Epigene International
CONSULTING GEOLOGISTS

6/28/93

71

Still waiting for a "real" wp for additional borings + MW installation

April 5, 1993

Bernabe and Brinker, Inc.
1281 30th Street
Oakland, CA 94608

Attn: Mr. James Brinker

Subject: Results of Groundwater Sampling and Analyses,
2301 East 12th Street, Oakland

Dear Mr. Brinker:

The site is located at the southwest corner of the intersection of East 12th Street and 23rd Ave. The location is shown on the attached location map (Plate 1). As per our agreement, the following tasks were carried out at the subject site in March of this year:

1) Monitoring of groundwater levels at the site as required as part of the overall site monitoring;

2) Quarterly sampling and analyses of the groundwater from the three wells on site as required by Alameda County. The water sample from each well were tested for TPH as gasoline with BTEX and TPH as diesel fuel.

3) Analyses of the water samples from the three wells by EPA method

8010 as per the request of Mr. Barney Chan of Alameda County. Other requested analyses were not carried out during the March sampling because we had already initiated the sampling prior to the request. Additional sampling will be carried out to provide the additional data required for waste oil tank monitoring.

4) Provide recommendations for additional work as may be required to comply with the requests from the county.

The groundwater levels measured for the three wells are listed below:

WELL	DEPTH	RELATIVE ELEVATION
MW-1	7.45	NA
MW-2	4.71	NA
MW-3	6.07	NA

As reported earlier, the groundwater level data are inconsistent with the data previously reported for the site (Artesian Environmental Consultants, Aug. 1992). The relative elevations for the top of casing for the three wells as previously reported appear to be incorrect and new elevations need to be run. It is therefore not possible to calculate the exact gradient based on the existing data. The gradient appears to be toward the northwest, consistent with the regional setting.

Wells MW-2 and MW-3 were purged, by bailing, of approximately 7 gallons of water and a groundwater sample was collected using a disposable bailer for each well. Because of the extended depth of MW-1, it was purged of approximately 15 gallons of water. MW-1 was sampled as discussed above. The samples were placed in a cooled ice chest and transported to a Certified Laboratory for analyses following chain of custody procedures. A copy of the chain of custody form is included in Appendix A. The purge water was placed

in 55 gallon drums that were present on site.

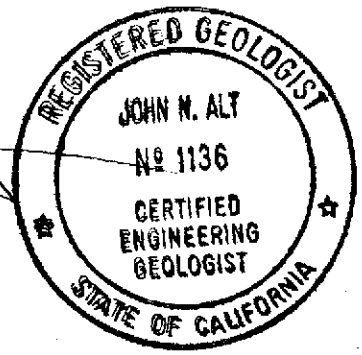
Prior to purging, each well was checked for the presence of floating product. MW-2 had 0.02 feet of product (gasoline ?) on top of the groundwater which is significantly less than what was present in the Nov. 1992 sampling. No evidence of sheen or free product was present in wells MW-1 and MW-3.

The laboratory results are attached to this report as Appendix A and are summarized on Table 1. They indicate that relatively high levels of TPH as both gasoline and diesel continue to be present in all three wells with the highest concentration in MW-2. BTEX compounds are also present in the groundwater samples from each of the wells. The results of the 8010 analyses were all "nondetected" except for .0058 ppm of TCE in MW-1. The locations of the wells are shown on the attached site plan (Plate 2).

Because of the relatively high concentrations of TPH and BTEX in the groundwater and the presence of free product in MW-2 (which is located just offsite), additional exploratory work will be required to further characterize the site and site area. In addition, groundwater remediation will probably be required at the site. The recommendations for additional characterization and remediation will be provided in a separate letter.

It is recommended that the quarterly sampling and monitoring of groundwater levels in the three existing wells continue. It is a pleasure to continue to work with you on this project. Should you have any questions please contact the undersigned.

Sincerely,



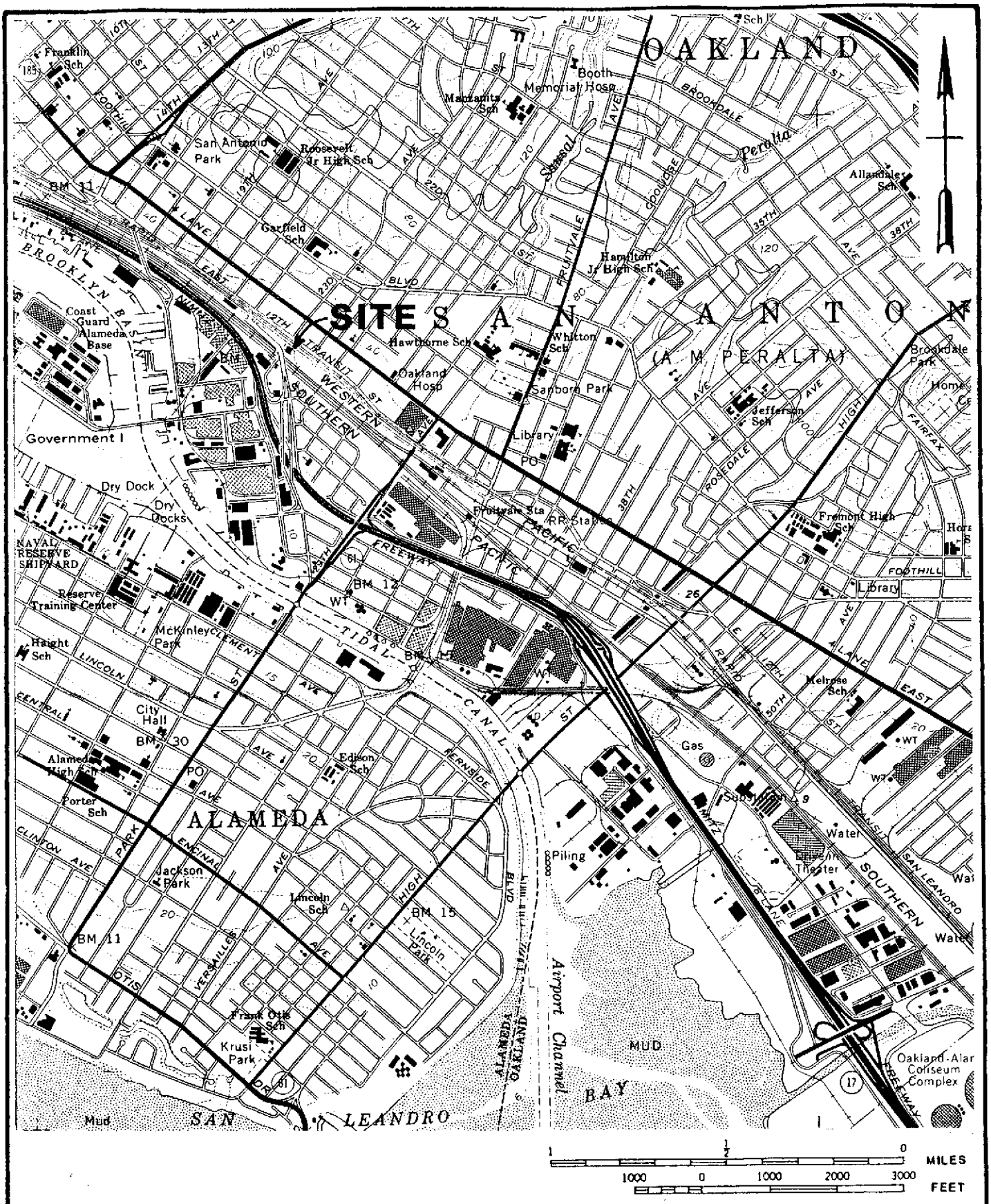
John N. Alt, CEG No. 1136

TABLE 1 - SUMMARY OF GROUNDWATER ANALYSES RESULTS IN PARTS PER MILLION (ppm)

2301 12 Street, Oakland

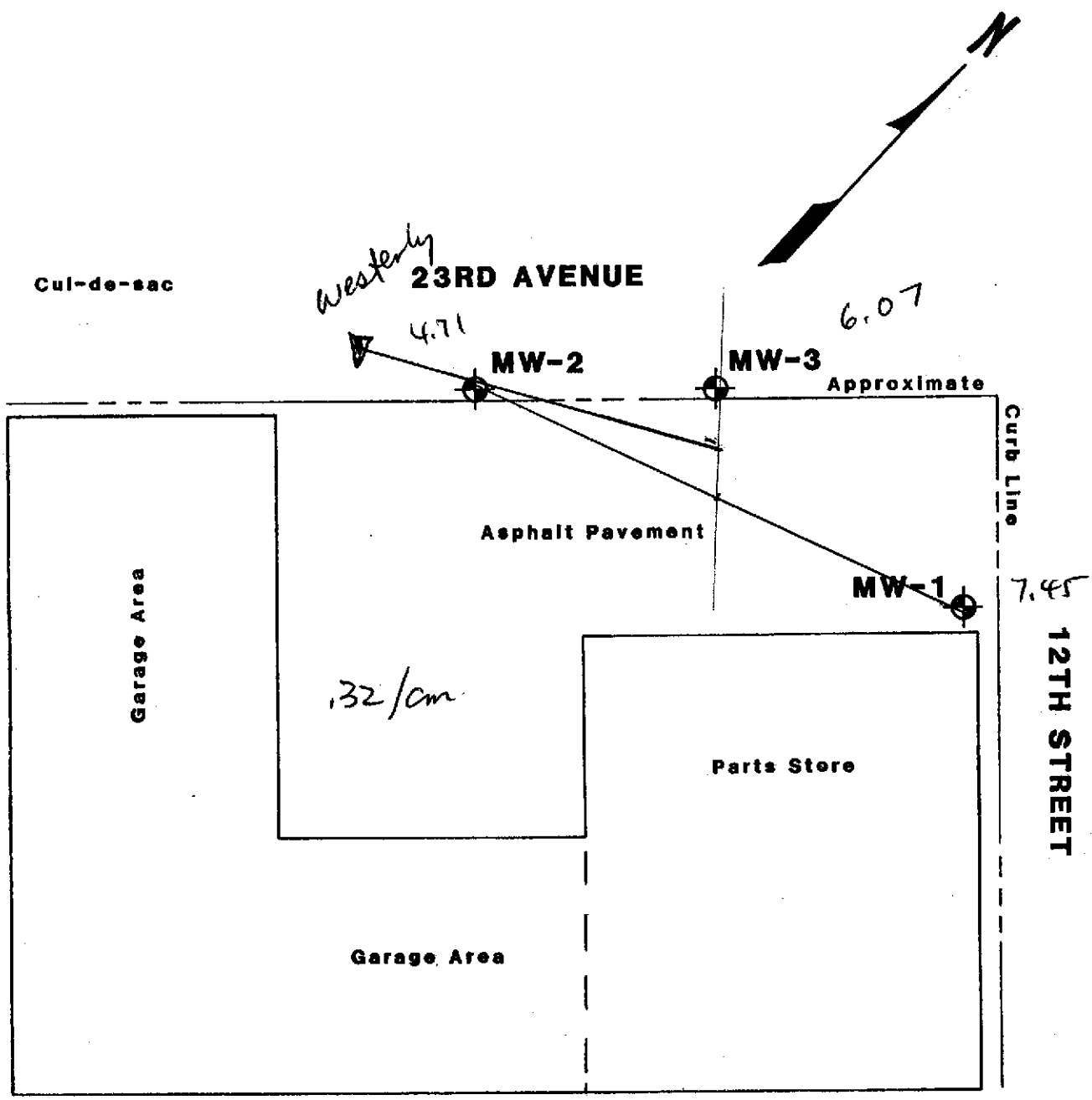
DATE	WELL NO.		TPH DIESEL	TPH GASOLINE	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENE
7/27/92*	MW-1		0.360	1.800	0.600	0.005	0.013	0.018
	MW-2		1.500	20.000	0.110	0.006	0.037	0.039
	MW-3		4.000	8.800	0.150	0.009	0.088	0.013
11/6/92	MW-1		0.670	8.000	2.400	0.006	0.041	ND
	MW-2		17.000	19.000	2.800	0.120	0.790	1.100
	MW-3		21.000	10.000	0.078	0.003	0.830	0.013
3/02/93	MW-1		1.100	5.600	3.800	ND	0.120	ND
	MW-2		37.000	14.000	3.800	0.110	0.950	1.100
	MW-3		9.300	3.900	0.120	ND	0.240	0.037

* Data for 7/27/92 from Artesian Environmental Consultants



From U.S.G.S. 7 1/2° Quadrangle OAKLAND EAST

PLATE	No.
SITE LOCATION MAP	



Map derived from
Artesian Environmental Consultants,
Mill Valley, California
July, 1992

Approximate Scale: 1 Inch equals 20 Feet

PLATE	No.
SITE MAP	

APPENDIX A

LABORATORY RESULTS

Trace Analysis Laboratory, Inc.
3423 Investment Boulevard, #8 • Hayward, California 94545
Telephone (510) 783-6960
Facsimile (510) 783-1512

TAL

March 25, 1993

Mr. John N. Alt
Epigene International
38750 Paseo Padre Parkway, Suite B-4
Fremont, California 94536

Dear Mr. Alt:

Trace Analysis Laboratory received three water samples on March 2, 1993 for your Project No. 93-008, 2301 E. 12th Street, Oakland (our custody log number 3007).

These samples were analyzed for Total Petroleum Hydrocarbons as Diesel and Gasoline, Benzene, Toluene, Ethylbenzene, Xylenes and by EPA Method 8010. Our analytical report and the completed chain of custody form are enclosed for your review.

Trace Analysis Laboratory is certified under the California Environmental Laboratory Accreditation Program. Our certification number is 1199.

If you should have any questions or require additional information, please call me.

Sincerely yours,

Rachel Dolbier
Project Specialist

Enclosures

Trace Analysis Laboratory, Inc.
3423 Investment Boulevard, #8 • Hayward, California 94545
Telephone (510) 783-6960
Facsimile (510) 783-1512

TAL

LOG NUMBER: 3007
DATE SAMPLED: 03/02/93
DATE RECEIVED: 03/02/93
DATE EXTRACTED: 03/11/93
DATE ANALYZED: 03/20/93 and 03/24/93
DATE REPORTED: 03/25/93

CUSTOMER: Epigene International

REQUESTER: John N. Alt

PROJECT: No. 93-008, 2301 E. 12th Street, Oakland

Sample Type: Water

Method and Constituent:	Units	MW-1 Concentration	MW-1 Reporting Limit	MW-2 Concentration	MW-2 Reporting Limit	MW-3 Concentration	MW-3 Reporting Limit
DHS Method:							
Total Petroleum Hydrocarbons as Diesel	ug/l	1,100	50	37,000	50	9,300	50

Method and Constituent:	Units	Method Blank Concentration	Method Blank Reporting Limit
DHS Method:			
Total Petroleum Hydrocarbons as Diesel	ug/l	ND	50

QC Summary:

% Recovery: 80, 81
% RPD: 22, 0.08

Concentrations reported as ND were not detected at or above the reporting limit.

These samples contain compounds eluting earlier than the diesel standard.

TAL Trace Analysis Laboratory, Inc.

LOG NUMBER: 3007
DATE SAMPLED: 03/02/93
DATE RECEIVED: 03/02/93
DATE ANALYZED: 03/16/93
DATE REPORTED: 03/25/93
PAGE: Two

Sample Type: Water

Method and Constituent:	Units	MW-1 Concentration	MW-1 Reporting Limit	MW-2 Concentration	MW-2 Reporting Limit	MW-3 Concentration	MW-3 Reporting Limit
DHS Method:							
Total Petroleum Hydrocarbons as Gasoline	ug/l	5,600	290	14,000	290	3,900	58
Modified EPA Method 8020 for:							
Benzene	ug/l	3,800	30	3,800	30	120	6.0
Toluene	ug/l	ND	28	110	28	ND	5.7
Ethylbenzene	ug/l	120	33	950	33	240	6.5
Xylenes	ug/l	ND	82	1,100	82	37	16

Method and Constituent:	Units	Method Blank Concentration	Method Blank Reporting Limit
DHS Method:			
Total Petroleum Hydrocarbons as Gasoline	ug/l	ND	50
Modified EPA Method 8020 for:			
Benzene	ug/l	ND	0.50
Toluene	ug/l	ND	0.50
Ethylbenzene	ug/l	ND	0.50
Xylenes	ug/l	ND	1.5

QC Summary:

% Recovery: 106
% RPD: 1.4

Concentrations reported as ND were not detected at or above the reporting limit.

LOG NUMBER: 3007
DATE SAMPLED: 03/02/93
DATE RECEIVED: 03/02/93
DATE ANALYZED: 03/07/93
DATE REPORTED: 03/25/93
PAGE: Three

Sample Type: Water

Method and Constituent	Units	MW-1 Concentration	MW-1 Reporting Limit	MW-2 Concentration	MW-2 Reporting Limit	MW-3 Concentration	MW-3 Reporting Limit
EPA Method 8010:							
Benzyl Chloride	ug/l	ND	120	ND	120	ND	120
Bromobenzene	ug/l	ND	120	ND	120	ND	120
Bromodichloromethane	ug/l	ND	2.0	ND	2.0	ND	2.0
Bromoform	ug/l	ND	2.0	ND	2.0	ND	2.0
Bromomethane	ug/l	ND	6.0	ND	6.0	ND	6.0
Carbon Tetrachloride	ug/l	ND	6.0	ND	6.0	ND	6.0
Chlorobenzene	ug/l	ND	2.0	ND	2.0	ND	2.0
Chloroethane	ug/l	ND	6.0	ND	6.0	ND	6.0
2-Chloroethyl Vinyl Ether	ug/l	ND	6.0	ND	6.0	ND	6.0
Chloroform	ug/l	ND	2.0	ND	2.0	ND	2.0
Chloromethane	ug/l	ND	6.0	ND	6.0	ND	6.0
Dibromochloromethane	ug/l	ND	2.0	ND	2.0	ND	2.0
Dibromomethane	ug/l	ND	120	ND	120	ND	120
1,2-Dichlorobenzene	ug/l	ND	6.0	ND	6.0	ND	6.0
1,3-Dichlorobenzene	ug/l	ND	6.0	ND	6.0	ND	6.0
1,4-Dichlorobenzene	ug/l	ND	6.0	ND	6.0	ND	6.0
Dichlorodifluoromethane	ug/l	ND	6.0	ND	6.0	ND	6.0
1,1-Dichloroethane	ug/l	ND	2.0	ND	2.0	ND	2.0
1,2-Dichloroethane	ug/l	ND	2.0	ND	2.0	ND	2.0
1,1-Dichloroethene	ug/l	ND	2.0	ND	2.0	ND	2.0

Concentrations reported as ND were not detected at or above the reporting limit.

LOG NUMBER: 3007
DATE SAMPLED: 03/02/93
DATE RECEIVED: 03/02/93
DATE ANALYZED: 03/07/93
DATE REPORTED: 03/25/93
PAGE: Four

Sample Type: Water

Method and Constituent	Units	MW-1 Concentration	MW-1 Reporting Limit	MW-2 Concentration	MW-2 Reporting Limit	MW-3 Concentration	MW-3 Reporting Limit
EPA Method 8010 (Continued):							
trans-1,2-Dichloroethene	ug/l	ND	2.0	ND	2.0	ND	2.0
Dichloromethane	ug/l	ND	120	ND	120	ND	120
1,2-Dichloropropane	ug/l	ND	2.0	ND	2.0	ND	2.0
cis-1,3-Dichloropropene	ug/l	ND	2.0	ND	2.0	ND	2.0
trans-1,3-Dichloropropene	ug/l	ND	2.0	ND	2.0	ND	2.0
1,1,2,2-Tetrachloroethane	ug/l	ND	2.0	ND	2.0	ND	2.0
1,1,1,2-Tetrachloroethane	ug/l	ND	120	ND	120	ND	120
Tetrachloroethene	ug/l	ND	2.0	ND	2.0	ND	2.0
1,1,1-Trichloroethane	ug/l	ND	2.0	ND	2.0	ND	2.0
1,1,2-Trichloroethane	ug/l	ND	2.0	ND	2.0	ND	2.0
Trichloroethene	ug/l	5.8	2.0	ND	2.0	ND	2.0
Trichlorofluoromethane	ug/l	ND	2.0	ND	2.0	ND	2.0
1,2,3-Trichloropropane	ug/l	ND	120	ND	120	ND	120
Vinyl Chloride	ug/l	ND	6.0	ND	6.0	ND	6.0

Concentrations reported as ND were not detected at or above the reporting limit.

TAL Trace Analysis Laboratory, Inc.

LOG NUMBER: 3007
DATE SAMPLED: 03/02/93
DATE RECEIVED: 03/02/93
DATE ANALYZED: 03/07/93
DATE REPORTED: 03/25/93
PAGE: Five

Sample Type: Water

Method and Constituent	Units	Method Blank Concentration	Method Blank Reporting Limit
EPA Method 8010:			
Benzyl Chloride	ug/l	ND	120
Bromobenzene	ug/l	ND	120
Bromodichloromethane	ug/l	ND	2.0
Bromoform	ug/l	ND	2.0
Bromomethane	ug/l	ND	6.0
Carbon Tetrachloride	ug/l	ND	6.0
Chlorobenzene	ug/l	ND	2.0
Chloroethane	ug/l	ND	6.0
2-Chloroethyl Vinyl Ether	ug/l	ND	6.0
Chloroform	ug/l	ND	2.0
Chloromethane	ug/l	ND	6.0
Dibromochloromethane	ug/l	ND	2.0
Dibromomethane	ug/l	ND	120
1,2-Dichlorobenzene	ug/l	ND	6.0
1,3-Dichlorobenzene	ug/l	ND	6.0
1,4-Dichlorobenzene	ug/l	ND	6.0
Dichlorodifluoromethane	ug/l	ND	6.0
1,1-Dichloroethane	ug/l	ND	2.0
1,2-Dichloroethane	ug/l	ND	2.0
1,1-Dichloroethene	ug/l	ND	2.0

Concentrations reported as ND were not detected at or above the reporting limit.

LOG NUMBER: 3007
DATE SAMPLED: 03/02/93
DATE RECEIVED: 03/02/93
DATE ANALYZED: 03/07/93
DATE REPORTED: 03/25/93
PAGE: Six

Sample Type: Water

Method and Constituent	Units	Method Blank Concentration	Method Blank Reporting Limit
EPA Method 8010 (Continued):			
trans-1,2-Dichloroethene	ug/l	ND	2.0
Dichloromethane	ug/l	ND	120
1,2-Dichloropropane	ug/l	ND	2.0
cis-1,3-Dichloropropene	ug/l	ND	2.0
trans-1,3-Dichloropropene	ug/l	ND	2.0
1,1,2,2-Tetrachloroethane	ug/l	ND	2.0
1,1,1,2-Tetrachloroethane	ug/l	ND	120
Tetrachloroethene	ug/l	ND	2.0
1,1,1-Trichloroethane	ug/l	ND	2.0
1,1,2-Trichloroethane	ug/l	ND	2.0
Trichloroethene	ug/l	ND	2.0
Trichlorofluoromethane	ug/l	ND	2.0
1,2,3-Trichloropropane	ug/l	ND	120
Vinyl Chloride	ug/l	ND	6.0

QC Summary:

% Recovery: 110
% RPD: 3.8

Concentrations reported as ND were not detected at or above the reporting limit.

Louis W. DuPuis
Quality Assurance/Quality Control Manager

CHAIN OF CUSTODY

3007

Epigene International
CONSULTING GEOLOGISTS
38750 Paseo Padre Parkway, Suite B-4
Fremont, California, 94536
Business: (510) 791-1986 FAX: (510) 791-3306

Laboratory: TAL	
3423 Investment Blvd, # 8	
Hayward, CA 94545	
783-6960	
Contact:	

Contact: J. Alt	Sampler: Mike
Project Name: 2301 E. 12th St, Oakland	No. 93-008
Date: 3/2/93	

Sample I.D.	Date/Time Sampled	Matrix Desc.	Container No. of	Container Type	Lab. #	TPH/Gasoline	w/ BTEX	TPH/Diesel	601/8010	602/8020					Comments
1. MW-1	3/2/93	H_2O	2	40ml VOAs		X	X		X						w/HCl
2. "	" PM	"	1	liter bottle				X							
3. MW-2	3/2/93	H_2O	2	40ml VOAs		X	X		X						w/HCl
4. "	" PM	"	1	liter bottle				X							
5. MW-3	3/2/93	H_2O	2	40ml VOAs		X	X		X						w/HCl
6. "	" PM	H_2O	1	liter bottle				X							
7.															
8.															
9.															
10.															

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
[signature]	3/2/93	4:50			
			K Dolton TAL	3/2/93	4:50

Turnaround Time: Standard

Additional Comments: MW-2 had very strong odor of gasoline and well-defined sheen | W-in water, 2 40ml HCl, (1) 1L Unp, ice, white Reg. TAT, KY

Page 1 of 1