMW-2) located on-site and one well OTMW-5 is off-site (See Figure 2). Wells STMW-1 and STMW-2 were installed by STE, on-site wells MW-2, MW-3 and off-site well OTMW-5 were installed by other consultant. This quarterly well monitoring and sampling was conducted in accordance with STE's recommendations made in "Report of

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Supplemental Subsurface Investigations", dated May 14, 1991. During this quarter's reporting period, the following field activities were performed:

- Monitored the depth to water in all shallow groundwater wells.
- Purged each monitoring well prior to sampling.
- Submitted water samples to a state-certified laboratory to be analyzed for Total Petroleum Hydrocarbons as gasoline (TPHg) and for aromatic hydrocarbons: Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX).
- Reviewed results and prepared a report of the investigation.

**GROUNDWATER MONITORING:**

May 7, 1992, STE staff monitored the four on-site wells and one off-site well to measure water depth and check for the presence of free floating petroleum product (FFP) and/or petroleum odor. Light sheen was noted in well MW-3 only. After purging the wells, no sheen was noted. Table 1 summarizes the depth to groundwater measurements and observations made. Static groundwater levels were at depths of 4.42 to 5.80 feet beneath ground surface during the recent sampling event.

**GROUNDWATER SAMPLING:**

Following groundwater monitoring, each well was purged at least four well volumes and sampled in accordance with STE's

Standard Operating Procedures (see Appendix "B"), which follows state and local guidelines for sampling and monitoring wells. The samples were submitted for analysis to a California State-Certified laboratory, accompanied by chain-of-custody. The samples were analyzed for TPHg and for BTEX per modified EPA Methods 5030/8025 and 602.

**GROUNDWATER FLOW:**

The water elevation data were used to determine groundwater direction. Table 1 summarize the groundwater elevations. The groundwater flow direction beneath the site was in northwest direction as of May 7, 1992 (Figure 2).

**ANALYTICAL RESULTS:**

All wells continued to show the presence of petroleum hydrocarbon constituents analyzed. TPHg ranged from 0.18 milligrams per liter (mg/L) in well OTMW-5 to a maximum of 43 mg/L in well MW-3; Benzene ranged from 0.027 mg/L in well OTMW-5 to 0.25 mg/L in well MW-3; Toluene concentration ranged from 0.014 to 0.23 mg/L; Ethylbenzene ranged from 0.004 to 0.12 mg/L; and Xylenes ranged from 0.035 to 0.47 mg/L, respectively.

The analytical results are presented in Table 2. The chain-of-custody records and certified analytical report are included in Appendix "C".

**DISCUSSION:**

A comparison of the recent analytical results with the January 20, 1992 results showed a decrease in TPHg concentrations in wells STMW-1 (from 4.6 to 4.4 mg/L); STMW-2 (from 14 to 1.7 mg/L) and MW-3 (from 510 to 43 mg/L), and an increase in TPHg concentrations in wells MW-2 (from 0.38 to 10 mg/L) and OTMW-5 (from 0.09 to 0.18 mg/kg).

Benzene concentrations decreased in this quarter in wells STMW-1, STMW-2, MW-2 and MW-3, but increased in well OTMW-5 (from 0.0007 to 0.027 mg/L). Toluene and Ethylbenzene levels showed a slight increase in wells STMW-1, STMW-2, MW-2 and OTMW-5, except in well MW-3, which showed a moderate decrease. Total Xylenes showed a decrease in wells STMW-1, STMW-2 and MW-3, except for wells MW-2 and OTMW-5, which showed a slight increase.

**RECOMMENDATION:**

On-site wells and off-site well monitoring and sampling should continue for four more quarters.

**LIMITATIONS:**

This report and the associated work have 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 report are based on:

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- 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.

The services that STE provided 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.

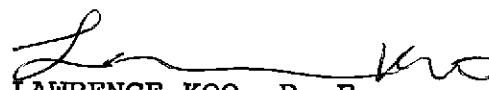
This report will be submitted to ACEHD and RWQCB with your approval.

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.

**TABLE 1  
GROUNDWATER MONITORING DATA  
(Measured in Feet)**

Well No./ Elevation	Date	Depth-to- Water	Groundwater Elevation	FFP Thickness	Petroleum Odor
STMW-1 (100.62)	3/11/91	5.29	95.33	None	None
	7/03/91	5.83	94.79	None	Mild
	11/04/91	5.83	94.79	None	Mild
	1/20/92	5.79	94.84	Light Sheen	Mild
	5/07/92	5.80	94.82	None	Mild
STMW-2 (100.63)	3/11/91	5.25	95.38	None	None
	7/03/91	4.75	95.88	None	Mild
	11/04/91	5.92	94.71	None	Mild
	1/20/92	5.88	94.75	None	Mild
	5/07/92	5.70	94.93	None	Mild
MW-2 (99.36)	3/11/91	4.29	95.07	None	Mild
	7/03/91	5.83	93.53	None	Strong
	11/04/91	4.79	94.57	None	Mild
	1/20/92	4.60	94.76	None	Mild
	5/07/92	4.42	94.94	None	Mild

FFP - Free Floating Product



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

Well No./ Elevation	Date	Depth-to- Water	Groundwater Elevation	FFP Thickness	Petroleum Odor
MW-3 (100.09)	3/11/91	4.67	95.42	Trace	Moderate
	7/03/91	5.75	94.34	Trace	Mild
	11/04/91	5.67	94.42	Trace	Strong
	1/20/92	5.54	94.55	Light Sheen	Strong
	5/07/92	5.18	94.91	Rainbow Sheen	Strong
OTMW-5 (100.87)	3/11/91	5.02	95.85	None	Mild
	7/03/91	5.75	95.12	None	Mild
	11/04/91	5.77	95.10	None	Mild
	1/20/92	5.58	95.29	None	Mild
	5/07/92	5.43	95.44	None	Mild

FFP - Free Floating Product

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

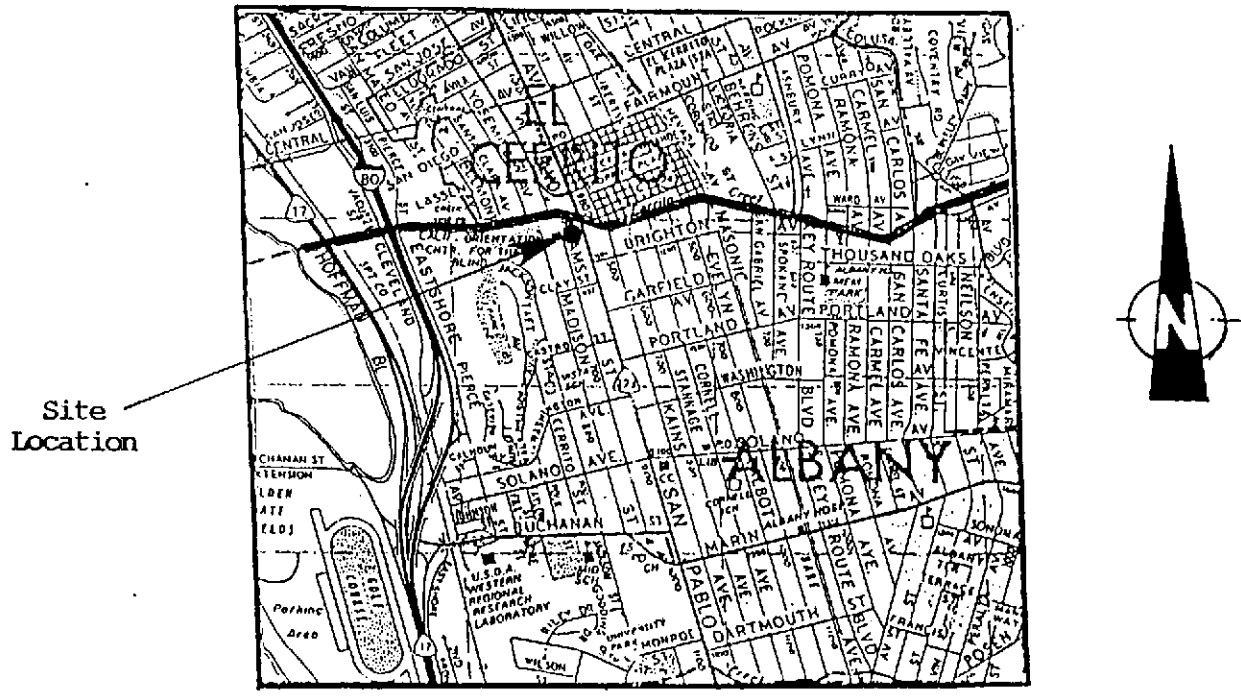
Well No.	Date	TPHg	B	T	E	X
STMW-1	3/13/91	0.85	0.1	0.007	ND	0.15
	7/03/91	5.1	1.8	0.5	0.095	0.56
	11/04/91	2.05	0.76	0.054	ND	0.056
	1/20/92	4.6	0.59	0.036	ND	0.19
	5/07/92	4.4	0.066	0.053	0.004	0.16
STMW-2	3/13/91	0.17	0.001	0.0017	ND	0.028
	7/03/91	1.8	0.64	0.048	0.044	0.094
	11/04/91	2.14	1.00	0.057	0.003	0.019
	1/20/92	14	0.12	0.0006	0.0006	0.08
	5/07/92	1.7	0.032	0.017	0.0086	0.048
MW-2	3/13/91	25.0	2.6	4.4	ND	5.8
	7/03/91	21.0	2.8	3.2	ND	4.3
	11/04/91	3.58	1.7	0.119	0.009	0.056
	1/20/92	0.38	0.38	0.0013	ND	0.034
	5/07/92	10.0	0.062	0.032	0.044	0.16

TPHg = Total Petroleum Hydrocarbons as gasoline  
 BTEX = Benzene, Toluene, Ethylbenzene, Xylenes  
 ND = Not Detected (Below Detection Limit)

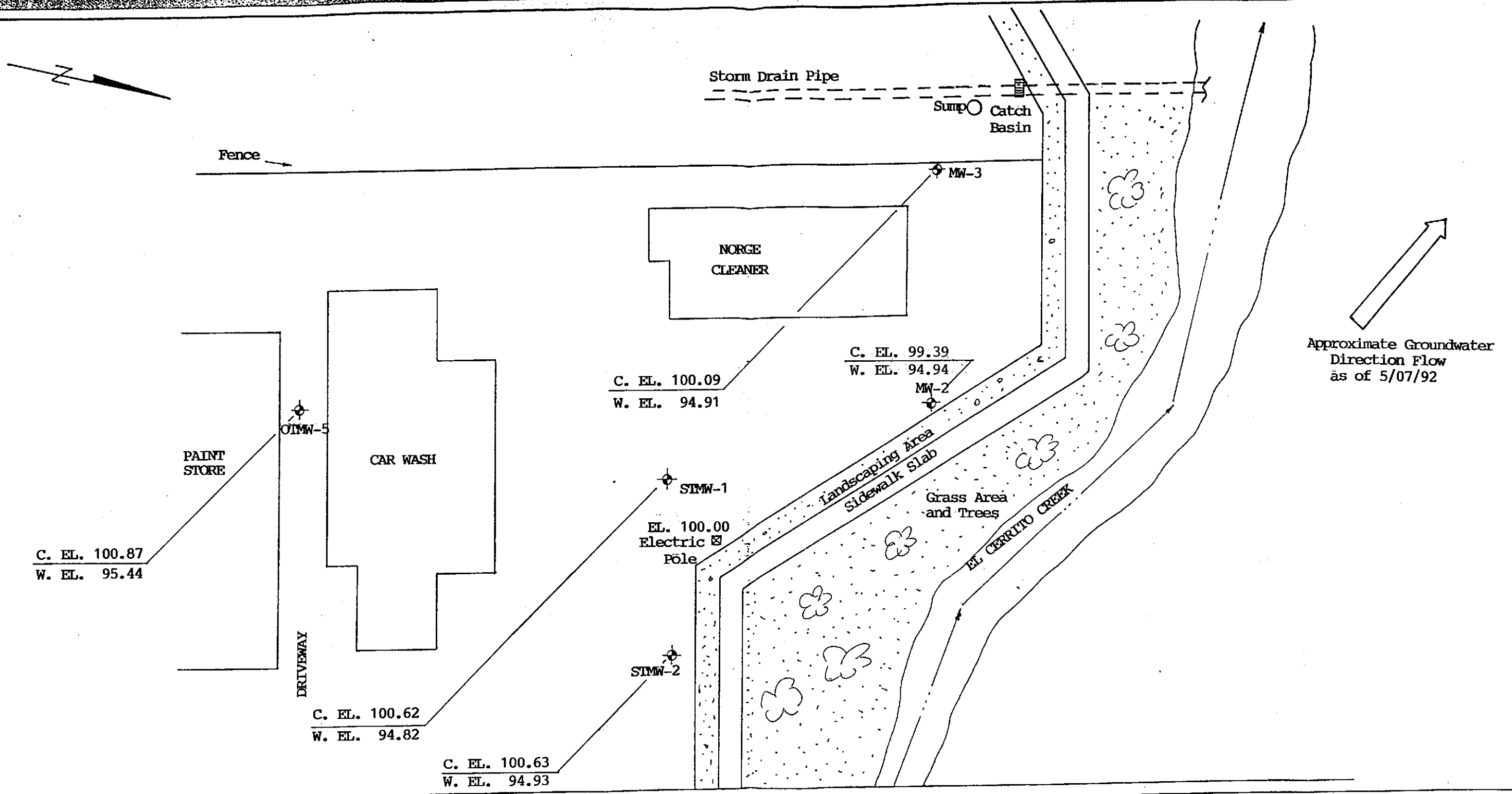
TABLE 2 CONT'D  
 WATER ANALYTICAL RESULTS  
 IN  
 MILLIGRAMS PER LITER (mg/L)

Well No.	Date	TPHg	B	T	E	X
MW-3	3/13/91	47.0	9.1	9.9	0.27	8.11
	7/03/91	40.0	12.0	4.5	1.2	4.0
	11/04/91	102.7	38.8	19.1	3.2	8.3
	1/20/92	510	27	27	5.8	46
	5/07/92	43.0	0.25	0.23	0.12	0.47
OTMW-5	3/13/91	0.12	0.046	0.012	0.001	0.004
	7/03/91	0.81	0.32	0.043	0.016	0.043
	11/04/91	0.97	0.100	0.019	0.005	0.013
	1/20/92	0.09	0.0007	0.0007	ND	0.011
	5/07/92	0.18	0.027	0.014	0.0082	0.035

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



THOMAS BROS. MAP 1982 EDITION  
ALAMEDA COUNTY  
PAGE 1 D2



Approximate Groundwater  
Direction Flow  
as of 5/07/92

DIRECTION OF GROUNDWATER FLOW		
400 SAN PABLO AVENUE, ALBANY, CALIFONRIA		
1" = 30'	PROJECT NO. 8-90-421-SI	FIGURE - 2
DRAWN BY N.A.		5-07-92
SOIL TECH ENGINEERING, INC. 298 BROKAW ROAD, SANTA CLARA, CA 95050		

### 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.



# GEOCHEM LABS

Precision Environmental Analytical Laboratory

PEL # 9205012

Date: May 13, 1992

SOIL TECH ENGINEERING

Attn: Noori Ameli

Re: Five water samples for Gasoline/BTEX analysis.

Project name: 400 San Pablo Ave. -Albany

Project number: 8-90-421-SI

Date sampled: May 07, 1992

Date submitted: May 11, 1992

Date extracted: May 11-12, 1992

Date analyzed: May 11-12, 1992

## RESULTS:

SAMPLE I.D.	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
MW-2	10000	62	32	44	160
MW-3	43000	250	230	120	470
OTMW-5	180	27	14	8.2	35
STMW-1	4400	66	53	4.0	160
STMW-2	1700	32	17	8.6	48
Blank Spiked	N.D.	N.D.	N.D.	N.D.	N.D.
Recovery	93.4%	100.7%	97.1%	98.4%	102.4%
Duplicate Spiked					
Recovery	98.9%	98.3%	86.7%	91.7%	82.0%
Detection limit	50	50	0.5	0.5	0.5
Method of Analysis	5030 / 8015	602	602	602	602

David Duong  
Laboratory Director





