



**Epigene International**  
CONSULTING GEOLOGISTS

October 16, 1996

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

Subject: Quarterly Monitoring Report for Site Located at 2301 East 12th Street, Oakland

The purpose of this report is to provide the results of the site investigations carried out in the third quarter of 1996 at the subject site. The site is located at the southwest corner of the intersection of East 12th Street and 23rd Avenue in Oakland. The site location is shown on Figure 1. A site plan is presented on Figure 2. The site is presently occupied by Discount Brakes and Tires.

There are six monitoring wells and one extraction well located on or adjacent to the site. The well locations are shown on Figure 2. Gauging of the depth to groundwater was carried out for each project well on September 17, 1996 prior to any purging of the wells. An electronic probe was used to measure the depth to groundwater from the survey mark on the top of the casing. The probe is calibrated to hundredths of a foot. Several of the wells had significant vapor pressure and up to 2 hours were required for the water levels in the wells to stabilize. The groundwater elevations were calculated and are presented on Figure 3. Groundwater elevation contours are also plotted on Figure 3.

In addition to the contouring, a direction and slope of the gradient was also calculated by a graphical

solution to a three-point problem based on the groundwater elevations of MW-1, MW-5, AND MW-6. The results of this calculation are plotted on Figure 3. The direction of the gradient is generally consistent with the groundwater elevation contouring and most of the more recent previous calculations.

Groundwater samples were collected on September 17 from all of the project wells. The wells were purged of approximately five casing volumes prior to sampling by bailing or pumping with a purge pump. Purge water was placed in new 55 gallon drums and left on the site. The samples were collected using a dedicated bailer for each well. The samples were placed in appropriate sample containers provided by the laboratory. After labeling each sample, it was stored in a cooled ice chest and transferred to a State certified laboratory under chain-of-custody control.

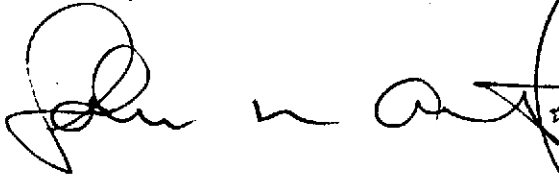
The requested analysis for each sample was based on the original Workplan, amendment, and the results of the past quarter sampling and analysis. The results of the water samples are summarized on tables 1 through 7 for each well. The tables also include the results of previous data for each well. In addition, LUFT metals were run for the samples from MW-2, MW-3, AND EW-1. These results are included in Appendix A.

The certified Laboratory Report and chain-of -custody documentation are included in Appendix A. Significant levels of contamination continue to be present in all of the project wells. Graphs showing concentrations of contamination for each well are presented on Figure 4.

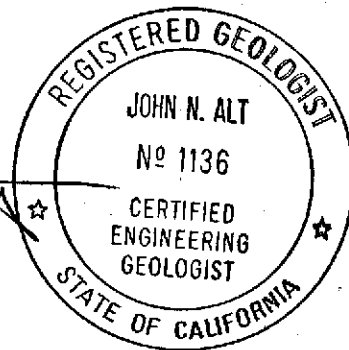
Quarterly Monitoring Report  
2301 East 12th Street, Oakland  
October 16, 1996  
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We appreciate the opportunity to of service to you on this project. Should you have any questions, please contact the undersigned.

Sincerely,



John N. Alt, CEG No. 1136



Attachments

cc: Mr. Barney Chan, Alameda County Department of Environmental Health  
Mr. Robert Shapiro, Esquire

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

Sampling Date	TPH Diesel	TPH Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	TRPH*
7/27/92	360	1800	600	5.1	13	18	ND
11/6/92	670	8000	2400	6.1	41	ND	NA
3/2/93	1100	5600	3800	ND	120	ND	NA
5/26/93	1700	4800	3400	44	140	150	NA
8/27/93	1200	8400	2300	35	180	57	ND
12/23/93	ND	7800	29	16	5.8	26	NA
3/27/94	2600	10,000	2400	84	310	280	NA
6/24/94	1500	9000	2300	44	260	170	NA
10/16/94	2000	10,000	2100	35	250	140	NA
2/13/95	2500	16,000	3200	110	460	260	NA
6/20/95	3500	18,000	2600	87	450	220	NA
10/16/95	2700	13,000	2200	63	220	110	NA
2/15/96	16,000	11,000	1400	25	130	81	NA
6/18/96	8000	12,000	2500	72	190	130	NA
9/17/96	3100	7000	1200	29	86	55	NA

MW-1 is a 2 inch PVC well installed 12/23/91 to a total depth of 28 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 1B-Summary of Volatile Halocarbon Concentrations (in PPB) Detected in MW-1

Ind soil =  
 .01 mg/kg  
 (10 ppb)

PRGs <sup>TOP</sup> <sub>120</sub> 39 710 0.12 61 55 1.1 1.6 (0.02) ppb

Sampling Date	Chloro-benzene	Chloro-ethane	1,2-Di Chloro-ethane	Cis 1,2 Dichloro-ethene	Trans 1,2 Dichloro-ethene	PCE	TCE	Vinyl Chloride
7/27/92	NA	NA	NA	NA	NA	NA	NA	NA
11/6/92	NA	NA	NA	NA	NA	NA	NA	NA
3/2/93	ND	ND	ND	ND	ND	ND	5.8	ND
5/26/93	ND	ND	ND	ND	ND	ND	6.8	ND
8/27/93	ND	ND	ND	1.1	ND	5.4	ND	ND
12/23/94	NA	NA	NA	NA	NA	NA	NA	NA
3/27/94	NA	NA	NA	NA	NA	NA	NA	NA
6/24/94	NA	NA	NA	NA	NA	NA	NA	NA
10/16/94	NA	NA	NA	NA	NA	NA	NA	NA
2/13/95	ND	ND	ND	1.3	ND	ND	ND	ND
6/20/95	ND	1.1	ND	1.1	ND	ND	6.5	ND
10/16/95	ND	ND	ND	0.84	ND	ND	2.5	ND
2/15/96	ND	ND	ND	0.82	ND	ND	24	ND
6/18/96	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
9/19/96	ND<3	ND<3	ND<3	ND<3	ND<3	ND<3	11	ND<3

NOTE: Table presents only those compounds that have been detected in any of the site wells; data from EPA Method either 8010 or 8240; NA is not analyzed; ND is not detected above detection limits which are typically 0.5 PPB.

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

Sampling Date	TPH Diesel	TPH Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	TRPH*
7/27/92	1500	20,000	110	6	37	39	ND
11/6/92	17,000	19,000	2800	120	790	1100	NA
3/2/93	37,000	14,000	3800	110	950	1100	NA
5/26/93	6000	11,000	5200	140	1000	990	32
8/27/93	5400	16,000	1700	120	640	710	ND
12/23/93	720	18,000	87	79	42	400	NA
3/27/94	6100	17,000	2100	100	630	750	ND
6/24/94	3000	15,000	2000	72	550	520	7.9
10/16/94	5300	15,000	1500	81	410	520	13
2/13/95	4900	18,000	2000	120	660	900	20
6/20/95	6600	30,000	1300	85	510	520	11
10/16/95	31,000	19,000	1500	92	400	330	11
2/15/96	11,000	25,000	1700	93	490	440	20
6/13/96	5500	13,000	1400	75	460	410	10
9/17/96	13,000	15,000	1600	66	480	460	13

MW- 2 is a 2 inch PVC well installed 7/8/92 to a total depth of 19 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 2B-Summary of Volatile Halocarbons Concentrations (in PPB) Detected in MW-2

Sampling Date	Chloro-benzene	Chloro-ethane	1,2-Di Chloro-ethane	Cis 1,2 Dichloro-ethene	Trans 1,2 Dichloro-ethene	PCE	TCE	Vinyl Chloride
7/27/92	NA	NA	NA	NA	NA	NA	NA	NA
11/6/92	NA	NA	NA	NA	NA	NA	NA	NA
3/2/93	ND	ND	ND	ND	ND	ND	ND	ND
5/26/93	9.8	ND	ND	2.7	2.7	ND	ND	ND
8/27/93	10	1.3	0.66	3.2	ND	ND	ND	2.2
12/23/93	4.3	ND	ND	1.0	ND	ND	ND	1.5
3/27/94	ND	ND	ND	ND	ND	ND	ND	ND
6/24/94	6.5	ND	ND	ND	ND	ND	ND	ND
10/16/94	5.7	1.1	ND	0.73	ND	ND	ND	1.0
2/13/95	12	ND	ND	ND	ND	ND	ND	ND
6/20/95	7.9	1.5	1.4	1.0	ND	ND	ND	2.1
10/16/95	5.1	ND	ND	ND	ND	ND	ND	ND
2/15/96	4.8	ND	ND	ND	ND	ND	ND	ND
6/13/96	5.6	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
9/17/96	8.2	ND<4	ND<4	ND<4	ND<4	ND<4	ND<4	ND<4

NOTE: Table presents only those compounds that have been detected in any of the site wells; data from EPA Method either 8010 or 8240; NA is not analyzed; ND is not detected above detection limits which are typically 2.5 PPB for this well.

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

Sampling Date	TPH Diesel	TPH Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	TRPH*
7/27/92	4000	8800	150	8.6	88	13	ND
11/6/92	21,000	10,000	78	3.1	830	13	NA
3/2/93	9300	3900	120	ND	240	37	NA
5/26/93	4400	7400	570	4.1	640	8.4	ND
8/27/93	8200	7100	180	15	110	9.4	ND
12/23/93	230	7900	30	14	12	62	NA
3/27/94	4300	5700	180	10	100	24	ND
6/24/94	1500	8400	230	13	93	7.6	NA
10/16/94	2700	6300	140	8.7	68	25	7.3
2/13/95	1600	7500	220	17	110	22	8.3
6/20/95	13,000	11,000	310	23	160	63	8.5
10/16/95	1900	4700	120	6.7	32	16	8.3
2/15/96	9400	8100	62	13	50	33	12
6/13/96	5000	30,000	110	65	130	160	51
9/17/96	15,000	10,000	68	20	61	42	NA

MW-3 is a 2 inch PVC well installed 7/8/92 to a total depth of 19 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 3B-Summary of Volatile Halocarbons Concentrations (in PPB) Detected in MW-3

Sampling Date	Chloro-benzene	Chloro-ethane	1,2-D4 Chloro-ethane	Cis 1,2 Dichloro-ethene	Trans 1,2 Dichloro-ethene	PCE	TCE	Vinyl Chloride
7/27/92	NA	NA	NA	NA	NA	NA	NA	NA
11/6/92	NA	NA	NA	NA	NA	NA	NA	NA
3/2/93	ND	ND	ND	ND	ND	ND	ND	ND
5/26/93	NA	NA	NA	NA	NA	NA	NA	NA
8/27/93	ND	ND	ND	ND	ND	ND	16	ND
12/23/93	NA	NA	NA	NA	NA	NA	NA	NA
3/27/94	ND	ND	ND	ND	ND	ND	6	ND
6/24/94	ND	ND	ND	6.0	1.5	ND	ND	ND
10/16/94	ND	ND	ND	8.4	2.1	ND	12	ND
2/13/95	ND	ND	ND	4.3	1.3	ND	5.1	ND
6/20/95	ND	0.5	ND	4.9	1.7	ND	5.7	ND
10/16/95	ND	ND	ND	7.1	2.0	ND	7.8	ND
2/15/96	ND	ND	ND	7.3	2.6	ND	9.3	ND
6/13/96	ND<1	ND<1	ND<1	6.9	2.5	ND<1	ND<1	ND<1
9/17/96	ND<5	ND<5	ND<5	11	ND<5	ND<5	13	ND<5

NOTE: Table presents only those compounds that have been detected in any of the site wells; data from EPA Method either 8010 or 8240; NA is not analyzed; ND is not detected above detection limits which are typically 0.5 PPB.

Table 4A-Summary of Hydrocarbon Concentrations (in PPB) Detected in MW-4

Sampling Date	TPH Diesel	TPH Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	TRPH*
3/27/94	1800	2200	19	1.2	2.9	12	NA
6/24/94	420	2300	2.9	1.6	2.8	4.6	NA
10/16/94	900	3500	3.8	2	5.2	24	NA
2/13/95	630	2600	100	100	3.8	7.1	NA
6/20/95	1100	3000	31	3.4	6.1	12	NA
10/16/95	1100	2000	43	2.3	8.4	6.9	NA
2/15/96	940	3400	ND	ND	ND	ND	NA
6/13/96	1100	1900	12	5.7	3.4	9.6	NA
9/17/96	2500	3100	ND<.5	15	78	12	NA

MW-4 is a 2 inch PVC well installed 3/18/94 to a total depth of 20 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 4B-Summary of Volatile Halocarbons Concentrations (in PPB) Detected in MW-4

Sampling Date	Chloro-benzene	Chloro-ethane	1,2-Di Chloro-ethane	Cis 1,2 Dichloro-ethene	Trans 1,2 Dichloro-ethene	PCE	TCE	Vinyl Chloride
3/27/94	NA	NA	NA	NA	NA	NA	NA	NA
6/24/94	NA	NA	NA	NA	NA	NA	NA	NA
10/16/94	ND	ND	0.67	0.71	ND	ND	ND	ND
2/13/95	ND	ND	ND	ND	ND	ND	ND	ND
6/20/95	ND	ND	ND	2.2	1.0	ND	ND	ND
10/16/95	ND	ND	ND	1.3	ND	ND	ND	ND
2/15/96	ND	ND	ND	1.8	0.79	ND	ND	ND
6/13/96	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND	ND
9/17/96	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND	ND<5

NOTE: Table presents only those compounds that have been detected in any of the site wells; data from EPA Method either 8010 or 8240; NA is not analyzed; ND is not detected above detection limits which are typically 0.5 PPB.

Table 5A-Summary of Hydrocarbon Concentrations (in PPB) Detected in MW-5

Sampling Date	TPH Diesel	TPH Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	TRPH*
3/27/94	870	2900	71	ND	27	15	NA
6/24/94	950	6100	220	12	38	24	NA
10/16/94	1100	4300	120	5.1	27	13	NA
2/13/95	1200	4600	130	7.9	38	29	NA
6/20/95	1000	6000	140	6.7	27	29	NA
10/16/95	940	2000	43	2.3	8.4	6.9	NA
2/15/96	2200	4400	61	5.3	34	ND	NA
6/18/96	NA	7400	94	11	32	40	NA
9/17/96	1600	5200	140	7.5	18	21	NA

MW-5 is a 2 inch PVC well installed 3/17/94 to a total depth of 20 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 6A-Summary of Hydrocarbon Concentrations (in PPB) Detected in MW-6

Sampling Date	TPH Diesel	TPH Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	TRPH*
3/27/94	1000	5000	1100	17	180	41	NA
6/24/94	660	8000	1200	21	210	54	NA
10/16/94	850	6300	870	14	140	49	NA
2/13/95	1000	5500	1000	17	210	55	NA
6/20/95	1400	9100	1300	24	240	79	NA
10/16/95	770	3000	590	8.8	84	24	2.8
2/15/96	1500	3900	460	11	110	23	NA
6/13/96	1300	4800	630	14	140	37	4.1
9/17/96	1300	4700	550	14	120	38	NA

MW-6 is a 2 inch PVC well installed 3/17/94 to a total depth of 20 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 6B-Summary of Volatile Halocarbons Concentrations (in PPB) Detected in MW-6

Sampling Date	Chloro-benzene	Chloro-ethane	1,2-Di Chloro-ethane	Cis-1,2 Dichloro-ethene	Trans-1,2 Dichloro-ethene	PCE	TCE	Vinyl Chloride
3/27/94	NA	NA	NA	NA	NA	NA	NA	NA
6/24/94	NA	NA	NA	NA	NA	NA	NA	NA
10/16/94	NA	NA	NA	NA	NA	NA	NA	NA
2/13/95	ND	ND	ND	40	13	ND	99	87
6/20/95	ND	ND	ND	26	17	ND	29	130
10/16/95	ND<5	ND<5	ND<5	75	16	ND<5	110	54
2/15/96	ND	ND	ND	110	25	ND	160	46
6/13/96	ND<2	ND<2	ND<2	72	20	ND<2	83	33
9/17/96	ND<1	2.7	ND<1	73	25	ND<1	59	48

NOTE: Table presents only those compounds that have been detected in any of the site wells; data from EPA Method either 8010 or 8240; NA is not analyzed; ND is not detected above detection limits which are typically 2.5 PPB for this well.

Table 7A-Summary of Hydrocarbon Concentrations (in PPB) Detected in EW-1

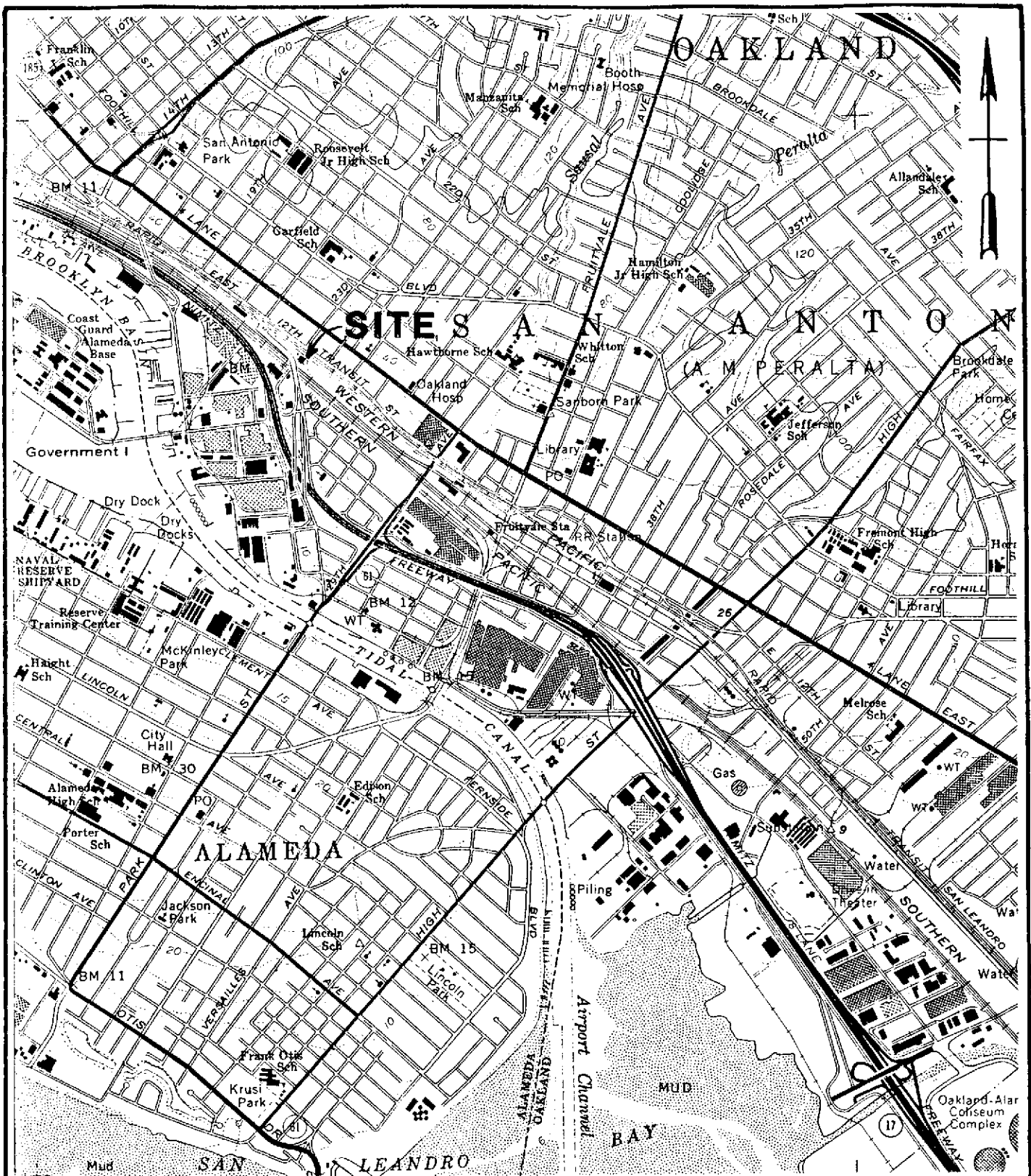
Sampling Date	TPH Diesel	TPH Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes	TRPH*
3/27/94	920	1200	270	6.2	30	13	ND
6/24/94	1200	4600	410	5.6	78	22	NA
10/16/94	1200	4900	310	5.2	30	32	6.4
2/13/95	1000	3900	380	5.9	41	22	ND
6/20/95	1800	7800	710	14	260	52	6.5
10/16/95	940	3200	310	3.3	32	16	5.5
2/15/96	2400	5000	270	7.5	50	20	4.2
6/13/96	1800	5700	450	11	75	19	8.3
9/17/96	1300	5300	300	15	67	29	7.2

EW-1 is a 4 inch PVC well installed 3/16/94 to a total depth of 30 feet.

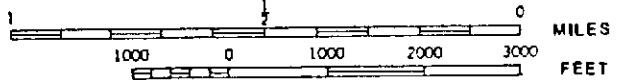
NOTE: NA is not analyzed; ND is not detected above detection limits which are typically 50 PPB for diesel and gasoline and 0.5 PPB for BTEX; \*TRPH is Total Recoverable Petroleum Hydrocarbons as oil and grease. Results for TRPH is presented in PPM with a detection limit of 5 PPM.



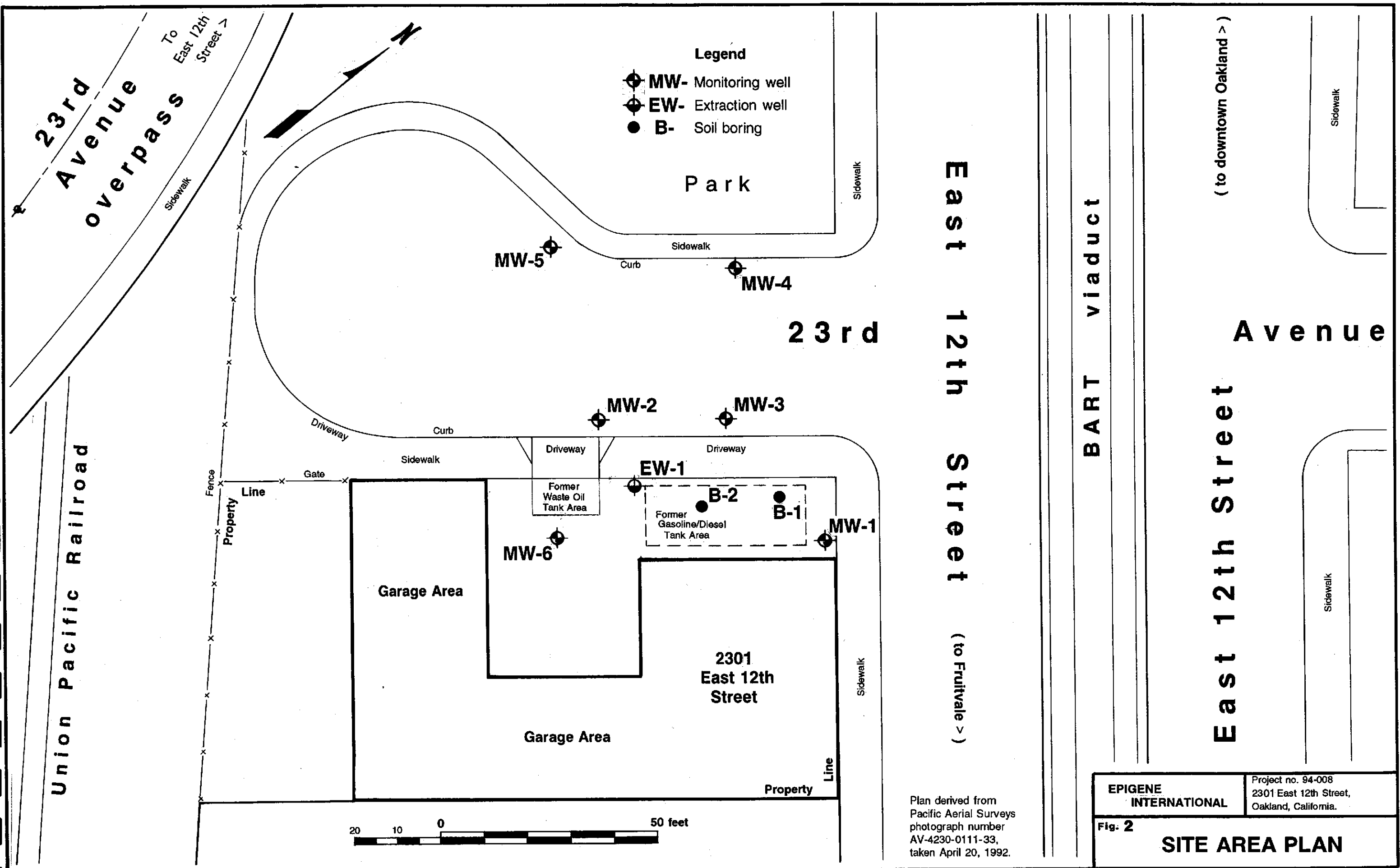




Base map from U.S.G.S. 7 1/2' series  
Oakland East quadrangle, 1980.



<b>EPIGENE INTERNATIONAL</b>	East 12th Street, Oakland, California.
Fig. 1	<b>SITE LOCATION MAP</b>



**Legend**

- ⊕ MW- Monitoring well
- ⊕ EW- Extraction well
- B- Soil boring

Park

23rd

East 12th Street (to Fruitvale >)

BART viaduct

East 12th Street (to downtown Oakland >)

Avenue

Union Pacific Railroad

23rd Avenue Overpass  
To East 12th Street >



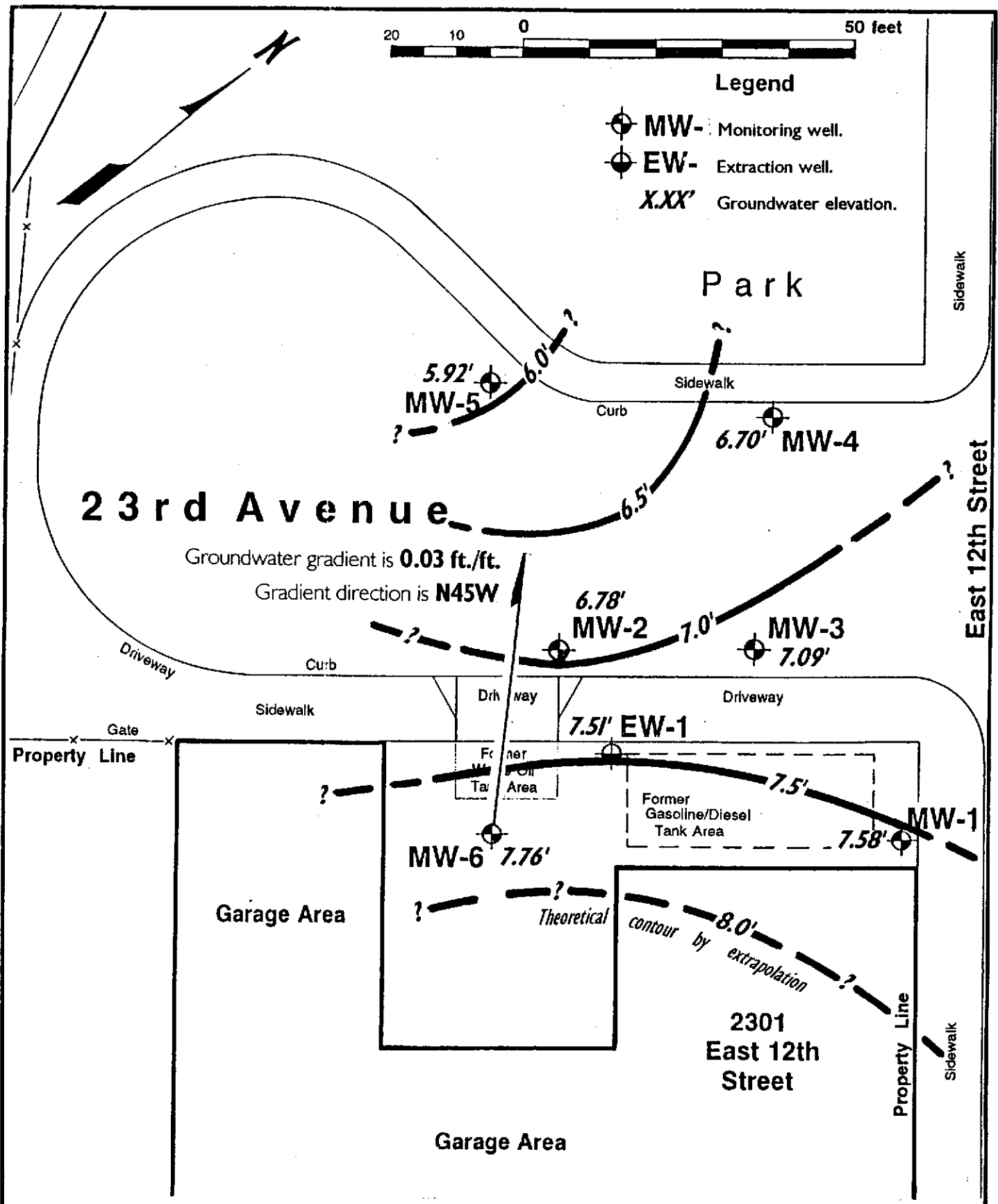
Plan derived from Pacific Aerial Surveys photograph number AV-4230-0111-33, taken April 20, 1992.

<p>EPIGENE INTERNATIONAL</p>	<p>Project no. 94-008 2301 East 12th Street, Oakland, California.</p>
<p>Fig. 2 <b>SITE AREA PLAN</b></p>	



**Legend**

- MW- Monitoring well.
- EW- Extraction well.
- X.XX'* Groundwater elevation.

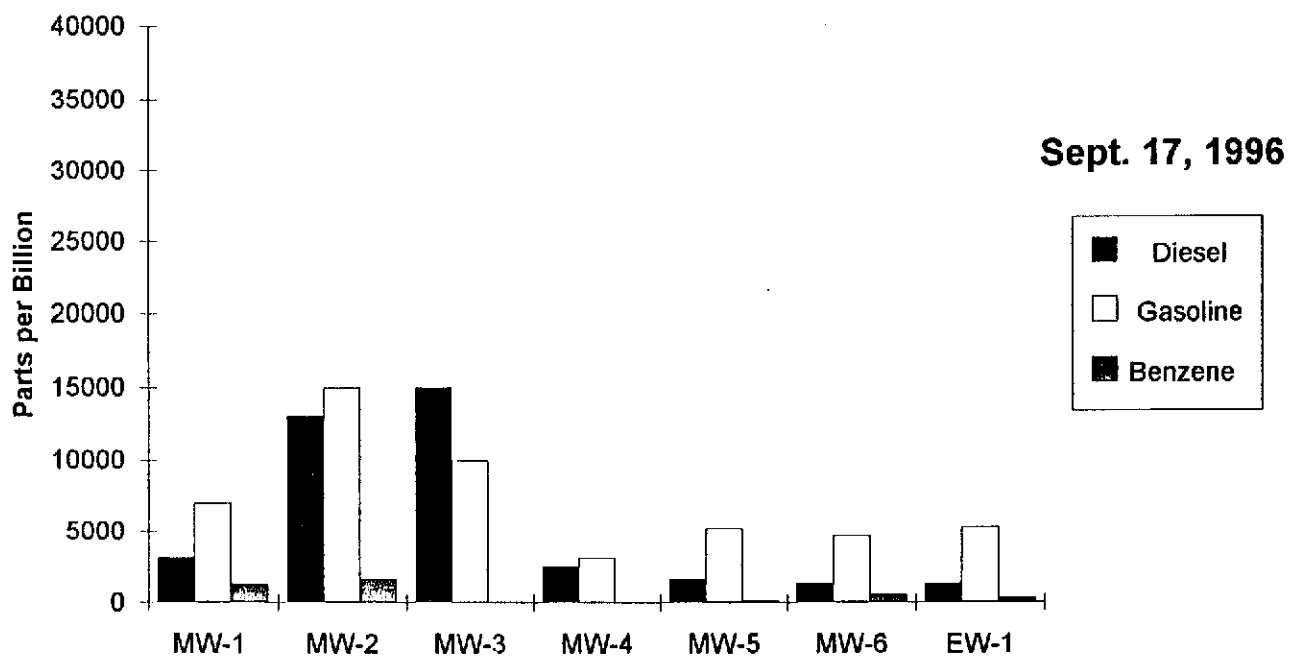


Depths to groundwater measured on  
**September 17, 1996**

Groundwater gradient value and direction is calculated from groundwater elevations in Monitoring Wells 1, 5, and 6.

<b>EPIGENE INTERNATIONAL</b>	Project No. 96-008 2301 East 12th Street, Oakland, California.
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**Fig. 3 GROUNDWATER GRADIENT**



**Fig. 4**

**APPENDIX A**

**CERTIFIED LABORATORY REPORT**

McCAMPBELL ANALYTICAL INC.

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

09/27/96

Dear John:

Enclosed are:

- 1). the results of 7 samples from your # 96-008; 2301 East 12th St., 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, Lab Director







Epigene International 38750 Paseo Padre Pkwy, # A-11 Fremont, CA 94536	Client Project ID: # 96-008; 2301 East 12th St., Oakland	Date Sampled: 09/17/96
	Client Contact: John Alt	Date Received: 09/19/96
	Client P.O:	Date Extracted: 09/24/96
		Date Analyzed: 09/24/96

**Total Recoverable Petroleum Hydrocarbons as Oil & Grease (with Silica Gel Clean-up) by Scanning IR Spectrometry\***

EPA method 418.1 or 9073; Standard Methods 5520 C&F

Lab ID	Client ID	Matrix	TRPH <sup>+</sup>	% Recovery Surrogate
69223	EW-1	W	7.2,h	---#
69225	MW-2	W	13,h	---#
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W	1.0 mg/L		
	S	10 mg/kg		

\* water samples are reported in mg/L and soils and sludges in mg/kg  
 # surrogate diluted out of range or not applicable to this sample  
 + At the laboratory's discretion, one positive sample may be run by direct injection chromatography with FID detection. The following comments pertain to this GC result: a) gasoline-range compounds (C6-C12) are present; b) diesel range compounds (C10-C23) are present; c) oil-range compounds (> C18) are present; d) other patterned solvent (?); e) isolated peaks; f) GC compounds are absent or insignificant relative to TRPH inferring that complex biologically derived molecules (lipids?) are the source of IR absorption; h) a lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~ 5 vol. % sediment.

Epigene International 38750 Paseo Padre Pkwy, # A-11 Fremont, CA 94536	Client Project ID: # 96-008; 2301 East 12th St., Oakland	Date Sampled: 09/17/96
	Client Contact: John Alt	Date Received: 09/19/96
	Client P.O.:	Date Extracted: 09/20-09/21/96
		Date Analyzed: 09/20-09/21/96

## Volatile Halocarbons

EPA method 601 or 8010

Lab ID	69223	69224	69225	69226
Client ID	EW-1	MW-1	MW-2	MW-3
Matrix	W	W	W	W
Compound	Concentration *			
Bromodichloromethane	ND< 1.8	ND< 3	ND< 4	ND< 5
Bromoform <sup>(b)</sup>	ND< 1.8	ND< 3	ND< 4	ND< 5
Bromomethane	ND< 1.8	ND< 3	ND< 4	ND< 5
Carbon Tetrachloride <sup>(c)</sup>	ND< 1.8	ND< 3	ND< 4	ND< 5
Chlorobenzene	ND< 1.8	ND< 3	8.2	ND< 5
Chloroethane	2.3	ND< 3	ND< 4	ND< 5
2-Chloroethyl Vinyl Ether <sup>(d)</sup>	ND< 1.8	ND< 3	ND< 4	ND< 5
Chloroform <sup>(e)</sup>	ND< 1.8	ND< 3	ND< 4	ND< 5
Chloromethane	ND< 1.8	ND< 3	ND< 4	ND< 5
Dibromochloromethane	ND< 1.8	ND< 3	ND< 4	ND< 5
1,2-Dichlorobenzene	ND< 1.8	ND< 3	ND< 4	ND< 5
1,3-Dichlorobenzene	ND< 1.8	ND< 3	ND< 4	ND< 5
1,4-Dichlorobenzene	ND< 1.8	ND< 3	ND< 4	ND< 5
Dichlorodifluoromethane	ND< 1.8	ND< 3	ND< 4	ND< 5
1,1-Dichloroethane	ND< 1.8	ND< 3	ND< 4	ND< 5
1,2-Dichloroethane	ND< 1.8	ND< 3	ND< 4	ND< 5
1,1-Dichloroethene	ND< 1.8	ND< 3	ND< 4	ND< 5
cis 1,2-Dichloroethene	25	ND< 3	ND< 4	11
trans 1,2-Dichloroethene	9.0	ND< 3	ND< 4	ND< 5
1,2-Dichloropropane	ND< 1.8	ND< 3	ND< 4	ND< 5
cis 1,3-Dichloropropene	ND< 1.8	ND< 3	ND< 4	ND< 5
trans 1,3-Dichloropropene	ND< 1.8	ND< 3	ND< 4	ND< 5
Methylene Chloride <sup>(f)</sup>	ND< 6	ND< 3	ND< 4	ND< 5
1,1,2,2-Tetrachloroethane	ND< 1.8	ND< 3	ND< 4	ND< 5
Tetrachloroethene	ND< 1.8	ND< 3	ND< 4	ND< 5
1,1,1-Trichloroethane	ND< 1.8	ND< 3	ND< 4	ND< 5
1,1,2-Trichloroethane	ND< 1.8	ND< 3	ND< 4	ND< 5
Trichloroethene	39	11	ND< 4	13
Trichlorofluoromethane	ND< 1.8	ND< 3	ND< 4	ND< 5
Vinyl Chloride <sup>(g)</sup>	5.4	ND< 3	ND< 4	ND< 5
% Recovery Surrogate	99	100	100	100
Comments	h,j	h,j	h,j	h,j

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

Reporting limit unless otherwise stated: water/TCLP extracts, ND&lt; 0.5ug/L; soil and sludge, ND&lt; 5ug/kg

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis

(c) tetrachloromethane; (d) (2-chloroethoxy) ethene; (e) trichloromethane; (f) dichloromethane; (g) chloroethene; (h) a lighter than water immiscible sheen is present; (i) liquid sample that contains greater than ~ 5 vol. % sediment.; (j) sample diluted due to high organic content

DHS Certification No. 1644

Edward Hamilton, Lab Director

Epigene International 38750 Paseo Padre Pkwy, # A-11 Fremont, CA 94536	Client Project ID: # 96-008; 2301 East 12th St., Oakland	Date Sampled: 09/17/96
		Date Received: 09/19/96
	Client Contact: John Alt	Date Extracted: 09/20-09/21/96
	Client P.O:	Date Analyzed: 09/20-09/21/96

## Volatile Halocarbons

EPA method 601 or 8010

Lab ID	69227	69228	69229	
Client ID	MW-4	MW-5	MW-6	
Matrix	W	W	W	
Compound	Concentration*			
Bromodichloromethane	ND< 5	ND	ND< 1	
Bromoform <sup>(b)</sup>	ND< 5	ND	ND< 1	
Bromomethane	ND< 5	ND	ND< 1	
Carbon Tetrachloride <sup>(c)</sup>	ND< 5	ND	ND< 1	
Chlorobenzene	ND< 5	0.83	ND< 1	
Chloroethane	ND< 5	ND	2.7	
2-Chloroethyl Vinyl Ether <sup>(d)</sup>	ND< 5	ND	ND< 1	
Chloroform <sup>(e)</sup>	ND< 5	ND	ND< 1	
Chloromethane	ND< 5	ND	ND< 1	
Dibromochloromethane	ND< 5	ND	ND< 1	
1,2-Dichlorobenzene	ND< 5	ND	ND< 1	
1,3-Dichlorobenzene	ND< 5	ND	ND< 1	
1,4-Dichlorobenzene	ND< 5	ND	ND< 1	
Dichlorodifluoromethane	ND< 5	ND	ND< 1	
1,1-Dichloroethane	ND< 5	ND	ND< 1	
1,2-Dichloroethane	ND< 5	ND	ND< 1	
1,1-Dichloroethene	ND< 5	ND	ND< 1	
cis 1,2-Dichloroethene	ND< 5	4.5	73	
trans 1,2-Dichloroethene	ND< 5	2.7	25	
1,2-Dichloropropane	ND< 5	ND	ND< 1	
cis 1,3-Dichloropropene	ND< 5	ND	ND< 1	
trans 1,3-Dichloropropene	ND< 5	ND	ND< 1	
Methylene Chloride <sup>(f)</sup>	ND< 6	ND	ND	
1,1,2,2-Tetrachloroethane	ND< 5	ND	ND< 1	
Tetrachloroethene	ND< 5	ND	ND< 1	
1,1,1-Trichloroethane	ND< 5	ND	ND< 1	
1,1,2-Trichloroethane	ND< 5	ND	ND< 1	
Trichloroethene	ND< 5	ND	59	
Trichlorofluoromethane	ND< 5	ND	ND< 1	
Vinyl Chloride <sup>(g)</sup>	ND< 5	7.3	48	
% Recovery Surrogate	97	95	100	
Comments	h, j			

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

Reporting limit unless otherwise stated: water/TCLP extracts, ND&lt; 0.5ug/L; soil and sludge, ND&lt; 5ug/kg

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis

(c) tetrachloromethane; (d) (2-chloroethoxy) ethene; (e) trichloromethane; (f) dichloromethane; (g) chloroethene; (h) a lighter than water immiscible sheen is present; (i) liquid sample that contains greater than ~ 5 vol. % sediment. (j) sample diluted due to high organic content

## QC REPORT FOR HYDROCARBON ANALYSES

Date: 09/19/96

Matrix: Water

Analyte	Concentration (ug/L) Sample (#69200)			Amount Spiked	% Recovery		RPD
	MS	MSD			MS	MSD	
TPH (gas)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Toluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ethyl Benzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Xylenes	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TPH (diesel)	0	177	176	150	118	117	0.8
TRPH (oil & grease)	0	22600	22400	23700	95	95	0.9

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$

## QC REPORT FOR HYDROCARBON ANALYSES

Date: 09/22/96

Matrix: Water

Analyte	Concentration (ug/L) Sample (#69048)			Amount Spiked	% Recovery		
	MS	MSD			MS	MSD	RPD
TPH (gas)	0.0	94.4	92.4	100.0	94.4	92.4	2.2
Benzene	0.0	10.0	10.7	10.0	100.0	107.0	6.8
Toluene	0.0	9.8	10.5	10.0	98.0	105.0	6.9
Ethyl Benzene	0.0	9.9	10.4	10.0	99.0	104.0	4.9
Xylenes	0.0	30.9	32.3	30.0	103.0	107.7	4.4
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

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$

## QC REPORT FOR HYDROCARBON ANALYSES

Date: 09/24/96-09/25/96

Matrix: Water

Analyte	Concentration (ug/L) Sample (#69240)			Amount Spiked	% Recovery		RPD
	MS	MSD			MS	MSD	
TPH (gas)	0.0	89.1	98.5	100.0	89.1	98.5	10.0
Benzene	0.0	10.1	10.2	10.0	101.0	102.0	1.0
Toluene	0.0	10.2	10.1	10.0	102.0	101.0	1.0
Ethyl Benzene	0.0	10.2	10.4	10.0	102.0	104.0	1.9
Xylenes	0.0	31.6	31.4	30.0	105.3	104.7	0.6
TPH (diesel)	0	159	155	150	106	103	2.4
TRPH (oil & grease)	0	22300	21600	23700	94	91	3.2

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$

McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553

Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR EPA 8010/8020/EDB

Date: 09/20/96-09/21/96

Matrix: Water

Analyte	Concentration (ug/L)				% Recovery		
	Sample (#69212)	MS	MSD	Amount Spiked	MS	MSD	RPD
1,1-DCE	0.0	10.5	10.4	10.0	105	104	1.0
Trichloroethene	0.0	9.5	9.3	10.0	95	93	2.1
EDB	0.0	9.3	9.2	10.0	93	92	1.1
Chlorobenzene	0.0	10.7	10.4	10.0	107	104	2.8
Benzene	0.0	11.0	10.7	10.0	110	107	2.8
Toluene	0.0	10.4	10.3	10.0	104	103	1.0
Chlorobz (PID)	0.0	10.3	10.9	10.0	103	109	5.7

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$



# CHAIN OF CUSTODY 7223 AEI 103



## Epigene International

CONSULTING GEOLOGISTS

38750 Paseo Padre Parkway, Suite A-11  
Fremont, California, 94536

Business: (510) 791-1986 FAX: (510) 791-3308

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

Contact: John Ait	Sampler: JNA/MD
Project Name: 2301 E. 12th St., Oakland	
Project no. 96-008	Date: 9/17/96

Sample I.D.	Date/Time Sampled	Matrix Desc.	Container		Comments	Analyses Requested							Lab. #		
			No. of	Type		TPH/Gasoline	BTEX	TPH/Diesel	601/8010	602/8020	Total Oil & Grease				
1. EW-1	9/17/96	H <sub>2</sub> O	3	VOAS	W/HCl	X	X		X						69223
2. EW-1	9/17/96	"	2	1 liter bottles				X			X				
3. MW-1	"	"	4	VOAS	W/HCl	X	X		X						69224
4. MW-1	"	"	1	1 liter bottle				X							
5. MW-2	"	"	4	VOAS	W/HCl	X	X		X						69225
6. MW-2	"	"	2	1 liter bottle				X			X				
7. MW-3	"	"	4	VOAS	W/HCl	X	X		X						69226
8. MW-3	"	"	1	1 liter bottle				X							
9. MW-4	"	"	4	VOAS	W/HCl	X	X		X						69227
10. MW-4	"	"	1	1 liter bottle				X							

Relinquished by: <i>Sam Ant</i>	Date: 9/19/96	Time: 12:05	Received by: <i>Robb Johnson</i>	Date: 9/19/96	Time: 12:05
Relinquished by: <i>Robb Johnson</i>	Date: 9/19/96	Time: 13:08	Received by: <i>Wendi Tice</i>	Date: 9/19/96	Time: 13:08
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

Turnaround Time: *Standard*

Additional Comments: \_\_\_\_\_

# CHAIN OF CUSTODY 7223AEI 103



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telephone: (510) 798-1620 FAX: (510) 798-1622
Contact: Ed Hamilton

Contact: John Alt	Sampler: JNA/MD
Project Name: 2301 E. 12th St., Oakland	
Project no. 96-008	Date: 9/17/96

Sample I.D.	Date/Time Sampled	Matrix Desc.	Container		Comments	Analyses Requested							Lab. #				
			No. of	Type		TPH/Gasoline	BTEX	TPH/Diesel	801/8010	802/8020	Total Oil & Grease						
1. MW-5	9/17/96	H <sub>2</sub> O	4	VERAS	W/HCl	X	X		X								
2. MW-5	"	"	1	liter bottle					X								69228
3. MW-6	"	"	4	VERAS	W/HCl	X	X		X								
4. MW-6	"	"	1	liter bottle					X								69229
5.																	
6.																	
7.																	
8.																	
9.																	
10.																	

Relinquished by: <i>John Alt</i>	Date: 9/19/96	Time: 12:05	Received by: <i>Robert Hernandez</i>	Date: 9/19/96	Time: 1205
Relinquished by: <i>Robert Hernandez</i>	Date: 9/19/96	Time: 1308	Received by: <i>Christi Queen</i>	Date: 9/19/96	Time: 1308
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

Turnaround Time: *Standard*

Additional Comments: \_\_\_\_\_

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