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June 30, 1998

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

Attention: Ms. Susan Hugo

QUARTERLY GROUNDWATER MONITORING MAY 1998 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 May 1998 quarterly groundwater monitoring. PES has been retained by Emery Bay Plaza to conduct groundwater remediation and monitoring at the subject site.

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 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 provides 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 in-situ 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 34th consecutive sampling event since groundwater monitoring was initiated, and the 27th 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 Blaine Tech Services (Blaine Tech) of San Jose, California, on May 18, 1998. 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.

In general, groundwater elevations on May 18, 1998 have increased in the monitoring wells compared with the prior quarterly monitoring event. Elevations increased in five of the monitoring wells and decreased in the remaining two. 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-4, and MW-6. Based on measured water levels on May 18, 1998, groundwater flow direction at the site was calculated to be toward the southwest, with an approximate gradient ranging from 0.012 to 0.016 foot per foot. The direction of groundwater flow and gradient are consistent with historical data.

Dissolved Oxygen Measurement Procedures

As part of the in-situ bioremediation program at the subject property, dissolved oxygen measurements were collected by Blaine Tech during the quarterly monitoring event. Prior to purging and sampling, the total dissolved oxygen in Wells MW-2, MW-4, MW-8 and Well EW-1 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), is periodically introduced into Wells EW-1, MW-2 and MW-8. Nutrient introduction was performed during this quarter by PES Environmental on March 13 and April 9, 1998. The historical dissolved oxygen measurements and the data generated during the nutrient addition 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 were measured on May 18, 1998. Total dissolved oxygen concentrations measured in onsite wells ranged from 0.64 to 0.99 mg/L. Dissolved oxygen concentrations measured during the May 1998 monitoring event are provided in the groundwater sampling report in Appendix A. A historical summary of dissolved oxygen measurements is presented in Table 3.

GROUNDWATER SAMPLING AND ANALYTICAL TESTING

Sampling Protocol

Groundwater samples were collected by Blaine Tech on May 18 1998. 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 Entech Analytical Lab, Inc. (Entech), a state-certified laboratory located in Sunnyvale, 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

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 May 18, 1998 is presented on Plate 4.

Concentrations of TPH-gas and BTEX have decreased in the monitoring wells near the former UST relative to the previous quarterly sampling. Consistent with historical monitoring data, TPH-gas and BTEX were detected in Wells MW-2 and EW-1. Concentrations of TPH-g and BTEX have decreased in Well EW-1 and in Well MW-2 since the previous sampling event. Very low concentrations of Benzene and total Xylenes were detected in MW-4 at 0.00091 mg/L and 0.0011 mg/L, respectively. Consistent with previous analytical results, Well MW-2, located within the backfill of the former UST excavation, exhibited the highest concentrations of dissolved hydrocarbons (TPH-gas and BTEX).

SUMMARY

Groundwater elevations have generally increased since the February 1998 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 previous quarterly monitoring event. Dissolved oxygen concentrations have remained low since the most recent nutrient introduction. 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

Project Geologist

Andrew A. Briefer, P. E.

Associate Engineer



Attachments: Table 1

Summary of Groundwater Elevations Through May 1998

Table 2 Summary of Analytical Results for Groundwater Samples

Through May 1998

Table 3 Summary of Total Dissolved Oxygen Through May 1998

Table 4 Summary of Nutrient Introduction Through April 1998

Plate 1 Site Location Map

Plate 2 Well Location Map

Plate 3 Groundwater Elevation Contours on May 18, 1998

Plate 4 Dissolved Hydrocarbons in Groundwater on May 18, 1998

Appendix A Groundwater Sampling Report

Appendix B Analytical Laboratory Reports

cc: Mr. Thomas Gram - P. O. Partners Ms. Lynn Tolin - Emery Bay Plaza

QUALITY CONTROL REVIEWER

Robert S. Creps, P.E.

Principal Engineer

Table 1. Summary of Groundwater Elevations Through May 1998
Emery Bay Plaza
1650 65th Street, Emeryville, California

Well Number	Date	Measured by	Top of Casing (feet MSL)	Depth to Water (feet)	Groundwate Elevations (feet MSL)
MW-2	21-Feb-90	ES	15.75	11.72	4.03
14144-7	25-May-90	ES	15.75	11.83	3.92
	29-Aug-90	ES	15.75 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	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	PES	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-Aug-53 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
	9-May-96	PES	15.79	10.78	5.01
	8-Aug-96	PES	15.79	10.56	5.23
	11-Nov-96	PES	15.79	10.64	5.15
	14-Feb-97	PES	15.79	10.29	5.50
	14-May-97	PES	15.79	10.60	5.19
	12-Aug-97	PES	15.79	10.87	4.92
	12-Nov-97	PES	15.79	10.64	5.15
	4-Feb-98	PES	15.79	10.83	4.96
	18-May-98	PES	15.79	10.10	5.69
MW-3	21-Feb-90	ES	12.45	9.18	3.27
	25-May-90	ES	12.45	9.25	3.20
	29-Aug-90	ES	12.45	9.50	2.95
	29-Nov-90	ES	12.45	9.80	2.65
	1-Mar-91	ES	12.43	9.51	2.92
	28-May-91	ES	12.43	9.03	3.40
	1-Aug-91	ES	12.43	NA	NA
	27-Jan-92	PES	12.43	9.44	2.99
	28-Feb-92	PES	12.43	8.80	3.63

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Well Number	Date	Measured by	Top of Casing (feet MSL)	Depth to Water (feet)	Groundwate Elevations (feet MSL)
MW-3	28-May-92	PES	12.43	8.80	3.63
Cont.	27-Aug-92	PES	12.43	9.18	3.25
	10-Nov-92	PES	12.43	9.44	2.99
	18-Feb-93	PES	12.43	7.59	4.84
	20-May-93	PES	12.43	8.21	4.22
	19-Aug-93	PES	12.43	8.71	3.72
	15-Nov-93	PES	12.43	9.09	3.34
	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
	9-May-96	PES	12.43	7.72	4.71
	8-Aug-96	PES	12.43	8.22	4.21
	11-Nov-96	PES	12.43	8.67	3.76
	14-Feb-97	PES	12.43	7.18	5.25
	14-May-97	PES	12.43	8.03	4.40
	12-Aug-97	PES	12.43	7.39	5.04
	12-Nov-97	PES	12.43	8.53	3.90
	4-Feb-98	PES	12.43	7.39	5.04
	18-May-98	PES	12.43	7.31	5.12
MW-4	21-Feb-90	ES	12.24	8.63	3.61
	25-May-90	ES	12.24	8.58	3.66
	29-Aug-90	ES	12.24	8.50	3.74
	29-Nov-90	ES	12.24	8.74	3.50
	1-Mar-91	ES	12.24	8.65	3.59
	28-May-91	ES	12.24	8.57	3.67
	1-Aug-91	ES	12.24	NA	NA
	27-Jan-92	PES	12.24	8.62	3.62
	28-Feb-92	PES	12.24	8.52	3.72
	28-May-92	PES	12.94	8.35	3.89
	27-Aug-92	PES	12.24	9.00	3.24
	10-Nov-92	PES	12.24	8.85	3.39
	18-Feb-93	PES	12.24	8.17	4.07
	20-May-93	PES	12.24	8.21	4.03
	19-Aug-93	PES	12.24	8.20	4.04
	15-Nov-93	PES	12.24	8.33	3.91
	14-Feb-94	PES	12.24	8.30	3.94
	16-May-94	PES	12.24	8.20	4.04

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1650 65th Street, Emeryville, California

Well Number	Date	Measured by	Top of Casing	Depth to Water	Groundwate Elevations
Idampei		Бу	(feet MSL)	(feet)	(feet MSL)
MW-4	10-Aug-94	PES	12.24	8.14	4.10
Cont.	3-Nov-94	PES	12.24	8.30	3.94
	9-Feb-95	PES	12.24	8.11	4.13
	9-May-95	PES	12.24	7.76	4.48
	10-Aug-95	PES	12.24	7.91	4.33
	13-Nov-95	PES	12.24	7.95	4.29
	2-Mar-96	PES	12.24	7.89	4.35
	9-May-96	PES	12.24	7.64	4.60
	8-Aug-96	PES	12.24	7.76	4.48
	11-Nov-96	PES	12.24	8.00	4.24
	14-Feb-97	PES	12.24	7.63	4.61
	14-May-97	PES	12.24	7.78	4.46
	12-Aug-97	PES	12.24	7.71	4.53
	12-Nov-97	PES	12.24	7.84	4.40
	4-Feb-98	PES	12.24	7.11	5.13
	18-May-98	PES	12.24	7.35	4.89
MW-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	5.06
	29-Nov-90	ES	12.81	8.17	4.64
	1-Mar-91	ES	12.82	8.11	4.71
	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
	9-May-96	PES	12.82	6.00	6.82
	8-Aug-96	PES	12.82	6.67	6.15

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Well Number	Date	Measured by	Top of Casing (feet MSL)	Depth to Water (feet)	Groundwate Elevations (feet MSL)	
MW-5	11-Nov-96	PES	12.82	6.69	6.13	
Cont.	14-Feb-97	PES	12.82	45.88	6.94	
00111.	14-May-97	PES	12.82	6.25	6.57	
	12-Aug-97	PES	12.82	6.77	6.05	
	12-Nov-97	PES	12.82	7.21	5.61	
	4-Feb-98	PES	12.82	. 6.81	6.01	
	18-May-98	PES	12.82	4.81	8.01	
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	3.94	
	16-May-94	PES	12.03	7.82	4.21	
	10-Aug-94	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	
	13-Nov-95	PES	12.03	8.15	3.88	
	2-Mar-96	PES	12.03	8.02	4.01	
	9-May-96	PES	12.03	7.64	4.39	
	8-Aug-96	PES	12.03	7.53	4.50	
	11-Nov-96	PES	12.03	8.45	3.58	
	14-Feb-97	PES	12.03	7.58	4.45	
	1 4-M ay-97	PES	12.03	8.62	3.41	
	12-Aug-97	PES	12.03	7.62	4.41	
	12-Nov-97	PES	12.03	8.56	3.47	
	4-Feb-98	PES	12.03	6.56	5.47	
	18-May-98	PES	12.03	7.29	4.74	
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	

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1650 65th Street, Emeryville, California

Well Number	Date	Measured by	Top of Casing (feet MSL)	Depth to Water (feet)	Groundwater Elevations (feet MSL)
MW-7	28-May-92	PES	12.9	6.81	6.09
Cont.	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	7.18
	13-Nov-95	PES	12.9	5.98	6.92
	2-Mar-96	PES	12.9	6.02	6.88
	9-May-96	PES	12.9	6.11	6.79
	8-Aug-96	PES	12.9	6.87	6.03
	11-Nov-96	PES	12.9	6.39	6.51
	14-Feb-97	PES	12.9	5.97	6.93
	14-May-97	PES	12.9	5.89	7.01
	12-Aug-97	PES	12.9	6.56	6.34
	12-Nov-97	PES	12.9	6.76	6.14
	4-Feb-98	PES	12.9	5.94	6.96
	18-May-98	PES	12.9	4.19	8.71
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	PES	15.01	10.11	4.90
	9-May-96	PES	15.01	10.50	4.51
	8-Aug-96	PES	15.01	10.04	4.97
	11-Nov-96	PES	15.01	10.55	4.46
	14-Feb-97	PES	15.01	9.95	5.06
	14-May-97	PES	15.01	10.08	4.93

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Well Number	Date	Measured by	Top of Casing (feet MSL)	Depth to Water (feet)	Groundwater Elevations (feet MSL)
MW-8	12-Aug-97	PES	15.01	10.63	4.38
Cont.	12-Nov-97	PES	15.01	10.13	4.88
	4-Feb-98	PES	15.01	10.17	4.84
	18-May-98	PES	15.01	9.49	5.52

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 May 1998
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-2	Nov-89	ES	100	NA	8.4	7.4	2.4	13	0.015 *	0.05
	Feb-90	ES	54	NA	7.8	5.6	1.6	8.4	0.032 *	0.021
	May-90	ES	40	NA	7.8	7.5	1.6	7.6	0.076 *	0.025
	Aug-90	ES	49	4.6	9	8	ND	8.9	0.040 *	0.0059
	Nov-90	ES	73	3.5	6.9	5.9	1.4	7.4	NA	NA
	Mar-91	ES	7 2	1.8	5.5	6.6	1	7.7	NA	NA
	May-91	ES	31	ND	8.4	4.7	1.7	6.3	NA	NA
	Aug-91	ES	47	ND	7.6	1.6	7.3	7.8	NA	NA
	29-Jan-92	PES	77.000	NA	10,000	8.700	2.000	7.600	NA	NA
	28-Feb-92	PES	70.000	NA	9.100	6.400	0.530	7.400	NA	NA
	28-May-92	PES	54.000	NA	8.000	4.800	2.400	6.200	NA	NA
	27-Aug-92	PES	47.000	NA	2.700	2.900	3.400	9.200	NA	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
	9-May-96	PES	1.7	NA	0.370	0.130	0.060	0.090	NA	NA
	8-Aug-96	PES	4.5	NA	1.200	0.490	0.160	0.380	NA	NA
	11-Nov-96	PES	6.0	NA	2.100	0.920	0.200	0.590	NA	NA
	14-Feb-97	PES	3.8	NA	1.500	0.056	0.240	0.040	NA	NA

Table 2. Summary of Analytical Results for Groundwater Samples Through May 1998
Emery Bay Plaza
1650 65th Street, Emeryville, California

Well	Sample	Sampled	TPH as	TPH as	Benzene	Toluene	Ethyl-	Total	Purgeable	Lead
Number	Date	by	Gasoline	Diesel			Benzene	Xylenes	Halocarbons	
	·				MCL = 0.001	DAL = 0.1	MCL = 0.68	MCL = 1.75		MCL = 0.005
MW-2	14-May-97	PES	3.6	NA	2.000	0.100	0.160	0.220	NA	NA
Cont.	12-Aug-97	PES	7.3	NA	3.200	0.330	0.290	0.420	NA	NA
	12-Nov-97	PES	8.9	NA	3.000	1.300	0.330	0.750	NA	NA
	4-Feb-98	PES	7.6	NA	2.800	0.190	0.410	0,150	NA	NA
	18-May-98	PES	2.2	NA	1.300	0.240	0.078	0.120	NA	NA
MW-3	Nov-89	ES	0.13	NA	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	8.0	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	NΑ	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

Table 2. Summary of Analytical Results for Groundwater Samples Through May 1998
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	9-Feb-95	PES	0.1	NA	0.002	<0.0005	<0.0005	<0.002	NA	NA
Cont.	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
MW-4	Nov-89	ES	0.2	NA	0.0023	ND	ND	ND	ND	ND
	Feb-90	ES	ND	NA	ND	ND	ND	ND	NA	0.006
	May-90	ES	ND	ND	0.001	ND	ND	ND	ND	NA
	Aug-90	ES	ND	8.0	0.0089	0.0071	ND	0.0094	NA	NA
	Nov-90	ES	ND	0.7	0.0027	ND	ND	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 May 1998

Emery Bay Plaza

1650 65th Street, Emeryville, California

Well	Sample	Sampled	TPH as	TPH as	Benzene	Toluene	Ethyl-	Total	Purgeable	Lead
Number	Date	by	Gasoline	Diesel			Benzene	Xylenes	Halocarbons	
					MCL = 0.001	DAL = 0.1	MCL = 0.68	MCL = 1.75		MCL = 0.005
MW-4	9-May-96	PES	<0.05	NA	0.0009	<0.0005	<0.0005	<0.002	NA	NA
Cont.	8-Aug-96	PES	<0.05	NA	0.0009	<0.0005	<0.0005	<0.002	NA	NA
	11-Nov-96	PES	<0.05	NA	0.0013	0.0006	<0.0005	<0.002	NA	NA
	14-Feb-97	PES	<0.05	NA	0.0006	<0.0005	<0.0005	<0.002	NA	NA
	14-May-97	PES	<0.05	NA	0.0009	<0.0005	<0.0005	<0.002	NA	NA
	12-Aug-97	PES	<0.05	NA	0.0009	<0.0005	<0.0005	<0.002	NA	NA
	12-Nov-97	PES	<0.05	NA	0.0013	<0.0005	<0.0005	<0.002	NA	NA
	4-Feb-98	PES	0.05	NA	0.0019	0.0018	0.0011	0.004	NA	NA
	18-May-98	PES	<0.05	NA	0.00091	<0.0005	<0.0005	0.0011	NA	NA
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	NA
	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	NA	NA
	14-Feb-94	PES	0.140	NA.	0.062	<0.0005	<0.0005	<0.0005	NA	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

Table 2. Summary of Analytical Results for Groundwater Samples Through May 1998
Emery Bay Plaza

1650 65th Street, Emeryville, California

Well	Sample	Sampled	TPH as	TPH as	Benzene	Toluene	Ethyl-	Total	Purgeable	Lead
Number	Date	by	Gasoline	Diesel			Benzene	Xylenes	Halocarbons	
					MCL = 0.001	DAL = 0.1	MCL = 0.68	MCL = 1.75		MCL = 0.005
MW-5	9-Feb-95	PES	0.3	NA	0.074	8000,0	<0.0005	<0.0002	NA	NA
Cont.	9-May-95	PES	0.2	NA	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
MW-6	May-90	ES	NA	ND	ND	ND	ND	ND	ND	ND**
	Aug-90	ES	NA	ND	NA	NA	NA	NA	NA	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

Table 2. Summary of Analytical Results for Groundwater Samples Through May 1998
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	<u> </u>	MCL = 0.005
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
	Mar-91	ES	ND	ND	0.1	0.0036	ND	ND	NA	NA
	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	NΑ
	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

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Table 2. Summary of Analytical Results for Groundwater Samples Through May 1998

Emery Bay Plaza

1650 65th Street, Emeryville, California

Well	Sample	Sampled	TPH as	TPH as	Benzene	Toluene	Ethyl- Benzene	Total Xylenes	Purgeable Halocarbons	Lead
Number	Date	by	Gasoline	Diesel	MCL = 0.001	DAL = 0.1	MCL = 0.68	MCL = 1.75	Halocarbons	MCL = 0.005
MW-8	9-May-96	PES	<0.05	NA	<0.0005	<0.0005	<0.0005	<0.002	NA	NA
Cont.	8-Aug-96	PES	<0.05	NA	<0.0005	<0.0005	<0.0005	<0.002	NA	NA
	11-Nov-96	PES	<0.05	NA	<0.0005	0.0009	<0.0005	<0.002	NA	NA
	14-Feb-97	PES	<0.05	NA	<0.0005	<0.0005	<0.0005	<0.002	NA	NA
	14-May-97	PES	<0.05	NA	<0.0005	<0.0005	<0.0005	<0.002	NA	NA
	12-Aug-97	PES	<0.05	NA	<0.0005	<0.0005	<0.0005	<0.002	NA	NA
	12-Nov-97	PES	<0.05	NA	0.0033	0.0023	<0.0005	<0.002	NA	NA
	4-Feb-98	PES	<0.05	NA	0.0011	<0.0005	<0.0005	<0.002	NA	NA
	18-May-98	PES	<0.05	NA	<0.0005	<0.0005	<0.0005	<0.0005	NA	NA
EW-1	May-90	ES	20	ND	7.5	4.5	1	6.3	0.068	ND**
	Aug-90	ES	NA	3.5	6	4.2	ND	4.6	0.016 *	ND**
	Nov-90	ES	47	3.1	6	3.4	1	4.7	NA	NA
	17-Dec-90	ES	NA	NA	11	7.9	2.2	10	NA	NA
	19-Dec-90	ES	NA	NA	3.7	2.5	ND	2.3	NA	NA
	21-Dec-90	ES	NA	NA	3.2	2.2	ND	1.7	NA	NA
	27-Dec-90	ES	NA	NA	2.9	2.1.	0.16	1.5	NA	NA
	4-Jan-91	ES	NA	NA	3.2	2.8	ND	ND	NA	NA
	11-Jan-91	ES	NA	NA	3	2.4	0.2	1.8	NA	NA
	6-Feb-91	ES	NA	NA	0.47	0.23	0.011	0.39	NA	NA
	13-Feb-91	ES	NA	NA	1.2	0.28	ND	0.36	NA	NA
	15-Mar-91	ES	NA	NA	0.13	0.085	0.006	0.17	NA	NA
	3-Jul-91	ES	NA	NA	1.3	0.95	0.22	1.4	NA	NA
	1-Aug-91	ES	NA	NA	0.22	0.19	0.013	0.27	NA	NA
	16-Aug-91	ES	NA	NA	0.17	0.16	0.013	0.19	NA	NA
	13-Nov-91	ES	NA	NA	3.1	0.27	0.04	0.22	NA	NA
	29-Jan-92	PES	2.700	NA	0.570	0.150	0.0070	0.260	NA	NA
	26-Mar-92	PES	25.000	NA	3.600	2.600	0.530	2.600	NA	NA
	28-May-92	PES	16.000	NA	3.300	3.200	0.750	2.600	NA	NA
	29-Jun-92	PES	7.000	NA	2.200	3.100	0.270	1.400	NA	NA

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Emery Bay Plaza
1650 65th Street, Emeryville, California

Well	Sample	Sampled	TPH as	TPH as	Benzene	Toluene	Ethyl-	Total	Purgeable	Lead
Number	Date	by	Gasoline	Diesel			Benzene	Xylenes	Halocarbons	
					MCL = 0.001	DAL = 0.1	MCL = 0.68	MCL = 1.75		MCL = 0.005
EW-1	21-Jul-92	PES	1.600	NA	0.220	0.017	<0.0005	0.100	NA	NA
Cont.	27-Aug-92	PES	NS	NS	NS	NS	NS	NS	NS	NS
	23-Sep-92	PES	5.200	NA	1.100	0.590	0.100	1.000	NA	NA
	27-Oct-92	PES	1.300	NA	0.220	0.061	0.0053	0,110	NA	NA
	24-Nov-92	PES	7.100	NA	1.400	1.100	0.120	0.890	NA	NA
	18-Feb-93	PES	7.200	NA	1.400	0.930	0.210	1.000	NA	NA
	09-Mar-93	PES	4.600	NA	0.990	0.750	0.062	0.840	NA	NA
	21-Apr-93	PES	4.900	NA	0.270	0.180	0.020	0.190	NA	NA
	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	NΑ	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
	9-May-96	PES	0.97	NA	0.230	0.050	0.039	0.047	NA	NA
	8-Aug-96	PES	0.74	NA	0.200	0.063	0.025	0.049	NA	NA
	11-Nov-96	PES	0.64	NA	0.340	0.110	0.034	0.090	NA	NA

 Table 2.
 Summary of Analytical Results for Groundwater Samples Through May 1998

Emery Bay Plaza

1650 65th Street, Emeryville, California

Concentrations expressed in milligrams per liter (mg/l) - equivalent to parts per million (ppm)

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	14-Feb-97	PES	4.20	NA	1.600	0.043	0.260	0.040	NA	NA
Cont.	14-May-97	PES	2.2	NA	0.940	0.011	0.064	0.068	NA	NA
	12-Aug-97	PES	3.2	NA	1.400	0.028	0.086	0.110	NA	NA
	12-Nov-97	PES	2.0	NA	0.790	0.045	0.028	0.090	NA	NA
	4-Feb-98	PES	7.2	NA	2.600	0.190	0.310	0.140	NA	NA
	18-May-98	PES	1.5	NA	0.820	0.019	0.071	0.067	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 May 1998 Emery Bay Plaza 1650 65th Street, Emeryville, California

Well Number	Date	Time of Day	Measured by	Total Dissolved Oxygen (mg/L)	Notes
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	PES	>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	
	11-Apr-96	10:12	PES	0.1	(1)
	15-Apr-96	8:48	PES	>15	
	9-May-96	11:22	Blaine	0.6	
	8-Aug-96	10:41	Blaine	0.7	
	23-Oct-96	8:00	PES	0.3	(1)
	11-Nov-96	9:57	Blaine	0.6	
	14-Feb-97	9:43	Blaine	0.8	
	19-Feb-97	9:15	PES	0.4	(1)
	4-Apr-97	8:20	PES	0.6	(1)
	14-May-97	10:14	Blaine	6.1	. ,
	26-Jun-97	8:43	PES	0.3	(1)
	12-Aug-97	11:35	Blaine	0.3	. ,
	10-Oct-97	9:30	PES	0.4	(1)

Table 3. Summary of Total Dissolved Oxygen Through May 1998
Emery Bay Plaza
1650 65th Street, Emeryville, California

Well Number	Date	Time of Day	Measured by	Total Dissolved Oxygen (mg/L)	Note
MW-2	12-Nov-97	10:31	Blaine	0.5	
Cont.	4-Feb-98	9:59	Blaine	0.8	
	13-Mar-98	8:40	PES	0.2	(1)
	9-Apr-98	9:30	PES	0.4	(1)
	18-May-98	9:16	Blaine	0.5	
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	8.0	
	16-Маг-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	
	10-Aug-95	11:19	Blaine	1.1	
	20-Sep-95	14:41	PES	0.6	(1)
	13-Nov-95	9:54	Blaine	0.4	
	11-Jan-96	13:12	PES	1.6	(1)
	13-Feb-96	NM	NM	NM	
	11-Apr-96	15:00	PES	0.2	(1)
	9-May-96	NM	NM	NM	
	8-Aug-96	NM	NM	NM	
	23-Oct-96	12:05	PES	0.4	(1)
	11-Nov-96	NM	NM	NM	, -
	14-Feb-97	NM	NM	NM	
	19-Feb-97	10:15	PES	0.4	(1)
	4-Apr-97	11:00	PES	0.4	(1)
	14-May-97	NM	NM	NM	• ,
	26-Jun-97	12:15	PES	0.5	(1)
	12-Aug-97	NM	NM	NM	` '
	10-Oct-97	12:30	PES	0.4	(1)
	12-Nov-97	NA	Blaine	0.8	, ,
	4-Feb-98	NA	Blaine	1,0	
	13-Mar-98	11:45	PES	0.2	(1)
	9-Apr-98	10:38	PES	0.2	(1)
	18-May-98	NA	NM	NM	, · · /

Table 3. Summary of Total Dissolved Oxygen Through May 1998 Emery Bay Plaza 1650 65th Street, Emeryville, California

Well Number	Date	Time of Day	Measured by	Total Dissolved Oxygen (mg/L)	Note
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	
	16-Mar-95	15:30	PES	0.07	(1)
	9-May-95	9:37	Blaine	1.7	
	20-Jun-95	10:20	PES	0	(1)
	20-Jun-95	15:01	PES	0	(2)
	3-Jul-95	19:40	PES	0.07	
	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	
	11-Jan- 9 6	13:25	PES	1.0	(1)
	13-Feb-96	10:47	Blaine	0.4	
	11-Apr-96	10:35	PES	0.1	(1)
	9-May-96	10:55	Blaine	0.7	
	8-Aug-96	9:58	Blaine	8.0	
	23-Oct-96	9:10	PES	0.3	(1)
	11-Nov-96	9:01	Blaine	0.6	
	14-Feb-97	9:02	Blaine	0.8	
	19-Feb-97	9:50	PES	0.2	(1)
	4-Apr-97	8:47	PES	0.5	(1)
	14-May-97	9:31	Blaine	5.4	
	26-Jun-97	11:17	PES	0.4	(1)
	12-Aug-97	10:47	Blaine	0.6	•
	10-Oct-97	10:20	PES	0.4	(1)
	12-Nov-97	9:12	Blaine	0.6	. ,
	4-Feb-98	8:45	Blaine	1.0	
	13-Mar-98	11:15	PES	0.8	(1)
	9-Apr-98	11:40	PES	0.3	(1)
	18-May-98	8:31	Blaine	0.6	.,
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	0	(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	

Table 3. Summary of Total Dissolved Oxygen Through May 1998 Emery Bay Plaza 1650 65th Street, Emeryville, California

Well Number	Date	Time of Day	Measured by	Total Dissolved Oxygen (mg/L)	Note
MW-5	11-Apr-96	10:50	PES	0.15	(1)
Cont.	9-May-96	NM	NM	NM	
	8-Aug-96	NM	NM	NM	
	23-Oct-96	11:25	PES	0.4	(1)
	11-Nov-96	NM	NM	NM	
	14-Feb-97	NM	NM	NM	
	19-Feb-97	10:40	PES	0.4	(1)
	4-Apr-97	10:50	PES	0.5	(1)
	14-May-97	NM	NM	NM	
	26-Jun-97	7:58	PES	0.5	(1)
	12-Aug-97	NM	NM	NM	
	10-Oct-97	NM	NM	NM	
	12-Nov-97	NA	Blaine	0.5	
	4-Feb-98	NA	Blaine	0.9	
	13-Mar-98	NM	NM .	NM	
	9-Apr-98	10:40	PES	0.1	(1)
	18-May-98	NA	NM	NM	
MW-6	10-Aug-94	10:03	PES	<0.1	
	3-Nov-94	9:42	Blaine	0.4	
	29-Dec-94	9:03	PES	2.2	(1)
	9-Feb-95	11:18	Blaine	1.0	
	16-Mar-95	15:15	PES	0.1	(1)
	21-Mar-95	9:50	PES	0.1	
	9-May-95	9:17	Blaine	1.2	
	20-Jun-95	10:23	PES	0.01	(1)
	20-Jun-95	15:10	PES	0	(2)
	26-Jun-95	19:40	PES	0.20	
	28-Jun-95	19:33	PES	0.22	
	1-Jul-95	19:40	PES	0.81	
	3-Jul-95	19:10	PES	0.56	
	10-Aug-95	10:40	Blaine	1.2	
	20-Sep-95	14:30	PES	0.8	(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	0.8	
	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	
	21-Jan-96 25-Jan-96	20:28	PES	1.8	
	というさいとなり	20,20	FLG	1.0	

Table 3. Summary of Total Dissolved Oxygen Through May 1998 Emery Bay Plaza 1650 65th Street, Emeryville, California

Well Number	Date	Time of Day	Measured by	Total Dissolved Oxygen (mg/L)	Note
MW-6	11-Apr-96	10:25	PES	0.1	(1)
Cont.	9-May-96	NM	NM	NM	
	8-Aug-96	NM	NM	NM	
	23-Oct-96	8:50	PES	0.4	(1)
	11-Nov-96	NM	NM	NM	
	14-Feb-97	NM	NM	NM	
	19-Feb-97	9:40	PES	0.6	(1)
	4-Apr-97	8:35	PES	0.6	(1)
	14-May-97	NM	NM	NM	
	26-Jun-97	11:00	PES	0.4	(1)
	12-Aug-97	NM	NM	NM	
	10-Oct-97	10:05	PES	0.6	(1)
	12-Nov-97	NA	Blaine	1.5	
	4-Feb-98	NA	Blaine	1.2	
	13-Mar-98	10:00	PES	0.5	(1)
	9-Apr-98	11:58	PES	0.4	(1)
	18-May-98	NA	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	
	9-May-96	NM	NM	NM	
	8-Aug-96	NM	NM	NM	
	23-Oct-96	11:15	PES	0.5	(1)
	11-Nov-96	NM	NM	NM	
	14-Feb-97	NM	NM	NM	
	19-Feb-97	10:30	PES	0.5	(1)
	14-May-97	NM	NM	NM	
	26-Jun-97	7:47	PES	0.5	(1)
	12-Aug-97	NM	NM	NM	
	10-Oct-97	NM	NM	NM	
	12-Nov-97	NA	Blaine	0.5	

Table 3. Summary of Total Dissolved Oxygen Through May 1998
Emery Bay Plaza
1650 65th Street, Emeryville, California

Well Number	Date	Time of Day	Measured by	Total Dissolved Oxygen (mg/L)	Note
MW-7	4-Feb-98	NA	Blaine	0.7	-
Cont.	13-Mar-98	NM	NM	NM	
	9-Apr-98	10:20	PES	0.9	(1)
	18-May-98	NA	NM	NM	
MW-8	10-Aug-94	NM	PES	NM	
	3-Nov-94	11:20	Blaine	0.3	
	29-Dec-94	9:40	PES	2.1	(1)
	29-Dec-94	17:10	PES	>20	(2)
	9-Feb-95	13:40	Blaine	8.0	
	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	PES	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	
	1-Jul-95	20:05	PES	>20	
	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	
	11-Apr-96	9:10	PES	6.2	(1)
	15-Apr-96	8:35	PES	>15	
	9-May-96	12:51	Blaine	0.5	
	8-Aug-96	10:14	Blaine	0.7	
	23-Oct-96	7:45	PES	0.4	(1)
	11-Nov-96	10:31	Blaine	1.8	
	14-Feb-97	10:06	Blaine	1.0	
	19-Feb-97	9:00	PES	3.0	(1)
	4-Apr-97	8:00	PES	>15	(1)

Table 3. Summary of Total Dissolved Oxygen Through May 1998
Emery Bay Plaza
1650 65th Street, Emeryville, California

Well Number	Date	Time of Day	Measured by	Total Dissolved Oxygen (mg/L)	Notes
MW-8	14-May-97	10:49	Blaine	6.9	
Cont.	26-Jun-97	8:11	PES	0.6	(1)
	12-Aug-97	11:12	Blaine	0.6	
	10-Oct-97	9:10	PES	3.0	(1)
	12-Nov-97	9:38	Blaine	1.2	
	4-Feb-98	9:10	Blaine	0.7	
	13-Mar-98	8:45	PES	1.4	(1)
	9-Apr-98	8:30	PES	0.2	(1)
	18-May-98	8:51	Blaine	0.9	
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	PES	>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	
	21-Jan-96	18:18	PES	4.0	
	25-Jan-96	20:17	PES	2.0	
	13-Feb-96	12:04	Blaine	0.3	
	11-Apr-96	10:00	PES	0.2	(1)
	15-Apr-96	8:44	PES	>15	
	9-May-96	11:41	Blaine	0.5	

Table 3. Summary of Total Dissolved Oxygen Through May 1998
Emery Bay Plaza
1650 65th Street, Emeryville, California

Well Number	Date	Time of Day	Measured by	Total Dissolved Oxygen (mg/L)	Notes
EW-1	8-Aug-96	11:13	Blaine	0.6	
Cont.	23-Oct-96	8:15	PES	0.3	(1)
	11-Nov-96	9:35	Blaine	0.7	
	14-Feb-97	9:24	Blaine	0.9	
	19-Feb-97	9:30	PES	0.4	(1)
	4-Apr-97	8:10	PES	0.6	(1)
	14-May-97	9:54	Blaine	5.8	
	26-Jun-97	8:30	PES	0.4	(1)
	12-Aug-97	11:26	Blaine	0.4	
	10-Oct-97	9:45	PES	0.4	(1)
	12-Nov-97	10:03	Blaine	0.9	
	4-Feb-98	9:38	Blaine	1.1	
	13-Mar-98	8:34	PES	0.4	(1)
	9-Apr-98	8:45	PES	0.1	(1)
	18-May-98	9:38	Blaine	1.0	

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.

NA = Not available

mg/L = milligrams per liter

Table 4. Summary of Nutrient Introduction to Wells Through April 1998
Emery Bay Plaza
1650 65th Street, Emeryville, California

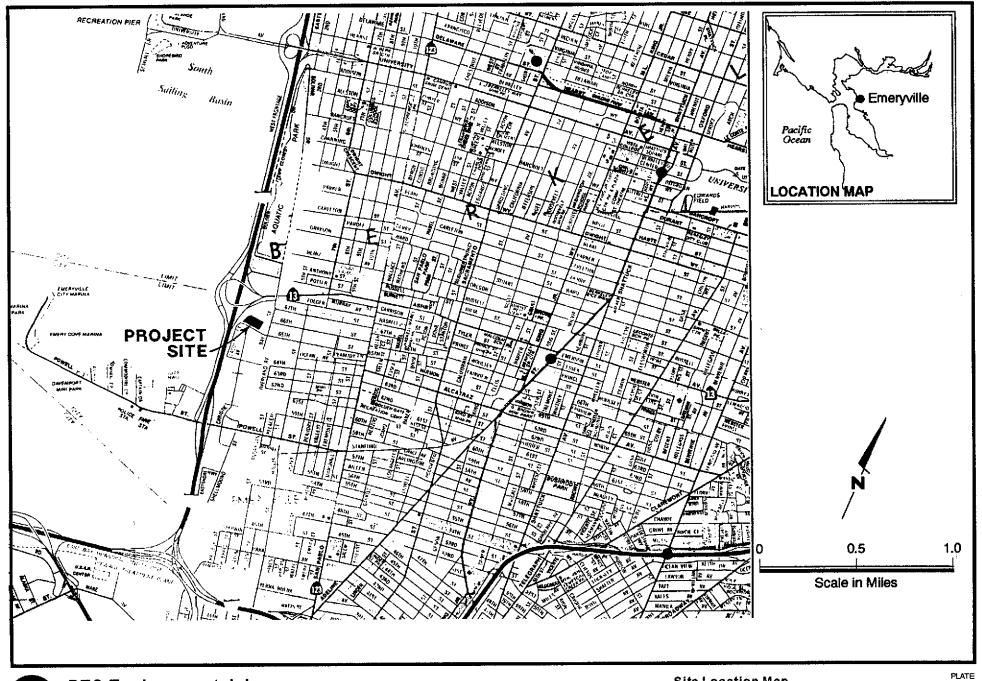
		r 	Volume of Englished	Concentration	Amount of O2
354-11	D-4-	Flow Data	Volume of Enriched	of H2O2	Introduced
Well	Date	Flow Rate	Water Introduced	 	(pounds)
Name	Introduced	(gpm)	(gallons)	(ppm)	(podiida)
EW-1	12/29/94	1.2 to 1.4	265	10,000	10.39
	3/16/95	3.9 to 4.1	249.5	10,000	9.78
	6/21/95	4.4 to 4.6	250	10,000	9.80
ļ.	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
	4/11/96	3.5 to 3.8	250	10,000	9.80
	7/16/96	3.2 to 4.0	249.5	10,000	9.78
	10/23/96	4.0 to 4.6	250	10,000	9.80
•	2/19/97	3.9 to 4.1	250	10,000	9.80
1	4/4/97	3.7 to 4.4	250	10,000	9.80
	6/26/97	4.0 to 4.2	249.8	10,000	9.79
	10/10/97	3.2 to 4.1	250	10,000	9.80
	3/13/98	2.9 to 4.6	250	10,000	9.80
	4/9/98	3.1 to 3.5	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
	4/11/96	3.9 to 4.2	214	10,000	8.39
	7/16/96	3.8 to 4.0	198	10,000	7.76
	10/23/96	4.0 to 4.3	222	10,000	8.70
	2/19/97	3.8 to 4.0	249.1	10,000	9.76
	4/4/97	3.2 to 3.5	192	10,000	7.52
ł	6/26/97	3.8 to 3.9	215	10,000	8.43
	10/10/97	3.0 to 3.2	190	10,000	7.45
	3/13/98	3.0 to 4.0	210	10,000	8.23
	4/9/98	3.2 to 3.8	160	10,000	6.27
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
ŀ	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
	4/11/96	0.2 to 0.5	36	10,000	1.41
	7/16/96	0.1 to 0.4	52.5	10,000	2.06
	10/23/96	0.1 to 0.96	53	10,000	2.08
1	2/19/97	0.1 to 0.3	25.9	10,000	1.02
1	4/4/97	0.1 to 0.6	83	10,000	3.25
	6/26/97	0.2 to 1.1	84	10,000	3.29
1	10/10/97	0.1 to 1.8	85	10,000	3.33
	3/13/98	0.4 to 0.9	65	10,000	2.55
<u></u>	4/9/98	0.2 to 0.8	90	10,000	3.53
		TOTAL	7,194.2	TOTAL	281.94

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.





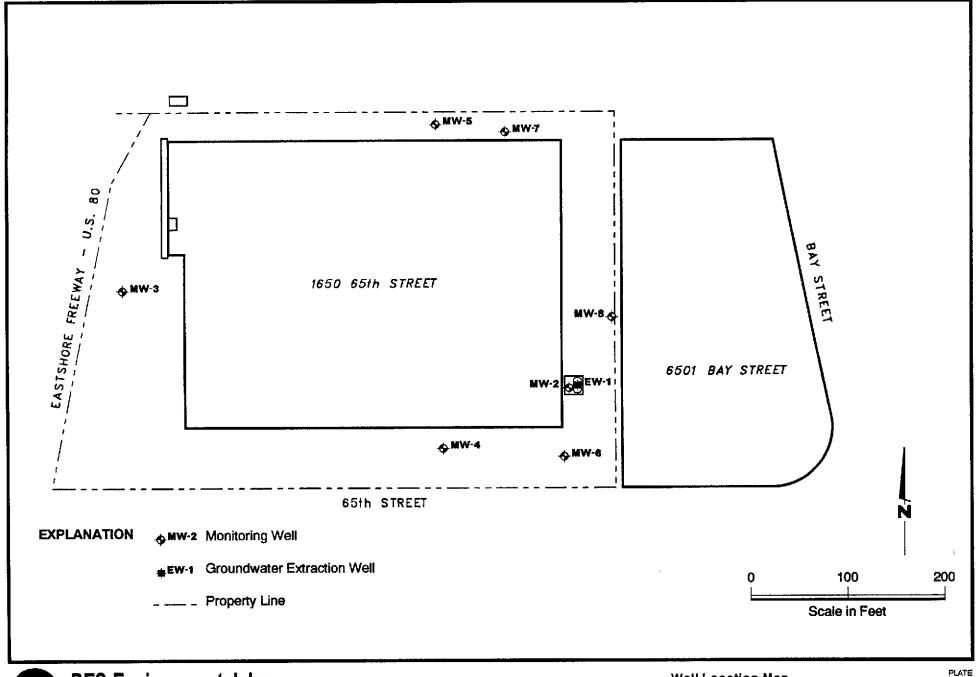
PES Environmental, Inc.Engineering & Environmental Services

Site Location Map 1650 65th Street Emeryville, California

1310100003_V1Q.CDR 131.0100.003

DOMESTIC MUNDED

6/98





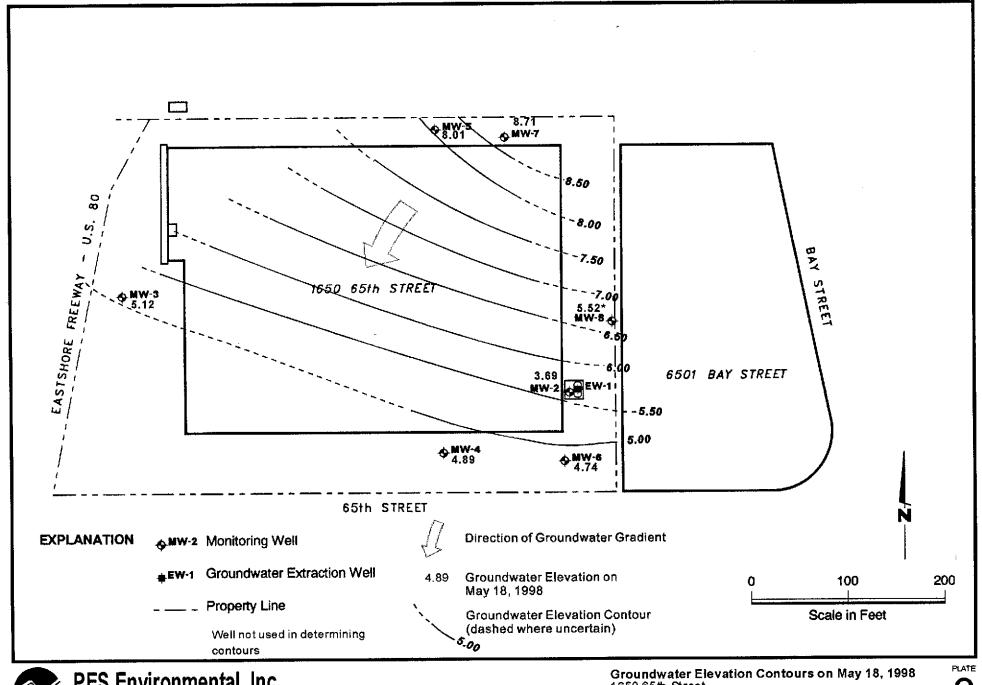
PES Environmental, Inc. Engineering & Environmental Services

Well Location Map 1650 65th Street Emeryville, California

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131.0100.003

JOB NUMBER

PES Environmental, Inc.

Engineering & Environmental Services

1310100003_s2Q.CDR

DRAWING NUMBER

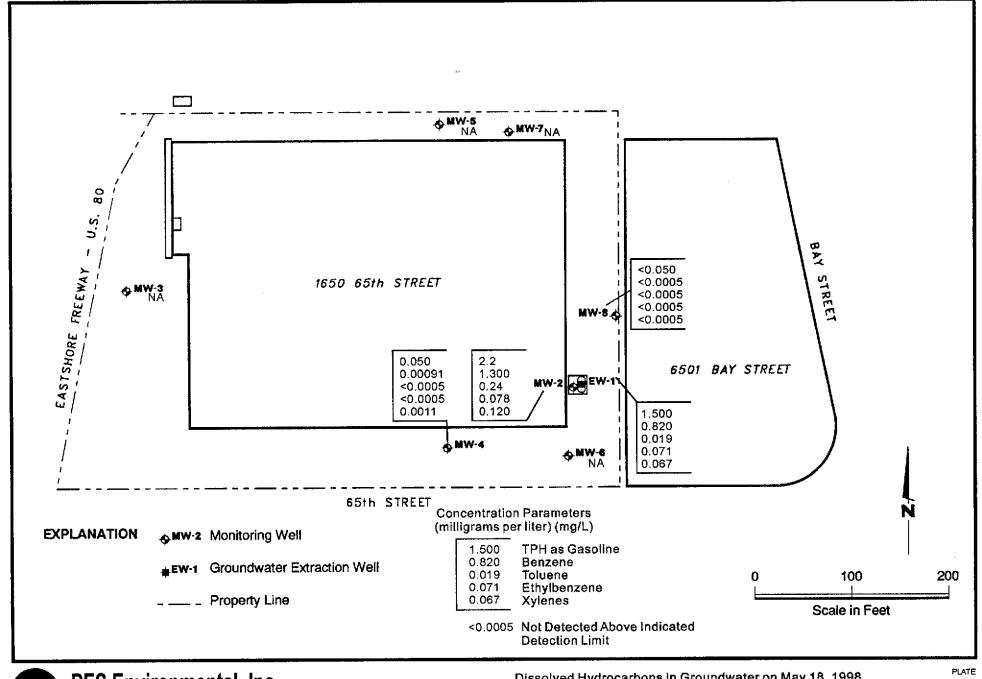
REVIEWED BY

1650 65th Street

Emeryville, California

6/98

DATE





PES Environmental, Inc. Engineering & Environmental Services

Dissolved Hydrocarbons in Groundwater on May 18, 1998 1650 65th Street

Emeryville, California

131.0100.003 JOB NUMBER

1310100003_s3q.CDR

DRAWING NUMBER

REVIEWED BY

6/98

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

PES Environmental, Inc. 1682 Novato Blvd., Suite 100 Novato, CA 94947 Attn: Jenny Han

Date:	5/27/98
Date Received:	5/19/98
Date Analyzed:	5/21-22/98
Job #:	980518-K1
Sampled By:	Client

Certified Analytical Report

Water Sample Analysis:

Test	EW-1	MW-2	MW-4	MW-8	Units	PQL	EPA Method #
Sample Matrix	Water	Water	Water	Water			
Sample Date	5/18/98	5/18/98	5/18/98	5/18/98			
Sample Time	9:45	9:35	8:40	9:00			
Lab #	E9728	E9729	E9730	E9731			
DF-Gas/BTEX	1	1	1	1			
TPH-Gas	1,500	2,200	ND	ND	μg/liter	50.0 μg/l	8015M
Benzene	820 ²	$1,300^2$	0.91	ND	μg/liter	0.5 μg/l	8020
Toluene	19	240 ²	ND	ND	μg/liter	0.5 μg/l	8020
Ethyl Benzene	71	78 ²	ND	ND	μg/liter	0.5 μg/l	8020
Xylenes	67	120 ²	1.1	ND	μg/liter	0.5 μg/l	8020

- 1. DLR=DF x PQL
- 2. DF=10
- 3. Analysis performed by Entech Analytical Labs, Inc. (CAELAP #2224)

Michael N. Golden, Lab Director

DF=Dilution Factor
DLR=Detection Reporting Limit

PQL=Practical Quantitation Limit ND=None Detected at or above DLR

QUALITY CONTROL RESULTS SUMMARY

METHOD: Gas Chromatography

QC Batch #: GBG4980522

Matrix: Water

Date Analyzed: 05/22/98 Quality Control Sample: Blank Spike

Units	: ug/L					<u> </u>					
PARAMETER	Method #	MB ug/L	SA ug/L	SR ug/L	SP ug/L	SP % R	SPD ug/L	SPD %R	RPD	QC RPD i	LIMITS %R
Benzene	8020	<0.50	80	i ND i	84	105	81	101	4.0	25 i	74-118
Toluene	8020	<0.50	80	ND	85	106	81	102	3.9	25	75-116
Ethyl Benzene	8020	<0.50	80	ND !	85	107	81	101	5.1	25	76-117
Xylenes	8020	< 0.50	240	i ND i	255	106	244	102	4.4	25	73-121
Gasoline	8015	<50.0	1000	ND	1150	115	1040	104	10.0	25	61-124

Note: LCS and LCSD results reported for the following Parameters:

All

Acceptable LCS and LCSD results are reported when matrix interferences cause MS and MSD results to fall outside established QC limits.

Definition of Terms:

na: Not Analyzed in QC batch

MB: Method Blank SA: Spike Added SR: Sample Result

RPD(%): Duplicate Analysis - Relative Percent Difference

SP: Spike Result

SP (%R): Spike % Recovery

SPD: Spike Duplicate Result

SPD (%R): Spike % Recovery

NC: Not Calculated

525 Del Rey Avenue, Suite E Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

METHOD: Gas Chromatography

QC Batch #: GBG4980521

Matrix: Water

Date Analyzed: 05/21/98 Quality Control Sample: Blank Spike

Units: ug/L

PARAMETER	Method #	MB ug/L	SA ug/L	SR ug/L	SP ug/L	SP % R	SPD ug/L	SPD %R	RPD	QC RPD i	LIMITS %R
Benzene	i 8020	<0.50	80	ND	74	92	78	98	6.2	25 i	74-118 i
Toluene	8020	< 0.50	80	ND	73	91	69	86	5.7	25	75-116
Ethyl Benzene	8020	<0.50	80	ND	73	91	69	86	5.2	25	76-117
IXylenes	8020	< 0.50	240	ND	229	95	219	91	4.5	25	73-121
Gasoline	8015	<50.0	1000	ND	960	96	960	96	0.0	25	61-124

Note: LCS and LCSD results reported for the following Parameters:

All

Acceptable LCS and LCSD results are reported when matrix interferences cause MS and MSD results to fall outside established QC limits.

Definition of Terms:

na: Not Analyzed in QC batch

MB: Method Blank SA: Spike Added SR: Sample Result

RPD(%): Duplicate Analysis - Relative Percent Difference

SP: Spike Result
SP (%R): Spike % Recovery
SPD: Spike Duplicate Result
SPD (%R): Spike % Recovery

NC: Not Calculated

1680 ROGERS AVENUE SAN JOSE, CALIFORNIA 95112			COND	JCT ANAL	YSIS TO DETECT	LAB ENT			(DHS#
FAX (408) 573-7771 CH SERVICES INC. PHONE (408) 573-0555	' '					ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION SET BY CALIFORNIA DHS AND			
AIN OF CUSTODY	7					□ EPA □ LIA □ OTHER		∏RWQ	CB REGION
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MATRIX CONTAINERS	COMPOSITE ALL	174	TPH-4	Bicx		Pros # 13			
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June 9, 1998

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

Attention: Jenny Han

SITE:

Emery Bay Plaza 1650 65th Street Emeryville, CA.

DATE:

May 18, 1998

Water Level Report 980518-K-1

Personnel from our office were present at the site on Monday, May 18, 1998 to obtain water levels and conduct a sheen and odor check. Please note that we are reporting only the water levels, not elevations.

Well designation	Well <u>diameter (in.)</u>	Depth to water (ft.)	Well <u>depth (ft.)</u>	Sheen/ <u>Odor</u>	Top of Casing or Top of Box
EW-1	4	10.02	27.91	ODOR	TOC
MW-2	2	10.10	33.81	ODOR	TOC
MW-3	4	7.31	18.31		TOC
MW-4	4	7.35	15.95	ODOR	TOC
MW-5	4	4.81	17.99		TOC
MW-6	4	7.29	18.81		TOC
MW-7	4	4.19	18.71		TOC
MW-8	2	9.49	24.20	••	TOC

Kent Brown

Senior Project Coordinator



June 9, 1998

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

Attention:

Jenny Han

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EW-1	4	10.02	27.91	ODOR	TOC
MW-2	2	10.10	33.81	ODOR	TOC
MW-3	4	7.31	18.31		TOC
MW-4	4	7.35	15.95	ODOR	TOC
MW-5	4	4.81	17.99		TOC
MW-6	4	7.29	18.81		TOC
MW-7	4	4.19	18.71		TOC
MW-8	2	9.49	24.20		TOC
				_	

Kent Brown

Senior Project Coordinator



June 9, 1998

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

ATTN: Jenny Han

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

Date: May 18, 1998

GROUNDWATER SAMPLING REPORT 980518-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. Pre-purge down hole dissolved oxygen readings were obtained in three wells. A series of electrical conductivity, pH, turbidity, 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 removal of a minimum of three case volumes of water. The wells were evacuated using bailers, electric submersible pumps, and disposable bailers.

Samples were collected using disposable 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 and/or solvents 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 polyethylene, Teflon, or stainless steel, and is used as an evacuation and/or sampling device. Disposable bailers are made of polyethylene plastic, decontaminated by the manufacturer, individually packaged for one-time only use, and are inexpensive. Teflon and stainless steel bailers are relatively easy to clean and are considered reusable with proper decontamination.

Because bailers are manually operated, variations in operator technique may have a greater influence on performance than would be found when using more automated sampling equipment. Also, in cases where fuel hydrocarbons are involved the bailer may include near-surface contaminants that are not representative of water located deeper in the well.

Electric Submersible Pumps: Electric submersible pumps are appropriate for the high volume evacuation of wells of any depth provided the well diameter is large enough to admit the pump. Four inch and three inch diameter wells will readily accept electric submersible pumps, while two inch wells do not. In operation, the pump is lowered into the well with a pipe train above it. A checkvalve immediately above the pump and below the first section of pipe prevents water that has entered the pipe from flowing back into the well. Electricity is provided to the pump via an electrical cable and the action of the pump is to push water up out of the well.

Electric submersible pumps are often used as well evacuation devices, which are then supplanted with a more specialized sample collection device (such as a bailer) at the time of sampling. An

alternative is to use the pump for both evacuation and sampling. When a bailer is used to collect the sample, interpretation of results by the consultant should allow for variations attributable to near surface contamination entering the bailer. When the electric submersible is, itself, used for sample collection it should be operated with the output restricted to a point where the loss of volatiles becomes indistinguishable from the level obtained with true sampling pumps. It should be noted that when the pump is used for both evacuation and sample collection that it is possible to perform these operations as an uninterrupted continuum. This contrasts with the variations in elapsed time between evacuation and sample collection that occur when field personnel cease one mode of operation and must bring other apparatus into use

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 Entech in Sunnyvale, California. Entech is certified by the California Department of Health Services as a Hazardous Materials Testing Laboratory, and is listed as DOHS HMTL #2224.

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.

Kent Brown

Senior Project Coordinator

KEB/dg

attachments: table of well monitoring data

chain of custody

TABLE OF WELL MONITORING DATA

Well I.D.	EW-1			MW-2	MW-2			MW-4			MW-8		
Date Sampled	5/18/98			5/18/98	5/18/98			5/18/98			5/18/98		
Well Diameter (in.)	4			2			4			2			
Total Well Depth (ft.)	27.91			33.81	33.81			15.95			24.20		
Depth To Water (ft.)	10.02			10.10	10.10			7.35			9.49		
							NONE						
Free Product (in.)	NONE	NONE			NONE					NONE			
Reason If Not Sampled													
1 Case Volume (gal.)	11.7			3.9	3.9			5.6			2.4		
Did Well Dewater?	NO			NO	NO			NO			NO		
Gallons Actually Evacuated	36.0	36.0			12.0			17.0		7.5			
Purging Device	ELECTRIC SUBMERSIBLE			DISPOSABLE BAILER			ELECTRIC SUBMERSIBLE			DISPOSABLE BAILER			
			DISPOSABLE BAILER										
Sampling Device	DISPOSA	BLE BAILER		DISPOSA	BLE BAILER		DISPOSAB	LE BAILER		DISPOSA	BLE BAILER		
•									8:33			R:56	
Time	9:38	9:40	9:42	9:16	9:22	9:28	8:31	8:32	8:33 68.5	8:51	8:53	8:56 62.1	
Time Temperature (Fahrenheit)	9:38 64.4	9:40 65.1	9:42 65.7	9:16 63.1	9:22 64.2	9:28 64.3	8:31 67.0	8:32 68.1	68.5	8:51 63.0	8:53 62.4	62.1	
Time Temperature (Fahrenheit) pH	9:38 64.4 6.9	9:40 65.1 6.9	9:42 65.7 6.9	9:16 63.1 6.9	9:22 64.2 6.9	9:28 64.3 6.9	8:31 67.0 8.0	8:32 68.1 8.0	68.5 8.1	8:51 63.0 7.1	8:53 62.4 7.0	62.1 6.9	
Time Temperature (Fahrenheit) pH Conductivity (micromhos/cm)	9:38 64.4 6.9 1687	9:40 65.1 6.9 1605	9:42 65.7 6.9 1565	9:16 63.1 6.9 1719	9:22 64.2 6.9 1598	9:28 64.3 6.9 1489	8:31 67.0 8.0 10,110	8:32 68.1 8.0 10,330	68.5 8.1 10,350	8:51 63.0 7.1 5045	8:53 62.4 7.0 2336	62.1 6.9 2153	
Time Temperature (Fahrenheit) pH Conductivity (micromhos/cm) Nephelometric Turbidity Unit:	9:38 64.4 6.9 1687 8 85	9:40 65.1 6.9	9:42 65.7 6.9	9:16 63.1 6.9 1719 >200	9:22 64.2 6.9	9:28 64.3 6.9	8:31 67.0 8.0 10,110	8:32 68.1 8.0	68.5 8.1	8:51 63.0 7.1 5045 >200	8:53 62.4 7.0	62.1 6.9	
Time Temperature (Fahrenheit) pH Conductivity (micromhos/cm)	9:38 64.4 6.9 1687	9:40 65.1 6.9 1605	9:42 65.7 6.9 1565	9:16 63.1 6.9 1719	9:22 64.2 6.9 1598	9:28 64.3 6.9 1489	8:31 67.0 8.0 10,110	8:32 68.1 8.0 10,330	68.5 8.1 10,350	8:51 63.0 7.1 5045	8:53 62.4 7.0 2336	62.1 6.9 2153	
Time Temperature (Fahrenheit) pH Conductivity (micromhos/cm) Nephelometric Turbidity Unit:	9:38 64.4 6.9 1687 8 85	9:40 65.1 6.9 1605 32	9:42 65.7 6.9 1565	9:16 63.1 6.9 1719 >200	9:22 64.2 6.9 1598 >200	9:28 64.3 6.9 1489	8:31 67.0 8.0 10,110	8:32 68.1 8.0 10,330	68.5 8.1 10,350	8:51 63.0 7.1 5045 >200	8:53 62.4 7.0 2336 >200	62.1 6.9 2153	
Time Temperature (Fahrenheit) pH Conductivity (micromhos/cm) Nephelometric Turbidity Unit: Dissolved Oxygen (mg/L)	9:38 64.4 6.9 1687 8 85	9:40 65.1 6.9 1605 32	9:42 65.7 6.9 1565	9:16 63.1 6.9 1719 >200 0.5	9:22 64.2 6.9 1598 >200	9:28 64.3 6.9 1489	8:31 67.0 8.0 10,110 10	8:32 68.1 8.0 10,330	68.5 8.1 10,350	8:51 63.0 7.1 5045 >200 0.9	8:53 62.4 7.0 2336 >200	62.1 6.9 2153	
Time Temperature (Fahrenheit) pH Conductivity (micromhos/cm) Nephelometric Turbidity Unitable Dissolved Oxygen (mg/L) BTS Chain of Custody BTS Sample I.D.	9:38 64.4 6.9 1687 85 1.0 980518-1	9:40 65.1 6.9 1605 32	9:42 65.7 6.9 1565	9:16 63.1 6.9 1719 >200 0.5 980518-	9:22 64.2 6.9 1598 >200	9:28 64.3 6.9 1489	8:31 67.0 8.0 10,110 10 0.6 980518-K	8:32 68.1 8.0 10,330	68.5 8.1 10,350	8:51 63.0 7.1 5045 >200 0.9 980518- MW-8	8:53 62.4 7.0 2336 >200	62.1 6.9 2153	
Time Temperature (Fahrenheit) pH Conductivity (micromhos/cm) Nephelometric Turbidity Unit: Dissolved Oxygen (mg/L) BTS Chain of Custody	9:38 64.4 6.9 1687 85 1.0 980518-1 EW-1 ENTECH	9:40 65.1 6.9 1605 32	9:42 65.7 6.9 1565	9:16 63.1 6.9 1719 >200 0.5 980518- MW-2 ENTECH	9:22 64.2 6.9 1598 >200	9:28 64.3 6.9 1489	8:31 67.0 8.0 10,110 10 0.6	8:32 68.1 8.0 10,330 7	68.5 8.1 10,350	8:51 63.0 7.1 5045 >200 0.9 980518- MW-8 ENTECH	8:53 62.4 7.0 2336 >200	62.1 6.9 2153	



June 9, 1998

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

ATTN: Jenny Han

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

Date: May 18, 1998

GROUNDWATER SAMPLING REPORT 980518-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. Pre-purge down hole dissolved oxygen readings were obtained in three wells. A series of electrical conductivity, pH, turbidity, 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 removal of a minimum of three case volumes of water. The wells were evacuated using bailers, electric submersible pumps, and disposable bailers.

Samples were collected using disposable 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 and/or solvents 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 polyethylene, Teflon, or stainless steel, and is used as an evacuation and/or sampling device. Disposable bailers are made of polyethylene plastic, decontaminated by the manufacturer, individually packaged for one-time only use, and are inexpensive. Teflon and stainless steel bailers are relatively easy to clean and are considered reusable with proper decontamination.

Because bailers are manually operated, variations in operator technique may have a greater influence on performance than would be found when using more automated sampling equipment. Also, in cases where fuel hydrocarbons are involved the bailer may include near-surface contaminants that are not representative of water located deeper in the well.

Electric Submersible Pumps: Electric submersible pumps are appropriate for the high volume evacuation of wells of any depth provided the well diameter is large enough to admit the pump. Four inch and three inch diameter wells will readily accept electric submersible pumps, while two inch wells do not. In operation, the pump is lowered into the well with a pipe train above it. A checkvalve immediately above the pump and below the first section of pipe prevents water that has entered the pipe from flowing back into the well. Electricity is provided to the pump via an electrical cable and the action of the pump is to push water up out of the well.

Electric submersible pumps are often used as well evacuation devices, which are then supplanted with a more specialized sample collection device (such as a bailer) at the time of sampling. An

alternative is to use the pump for both evacuation and sampling. When a bailer is used to collect the sample, interpretation of results by the consultant should allow for variations attributable to near surface contamination entering the bailer. When the electric submersible is, itself, used for sample collection it should be operated with the output restricted to a point where the loss of volatiles becomes indistinguishable from the level obtained with true sampling pumps. It should be noted that when the pump is used for both evacuation and sample collection that it is possible to perform these operations as an uninterrupted continuum. This contrasts with the variations in elapsed time between evacuation and sample collection that occur when field personnel cease one mode of operation and must bring other apparatus into use

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 Entech in Sunnyvale, California. Entech is certified by the California Department of Health Services as a Hazardous Materials Testing Laboratory, and is listed as DOHS HMTL #2224.

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.

Kent Brown

Senior Project Coordinator

KEB/dg

attachments: table of well monitoring data

chain of custody

TABLE OF WELL MONITORING DATA

Well I.D.	EW-1			MW-2			MW-4	MW-4			MW-8		
Date Sampled	5/18/98			5/18/98			5/18/98	5/18/98			5/18/98		
		-1											
Well Diameter (in.)	4			2			4			2			
Total Well Depth (ft.)	27.91			33.81			15.95			24.20			
Depth To Water (ft.)	10.02			10.10			7.35			9.49			
Free Product (in.)	NONE			NONE			NONE			NONE			
Reason If Not Sampled													
1 Case Volume (gal.)	11.7			3.9			5.6			2.4			
Did Well Dewater?	ИО			ИО			NO			мо			
Gallons Actually Evacuated	36.0			12.0			17.0			7.5			
Purging Device	ELECTRIC SUBMERSIBLE			DISPOSABLE BAILER			ELECTRIC SUBMERSIBLE			DISPOSABLE BAILER			
Sampling Device	DISPOSABLE BAILER			DISPOSABLE BAILER			DISPOSABLE BAILER			DISPOSABLE BAILER			
Time	9:38	9:40	9:42	9:16	9:22	9:28	8:31	8:32	0:33	8:51	8:53	8;56	
Temperature (Fahrenheit)	64.4	65.1	65.7	63.1	64.2	64.3	67.0	68.1	68.5	63.0	62.4	62.1	
pH Hq	6.9	6.9	6.9	6.9	6.9	6.9	8.0	8.0	8.1	7.1	7.0	6.9	
Conductivity (micromhos/cm)	1687	1605	1565	1719	1598	1489	10,110	10,330	10,350	5045	2336	2153	
Nephelometric Turbidity Units	85	32	17	>200	>200	>200	10	7	5	>200	>200	>200	
Dissolved Oxygen (mg/L)	1.0			0.5			0.6			0.9			
BTS Chain of Custody	980518-K1			980518-K1			980518-K1			980516-K1			
BTS Sample I.D.	EW-1			MW-2			MW-4			MW-8			
DOHS HMTL Laboratory	ENTECH			ENTECH			ENTECH			ENTECH			
Analysis		S), BTEX			S), BTEX			TPH (GAS), BTEX			TPH (GAS), BTEX		