

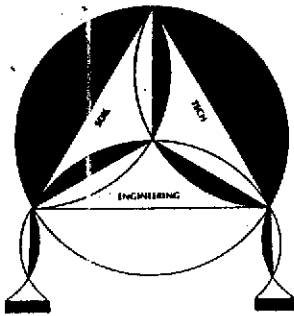
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MONITORING AND SAMPLING RESULTS  
OF ON-SITE OBSERVATION WELLS  
LOCATED AT 5175 BROADWAY STREET  
OAKLAND, CALIFORNIA  
NOVEMBER 7, 1990

PREPARED FOR:  
MR. MOHAMMAD MEHDIZADEH  
150 RANDOM WAY  
PLEASANT HILL, CALIFORNIA 94523

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

SOIL TECH ENGINEERING, INC.



# SOIL TECH ENGINEERING

*Soil, Foundation and Geological Engineers*

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

November 7, 1990

File No. 8-90-420-GI

Mr. Mohammad Mehdizadeh  
150 Random Way  
Pleasant Hill, California 94523

Subject: Monitoring and Sampling Results  
of On-Site Observation Wells  
Located at 5175 Broadway Street, in  
Oakland, California.

Dear Mr. Mehdizadeh:

Soil Tech Engineering, Inc. (STE) is pleased to submit this report which summarizes our activities at the subject site (see Figure 1 and 2). These activities were performed as outlined in our proposed work plan, dated October 5, 1990.

## BACKGROUND:

The project site is owned by Mr. Mohammad Mehdizadeh and has been inactive since 1979. Prior to 1979, the property was used as an auto-fuel service station.

In January 1990, Tank Protect Engineering, Inc. (TPE) was retained to supervise the removal of three 8,000 gallon underground gasoline tanks and one 500 gallon waste oil tank, to conduct soil sampling, soil excavation and installation of monitoring wells.

Analytical results of the soil samples did show moderate levels of Total Petroleum Hydrocarbons as Gasoline (TPHg) in two locations only. The rest of the samples showed TPH ranging from non-detected to less than 120 parts per million (ppm). Due to the presence of high TPH noted in the excavation, three monitoring wells (MW-1 to MW-3) were installed on-site, as required by state and local regulatory agencies (Figure 2). The preliminary groundwater assessment indicated that the shallow groundwater had been impacted.

The Alameda County Health Department (ACHD) has requested the property owner to conduct further investigation, in order to define the extent of dissolved hydrocarbon contamination.

**PURPOSE:**

The objective of a quarterly groundwater sampling program is to monitor seasonal and long term variations in the conditions of the shallow aquifer beneath the site and to assess the direction of the groundwater flow for require additional investigation.

**SOIL TECH ENGINEERING, INC.**

**FIELD ACTIVITIES:**

The three on-site groundwater monitoring wells (MW-1 to MW-3) were sampled on September 26, 1990. The sampling was conducted in accordance with ACHD and California Regional Water Quality Control Board (CRWQCB) guidelines for sampling which are described in our attached Standard Operation Procedures (SOP). Prior to sampling, the water level in each well was measured with an electric sounder. The electric sounder was rinsed with de-ionized water after each use. The water levels measured are summarized in Table 1.

**DISCUSSION:**

A summary of analytical results for the on-site wells is shown in Table 2. The shallow groundwater flow is in a toward south to southwesterly direction. Groundwater elevation in the wells decreased from a minimum of 6-inches to a maximum of one foot since the last quarterly sampling.

The three on-site wells detected moderate to high levels of dissolved hydrocarbons. A comparison of recent sampling (September 1990) with TPE analytical results of April 1990, showed an increased in dissolved hydrocarbons in wells MW-1 and MW-2. In well MW-3, TPHg and Toluene levels decreased and Benzene, Ethylbenzene and Total Xylenes increased slightly.

**RECOMMENDATIONS:**

We recommend continued quarterly sampling of the on-site wells in order to monitor seasonal and long term dissolved hydrocarbon variation in the groundwater.

We believe that two more rounds of quarterly sampling at the site should provide enough data to adequately determine both groundwater gradient and variations in contaminant levels. The program should be re-assessed at that time to determine if further sampling is necessary.

This report should be submitted to ACHD and 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.



RICHARD DOWNS  
ENVIRONMENTAL EDITOR



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



FRANK HAMEDI-FARD  
GENERAL MANAGER

SOIL TECH ENGINEERING, INC.

TABLE 1  
SUMMARY OF ON-SITE  
GROUNDWATER MONITORING WELLS

Date	Well No.	Water* Depth feet	Product Thickness feet	Odor
9/26/90	MW-1	9.92	NP	Mild
	MW-2	10.83	NP	Mild
	MW-3	13.50	NP	Mild
5/17/90**	MW-1	9.26	NA	NA
	MW-2	10.00	NA	NA
	MW-3	12.42	NA	NA

\* = Below Ground Surface  
\*\* = Measured by TPE  
NP = None Present  
NA = Not Available

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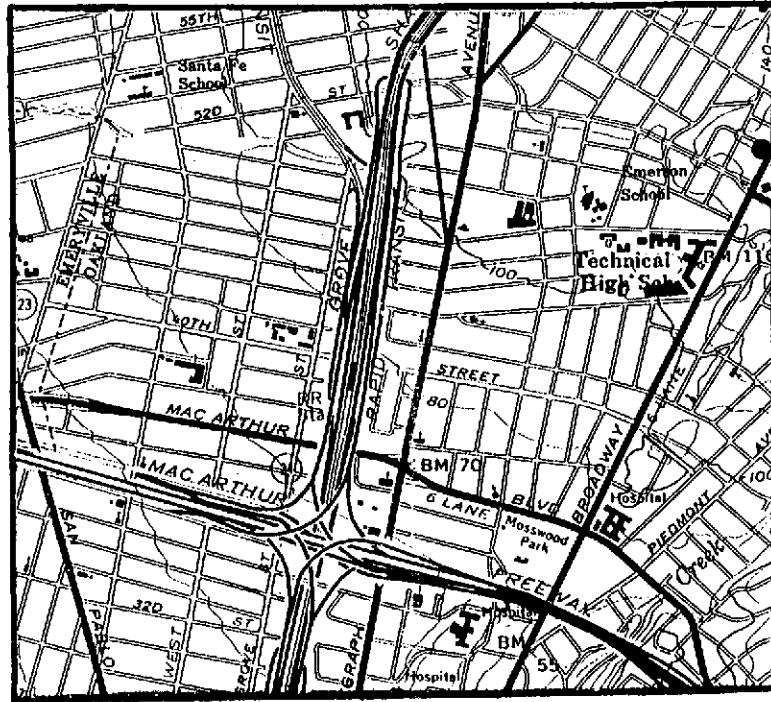
**TABLE 2**  
**SUMMARY OF GROUNDWATER ANALYTICAL RESULTS**  
**IN**  
**PARTS PER BILLION (ppb)**

Date	Well No.	TPHg	B	T	E	X
9/26/90	MW-1	1,300	55	31	120	100
	MW-2	850	94	5	25	47
	MW-3	54,000	5,100	420	1,600	8,000
4/30/89*	MW-1	200	18	5	2	12
	MW-2	230	39	18	5	23
	MW-3	56,000	3,600	8,600	1,300	7,200

TPHg = Total Petroleum Hydrocarbons as Gasoline

BTEX = Benzene, Toluene, Ethylbenzene, Xylene

\* = Analytical Results from TPE Site Assessment



Site  
Location



USGS 7.5 Minute Series  
Oakland West Quadrangle  
© 1980

Figure 1



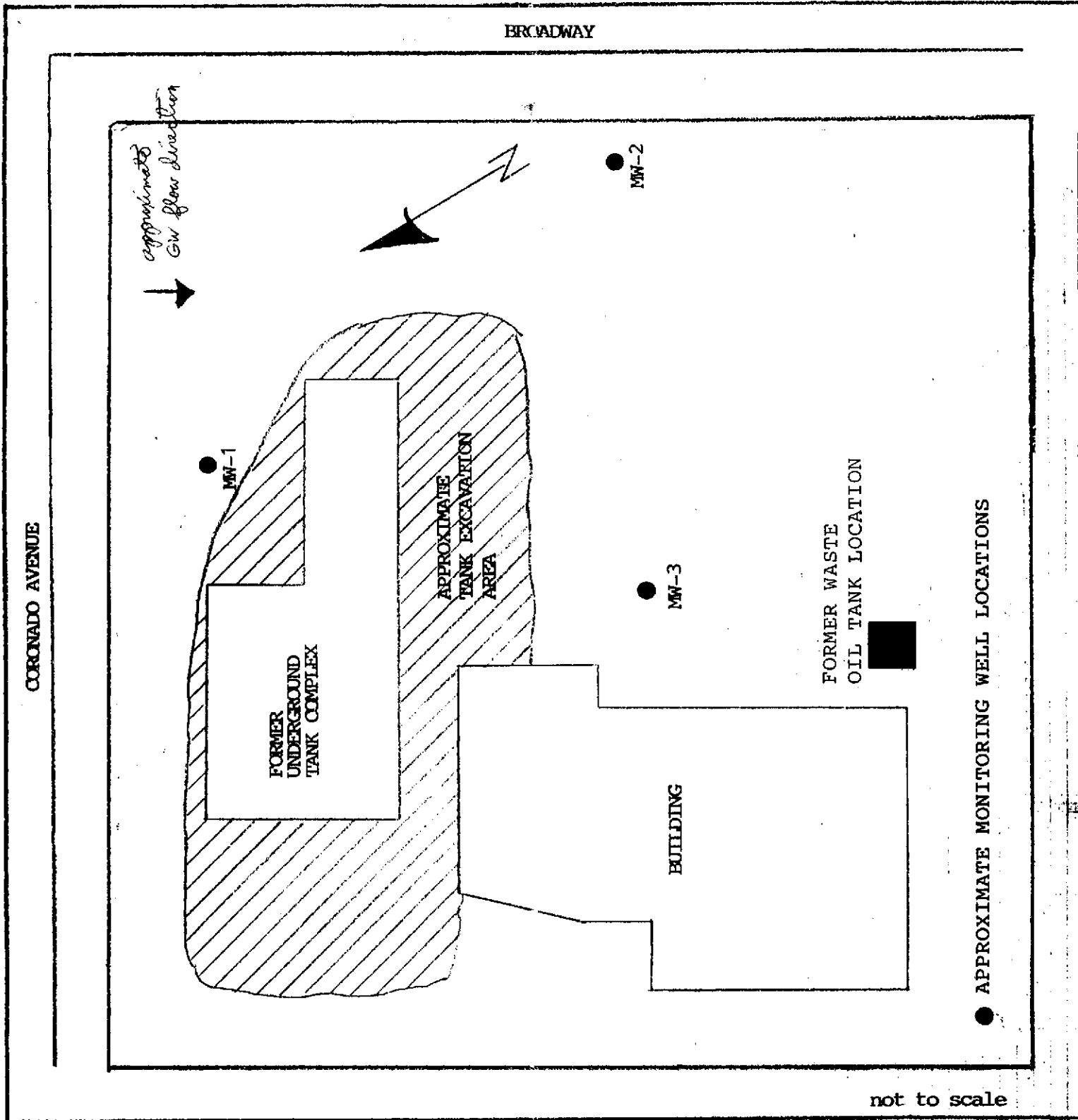


Figure 2

**ANAMETRIX INC**

Environmental & Analytical Chemistry  
1961 Concourse Drive, Suite F, San Jose, CA 95131  
(408) 432-8192 • Fax (408) 432-8198

**REPORT**

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

Workorder # : 9009276  
Date Received : 09/27/90  
Project ID : 8-90-420-GI  
Purchase Order: N/A

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

ANAMETRIX ID	CLIENT SAMPLE ID
9009276- 1	MW-1
9009276- 2	MW-2
9009276- 3	MW-3

This report is paginated for your convenience and ease of review. It contains 3 pages excluding the cover letter. The report is organized into sections. Each section contains all analytical results and quality assurance data related to a specific group or section within Anamatrix. The Report Summary that precedes each section will help you determine which group at Anamatrix generated the data. The Report Summary will contain the signatures of the department supervisor and a chemist, both of whom reviewed the analytical data. Please refer all questions to the department supervisor that signed the form.

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.

Burt Sutherland  
Laboratory Director

10-12-90  
Date

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

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

Workorder # : 9009276  
Date Received : 09/27/90  
Project ID : 8-90-420-GI  
Purchase Order: N/A  
Department : GC  
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9009276- 1	MW-1	H2O	09/26/90	TPHg/BTEX
9009276- 2	MW-2	H2O	09/26/90	TPHg/BTEX
9009276- 3	MW-3	H2O	09/26/90	TPHg/BTEX

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

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

Workorder # : 9009276  
Date Received : 09/27/90  
Project ID : 8-90-420-GI  
Purchase Order: N/A  
Department : GC  
Sub-Department: TPH

QA/QC SUMMARY :

-The surrogate recoveries for samples MW-1 and MW-2 are high due to the presence of interfering peaks.

Cheryl Basmer 10/11/90  
Department Supervisor Date

[Signature] 10-11-90  
Chemist Date

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

Anamatrix W.O.#: 9009276  
Matrix : WATER  
Date Sampled : 09/26/90

Project Number : 8-90-420-GI  
Date Released : 10/11/90

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# MW-1	Sample I.D.# MW-2	Sample I.D.# MW-3	Sample I.D.# 12B1010A
Benzene	0.5	55	94	5100	ND
Toluene	0.5	31	5	420	ND
Ethylbenzene	0.5	120	25	1600	ND
Total Xylenes	0.5	100	47	8000	ND
TPH as Gasoline	50	1300	850	54000	ND
% Surrogate Rec.		191%	161%	129%	59%
Instrument #		HP12	HP12	HP12	HP12
Date Analyzed		10/10/90	10/10/90	10/10/90	10/10/90
RLMF		5	2	250	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 8020.
- RLMF - Reporting Limit Multiplication Factor.

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

*[Signature]* 10-11-90  
Analyst Date

*Cheryl Balmer* 10/11/90  
Supervisor Date



CHAIN OF CUSTODY RECORD

Anaometry

PROJ. NO. 8-90-420-52		NAME 5175 Broadway OAKLAND		CON-TAINER	ANALYSES REQUESTED TPH G/BULK	REMARKS				
SAMPLERS: (Signature) <i>N. Amick</i>										
NO.	DATE	TIME	SOIL	WATER	LOCATION					
1	9/26	2:50		✓	MW-1	4	✓			
2	9/26	3:10		✓	MW-2	4	✓			
3	9/26	3:20		✓	MW-3	4	✓			
Relinquished by: (Signature) <i>N. Amick</i>		Date / Time 9/27/90	2:45	Received by: (Signature) <i>Benny &amp; Camijosa</i>	9-27-90	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 NTA			



**SOIL TECH ENGINEERING**  
Soil, Foundation and Geological Engineers