PES Environmental, Inc.
Engineering & Environmental Services

April 21, 2000

167.0201.006

STID 494

Greater Bay Trust Company
c/o Leah S. Goldberg, Esq.
Hanson, Bridgett, Marcus, Vlahos & Rudy
333 Market Street, Suite 2300
San Francisco, California 94105-2173

QUARTERLY GROUNDWATER MONITORING AND REMEDIATION PROGRESS REPORT
OCTOBER 1999 QUARTERLY EVENT
FORMER COX CADILLAC FACILITY
230 BAY PLACE
OAKLAND, CALIFORNIA

Dear Ms. Goldberg:

1.0 INTRODUCTION

This report presents the results of groundwater monitoring conducted by PES Environmental, Inc. (PES) on October 6, 1999 at the former Bill Cox Cadillac facility at 230 Bay Place, Oakland, California. The work is being performed as part of response action to address releases from a former 10,000-gallon gasoline underground storage tank (UST) operated at the site by Bill Cox Cadillac. The location of the site is shown on Plate 1. The work was performed on behalf of Greater Bay Trust Company, trustee for the Harold Shepard Trust, the property owner, and Hanson, Bridgett, Marcus, Vlahos and Rudy, legal counsel to the Harold Shepard Trust (Hanson, Bridgett) in accordance with the Co-Payee agreement with Bill Cox Cadillac, the former tenant.

Groundwater remediation and monitoring are being conducted at the site as part of interim soil and groundwater remedial actions in accordance with PES' *Revised Interim Remedial Action Plan* (IRAP) dated October 31, 1996 and *Addendum, Revised Interim Remedial Action Plan* dated November 26, 1996 (collectively referred to as Remedial Plan). The remedial work was requested by Alameda County Environmental Health Services (ACEHS) in a letter to Ms. Leah Goldberg of Hanson, Bridgett dated October 24, 1996. The ACEHS approved the Remedial Plan in a letter dated November 27, 1996.

The objective of the groundwater monitoring program at this site is to: (1) evaluate the presence of petroleum hydrocarbons in groundwater; and (2) provide data to assess the progress of the groundwater remedial program. The monitoring is performed in accordance

with California Regional Water Quality Control Board (RWQCB) guidelines and the Remedial Plan.

2.0 BACKGROUND INFORMATION

One groundwater monitoring well (Well MW-1) and seven temporary monitoring wells (Wells TW-1 through TW-7) were installed at the site by PES to investigate subsurface conditions following removal of a 3,000-gallon waste oil storage tank in December 1988. MW-1 was installed in February 1993 down gradient of the former waste oil tank and a groundwater sample collected from it in March 1993. Elevated concentrations of total petroleum hydrocarbons quantified as gasoline (TPHg) were detected in the sample analyzed from Well MW-1. Gasoline detected in groundwater was characterized as "fresh" and no waste oil constituents were detected. Temporary wells, Wells TW-1 through TW-7 were subsequently installed in March 1993 to investigate the degree and extent, and the likely source of the gasoline contamination in groundwater. Results of the additional investigation indicated that elevated TPHg and benzene, toluene, ethylbenzene, and total xylenes (BTEX) were detected in groundwater samples from four of the temporary wells and in Well MW-1. MTBE was not detected in the samples. The highest concentrations of petroleum hydrocarbon constituents were detected in groundwater samples from two wells (TW-5 and TW-7) closest to a 10,000-gallon gasoline tank and associated product piping located to the west of the former waste oil tank. The results of the investigations were presented in PES' report, *Soil and Groundwater Investigation, Bill Cox Cadillac, 230 Bay Place, Oakland, California* dated December 23, 1993. The well locations and former waste oil tank location are shown on Plate 2.

The 10,000-gallon underground gasoline tank and product piping were removed by DECON Environmental Services of Hayward, California and observed and documented by Eisenberg, Olivieri & Associates (EOA) of Oakland, California in January 1994. During removal, a hole was observed in the product piping between the tank and dispenser. Floating free-phase product was observed on the groundwater surface in the tank excavation. EOA, on behalf of Bill Cox, subsequently performed limited investigations to evaluate the offsite extent of gasoline contamination. EOA performed quarterly groundwater monitoring of wells MW-1, TW-2, TW-6 and TW-7 between December 1994 and February 1996.

Soil and groundwater remediation was subsequently requested by ACEHS in a letter to Hanson, Bridgett dated October 24, 1996. In the letter, ACEHS specified that soil remediation consisting of excavation of hydrocarbon-affected soil, and groundwater remediation consisting of oxygen introduction was required. The PES Remedial Plan was developed in response to that request. As part of the Remedial Plan, site characterization, additional well installation, soil remediation, baseline groundwater monitoring, and initial groundwater remediation were conducted by PES between June 1997 and April 1999. The

results of work conducted between June 1997 and April 1999 were previously submitted to you in PES' report, *Site Characterization and Interim Remedial Actions, Former Cox Cadillac Facility, Oakland, California,* dated September 30, 1999.

A pilot program commenced in January 1999 to test remediation of groundwater by applying a combination of in-situ bioremediation methods to introduce oxygen and nutrients into groundwater at the site to enhance natural biodegradation rates of petroleum hydrocarbons. The methods include: (1) adding a nutrient- and hydrogen peroxide-enriched water (hereinafter referred to as enriched water); and (2) placement of Oxygen Releasing Compound (ORC) in selected wells at the site.

The October 1999 monitoring is the third monitoring event since the groundwater remediation program and baseline monitoring was initiated by PES in January 1999. Groundwater monitoring reports presenting the results of quarterly monitoring conducted in April and July 1999 have previously been submitted to your attention. The results of the October 1999 groundwater monitoring are presented below.

3.0 GROUNDWATER MONITORING ACTIVITIES

3.1 Depth to Groundwater Measurements

Water levels were measured by Blaine Tech Services (Blaine Tech) of San Jose, California at monitoring wells MW-1, MW-2, TW-2, TW-6, and TW-7 on October 6, 1999. Depth-to-groundwater measurements were obtained using an electronic water-level indicator and recorded to the nearest 0.01-foot. The water-level indicator was cleaned with a solution of non-phosphate detergent and de-ionized water and then rinsed before each use. Groundwater elevation data are presented in Table 1 and groundwater elevation contours are presented on Plate 3. Prior to measuring groundwater levels, dissolved oxygen concentrations were measured in several wells by PES. Dissolved oxygen measurement procedures and results are described in Sections 3.4 and 4.3.

3.2 Groundwater Sampling and Analyses

Groundwater samples were collected from wells MW-1, MW-2, TW-2, TW-6, and TW-7 by Blaine Tech on October 6, 1999. After dissolved oxygen and water-level measurements were obtained, the wells were purged by bailing until approximately three well volumes of water were removed. During purging, the water was monitored for pH, temperature, conductivity, and turbidity. Purge water was collected in DOT-approved 55-gallon steel drums and stored on site. Following well purging, a groundwater sample was collected from each well using a disposable bailer. The sample was transferred to the appropriate laboratory sample containers using a bottom draining bailer stopcock. The sample containers were filled slowly to minimize

sample volatilization and ensure that the sample was free of air bubbles. The sample containers were labeled with project site, well identification number, sample number, sampling date and time, and requested analyses. Well sampling documentation is presented in Appendix A.

The groundwater samples were transported in a chilled, thermally insulated cooler under chain-of-custody protocol to Entech Analytical Labs, Inc. of Sunnyvale, California, a California Department of Health Services-certified laboratory. The groundwater samples were analyzed for TPHg using EPA Test Method 8015 modified, BTEX and methyl tertiary butyl ether (MTBE) using EPA Test Method 8020, and MTBE confirmation using EPA Test Method 8260. Groundwater sample analytical results are presented in Table 2 and shown on Plate 4. Copies of the laboratory reports and chain-of-custody documentation are presented in Appendix B.

3.3 Enriched Water Introduction

An oxygen source in the form of a solution of potable water, hydrogen peroxide, and a blend of nutrients (enriched water) was prepared and introduced to wells TW-4, TW-5, TW-6, TW-7, and MW-1 on August 19 and October 6, 1999. Concentrated hydrogen peroxide was added to a mixing tank where it was combined with potable water and small quantities of nitrogen and phosphorus nutrients. A centrifugal pump, gate valves, flow meters, and pipeline delivery system were attached to the mixing tank to allow controlled addition of enriched water to the designated wells.

An approximate volume of 1,062 gallons of enriched water at a concentration of 1,500 parts per million (ppm) hydrogen peroxide was introduced into the wells on August 19, 1999. An approximate volume of 795 gallons of enriched water at a concentration of 1,500 ppm hydrogen peroxide was introduced into the wells on October 6, 1999. A total of approximately 3,780 gallons of enriched water has been introduced into the wells since March 1999. Enriched water introduction through October 6, 1999 is summarized in Table 3.

Following enriched water introduction, Oxygen Releasing Compound (ORC) was installed in each of the five designated wells. The ORC is manufactured by Regenesis Bioremediation Products of San Juan Capistrano, California. The ORC is a powder form of time release magnesium peroxide. The ORC is blended with an inert carrier matrix of sand and the blend is contained in an approximately two-inch diameter polyethylene webbed sock in one foot lengths (ORC Filter Sock). The ORC Filter Socks become saturated following insertion into groundwater, and begin releasing oxygen into the subsurface. The ORC Filter Socks provide continuous supply of oxygen between enriched water introductions. Enriched water introductions are conducted twice per quarter (every six weeks).

3.4 Dissolved Oxygen Measurements

Dissolved oxygen measurements were collected twice from the wells by PES on August 19 and October 6,1999. Total dissolved oxygen was measured on August 19, 1999 in monitoring wells MW-1, TW-4, TW-5, TW-6, and TW-7 before and after introduction of enriched water. Total dissolved oxygen was measured on October 6, 1999 in all seven monitoring wells, wells MW-1, MW-2, TW-2, TW-4, TW-5, TW-6, and TW-7, at the start of the day before measuring groundwater levels and purging and sampling, and at the end of the day after introduction of enriched water. The measurements were collected from each well within the middle portion of the water column using a YSI, Inc., Model 51B Dissolved Oxygen (DO) 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 solution of non-phosphate detergent and de-ionized water then rinsed with de-ionized water. Total dissolved oxygen measurements through October 6, 1999 are summarized in Table 4.

4.0 GROUNDWATER MONITORING RESULTS

4.1 Groundwater Elevation Measurements

Depth-to-groundwater data collected from wells MW-1, MW-2, TW-2, TW-6 and TW-7 on October 6, 1999 were converted to groundwater elevations referenced to site datum. Groundwater elevations ranged from 91.49 feet in well MW-2 to 98.46 feet in well TW-2. Groundwater flow direction at the site is to the southwest, at a hydraulic gradient of approximately 0.05-foot per foot. No floating free product or hydrocarbon sheen was observed in the wells. Petroleum hydrocarbon odors were observed in purge water from well MW-1. Groundwater elevation data are presented in Table 1 and elevation contours are presented on Plate 3.

4.2 Groundwater Sample Analytical Results

The analytical results of the groundwater samples collected on October 6, 1999 are presented in Table 2 and shown on Plate 4. TPHg was detected in the samples from wells MW-1, MW-2, and TW-7 at concentrations of 32,000 μg/L, 2,800 μg/L, and 29,000 μg/L, respectively. MTBE was detected in the samples from wells MW-2 and TW-7 at concentrations of 300 μg/L and 580 μg/L, respectively. Benzene was detected in the samples from wells MW-1, MW-2, TW-6 and TW-7 at concentrations of 2,100 μg/L, 73 μg/L, 0.59 μg/L and 9,700 μg/L, respectively. The highest concentrations of toluene, ethylbenzene and total xylenes were detected in the sample from well TW-7 at 1,600 μg/L, 1,600 μg/L, and 2,100 μg/L, respectively. Copies of the laboratory reports and chain-of-custody documentation are presented in Appendix B.

4.3 Dissolved Oxygen Measurement Results

Total dissolved oxygen concentrations before enriched water introduction on August 19, 1999 ranged from 0.9 milligrams per liter (mg/L) in well TW-7 to 14.8 mg/L in well TW-6. Total dissolved oxygen concentrations before enriched water introduction on October 6, 1999 ranged from 0.2 mg/L in well TW-5 to greater than 15 mg/L (>15 mg/L), the maximum range of the dissolved oxygen meter used in well TW-4.

Dissolved oxygen concentrations in wells TW-4, TW-5, TW-6, TW-7, and MW-1, the wells that are included for enriched water introduction, were >15 mg/L after enriched water introduction.

Wells TW-2 and MW-2 are the wells not included for enriched water introduction. Dissolved oxygen concentrations measured in well TW-2 before and after enriched water introduction on October 6, 1999 were 3.2 mg/L and 2.6 mg/L, respectively. Dissolved oxygen concentrations measured in well MW-2 before and after enriched water introduction on October 6, 1999 were 1.2 mg/L and 0.5 mg/L, respectively.

Dissolved oxygen concentrations measured during this monitoring period are included with the well sampling documentation presented in Appendix A. Dissolved oxygen concentrations measured through October 6, 1999 are presented in Table 4.

5.0 SUMMARY

Results of the October 1999 groundwater elevations indicate a general decrease since the July 1999 monitoring event. As with historical observations, the groundwater flow direction continues to be toward the southwest.

Concentrations of TPHg and BTEX detected in the wells in October 1999 are similar to those detected in July 1999. However, significant decreases in MTBE concentrations in wells MW-2 and TW-7 were observed in samples from October 1999 compared to July 1999. Consistent with historical findings, the highest concentrations of petroleum hydrocarbons were detected in the groundwater from wells nearest to the former gasoline UST and product piping, specifically Wells MW-1 and TW-7.

MTBE concentrations in wells MW-2 and TW-7, located downgradient and nearest to several utility trenches, have been significantly higher than in onsite wells. MTBE concentrations have been the highest in MW-2 since the start of monitoring for MTBE in January 1999. The high concentrations of MTBE detected in samples from well MW-2 are likely the result of elevated concentrations from offsite sources that are being conveyed toward the site via

preferential flow as a result of utility trenches adjacent to the well. In 1993 PES performed sampling of groundwater from Wells MW-1, TW-4, TW-5, TW-6, and TW-7 for analyses by EPA Test Method 8260. No MTBE was detected in the samples at that time. Additionally, a utility location assessment was conducted by EOA in late 1995/early 1996. EOA identified numerous utility trenches and vaults along the western property boundary and within Vernon Street, Bay Place, and Harrison Street surrounding the site. EOA interviews with utility providers indicated most utility trenches are backfilled with permeable materials including gravel and sand. The depth of many of these utility trenches is sufficient to intercept shallow groundwater flow in the site vicinity. The results of the EOA utility assessment were presented in a document titled *Corrective Action Plan Development Report, Phase I, Cox Cadillac, 230 Bay Place, Oakland, California*, dated April 1, 1996.

Dissolved oxygen concentrations were elevated on August 19 and October 6, 1999 as a result of oxygen enhancement following introduction of the enriched water solution as part of the bioremediation program.

In accordance with the Remedial Plan, PES will continue with quarterly groundwater monitoring. The final quarterly monitoring event is scheduled for mid-January. PES completed the final event of enriched water introduction on October 6, 1999

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

Yours very truly,

PES ENVIRONMENTAL, INC.

Chris Rossitto

Christopher D. Rossitto
Project Geologist

Carl J. Michelsen for

Andrew A. Briefer, P. E.
Principal Engineer

Attachments:

Table 1	Groundwater Elevation Data Through October 6, 1999
Table 2	Groundwater Sample Analytical Results Through October 6, 1999
Table 3	Summary of Enriched Water Introduction to Wells
Table 4	Summary of Total Dissolved Oxygen Measurements
Plate 1	Site Location Map
Plate 2	Site Plan and Well Location Map
Plate 3	Groundwater Elevation Contours on October 6, 1999
Plate 4	Distribution of Dissolved Hydrocarbons in Groundwater – October 6, 1999
Appendix A	Well Sampling Documentation
Appendix B	Laboratory Analytical Reports and Chain of Custody Documentation

cc: Ms. Cheryl Howell – Greater Bay Trust Company
Mr. Thomas Peacock – Alameda County Environmental Health Services
Mr. Mark Owens – California UST Cleanup Fund

Table 1
Groundwater Elevation Data Through October 1999
Interim Remedial Actions
Former Cox Cadillac, 230 Bay Place
Oakland, California

Well Number	Date Measured	Top-of-Casing Reference Elevation (feet*)	Depth to Water (feet BTOC)	Groundwater Elevation (feet*)
MW-1	1/12/99	100.00	2.79	97.21
	4/13/99	100.00	2.00	98.00
	7/7/99	100.00	2.60	97.40
	10/6/99	**100.00**	**2.94**	**97.06**
MW-2	1/12/99	97.48	5.62	91.86
	4/13/99	97.48	5.30	92.18
	7/7/99	97.48	5.80	91.68
	10/6/99	**97.48**	**5.99**	**91.49**
TW-2	1/12/99	100.43	1.91	98.52
	4/13/99	100.43	2.51	97.92
	7/7/99	100.43	1.89	98.54
	10/6/99	**100.43**	**1.97**	**98.46**
TW-4	1/12/99	99.35	NM	NA
	4/13/99	99.35	1.82	97.53
	7/7/99	99.35	2.36	96.99
	10/6/99	**99.35**	NM	NA
TW-5	1/12/99	99.40	NM	NA
	4/13/99	99.40	1.96	97.44
	7/7/99	99.40	3.12	96.28
	10/6/99	**99.40**	NM	NA
TW-6	1/12/99	98.75	5.52	93.23
	4/13/99	98.75	4.91	93.84
	7/7/99	98.75	6.04	92.71
	10/6/99	**98.75**	**6.64**	**92.11**
TW-7	1/12/99	97.96	4.81	93.15
	4/13/99	97.96	4.73	93.23
	7/7/99	97.96	5.17	92.79
	10/6/99	**97.96**	**5.70**	**92.26**

Notes:

* = Referenced to site datum
BTOC = Below top of casing
NA = Data not available
NM = Depth to water not measured

Table 2
Groundwater Sample Analytical Results Through October 1999
Interim Remedial Actions
Former Cox Cadillac, 230 Bay Place
Oakland, California

Well Number	Sample Date	TPH as Gasoline (µg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)
MW-1	1/12/99	39,000	800	2,600	970	2,900	5,700
	4/13/99	29,000	520	1,500	500	<50	4,000
	7/7/99	31,000	<250	1,900	870	1,600	3,900
	10/6/99	**32,000**	**<250**	**2,100**	**910**	**1,800**	**4,400**
MW-2	1/12/99	<50	2,900	1.5	<0.50	<0.50	<0.50
	4/13/99	<50	3,800	0.76	<0.50	<0.50	<0.50
	7/7/99	<2,500	7,000	<25	<25	<25	<25
	10/6/99	**2,800**	**300**	**73**	**<25**	**<25**	**<25**
TW-2	1/12/99	<50	<5.0	<0.50	<0.50	<0.50	<0.50
	4/13/99	<50	<5.0	<0.50	<0.50	<0.50	<0.50
	7/7/99	<50	<5.0	<0.50	<0.50	<0.50	<0.50
	10/6/99	**<50**	**<5.0**	**<0.50**	**<0.50**	**<0.50**	**<0.50**
TW-6	1/12/99	29,000	210	9,900	4,100	1,000	4,000
	4/13/99	<50	22	0.70	<0.50	<0.50	0.62
	7/7/99	55	8.1	13	<0.50	<0.50	2.2
	10/6/99	**<50**	**<5.0**	**0.59**	**<0.50**	**<0.50**	**<0.50**
TW-7	1/12/99	29,000	<100	7,300	670	2,700	960
	4/13/99	54,000	1,200	4,500	1,800	180	8,200
	7/7/99	42,000	2,200	8,000	4,500	1,200	3,500
	10/6/99	**29,000**	**580**	**9,700**	**1,600**	**1,600**	**2,100**

Notes:
TPH - Total Petroleum Hydrocarbons
MTBE - Methyl tert-butyl ether
µg/L = Micrograms per liter.
<0.50 = Not detected at or above indicated laboratory reporting limit.

Table 3
Summary of Enriched Water Introduction to Wells
Interim Remedial Actions
Former Cox Cadillac, 230 Bay Place
Oakland, California

Well Name	Date Introduced	Flow Rate (gpm)	Volume of Enriched Water Introduced (gallons)	Concentration of H_2O_2 (ppm)	Amount of O_2 Introduced (pounds)
MW-1	3/11/99	0.04	2.2	1,050	0.09
	3/17/99	0.33	70.2	1,050	2.75
	4/13/99	0.13	26.5	1,050	1.04
	6/1/99	0.27	41.1	1,500	1.61
	7/7/99	0	0	0	0.00
	8/19/99	0.3	86.1	1,500	3.37
	10/6/99	0.97	232.4	1,500	9.11
TW-4	3/11/99	0.05	3.0	1,050	0.12
	3/17/99	0.01	2.7	1,050	0.11
	4/13/99	0.12	23.8	1,050	0.93
	6/1/99	0.04	5.4	1,500	0.21
	7/7/99	0.05	8.8	1,500	0.34
	8/19/99	0.04	12.3	1,500	0.48
	10/6/99	0.02	4.8	1,500	0.19
TW-5	3/11/99	0.07	4.4	1,050	0.17
	3/17/99	0.05	10.3	1,050	0.40
	4/13/99	0.36	70.8	1,050	2.77
	6/1/99	0.83	125.1	1,500	4.90
	7/7/99	0.61	102.9	1,500	4.03
	8/19/99	1.27	365	1,500	14.30
	10/6/99	1.15	275.3	1,500	10.79
TW-6	3/11/99	0.29	17.3	1,050	0.68
	3/17/99	0.24	51.9	1,050	2.03
	4/13/99	1.63	322	1,050	12.62
	6/1/99	1.22	182.9	1,500	7.17
	7/7/99	1	278.1	1,500	10.90
	8/19/99	1.03	296.7	1,500	11.63
	10/6/99	0.54	129.9	1,500	5.09
TW-7	3/11/99	0.12	6.9	1,050	0.27
	3/17/99	0.07	15	1,050	0.59
	4/13/99	0.28	54.2	1,050	2.12
	6/1/99	0.8	119.9	1,500	4.70
	7/7/99	1.36	378.4	1,500	14.83
	8/19/99	1.05	301.3	1,500	11.81
	10/6/99	0.63	151.9	1,500	5.95
		TOTAL	3,779.5	TOTAL	148.12

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.

Table 4
Summary of Total Dissolved Oxygen Measurements
Interim Remedial Actions
Former Cox Cadillac, 230 Bay Place
Oakland, California

Well Number	Date Measured	Time of Day	Total Dissolved Oxygen (mg/L)	Notes
MW-1	1/12/99	15:30	3.4	(1)
	3/11/99	15:46	0.72	(1)
	3/17/99	12:30	14.1	(2)
	3/17/99	18:13	>15.0	(3)
	4/13/99	9:44	8.9	(2)
	6/1/99	14:59	6.2	(2)
	6/1/99	18:46	>15.0	(3)
	7/7/99	9:20	3.55	(2)
	7/7/99	19:38	>18.0	(3)
	8/19/99	10:45	1.0	(2)
	8/19/99	18:48	>15.0	(3)
	10/6/99	10:42	10.3	(2)
	10/6/99	17:11	>15.0	(3)
MW-2	1/12/99	12:30	3	(1)
	4/13/99	9:17	0.2	(2)
	4/13/99	19:11	0.6	(3)
	7/7/99	8:56	1.03	(2)
	7/7/99	19:13	7.22	(3)
	10/6/99	10:10	1.2	(2)
	10/6/99	16:58	0.5	(3)
TW-2	1/12/99	15:03	5.5	(1)
	4/13/99	9:10	2.6	(2)
	4/13/99	19:06	5.8	(3)
	7/7/99	8:50	0.65	(2)
	7/7/99	19:01	5.14	(3)
	10/6/99	9:59	3.2	(2)
	10/6/99	16:48	2.6	(3)
TW-4	3/11/99	15:20	3.4	(1)
	3/17/99	12:18	14.4	(2)
	3/17/99	17:54	12.6	(3)
	4/13/99	9:00	12.2	(2)
	4/13/99	19:03	>15.0	(3)
	6/1/99	14:29	9.3	(2)
	6/1/99	18:33	>15.0	(3)
	7/7/99	9:09	>18.0	(2)
	7/7/99	19:36	>18.0	(3)
	8/19/99	10:41	13.4	(2)
	8/19/99	18:27	>15.0	(3)
	10/6/99	9:50	>15.0	(2)
	10/6/99	16:40	>15.0	(3)

Table 4
Summary of Total Dissolved Oxygen Measurements
Interim Remedial Actions
Former Cox Cadillac, 230 Bay Place
Oakland, California

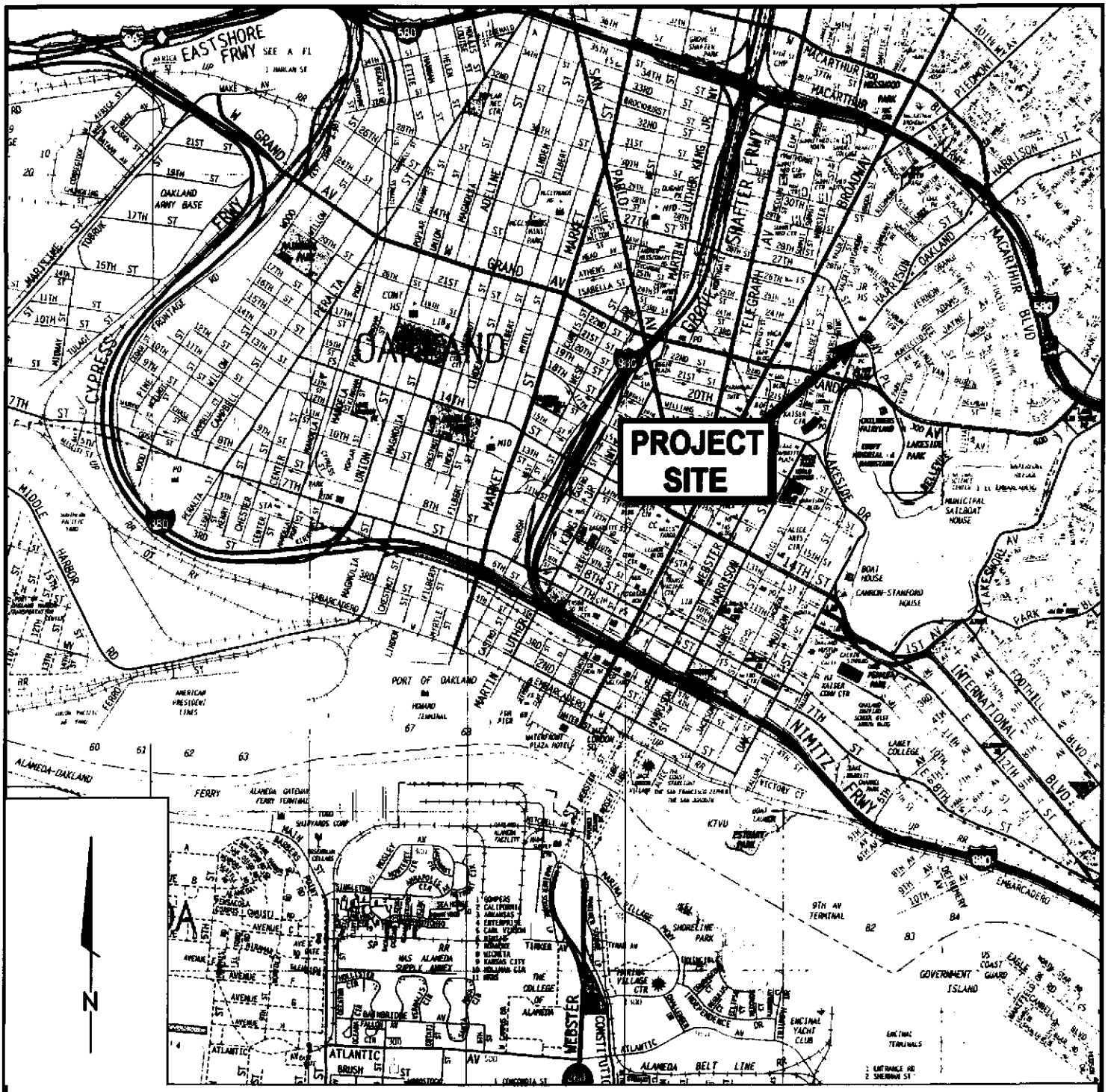
Well Number	Date Measured	Time of Day	Total Dissolved Oxygen (mg/L)	Notes
TW-5	1/12/99	16:40	1.7	(1)
	3/11/99	15:36	0.58	(1)
	3/17/99	12:20	14.3	(2)
	3/17/99	17:57	14.6	(3)
	4/13/99	9:39	3.8	(2)
	4/13/99	19:28	>15.0	(3)
	6/1/99	14:40	5.4	(2)
	6/1/99	18:38	>15.0	(3)
	7/7/99	9:05	0.25	(2)
	7/7/99	19:32	>18.0	(3)
	8/19/99	10:38	1.0	(2)
	8/19/99	18:33	>15.0	(3)
	10/6/99	10:31	0.2	(2)
	10/6/99	17:08	>15.0	(3)
TW-6	1/12/99	15:02	3.9	(1)
	3/11/99	15:39	0.62	(1)
	3/17/99	12:23	14.1	(2)
	3/17/99	18:06	>15.0	(3)
	4/13/99	9:35	14.2	(2)
	4/13/99	19:23	>15.0	(3)
	6/1/99	14:48	11.1	(2)
	6/1/99	18:40	>15.0	(3)
	7/7/99	9:00	>18.0	(2)
	7/7/99	19:21	>18.0	(3)
	8/19/99	10:35	14.8	(2)
	8/19/99	18:38	>15.0	(3)
	10/6/99	10:27	3.8	(2)
	10/6/99	17:06	>15.0	(3)
TW-7	1/12/99	13:10	2.7	(1)
	3/11/99	15:42	0.74	(1)
	3/17/99	12:25	6.5	(2)
	3/17/99	18:12	14	(3)
	4/13/99	9:25	0.4	(2)
	4/13/99	19:16	>15.0	(3)
	6/1/99	14:52	0.7	(2)
	6/1/99	18:43	>15.0	(3)
	7/7/99	9:15	0.26	(2)
	7/7/99	19:26	>18.0	(3)
	8/19/99	10:30	0.9	(2)
	8/19/99	18:46	>15.0	(3)
	10/6/99	10:19	0.5	(2)
	10/6/99	17:03	>15.0	(3)

Table 4
Summary of Total Dissolved Oxygen Measurements
Interim Remedial Actions
Former Cox Cadillac, 230 Bay Place
Oakland, California

Well Number	Date Measured	Time of Day	Total Dissolved Oxygen (mg/L)	Notes

Notes:

>15 = Above indicated equipment quantification maximum.
(1) = Baseline measurement taken before initial introduction of enriched water
(2) = Measured prior to enriched water introduction
(3) = Measured after enriched water introduction
mg/L = milligrams per liter
An initial approximate 200 gallons of enriched water was introduced to wells MW-1, TW-4, TW-5, TW-6, and TW-7 in the late afternoon of March 11 and 17, 1999 during setup, testing, and refinement of the remediation system. March 17 measurements reflect the initial introduction of enriched water.



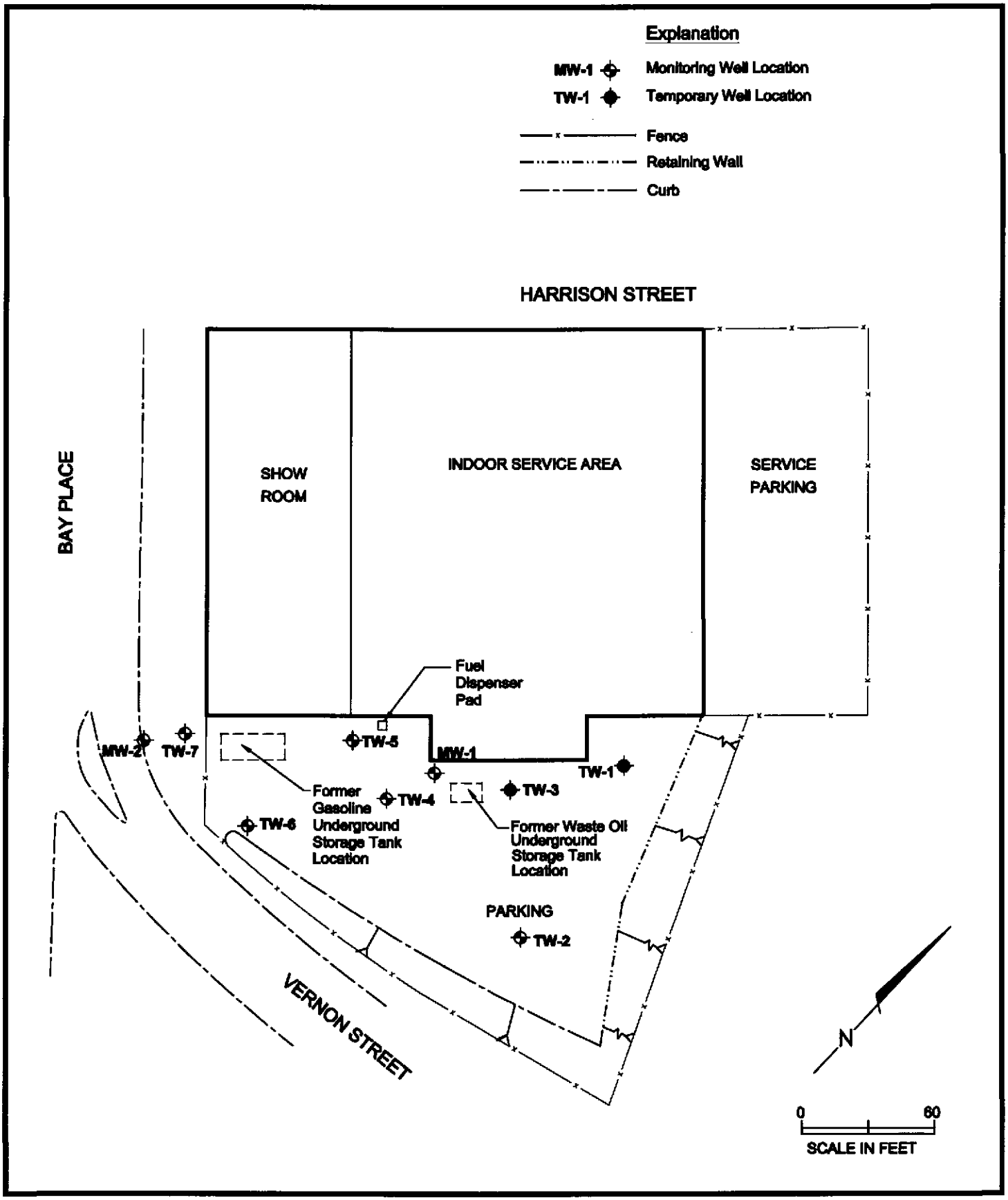
Ref: "The Thomas Guide- Alameda/Contra Costa Counties Street Guide and Directory" 1998 Edition

PES Environmental, Inc.
Engineering & Environmental Services

Site Location Map
Quarterly Groundwater Monitoring
Former Cox Cadillac-230 Bay Place
Oakland, California

PLATE **1**

167.0201.006	1670200006_QTR	CDR	12/99
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE

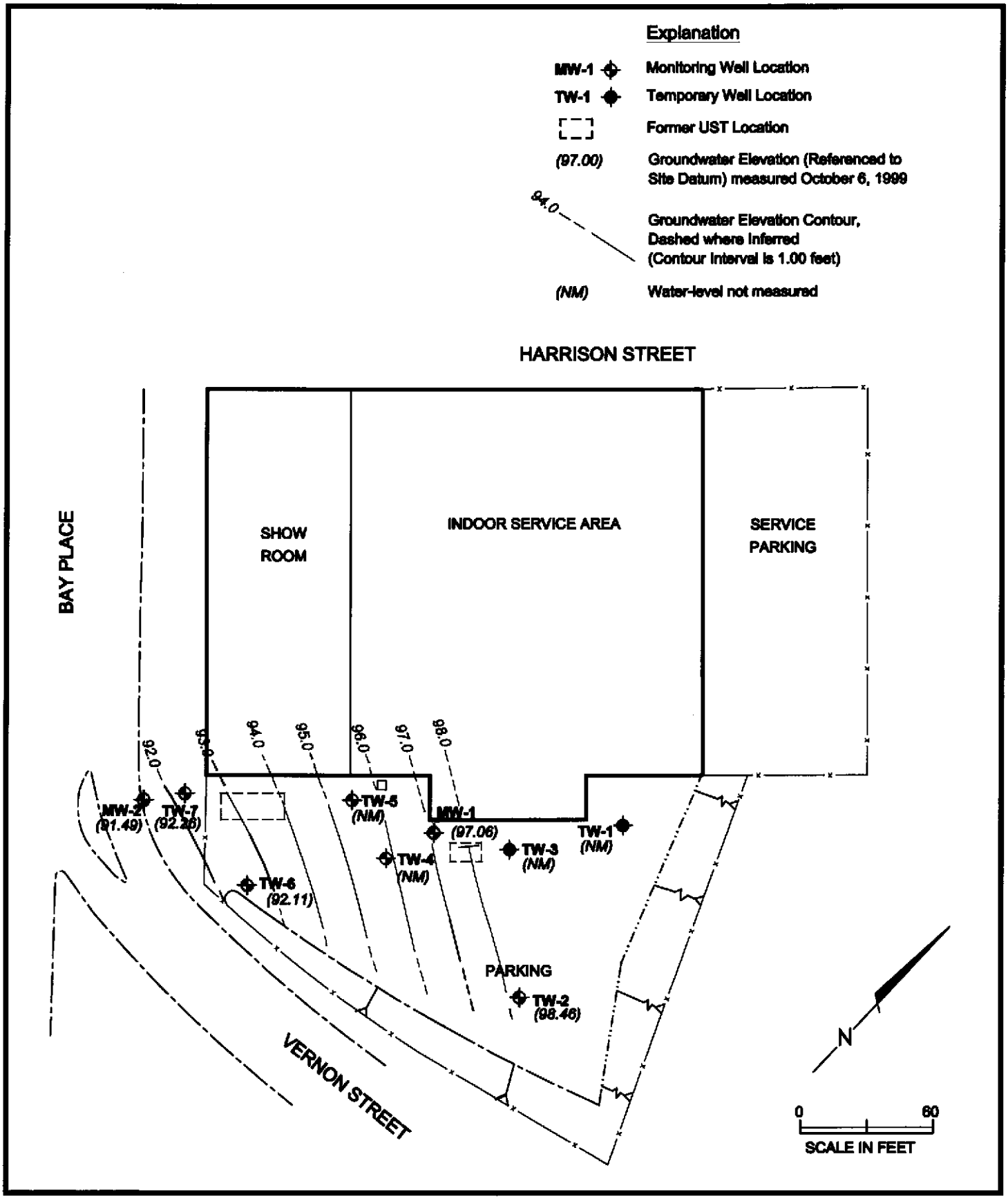


PES Environmental, Inc.
Engineering & Environmental Services

Site Plan and Well Location Map
Quarterly Groundwater Monitoring
Former Cox Cadillac-230 Bay Place
Oakland, California

PLATE
2

167.0201.006	1670200006_QTR	CDR	12/99
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE



PES Environmental, Inc.
Engineering & Environmental Services

Groundwater Elevation Contours on October 6, 1999
Quarterly Groundwater Monitoring
Former Cox Cadillac-230 Bay Place
Oakland, California

PLATE
3

167.0201.006	1670200006_QTR	CDR	12/99
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE

Explanation

MW-1 ⊕ Monitoring Well Location

TW-1 ⊕ Temporary Well Location

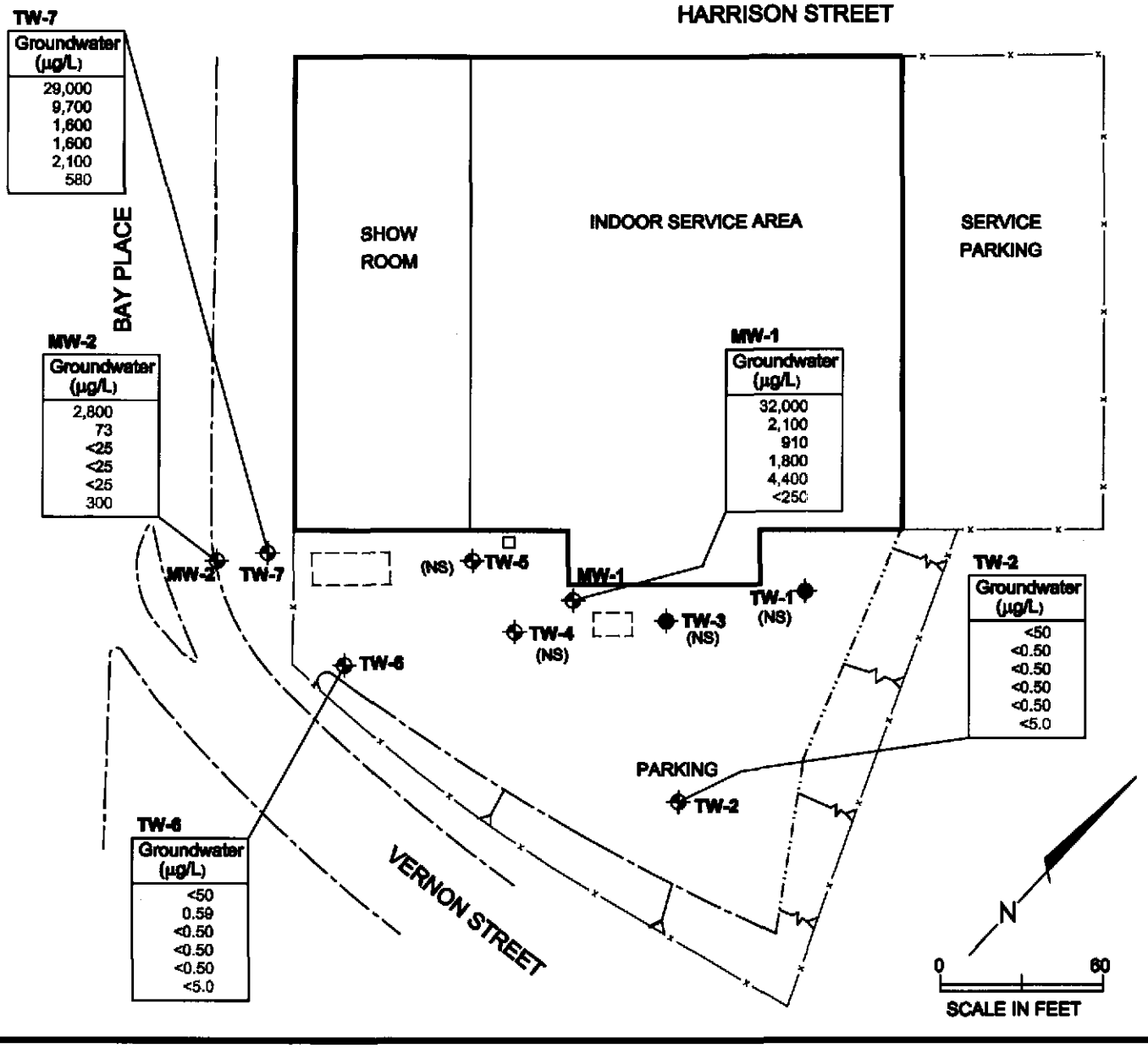
⬚ Former UST Location

(NS) Not Sampled

Concentrations of Dissolved Hydrocarbons
In Micrograms per liter (µg/l) in Groundwater

Groundwater (µg/L)
Total Petroleum Hydrocarbons as Gasoline
Benzene
Toluene
Ethylbenzene
Total Xylenes
Methyl Tert-Butyl Ether

<0.50 Not detected at or above indicated laboratory reporting limit



PES Environmental, Inc.
Engineering & Environmental Services

Distribution of Dissolved Hydrocarbons in Groundwater - October 6, 1999
Quarterly Groundwater Monitoring
Former Cox Cadillac-230 Bay Place
Oakland, California

PLATE 4

167.0201.006	1670200006_QTR	CDR	12/99
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE

APPENDIX A

WELL SAMPLING DOCUMENTATION

BLAINE
TECH SERVICES INC.

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112-1105
(408) 573-7771 FAX
(408) 573-0555 PHONE

DATE 11/11/99

Total pages including cover sheet 7

TO CHRIS

OF PES
Fax 415-899-1601

FROM Billy

REMARKS: SENDING F.D. SHEETS FOR
230 BAY PLACE PROJECT
IN OAKLAND, CA.

BTS Project # 991006-S1

PLEASE CALL IF ANY ?'s.

THANKS.

WELL GAUGING DATA

Project # 991006-SI Date 10/6/99 Client

Site: PES @ 230 Bay Place Oakland, CA

Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	
MW-1	2			2.94	19.83	~~1.95~~	~~3.64~~	TOC	5
MW-2	2					5.99	19.68		2
TW-2	2					1.97	7.69		1
TW-6	2					6.64	7.65		4
TW-7	2					5.70	9.56	✓	3

5

WELL MONITORING DATA SHEET

Project #: 991006-S1	Client: PES Environmental
Sampler: KPS	Start Date: 10/6/99
Well I.D.: MW-1	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth: 19.83	Depth to Water: 2.94
Before: After:	Before: After:
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH

Purge Method: Bailer / Disposable Bailer / Middleburg / Electric Submersible / Extraction Pump / Other: ___

Sampling Method: Bailer / (Disposable Bailer) / Extraction Port / Other: ___

2.7 (Gals.) X 3 = 8.1 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
2"	0.16	5"	1.02
3"	0.37	6"	1.47
4"	0.65	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
12:01	68.1	6.9	1990	77	3	
12:05	69.4	7.0	2908	155	6	odor
12:10	69.1	7.0	3062	170	9	odor

Did well dewater? Yes (No) Gallons actually evacuated: 9

Sampling Time: 12:15 Sampling Date: 10/6/99

Sample I.D.: MW-1 Laboratory: Entech

Analyzed for: (TPH-G BTEX MTBE) TPH-D Other: MTBE By 8260

Equipment Blank I.D.: @ Time Duplicate I.D.:

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
ORP (if req'd):	Pre-purge:	mV	Post-purge:	mV

5

WELL MONITORING DATA SHEET

Project #: 991006-S-1	Client: PES Environmental
Sampler: KPS	Start Date: 10/6/99
Well I.D.: MW-2	Well Diameter: (2) 3 4 6 8
Total Well Depth: 19.68	Depth to Water: 5.99
Before: After:	Before: After:
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH

Purge Method: Bailer / Disposable Bailer / Middleburg / Electric Submersible / Extraction Pump / Other: _____

Sampling Method: Bailer / (Disposable Bailer) / Extraction Port / Other: _____

2.2 (Gals.) X 3 = 6.6 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
2"	0.16	5"	1.02
3"	0.37	6"	1.47
4"	0.65	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
10:45	70.2	7.0	2245	>200	2.5	
10:49	70.4	7.1	2297	>200	5	
10:51	70.2	7.1	2386	>200	7	

Did well dewater? Yes (No) Gallons actually evacuated: 7

Sampling Time: 11:00 Sampling Date: 10/6/99

Sample I.D.: MW-2 Laboratory: Entech

Analyzed for: (TPH-G BTEX MTBE) TPH-D Other: MTBE By 8260

Equipment Blank I.D.: @ Time Duplicate I.D.:)

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
ORP (if req'd):	Pre-purge:	mV	Post-purge:	mV

5

WELL MONITORING DATA SHEET

Project #: 991006-S1	Client: PES Environmental
Sampler: KPS	Start Date: 10/6/99
Well I.D.: TW-2	Well Diameter: (2) 3 4 6 8
Total Well Depth: 7.69	Depth to Water: 1.97
Before: After:	Before: After:
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH

Purge Method: Bailer; (Disposable Bailer); Middleburg; Electric Submersible; Extraction Pump; Other:

Sampling Method: Bailer; (Disposable Bailer); Extraction Port; Other:

.9 (Gals.) X	3	=	2.7 Gals.
1 Case Volume	Specified Volumes		Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
2"	0.16	5"	1.02
3"	0.37	6"	1.47
4"	0.65	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
10:18	72.7	6.6	5334	104	1	
10:22	73.0	6.8	5331	192	2	
10:26	72.9	6.7	5299	194	3	

Did well dewater? Yes (No) Gallons actually evacuated: 3

Sampling Time: 10:30 Sampling Date: 10/6/99

Sample I.D.: TW-2 Laboratory: Entech

Analyzed for: (TPH-G BTEX MTBE) TPH-D Other: MTBE By 8260

Equipment Blank I.D.: @ Time Duplicate I.D.:

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
ORP (if req'd):	Pre-purge:	mV	Post-purge:	mV

5

WELL MONITORING DATA SHEET

Project #: 991006-S1	Client: PES Environmental
Sampler: KPS	Start Date: 10/6/99
Well I.D.: TW-6	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth: 7.65	Depth to Water: 6.64
Before: After:	Before: After:
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH

Purge Method: Bailer / ~~Disposable Bailer~~ / Middleburg / Electric Submersible / Extraction Pump / Other: ___

Sampling Method: Bailer / ~~Disposable Bailer~~ / Extraction Port / Other: ___

Well Diameter	Multiplier	Well Diameter	Multiplier
2"	0.16	5"	1.02
3"	0.37	6"	1.47
4"	0.65	Other	radius² * 0.163

.2 (Gals.) X 3 = .6 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
11:43	69.7	6.9	524	72	.2	
11:44	70.0	7.0	523	78	.4	
11:45	70.1	7.0	532	80	.6	

Did well dewater? Yes (No) Gallons actually evacuated: .6

Sampling Time: 11:50 Sampling Date: 10/6/99

Sample I.D.: TW-6 Laboratory: Entech

Analyzed for: (TPH-G) BTEX (MTBE) TPH-D Other: MTBE By 8260

Equipment Blank I.D.: @ Time Duplicate I.D.:

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
ORP (if req'd):	Pre-purge:	mV	Post-purge:	mV

5

WELL MONITORING DATA SHEET

Project #: 991006-S1	Client: PES Environmental
Sampler: KPS	Start Date: 10/6/99
Well I.D.: TW-7	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth: 9.56	Depth to Water: 5.70
Before: After:	Before: After:
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH

Purge Method: Bailer; (Disposable Bailer); Middleburg; Electric Submersible; Extraction Pump; Other: ___

Sampling Method: Bailer; (Disposable Bailer); Extraction Port; Other: ___

.6 (Gals.) X	3	= 1.8 Gals.
1 Case Volume	Specified Volumes	Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
2"	0.16	5"	1.02
3"	0.37	6"	1.47
4"	0.65	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
11:01	70.2	6.8	775	126	.6	
11:03	71.0	6.8	727	173	1.2	
11:05	70.7	6.7	727	180	2	

Did well dewater? Yes (No) Gallons actually evacuated: 2

Sampling Time: 11:10 Sampling Date: 10/6/99

Sample I.D.: TW-7 Laboratory: Entech

Analyzed for: (TPH-G) (BTEX) (MTBE) TPH-D Other: MTBE 8260

Equipment Blank I.D.: @ Time Duplicate I.D.:

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
ORP (if req'd):	Pre-purge:	mV	Post-purge:	mV

APPENDIX B

LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION

RECEIVED OCT 2 6 1999

Entech Analytical Labs, Inc.

CA ELAP# I-2346

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: Chris Rositto

Date: 10/14/99
Date Received: 10/7/99
Project: 230 Bay Place
PO #:
Sampled By: Blaine Tech Services

Certified Analytical Report

Liquid Sample Analysis:

Sample ID	MW-1			MW-2			TW-2				
Sample Date	10/6/99			10/6/99			10/6/99				
Sample Time	12:15			11:00			10:30				
Lab #	16791-001			16791-002			16791-003				
	Result	DF	DLR	Result	DF	DLR	Result	DF	DLR	PQL	Method
Results in µg/Liter:											
Analysis Date	10/11/99			10/12/99			10/11/99				
TPH-Gas	**32,000**	50	2500	**2,800** x	50	2500	**ND**	1.0	50	50	8015M
MTBE	**910**	50	250	**3,700**	50	250	**ND**	1.0	5.0	5.0	8020
Benzene	**2,100**	50	25	**73**	50	25	**ND**	1.0	0.50	0.50	8020
Toluene	**910**	50	25	**ND**	50	25	**ND**	1.0	0.50	0.50	8020
Ethyl Benzene	**1,800**	50	25	**ND**	50	25	**ND**	1.0	0.50	0.50	8020
Xylenes (total)	**4,400**	50	25	**ND**	50	25	**ND**	1.0	0.50	0.50	8020

DF=Dilution Factor ND= None Detected above DLR PQL=Practical Quantitation Limit DLR=Detection Reporting Limit

· Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #I-2346)

Michelle L. Anderson, Lab Director

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# I-2346

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: Chris Rositto

Date: 10/14/99
Date Received: 10/7/99
Project: 230 Bay Place
PO #:
Sampled By: Blaine Tech Services

Certified Analytical Report

Liquid Sample Analysis:

Sample ID	TW-6			TW-7							
Sample Date	10/6/99			10/6/99							
Sample Time	11:50			11:10							
Lab #	16791-004			16791-005							
	Result	DF	DLR	Result	DF	DLR				PQL	Method
Results in µg/Liter:											
Analysis Date	10/11/99			10/11/99							
TPH-Gas	**ND**	1.0	50	**29,000**	50	2500				50	8015M
MTBE	**ND**	1.0	5.0	**480**	50	250				5.0	8020
Benzene	**0.59**	1.0	0.50	**9,700**	50	25				0.50	8020
Toluene	**ND**	1.0	0.50	**1,600**	50	25				0.50	8020
Ethyl Benzene	**ND**	1.0	0.50	**1,600**	50	25				0.50	8020
Xylenes (total)	**ND**	1.0	0.50	**2,100**	50	25				0.50	8020

DF=Dilution Factor ND= None Detected above DLR PQL=Practical Quantitation Limit DLR=Detection Reporting Limit

· Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #I-2346)

Michelle L. Anderson, Lab Director

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

METHOD: Gas Chromatography
Laboratory Control Sample

QC Batch #: GBG1991011
Matrix: Liquid
Units: µg/Liter

Date Analyzed: 10/11/99
Quality Control Sample: Blank Spike

PARAMETER	Method #	MB µg/Liter	SA µg/Liter	SR µg/Liter	SP µg/Liter	SP % R	SPD µg/Liter	SPD %R	RPD	QC LIMITS RPD	QC LIMITS %R
Benzene	8020	<0.50	5.6	ND	5.4	**96**	6.0	**107**	10.6	25	77-129
Toluene	8020	<0.50	29.0	ND	26	**89**	28	**97**	8.1	25	82-122
Ethyl Benzene	8020	<0.50	5.7	ND	5.0	**87**	5.3	**93**	6.6	25	77-114
Xylenes	8020	<0.50	30.6	ND	28	**91**	30	**98**	7.4	25	85-125
Gasoline	8015	<50.0	500	ND	416	**83**	437	**87**	5.0	25	75-125
aaa-TFT(S.S.)-PID	8020			78%	82%		79%				65-135
aaa-TFT(S.S.)-FID	8015			98%	93%		100%				65-135

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

BLAINE
TECH SERVICES INC.

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112-1105
FAX (408) 573-7771
PHONE (408) 573-0555

CHAIN OF CUSTODY
BTS #

CLIENT PES

SITE 230 BAY PLACE
OAKLAND, CA

CONDUCT ANALYSIS TO DETECT: TPH-G/BTEX/MTBE* ; MTBE by 8260 (Confirm) 10/6/99

LAB Entech DHS #

ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND

☐ EPA ☐ RWQCB REGION ______
☐ LIA
☐ OTHER

SPECIAL INSTRUCTIONS
Invoice / Report to PES
Att: Chris Rositto

CONFIRM ANALYSES REQUIRED
W/ CLIENT. 415-899-1600

SAMPLE I.D.	Date	Time	MATRIX (S = SOIL, W = H2O)	CONTAINERS TOTAL	C = COMPOSITE ALL CONTAINERS	TPH-G/BTEX/MTBE*	MTBE by 8260	ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
MW-1	10/6/99	12:15	W	6		X	X	*Confirm			16791-001
MW-2	↓	11:00	↓	↓		↓	↓	MTBE			-002
TW-2	↓	10:30	↓	↓		↓	↓	By 8260			-003
TW-6	↓	11:50	↓	↓		↓	↓				-004
TW-7	↓	11:10	↓	↓		↓	↓				-005

SAMPLING COMPLETED	DATE 10/6/99	TIME 12:15
SAMPLING PERFORMED BY	Kevin Sullivan	
RESULTS NEEDED NO LATER THAN	Per Client	

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Kevin Sullivan	10/7/99	2:10	T. Oi	10/7/99	2:10
T. Oi	10/7/99	15:20	Paulinalha	10/7/99	1640

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #

Entech Analytical Labs, Inc.

RECEIVED NOV 0 8 1999

CA ELAP# I-2346

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: Chris Rositto

Date: 10/22/99
Date Received: 10/7/99
Project: 230 Bay Place
PO #:
Sampled By: Blaine Tech Services

Certified Analytical Report

Liquid Sample Analysis:

Sample ID	MW-1			MW-2			TW-7				
Sample Date	10/6/99			10/6/99			10/6/99				
Sample Time	12:15			11:00			11:10				
Lab #	16791-001			16791-002			16791-005				
	Result	DF	DLR	Result	DF	DLR	Result	DF	DLR	PQL	Method
Results in µg/Liter:											
Analysis Date	10/17/99			10/17/99			10/19/99				
MTBE	**ND** [1]	50	250	**300**	50	250	**580**	50	250	5.0	**8260**

DF=Dilution Factor ND= None Detected above DLR PQL=Practical Quantitation Limit DLR=Detection Reporting Limit

1. Sample diluted due to high concentrations of non-target hydrocarbons
2. Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #I-2346)

Michelle L. Anderson, Lab Director

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

Volatile Organic Compounds
Laboratory Control Sample

QC Batch #: WMS991016
Matrix: Liquid
Units: µg/L

Date analyzed: 10/16/99
Spiked Sample: Blank Spike

PARAMETER	Method #	SA µg/L	SR µg/L	SP µg/L	SP %R	SPD µg/L	SPD %R	RPD	QC LIMITS RPD	QC LIMITS %R
1,1- Dichloroethene	8240/8260	40	ND	39.3	**98**	38.1	**95**	3.1	25	50-150
Methyl-tert-butyl ether	8240/8260	40	ND	51.8	**130**	45.1	**113**	13.9	25	50-150
Benzene	8240/8260	40	ND	42.5	**106**	41.1	**103**	3.3	25	50-150
Trichloroethene	8240/8260	40	ND	43.6	**109**	42.2	**105**	3.4	25	50-150
Toluene	8240/8260	40	ND	42.9	**107**	41.8	**104**	2.6	25	50-150
Chlorobenzene	8240/8260	40	ND	41.1	**103**	40.3	**101**	2.0	25	50-150
Surrogates										
Dibromofluoromethane	8240/8260		109%	99%		92%				65-135
MTBE-d3	8240/8260		75%	128%		121%				65-135
Toluene -d8	8240/8260		80%	102%		100%				65-135
4-Bromofluorobenzene	8240/8260		71%	104%		103%				65-135

Definition of Terms:

na: Not Analyzed in QC batch
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 Duplicate % Recovery

BLAINE TECH SERVICES INC.

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112-1105
FAX (408) 573-7771
PHONE (408) 573-0555

CHAIN OF CUSTODY BTS #

CLIENT PES

SITE 230 BAY PLACE
OAKLAND, CA

LAB Orteh DHS #

ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND

☐ EPA ☐ RWQCB REGION ____
☐ LIA
☐ OTHER

SPECIAL INSTRUCTIONS

~~Invoice~~ / Report to PES
Attn: Chris Rositto
Confirm Analyses Required w/ Client 415-899-1600

SAMPLE I.D.			MATRIX S = SOIL W = H2O	CONTAINERS TOTAL	C = COMPOSITE ALL CONTAINERS	CONDUCT ANALYSIS TO DETECT: TPH-GBTEX/MTBE	MTBE by 8260 Per CR mb 10/15/99	ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
MW-1	10/6/99	12:15	W	6		X	X X	*confirm			16791-001
MW-2		11:00					X	MTBE			-002
TW-2		10:30						By 8260			-003
TW-6		11:50									-004
TW-7		11:10					X				-005

SAMPLING COMPLETED	DATE	TIME
	10/6/99	12:15

SAMPLING PERFORMED BY Kevin Sullivan

RESULTS NEEDED NO LATER THAN Rec Client

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Kevin Sullivan	10/7/99	2:10	T. Qi	10/7/99	2:10
T. Qi	10/7/99	15:25	Paul Walker	10/7/99	1640.

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #