

File No. 8-90-421-SI

QUARTERLY GROUNDWATER MONITORING AND SAMPLING  
FOR KAMUR INDUSTRIES AT PLAZA CAR WASH  
400 SAN PALBO AVENUE  
ALBANY, CALIFORNIA  
JULY 26, 1991

PREPARED FOR:  
MR. MURRAY STEVENS  
KAMUR INDUSTRIES  
2351 SHORELINE DRIVE  
ALAMEDA, CALIFORNIA 94501

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

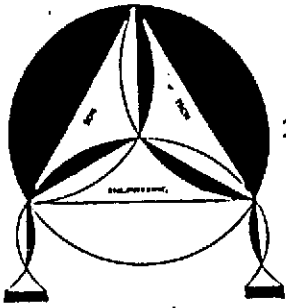
SOIL TECH ENGINEERING, INC.

File No. 8-90-421-SI

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# SOIL TECH ENGINEERING

*Soil, Foundation and Geological Engineers*

298 BROKAW ROAD, SANTA CLARA, CA 95050 ■ (408) 866-0919 ■ (415) 791-6406

July 26, 1991

File No. 8-90-421-SI

Kamur Industries  
2351 Shoreline Drive  
Alameda, California 94501

ATTENTION: MR. MURRAY STEVENS

SUBJECT: QUARTERLY GROUNDWATER MONITORING AND SAMPLING, SAMPLED  
ON JULY 3, 1991, 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 first quarter groundwater sampling conducted by Soil Tech Engineering, Inc. (STE), on July 3, 1991, at the subject site (Figure 1).

Four monitoring wells (MW-2, MW-3, STMW-1 and STMW-2) are located on-site and one well is off-site (OTMW-5). See Figure 2 for the locations of the wells. This quarterly monitoring and sampling was conducted in accordance with STE's recommendations made in "Report of Supplemental Subsurface Investigations", dated May 14, 1991. During this quarter's reporting period, the following field activities were performed:

- Monitored depth to water table in all wells at the site and at the one off-site well.

- Purged each monitoring well prior to sampling.
- Sampled each monitoring well that did not contain free floating petroleum product (FFP).
- Submitted water samples to a state-certified laboratory for analyses.
- Reviewed results and prepared a report of the investigation.

On July 3, 1991, the STE staff monitored the four on-site wells and one off-site well to measure water depth and check for the presence of FFP and/or petroleum odor. Table 1 summarizes the depth of groundwater measurements and observations made. The groundwater flowed to the north (Figure 2).

Following groundwater monitoring, each well was purged at least five well volumes and sampled in accordance with STE's Standard Operation Procedures (see Appendix "B"), which contain state and local guidelines for sampling monitoring wells. The samples were submitted for analyses to a California state-certified laboratory, accompanied by chain-of-custody. The samples were analyzed for TPH as gasoline, Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) by modified EPA Methods 5030/8020.

**ANALYTICAL RESULTS:**

TPH as gasoline concentrations increased in on-site wells STMW-1, STMW-2 and off-site well OTMW-5, but wells MW-2 and MW-3 showed a substantial decrease in TPHg levels. Benzene concentrations increased in all on-site wells and in the off-site well. Ethylbenzene concentrations increased slightly in wells STMW-1, STMW-2, OTMW-5, and MW-3 but did not change in MW-2. Toluene and Xylenes concentrations decreased in wells MW-2 and MW-3 and increased in wells STMW-1, STMW-2 and OTMW-5. The laboratory results are summarized in Table 2, and the laboratory report is attached in Appendix "C".

**SUMMARY:**

The four on-site wells and one off-site well continued to show presence of dissolved petroleum hydrocarbons. Two (MW-2 and MW-3) out of the four on-site wells showed a decline in dissolved hydrocarbons, whereas the two new wells (STMW-1 and STMW-2) located adjacent and down-gradient to the former tank area showed a slight increase of dissolved hydrocarbons.

**RECOMMENDATION:**

STE recommends the continuation of quarterly monitoring for three quarters. The proposed program should then be evaluated at the end of one year.

**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.

File No. 8-90-421-SI

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

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	-	-
	7/03/91	5.83	94.79	-	Mild
STMW-2 (100.63)	3/11/91	5.25	95.38	-	-
	7/03/91	4.75	95.88	-	Mild
MW-2 ( 99.36)	3/11/91	4.29	95.07	-	Mild
	7/03/91	5.83	93.53	-	Strong
MW-3 (100.09)	3/11/91	4.67	95.42	Trace	Moderate
	7/03/91	5.75	94.34	Trace	Mild
OTMW-5 (100.87)	3/11/91	5.02	95.85	-	Mild
	7/03/91	5.75	95.12	-	Mild

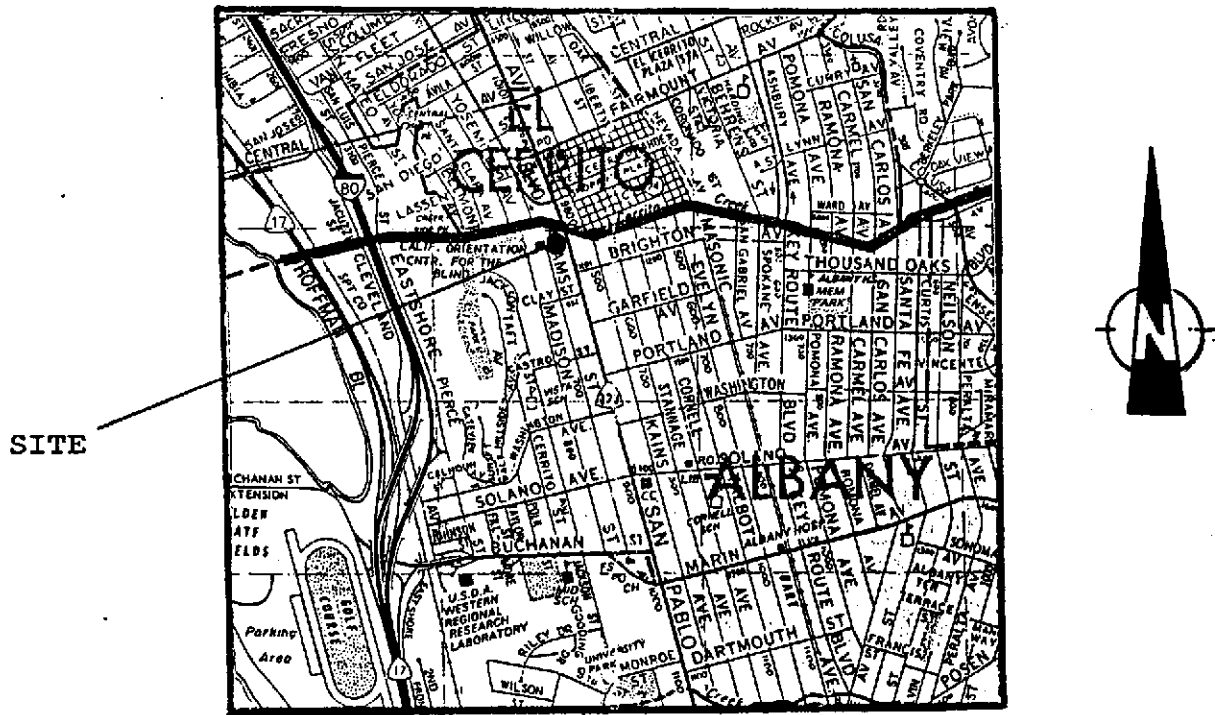
FFP = Free Floating Product



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

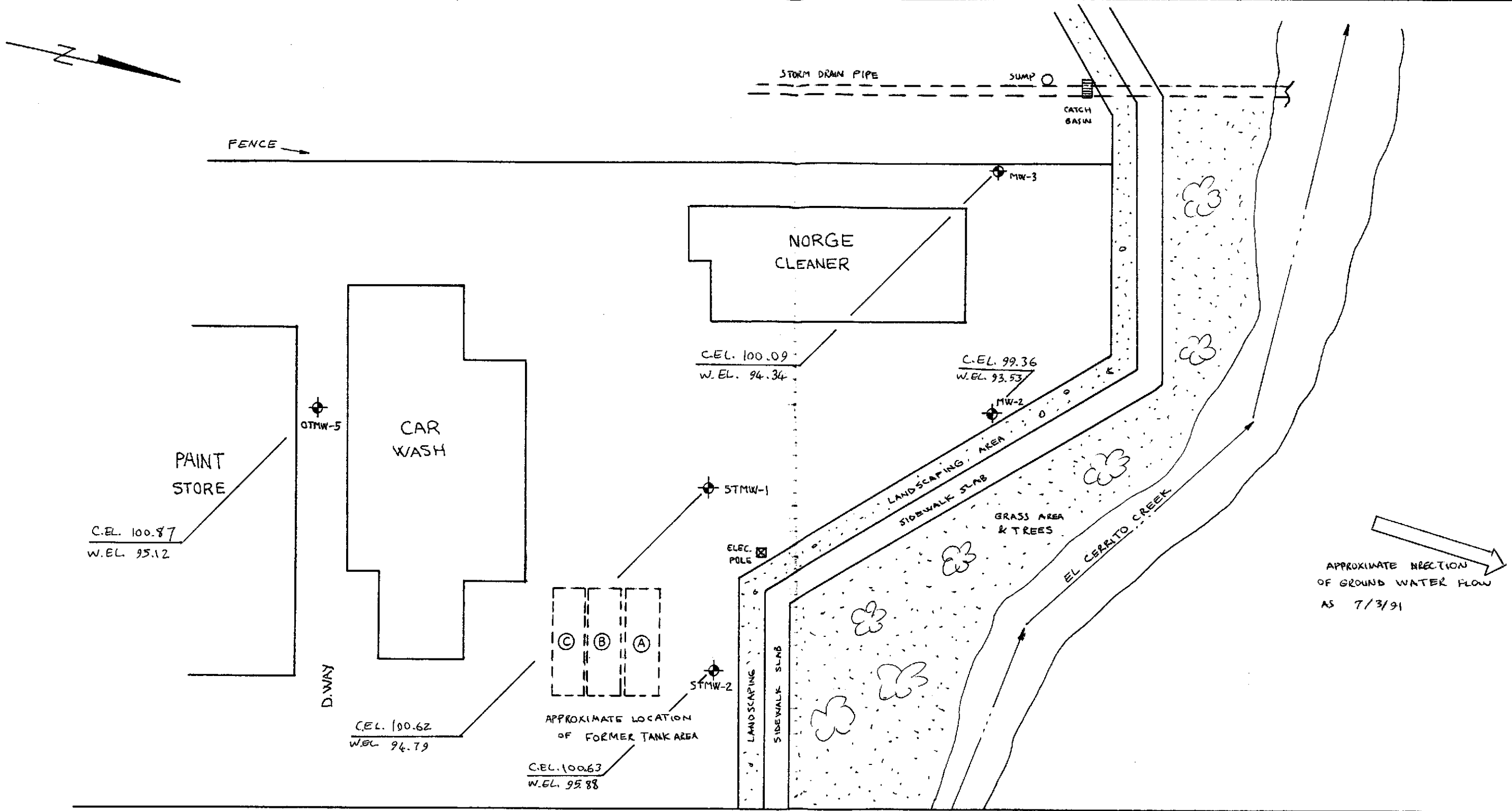
Well No.	Date	TPHg	B	T	E	X
STMW-1	3/13/91	0.85	0.1	0.007	ND	0.15
	7/03/91	5.1	1.8	0.5	0.095	0.56
STMW-2	3/13/91	0.17	0.001	0.0017	ND	0.028
	7/03/91	1.8	0.64	0.048	0.044	0.094
MW-2	3/13/91	25.0	2.6	4.4	ND	5.8
	7/03/91	21.0	2.8	3.2	ND	4.3
MW-3	3/13/91	47.0	9.1	9.9	0.27	8.11
	7/03/91	40.0	12.0	4.5	1.2	4.0
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

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



THOMAS BROS. MAP, 1982 EDITION  
ALAMEDA COUNTY  
PAGE 1 D2

Figure 1: Vicinity Map



STREET FLOW LINE

SAN PABLO AVE.

C.E.L. CASING ELEVATION  
W.E.L. WATER ELEVATION

LOCATION OF THE MONITORING WELLS		
400 SAN PABLO AVE. ALBANY CA		
1"=20'	PROJECT NO. 8-90-421-S1	FIG-2
DRAWN BY N.A.		2-24-91
SOIL TECH ENGINEERING INC. 298 BROKAW RD. 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...) were cleaned by pumping a 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, 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 is decanted into each VOA vial in such a manner that there is a meniscus at the top. The cap is quickly placed over the top of the vial and securely tightened. The VOA vial is then inverted and tapped to see if air bubbles are present. If none are present, the sample is labeled and refrigerated for delivery under chain-of-custody to the laboratory. Label information includes a sample identification number, job identification number, date, time, type of analysis requested, and the sampler's name.

**ANAMETRIX INC**

Environmental & Analytical Chemistry  
1961 Concourse Drive, Suite E, San Jose, CA 95131  
(408) 432-8192 • Fax (408) 432-8195

**REPORT**

MR. FRANK HAMEDI  
SOIL TECH ENGINEERING  
298 BROKAW ROAD  
SANTA CLARA, CA 95050

Workorder # : 9107052  
Date Received : 07/08/91  
Project ID : 8-90-421-SI  
Purchase Order: N/A

The following samples were received at Anamatrix, Inc. for analysis :

ANAMETRIX ID	CLIENT SAMPLE ID
9107052- 1	STMW-1
9107052- 2	STMW-2
9107052- 3	MW-2
9107052- 4	MW-3
9107052- 5	OTMW-5

This report consists of 4 pages not including the cover letter, and is organized in sections according to the specific Anamatrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anamatrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

Anamatrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234. A detailed list of the approved fields of testing can be obtained by calling our office, or the DHS Environmental Laboratory Accreditation Program at (415)540-2800.

If you have any further questions or comments on this report, please give us a call as soon as possible. Thank you for using Anamatrix.

Sarah Schoen, Ph.D.  
Laboratory Manager

7-23-91

Date

REPORT SUMMARY  
ANAMETRIX, INC. (408)432-8192

MR. FRANK HAMEDI  
SOIL TECH ENGINEERING  
298 BROKAW ROAD  
SANTA CLARA, CA 95050

Workorder # : 9107052  
Date Received : 07/08/91  
Project ID : 8-90-421-SI  
Purchase Order: N/A  
Department : GC  
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9107052- 1	STMW-1	WATER	07/03/91	TPHg/BTEX
9107052- 2	STMW-2	WATER	07/03/91	TPHg/BTEX
9107052- 3	MW-2	WATER	07/03/91	TPHg/BTEX
9107052- 4	MW-3	WATER	07/03/91	TPHg/BTEX
9107052- 5	OTMW-5	WATER	07/03/91	TPHg/BTEX

REPORT SUMMARY  
ANAMETRIX, INC. (408)432-8192

MR. FRANK HAMEDI  
SOIL TECH ENGINEERING  
298 BROKAW ROAD  
SANTA CLARA, CA 95050

Workorder # : 9107052  
Date Received : 07/08/91  
Project ID : 8-90-421-SI  
Purchase Order: N/A  
Department : GC  
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Cheryl Balmer 7/23/91  
Department Supervisor Date

Amia Sher 7/23/91  
Chemist Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS  
(GASOLINE WITH BTEX)  
ANAMETRIX, INC. - (408) 432-8192

Anamatrix W.O.: 9107052  
Matrix : WATER  
Date Sampled : 07/03/91

Project Number : 8-90-421-SI  
Date Released : 07/22/91

Reporting Limit	Sample I.D.# STMW-1	Sample I.D.# STMW-2	Sample I.D.# MW-2	Sample I.D.# MW-3	Sample I.D.# OTMW-5	
COMPOUNDS (ug/L)	-01	-02	-03	-04	-05	
Benzene	0.5	1800	640	2800	12000	320
Toluene	0.5	500	48	3200	4500	43
Ethylbenzene	0.5	95	44	ND	1200	16
Total Xylenes	0.5	560	94	4300	4000	43
TPH as Gasoline	50	5100	1800	21000	40000	810
% Surrogate Recovery	120%	126%	133%	141%	113%	
Instrument I.D.	HP12	HP12	HP12	HP12	HP12	HP12
Date Analyzed	07/15/91	07/15/91	07/15/91	07/15/91	07/17/91	
RLMF	100	10	250	500	10	

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020.

RLMF - Reporting Limit Multiplication Factor.

Anamatrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Laura Sher 7/23/91  
Analyst Date

Cheryl Balmer 7/23/91  
Supervisor Date



ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS  
 (GASOLINE WITH BTEX)  
 ANAMETRIX, INC. - (408) 432-8192

Anamatrix W.O.: 9107052  
 Matrix : WATER  
 Date Sampled : 07/03/91

Project Number : 8-90-421-SI  
 Date Released : 07/22/91

COMPOUNDS	Reporting Limit (ug/L)	Sample	Sample
		I.D.# 12B0715A	I.D.# 12B0717B
		BLANK	BLANK
Benzene	0.5	ND	ND
Toluene	0.5	ND	ND
Ethylbenzene	0.5	ND	ND
Total Xylenes	0.5	ND	ND
TPH as Gasoline	50	ND	ND
% Surrogate Recovery		97%	82%
Instrument I.D.		HP12	HP12
Date Analyzed		07/15/91	07/17/91
RLMF		1	1

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020.

RLMF - Reporting Limit Multiplication Factor.

Anamatrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Lucia Skov 7/23/91  
 Analyst Date

Cheryl Balmer 7/23/91  
 Supervisor Date



