March 29, 1996

131.0100.003

Alameda County Environmental Health Services Hazardous Materials Division 1131 Harbor Bay Parkway Alameda, California 94502

Attention: Ms. Susan Hugo

QUARTERLY GROUNDWATER MONITORING FEBRUARY 1996 SAMPLING EVENT EMERY BAY PLAZA 1650 65TH STREET EMERYVILLE, CALIFORNIA

Dear Ms. Hugo:

This letter presents data collected by PES Environmental, Inc. (PES) during the February 1996 quarterly groundwater monitoring. PES has been retained by Emery Bay Plaza to conduct groundwater remediation and monitoring at the subject site.

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The objective of the groundwater monitoring program at this site is to: (1) evaluate the presence of hydrocarbons in groundwater; (2) provide data to assess the performance and effectiveness of the groundwater remedial program; and (3) monitor seasonal water level variations at the site. The monitoring is performed in accordance with California Regional Water Quality Control Board (RWQCB) guidelines and the approved remedial plan for this site.

In December 1995, the groundwater monitoring program and the one-year bioremediation pilot study were evaluated. The result of the evaluation was presented in PES' Year End Summary Report, Bioremediation Pilot Study and Quarterly Groundwater Monitoring, November 1995 Sampling Event, Emery Bay Plaza, 1650 65th Street, Emeryville, California, dated December 29, 1995. The year-end report recommended that the groundwater monitoring program be revised to focus on monitoring of wells EW-1, MW-2, MW-4, and MW-8, located in the vicinity of the former underground storage tank (UST). Data collected from these four wells will continue to provide information on groundwater quality and the progress of the bioremediation program. The revised quarterly groundwater monitoring program was verbally approved by you during a phone conversation with Andrew Briefer of PES on February 13, 1996.

BACKGROUND INFORMATION

Six monitoring wells and one extraction well were installed at the site (Plate 2) following removal of an onsite UST in July 1987 and several offsite USTs in September and October 1989. Groundwater monitoring has been conducted at this facility since November 1989. An activated carbon groundwater treatment system was installed and operated under the authority of an East Bay Municipal Utility District wastewater discharge permit (Permit #502-45131) from December 1990 until it was discontinued on October 25, 1993, pending start of the insitu bioremediation pilot program in December 1994. The pilot study is described in PES' March 16, 1994 letter to you titled *Proposed Monitoring Revisions, Passive In-Situ Bioremediation Pilot Study, Emery Bay Plaza, 1650 65th Street Property, Emeryville, California* and a December 21, 1993 PES document titled *Workplan, Passive In-Situ Bioremediation Pilot Study, Emery Bay Plaza, 1650 65th Street Property, Emeryville, California*. Bioremediation activities have been ongoing and monitoring results are presented in this monitoring report. The present sampling is the twenty-fifth consecutive sampling event since groundwater monitoring was initiated, and the eighteenth to be conducted by PES.

On September 22, 1994, PES installed an additional monitoring well, MW-8, near the eastern boundary of the subject property. The purpose of this well is to evaluate water quality upgradient of the former onsite UST and to provide an additional upgradient point of introduction of oxygen and nutrients for the in-situ bioremediation program.

GROUNDWATER MEASUREMENTS

Water-Level Measurement Procedures

Groundwater levels in the monitoring wells were measured by PES on March 2, 1996. The groundwater level in each of the monitoring wells was measured to a precision of 0.01 feet using an electronic water-level indicator. Prior to each measurement, the portion of the water-level indicator that was submerged in the well was cleaned with a mild detergent solution and rinsed with de-ionized water.

Water-Level Measurement Results

Water-level data were converted to water-level elevations referenced to mean sea level (MSL). A groundwater elevation map constructed from the data is presented on Plate 3. An historical summary of groundwater elevations for wells at the site is presented in Table 1.

Groundwater elevations on March 2, 1996 have increased in five of the seven onsite monitoring wells compared with the prior quarterly monitoring event. The water-level

measured in MW-8 was not used in determining groundwater contours during this sampling event because the data was not consistent with nearby water-levels in MW-2, MW-6, and MW-7. Based on measured water levels on March 2, 1996, groundwater flow direction at the site was calculated to be toward the southwest, with an approximate gradient of 0.004 to 0.04 foot per foot. This is consistent with historical groundwater flow direction and gradient.

Dissolved Oxygen Measurement Procedures

As part of the in-situ bioremediation program at the subject property, dissolved oxygen measurements were collected prior to and following each oxygen and nutrient addition and during the quarterly monitoring events. Prior to purging and sampling, the total dissolved oxygen in each of the seven monitoring wells and the extraction well was measured in-situ using a YSI, Inc., Model 51B Dissolved Oxygen Meter. The equipment was calibrated according to the manufacturer's specifications before use. Prior to each measurement, the portion of the equipment submerged in the well was cleaned with a mild detergent solution and rinsed with de-ionized water. The measurements were collected from each well within the middle portion of the water column.

Oxygen Enhancement

As part of the bioremediation program, an oxygen source, in the form of a solution of hydrogen peroxide (H₂O₂), and nutrients (nitrogen and phosphorous), was periodically introduced into wells EW-1, MW-2 and MW-8. The nutrient solution contained approximately 10,000 milligrams per liter (mg/L) H₂O₂, 20 mg/L nitrogen as nitrate, and 37 mg/L phosphate. On January 11, 1996, the fifth quarterly application of approximately 500 gallons of nutrient solution was introduced into the test wells. During the addition, water levels and flow rates were monitored to allow an evaluation of permeability and hydraulic effects of the nutrient addition. Dissolved oxygen measurements were made prior to and following the introduction. The data generated during the nutrient addition and dissolved oxygen measurements are summarized in Tables 3 and 4.

Dissolved Oxygen Measurement Results

Dissolved oxygen measurements are used as an indication of the effectiveness of the oxygenation achieved during bioremediation. Total dissolved oxygen concentrations measured in onsite wells during the February monitoring event ranged from 0.3 mg/L to greater than 15 mg/L. Dissolved oxygen concentrations have varied in all wells since the previous measurements. Dissolved oxygen concentrations for the February 1996 monitoring event are provided in the groundwater sampling report in Appendix A. An historical summary of dissolved oxygen measurements is presented in Table 3. Concentrations of dissolved oxygen in wells MW-2 and EW-1 declined to concentrations comparable to non-amended wells since

the January 1996 nutrient addition. The concentration of dissolved oxygen in well MW-8 remained high.

GROUNDWATER SAMPLING AND ANALYTICAL TESTING

Sampling Protocol

Groundwater samples were collected on February 13, 1996 by Blaine Tech Services, Inc. (Blaine Tech). Prior to sampling, the groundwater was visually inspected to assess the presence of floating product. A minimum of three well volumes was evacuated prior to sampling using a teflon bladder pump. During pumping the discharge water was measured for pH, temperature, electrical conductivity, and turbidity. Groundwater samples were collected with a clean teflon bailer and decanted into clean 40-milliliter glass vials with teflon lined caps.

Samples were immediately labeled to designate sample number, time and date collected, and analysis requested, then stored in a chilled, thermally-insulated cooler for transport to the analytical laboratory. The information collected during the groundwater sampling and the chain of custody records are presented in a groundwater sampling report prepared by Blaine Tech, provided in Appendix A.

Analytical Program

Groundwater samples from all wells including the extraction well, were analyzed by American Environmental Network (AEN), a state-certified laboratory located in Pleasant Hill, California. Samples were analyzed for total petroleum hydrocarbons quantified as gasoline (TPH-gas), benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Test Method 8015M/8020.

Analytical Results

In general, concentrations of TPH-gas and BTEX decreased in the monitoring wells near the former UST relative to the previous quarterly sampling. Consistent with historical monitoring data, TPH-gas was detected in Wells MW-2 and EW-1. Detectable concentrations of BTEX were also found in MW-2 and EW-1; benzene was also detected in MW-4. No TPH-gas or BTEX was detected in MW-8. Consistent with previous analytical results, Well MW-2, located within the backfill of the former UST excavation, exhibited the highest levels of dissolved hydrocarbons (TPH-gas and BTEX).

Analytical results for all wells, including historical monitoring results for the previous sampling events and relevant federal and state standards, are presented in Table 2. Laboratory reports and chain of custody records are provided in Appendix B. The distribution of petroleum hydrocarbons in groundwater at the site on February 13, 1996 is presented on Plate 4.

SUMMARY

Groundwater elevations have generally increased since the November 1996 sampling event. As with prior monitoring events, the groundwater flow direction continues to be toward the southwest.

Concentrations of dissolved hydrocarbons have decreased since the prior quarterly monitoring event. Initially high concentrations of dissolved oxygen following its addition were depleted in the wells with high concentrations of petroleum hydrocarbons, which is indicative of consumption of oxygen during aerobic biodegradation. The decrease in chemical concentration is likely attributable to the success of the bioremediation. The oxygen and nutrient introduction and the chemical concentrations will continue to be monitored.

If you have any questions or comments, please do not hesitate to call either of the undersigned.

Yours very truly,

PES ENVIRONMENTAL, INC.

Jenny F. Han Staff Geologist

Andrew A. Briefer, P. E. Associate Engineer



Attachments:

Table 1 Summary of Groundwater Elevations Through March 1996

Table 2 Summary of Analytical Results for Groundwater Samples

Through February 1996

Table 3 Summary of Total Dissolved Oxygen Through February 1996

Table 4 Summary of Nutrient Introduction Through February 1996

Plate 1 Site Location Map
Plate 2 Well Location Map

Plate 3 Groundwater Elevation Contours on March 2, 1996

Plate 4 Dissolved Hydrocarbons in Groundwater on February 13, 1996

Appendix A Groundwater Sampling Report Appendix B Analytical Laboratory Reports

pc: Mr. Thomas Gram - P. O. Partners

Ms. Lynn Tolin - Emery Bay Plaza

Matt Dulka, Esq. - Hanson, Bridgett, Marcus, Vlahos & Rudy

QUALITY CONTROL REVIEWER

Robert S. Creps, P.E.

Principal Engineer

Table 1. Summary of Groundwater Elevations Through March 1996
Emery Bay Plaza
1650 65th Street, Emeryville, California

Well	Date	Measured	Top of	Depth to	Groundwate	
Number		by	Casing	Water	Elevations	
			(feet MSL)	(feet)	(feet MSL)	
\$ 8 8 4 4 G						
MW-2	21-Feb-90	ES	15.75	11.72	4.03	
	25-May-90	ES	15.75	11.83	3.92	
	29-Aug-90	ES	15.75	11.72	4.03	
	29-Nov-90	ES	15.75	11.99	3.76	
	1-Mar-91	ES	15.79	12.87	2.92	
	28-May-91	ES	15.79	12.21	3.58	
	1-Aug-91	ES	15.79	NA	NA	
	27-Jan-92	PES	15.79	11.78	4.01	
	28-Feb-92	PES	15.79	11.70	4.09	
	28-May-92	PES	15.79	11.83	3.96	
	27-Aug-92	PES	15.79	12.28	3.51	
	10-Nov-92	PE\$	15.79	12.40	3.39	
	18-Feb-93	PES	15.79	12.00	3.79	
	20-May-93	PES	15.79	12.00	3.79	
	19-Aug-93	PES	15.79	12.11	3.68	
	15-Nov-93	PES	15.79	11.64	4.15	
	14-Feb-94	PES	15.79	11.45	4.34	
	16-May-94	PES	15.79	11.25	4.54	
	10-Aug-94	PES	15.79	11.22	4.57	
	3-Nov-94	PES	15.79	11.32	4.47	
	9-Feb-95	PES	15.79	10.64	5.15	
	9-May-95	PES	15.79	10.60	5.19	
	10-Aug-95	PES	15.79	10.98	4.81	
	13-Nov-95	PES	15.79	11.18	4.61	
	2-Mar-96	PES	15.79	10.42	5.37	
MW-3	21-Feb-90	ES	10.45	0.40		
	25-May-90	ES	12.45	9.18	3.27	
	29-Aug-90	ES	12.45	9.25	3.20	
	29-Nov-90	ES	12.45	9.50	2.95	
	1-Mar-91	ES	12.45	9.80	2.65	
	28-May-91	ES ES	12.43	9.51	2.92	
	1-Aug-91	ES	12.43	9.03	3.40	
	27-Jan-92	PES	12.43	NA	NA	
	28-Feb-92	PES	12.43	9.44	2.99	
	28-May-92	PES	12.43	8.80	3.63	
	27-Aug-92	PES	12.43	8.80	3.63	
	10-Nov-92		12.43	9.18	3.25	
	18-Feb-93	PES	12.43	9.44	2.99	
	20-May-93	PES	12.43	7.59	4.84	
	19-Aug-93	PES	12.43	8.21	4.22	
	19-Muß-93	PES	12.43	8.71	3.72	

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1650 65th Street, Emeryville, California

Well	Date	Measured	Top of	Depth to	Groundwate
Number		by	Casing	Water	Elevations
			(feet MSL)	(feet)	(feet MSL)
B 6147 CO	4=				
MW-3	15-Nov-93	PES	12.43	9.09	3.34
Cont.	14-Feb-94	PES	12.43	8.84	3.59
	16-May-94	PES	12.43	8.18	4.25
	10-Aug-94	PES	12.43	8.72	3.71
	3-Nov-94	PES	12.43	8.13	4.30
	9-Feb-95	PES	12.43	6.86	5.57
	9-May-95	PES	12.43	7.16	5.27
	10-Aug-95	PES	12.43	8.00	4.43
	13-Nov-95	PES	12.43	8.44	3.99
	2-Mar-96	PES	12.43	7.31	5.12
MW-4	21-Feb-90	ES	12.24	0.00	
	25-May-90	ES	12.24	8.63	3.61
	29-Aug-90	ES	12.24	8.58	3.66
	29-Nov-90	ES		8.50	3.74
	1-Mar-91	ES	12.24	8.74	3.50
	28-May-91	ES	12.24	8.65	3.59
	1-Aug-91	ES	12.24	8.57	3.67
	27-Jan-92	PES	12.24	NA	NA
	28-Feb-92	PES	12.24	8.62	3.62
	28-May-92	PES	12.24	8.52	3.72
	27-Aug-92	PES	12.94	8.35	3.89
	10-Nov-92	PES	12.24	9.00	3.24
	18-Feb-93	PES	12.24	8.85	3.39
	20-May-93		12.24	8.17	4.07
	19-Aug-93	PES	12.24	8.21	4.03
	15-Nov-93	PES	12.24	8.20	4.04
	14-Feb-94	PES	12.24	8.33	3.91
	16-May-94	PES	12.24	8.30	3.94
	10-Aug-94	PES	12.24	8.20	4.04
	3-Nov-94	PES	12.24	8.14	4.10
	9-Feb-95	PES	12,24	8.30	3.94
	9-Peb-95 9-May-95	PES	12.24	8.11	4.13
	10-Aug-95	PES	12.24	7.76	4.48
	13-Nov-95	PES	12.24	7.91	4.33
		PES	12.24	7.95	4.29
	2-Mar-96	PES	12.24	7.89	4.35
/IW-5	21-Feb-90	ES	12.81	6.91	5.90
	25-May-90	ES	12.81	7.58	5.23
	29-Aug-90	ES	12.81	7.75	5.23 5.06
	29-Nov-90	ES	12.81	8.17	4.64

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Well	Date	Measured	Top of	Depth to	Groundwate
Number		by	Casing	Water	Elevations
			(feet MSL)	(feet)	(feet MSL)
MW-5	1 Mar 01	F.C	40.00	0.11	4 74
	1-Mar-91	ES	12.82	8.11	4.71
Cont.	28-May-91	ES	12.82	7.39	5.43
	1-Aug-91	ES	12.82	NA	NA
	27-Jan-92	PES	12.82	7.90	4.92
	28-Feb-92	PES	12.82	7.73	5.09
	28-May-92	PES	12.82	7.18	5.64
	27-Aug-92	PES	12.82	7.54	5.28
	10-Nov-92	PES	12.82	7.90	4.92
	18-Feb-93	PES	12.82	6.58	6.24
	20-May-93	PES	12.82	6.29	6.53
	19-Aug-93	PES	12.82	6.89	5.93
	15-Nov-93	PES	12.82	7.43	5.39
	14-Feb-94	PES	12.82	7.16	5.66
	16-May-94	PES	12.82	6.50	6.32
	10-Aug-94	PES	12.82	6.98	5.84
	3-Nov-94	PES	12.82	7.36	5.46
	9-Feb-95	PES	12.82	5.68	7.14
	9-May-95	PES	12.82	5.36	7.46
	10-Aug-95	PES	12.82	6.29	6.53
	13-Nov-95	PES	12.82	6.89	5.93
	2-Mar-96	PES	12.82	7.26	5.56
MW-6	1-Mar-91	ES	12.03	8.59	3.44
	28-May-91	ES	12.03	8.35	3.68
	1-Aug-91	ES	12.03	NA	NA
	27-Jan-92	PES	12.03	8.32	3.71
	28-Feb-92	PES	12.03	8.08	3.95
	28-May-92	PES	12.03	8.04	3.99
	27-Aug-92	PES	12.03	8.48	3.55
	10-Nov-92	PES	12.03	8.52	3.51
	18-Feb-93	PES	12.03	8.14	3.89
	20-May-93	PES	12.03	8.46	3.57
	19-Aug-93	PES	12.03	8.61	3.42
	15-Nov-93	PES	12.03	8.30	3.73
	14-Feb-94	PES	12.03	8.09	3.73 3.94
	16-May-94	PES	12.03	7.82	
	10-May-94 10-Aug-94				4.21
	-	PES	12.03	8.46	3.57
	3-Nov-94	PES	12.03	8.16	3.87
	9-Feb-95	PES	12.03	7.66	4.37
	9-May-95	PES	12.03	8.57	3.46
	10-Aug-95	PES	12.03	7.72	4.31

Table 1. Summary of Groundwater Elevations Through March 1996
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1650 65th Street, Emeryville, California

Well Number	Date	Measured by	Top of Casing (feet MSL)	Depth to Water (feet)	Groundwate Elevations (feet MSL)
MW-6	13-Nov-95	PES	12.03	8.15	3.88
Cont.	2-Mar-96	PES	12.03	8.02	4.01
MW-7	1-Mar-91	ES	12.9	7.51	5.39
	28-May-91	ES	12.9	7.07	5.83
	1-Aug-91	ES	12.9	NA	NA
	27-Jan-92	PES	12.9	7.28	5.62
	28-Feb-92	PES	12.9	7.04	5.86
	28-May-92	PES	12.9	6.81	6.09
	27-Aug-92	PES	12.9	7.12	5.78
	10-Nov-92	PES	12.9	7.80	5.10
	18-Feb-93	PES	12.9	6.54	6.36
	20-May-93	PES	12.9	6.17	6.73
	19-Aug-93	PES	12.9	6.60	6.30
	15-Nov-93	PES	12.9	6.89	6.01
	14-Feb-94	PES	12.9	6.50	6.40
	17-May-94	PES	12.9	6.07	6.83
	10-Aug-94	PES	12.9	6.34	6.56
	3-Nov-94	PES	12.9	6.18	6.72
	9-Feb-95	PES	12.9	5.57	7.33
	9-May-95	PES	12.9	5.15	7.75
	10-Aug-95	PES	12.9	5.72	7.73 7.18
	13-Nov-95	PES	12.9	5.72 5.98	6.92
	2-Mar-96	PES	12.9	6.02	6.88
MW-8	3-Nov-94	PES	15.01	11.06	3.95
	9-Feb-95	PES	15.01	10.23	4.78
	9-Feb-95	PES	15.01	10.48	4.53
	10-Aug-95	PES	15.01	10.74	4.27
	13-Nov-95	PES	15.01	11.02	3.99
	2-Mar-96	PE\$	15.01	10.11	4.90

NOTES:

Ft MSL = feet above Mean Sea Level

ES = Engineering-Science, Inc.

PES = PES Environmental, Inc.

NA = Information not available at this date.

Table 2. Summary of Analytical Results for Groundwater Samples Through February 1996
Emery Bay Plaza
1650 65th Street, Emeryville, California

Well Number	Sample Date	Sampled by	TPH as Gasoline	TPH as Diesel	Benzene MCL = 0.001	Toluene DAL = 0.1	Ethyl- Benzene MCL = 0.68	Total Xylenes MCL = 1.75	Purgeable Halocarbons	Lead MCL = 0.005
MW-2	Nov-89	EŞ	100	NA	8.4	7.4	2.4	13	0.015 *	0.05
14144-7	Feb-90	ES	54	NA	7.8	5.6	1.6	8.4	0.013	0.03
	May-90	ES	40	NA NA	7.8	7.5	1.6	7.6	0.032	0.021
	Aug-90	E\$	49	4.6	7.8 9	7.5 8	ND	8.9	0.070	0.025
	Nov-90	ES	73	3.5	6.9	5.9	1.4	7.4	0.040 NA	0.0059 NA
	Mar-91	ES	73 72	3.5 1.8	5.5	5.9 6.6	1.4		NA NA	
	May-91	ES	72 31	ND	3.5 8.4	4.7	1.7	7.7 6.3		NA NA
	Aug-91	ES	31 47	ND	7.6	1.6	7.3		NA NA	NA NA
	29-Jan-92	PES	77.000	NA NA	10.000	8.700	2.000	7.8 7.600	NA NA	NA
	29-Jan-92 28-Feb-92	PES	70.000	NA NA	9.100				NA	NA
	28-May-92	PES	54.000		8.000	6.400	0.530	7.400	NA	NA
	•			NA NA		4.800	2.400	6.200	NA	NA
	27-Aug-92	PES	47.000	NA <20	2.700	2.900	3.400	9.200	NA 10.050	NA
	10-Nov-92	PES	45.000	< 20	6.600	4.000	2.000	5.800	< 0.050	NA
	18-Feb-93	PES	14.000	NA	2.300	0.810	0.670	1.400	NA	NA
	20-May-93	PES	43.000	NA	7.300	5.200	1.500	5.500	NA	NA
	19-Aug-93	PES	45.000	NA	4.900	3.700	1.300	3.400	NA	NA
	15-Nov-93	PES	97.000	NA	6.100	1.700	1.700	4.100	NA	NA
	14-Feb-94	PES	27.000	NA	5.000	0.830	1.200	3.100	NA	NA
	16-May-94	PES	77.000	NA	6.800	1.100	1.400	3.300	NA	NA
	10-Aug-94	PES	25	NA	5.600	0.750	1.400	1.700	NA	NA
	3-Nov-94	PES	24	NA	7.200	0.500	1.500	1.600	NA	NA
	9-Feb-95	PES	12	NA	2.200	0.100	0.480	0.940	NA	NA
	9-May-95	PES	7.8	NA	1.300	0.078	0.340	0.480	NA	NA
	10-Aug-95	PES	5.3	NA	1.300	0.150	0.240	0.270	NA	NA
	13-Nov-95	PES	8.5	NA	2.100	0.250	0.430	0.440	NA	NA
	13-Feb-96	PES	5.2	NA	1.500	0.190	0.210	0.290	NA	NA

Table 2. Summary of Analytical Results for Groundwater Samples Through February 1996
Emery Bay Plaza
1650 65th Street, Emeryville, California

Well Number	Sample Date	Sampled by	TPH as Gasoline	TPH as Diesel	Benzene	Toluene	Ethyl- Benzene	Total Xylenes	Purgeable Halocarbons	Lead
					MCL = 0.001	DAL = 0.1	MCL = 0.68	MCL = 1.75		MCL = 0.005
MW-3	Nov-89	ES	0.13	NΑ	0.0022	ND	ND	0.003	ND	ND
	Feb-90	ES	ND	NA	0.0025	ND	ND	ND	NA	0.011
	May-90	ES	ND	ND	0.002	ND	ND	ND	ND	NA
	Aug-90	ES	ND	0.8	0.0044	0.0029	ND	0.0054	NA	NA
	Nov-90	ES	0.9	0.8	0.0034	ND	ND	ND	NA	NA
	Mar-91	ES	ND	ND	0.025	0.025	0.0053	0.32	NA	NA
	May-91	ES	ND	ND	0.0026	ND	ND	ND	NA	NA
	Aug-91	ES	ND	ND	0.0019	ND	ND	ND	NA	NA
	29-Jan-92	PES	0.092	NA	0.0024	< 0.0003	0.0006	< 0.0003	NA	NA
	28-Feb-92	PES	0.160***	NA	0.0028	< 0.0003	0.0007	0.0005	NA	NA
	28-May-92	PES	< 0.050	NA	0.0025	< 0.0005	< 0.0005	< 0.0005	NA	NA
	27-Aug-92	PES	0.370	NA	0.0040	< 0.001	< 0.0005	< 0.0005	NA	NA
	10-Nov-92	PES	0.240	< 0.100	0.0042	< 0.0003	< 0.0003	< 0.0006	< 0.0003	NA
	18-Feb-93	PES	0.140	NA	0.0018	< 0.0005	< 0.0005	< 0.0005	NA	NA
	20-May-93	PES	0.072	NA	0.0031	< 0.0005	< 0.0005	< 0.0005	NA	NA
	19-Aug-93	PES	< 0.050	NA	0.0032	< 0.0005	< 0.0005	0.0007	NA	NA
	15-Nov-93	PES	0.070	NA	0.0023	0.0007	< 0.0005	0.0015	NA	NA
	14-Feb-94	PES	0.120	NA	0.0053	0.0023	0.0012	0.0042	NA	NA
	16-May-94	PES	0.120	NA	0.0031	< 0.0005	< 0.0005	0.0017	NA	NA
	10-Aug-94	PES	0.1	NA	0.003	< 0.0005	0.0005	< 0.002	NA	NA
	3-Nov-94	PES	0.1	NA	0.003	< 0.0005	< 0.0005	< 0.002	NA	NA
	9-Feb-95	PES	0.1	NA	0.002	< 0.0005	< 0.0005	< 0.002	NA	NA
	9-May-95	PES	0.1	NA	0.003	< 0.0005	0.0005	< 0.002	NA	NA
	10-Aug-95	PES	0.1	NA	0.003	< 0.0005	< 0.0005	< 0.002	NA	NA
	13-Nov-95	PES	< 0.05	NA	0.003	< 0.0005	< 0.0005	< 0.002	NA	NA

Table 2. Summary of Analytical Results for Groundwater Samples Through February 1996
Emery Bay Plaza
1650 65th Street, Emeryville, California

Well Number	Sample Date	Sampled by	TPH as Gasoline	TPH as Diesel	Benzene MCL = 0.001	Toluene DAL = 0.1	Ethyl- Benzene MCL = 0.68	Total Xylenes MCL = 1.75	Purgeable Halocarbons	Lead MCL = 0.005
										
MW-4	Nov-89	ES	0.2	NA	0.0023	ND	ND	ND	ND	ND
	Feb-90	ES	ND	NA	ND	NĐ	ND	ND	NA	0.006
	May-90	ES	ИD	ND	0.001	ND	ND	ND	ND	NA
	Aug-90	ES	ND	0.8	0.0089	0.0071	ND	0.0094	NA	NA
	Nov-90	ES	ND	0.7	0.0027	ND	ИD	ND	NA	NA
	Mar-91	ES	NA	ND	0.003	ND	ND	ND	NA	NA
	May-91	ES	NA	ND	0.0024	ND	ND	ND	NA	NA
	Aug-91	ES	NA	ND	0.0015	ND	ND	ND	NA	NA
	29-Jan-92	PES	< 0.050	NA	0.0022	0.0004	< 0.0003	0.0007	NA	NA
	28-Feb-92	PES	< 0.050	NA	0.0016	< 0.0003	< 0.0003	0.0003	NA	NA
	28-May-92	PES	< 0.050	NA	0.0015	< 0.0005	< 0.0005	< 0.0005	NA	NA
	27-Aug-92	PES	0.080	NA	0.003	< 0.001	< 0.0005	0.0005	NA	NA
	10-Nov-92	PES	0.180	< 0.100	0.060	0.0009	< 0.0003	< 0.0006	< 0.0003	NA
	18-Feb-93	PES	0.060	NA	0.0017	< 0.0005	< 0.0005	< 0.0005	NA	NA
	20-May-93	PES	< 0.050	NA	0.0022	< 0.0005	< 0.0005	< 0.0005	NA	NA
	19-Aug-93	PES	< 0.050	NA	0.0020	0.0006	< 0.0005	0.0005	NA	NA
	15-Nov-93	PES	< 0.050	NA	0.0020	0.0005	< 0.0005	0.0009	NA	NA
	14-Feb-94	PES	< 0.050	NA	< 0.0005	< 0.0005	< 0.0005	< 0.0005	NA	NA
	16-May-94	PES	< 0.050	NA	0.0017	0.0009	< 0.0005	0.0011	NA	NA
	10-Aug-94	PES	< 0.05	NA	0.002	< 0.0005	< 0.0005	< 0.002	NA	NA
	3-Nov-94	PES	0.06	NA	0.002	< 0.0005	< 0.0005	< 0.002	NA	NA
	9-Feb-95	PES	0.06	NA	0.002	0.0006	< 0.0005	< 0.002	NA	NA
	9-May-95	PES	0.07	NA	0.001	< 0.0005	< 0.0005	< 0.002	NA	NA
	10-Aug-95	PES	< 0.05	NA	0.001	< 0.0005	< 0.0005	< 0.002	NA	NA
	13-Nov-95	PES	<0.05	NA	0.003	< 0.0005	< 0.0005	< 0.002	NA	NA
	13-Feb-96	PES	< 0.05	NA	0.0013	< 0.0005	< 0.0005	< 0.002	NA	NA

Table 2. Summary of Analytical Results for Groundwater Samples Through February 1996
Emery Bay Plaza
1650 65th Street, Emeryville, California

Well Number	Sample Date	Sampled by	TPH as Gasoline	TPH as Diesel	Benzene	Toluene	Ethyl- Benzene	Total Xylenes	Purgeable Halocarbons	Lead
*					MCL = 0.001	DAL = 0.1	MCL = 0.68	MCL = 1.75		MCL = 0.005
MW-5	Nov-89	ES	ND	NA	0.074	ND	ND	0.0042	ND	ND
•	Feb-90	ES	ND	NA	0.2	ND	ND	ND	NA	0.012
	May-90	ES	ND	ND	0.11	ND	ND	ND	ND	NA
	Aug-90	ES	ND	0.7	0.066	0.0022	ND	0.0038	NA	NA
	Nov-90	ES	0.6	0.9	0.069	ND	ND	ND	NA	NA
	Mar-91	ES	ND	1.1	0.066	0.0023	ND	ND	NA	NΑ
	May-91	ES	ND	ND	0.11	ND	ND	ND	NA	NA
	Aug-91	ES	ND	ND	0.078	0.0021	ND	ND	NA	NA
	29-Jan-92	PES	0.190	NA	0.090	0.0005	< 0.0003	0.0006	NA	NA
	28-Feb-92	PES	0.230***	NA	0.110	0.0009	< 0.0003	0.0005	NA	NA
	28-May-92	PES	0.130	NA	0.100	< 0.0005	< 0.0005	< 0.0005	NA	NA
	27-Aug-92	PES	0.520	NA	0.083	0.002	< 0.0005	< 0.0005	NA	NA
	10-Nov-92	PES	0.240	< 0.100	0.074	0.0010	< 0.0003	< 0.0006	< 0.0003	NA
	18-Feb-93	PES	0.190	NA	0.056	0.0006	< 0.0005	< 0.0005	NA	NA
	20-May-93	PES	< 0.200	NA	0.056	< 0.002	< 0.002	< 0.002	NA	NA
	19-Aug-93	PES	0.170	NA	0.050	0.0007	< 0.0005	< 0.0005	NA	NA
	15-Nov-93	PES	0.220	NA	0.049	0.001	< 0.001	< 0.001	NΑ	NA
	14-Feb-94	PES	0.140	NA	0.062	< 0.0005	< 0.0005	< 0.0005	NΑ	NA
	16-May-94	PES	0.310	NA	0.140	0.003	< 0.003	< 0.003	NA	NA
	12-Aug-94	PES	0.5	NA	0.095	0.034	0.004	0.014	NA	NA
	3-Nov-94	PES	0.4	NA	0.079	0.0006	< 0.0005	< 0.002	NA	NA
	9-Feb-95	PES	0.3	NA	0.074	0.0008	< 0.0005	< 0.0002	NA	NA
	9-May-95	PES	0.2	ΝA	0.047	0.0005	< 0.0005	< 0.002	NA	NA
	10-Aug-95	PES	0.2	NA	0.046	0.0005	< 0.0005	< 0.002	NA	NA
	13-Nov-95	PES	0.3	NA	0.048	0.0007	< 0.0005	< 0.002	NA	NA

Table 2. Summary of Analytical Results for Groundwater Samples Through February 1996
Emery Bay Plaza
1650 65th Street, Emeryville, California

Well Number	Sample Date	Sampled by	TPH as Gasoline	TPH as Diesel	Benzene	Toluene	Ethyl- Benzene	Total Xylenes	Purgeable Halocarbons	Lead
					MCL = 0.001	DAL = 0.1	MCL = 0.68	MCL = 1.75		MCL = 0.005
MW-6	May-90	ES	NA	ND	ND	ND	ND	ND	ND	ND**
	Aug-90	ES	NA	ND	NA	NA	NA	NA	NΑ	ND**
	Nov-90	ES	1.2	1.4	0.0012	ND	ND	ND	0.0012	NA
	Mar-91	ES	ND	ND	ND	ND	ND	ND	NA	NA
	May-91	ES	ND	ND	ND	ND	ND	ND	NA	NA
	Aug-91	ES	ND	ND	ND	ND	ND	ND	NA	NA
	29-Jan-92	PES	< 0.050	NA	< 0.0003	< 0.0003	< 0.0003	< 0.0003	NA	NA
	28-Feb-92	PES	< 0.050	NA	< 0.0003	< 0.0003	< 0.0003	< 0.0003	NA	NA
	28-May-92	PES	< 0.050	NA	< 0.0005	< 0.0005	< 0.0005	< 0.0005	NA	NA
	27-Aug-92	PES	< 0.050 ***	NA	< 0.0005	< 0.001	< 0.0005	< 0.0005	NA	NA
	10-Nov-92	PES	< 0.050	< 0.100	< 0.0003	< 0.0003	< 0.0003	< 0.0006	< 0.0003	NA
	18-Feb-93	PES	< 0.050	NA	< 0.0005	< 0.0005	< 0.0005	< 0.0005	NA	NA
	20-May-93	PES	< 0.050	NA	< 0.0005	< 0.0005	< 0.0005	< 0.0005	NA	NA
	19-Aug-93	PES	< 0.050	NA	< 0.0005	< 0.0005	< 0.0005	< 0.0005	NA	NA
	15-Nov-93	PES	< 0.050	NA	< 0.0005	< 0.0005	< 0.0005	< 0.0005	NA	NA
	14-Feb-94	PES	< 0.050	NA	< 0.0005	< 0.0005	< 0.0005	< 0.0005	NA	NA
	16-May-94	PES	< 0.050	NA	< 0.0005	< 0.0005	< 0.0005	< 0.0005	NA	NA
	10-Aug-94	PES	< 0.05	NA	< 0.0005	< 0.0005	< 0.0005	< 0.002	NA	NA
	3-Nov-94	PES	< 0.05	NA	< 0.0005	< 0.0005	< 0.0005	< 0.002	NA	NA
	9-Feb-95	PES	< 0.05	NA	< 0.0005	< 0.0005	< 0.0005	< 0.002	NA	NA
	9-May-95	PES	< 0.05	NA	< 0.0005	< 0.0005	< 0.0005	< 0.002	NA	NA
	10-Aug-95	PES	< 0.05	NA	< 0.0005	< 0.0005	< 0.0005	< 0.002	NA	NA
	13-Nov-95	PES	< 0.05	NA	< 0.0005	<0.0005	< 0.0005	< 0.002	NA	NA
MW-7	May-90	ES	NA	0.6	0.24	ND	ND	ND	0.24	ND**
	Aug-90	ES	ND	ND	0.081	0.0018	ND	ND	0.0844	ND**
	Nov-90	ES	ND	0.8	0.054	ND	ND	ND	0.054	NA

Table 2. Summary of Analytical Results for Groundwater Samples Through February 1996
Emery Bay Plaza
1650 65th Street, Emeryville, California

Weli	Sample	Sampled	TPH as	TPH as	Benzene	Toluene	Ethyl-	Total	Purgeable	Lead
Number	Date	b y	Gasoline	Diesel			Benzene	Xylenes	Halocarbons	
		· · · · · · · · · · · · · · · · · · ·			MCL = 0.001	DAL = 0.1	MCL = 0.68	MCL = 1.75		MCL = 0.005
MW-7	Mar-91	ES	ND	ND	0.1	0.0036	ND	ND	NA	NA
Cont.	May-91	ES	ND	ND	0.12	0.0027	ND	ND	NA	NA
	Aug-91	ES	ND	ND	0.074	0.0033	ND	ND	NA	NA
	29-Jan-92	PES	0.270	NA	0.025	0.0005	< 0.0003	0.0008	NA	NA
	28-Feb-92	PES	0.100***	NA	0.033	0.0007	< 0.0003	0.0007	NA	NA
	28-May-92	PES	0.150	NA	0.021	< 0.0005	< 0.0005	< 0.0005	NA	NA
	27-Aug-92	PES	0.440	NA	0.011	0.001	< 0.0005	< 0.0005	NA	NA
	10-Nov-92	PES	0.370	< 0.100	0.031	0.0012	< 0.0003	0.0012	< 0.0003	NA
	18-Feb-93	PES	0.270	NA	0.077	0.0013	< 0.0005	0.0014	NA	NA
	20-May-93	PES	0.300	NA	0.150	0.003	< 0.002	0.003	NA	NA
	19-Aug-93	PES	0.110	NA	0.040	0.0010	< 0.0005	0.0011	NA	NA
	15-Nov-93	PES	0.120	NA	0.015	0.0006	< 0.0005	0.0023	NA	NA
	14-Feb-94	PES	0.120	NA	0.038	< 0.0005	< 0.0005	< 0.0005	NA	NA
	17-May-94	PES	< 0.300	NA	0.061	< 0.003	< 0.003	< 0.003	NA	NA
	10-Aug-94	PES	0.1	NA	0.009	< 0.0005	< 0.0005	< 0.002	NA	NA
	3-Nov-94	PES	0.1	NA	0.003	< 0.0005	< 0.0005	< 0.002	NA	NA
	9-Feb-95	PES	0.2	NA	0.050	0.0006	< 0.0005	< 0.002	NA	NA
	9-May-95	PES	0.3	NA	0.120	0.001	< 0.0005	< 0.002	NA	NA
	10-Aug-95	PES	< 0.05	NA	0.007	< 0.0005	< 0.0005	< 0.002	NA	NA
	13-Nov-95	PES	0.09	NA	0.003	< 0.0005	< 0.0005	< 0.002	NA	NA
MW-8	3-Nov-94	PES	< 0.05	NA	0.001	< 0.0005	< 0.0005	< 0.002	NA	NA
	9-Feb-95	PES	< 0.05	NA	< 0.0005	< 0.0005	< 0.0005	< 0.002	NA	NA
	9-May-95	PES	< 0.05	NA	< 0.0005	< 0.0005	< 0.0005	< 0.002	NA	NA
	10-Aug-95	PES	< 0.05	NA	< 0.0005	< 0.0005	< 0.0005	< 0.002	NA	NA
	13-Nov-95	PES	< 0.05	NA	< 0.0005	< 0.0005	< 0.0005	< 0.002	NA	NA
	13-Feb-96	PES	< 0.05	NA	< 0.0005	< 0.0005	< 0.0005	< 0.002	NA	NA

Table 2. Summary of Analytical Results for Groundwater Samples Through February 1996
Emery Bay Plaza
1650 65th Street, Emeryville, California

Well Number	Sample Date	Sampled by	TPH as Gasoline	TPH as Diesel	Benzene MCL = 0.001	Toluene DAL = 0.1	Ethyl- Benzene MCL = 0.68	Total Xylenes MCL = 1.75	Purgeable Halocarbons	Lead MCL = 0.005
EW-1	May-90	ES	20	ND	7.5	4.5	1	6.3	0.068	ND**
EAA.I	Aug-90	ES	NA	3.5	7.3 6	4.2	ND	4.6	0.003	ND**
	Nov-90	ES	47	3.1	6	3.4	1	4.7	NA	NA NA
	17-Dec-90	ES	NA	NA	11	7.9	2.2	10	NA NA	NA NA
	19-Dec-90	ES	NA NA	NA NA	3.7	2.5	ND	2.3	NA NA	NA NA
	21-Dec-90	ES	NA NA	NA NA	3.7	2.5 2.2	ND	1.7	NA NA	NA NA
	27-Dec-90 27-Dec-90	ES	NA	NA NA	2.9	2.2	0.16	1.5	NA NA	NA NA
	4-Jan-91	ES	NA	NA NA	3.2	2.8	ND	ND	NA NA	NA NA
	4-Jan-91	ES	NA NA	NA NA	3.2	2.4	0.2	1.8	NA NA	NA NA
	6-Feb-91	ES	NA NA	NA NA	0.47	0.23	0.011	0.39	NA NA	NA NA
	13-Feb-91	ES	NA NA	NA NA	1.2	0.28	ND	0.36	NA NA	NA NA
	15-Feb-91 15-Mar-91	ES	NA NA	NA	0.13	0.28	0.006	0.30	NA NA	NA NA
	3-Jul-91	ES	NA	NA	1.3	0.065	0.22	1.4	NA NA	NA NA
	1-Aug-91	ES	NA NA	NA	0.22	0.33	0.22	0.27	NA NA	NA NA
	16-Aug-91	ES	NA NA	NA NA	0.22	0.16	0.013	0.19	NA NA	NA NA
	13-Nov-91	ES	NA NA	NA NA	3.1	0.10	0.04	0.13	NA NA	NA NA
	29-Jan-92	PES	2.700	NA NA	0.570	0.27	0.0070	0.260	NA NA	NA NA
	29-Jan-92 26-Mar-92	PES	25.000	NA NA	3.600	2.600	0.530	2.600	NA NA	NA NA
	28-May-92	PES	16.000	NA NA	3.300	3.200	0.750	2.600	NA NA	NA NA
	29-Jun-92	PES	7.000	NA NA	2.200	3.100	0.270	1.400	NA NA	NA NA
	29-3011-92 21-Jul-92	PES	1.600	NA NA	0.220	0.017	< 0.0005	0.100	NA NA	NA NA
	27-Aug-92	PES	1.000 NS	NS	0.220 NS	NS	\0.0005 NS	NS	NS	NS
	23-Sep-92	PES	5.200	NA	1.100	0.590	0.100	1.000	NA NA	NA
	23-Sep-92 27-Oct-92	PES	1.300	NA NA	0.220	0.061	0.100	0.110	NA NA	NA NA
	24-Nov-92	PES	7.100	NA NA	1.400	1.100	0.0053	0.890	NA NA	NA NA
	18-Feb-93	PES	7.100	NA NA	1.400	0.930	0.120	1.000	NA NA	NA NA
										NA NA
	09-Mar-93	PES	4.600	NA	0.990	0.750	0.062	0.840	NA	

Table 2. Summary of Analytical Results for Groundwater Samples Through February 1996
Emery Bay Plaza
1650 65th Street, Emeryville, California

Well Number	Sample Date	Sampled by	TPH as Gasoline	TPH as Diesel	Benzene	Toluene	Ethyl- Benzene	Total Xylenes	Purgeable Halocarbons	Lead
					MCL = 0.001	DAL = 0.1	MCL = 0.68	MCL = 1.75		MCL = 0.005
EW-1	21-Apr-93	PES	4.900	NA	0.270	0.180	0.020	0.190	NA	NA
Cont.	13-May-93	PES	2.600	NA	0.520	0.110	0.023	0.330	NA	NA
	28-Jun-93	PES	9.500	NA	1.900	0.460	0.230	1.000	NA	NA
	11-Aug-93	PES	1.300	NA	< 0.002	< 0.002	< 0.002	0.400	NA	NA
	15-Nov-93	PES	46.000	NA	2.900	0.380	0.500	1.700	NA	NA
	14-Feb-94	PES	21.000	NA	4.500	0.860	1.000	2.800	NA	NA
	16-May-94	PES	19.000	NA	7.300	0.930	1.300	3.300	NA	NA
	10-Aug-94	PES	19	NA	4.200	0.490	1.100	1.500	NA	NA
	3-Nov-94	PES	20	NA	6.000	0.230	1.400	1.400	NA	NA
	9-Feb-95	PES	8.7	NA	1.800	0.110	0.380	0.740	NA	NA
	9-May-95	PES	6.6	NA	1.100	0.051	0.270	0.380	NA	NA
	10-Aug-95	PES	2.6	NA	0.410	0.016	0.110	0.097	NA	NA
	13-Nov-95	PES	14	NA	2.900	0.110	0.550	0.440	NA	NA
	13-Feb-96	PES	3.7	NA	1.000	0.220	0.170	0.280	NA	NA

NOTES:

ES = Engineering-Science, Inc.

PES = PES Environmental, Inc.

NA = Not analyzed

ND = Not detected above method detection limit.

NS = Not sampled.

<0.0005 = Not detected above indicated laboratory reporting limit.

MCL = California Maximum Contaminant level, current as of January 1991.

DAL = Department of Health Services Action Levels, current as of January 1991.

TPH = Total Petroleum Hydrocarbons

^{* = 1,2-}Dichlorethane concentration (only 1,2-Dichloroethane detected).

^{** =} Organic Lead

^{*** =} TPH quantified as gasoline but chromatogram pattern was not typical of gasoline.

Table 3. Summary of Total Dissolved Oxygen Through February 1996
Emery Bay Plaza
1650 65th Street, Emeryville, California

Well Number	Date	Time of Day	Measured by	Total Dissolved Oxygen (mg/L)	Note
MW-2	10-Aug-94	10:52	PES	<0.1	
	3-Nov-94	12:03	Blaine	0.2	
	29-Dec-94	9:56	PES	1.9	(1)
	29-Dec-94	17:05	PES	>20	(2)
	9-Feb-95	14:31	Blaine	0.9	
	16-Mar-95	9:45	PES	0.07	(1)
	16-Mar-95	16:05	PES	>20	(2)
	21-Mar-95	9:35	PES	0.025	
	23-Mar-95	9:45	PES	0.14	
	28-Mar-95	9:50	PES	0.12	
	6-Apr-95	11:12	Blaine	0.1	
	9-May-95	11:25	Blaine	1.3	
	20-Jun-95	10:35	PES	0	(1)
	20-Jun-95	15:23	PE\$	>20	(2)
	26-Jun-95	19:50	PES	0.12	
	28-Jun-95	19:47	PES	0.12	
	1-Jul-95	19:45	PES	0.45	
	3-Jul-95	19:35	PES	0.06	
	10-Aug-95	13:11	Blaine	0.7	
	20-Sep-95	9:55	PES	0.8	(1)
	23-Sep-95	13:25	PES	1.6	
	25-Sep-95	8:20	PES	2.0	
	28-Sep-95	9:51	PES	1.1	
	13-Nov-95	11:10	Blaine	0.4	
	11-Jan-96	10:47	PES	1.4	(1)
	14-Jan-96	17:27	PES	>15	
	17-Jan-96	8:03	PES	8.2	
	19-Jan-96	9:31	PES	4.8	
	21-Jan-96	18:10	PES	2.6	
	25-Jan-96	20:13	PES	1.8	
	13-Feb-96	11:43	Blaine	0.4	
MW-3	10-Aug-94	10:14	PES	<0.1	
	3-Nov-94	10:03	Blaine	0.2	
	29-Dec-94	9:09	PES	2.1	(1)
	9-Feb-95	12:05	Blaine	0.8	
	16-Mar-95	15:45	PES	0.06	(1)
	21-Mar-95	10:05	PES	0.11	
	23-Mar-95	10:04	PES	0.14	
	28-Mar-95	10:05	PES	•	
	6-Apr-95	11:30	Blaine	0.05	
	9-May-95	9:48	Blaine	0.9	
	20-Jun-95	10:12	PES	0.01	(1)
	20-Jun-95	14:53	PES	0.01	(2)
	26-Jun-95	20:34	PES	0	

Table 3. Summary of Total Dissolved Oxygen Through February 1996
Emery Bay Plaza
1650 65th Street, Emeryville, California

Well Number	Date	Time of Day	Measured by	Total Dissolved Oxygen (mg/L)	Notes
MW-3	10-Aug-95	11:19	Blaine	1.1	
Cont.	20-Sep-95	14:41	PES	0.6	(1)
	13-Nov-95	9:54	Blaine	0.4	117
	11-Jan-96	13:12	PES	1.6	(1)
	13-Feb-96	NM	NM	NM	(17
MW-4	10-Aug-94	10:08	PES	0.1	
	3-Nov-94	9:24	Blaine	0.1	
	29-Dec-94	10:06	PES	2	(1)
	9-Feb-95	11:41	Blaine	0.6	1-6
	16-Mar-95	15:30	PES	0.07	(1)
	9-May-95	9:37	Blaine	1.7	1 * 1
	20-Jun-95	10:20	PES	0	(1)
	20-Jun-95	15:01	PES	Ö	(2)
	3-Jul-95	19:40	PES	0.07	1~,
	10-Aug-95	11:00	Blaine	0.7	
	20-Sep-95	14:20	PES	0.6	(1)
	13-Nov-95	9:37	Blaine	0.6	1.,
	11-Jan-96	13:25	PES	1.0	(1)
	13-Feb-96	10:47	Blaine	0.4	,
MW-5	10-Aug-94	10:32	PES	0.1-0.2	
	3-Nov-94	10:47	Blaine	0.4	
	29-Dec-94	9:18	PES	2.1	(1)
	9-Feb-95	12:48	Blaine	1.0	• • •
	9-May-95	10:25	Blaine	1.8	
	20-Jun-95	10:05	PES	O	(1)
	20-Jun-95	14:43	PES	0.03	(2)
	28 - Jun-95	20:10	PES	0.02	••
	10-Aug-95	12:10	Blaine	0.8	
	20-Sep-95	14:55	PES	0.7	(1)
	13-Nov-95	10:28	Blaine	0.5	
	11-Jan-96	11:29	PES	1.5	(1)
	13-Feb-96	NM	NM	NM	
MW-6	10-Aug-94 3-Nov-94	10:03	PES	<0.1	
	3-Nov-94 29-Dec-94	9:42	Blaine	0.4	
	29-Dec-94 9-Feb-95	9:03	PES	2.2	(1)
	9-гер-95 16-Маг-95	11:18	Blaine	1.0	
	21-Mar-95	15:15	PES	0.1	(1)
	9-May-95	9:50	PES	0.1	
	9-May-95 20-Jun-95	9:17	Blaine	1.2	
	20-Jun-95	10:23	PES	0.01	(1)
	26-Jun-95 26-Jun-95	15:10	PES	0	(2)
		19:40	PES	0.20	
	28-Jun-95	19:33	PES	0.22	

Table 3. Summary of Total Dissolved Oxygen Through February 1996
Emery Bay Plaza
1650 65th Street, Emeryville, California

Well Number	Date	Time of Day	Measured by	Total Dissolved Oxygen (mg/L)	Note
MW-6	1-Jul-95	19:40	PES	0.81	
Cont.	3-Jul-95	19:10	PES	0.56	
	10-Aug-95	10:40	Blaine	1.2	
	20-Sep-95	14:30	PES	8.0	(1)
	23-Sep-95	13:30	PES	1.2	
	25-Sep-95	8:30	PES	0.9	
	28-Sep-95	10:10	PES	1.0	
	13-Nov-95	9:13	Blaine	8.0	
	11-Jan-96	10:12	PES	2.4	(1)
	14-Jan-96	17:40	PES	2.4	
	17-Jan-96	8:25	PES	2.2	
	19-Jan-96	9:40	PES	2.2	
	21-Jan-96	18:32	PES	2.0	
	25-Jan-96	20:28	PES	1.8	
	13-Feb-96	NM	NM	NM	
MW-7	10-Aug-94	10:37	PES	<0.1	
	3-Nov-94	10:25	Blaine	0.3	
	29-Dec-94	9:33	PES	2.2	(1)
	9-Feb-95	12:26	Blaine	0.8	
	16-Mar-95	16:00	PES	0.06	(1)
	9-May-95	10:08	Blaine	1.1	
	3-Jul-95	19:30	PES	0.19	
	10-Aug-95	11:47	Blaine	0.9	
	20-Sep-95	10:45	PES	1.0	(1)
	11-Jan-96	11:18	PES	1.4	(1)
	13-Nov-95	10:13	Blaine	0.6	
	13-Feb-96	NM	NM	NM	
MW-8	10-Aug-94	NM	PES	ММ	
	3-Nov-94	11:20	Blaine	0.3	
	29-Dec-94	9:40	PE\$	2.1	(1)
	29-Dec-94	17:10	PES	>20	(2)
	9-Feb-95	13:40	Blaine	0.8	
	16-Mar-95	9:20	PES	0.5	(1)
	16-Mar-95	16:10	PES	>20	(2)
	21-Mar-95	9:00	PES	>20	
	23-Mar-95	9:05	PES	4.1	
	28-Mar-95	9:10	PES	>20	
	6-Apr-95	10:45	Blaine	>15	
	9-May-95	10:52	Blaine	6	
	20-Jun-95	10:00	PE\$	0.32	(1)
	20-Jun-95	14:33	PES	>20	(2)
	26-Jun-95	20:15	PES	>20	
	28-Jun-95	19:59	PES	>20	

Table 3. Summary of Total Dissolved Oxygen Through February 1996
Emery Bay Plaza
1650 65th Street, Emeryville, California

Well Number	Date	Time of Day	Measured by	Total Dissolved Oxygen (mg/L)	Note
MW-8	1-Jul-95	20:05	PES	>20	
Cont.	3-Jul-95	19:20	PES	>20	
	10-Aug-95	12:32	Blaine	1.0	
	20-Sep-95	10:30	PES	1.0	(1)
	23-Sep-95	13:10	PES	>15	
	25-Sep-95	8:01	PES	>15	
	28-Sep-95	9:30	PES	>15	
	13-Nov-95	10:49	Blaine	0.4	
	11-Jan-96	9:56	PES	5.0	(1)
	14-Jan-96	17:03	PES	>15	
	17-Jan-96	7:43	PES	>15	
	19-Jan-96	9:12	PES	>15	
	21-Jan-96	17:58	PES	>15	
	25-Jan-96	20:03	PES	4.0	
	13-Feb-96	11:17	Blaine	>15	
EW-1	10-Aug-94	10:57	PES	<0.1	
	3-Nov-94	11:50	Blaine	0.3	
	29-Dec-94	9:52	PES	2	(1)
	29-Dec-94	17:00	PES	>20	(2)
	9-Feb-95	14:11	Blaine	1.0	
	16-Mar-95	10:00	PES	0.1	(1)
	16-Mar-95	16:00	PES	>20	(2)
	21-Mar-95	9:20	PES	>20	
	23-Mar-95	9:30	PES	>20	
	28-Mar-95	9:40	PES	0.2	
	6-Apr-95	11:05	Blaine	0.18	
	9-May-95	11:19	Blaine	1.6	
	20-Jun-95	10:30	PES	0.01	(1)
	20-Jun-95	15:17	PES	>20	(2)
	26-Jun-95	20:00	PES	>20	
	28-Jun-95	19:40	PES	>20	
	1-Jul-95	19:50	PES	5.68	
	3-Jul-95	19:38	PES	0.26	
	10-Aug-95	12:50	Blaine	0.6	
	20-Sep-95	9:45	PES	1.1	(1)
	23-Sep-95	13:20	PES	>15	
	25-Sep-95	8:15	PEŞ	>15	
	28-Sep-95	9:43	PES	>15	
	13-Nov-95	11:26	Blaine	0.5	
	11-Jan-96	10:25	PES	1.8	(1)
	14-Jan-96	17:21	PES	>15	
	17-Jan-96	8:10	PES	14.2	
	19-Jan-96	9:25	PES	8.2	

Table 3. Summary of Total Dissolved Oxygen Through February 1996
Emery Bay Plaza
1650 65th Street, Emeryville, California

Well Number	Date	Time of Day	Measured by	Total Dissolved Oxygen (mg/L)	Notes
EW-1	21-Jan-96	18:18	PES	4.0	
Cont.	25-Jan-96	20:17	PES	2.0	
	13-Feb-96	12:04	Blaine	0.3	

NOTES:

PES = PES Environmental, Inc.

Blaine = Blaine Technical Services

>20 = Above indicated equipment quantification maximum.

<0.1 = Below indicated equipment quantification minimum.

*YSI probe malfunctions

(1) = Measurement taken prior to nutrient introduction

(2) = Measurement taken after nutrient introduction

NM = Not measured. mg/L = milligrams per liter

Table 4. Summary of Nutrient Introduction Through February 1996
Emery Bay Plaza
1650 65th Street, Emeryville, California

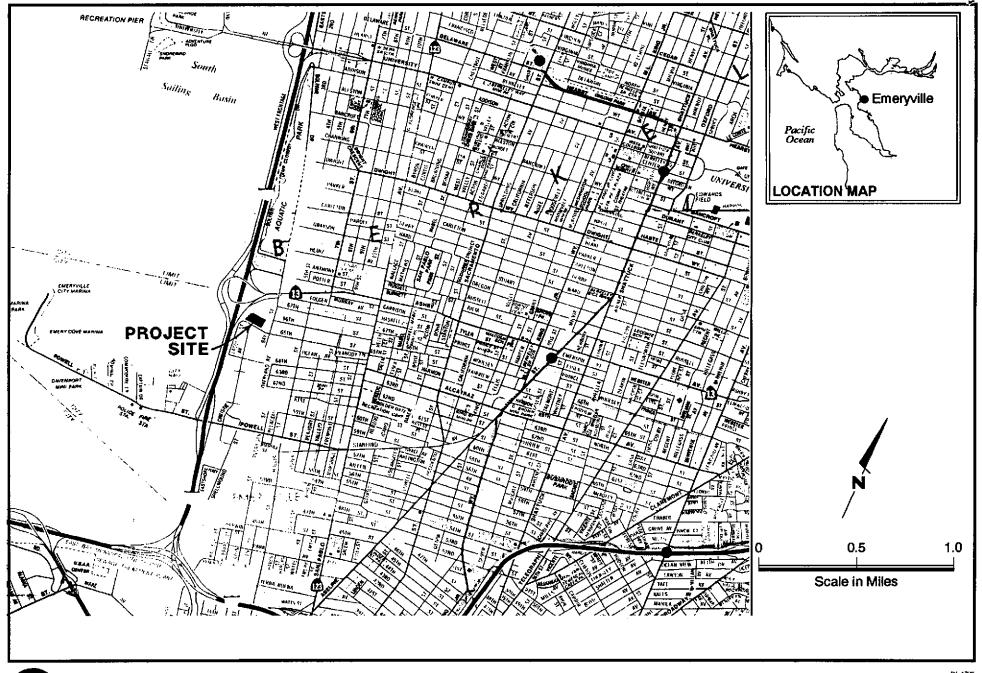
			Volume of Enriched	Concentration	Amount of O ₂
Well	Date	Flow Rate	Water Introduced	of H ₂ O ₂	Introduced
Name	Introduced	(gpm)	(gallons)	(ppm)	(pounds)
	10/00/04		0.05	40.000	10.20
EW-1	12/29/94	1.2 to 1.4	265	10,000	10.39
	3/16/95	3.9 to 4.1	249.5	10,000	9.78
	6/21/95	4.4 to 4.6	250	10,000	9.80
	9/20/95	4.1 to 4.3	250	10,000	9.80
	1/11/96	3.2 to 4.0	250	10,000	9.80
MW-2	12/29/94	2.8 to 4.3	201	10,000	7.88
	3/16/95	3.9	165.5	10,000	6.49
	6/21/95	1.3 to 4.6	158.4	10,000	6.21
	9/20/95	4.2 to 4.3	178.7	10,000	7.00
	1/11/96	4.1 to 4.5	226.6	10,000	8.88
MW-8	12/29/94	0.5 to 0.6	35	10,000	1.37
	3/16/95	0.21 to 0.67	80	10,000	3.14
	6/21/95	0.2 to 0.6	96	10,000	3.76
	9/20/95	0.3 to 1.7	81.3	10,000	3.19
	1/11/96	0.3 to 1.1	33.4	10,000	1.31
· · · · · · · · · · · · · · · · · · ·		TOTAL	2520.4	TOTAL	98.77

Notes:

gpm = gallons per minute

ppm = parts per million

Approximately 20 ppm of nitrogen as nitrate and 37 ppm of phosphate was present in solution.





Site Location Map 1650 65th Street Emeryville, California PLATE

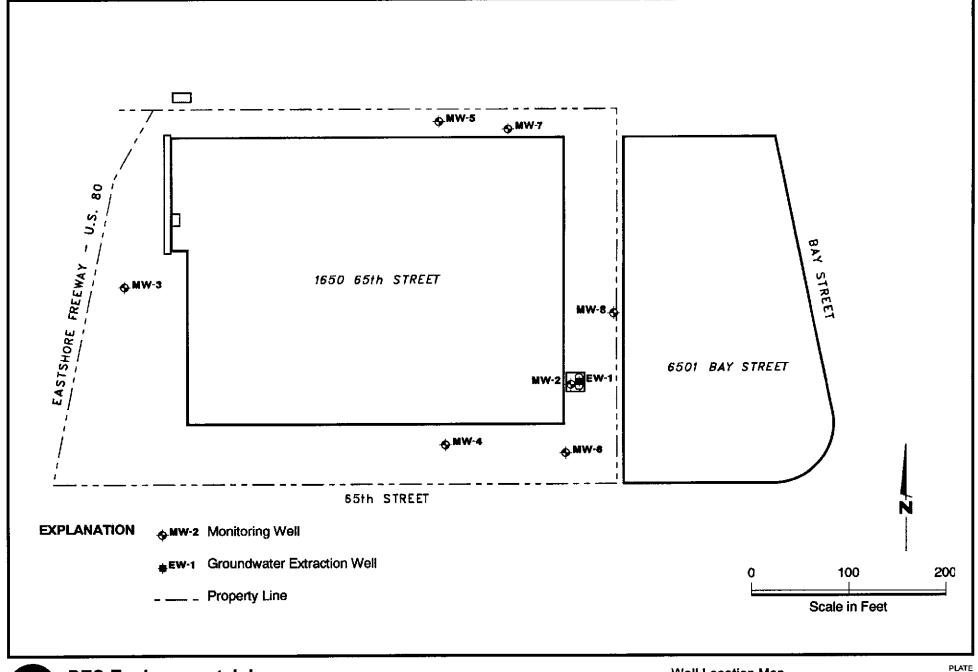
131.0100.003 JOB NUMBER 131010V1.CDR

DRAWING NUMBER

REVIEWED BY

3/96

DATE





PES Environmental, Inc.

Engineering & Environmental Services

Well Location Map 1650 65th Street Emeryville, California

131.0100.003

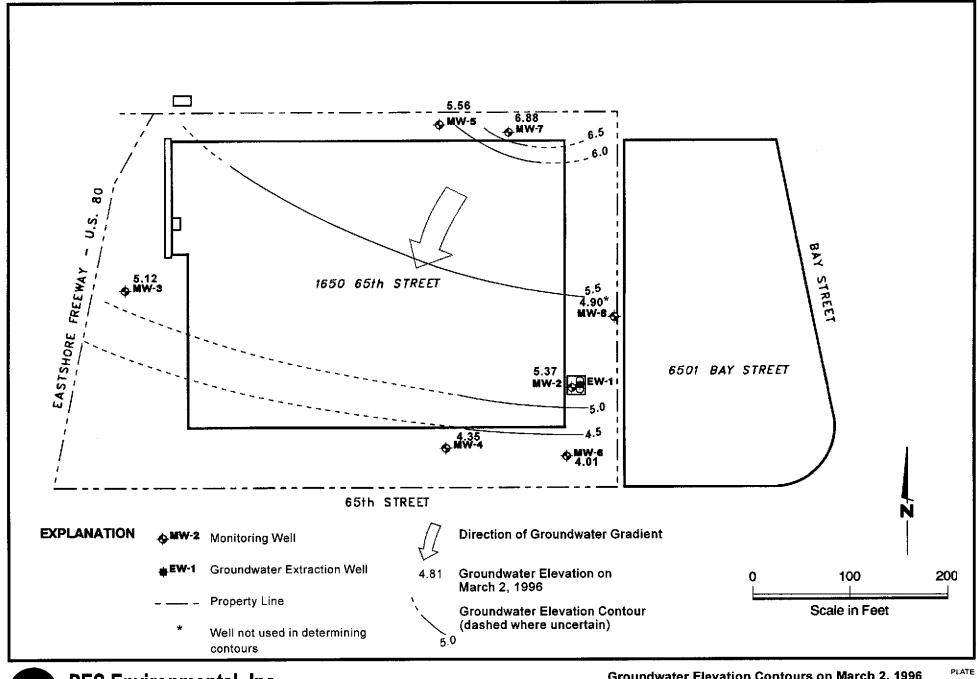
131010S1.CDR

DRAWING NUMBER

3/96

JOB NUMBER

REVIEWED BY





PES Environmental, Inc.

Engineering & Environmental Services

Groundwater Elevation Contours on March 2, 1996 1650 65th Street Emeryville, California

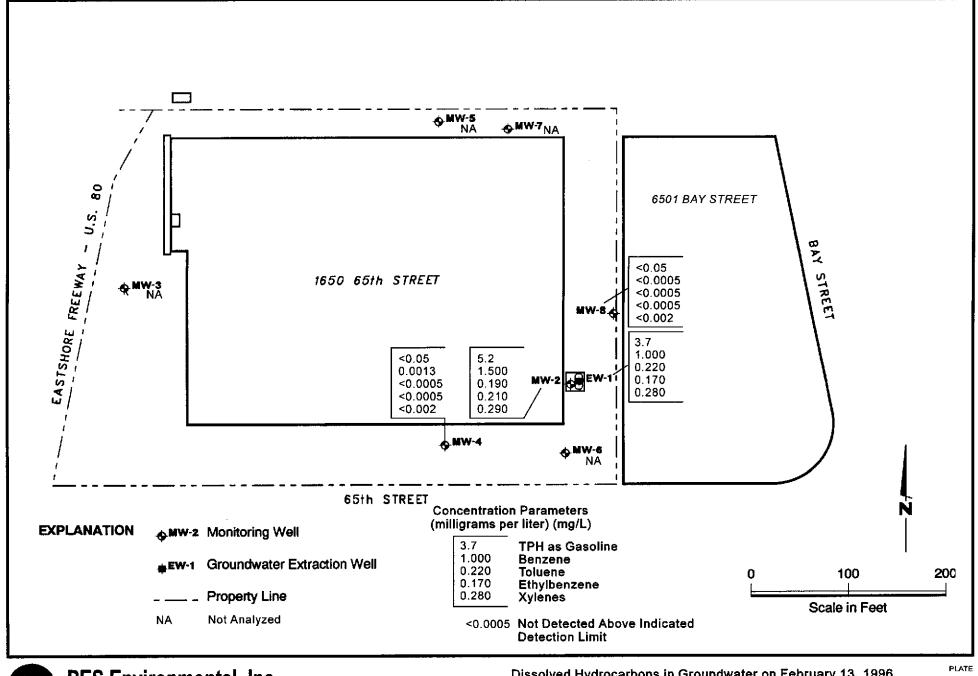
131.0100.003

131010S2.CDR

DRAWING NUMBER

Xh REVIEWED BY 3/96

JOB NUMBER





PES Environmental, Inc.

Engineering & Environmental Services

Dissolved Hydrocarbons in Groundwater on February 13, 1996 1650 65th Street Emeryville, California 4

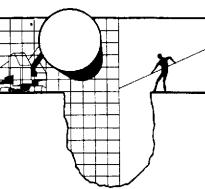
131.0100.003

131010S3.CDR

33.CDR

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3/96



BLAINE TECH SERVICES INC.

985 TIMOTHY DRIVE SAN JOSE, CA 95133 (408) 995-5535 FAX (408) 293-8770

February 26, 1996

PES Environmental, Inc. 1682 Novato Blvd., Suite 100 Novato, CA 94947

ATTN: Jenny Han

Site: Emery Bay Plaza 1650 65th Street Emeryville, California

Date: February 13, 1996

GROUNDWATER SAMPLING REPORT 960213-K-1

Blaine Tech Services, Inc. performs specialized environmental sampling and documentation as an independent third party. In order to avoid compromising the objectivity necessary for the proper and disinterested performance of this work, Blaine Tech Services, Inc. does not participate in the interpretation of analytical results, or become involved with the marketing or installation of remedial systems.

This report deals with the groundwater well sampling performed by our firm in response to your request. Data collected in the course of our work at the site are presented in the TABLE OF WELL MONITORING DATA. This information was collected during our inspection, well evacuation and sample collection. Measurements include the total depth of the well and the depth to water. Water surfaces were further inspected for the presence of immiscibles. A series of electrical conductivity, pH, and temperature readings were obtained during well evacuation and at the time of sample collection.

STANDARD PRACTICES

Evacuation and Sampling Equipment

As shown in the TABLE OF MONITORING DATA, the wells at this site were evacuated according to a protocol requirement for the three case volumes. The wells were evacuated using bailers.

Samples were collected using bailers.

Bailers: A bailer, in its simplest form, is a hollow tube which has been fitted with a check valve at the lower end. The device can be lowered into a well by means of a cord. When the bailer enters the water, the check valve opens and liquid flows into the interior of the bailer. The bottom check valve prevents water from escaping when the bailer is drawn up and out of the well.

Two types of bailers are used in groundwater wells at sites where fuel hydrocarbons are of concern. The first type of bailer is made of a clear material such as acrylic plastic and is used to obtain a sample of the surface and the near surface liquids, in order to detect the presence of visible or measurable fuel hydrocarbon floating on the surface. The second type of bailer is made of Teflon or stainless steel, and is used as an evacuation and/or sampling device.

Bailers are inexpensive and relatively easy to clean. Because they are manually operated, variations in operator technique may have a greater influence than would be found with more automated sampling equipment. Also, where fuel hydrocarbons are involved, the bailer may include near surface contaminants that are not representative of water deeper in the well.

Decontamination

All apparatus is brought to the site in clean and serviceable condition. The equipment is decontaminated after each use and before leaving the site.

Effluent Materials

The evacuation process creates a volume of effluent water which must be contained. Blaine Tech Services, Inc. will place this water in appropriate containers of the client's choice or bring new 55 gallon DOT 17 E drums to the site, which are appropriate for the containment of the effluent materials. The determination of how to properly dispose of the effluent water must usually await the results of laboratory analyses of the sample collected from the groundwater well. If that sample does not establish whether or not the effluent water is contaminated, or if

effluent from more than one source has been combined in the same container, it may be necessary to conduct additional analyses on the effluent material.

Sampling Methodology

Samples were obtained by standardized sampling procedures that follow an evacuation and sample collection protocol. The sampling methodology conforms to both State and Regional Water Quality Control Board standards and specifically adheres to EPA requirements for apparatus, sample containers and sample handling as specified in publication SW 846 and T.E.G.D. which is published separately.

Sample Containers

Sample containers are supplied by the laboratory performing the analyses.

Sample Handling Procedures

Following collection, samples are promptly placed in an ice chest containing deionized ice or an inert ice substitute such as Blue Ice or Super Ice. The samples are maintained in either an ice chest or a refrigerator until delivered into the custody of the laboratory.

Sample Designations

All sample containers are identified with both a sampling event number and a discrete sample identification number. Please note that the sampling event number is the number that appears on our chain of custody. It is roughly equivalent to a job number, but applies only to work done on a particular day of the year rather than spanning several days, as jobs and projects often do.

Chain of Custody

Samples are continuously maintained in an appropriate cooled container while in our custody and until delivered to the laboratory under our standard chain of custody. If the samples are taken charge of by a different party (such as another person from our office, a courier, etc.) prior to being delivered to the laboratory, appropriate release and acceptance records are made on the chain of custody (time, date and signature of person accepting custody of the samples).

Hazardous Materials Testing Laboratory

The samples obtained at this site were delivered to American Environmental Network in Pleasant Hill, California. AEN is certified by the California Department of Health Services as a Hazardous Materials Testing Laboratory, and is listed as DOHS HMTL #1172.

Personnel

All Blaine Tech Services, Inc. personnel receive 29 CFR 1910.120(e)(2) training as soon after being hired as is practical. In addition, many of our personnel have additional certifications that include specialized training in level B supplied air apparatus and the supervision of employees working on hazardous materials sites. Employees are not sent to a site unless we are confident they can adhere to any site safety provisions in force at the site and unless we know that they can follow the written provisions of an SSP and the verbal directions of an SSO.

In general, employees sent to a site to perform groundwater well sampling will assume an OSHA level D (wet) environment exists unless otherwise informed. The use of gloves and double glove protocols protects both our employees and the integrity of the samples being collected. Additional protective gear and procedures for higher OSHA levels of protection are available.

Please call if we can be of any further assistance.

Richard C. Blaine

RCB/lp

attachments: table of well monitoring data

chain of custody

TABLE OF WELL MONITORING DATA

Well I.D. Date Sampled	EW-1 2/12/96	i		MW-2 02/13/9	6		MW-4 02/13/9	6		MW-8 02/13/9	6	
Well Diameter (in.) Total Well Depth (ft.) Depth To Water (ft.)	4 27.82 10.54			2 24.55 10.60			4 15.94 8.03			2 24.43 10.24		
Free Product (in.) Reason If Not Sampled	NONE 			NONE			NONE			NONE 		
1 Case Volume (gal.) Did Well Dewater? Gallons Actually Evacuated	11.2 NO 34.0			2.2 NO 7.0			5.1 NO 15.5			2.2 NO 7.0		
Purging Device Sampling Device	BAILER BAILER			BAILER BAILER			BAILER BAILER			BAILER BAILER		
Time Temperature (Fahrenheit) pH Conductivity (micromhos/cm) Nephelometric Turbidity Units Dissolved Oxygen (mg/L)	12:04 66.8 7.6 1600 >200 0.3	12:12 67.2 7.6 1500 >200	12:21 67.9 7.7 1600 >200	11:43 67.0 7.2 3100 >200 0.4	11:47 67.0 7.4 1800 >200	11:49 66.8 7.4 1800 >200	10:47 67.8 7.9 8600 33.8 0.4	10:50 68.0 8.1 9200 40.2	10:53 67.8 8.2 9400 50.9	11:17 62.6 6.9 16000 >200 >15	11:21 63.2 6.9 19000 >200	11:24 64.2 6.9 18000 >200
BTS Chain of Custody BTS Sample I.D. DOHS HMTL Laboratory Analysis	960213- EW-1 AEN TPH-GAS			960213- MW-2 AEN TPH-GAS			960213- MW-4 AEN TPH-GAS			960213- MW-8 AEN TPH-GAS		

BLAINE	985 TIMOTHY DHIVE SAN JOSE, CA 95133	CONDUCT	ANALYSIS TO DETECT	ILAB HEN		IDHS#
TECH SERVICES INC.	(408) 995-5535			ALL ANALYSES MUST MEET	SPECIFICATIONS AND	
CHAIN OF CUSTODY 9802/3-/K) CLIENT PES SITE ENERLY BAY 1650 6544 ENDRY VIII SAMPLE I.D. FWY 1225 MWY 1150 MWY 1125	PAZA SARIET MATRIX CONTAINERS ON SARIER I II	C = COMPOSITE ALL CONTAINERS $7PH6_{45}$ (80.5) 8020		SET BY CALIFORNIA DHS AN EPA LIA OTHER SPECIAL INSTRUCTIONS_T FO PES, AS PES PROS. #	ID RWQCI	B REGION
SAMPLING DATE TIME COMPLETED 2/13/54 /250	SAMPLING PERFORMED BY	ith Brown	.	RESULTS NEEDED AS	Contrac	Jed.
RELEASED BY	DATE 3/33/	TIME 10 7	RECEIVED BY		DATE 2-14-9	TIME
RELEASED BY	DATE	TIME	AECEIVED BY		DATE	TIME
RELEASED BY	DATE	TIME	RECEIVED BY		DATE	TIME
SHIPPED VIA	DATE S	SENT TIME SEN	T COOLER#			1

KECEIVED FEB 2 / 1996

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172

AIHA Accreditation: 11134

PAGE 1

PES ENVIRONMENTAL, INC. 1682 NOVATO BLVD. SUITE 100 NOVATO. CA 94947

ATTN: JENNY HAN

CLIENT PROJ. ID: 131.0100.003 CLIENT PROJ. NAME: EMERY BAY PLAZ

C.O.C. NUMBER: 960213-14

REPORT DATE: 02/26/96

DATE(S) SAMPLED: 02/13/96

DATE RECEIVED: 02/14/96

AEN WORK ORDER: 9602222

PROJECT SUMMARY:

On February 14, 1996, this laboratory received 4 water sample(s).

Client requested sample(s) be analyzed for organic parameters. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.

Larry Klein

Laboratory Director

PES ENVIRONMENTAL, INC.

SAMPLE ID: EW-1

AEN LAB NO: 9602222-01 AEN WORK ORDER: 9602222

CLIENT PROJ. ID: 131.0100.003

DATE SAMPLED: 02/13/96 DATE RECEIVED: 02/14/96 **REPORT DATE: 02/26/96**

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs Benzene Toluene Ethylbenzene Xylenes, Total	EPA 8020 71-43-2 108-88-3 100-41-4 1330-20-7	1,000 * 220 * 170 * 280 *	5 ug 5 ug 5 ug 20 ug	ı/L ı/L	02/21/96 02/21/96 02/21/96 02/21/96

RLs elevated due to high levels of target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

PES ENVIRONMENTAL, INC.

SAMPLE ID: MW2

AEN LAB NO: 9602222-02

AEN WORK ORDER: 9602222 CLIENT PROJ. ID: 131.0100.003

DATE SAMPLED: 02/13/96 DATE RECEIVED: 02/14/96 **REPORT DATE: 02/26/96**

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE Analyzed
BTEX & Gasoline HCs	EPA 8020	1 500 /	_		00 (04 10 0
Benzene Toluene	71-43-2 108-88-3	1,500 * 190 *		ıg/L	02/21/96 02/21/96
Ethylbenzene	100-00-3	210 *		ıg/L ıg/L	02/21/96
Xylenes, Total	1330-20-7	290 *	20 i		02/21/96
Purgeable HCs as Gasoline	5030/GCFID	5.2 *	0.5 п	ng/L	02/21/96

RLs elevated due to high levels of target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

PES ENVIRONMENTAL, INC.

SAMPLE ID: MW4

AEN LAB NO: 9602222-03

AEN WORK ORDER: 9602222 CLIENT PROJ. ID: 131.0100.003

DATE SAMPLED: 02/13/96 DATE RECEIVED: 02/14/96

REPORT DATE: 02/26/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs Benzene Toluene Ethylbenzene Xylenes, Total Purgeable HCs as Gasoline	EPA 8020 71-43-2 108-88-3 100-41-4 1330-20-7 5030/GCFID	1.3 * ND ND ND ND ND	0.5 t 0.5 t 0.5 t 2 t 0.05 t	ıg∕L ıg/L ıg/L	02/21/96 02/21/96 02/21/96 02/21/96 02/21/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

PES ENVIRONMENTAL, INC.

SAMPLE ID: MW8

AEN LAB NO: 9602222-04

AEN WORK ORDER: 9602222 CLIENT PROJ. ID: 131.0100.003

DATE SAMPLED: 02/13/96 DATE RECEIVED: 02/14/96

REPORT DATE: 02/26/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs Benzene Toluene Ethylbenzene Xylenes, Total Purgeable HCs as Gasoline	EPA 8020 71-43-2 108-88-3 100-41-4 1330-20-7 5030/GCFID	ND ND ND ND ND	0.5 u 0.5 u 0.5 u 2 u 0.05 m	ig/L ig/L ig/L	02/20/96 02/20/96 02/20/96 02/20/96 02/20/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

AEN (CALIFORNIA) QUALITY CONTROL REPORT

AEN JOB NUMBER: 9602222

CLIENT PROJECT ID: 131.0100.003

Quality Control and Project Summary

All laboratory quality control parameters were found to be within established limits.

<u>Definitions</u>

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

- D: Surrogates diluted out.
- #: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9602222 INSTRUMENT: F, H MATRIX: WATER

Surrogate Standard Recovery Summary

_			Percent Recovery		
Date Analyzed	Client Id.	Lab Id.	Fluorobenzene		
02/21/96 02/21/96 02/21/96 02/20/96	EW-1 MW2 MW4 MW8	01 02 03 04	102 104 96 98		
QC Limits:			70-130		

DATE ANALYZED: 02/21/96 SAMPLE SPIKED: 9602222-04

INSTRUMENT: H

Matrix Spike Recovery Summary

				QC Limits	
Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	Percent Recovery	RPD
Benzene Toluene Hydrocarbons as Gasoloine	49.0 155	94 95	16 7	85-109 87-111	17 16
	1000	107	12	66-117	19

Daily method blanks for all associated analytical runs showed no contamination at or above the reporting limit.

BLAINE	985 TIMOTHY E SAN JOSE, CA S	95133	CONDUCT ANA	LYSIS TO DETECT	LAB AEN	960	uu	DHS # 20496
CHAIN OF CUSTODY CLIENT TECH SERVICES INC CHAIN OF CUSTODY CLIENT CLIENT	(408) 995 FAX (408) 293	-8773			ALL ANALYSES MUST SET BY CALIFORNIA	DHS AND	□RWQ0	B REGION
SITE EMERY BAY 1650 654 EMORY VIII	Plaza Sirvet E MATRIX CONTAINE	OSITE ALL CONTAINE	76 801 75 8020		to PES PES PRO	ONS INVO . AHA S. # 13	ice a 1: Jen 31.010	VY HAN 0.003
SAMPLE I.D.	ω≥ TOTAL CO	. ! " ! "			ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
FW. 1 1225	W 3 DIA	rc	\times					
MW2 1150	1 OLA	r€	\times					
MW4 1100	U3A	rc [\times					
MW8 1125	5 4 044	·C 2						
COMPLETED/13/94 1240	SAMPLING PERFORMED BY	Keith			RESULTS NEEDED NO LATER THAN	46 C	entra	
RELEASED BY		DATEN PLATE PLASE	TIME 16:45		A An	ut.	DATE 2-14-9 DATE 2-14-9	
SHIPPED VIA		DATE SENT	TIME SENT	RECEIVED BY	1		DATE	TIME