

### **Epigene International**

CONSULTING GEOLOGISTS

October 16, 1996

Mr. J.W. Silveira
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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

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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.

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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

JOHN N. ALT

Nº 1136

CERTIFIED
ENGINEERING
GEOLOGIST

OF CAUFORNIA

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	Всилене	Toluene	Ethyl- benzene	Xvienes	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
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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.

Judsoil=
.01 mg/kg
.00 ppb)

Table 1B-Summary of Volatile Halocarbon Concentrations (in PPB) Detected in MW-1

.02 55 1,6 61 0.12 710 39 KE (36 ).2 Trans 1,2 Dichloro-ettene Vievi PCE 1,2-134 Sampling Date Chlore-Chloro-Chloride Chloro. Exichtere benzene ethone ethene ethane NA NA NA NA NA NA NA NA 7/27/92 NA NA NA NA NA NA 11/6/92 NA NA ND 5.8 ND ND ND ND ND 3/2/93 ND ND 6.8 ND ND 5/26/93 ND ND ND ND ND ND 5.4 ND 8/27/93 ND ND ND 1.1 NA NA NA NA NA NA. NA NA 12/23/94 NA NA NA NA NA NA NA NA 3/27/94 NA NA NA NA NA 6/24/94 NA 10/16/94 NA ND ND ND ND 2/13/95 ND ND ND 1.3 6.5 ND ND 6/20/95 ND 1.1 ND ND 1.1 ND 2.5 ND 0.84 ND ND 10/16/95 ND ND ND 24 ND ND ND ND ND 0.82 2/15/96 ND<5 ND<5 ND<5 ND<5 ND<5 6/18/96 ND<5 ND<5 ND<5 ND<3 ND<3 11 9/19/96 ND<3 ND<3 ND < 3ND < 3ND < 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

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

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	Chioro- benzene	Chloru- ethme	1.2-Di Chineo ethnie	Clk 1,2 Dichlere elliene	Trans L3 Dichloro ethnic	PCE	ICE	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
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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	Benzens	Toluene	Ethyl- benzene	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
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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	Chioro- ethane	1,2.14 Chiero effisine	Cis 1.2 Dichloros efficie	Trans 1,2 Dichloro- ethene	PCE	ICE	Vinyi Chlaride
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
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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	Ethyl- benzene	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
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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	Chlorn- ethane	1,2-Di Chloro ethane	Cls 1.2 Dicidoro ethene	Trans 1.2 Dichloro ethene	PCE	TCE	Vinst 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
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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	Ethyl- benzene	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
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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 5B-Summary of Volatile Haolcarbons Concentrations (in PPB) Detected in MW-5

Sampling Date	Chloro- benzene	Cliloro ethane	1,2-Di Chloro- ethane	Cis 1.2 Dichior orthers	Truss 1,2 Dichlero efficie	PCB	TCE	Vinti Chloride
3/27/94	NA	NA	NA	NA	NA	NA	NA	NA
6/24/94	0.53	ND	ND	11	3.1	ND	ND	7.5
10/16/94	0.66	ND	ND	16	4.2	ND	ND	9.6
2/13/95	ND	ND	ND	20	5.1	ND	ND	8.4
6/20/95	0.95	ND	ND	12	4.1	ND	ND	10
10/16/95	0.54	ND	ND	9.8	2.9	ND	2.0	7.6
2/15/96	0.57	ND	ND	7.7	ND	ND	ND	5.3
6/18/96	ND<2.5	ND<2.5	ND<2.5	2.9	ND<2.5	ND<2.5	ND<2.5	ND<2.5
9/17/96	0.83	ND<0.5	ND<0.5	4.5	2.7	ND<0.5	ND<0.5	7.3
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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 6A-Summary of Hydrocarbon Concentrations (in PPB) Detected in MW-6

Sampling Date	TPH Diesel	TPH Gasoline	Benzene	Toluene	Ethyl- benzene	Xvlenes	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.

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Table 6B-Summary of Volatile Halocarbons Concentrations (in PPB) Detected in MW-6

Sampling Date	Chloro- benzene	Chloro- ethane	1,2-1)4 Chioro- rthage	Clv 1,2 Dichloru- ethene	Trans 1,2 Dichloro- ethene	PCE	TUE	Vingi Chioride
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
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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	Веплоне	Toluene	Ethyl- benzene	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
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EW-1 is a 4 inch PVC well installed 3/16/94 to a total depth of 30 feet.

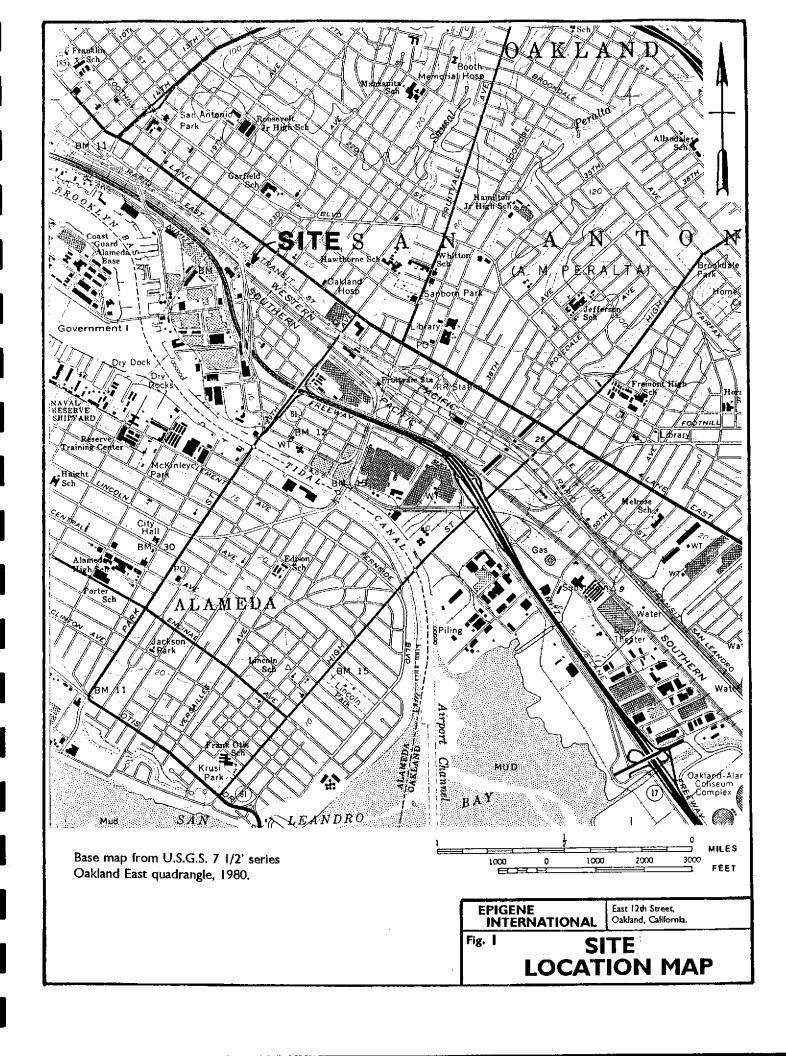
NOTE: NA is not analyzed; ND is not detected above detection limits which are typically 50 PPB for diesel and gasoline and 0.5 PPB for BTEX; \*TRPH is Total Recoverable Petroleum Hydrocarbons as oil and grease. Results for TRPH is presented in PPM with a detection limit of 5 PPM.

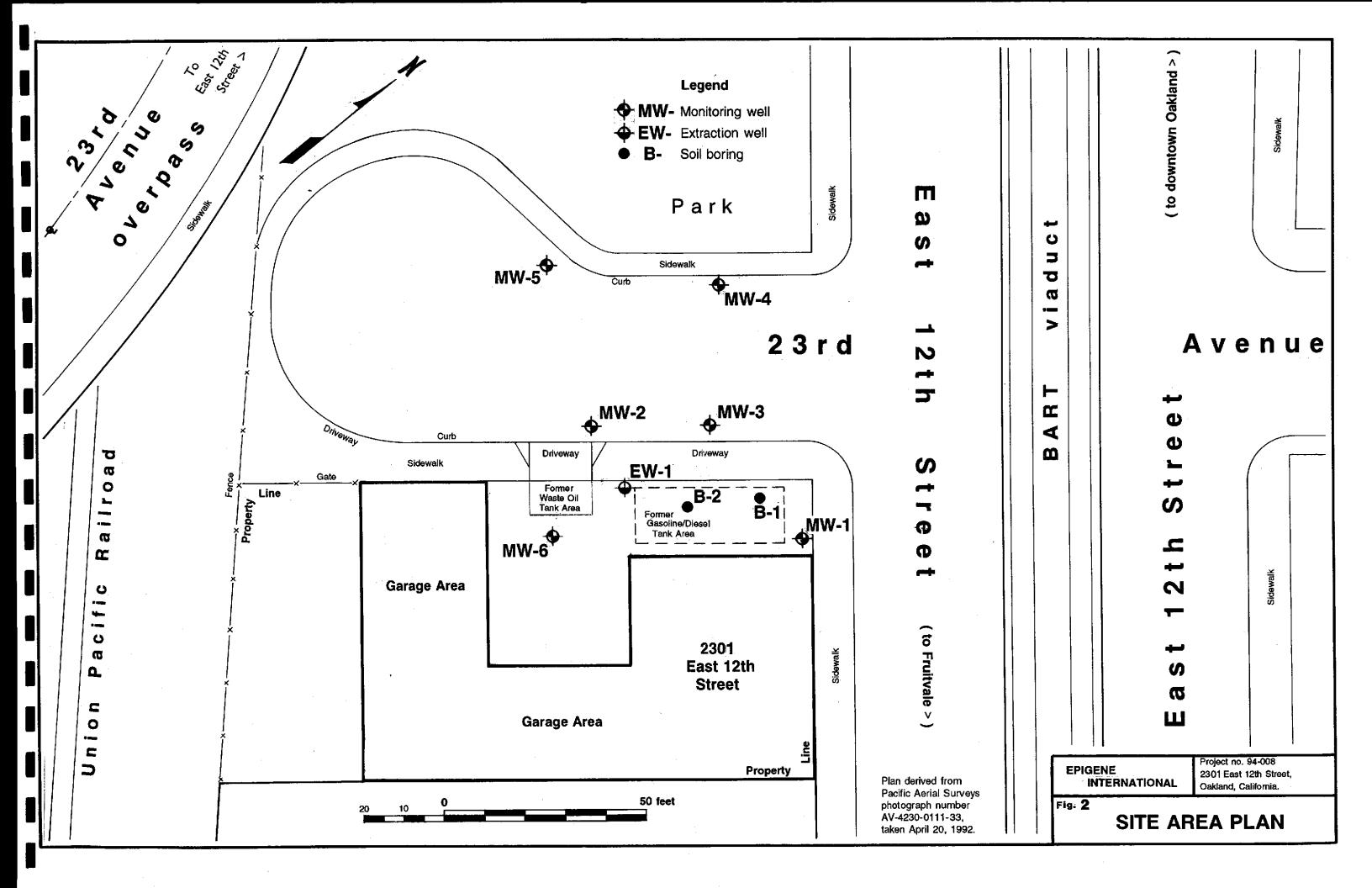
Page 1 of 1

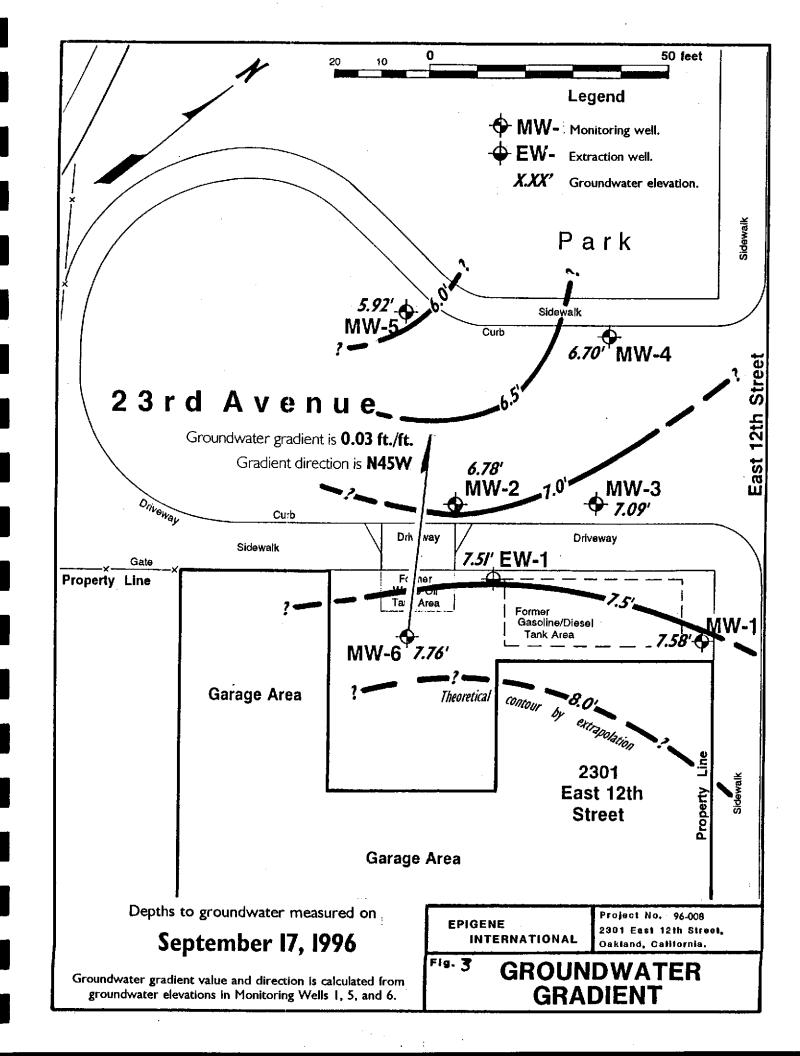
Table 7B-Summary of Volatile Halocarbons Concentrations (in PPB) Detected in EW-1

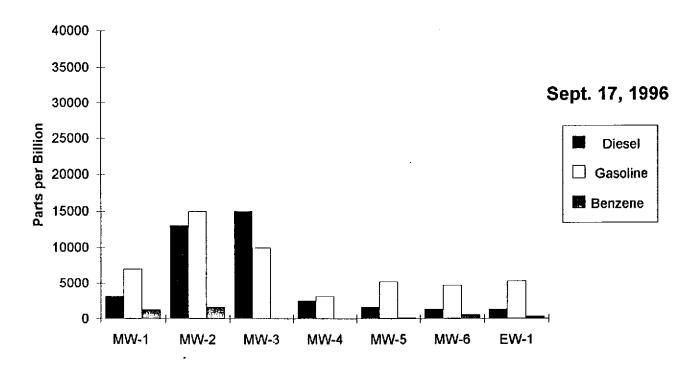
Sampling Date	Chloro- benzene	Chloro- ethane	1,2-194 Chloro- ethane	Cls 1.2 Dichloro- efficae	Frans 1,2 Dichloro- efficiie	PCE	TCE	Vinel Chloride
3/27/94	ND	ND	ND	ND	ND	ND	40	ND
6/24/94	ND	ND	1,3	42	11	ND	68	3.2
10/16/94	ND	ND	ND	36	ND	ND	74	ND
2/13/95	ND	ND	ND	13	4.4	ND	53	ND
6/20/95	ND	2.0	ND	4.3	2,0	ND	6.0	2.8
10/16/95	ND<2	ND<2	ND<2	24	7.1	ND<2	46	ND<2
2/15/96	ND	1.0	ND	17	6.4	ND	33	2.3
6/13/96	ND<1	ND<1	ND<1	25	9.8	ND<1	38	4.9
9/17/96	ND<2	2.3	ND<2	25	9.0	ND<2	39	5.4
		-						

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 2.0 PPB for this well.









## APPENDIX A

## CERTIFIED LABORATORY REPORT

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 Ir	nternational		Client Proje		5-008; 2301	East 12th	Date Samp	led: 09/17/	96	
38750 Pase	eo Padre Pkwy,	# A-11	St., Oakland	i			Date Received: 09/19/96  Date Extracted: 09/22/96			
Fremont, (	CA 94536		Client Cont	act: John A	Alt					
			Client P.O:		Date Analy	zed: 09/22	/96			
	ne Range (C6-C								BTEX*	
Lab ID	Client ID	Matrix	TPH(g) <sup>+</sup>	МТВЕ	Benzene	Toluene	Ethylben- zene	Xylenes	% Rec. Surrogate	
69223	EW-1	W	5300,a,h		300	15	67	29	117#	
69224	MW-1	w	7000,c/j,h		1200	29	86	55	94	
69225	MW-2	w	15,000,a,h		1600	66	480	460	104	
69226	MW-3	w	10,000,a,h		68	20	61	42	100	
69227	MW-4	w	3100,a,h		ND	15	78	12	100	
69228	MW-5	w	5200,c/d,b		140	7.5	18	21	105	
69229	MW-6	w	4700,a		550	14	120	38	95	
			·							
		-								
Reporting	g Limit unless se stated; ND	w	50 ug/L	5.0	0.5	0.5	0.5	0.5		
means	not detected reporting limit	S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005		

<sup>\*</sup> water and vapor samples are reported in ug/L, soil and sludge samples in mg/kg, and all TCLP extracts in mg/L

<sup>#</sup> 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.

Epigene Interna	ntional		# 96-008; 2301 East 12th	Date Sampled: 09/17/96		
38750 Paseo Pac	dre Pkwy, # A-11	St., Oakland		Date Received:	09/19/96	
Fremont, CA 94	1536	Client Contact: Jo	hn Alt	Date Extracted: 09/19/96		
		Client P.O:		Date Analyzed:	09/19/96	
EPA methods mod			actable Hydrocarbons as B (SF Bay Region) method GC		)(3510)	
Lab ID	Client ID	Matrix	TPH(d) <sup>+</sup>		% Recovery Surrogate	
69223	EW-1	w	1300,d,b,h		101	
69224	MW-1	w	3100,d,h		106	
69225	MW-2	w	13,000,d,h		104	
69226	MW-3	W	15,000,d,h	<del></del>	103	
69227	MW-4	w	2500,d,h		107	
69228	MW-5	W	1600, <b>d</b> , <b>b</b>		105	
69229	MW-6	w	1300,d		106	
Reporting Li	mit unless other-	w	50 ug/L			
wise stated; N tected above t	ID means not de- the reporting limit	S	1,0 mg/kg			

<sup>\*</sup> water samples are reported in ug/L, soil and sludge samples in mg/kg, and all TCLP and STLC extracts in mg/L

<sup>&</sup>quot; cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

<sup>&</sup>lt;sup>+</sup> 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 diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~ 5 vol. % sediment.

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

Epigene International			D: # 96-008; 2301 East 12th	Date Sampled: 09/17/96		
38750 Paseo I	Padre Pkwy, # A-11	St., Oakland		Date Received: 09/19/96		
Fremont, CA 94536		Client Contact:	John Alt	Date Extracted: 09/24/96  Date Analyzed: 09/24/96		
		Client P.O:				
	rable Petroleum Hy 3.1 or 9073; Standard Met	t	& Grease (with Silica Gel rometry*	Clean-up) by S	canning IR Spec-	
Lab ID	Client ID	Matrix	TRPH <sup>+</sup>		% Recovery Surrogate	

Lab ID	Client ID	Matrix	TRPH <sup>+</sup>	% Recovery Surrogate
69223	EW-I	w	7.2,h	#
69225	MW-2	w	13,h	#
				ļ
Reporting L	mit unless other-	w	1.0 mg/L	1000
wise stated; Niected above t	mit unless other- ND means not de- the reporting limit	S	10 mg/kg	-

<sup>\*</sup> water samples are reported in mg/L and soils and sludges in mg/kg

<sup>#</sup> 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 TRPII 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.

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

Enigana International	lor					
Epigene International		): # 96-008; 2301 Ea	ist 12th Date Sample	Date Sampled: 09/17/96		
38750 Paseo Padre Pkwy, # A-11	St., Oakland		Date Receiv	ed: 09/19/96		
Fremont, CA 94536	Client Contact: J	John Alt	Date Extrac	Date Extracted: 09/20-09/21/96		
	Client P.O:		Date Analyz	ed: 09/20-09/21/96		
	Volatil	e Halocarbons				
EPA method 601 or 8010	<del>,</del>		n · · ·			
Lab ID	69223	69224	69225	69226		
Client ID	EW-I	MW-1	MW-2	MW-3		
<u> Matrix</u>	W	W	W	W		
Compound		Concen	tration			
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 Viny l Ether (d)	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		

<sup>\*</sup> 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< 0.5ug/L; soil and sludge, ND< 5ug/kg

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

<sup>(</sup>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 Edward Hamilton, Lab Director

DHS Certification No. 1644

Epigene International	, ,	: # 96-008; 2301 Ea	ast 12th Date Sampl	ed: 09/17/96				
38750 Paseo Padre Pkwy, # A-11	St., Oakland		Date Recei	ved: 09/19/96				
Fremont, CA 94536	Client Contact: Jo	ohn Alt	Date Extra	Date Extracted: 09/20-09/21/96				
	Client P.O:		Date Analy	zed: 09/20-09/21/96				
Volatile Halocarbons								
EPA method 601 or 8010  Lab ID	60007	<022B	60220	1				
	69227	69228	69229	-				
Client ID Matrix	MW-4	MW-5	MW-6					
Matrix Compound	W	W	W	<u> </u>				
Bromodichloromethane	ND< 5	Concer ND						
Bromoform <sup>(b)</sup>	ND< 5		ND< 1					
Bromomethane		ND ND	ND< 1	· · · · · · · · · · · · · · · ·				
Carbon Tetrachloride (c)	ND< 5		ND< 1					
Chlorobenzene Chlorobenzene	ND< 5 ND< 5	ND 0.83	ND< 1					
Chloroethane		0.83	ND< 1					
2-Chloroethyl Viny I Ether <sup>(d)</sup>	ND< 5	ND	2.7					
Chloroform (e)	ND< 5	ND ND	ND< 1					
Chloromethane	ND< 5 ND< 5	ND ND	ND< 1					
Dibromochloromethane		ND ND	ND< 1					
	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	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	<u> </u>				
Comments	h,j		200					

<sup>\*</sup> 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< 0.5ug/L; soil and sludge, ND< 5ug/kg

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

<sup>(</sup>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 Edward Hamilton, Lab Director

DHS Certification No. 1644

#### QC REPORT FOR HYDROCARBON ANALYSES

Date: 09/19/96

Matrix: Water

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

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

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

### QC REPORT FOR HYDROCARBON ANALYSES

Date: 09/22/96

Matrix: Water

* • • 1 · · · ·	Concentration (ug/L)			1 Recovery			
Analyte	Sample  (#69048)	MS	MSD	Amount   Spiked	   Ms 	MSD	RPD
TPH (gas) Benzene	0.0	94.4	92.4	100.0	94.4	92.4	2.2
Toluene	0.0	10.0 9.8	10.7 10.5	10.0	100.0	107.0	6.8
Ethyl Benzene	0.0	9.9	10.5	10.0     10.0	98.0 99.0	105.0 104.0	6.9 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

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

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

#### QC REPORT FOR HYDROCARBON ANALYSES

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

. . . . . .

	Concent	ration	(ug/L)	1	∤ Reco	very	
Analyte	Sample			Amount			RPD
	(#69240)	MS	MSD	Spiked 	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

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

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

### QC REPORT FOR EPA 8010/8020/EDB

Date:

09/20/96-09/21/96 Matrix: Water

Analyte	Concentration (ug/L) Sample Amoun				% Recovery		
	(#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   10.0   10.0	110	107	2.8
Toluene	0.0	10.4	10.3		104	103	1.0
Chlorobz (PID)	0.0	10.3	10.9		103	109	5.7

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

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

# CHAIN OF CUSTODY 7223 AET 103

Laboratory:	McCampbell Analytical	
	110 2nd Avenue South, D-7	
· · · · · · · · · · · · · · · · · · ·	Pacheco, California 94553	<del></del>
	telephone: (510) 798-1620	FAX: (510) 798-1622
Contact:	Ed Hamilton	1704 (310) 770-1622



## **Epigene International**

CONSULTING GEOLOGISTS

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

Pacheco, California 94553.							Business: (510) 791-1986 FAX: (510) 791-3306								
	telephone: (510) 798-1620 FAX: (510) 700 1400						ontac	t:	Joh		Sampler: JNA /M)				
Contact	Ed Hamil	ton	020 17	FAX: (510) 798-1622			Project Name: 2301 E. 17 Project no. 96-000						ZESt., Oakland		
				<del></del>		PP	Oject	no.	76 -	008		Date:		96	
			•	•						Reque	equested				
								ino		<u>``</u>	/0	/ 3/	7		
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4. Nw -			<del>                                     </del>	OAS	W/HC1		ᆺ		X						
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omments:	=														

## CHAIN OF CUSTODY 7223AET 103

Laboratory:	McCampbell Analytical	
	110 2nd Avenue South, D-7	···
	Pacheco, California 94553.	
<del></del>	telephone: (510) 798-1620	FAX: (510) 798-1622
Contact:	Ed Hamilton	1022

Matrix

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Desc. No. of | Type

Date:

Date/Time

Sampled

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Sample J.D.

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2. MW -5

3.MW-6

4. MW-6

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Relinquished by:

Relinquished by:

Turnaround Time:

Additional Comments:

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Comments

Hc I

Time: 12:05

Time: /308

Time:

### **Epigene International**

CONSULTING GEOLOGISTS

38750 Paseo Padre Parkway, Suite A-ij Fremont, California, 94536 Business: (510) 791-1988 EAV. (540)

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Rece	Received by: Weide Ruce							Date: 9/19/94			Time: /308	
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