

#### KAMUR INDUSTRIES INC.

2351 Shoreline Dr. Alameda, CA 94501 - (415) 523-7866

July 31, 1991

Cynthia Chapman Alameda County Health Care Services Hazardous Waste Program 80 Swan Way, Rm 200 Oakland, CA 94621

Subject: Former South Shore Car Wash Location

2351 Shoreline Drive

Alameda, CA.

Dear Cynthia:

Enclosed are the results of the quarterly well sampling done July 4, 1991 at the subject location. The analysis was done by Anametrix, Inc. of San Jose, and tabulated by Soil Tech Engineering.

The next sampling will be done on about September 30th. Please let me know if I can be of further assistance.

Sincerely,

Murray T. Stevens

MTS: khs Attachment

Mr. Gil Jensen, Alameda County District Attorney

Consumer and Environmental Protection

Mr. Lester Feldman, RWQCB

Mr. Michael Dosen, Harsch Investment Corp. Mr. Frank Hamedi-Fard, Soil Tech Engineering

Mr. Alan D. Gibbs, Cayton Environmental

QUARTERLY GROUNDWATER MONITORING AND SAMPLING FOR KAMUR INDUSTRIES CAR WASH LOCATED AT 2351 SHORE LINE DRIVE ALAMEDA, CALIFORNIA JULY 30, 1991

PREPARED FOR:

KAMUR INDUSTRIES, INC.

2351 SHORE LINE DRIVE

ALAMEDA, CALIFORNIA 94501

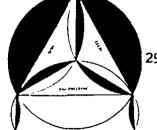
BY:

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

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Uniform Hazardous Waste Manifest





Soil, Foundation and Geological Engineers

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

July 30, 1991

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 first quarter groundwater sampling conducted by Soil Tech Engineering, Inc. (STE), on July 4, . 1991, at the subject site (Figure 1).

Four monitoring wells (STMW-1 to STMW-4) are located on-site. See Figure 2 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:

- 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.

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

QUARTERLY MONITORING AND SAMPLING REPORT
KAMUR INDUSTRIES, INC.
CAR WASH FACILITY
LOCATED AT 2351 SHORE LINE DRIVE
ALAMEDA, CALIFORNIA
JULY 30, 1991

#### INTRODUCTION:

This report presents the first quarter groundwater monitoring and sampling program of 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 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 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.

File No. 8-90-418-SI

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.

#### FIELD ACTIVITIES:

#### Groundwater Monitoring:

The four on-site wells (STMW-1 to STMW-4) were monitored on July 4, 1991, using an electronic probe capable of measuring free-floating product and determining depth-to-water. The wells were surveyed to the nearest 0.01 elevation. Blackish petroleum sheen and a strong petroleum odor were detected in well STMW-1 only. Table 1 summarizes the monitoring data.

The wells were resurveyed on July 8, 1991, due to changes in the gradient of the site. The elevation data indicated that the groundwater beneath the site flowed south or southeast on July 8, 1991.

#### Groundwater Sampling and Results:

On July 4, 1991, following groundwater monitoring, each well was purged and sampled in accordance with STE's Standard Operation Procedures (Appendix "B"), which follow state and local agency guidelines. The samples were submitted for analysis to a statecertified laboratory, accompanied by a chain-of-custody record.

The samples were analyzed for Total Petroleum Hydrocarbons as gasoline (TPHg), Benzene, Toluene, Ethylbenzene and Xylenes (BTEX), per EPA Methods 5030 and 8020. The samples were also analyzed for Volatile Organic Compounds (VOC) per EPA Methods 601/8010. A selected sample (STMW-3) was analyzed for Total Petroleum Hydrocarbons as diesel (TPHd) and Total Oil and Grease (TOG).

The results of the laboratory analyses are summarized in Table 2. In wells STMW-2 and STMW-4 levels of TPHg and BTEX were below detection limits, whereas wells STMW-1 and STMW-3 continued to show the presence of dissolved hydrocarbons. The Volatile Organic Compounds detected in well STMW-1 was 1,2-Dichloroethane (290 ppb); in well STMW-2 were Trichloroethylene (1.3 ppb) and Tetrachloroethene (18 ppb); in well STMW-3 were Methylene Chloride (9 ppb) and Trichloroethylene (230 ppb), respectively. No VOC's were detected in well STMW-4.

The laboratory results and chain-of-custody records are in Appendix "C"

#### **SUMMARY:**

A comparison of the recent results with the April 1991 results showed decreases in the concentrations of TPHg and BTEX in wells STMW-1, STMW-3 and STMW-4, except for a minor increase in Benzene concentration (from 11 ppb to 14 ppb) in well STMW-1. The concentration of the VOC's detected also decreased in all wells. Well STMW-4 continued to show non-detectable levels of VOC's.

#### RECOMMENDATION:

Based on the recent analytical data obtained from sampling and evaluation, STE recommends continuing the current quarterly monitoring and sampling of the on-site wells for three more quarters as recommended in STE's preliminary site assessment, dated July 2, 1991.

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.

#### 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 October 1991.

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

ND = Not Detected

TABLE 2
GROUNDWATER ANALYTICAL RESULTS

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

Well No.	Date	трнд	трна	В	T	E	x	TOG
STMW-1	4/5/91 7/4/91	180 58	NA NA	11 14	20 7	3.2 2.7	18 8.3	NA NA
STMW-2	4/5/91 7/4/91	ND ND	NA NA	ND ND	ND ND	ND ND	ND ND	NA NA
STMW-3	4/5/91 7/4/91	260 66	NA 11	20 11	34 17	3.6 1.9	19 8.9	NA ND
STMW-4	4/5/91 7/4/91	ND ND	NA NA	0.3 ND	0.3 ND	ND ND	0.7 ND	NA 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

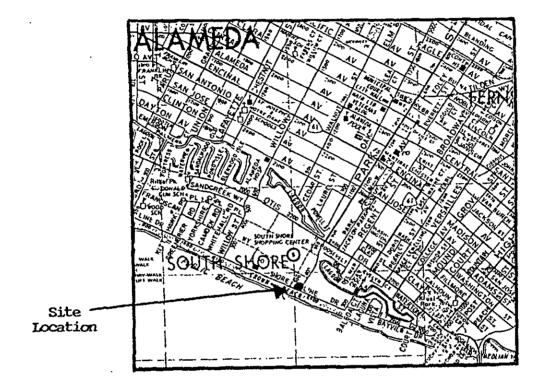
Date	Monitoring Well No.	VOC Compounds Detected Per EPA Meth 8010 Results in Parts Per Billion (		DHS-DWS (ppb)
4/5/91	stmw-1	1,2-Dichloroethane Trichloroethylene 1,1,2-Trichloroethane (PEC) Tetrachloroethene cis-1,2-Dichloroethene	350 4 0.5 0.9	0.5 5 32 5
7/4/91	STMW-1	1,2-Dichloroethane	290	
4/5/91	STMW-2	1,2-Dichloroethane Trichloroethylene Tetrachloroethene	8 4 27	0.5 5 5
7/4/91	STMW-2	Trichloroethene (Trichloroethylene) Tetrachloroethene	1.3 18	
4/5/91	STMW-3	1,2-Dichloroethane	450	0.5
7/4/91	STMW-3	Methylene Chloride Trichloroethene (Trichloroethylene)	9 230	
4/5/91	STMW-4	None Detected		
7/4/91	STMW-4	None Detected		

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

File No. 8-90-418-SI

APPENDIX "A"

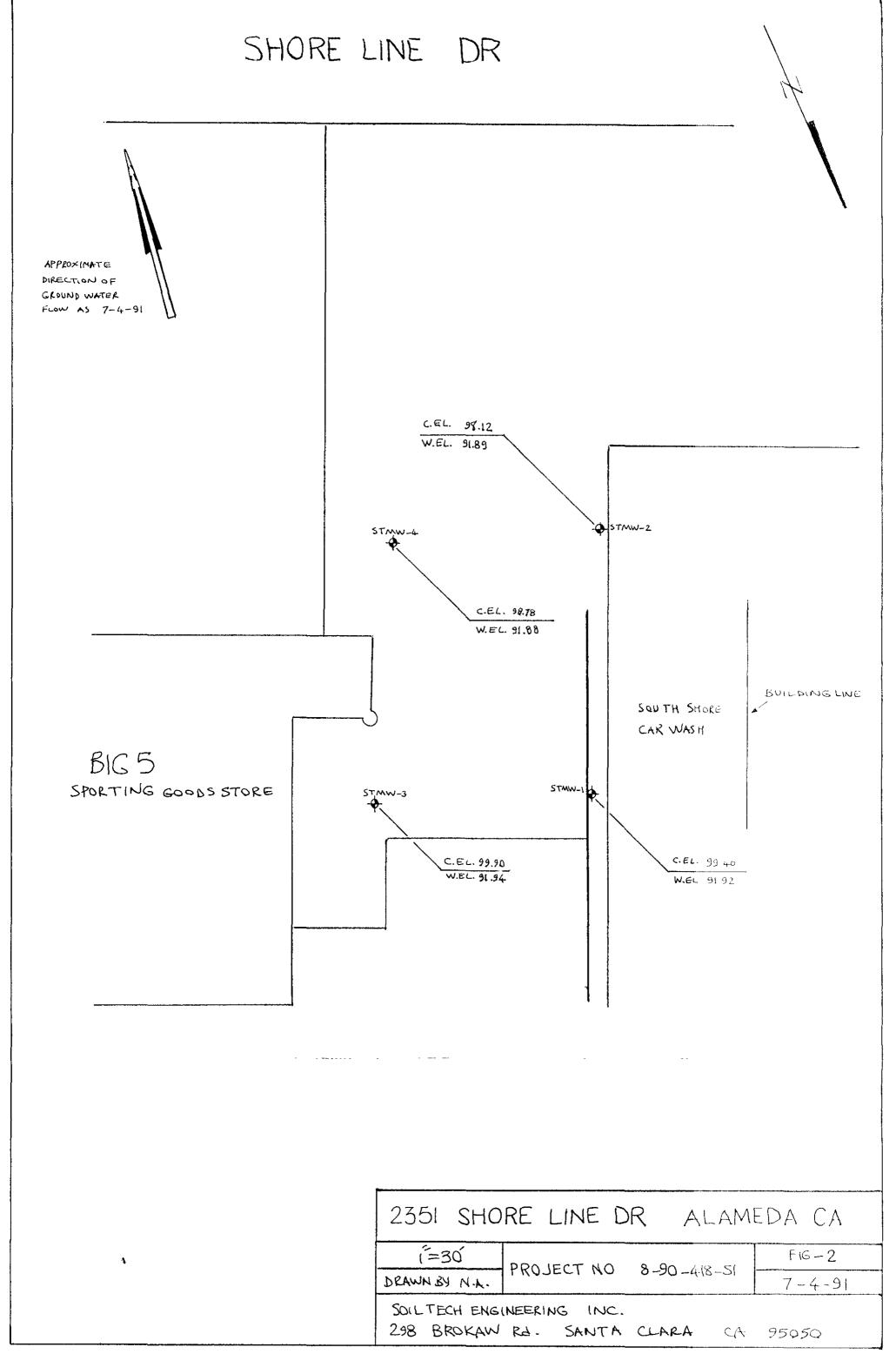
SOIL TECH ENGINEERING, INC.





Thomas Brothers Map 1982 Edition Alameda - Contra Costa Counties Map

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File No. 8-90-418-SI

APPENDIX "B

#### 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.

A PPRNDTY "C"

### **ANAMETRIX** INC

Environmental & Analytical Chemistry 1961 Concourse Drive, Suite E, San Jose, CA 95131 (408) 432-6192 • Fax (408) 432-6198



MR. FRANK HAMEDI SOIL TECH ENGINEERING 298 BROKAW ROAD SANTA CLARA, CA 95050 Workorder # : 9107051
Date Received : 07/08/91
Project ID : 8-90-418-SI

Purchase Order: N/A

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

ANAMETRIX ID	CLIENT SAMPLE ID
9107051- 1	STMW-1
9107051- 2	STMW-2
9107051- 3	STMW-3
9107051- 4	STMW-4

This report consists of 20 pages not including the cover letter, and is organized in sections according to the specific Anametrix 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 Anametrix 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.

Anametrix 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 Anametrix.

Faul Fehre

Sarah Schoen, Ph.D. Laboratory Manager 7-24-91

Date

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

MR. FRANK HAMEDI SOIL TECH ENGINEERING

298 BROKAW ROAD SANTA CLARA, CA 95050 Workorder # : 9107051
Date Received : 07/08/91
Project ID : 8-90-418-SI

Purchase Order: N/A
Department : GC
Sub-Department: VOA

### SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9107051- 1	STMW-1	WATER	07/04/91	8010
9107051- 2	STMW-2	WATER	07/04/91	8010
9107051- 3	STMW-3	WATER	07/04/91	8010
9107051- 4	STMW-4	WATER	07/04/91	8010

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

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

Workorder # : 9107051
Date Received : 07/08/91
Project ID : 8-90-418-SI
Purchase Order: N/A

Department : GC Sub-Department: VOA

#### QA/QC SUMMARY :

- Methylene chloride reported for STMW-3 is within the normal laboratory background level in the diluted sample.

Department Supervisor

7-24-91

Date

Kamel G. Kumel 7/24/91 Chemist

Date

Sample I.D. : 8-90-418-SI STMW-1 Anametrix I.D. : 9107051-01

Matrix: WATER

Date sampled: 07/04/91

Date analyzed: 07/10/91

Dilution: 10

Analyst: KF

Supervisor: CP

Date released: 07/11/91

Instrument ID: HP14

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/1)
74-87-3 74-83-9 75-71-8 75-01-4 75-00-3 75-09-2 75-69-4 75-35-4 75-34-3 156-59-2 156-60-5 67-66-3 76-13-1 107-06-2 71-55-6 56-23-5 75-27-4 78-87-5 10061-02-6 79-01-6 124-48-1 79-00-5 100-75-8 75-25-2 127-18-4 79-34-5 108-90-7 95-50-1 541-73-1	* Chloromethane  * Bromomethane  * Dichlorodifluoromethane  * Vinyl Chloride  * Chloroethane  * Methylene Chloride  * Trichlorofluoromethane  * 1,1-Dichloroethene  * 1,1-Dichloroethene  * Trans-1,2-Dichloroethene  * Trans-1,2-Dichloroethene  * Chloroform  # Trichlorotrifluoroethane  * 1,2-Dichloroethane  * 1,1,1-Trichloroethane  * 1,2-Dichloromethane  * 1,2-Dichloromethane  * Trans-1,3-Dichloropropene  * Trichloroethene  * Dibromochloromethane  * 1,1,2-Trichloroethane  * 1,1,2-Trichloroethane  * 1,1,2-Trichloropropene  * Trichloroethylvinylether  * Bromoform  * Tetrachloroethene  * 1,1,2,2-Tetrachloroethane  * Chlorobenzene  * 1,2-Dichlorobenzene  * 1,2-Dichlorobenzene	10 50 55 55 55 55 55 55 55 55 55 55 55 55	ND N
106-46-7	* 1,3-Dichlorobenzene * 1,4-Dichlorobenzene	10	ND

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

# A compound added by Anametrix, Inc.

<sup>\*</sup> A 601/8010 approved compound (Federal Register, 10/26/84).

Anametrix I.D.: 9107051-02 Sample I.D. : 8-90-418-SI STMW-2

: KE Matrix : WATER Analyst Date sampled : 07/04/91 Supervisor

Date analyzed: 07/09/91 Date released : 07/11/91

Dilution Instrument ID : HP14 : NONE

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/1)
74-87-3 74-83-9 75-71-8 75-01-4 75-00-3 75-09-2 75-69-4 75-35-4 75-34-3 156-59-2 156-60-5 67-66-3 76-13-1 107-06-2 71-55-6 56-23-5 75-27-4 78-87-5 10061-02-6 79-01-6 124-48-1 79-00-5 10061-01-5 110-75-8 75-25-2 127-18-4 79-34-5 108-90-7 95-50-1 541-73-1 106-46-7	* Chloromethane  * Bromomethane  * Dichlorodifluoromethane  * Vinyl Chloride  * Chloroethane  * Methylene Chloride  * Trichlorofluoromethane  * 1,1-Dichloroethene  * 1,1-Dichloroethane  # Cis-1,2-Dichloroethene  * Trans-1,2-Dichloroethene  * Chloroform  # Trichlorotrifluoroethane  * 1,2-Dichloroethane  * 1,1,1-Trichloroethane  * 1,2-Dichloromethane  * 1,2-Dichloromethane  * Trans-1,3-Dichloropropene  * Trans-1,3-Dichloropropene  * Trichloroethene  * Dibromochloromethane  * 1,1,2-Trichloroethane  * 1,1,2-Trichloroethane  * 1,1,2-Trichloroethane  * 1,1,2-Trichloroethane  * 1,1,2-Trichloroethane  * 1,1,2-Trichloroethane  * 1,1,2,2-Tetrachloroethane  * Chlorobenzene  * 1,1,2,2-Tetrachloroethane  * Chlorobenzene  * 1,3-Dichlorobenzene  * 1,4-Dichlorobenzene  * 1,4-Dichlorobenzene	1 0.5 1 0.5 1 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	ND N
	% Surrogate Recovery	51-136%	84%

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

A compound added by Anametrix, Inc.

A 601/8010 approved compound (Federal Register, 10/26/84).

Sample I.D. : 8-90-418-SI STMW-3

Anametrix I.D.: 9107051-03 Analyst: Supervisor: C : WATER Matrix

Date sampled: 07/04/91
Date analyzed: 07/10/91
Dilution: 10 Date released : 07/11/91 Instrument ID : HP14

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/l)
74-87-3 74-83-9 75-71-8 75-01-4 75-00-3 75-09-2 75-69-4 75-35-4 75-34-3 156-59-2 156-60-5 67-66-3 76-13-1 107-06-2 71-55-6 56-23-5 75-27-4 78-87-5 10061-02-6 79-01-6 124-48-1 79-00-5 100-75-8 75-25-2 127-18-4 79-34-5 108-90-7 95-50-1 541-73-1 106-46-7	* Chloromethane  * Bromomethane  * Dichlorodifluoromethane  * Vinyl Chloride  * Chloroethane  * Methylene Chloride  * Trichlorofluoromethane  * 1,1-Dichloroethene  * 1,1-Dichloroethane  # Cis-1,2-Dichloroethene  * Trans-1,2-Dichloroethene  * Chloroform  # Trichlorotrifluoroethane  * 1,2-Dichloroethane  * 1,1,1-Trichloroethane  * Carbon Tetrachloride  * Bromodichloromethane  * 1,2-Dichloropropane  * Trans-1,3-Dichloropropene  * Trichloroethene  * Dibromochloromethane  * 1,1,2-Trichloroethane  * 1,1,2,2-Tetrachloroethane  * Chlorobenzene  * 1,2-Dichlorobenzene  * 1,3-Dichlorobenzene  * 1,4-Dichlorobenzene	10 50 15 55 55 55 55 55 55 55 55 55 55 55 55	ND N
	% Surrogate Recovery	51-136%	103%

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

A compound added by Anametrix, Inc.

A 601/8010 approved compound (Federal Register, 10/26/84).

Sample I.D. : 8-90-418-SI STMW-4 Anametrix I.D. : 9107051-04
Matrix : WATER Analyst : Kt
Date sampled : 07/04/91 Supervisor : 0P

Date analyzed: 07/09/91 Date released: 07/11/91
Dilution: NONE Instrument ID: HP14

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/1)
74-87-3 74-83-9 75-71-8 75-01-4 75-00-3 75-09-2 75-69-4 75-35-4 75-34-3 156-59-2 156-60-5 67-66-3 76-13-1 107-06-2 71-55-6 56-23-5 75-27-4 78-87-5 10061-02-6 124-48-1 79-00-5 110-75-8 75-25-2 127-18-4 79-34-5 108-90-7 95-50-1 541-73-1	* Chloromethane * Bromomethane * Dichlorodifluoromethane * Vinyl Chloride * Chloroethane * Methylene Chloride * Trichlorofluoromethane * 1,1-Dichloroethene * 1,1-Dichloroethene * 1,2-Dichloroethene * Trans-1,2-Dichloroethene * Chloroform # Trichlorotrifluoroethane * 1,2-Dichloroethane * 1,1,1-Trichloroethane * 1,1,1-Trichloroethane * 1,2-Dichloromethane * 1,2-Dichloromethane * 1,2-Dichloropropane * Trans-1,3-Dichloropropene * Trichloroethene * Dibromochloromethane * 1,1,2-Trichloroethane * 1,1,2,2-Tetrachloroethane * 1,1,2,2-Tetrachloroethane * 1,1,2,2-Tetrachloroethane * 1,1,2,1-Trichloroethane * 1,1,2,2-Tetrachloroethane * 1,1,2,2-Tetrachloroethane * 1,1,2-Dichlorobenzene * 1,3-Dichlorobenzene	1 0.5 1 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	ND N
106-46-7	* 1,4-Dichlorobenzene	) ī	ND

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

# A compound added by Anametrix, Inc.

<sup>\*</sup> A 601/8010 approved compound (Federal Register, 10/26/84).

Sample I.D.: METHOD BLANK Anametrix I.D.: 14B0709H01

Matrix: WATER

Date sampled: N/A

Date analyzed: 07/09/91

Analyst: KL

Supervisor: CP

Date released: 07/11/91

Dilution: NONE Instrument ID: HP14

CAS #	Compound Name	Reporting Limit (ug/1)	Amount Found (ug/1)
74-87-3 74-83-9 75-71-8 75-01-4 75-00-3 75-09-2 75-69-4 75-35-4 75-34-3 156-59-2 156-60-5 67-66-3 76-13-1 107-06-2 71-55-6 56-23-5 75-27-4 78-87-5 10061-02-6 79-01-6 124-48-1 79-00-5 10061-01-5 110-75-8 75-25-2 127-18-4 79-34-5 108-90-7 95-50-1 541-73-1 106-46-7	* Chloromethane  * Bromomethane  * Dichlorodifluoromethane  * Vinyl Chloride  * Chloroethane  * Methylene Chloride  * Trichlorofluoromethane  * 1,1-Dichloroethane  * 1,1-Dichloroethane  # Cis-1,2-Dichloroethene  * Trans-1,2-Dichloroethene  * Chloroform  # Trichlorotrifluoroethane  * 1,2-Dichloroethane  * 1,1-Trichloroethane  * 1,2-Dichloroethane  * 1,2-Dichloromethane  * 1,2-Dichloromethane  * 1,2-Dichloropropane  * Trans-1,3-Dichloropropene  * Trichloroethene  * Dibromochloromethane  * 1,1,2-Trichloroethane  * 1,1,2-Trichloroethane  * 1,1,2-Trichloroethane  * cis-1,3-Dichloropropene  * 2-Chloroethylvinylether  * Bromoform  * Tetrachloroethene  * 1,1,2,2-Tetrachloroethane  * Chlorobenzene  * 1,3-Dichlorobenzene  * 1,3-Dichlorobenzene  * 1,4-Dichlorobenzene	1 0.1 0.5 1.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0	ND N
1200-40-7	% Surrogate Recovery	51-136%	82%

ND: Not detected at or above the practical quantitation limit

for the method.

\* A 601/8010 approved compound (Federal Register, 10/26/84).

# A compound added by Anametrix, Inc.

Sample I.D.: METHOD BLANK Anametrix I.D.: 14B0710H01

Matrix : WATER Analyst : KF Date sampled : N/A Supervisor : CF

Date analyzed: 07/10/91 Date released : 07/11/91
Dilution : NONE Instrument ID : HP14

Reporting Amount Found Limit (nd/1) Compound Name (ug/1)1 ND 74-87-3 \* Chloromethane ND 74-83-9 \* Bromomethane 0.5 \* Dichlorodifluoromethane ND 1 75-71-8 ND \* Vinyl Chloride 0.5 75-01-4 \* Chloroethane ND 0.5 75-00-3 \* Methylene Chloride ND 0.5 75-09-2 ND \* Trichlorofluoromethane 0.5 75-69-4 0.5 ND \* 1,1-Dichloroethene 75-35-4 ND \* 1,1-Dichloroethane 0.5 75-34-3 ND 156-59-2 # Cis-1,2-Dichloroethene 0.5 \* Trans-1,2-Dichloroethene 0.5 ND 156-60-5 \* Chloroform 0.5 ND 67-66-3 ND # Trichlorotrifluoroethane 0.5 76-13-1 ND 107-06-2 \* 1,2-Dichloroethane 0.5 ND 71-55-6 \* 1,1,1-Trichloroethane 0.5 0.5 ND 56-23-5 \* Carbon Tetrachloride ND \* Bromodichloromethane 0.5 75-27-4 ND \* 1,2-Dichloropropane 0.5 78-87-5 ND \* Trans-1,3-Dichloropropene 0.5 10061-02-6 0.5 ND 79-01-6 \* Trichloroethene ND \* Dibromochloromethane 0.5 124-48-1 0.5 ND \* 1,1,2-Trichloroethane 79-00-5 \* cis-1,3-Dichloropropene 0.5 ND 10061-01-5 \* 2-Chloroethylvinylether 1 ND 110-75-8 ND \* Bromoform 0.5 75-25-2 ND \* Tetrachloroethene 0.5 127-18-4 ND \* 1,1,2,2-Tetrachloroethane 0.5 79-34-5 \* Chlorobenzene ND 0.5 108-90-7 ND \* 1,2-Dichlorobenzene 1 95-50-1 \* 1,3-Dichlorobenzene ND 541-73-1 1 ND 106-46-7 \* 1,4-Dichlorobenzene

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

# A compound added by Anametrix, Inc.

% Surrogate Recovery

51-136%

808

<sup>\*</sup> A 601/8010 approved compound (Federal Register, 10/26/84).

#### HALOGENATED VOLATILE RECOVERY REPORT EPA METHOD 601/8010 ANAMETRIX, INC. (408)432-8192

Sample I.D. : METHOD SPIKE

ANAMETRIX I.D : SPK071591

Matrix : WATER

Analyst : Kk
Supervisor : \( \bar{\lambda} \)
Date released : 07/11/91
Instrument I.D.: HP14 Date sampled : N/A
Date analyzed : 07/08/91

	3.1					
1,1-DICHLOROETHENE 4 METHYLENE CHLORIDE 20 trans-1,2-DICHLOROETHENE 4 1,1-DICHLOROETHANE 4 1,1,1-TRICHLOROETHANE 4 1,1,1-TRICHLOROETHANE 4 1,2-DICHLOROETHANE 4 TRICHLOROETHANE 4 1,2-DICHLOROPROPANE 4 cis-1,3-DICHLOROPROPENE 5 trans-1,3-DICHLOROPROPENE 3 1,1,2-TRICHLOROETHANE 4 TETRACHLOROETHENE 4 CHLOROBENZENE 20 1,1,2,2-TETRACHLOROETHANE 4 1,3-DICHLOROBENZENE 20 1,4-DICHLOROBENZENE 20 1,4-DICHLOROBENZENE 20 1,2-DICHLOROBENZENE 20	24.2 3.6 4.3 4.2 4.4 4.6 4.3 4.5 4.4 3.0 4.3 20.6 3.7 16.5 17.0	78% 121% 108% 105% 110% 115% 1108% 102% 102% 103% 83% 83% 85%	3.0 24.2 3.7 3.7 4.3 4.3 4.3 4.1 20.5 16.4 17.6	75% 121% 93% 1008% 118% 118% 102% 102% 102% 82% 82% 88%	303588888888888888888888888888888888888	41 - 110 60 - 122 47 - 126 67 - 124 50 - 125 55 - 121 57 - 131 51 - 131 74 - 127 61 - 111 55 - 131 77 - 131 70 - 136 72 - 128 71 - 119 67 - 120 61 - 109 70 - 119

<sup>\*</sup> Limits based on data generated by Anametrix, Inc., July 1990.

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

MR. FRANK HAMEDI SOIL TECH ENGINEERING 298 BROKAW ROAD

SANTA CLARA, CA 95050

Workorder # : 9107051
Date Received : 07/08/91
Project ID : 8-90-418-SI

Purchase Order: N/A
Department : GC
Sub-Department: TPH

### SAMPLE INFORMATION:

	NAMETRIX AMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9:	107051- 3	STMW-3	WATER	07/04/91	TPHd
9:	107051- 1	STMW-1	WATER	07/04/91	TPHg/BTEX
9:	107051- 2	STMW-2	WATER	07/04/91	TPHg/BTEX
9:	107051- 3	STMW-3	WATER	07/04/91	TPHg/BTEX
9:	107051- 4	STMW-4	WATER	07/04/91	TPHg/BTEX

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

MR. FRANK HAMEDI SOIL TECH ENGINEERING 298 BROKAW ROAD SANTA CLARA, CA 95050 Workorder # : 9107051
Date Received : 07/08/91
Project ID : 8-90-418-SI
Purchase Order: N/A

Purchase Order: N/A
Department : GC
Sub-Department: TPH

### QA/QC SUMMARY :

- The concencentration reported as TPHd for sample STMW-3 appears to be due primarily to extractable components of gasoline.

Department Supervisor

7/24/7, Date

Chemist Stur 7/24/9/
Date

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

Anametrix W.O.: 9107051 Project Number: 8-90-418-SI
Matrix : WATER Date Released : 07/17/91

Date Sampled: 07/04/91

	Reporting Limit	Sample I.D.# STMW-l	Sample I.D.# STMW-2	Sample I.D.# STMW-3	Sample I.D.# STMW-14	Sample I.D.# 12B0710A
COMPOUNDS	(ug/L)	-01	-02	-03	-04	BLANK
Benzene Toluene Ethylbenzene Total Xylenes TPH as Gasoline	0.5 0.5 0.5 0.5 e 50	14000 7000 2700 8300 58000	ND ND ND ND	11000 17000 1900 8900 66000	ND ND ND ND	ND ND ND ND ND
% Surrogate Rec Instrument I Date Analyzed RLMF	.D.	105% HP12 07/10/91 250	113% HP12 07/10/91	117% HP12 07/10/91 500	100% HP12 07/10/91	83% HP12 07/10/91 1

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

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

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

Analyst 7.1891
Date

Supervisor Date

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.

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

Project Number: 8-90-418-SI Anametrix W.O.: 9107051 : WATER Date Released : 07/17/91

Matrix Date Sampled : N/A

	Reporting Limit	I.D.# 12B0715A	 	 
COMPOUNDS	(ug/L)	BLANK	 	 
Benzene Toluene Ethylbenzene Total Xylenes TPH as Gasoline	0.5 0.5 0.5 0.5 0.5	ND ND ND ND ND		
<pre>% Surrogate Rec Instrument I Date Analyzed RLMF</pre>	.D.	97% HP12 07/15/91		

Cample

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.

Anametrix control limits for surrogate p-Bromofluorobenzene

recovery are 53-147%.

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

7.12.91 t Date

Charles 7/18/7/ Supervisor Date

# ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS AS DIESEL ANAMETRIX, INC. (408) 432-8192

Anametrix W.O.: 9107051 Matrix : WATER

Project Number: 8-90-418-SI Date Released: 07/17/91

Date Sampled: 07/04/91

Instrument I.D.: HP9

Date Extracted: 07/11/91

Anametrix I.D.	Client I.D.	Date Analyzed	Reporting Limit (ug/L)	Amount Found (ug/L)
9107051-03	STMW-3	07/13/91	500	11000
DWBL071191	METHOD BLANK	07/12/91	50	ND

Note: Reporting limit is obtained by multiplying the dilution factor times 50ug/L.

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

TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following sample extraction by EPA Method 3510.

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

Analyst Stor 7/23/9/

Cheur Balman 7/3 Supervisor I

### BTEX MATRIX SPIKE REPORT EPA METHOD 5030 WITH GC/PID ANAMETRIX, INC. (408) 432-8192

Anametrix I.D.: 9107051-02

Sample I.D. : 8-90-418-SI STMW-2
Matrix : WATER
Date Sampled : 07/04/91 Analyst : CF.
Supervisor : 
Date Released : 07/17/91

Date Analyzed: 07/10/91

COMPOUND	SPIKE AMT. (ug/L)	MS (ug/L)	MSD (ug/L)	REC MSD	RPD	%REC LIMITS	
Benzene Toluene Ethylbenzene M+P-Xylenes O-Xylene	10 10 10 6.7 3.3	10 10 10 7.7 3.9	100% 100% 100% 115% 118%	8.0 8.1 8.2 6.1 3.2	80% 81% 82% 91% 97%	-228 -218 -208 -238 -208	46-149 43-146 51-138 39-161 37-156
P-BFB			113%		107%		53-147%

Limits established by Anametrix, Inc.

## TOTAL EXTRACTABLE HYDROCARBON METHOD SPIKE REPORT EPA METHOD 3510 WITH GC/FID ANAMETRIX, INC. (408) 432-8192

Anametrix I.D.: SPK071191

Sample I.D. : METHOD SPIKE
Matrix : REAGENT WATER
Date Sampled : N/A
Date Extracted: 07/11/91
Date Analyzed : 07/15/91 Analyst : CF.
Supervisor : 47
Date Released : 07/17/91

COMPOUND	SPIKE AMT. (ug/L)	MS (ug/L)	%REC MS	MSD (ug/L)	%REC MSD	RPD	%REC LIMITS
Diesel	1250	1200	96%	1340	107%	11%	35-109

<sup>\*</sup> Limits established by Anametrix, Inc.

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

MR. FRANK HAMEDI SOIL TECH ENGINEERING

298 BROKAW ROAD

SANTA CLARA, CA 95050

Workorder # : 9107051
Date Received : 07/08/91
Project ID : 8-90-418-SI

Purchase Order: N/A
Department : PREP
Sub-Department: PREP

### SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9107051- 3	STMW-3	WATER	07/04/91	5520BF

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

MR. FRANK HAMEDI

SOIL TECH ENGINEERING

298 BROKAW ROAD

SANTA CLARA, CA 95050

Workorder # : 9107051 Date Received: 07/08/91 Project ID : 8-90-418-SI

Purchase Order: N/A Department : PREP Sub-Department: PREP

QA/QC SUMMARY :

- No QA/QC problems encountered for samples.

547,16771991

Department Supervisor

Date

18610 07 16-91 Date

Chemist

# ANALYSIS DATA SHEET - TOTAL OIL AND GREASE ANAMETRIX, INC. (408) 432-8192

Project # : 8-90-418-SI

Matrix : WATER

Date sampled : 07/04/91

Date ext. TOG: 07/10/91

Date anl. TOG: 07/10/91

Anametrix I.D.: 9107051
Analyst
Supervisor: 9107051

Date released : 07/16/91

  Workorder #	Sample I.D.	Reporting Limit (mg/L)	Amount Found (mg/L)
9107051-03	STMW-3	5	ND
GWBL071091	METHOD BLANK	5	ND

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

TOG - Total Oil & Grease is determined by Standard Method 5520BF.

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

#### TOTAL OIL AND GREASE METHOD SPIKE STANDARD METHOD 5520BF ANAMETRIX, INC. (408) 432-8192

Sample I.D. : METHOD SPIKE

Matrix : WATER
Date Sampled : N/A
Date extracted: 07/10/91
Date analyzed : 07/10/91

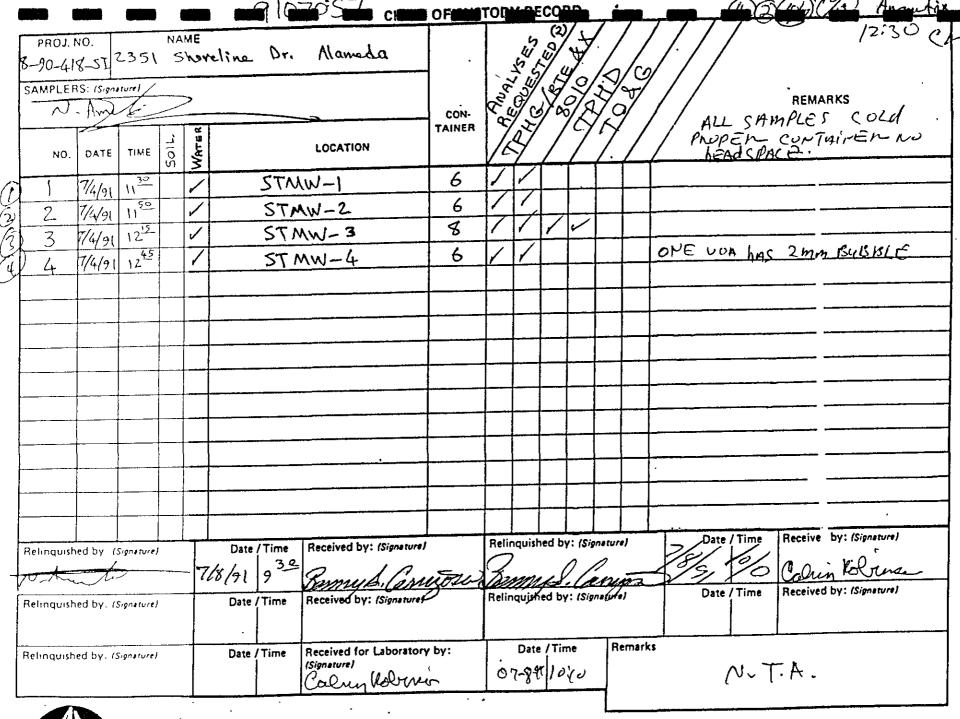
Anametrix I.D.: SPK071091

Analyst For COP Supervisor

Date Released : 07/16/91

COMPOUND	SPIKE AMT. (mg/L)	Ms (mg/L)	%REC MS	MSD (mg/L)	%REC MSD	%RPD	%REC LIMITS
Motor Oil	50	34	68%	33	66%	3%	47-99%

<sup>\*</sup> Quality control limits established by Anametrix, Inc.



# SOIL TECH ENGINEERING

Soil, Foundation and Geological Engineers

CARA CA 95050 # (408) 866-0919 # (415) 791-6406

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CANTIA CLARA, CA 95050 # (408) 866-0919 # (415) 791-6406

File No. 8-90-418-SI

APPENDIX "O"

SOIL TECH ENGINEERING, INC.

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