Epigene International
CONSULTING GEOLOGISTS

July 16, 1996

Mr. J. W. Silveira
499 Embarcadero
Oakland, CA 94606

Subject: Quarterly Monitoring Report for Site Located at 1200 20th Ave., Oakland

INTRODUCTION

The site is located at the northeast corner of 20th Avenue and Solano Way in Oakland. A location map is shown on Figure 1. Two gasoline tanks were removed from the site on January 19, 1994 . A report documenting the tank removal activities and soil sampling and analysis was prepared by Epigene International dated February 14, 1994.

Based on the presence of soil contamination below the tank, the Alameda County Department of Environmental Health requested a subsurface investigation to assess the possible impact of the contamination on groundwater. Three monitoring wells were installed at the locations shown on Figure 2 in February of 1995.

GROUNDWATER SAMPLING

The wells were purged and sampled on June 3, 1996. The purging was carried out using

an electric submersible pump. Each well was purged of approximately seven to ten casing volumes and allowed to recover prior to sampling. Purge water was placed in a 55 gallon drum and left in front of the building.

Groundwater samples were collected in a dedicated bailer and placed in 40 ml VOAS that were supplied by the laboratory. The VOAS were labeled and stored in a cooled ice chest for transportation to a State-certified laboratory under chain of custody control.

The groundwater samples from each well were analyzed for TPH as gasoline and BTEX compounds. Hydrocarbon contamination was detected in primarily in MW-1. Very low levels of Toluene and Xylenes were present in MW-2. Tables 1, 2 and 3 present a summary of the results through time for wells MW-1, MW-2 and MW-3 respectively. The certified laboratory report and chain of custody documentation for the groundwater samples is presented in Appendix A.

GROUNDWATER GRADIENT

The elevation for the top of casing of each well was surveyed in March 1995 to mean sea level based on the City of Oakland datum. Because the original gradient was more northerly than expected, the top of casing elevations were resurveyed on June 20 to assess whether or not there was a survey error. The resurveyed elevations were the same as the original elevations.

The direction and slope of the gradient was calculated using a three-point solution. The calculated groundwater elevations and the direction of the gradient for the June 3 gauging are shown on Figure 2. A graph showing changes in groundwater elevation through time

is presented in Figure 3. The direction of the gradient continues to be toward the north N11E). The slope of the gradient was calculated to be 0.07 ft/ft.

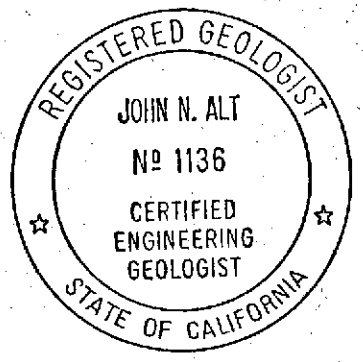
CONCLUSIONS AND RECOMMENDATIONS

This report presents the results of the fifth quarterly monitoring of the three wells located adjacent to the site. The levels of contamination in the wells continues to be relatively low and there has been no significant change in the past three quarters. It is recommended that the site status of the site be discussed with Mr. Barney Chan of Alameda County Department of Environmental Health Services to assess whether or not additional monitoring is required or if it is reasonable to apply for closure of the site.

The northward trend of the groundwater gradient continues to be somewhat anomalous to the northwestward trend that was expected for this area. However, MW-2 continues to be in the calculated down-gradient direction of the former tanks.

It is a pleasure to work with you on this project. Should you have any questions, please contact the undersigned. With your permission, I will request a meeting with Mr. Chan of Alameda County to review the site.

Sincerely,



John N. Alt
Certified Engineering Geologist No. 1136

cc: Mr. Robert Shapiro, Esq.
Mr. Barney Chan, Alameda County Dept. of Environmental Health

Attachments

Table 1 - Summary of Hydrocarbon Concentrations (in PPB) Detected in MW-1

Sampling Date	TPH Diesel	TPH Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	Lead
2/22/95	NA	1900	92	39	57	260	0.14
6/20/95	NA	4100	410	32	14	180	NA
10/16/95	NA	1300	180	22	32	81	NA
2/16/96	NA	1700	200	21	41	120	NA
6/03/96	NA	1900	160	7.0	34	31	NA

MW-1 is a 2 inch PVC well installed in February 1995 to a total depth of 30 feet.

NOTE: NA is not analyzed; ND is not detected above detection limits which are typically 50 PPB for diesel and gasoline and 0.5 PPB for BTEX; *TRPH is Total Recoverable Petroleum Hydrocarbons as oil and grease. Results for RPH is presented in PPM with a detection limit of 5 PPM.

Table 2 - Summary of Hydrocarbon Concentrations (in PPB) Detected in MW-2

Sampling Date	TPH Diesel	TPH Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	Lead
2/22/95	NA	ND	ND	ND	ND	ND	ND
6/20/95	NA	ND	1.8	ND	1.1	0.62	NA
10/16/95	NA	55	2.2	ND	1.5	ND	NA
2/16/96	NA	ND	3.3	2.7	0.99	2.4	NA
6/03/96	NA	ND	ND	0.60	ND	1.2	NA

MW- 2 is a 2 inch PVC well installed in February 1995 to a total depth of 35 feet.

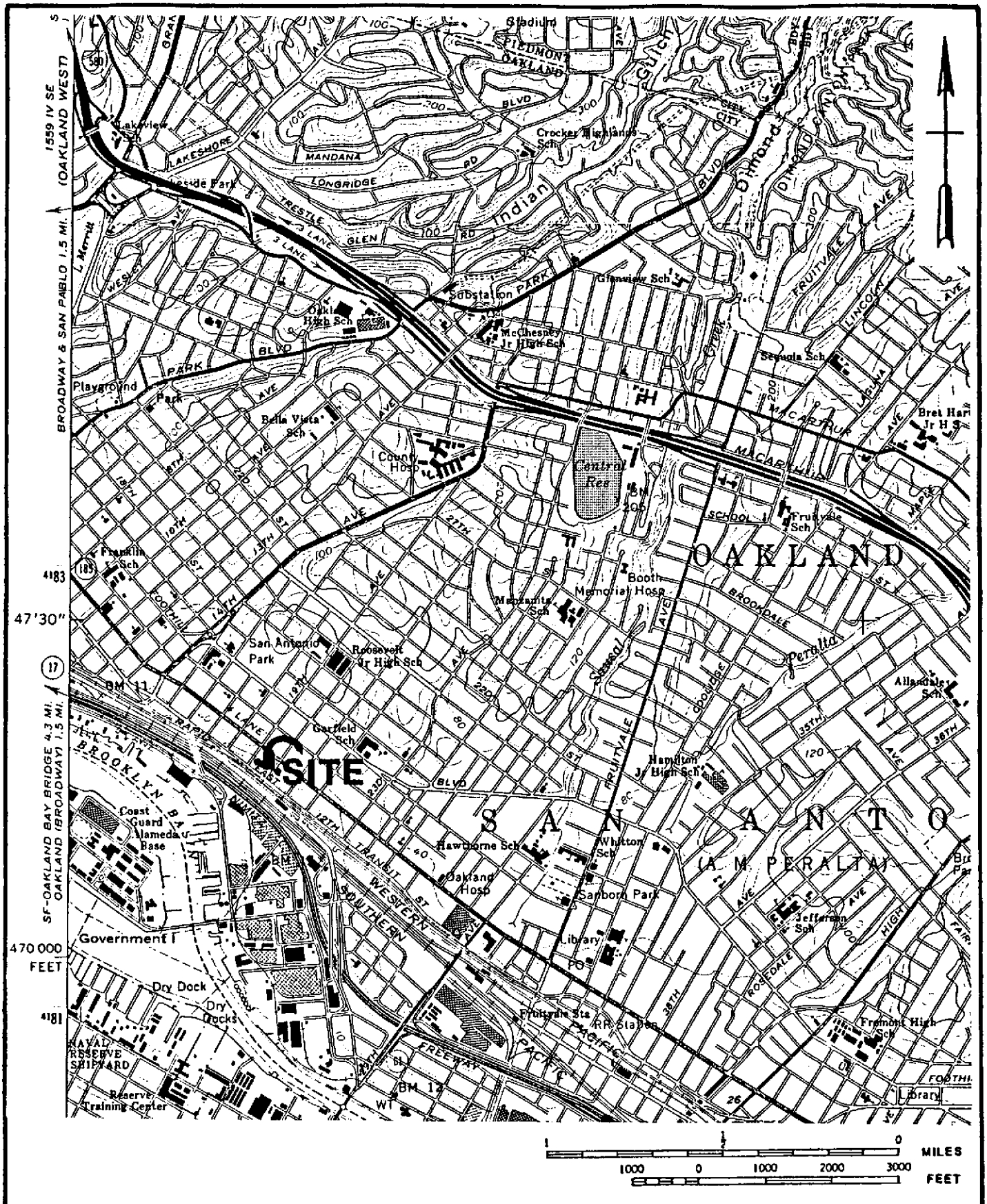
NOTE: NA is not analyzed; ND is not detected above detection limits which are typically 50 PPB for diesel and gasoline and 0.5 PPB for BTEX; *TRPH is Total Recoverable Petroleum Hydrocarbons as oil and grease. Results for TRPH is presented in PPM with a detection limit of 5 PPM.

Table 3 - Summary of Hydrocarbon Concentrations (in PPB) Detected in MW-3

Sampling Date	TPH Diesel	TPH Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	Lead
2/22/95	NA	ND	ND	ND	ND	ND	ND
6/20/95	NA	160	0.60	ND	0.60	0.72	NA
10/16/95	NA	130	5.8	ND	3.2	ND	NA
2/16/96	NA	54	5.6	2.8	2.9	8.1	NA
6/03/96	NA	ND	ND	ND	ND	ND	NA

MW-3 is a 2 inch PVC well installed in February 1995 to a total depth of 30 feet.

NOTE: NA is not analyzed; ND is not detected above detection limits which are typically 50 PPB for diesel and gasoline and 0.5 PPB for BTEX; *TRPH is Total Recoverable Petroleum Hydrocarbons as oil and grease. Results for TRPH is presented in PPM with a detection limit of 5 PPM.

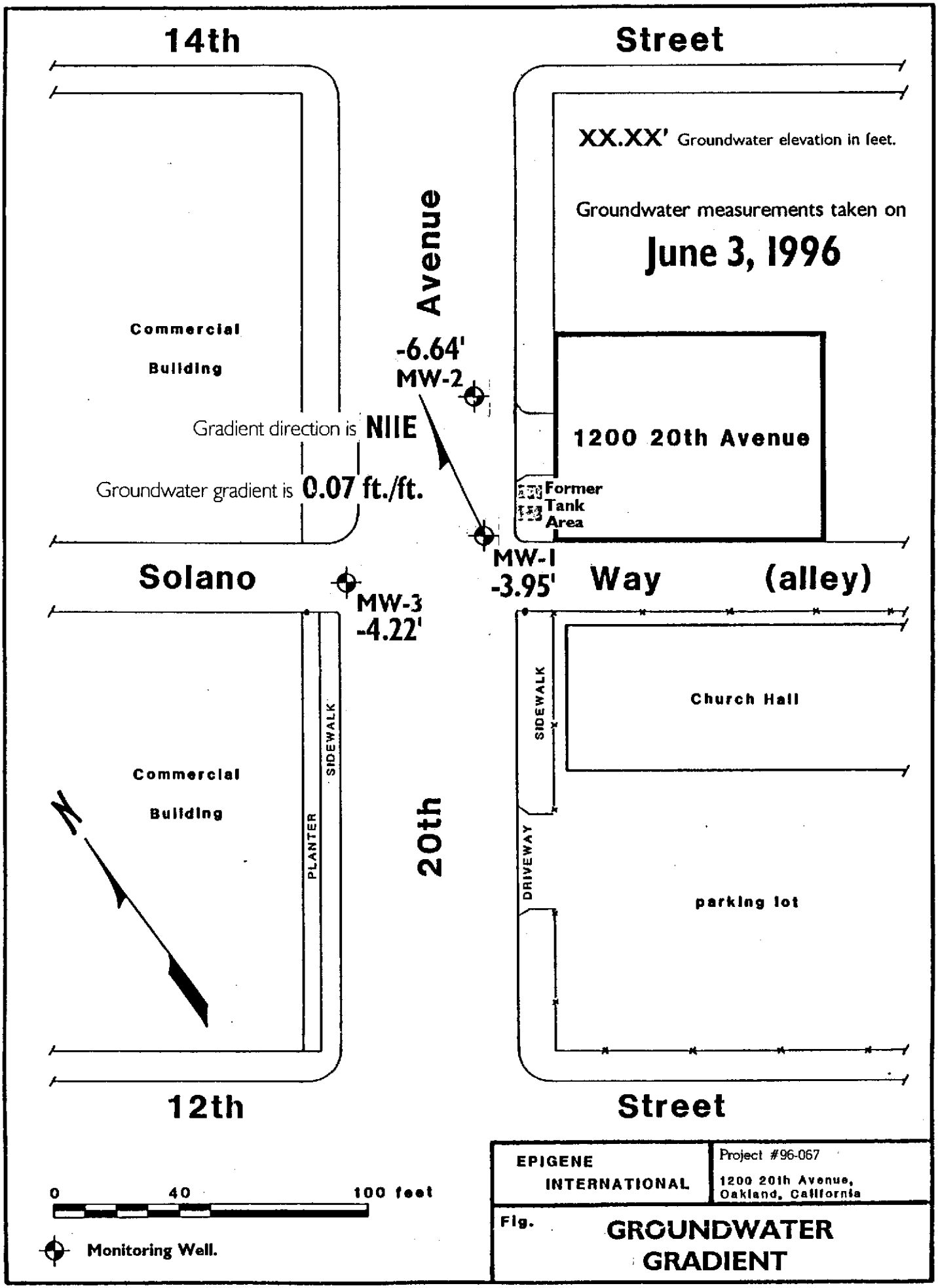


Base map from U.S.G.S. 7 1/2' series Oakland East quadrangle, 1980.

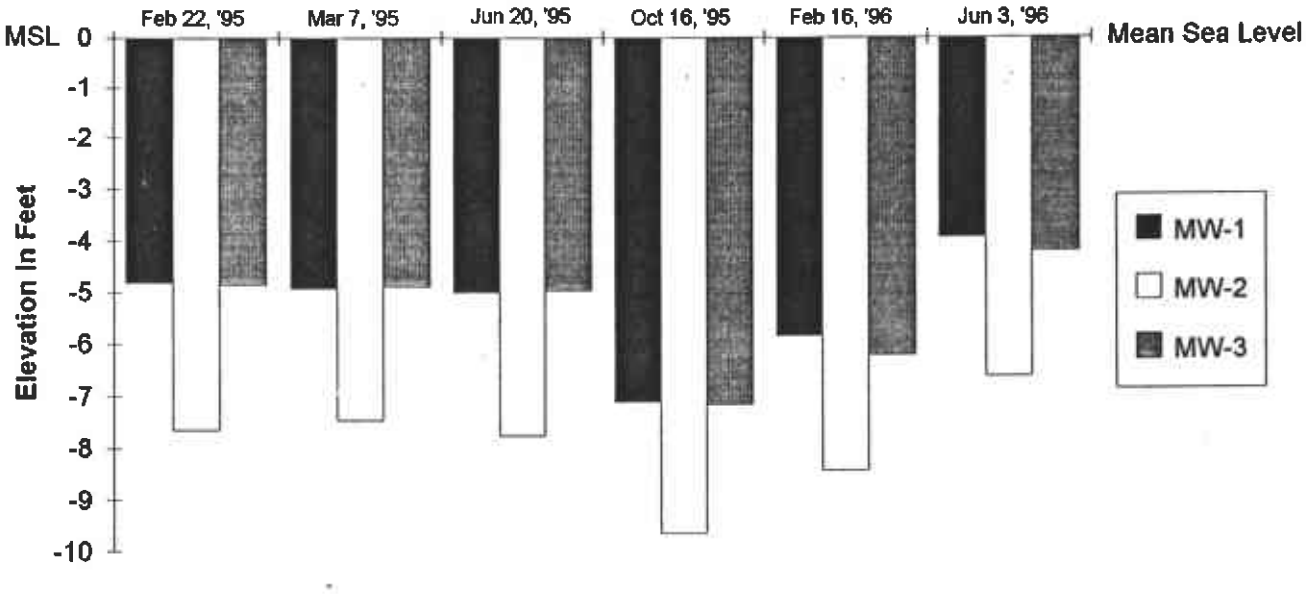
EPIGENE INTERNATIONAL	Project #96-067 1200 20th Avenue, Oakland, California.

Fig. 1

SITE LOCATION MAP


14th Street
XX.XX' Groundwater elevation in feet.
Groundwater measurements taken on
June 3, 1996
Avenue
Commercial Building
-6.64'
MW-2
Gradient direction is NIIE
Groundwater gradient is 0.07 ft./ft.
1200 20th Avenue
Former Tank Area
MW-1
-3.95'
Solano Way (alley)
MW-3
-4.22'
SIDEWALK
Church Hall
Commercial Building
PLANTER
SIDEWALK
20th
DRIVEWAY
parking lot
12th Street
0 40 100 feet
Monitoring Well.
EPIGENE INTERNATIONAL
Project #96-067
1200 20th Avenue, Oakland, California
Fig.
GROUNDWATER GRADIENT

Groundwater Elevations, 1200 20th Avenue, Oakland



APPENDIX A

CERTIFIED LABORATORY REPORT

McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

06/10/96

Dear John:

Enclosed are:

1). the results of **3** samples from your **1200 20th Avenue, Oakland** project,

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Edward Hamilton

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

Epigene International 38750 Paseo Padre Pkwy, # A11 Fremont, CA 94536	Client Project ID: 1200 20th Avenue, Oakland	Date Sampled: 06/03/96
		Date Received: 06/03/96
	Client Contact: John Alt	Date Extracted: 06/03/96
	Client P.O:	Date Analyzed: 06/03/96

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g)+	Benzene	Toluene	Ethylben-zene	Xylenes	% Rec. Surrogate
65604	MW-1	W	1900,a	160	7.0	34	31	105
65605	MW-2	W	ND	ND	0.60	ND	1.2	97
65606	MW-3	W	ND	ND	ND	ND	ND	98
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

cluttered chromatogram; sample peak coelutes with surrogate peak

+ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~ 5 vol. % sediment; j) no recognizable pattern.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 06/03/96 Matrix: Water

Analyte	Concentration (ug/L) Sample (#65589)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.0	122.6	106.4	100.0	122.6	106.4	14.1
Benzene	0.0	10.0	10.1	10.0	100.0	101.0	1.0
Toluene	0.0	9.7	9.8	10.0	97.0	98.0	1.0
Ethyl Benzene	0.0	9.7	9.7	10.0	97.0	97.0	0.0
Xylenes	0.0	28.2	28.2	30.0	94.0	94.0	0.0
TPH (diesel)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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CHAIN OF CUSTODY

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CONSULTING GEOLOGISTS
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Business: (510) 791-1986 FAX: (510) 791-3306

Laboratory:	McCampbell Analytical
	110 2nd Avenue South, D-7
	Pacheco, California 94553.
	telephone: (510) 798-1620 FAX: (510) 798-1622
Contact:	Ed Hamilton

Contact: Jack Alt	Sampler: Mike D.
Project Name: 1200 20th Avenue, Oakland	
Project no.	Date:

Sample I.D.	Date/Time Sampled	Matrix Desc.	Container No. of	Container Type	Comments	TPH/Gasoline	BTEX	TPH/Diesel	601/8010	602/8020	Total Oil & Grease			Lab. #
1. MW-1	June 3, 2pm	water	2	VOA		✓	✓							65604
2. MW-2	" "	"	"	"		✓	✓							65605
3. MW-3	" "	"	"	"		✓	✓							65606
4.														
5.														
6.														
7.														
8.					ICE/T ✓							VOAS	O&G	METALS OTHER
9.					GOOD CONDITION ✓									
10.					HEAD SPACE ABSENT ✓							PRESERVATIVE APPROPRIATE ✓		
					CONTAINERS ✓							✓	✓	

Relinquished by:	Date: 6/3/96	Time: 3:05 pm	Received by: Heidi Mirza	Date: 6/3/96	Time: 3:05
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

Turnaround Time: 5 day

Additional Comments:

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