



July 16, 2001

167.002.01.006

Greater Bay Trust Company  
Hanson, Bridgett, Marcus, Vlahos & Rudy  
333 Market Street, Suite 2300  
San Francisco, California 94105-2173

**JUL 19 2001**

Attention: Leah S. Goldberg, Esq.

**QUARTERLY GROUNDWATER MONITORING  
APRIL 2001 QUARTERLY EVENT  
FORMER COX CADILLAC FACILITY  
230 BAY PLACE  
OAKLAND, CALIFORNIA**

Dear Ms. Goldberg:

This report presents the results of groundwater monitoring conducted by PES Environmental, Inc. (PES) on April 6, 2001 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 Robert Shepard Trust, Brian F. Shepard Trust, Douglas C. Shepard Trust, and the Lisa C. Shepard Trust, the former owners of the property. The current owner of the site is Avalon Bay Communities.

In a letter to The Greater Bay Trust Company dated April 6, 2001, ACEHS requested that groundwater monitoring at the site be continued. The objective of the groundwater monitoring program at this site is to evaluate the presence of petroleum hydrocarbons in groundwater. The monitoring is performed in accordance with California Regional Water Quality Control Board (RWQCB) guidelines.

**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



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c/o Hanson, Bridget, Marcus, Vlahos & Rudy  
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JUL 24 2001

Attention: Leah Goldberg, Esq.

**TRANSMITTAL  
REVISED SIGNATURE PAGE FOR  
QUARTERLY GROUNDWATER MONITORING REPORT  
APRIL 2001 QUARTERLY EVENT  
FORMER COX CADILLAC FACILITY  
230 BAY PLACE  
OAKLAND, CALIFORNIA**

Dear Ms. Goldberg:

Enclosed please the revised signature page to the above referenced report. The signature page includes Andrew Briefer's Professional Engineer's stamp. This revision is to replace the original unstamped signature page transmitted to you on July 16, 2001

Please call should you any questions.

Sincerely,

**PES ENVIRONMENTAL, INC.**

François A. Bush  
Senior Geologist

Enclosure

cc: Ms. Cheryl Howell - Greater Bay Trust Company  
Mr. Don Huang - Alameda County Environmental Health Services  
Mr. Mark Owens - California UST Cleanup Fund



Leah S. Goldberg, Esq.

July 16, 2001

Page 2

groundwater sample was 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 the Harold Shepard Trust 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. PES developed a Remedial Plan in response to that request. PES' Remedial Plan consisted of a *Revised Interim Remedial Action Plan (IRAP)* dated October 31, 1996 and an *Addendum, Revised Interim Remedial Action Plan* dated November 26, 1996. 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 ACEHS 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 remediate 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 included: (1) adding a nutrient- and hydrogen peroxide-enriched water

Leah S. Goldberg, Esq.  
July 16, 2001  
Page 3

(hereinafter referred to as enriched water); and (2) placement of Oxygen Releasing Compound (ORC) in selected wells at the site. There were a total of eight applications of enriched water from March 1999 to November 1999. Application of hydrogen peroxide-enriched water and ORC in selected wells was not conducted in the April 2001 quarterly monitoring event.

The April 2001 monitoring is the fifth 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, July and October 1999 and January 2000 have previously been submitted to your attention. The results of the April 2001 groundwater monitoring are presented below.

## **GROUNDWATER MONITORING ACTIVITIES**

### **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-4, TW-5, TW-6, and TW-7 on April 6, 2001. 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. Dissolved oxygen concentrations were measured by Blaine Tech in the five wells to be sampled prior to measuring groundwater levels.

### **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 April 6, 2001. 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

Leah S. Goldberg, Esq.  
July 16, 2001  
Page 4

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. 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.

### Dissolved Oxygen Measurements

Total dissolved oxygen was measured on April 6, 2001 in wells MW-1, MW-2, TW-2, TW-6, and TW-7, at the start of the day before measuring groundwater levels and purging and sampling. 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 April 6, 2001 are summarized in Table 3 and are included with the well sampling documentation presented in Appendix A.

## GROUNDWATER MONITORING RESULTS

### Groundwater Elevation Measurements

Depth-to-groundwater data collected from wells MW-1, MW-2, TW-2, TW-6 and TW-7 on April 6, 2001 were converted to groundwater elevations referenced to site datum. Groundwater elevations ranged from 91.83 feet in well MW-2 to 96.97 feet in well TW-2. Groundwater flow direction at the site is to the southwest, at a hydraulic gradient of approximately 0.04-foot per foot. No floating free product or hydrocarbon sheen was observed in the wells. Groundwater elevation data are presented in Table 1 and elevation contours are presented on Plate 3.

### Groundwater Sample Analytical Results

The analytical results of the groundwater samples collected on April 6, 2001 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  $\mu\text{g/L}$ , 2,800  $\mu\text{g/L}$ , and 22,000  $\mu\text{g/L}$ , respectively. MTBE was detected in the samples from wells MW-1, MW-2 and TW-7 at concentrations of 470  $\mu\text{g/L}$ , 3,800  $\mu\text{g/L}$  and 990  $\mu\text{g/L}$ , respectively. Benzene was detected in the samples from wells MW-1, MW-2, TW-7 at concentrations of 4,300  $\mu\text{g/L}$ , 210  $\mu\text{g/L}$ , and 4,800  $\mu\text{g/L}$ , respectively. The highest concentrations of toluene, ethylbenzene and total xylenes were detected in the sample from well MW-1 at 3,200  $\mu\text{g/L}$ , 2,600  $\mu\text{g/L}$ , and 7,300  $\mu\text{g/L}$ ,

Leah S. Goldberg, Esq.  
July 16, 2001  
Page 5

respectively. Copies of the laboratory reports and chain-of-custody documentation are presented in Appendix B.

## SUMMARY

Results of the April 6, 2001 groundwater elevations indicate a hydraulic gradient of approximately 0.04-foot per foot. As with historical observations, the groundwater flow direction continues to be toward the southwest.

Concentrations of TPHg and BTEX detected in the wells in April 2001 are similar to those detected in January 2000. However, significant decreases in TPHg and MTBE concentrations in wells MW-2 and TW-7 and significant increases in TPHg, MTBE and BTEX concentrations in well MW-1 were observed in samples from April 2001 compared to January 2000. The increase in concentrations of contaminants in well MW-1 may be a concentration rebound after discontinuing enhanced bioremediation in this well. The enhanced bioremediation program appeared to previously be effective in reducing hydrocarbon concentrations in groundwater from this well. No concentration rebound was noted in groundwater samples from well TW-6, the other well where enhanced biodegradation appeared to be effective during the 1999-2000 pilot study. The lack of rebound likely indicates that biodegradation of contaminants in groundwater in the immediate vicinity of well TW-6 is complete. 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.

Leah S. Goldberg, Esq.  
July 16, 2001  
Page 6

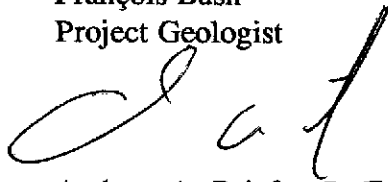
In accordance with the April 6, 2001 ACEHS letter, PES will continue with quarterly groundwater monitoring. If you have any questions or comments, please do not hesitate to call either of the undersigned.

Yours very truly,

**PES ENVIRONMENTAL, INC.**



François Bush  
Project Geologist



Andrew A. Briefer, P. E.  
Principal Engineer

Attachments: Table 1 Groundwater Elevation Data Through April 6, 2001  
Table 2 Groundwater Sample Analytical Results Through April 6, 2001  
Table 3 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 April 6, 2001  
Plate 4 Distribution of Dissolved Hydrocarbons in Groundwater -  
April 6, 2001  
Appendix A Well Sampling Documentation  
Appendix B Laboratory Analytical Reports and Chain of Custody  
Documentation

cc: Ms. Cheryl Howell - Greater Bay Trust Company  
Mr. Don Huang - Alameda County Environmental Health Services  
Mr. Mark Owens - California UST Cleanup Fund



**Table 1**  
**Groundwater Elevation Data Through January 11, 2000**  
**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
	1/11/00	100.00	2.69	97.31
	4/6/01	100.00	2.99	97.01
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
	1/11/00	97.48	5.73	91.75
	4/6/01	97.48	5.65	91.83
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
	1/11/00	100.43	1.79	98.64
	4/6/01	100.43	3.46	96.97
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
	1/11/00	99.35	2.63	96.72
	4/6/01	99.35	3.97	95.38
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
	1/11/00	99.40	1.03	98.37
	4/6/01	99.40	3.04	96.36
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
	1/11/00	98.75	6.41	92.34
	4/6/01	98.75	4.93	93.82
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
	1/11/00	97.96	5.42	92.54
	4/6/01	97.96	4.63	93.33

**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 January 11, 2000**  
**Interim Remedial Actions**  
**Former Cox Cadillac, 230 Bay Place**  
**Oakland, California**

Well Number	Sample Date	TPH as Gasoline ( $\mu\text{g/L}$ )	MTBE ( $\mu\text{g/L}$ )	Benzene ( $\mu\text{g/L}$ )	Toluene ( $\mu\text{g/L}$ )	Ethylbenzene ( $\mu\text{g/L}$ )	Total Xylenes ( $\mu\text{g/L}$ )
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
	1/11/00	2,400	<5.0*	52	3.9	63	12
	4/6/01	32,000	470	4,300	3,200	2,600	7,300
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	7000*	<25	<25	<25	<25
	10/6/99	2,800	300*	73	<25	<25	<25
	1/11/00	11,000	8400*	890	<100	<100	<100
	4/6/01	2,800	3,800	210	<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
	1/11/00	<50	<5.0	<0.50	<0.50	<0.50	<0.50
	4/6/01	<50	<5	<0.5	<0.5	<0.5	<0.5
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
	1/11/00	<50	<5.0	<0.50	<0.50	<0.50	<0.50
	4/6/01	<50	<5	<0.5	<0.5	<0.5	<0.5
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	2200*	8,000	4,500	1,200	3,500
	10/6/99	29,000	580*	9,700	1,600	1,600	2,100
	1/11/00	52,000	2600*	8,500	7,100	1,600	6,700
	4/6/01	22,000	990	4,800	1,800	2,200	3,400

**Notes:**

TPH - Total Petroleum Hydrocarbons

MTBE - Methyl tert-butyl ether

 $\mu\text{g/L}$  = Micrograms per liter.

&lt;0.50 = Not detected at or above indicated laboratory reporting limit.

Samples analyzed by EPA Method 8020 for BTEX and MTBE and by EPA Method 8015 for TPH/gas.

\*MTBE confirmation by EPA Method 8260.

**Table 3**  
**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)
	11/17/99	11:13	4.4	(2)
	11/17/99	17:34	> 15.0	(3)
	1/11/00	NA	4.0	(2)
	4/6/01	10:55	0.45	(4)
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)
	1/11/00	NA	3.9	(2)
	4/6/01	10:21	0.69	(4)
	TW-2	1/12/99	15:03	5.5
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)
1/11/00		NA	4.6	(2)
4/6/01		9:45	2.9	(4)
TW-4		3/11/99	15:20	3.4
	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)
	11/17/99	11:16	10.6	(2)
11/17/99	17:35	> 15.0	(3)	
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)

**Table 3**  
**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 (continued)	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)
	11/17/99	11:22	0.8	(2)
	11/17/99	17:37	> 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)
	11/17/99	11:24	1.5	(2)
11/17/99	17:39	> 15.0	(3)	
1/11/00	NA	4.9	(2)	
4/6/01	10:00	0.78	(4)	
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)
	11/17/99	11:28	1.1	(2)
	11/17/99	17:40	> 15.0	(3)
1/11/00	NA	5.2	(2)	
4/6/01	11:25	0.53	(4)	

**Notes:**

>15 = Above indicated equipment quantification maximum

(1) = Baseline measurement taken before initial introduction of enriched water

(2) = Measured prior to enriched water introduction, and water-level measurement and well purging

(3) = Measured after enriched water introduction

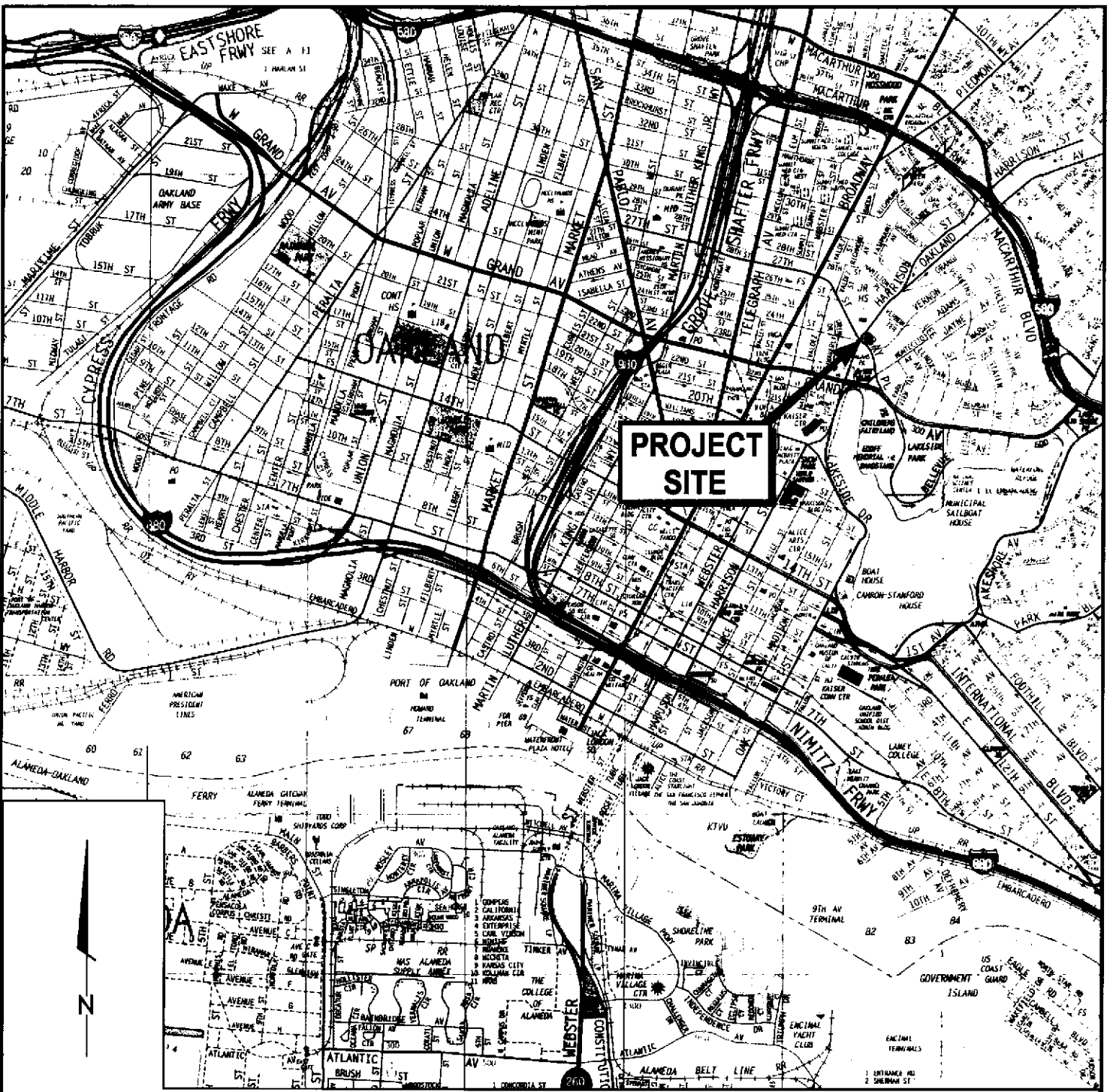
(4) = Measured prior to water-level measurement and well purging

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.

NA = information not available



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 167020006\_QTR-2001.dwg

*FAB*

5/01

JOB NUMBER


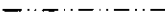

DRAWING NUMBER

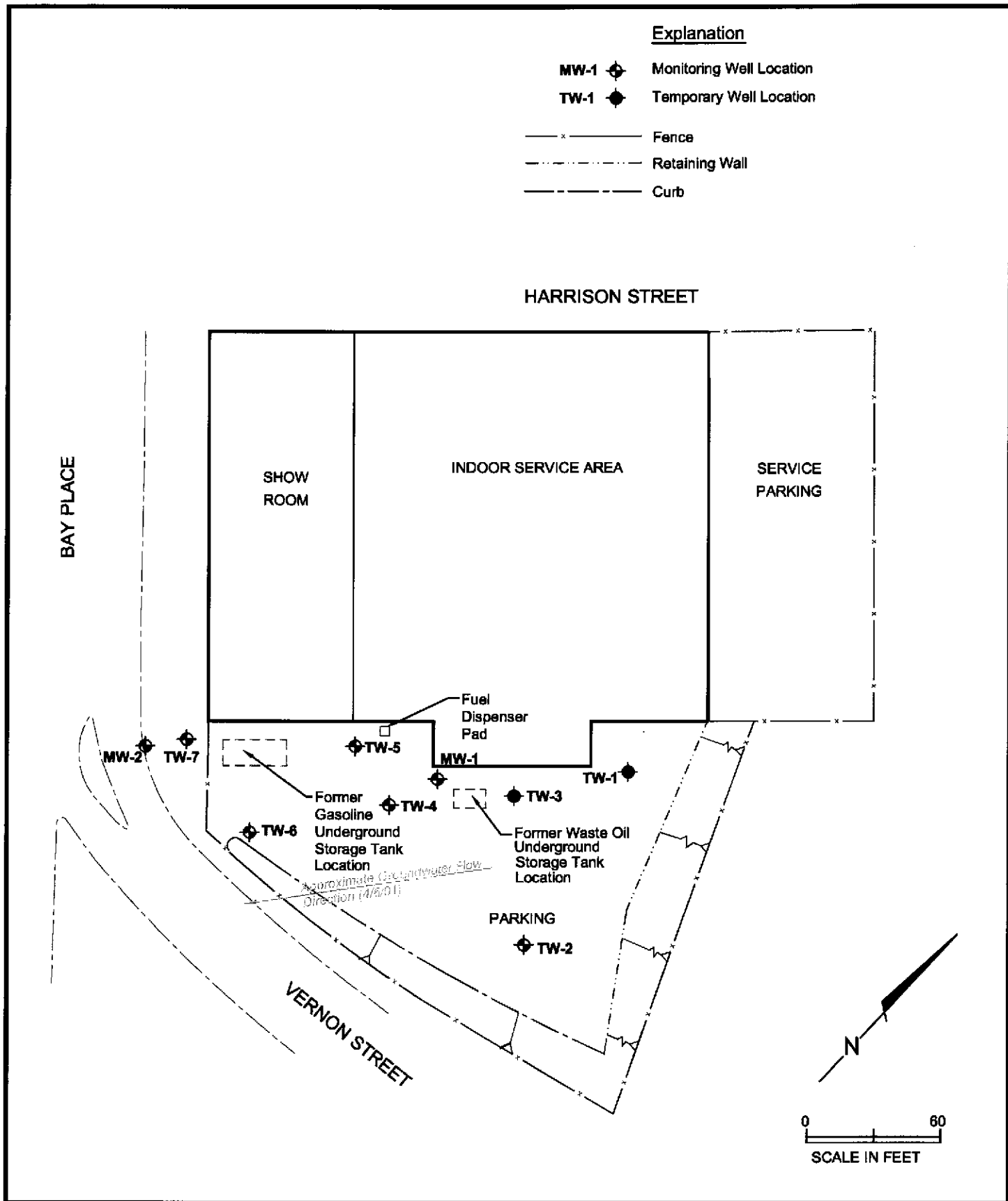
REVIEWED BY

DATE

Explanation

- MW-1  Monitoring Well Location
- TW-1  Temporary Well Location

-  Fence
-  Retaining Wall
-  Curb






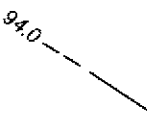
**PES Environmental, Inc.**  
Engineering & Environmental Services

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

PLATE

**2**

**Explanation**

- MW-1  Monitoring Well Location
- TW-1  Temporary Well Location
-  Former UST Location
- (95.41) Groundwater Elevation (Referenced to Site Datum) measured April 6, 2001
-  Groundwater Elevation Contour, Dashed where Inferred (Contour Interval is 1.00 feet)
- (NM) Water-level not measured

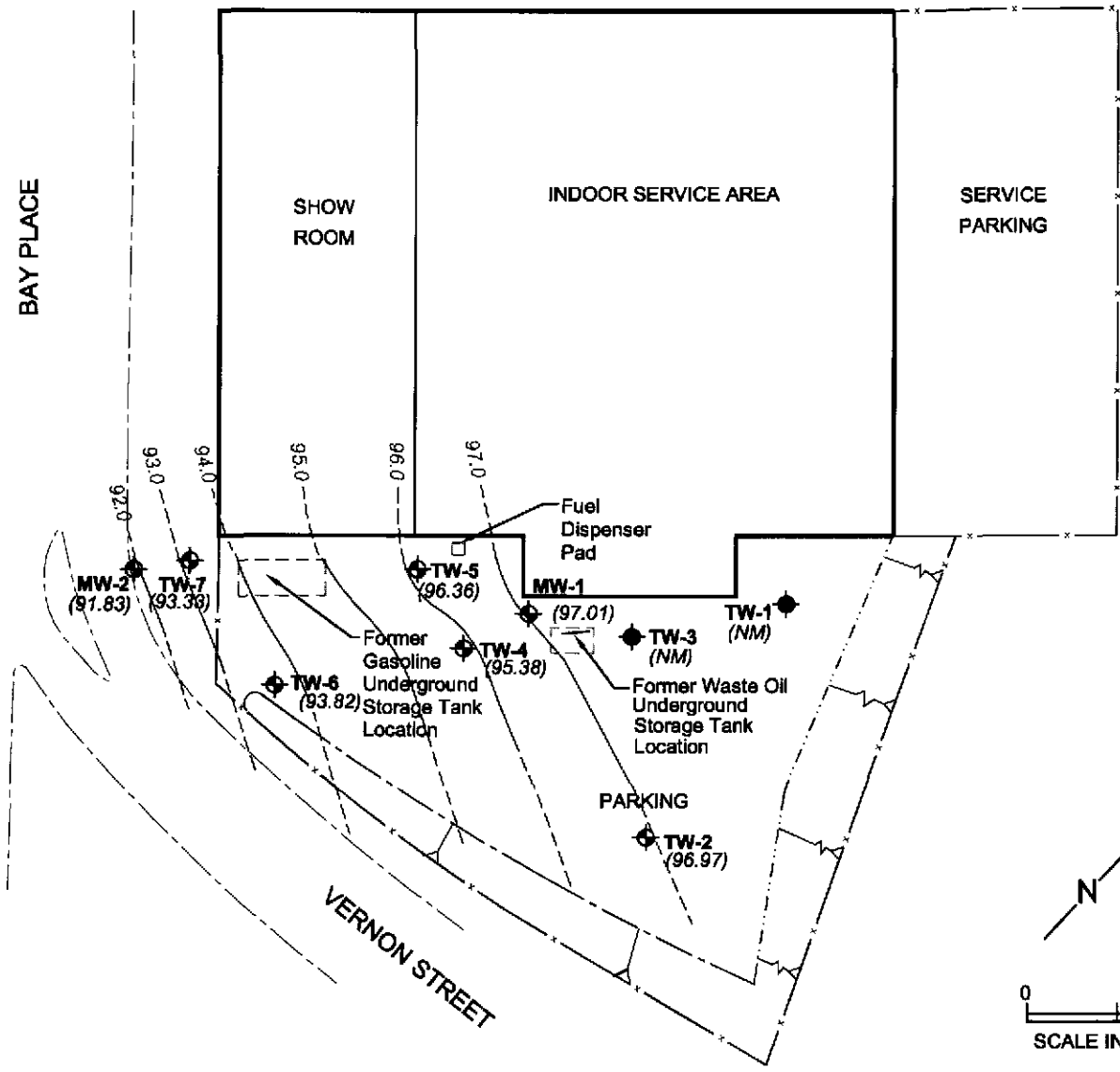
HARRISON STREET

BAY PLACE

SHOW ROOM

INDOOR SERVICE AREA

SERVICE PARKING



Groundwater Elevation Contours on April 6, 2001  
 Quarterly Groundwater Monitoring  
 Former Cox Cadillac-230 Bay Place  
 Oakland, California

PLATE

**3**



**PES Environmental, Inc.**  
 Engineering & Environmental Services

167.0201.006  
 JOB NUMBER

167020006\_QTR-2001  
 DRAWING NUMBER

*FAB*  
 REVIEWED BY

6/01  
 DATE

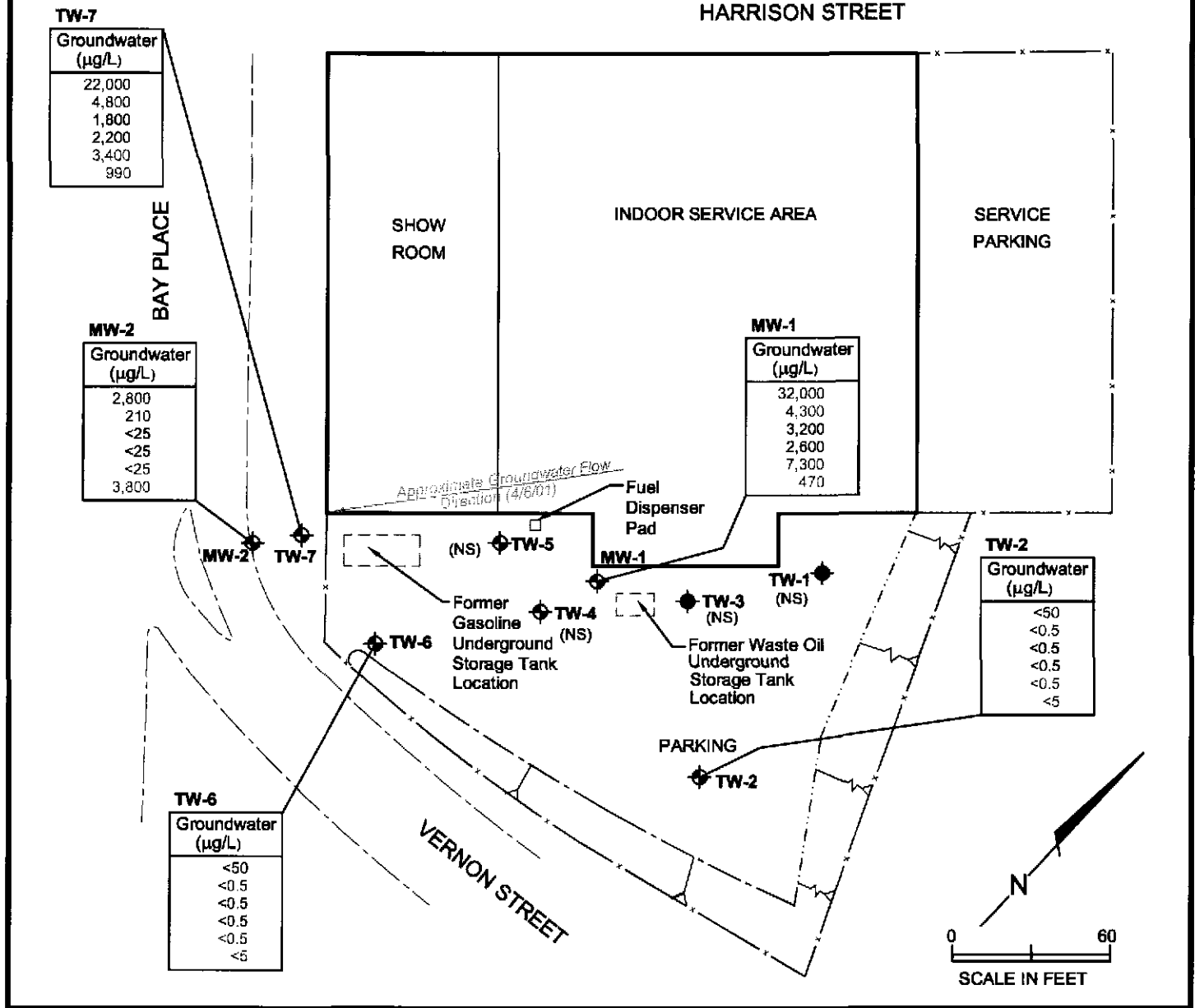
**Explanation**

- MW-1 Monitoring Well Location
- TW-1 Temporary Well Location
- Former UST Location
- (NS) Not Sampled

**Concentrations of Dissolved Hydrocarbons in Micrograms per liter ( $\mu\text{g/l}$ ) in Groundwater**

Groundwater ( $\mu\text{g/L}$ )
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 - April 6, 2001**  
Quarterly Groundwater Monitoring  
Former Cox Cadillac-230 Bay Place  
Oakland, California

PLATE

**4**

167.0201.006

1670200006\_QTR-2001.dwg

*FAB*  
REVIEWED BY

5/01

JOB NUMBER

DRAWING NUMBER

REVIEWED BY

DATE



**APPENDIX A**

**WELL SAMPLING DOCUMENTATION**

RECEIVED APR 15 2001

WELL GAUGING DATA

Project # 010406-A1 Date 4-6-01 Client PES

Site 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	w/o ORC	
TW-2	2					3.46	7.76	TOC		
TW-4	2					3.97	8.63			
TW-5	2					3.04	7.58			
TW-6	2					4.93	7.65			
TW-7	2					4.63	19.67			
MW-1	2					4.59	19.81			299 <del>259</del>
MW-2	2					5.65	9.55		▼	

## WELL MONITORING DATA SHEET

Project #: 010406-Δ1	Client: PES
Sampler: <u>Q</u>	Start Date: 4-6-01
Well I.D.: MW-1	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth: 19.81	Depth to Water: 4.59 / 293
Before:                      After:	Before:                      After:
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSI</u> HACH

Purge Method:

Bailer  
 Disposable Bailer  
 Middleburg  
 Electric Submersible  
 Waterra  
 Peristaltic  
 Extraction Pump  
 Other \_\_\_\_\_

Sampling Method:

Bailer  
 Disposable Bailer  
 Extraction Port  
 Dedicated Tubing  
 Other: \_\_\_\_\_

24 (Gals.) X	3	= 7.2 Gals.
1 Case Volume	Specified Volumes	Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
<u>2</u>	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
1039	60.6	7.0	2764	>200	1.5	
1044	59.8	6.8	3104	>200	5	
1048	59.9	6.8	3116	>200	2.5	

Did well dewater? Yes  No  Gallons actually evacuated: 7.5

Sampling Time: 1055                      Sampling Date: 4-6-01

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

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

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

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

D.O. (if req'd):	Pre-purge: <u>45</u> mg/L	Post-purge:                      mg/L
ORP (if req'd):	Pre-purge:                      mV	Post-purge:                      mV

## WELL MONITORING DATA SHEET

Project #: 010406-Δ1	Client: PES
Sampler: <u>Q</u>	Start Date: 4-6-01
Well I.D.: MW-2	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth: 9.55	Depth to Water: 5.65
Before:                      After:	Before:                      After:
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSI</u> HACH

Purge Method:

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>Bailer</li> <li><u>Disposable Bailer</u></li> <li>Middleburg</li> <li>Electric Submersible</li> </ul> | <ul style="list-style-type: none"> <li>Waterra</li> <li>Peristaltic</li> <li>Extraction Pump</li> <li>Other _____</li> </ul> |
|--|--|

Sampling Method:

- Bailer
- Disposable Bailer
- Extraction Port
- Dedicated Tubing

Other: \_\_\_\_\_

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

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
<u>2</u>	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
1013	60.8	6.6	2833	98	5	
1014	61.7	6.6	2857	181	1.5	
1016	61.8	6.6	2861	183	2	

Did well dewater? Yes  No  Gallons actually evacuated: 2

Sampling Time: 1021                      Sampling Date: 4-6-01

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

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

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

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

D.O. (if req'd):	<u>Pre-purge:</u>	.69 mg/L	Post-purge:	mg/L
ORP (if req'd):	Pre-purge:	mV	Post-purge:	mV

## WELL MONITORING DATA SHEET

Project #: 010406-Δ1	Client: PES
Sampler: <u>Q</u>	Start Date: 4-6-01
Well I.D.: TW-2	Well Diameter: (2) 3 4 6 8
Total Well Depth: 7.76	Depth to Water: 3.46
Before:                      After:	Before:                      After:
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSI</u> HACH

Purge Method:

- Bailer
- Disposable Bailer
- Middleburg
- Electric Submersible
- Waterra
- Peristaltic
- Extraction Pump
- Other \_\_\_\_\_

Sampling Method:

- Bailer
- Disposable Bailer
- Extraction Port
- Dedicated Tubing
- Other: \_\_\_\_\_

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

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
<u>2"</u>	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
936	61.0	6.5	3931	104	5	
937	61.7	6.6	4531	158	1	
939	61.9	6.6	4504	199	2	

Did well dewater? Yes  No  Gallons actually evacuated: 2

Sampling Time: 975                      Sampling Date: 4-6-01

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

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

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

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

D.O. (if req'd):	Pre-purge: <u>2.9</u> mg/L	Post-purge: _____ mg/L
ORP (if req'd):	Pre-purge: _____ mV	Post-purge: _____ mV

## WELL MONITORING DATA SHEET

Project #: 010406-Δ1	Client: PES
Sampler: <u>Q</u>	Start Date: 4-6-01
Well I.D.: TW-6	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth: 7.65	Depth to Water: 4.93
Before:                      After:	Before:                      After:
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSI</u> HACH

Purge Method:

- |                          |                 |
|--------------------------|-----------------|
| Bailer                   | Waterra         |
| <u>Disposable Bailer</u> | Peristaltic     |
| Middleburg               | Extraction Pump |
| Electric Submersible     | Other _____     |

Sampling Method:

- |                          |
|--------------------------|
| Bailer                   |
| <u>Disposable Bailer</u> |
| Extraction Port          |
| Dedicated Tubing         |
| Other: _____             |

.4	(Gals.) X	3	=	1.2	Gals.
1 Case Volume		Specified Volumes		Calculated Volume	

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
<u>2"</u>	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
9:52	59.5	8.4	347	>200	5	
9:53	60.4	8.2	312	>200	1	
9:54	60.5	8.1	300	>200	1.5	

Did well dewater? Yes  No  Gallons actually evacuated: 1.5

Sampling Time: 1000                      Sampling Date: 4-6-01

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

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

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

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

D.O. (if req'd):	Pre-purge: <u>.78</u> mg/L	Post-purge: _____ mg/L
ORP (if req'd):	Pre-purge: _____ mV	Post-purge: _____ mV

## WELL MONITORING DATA SHEET

Project #: 010406-Δ1	Client: PES
Sampler:	Start Date: 4-6-01
Well I.D.: TW-7	Well Diameter: (2) 3 4 6 8
Total Well Depth: 19.67	Depth to Water: 7.63
Before:                      After:	Before:                      After:
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSI</u> HACH

Purge Method:

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li><input type="checkbox"/> Bailer</li> <li><input checked="" type="checkbox"/> Disposable Bailer</li> <li><input type="checkbox"/> Middleburg</li> <li><input type="checkbox"/> Electric Submersible</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Waterra</li> <li><input type="checkbox"/> Peristaltic</li> <li><input type="checkbox"/> Extraction Pump</li> <li><input type="checkbox"/> Other _____</li> </ul> |
|--|--|

Sampling Method:

- Bailer
- Disposable Bailer
  - Extraction Port
  - Dedicated Tubing
  - Other: \_\_\_\_\_

2.4 (Gals.) X	3	= 7.2 Gals.
1 Case Volume	Specified Volumes	Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
<u>2"</u>	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
1109	60.8	6.9	836	7200	2.5	odor
1114	61.7	6.8	866	7200	5	
1119	61.9	6.8	872	7200	7.5	

Did well dewater? Yes  No  Gallons actually evacuated: 7.5

Sampling Time: 1125                      Sampling Date: 4-6-01

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

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

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

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

D.O. (if req'd):	Pre-purge: <u>0.53</u> 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**



# Entech Analytical Labs, Inc.

RECEIVED APR 25 2001

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

April 18, 2001

Andy Briefer  
PES Environmental, Inc.  
1682 Novato Boulevard, Suite 100  
Novato, CA 94947

**Order:** 25142  
**Project Name:**  
**Project Number:** BTS# 010406-A1  
**Project Notes:**

**Date Collected:** 4/6/01  
**Date Received:** 4/9/01  
**P.O. Number:** BTS# 010406-A1

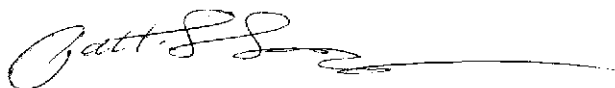
On April 09, 2001, samples were received under documented chain of custody. Results for the following analyses are attached:

<u>Matrix</u>	<u>Test</u>	<u>Method</u>
Liquid	Gas/BTEX/MTBE	EPA 8015 MOD. (Purgeable)
	MTBE by EPA 8260B	EPA 8020
		EPA 8260B

Chemical analysis of these samples has been completed. Summaries of the data are contained on the following pages. USEPA protocols for sample storage and preservation were followed.

Entech Analytical Labs, Inc. is certified by the State of California (#2346). If you have any questions regarding procedures or results, please call me at 408-588-0200.

Sincerely,



Michelle L. Anderson  
Lab Director



# Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

PES Environmental, Inc.  
 1682 Novato Boulevard, Suite 100  
 Novato, CA 94947  
 Attn: Andy Briefer

Date: 4/18/01  
 Date Received: 4/9/01  
 Project Name:  
 Project Number: BTS# 010406-A1  
 P.O. Number: BTS# 010406-A1  
 Sampled By: Client

## Certified Analytical Report

Order ID: 25142

Lab Sample ID: 25142-002

Client Sample ID: MW-2

Sample Time: 10:21 AM

Sample Date: 4/6/01

Matrix: Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	210		50	0.5	25	µg/L	N/A	4/16/01	WGC4010412	EPA 8020
Toluene	ND		50	0.5	25	µg/L	N/A	4/16/01	WGC4010412	EPA 8020
Ethyl Benzene	ND		50	0.5	25	µg/L	N/A	4/16/01	WGC4010412	EPA 8020
Xylenes, Total	ND		50	0.5	25	µg/L	N/A	4/16/01	WGC4010412	EPA 8020
			Surrogate			Surrogate Recovery			Control Limits (%)	
			aaa-Trifluorotoluene			98			65 - 135	
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	3800		50	5	250	µg/L	N/A	4/16/01	WGC4010412	EPA 8020
			Surrogate			Surrogate Recovery			Control Limits (%)	
			aaa-Trifluorotoluene			98			65 - 135	
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	2800	x	50	50	2500	µg/L	N/A	4/16/01	WGC4010412	EPA 8015 MOD. (Purgeable)
			Surrogate			Surrogate Recovery			Control Limits (%)	
			aaa-Trifluorotoluene			101			65 - 135	

DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

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



Michelle L. Anderson, Laboratory Director

Environmental Analysis Since 1983

# Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

PES Environmental, Inc.  
 1682 Novato Boulevard, Suite 100  
 Novato, CA 94947  
 Attn: Andy Briefer

Date: 4/18/01  
 Date Received: 4/9/01  
 Project Name:  
 Project Number: BTS# 010406-A1  
 P.O. Number: BTS# 010406-A1  
 Sampled By: Client

## Certified Analytical Report

Order ID: 25142      Lab Sample ID: 25142-003      Client Sample ID: TW-2  
 Sample Time: 9:45 AM      Sample Date: 4/6/01      Matrix: Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L	N/A	4/13/01	WGC4010412	EPA 8020
Toluene	ND		1	0.5	0.5	µg/L	N/A	4/13/01	WGC4010412	EPA 8020
Ethyl Benzene	ND		1	0.5	0.5	µg/L	N/A	4/13/01	WGC4010412	EPA 8020
Xylenes, Total	ND		1	0.5	0.5	µg/L	N/A	4/13/01	WGC4010412	EPA 8020

Surrogate      Surrogate Recovery      Control Limits (%)  
 aaa-Trifluorotoluene      102      65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	ND		1	5	5	µg/L	N/A	4/13/01	WGC4010412	EPA 8020


Surrogate      Surrogate Recovery      Control Limits (%)  
 aaa-Trifluorotoluene      102      65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	ND		1	50	50	µg/L	N/A	4/13/01	WGC4010412	EPA 8015 MOD. (Purgeable)

Surrogate      Surrogate Recovery      Control Limits (%)  
 aaa-Trifluorotoluene      104      65 - 135

DF = Dilution Factor      ND = Not Detected      DLR = Detection Limit Reported      PQL = Practical Quantitation Limit

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

  
 Michelle L. Anderson, Laboratory Director

Environmental Analysis Since 1983

# Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

PES Environmental, Inc.  
 1682 Novato Boulevard, Suite 100  
 Novato, CA 94947  
 Attn: Andy Briefer

Date: 4/18/01  
 Date Received: 4/9/01  
 Project Name:  
 Project Number: BTS# 010406-A1  
 P.O. Number: BTS# 010406-A1  
 Sampled By: Client

## Certified Analytical Report

Order ID: 25142	Lab Sample ID: 25142-004	Client Sample ID: TW-6								
Sample Time: 10:00 AM	Sample Date: 4/6/01	Matrix: Liquid								
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L	N/A	4/13/01	WGC4010412	EPA 8020
Toluene	ND		1	0.5	0.5	µg/L	N/A	4/13/01	WGC4010412	EPA 8020
Ethyl Benzene	ND		1	0.5	0.5	µg/L	N/A	4/13/01	WGC4010412	EPA 8020
Xylenes, Total	ND		1	0.5	0.5	µg/L	N/A	4/13/01	WGC4010412	EPA 8020
			Surrogate			Surrogate Recovery			Control Limits (%)	
			aaa-Trifluorotoluene			98			65 - 135	
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	ND		1	5	5	µg/L	N/A	4/13/01	WGC4010412	EPA 8020
			Surrogate			Surrogate Recovery			Control Limits (%)	
			aaa-Trifluorotoluene			98			65 - 135	
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	ND		1	50	50	µg/L	N/A	4/13/01	WGC4010412	EPA 8015 MOD. (Purgeable)
			Surrogate			Surrogate Recovery			Control Limits (%)	
			aaa-Trifluorotoluene			100			65 - 135	

DF = Dilution Factor      ND = Not Detected      DLR = Detection Limit Reported      PQL = Practical Quantitation Limit  
 Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

  
 Michelle L. Anderson, Laboratory Director

Environmental Analysis Since 1983

# Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

PES Environmental, Inc.  
 1682 Novato Boulevard, Suite 100  
 Novato, CA 94947  
 Attn: Andy Briefer

Date: 4/18/01  
 Date Received: 4/9/01  
 Project Name:  
 Project Number: BTS# 010406-A1  
 P.O. Number: BTS# 010406-A1  
 Sampled By: Client

## Certified Analytical Report

Order ID: 25142	Lab Sample ID: 25142-005	Client Sample ID: TW-7								
Sample Time: 11:25 AM	Sample Date: 4/6/01	Matrix: Liquid								
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	4800		50	0.5	25	µg/L	N/A	4/13/01	WGC4010412	EPA 8020
Toluene	1800		50	0.5	25	µg/L	N/A	4/13/01	WGC4010412	EPA 8020
Ethyl Benzene	2200		50	0.5	25	µg/L	N/A	4/13/01	WGC4010412	EPA 8020
Xylenes, Total	3400		50	0.5	25	µg/L	N/A	4/13/01	WGC4010412	EPA 8020
Surrogate						Surrogate Recovery			Control Limits (%)	
aaa-Trifluorotoluene						91			65 - 135	
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	990		50	5	250	µg/L	N/A	4/13/01	WGC4010412	EPA 8020
Surrogate						Surrogate Recovery			Control Limits (%)	
aaa-Trifluorotoluene						91			65 - 135	
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	22000		50	50	2500	µg/L	N/A	4/13/01	WGC4010412	EPA 8015 MOD. (Purgeable)
Surrogate						Surrogate Recovery			Control Limits (%)	
aaa-Trifluorotoluene						85			65 - 135	


DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

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

  
 Michelle L. Anderson, Laboratory Director

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Project Name:  
Project Number: BTS# 010406-A1  
P.O. Number: BTS# 010406-A1  
Sampled By: Client

## Certified Analytical Report

Order ID: 25142

Lab Sample ID: 25142-001

Client Sample ID: MW-1

Sample Time: 10:55 AM

Sample Date: 4/6/01

Matrix: Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	ND		2	5	10	µg/L	4/17/01	WMS2010413	EPA 8260B
	<b>Surrogate</b>			<b>Surrogate Recovery</b>			<b>Control Limits (%)</b>		
	4-Bromofluorobenzene			99			65 - 135		
	Dibromofluoromethane			97			57 - 139		
	Toluene-d8			102			65 - 135		

Comment: Sample diluted due to high concentrations of non-target hydrocarbons.

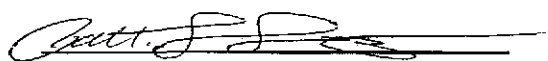
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Attn: Andy Briefer

Date: 4/18/01  
Date Received: 4/9/01  
Project Name:  
Project Number: BTS# 010406-A1  
P.O. Number: BTS# 010406-A1  
Sampled By: Client

## Certified Analytical Report

Order ID: 25142

Lab Sample ID: 25142-002

Client Sample ID: MW-2

Sample Time: 10:21 AM

Sample Date: 4/6/01

Matrix: Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	3900		50	5	250	µg/L	4/17/01	WMS2010413	EPA 8260B
	<b>Surrogate</b>				<b>Surrogate Recovery</b>		<b>Control Limits (%)</b>		
	4-Bromofluorobenzene				96		65 - 135		
	Dibromofluoromethane				90		57 - 139		
	Toluene-d8				100		65 - 135		

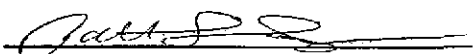
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Date: 4/18/01  
Date Received: 4/9/01  
Project Name:  
Project Number: BTS# 010406-A1  
P.O. Number: BTS# 010406-A1  
Sampled By: Client

## Certified Analytical Report

Order ID: 25142

Lab Sample ID: 25142-005

Client Sample ID: TW-7

Sample Time: 11:25 AM

Sample Date: 4/6/01

Matrix: Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	690		10	5	50	µg/L	4/17/01	WMS2010413	EPA 8260B
	<b>Surrogate</b>			<b>Surrogate Recovery</b>			<b>Control Limits (%)</b>		
	4-Bromofluorobenzene			97			65 - 135		
	Dibromofluoromethane			90			57 - 139		
	Toluene-d8			100			65 - 135		

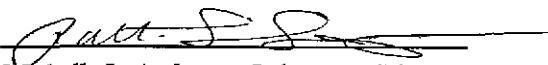
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## STANDARD LAB QUALIFIERS (FLAGS)

All Entech lab reports now reference standard lab qualifiers. These qualifiers are noted in the adjacent column to the analytical result and are adapted from the U.S. EPA CLP program. The current qualifier list is as follows:

Qualifier (Flag)	Description
U	Compound was analyzed for but not detected
J	Estimated value for tentatively identified compounds or if result is below PQL but above MDL
N	Presumptive evidence of a compound (for Tentatively Identified Compounds)
B	Analyte is found in the associated Method Blank
E	Compounds whose concentrations exceed the upper level of the calibration range
D	Multiple dilutions reported for analysis; discrepancies between analytes may be due to dilution
X	Results within quantitation range; chromatographic pattern not typical of fuel

# Entech Analytical Labs, Inc.

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## Quality Control Results Summary

QC Batch #: WMS2010413  
 Matrix: Liquid

Units: µg/L  
 Date Analyzed: 4/13/01

Parameter	Method	Blank Result	Spike Sample ID	Spike Amount	Sample Result	Spike Result	QC Type	% Recovery	RPD	RPD Limits	Recovery Limits
<b>Test: Oxygenates by EPA 8260B</b>											
Methyl-t-butyl Ether	EPA 8260B	ND		20		19.2	LCS	96.0			65.0 - 135.0
<b>Surrogate</b>			<b>Surrogate Recovery</b>			<b>Control Limits (%)</b>					
4-Bromofluorobenzene			90			65 - 135					
Dibromofluoromethane			87			57 - 139					
Toluene-d8			88			65 - 135					
<b>Test: Oxygenates by EPA 8260B</b>											
Methyl-t-butyl Ether	EPA 8260B	ND		20		20.4	LCSD	102.0	6.06	25.00	65.0 - 135.0
<b>Surrogate</b>			<b>Surrogate Recovery</b>			<b>Control Limits (%)</b>					
4-Bromofluorobenzene			92			65 - 135					
Dibromofluoromethane			92			57 - 139					
Toluene-d8			86			65 - 135					

# Entech Analytical Labs, Inc.

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## Quality Control Results Summary

QC Batch #: WGC4010412  
Matrix: Liquid

Units: µg/L  
Date Analyzed: 4/12/01

Parameter	Method	Blank Result	Spike Sample ID	Spike Amount	Sample Result	Spike Result	QC Type	% Recovery	RPD	RPD Limits	Recovery Limits
<b>Test: TPH as Gasoline</b>											
TPH as Gasoline	EPA 8015 M	ND		561		439.2	LCS	78.3			65.0 - 135.0
<b>Surrogate</b>			<b>Surrogate Recovery</b>			<b>Control Limits (%)</b>					
	aaa-Trifluorotoluene			95		65	-	135			
<b>Test: BTEX</b>											
Benzene	EPA 8020	ND		6.2		5.75	LCS	92.7			65.0 - 135.0
Ethyl Benzene	EPA 8020	ND		7.8		7.03	LCS	90.1			65.0 - 135.0
Toluene	EPA 8020	ND		35.8		33.4	LCS	93.3			65.0 - 135.0
Xylenes, total	EPA 8020	ND		43		36.7	LCS	85.3			65.0 - 135.0
<b>Surrogate</b>			<b>Surrogate Recovery</b>			<b>Control Limits (%)</b>					
	aaa-Trifluorotoluene			101		65	-	135			
<b>Test: MTBE by EPA 8020</b>											
Methyl-t-butyl Ether	EPA 8020	ND		52.8		46.3	LCS	87.7			65.0 - 135.0
<b>Surrogate</b>			<b>Surrogate Recovery</b>			<b>Control Limits (%)</b>					
	aaa-Trifluorotoluene			101		65	-	135			
<b>Test: TPH as Gasoline</b>											
TPH as Gasoline	EPA 8015 M	ND		561		436.7	LCSD	77.8	0.57	25.00	65.0 - 135.0
<b>Surrogate</b>			<b>Surrogate Recovery</b>			<b>Control Limits (%)</b>					
	aaa-Trifluorotoluene			93		65	-	135			
<b>Test: BTEX</b>											
Benzene	EPA 8020	ND		6.2		5.64	LCSD	91.0	1.93	25.00	65.0 - 135.0
Ethyl Benzene	EPA 8020	ND		7.8		6.99	LCSD	89.6	0.57	25.00	65.0 - 135.0
Toluene	EPA 8020	ND		35.8		33.8	LCSD	94.4	1.19	25.00	65.0 - 135.0
Xylenes, total	EPA 8020	ND		43		36.8	LCSD	85.6	0.27	25.00	65.0 - 135.0
<b>Surrogate</b>			<b>Surrogate Recovery</b>			<b>Control Limits (%)</b>					
	aaa-Trifluorotoluene			97		65	-	135			
<b>Test: MTBE by EPA 8020</b>											
Methyl-t-butyl Ether	EPA 8020	ND		52.8		45.3	LCSD	85.8	2.18	25.00	65.0 - 135.0
<b>Surrogate</b>			<b>Surrogate Recovery</b>			<b>Control Limits (%)</b>					
	aaa-Trifluorotoluene			97		65	-	135			

# DLAINE

SAN JOSE, CALIFORNIA 95112-1105

FAX (408) 573-7771

PHONE (408) 573-0555

TECH SERVICES, INC.

CHAIN OF

BTS# 010406-A1

CLIENT PES

SITE 230 Bay Place  
Oakland, CA

SAMPLE I.D.	DATE	TIME	MATRIX S=SOIL W=H <sub>2</sub> O	CONTAINERS		C = COMPOSITE ALL CONTAINERS	TPH - Gas (8015)	BTEX (8020)	MTBE (8020) *										
				TOTAL	W/VOA														
MW-1	9/6/01	1055	W	3	W/VOA		X	X	✓										
MW-2		1021					X	X	X										
TW-2		945					X	X	X										
TW-6		1000					X	X	X										
TW-7		1125					X	X	X										

C = COMPOSITE ALL CONTAINERS

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

EPA  RWQCB REGION \_\_\_\_\_

LIA

OTHER

SPECIAL INSTRUCTIONS

RECEIVED APR 16 2001

Invoice and Report to : PES

Attn: Chris Rossitto

\* Confirm MTBE hits by EPA 8260

ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
			25142-001
			-002
			-003
			-004
			-005

SAMPLING COMPLETED	DATE	TIME	SAMPLING PERFORMED BY	RESULTS NEEDED	
	4/6/01		Oscar Angulo	NO LATER THAN Per Client	
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
<i>[Signature]</i>	4/9/01	1:30	<i>[Signature]</i>	4/9/01	1:20
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
SHIPPED VIA	DATE SENT	TIME SENT	COOLER #		