PES Environmental, Inc.
Engineering & Environmental Services

A Report Prepared For:

Pacific Electric Motor Company
1009 66th Avenue
Oakland, California 94601

Attention: Mr. Rand Perry

QUARTERLY MONITORING REPORT
FIRST QUARTER 1999
PACIFIC ELECTRIC MOTOR COMPANY
1009 66TH AVENUE
OAKLAND, CALIFORNIA

MARCH 2, 1999

By:

Jane H. Gill
Senior Staff Geologist

William W. Mast, R.G.
Associate Engineer

618.0101.004

1682 Novato Boulevard • Suite 100 • Novato, California 94947 • TEL (415) 899-1600 • FAX (415) 899-1601

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1.0 INTRODUCTION

This report presents the results of quarterly groundwater monitoring performed by PES Environmental, Inc. (PES) during the first quarter of 1999 at Pacific Electric Motor Company (PEM) in Oakland, California (Plate 1). The current groundwater monitoring program consists of measuring the depth to groundwater in four onsite monitoring wells, and purging and sampling the monitoring wells (Wells MW-1, MW-2, MW-3, and MW-4) on a quarterly basis.

The purpose of the groundwater monitoring program is to: (1) evaluate the presence of petroleum hydrocarbons in groundwater; and (2) monitor water-level variations at the site. The quarterly monitoring program was performed in accordance with the sampling program specified in the Alameda County Environmental Health Services (ACEHS) December 1, 1998 letter *Additional Soil and Groundwater Investigation Report, 1009-66th Ave., Oakland, CA 94601* (ACEHS, 1998b) and the procedures outlined in PES' proposal dated December 11, 1998 (PES, 1998b).

2.0 BACKGROUND INFORMATION

The site is located in a residential and light industrial area in Oakland, California and is presently used to repair large electric motors. PEM formerly operated a 2,000-gallon steel gasoline underground storage tank (UST) on the east side of the warehouse building (Plate 2). The tank was reportedly installed in approximately 1975 (ENVIRON, 1997). In February 1995, the UST was removed by W. A. Craig, Inc. (WAC). Observations at the time of removal indicated that the tank was in good condition and no holes were evident. However, free-phase gasoline product was observed on the water surface in the tank excavation. Soil samples collected from the UST excavation and associated piping trenches detected total petroleum hydrocarbons as gasoline (TPH-g) at concentrations up to 10,000 milligrams per kilogram.

In April 1995, WAC performed a soil investigation consisting of nine soil borings to delineate the lateral and vertical extent of the petroleum hydrocarbons in soil. On the basis of the results of the soil investigation, WAC prepared and implemented a remediation program to remove soil affected by petroleum hydrocarbons. Approximately 1,500 cubic yards of soil were excavated and stockpiled onsite, and 116,000 gallons of petroleum hydrocarbon-affected water were pumped from the excavation and disposed. A dewatering sump installed by WAC during soil excavation was later converted to groundwater monitoring well WAC-1 (Plate 2). WAC summarized the results of their remediation program in a report entitled *Excavation and Sampling Report, Pacific Electric Motor Co., 1009 66th Avenue, Oakland, California*, dated May 12, 1997 (WAC, 1997).

ENVIRON, Inc. (ENVIRON) installed and sampled three shallow monitoring wells (MW-1, MW-2, MW-3) in June 1997 to evaluate groundwater conditions in the vicinity of the former UST. Well completion details are summarized in Table 1. The well installation program and

associated soil and groundwater sampling program was summarized in the ENVIRON report *Soil and Ground Water Investigation, Summary Report, Pacific Electric Motor Co., 1009-66th Avenue, Oakland, California*, dated July 17, 1997 (ENVIRON, 1997). ENVIRON concluded that the remediation performed had successfully removed the source of the petroleum hydrocarbons (i.e., the former UST), and that residual concentrations of petroleum hydrocarbons in soil and groundwater were present only in the immediate vicinity of the former UST.

In September 1998 PES conducted additional soil and groundwater sampling in the vicinity of the former UST, as requested by the ACEHS in a May 13, 1998 letter to PEM (ACEHS, 1998a). Two soil borings were drilled within the backfill of the former UST excavation, and one monitoring well was installed downgradient of the former UST. Petroleum hydrocarbons were generally not detected in the excavation backfill, although groundwater samples collected from both soil borings indicated the presence of methyl tert-butyl ether (MTBE), a gasoline additive. Elevated petroleum hydrocarbons were found in soil and groundwater downgradient of the UST excavation during installation and groundwater sampling of monitoring well MW-4. On the basis of the elevated concentrations of petroleum hydrocarbons, PES recommended four quarters of additional groundwater monitoring. The additional investigation was summarized in the PES report *Results of Additional Soil and Groundwater Investigation, 1009 66th Avenue, Oakland, California*, dated November 11, 1998 (PES, 1998a).

3.0 WATER-LEVEL MEASUREMENTS

Water levels in four onsite groundwater monitoring wells (Wells MW-1, MW-2, MW-3 and MW-4) were measured by Blaine Tech Services, Inc. (Blaine Tech) of San Jose, California, under the direct supervision of PES, prior to sampling on January 19, 1999. Because of its uncertain construction, ACEHS stated that no further monitoring of Well WAC-1 is required (ACEHS, 1997). Depth-to-water in the monitoring wells was measured from the top-of-casing (TOC) reference benchmark to a precision of 0.01-feet using an electronic water-level indicator/interface probe. Depth-to-water measurements were converted to water-level elevations by subtracting the depth to water from the TOC elevation referenced to a site datum established by ENVIRON (ENVIRON, 1997). Free product was not observed in any of the monitoring wells. A petroleum hydrocarbon odor was observed in MW-4.

To prevent cross-contamination between wells, the portion of the water-level indicator that was submerged in the well was cleaned between well measurements using a phosphate-free detergent/deionized water solution and double rinsed with deionized water.

4.0 GROUNDWATER SAMPLING

On January 19, 1999, Blaine Tech under the direct supervision of PES collected Groundwater samples from Wells MW-1, MW-2, MW-3, and MW-4. For the reasons described above, no

samples were collected from Well WAC-1. Groundwater samples were collected from each well after removing approximately three well volumes of water with disposable bailers. During well purging, the discharged water was monitored for pH, temperature, electrical conductivity, and turbidity.

Following purging, samples were collected from the wells using a stainless steel or Teflon disposable bailer and transferred to the appropriate laboratory sample containers. The sample containers were filled slowly to minimize sample volatilization and to ensure that the sample was free of air bubbles. The samples were labeled to designate sample number, time and date collected, and analysis required. The samples were immediately placed in a chilled, thermally-insulated cooler. To prevent cross-contamination between wells, the pump and stainless steel bailer were decontaminated using a high-pressure steam cleaner prior to initial use and after sampling at each well. Sampling procedures are documented in the groundwater sampling report prepared by Blaine Tech, included in Appendix A.

Groundwater samples were transported under chain-of-custody protocol to a state-certified laboratory. Entech Analytical Labs of Sunnyvale, California analyzed samples for: (1) total petroleum hydrocarbons quantified as gasoline (TPH-g) using EPA Test Method 8015 Modified; (2) benzene, toluene, ethylbenzene, and total xylenes (BTEX) using EPA Test Method 8020; and (3) methyl tert-butyl ether (MTBE) using EPA Test Method 8020. Detected concentrations of MTBE were confirmed using EPA Test Method 8260. The laboratory reports and chain-of-custody records are included in Appendix B.

5.0 DISCUSSION OF MONITORING RESULTS

This section presents a summary of water-level measurements and groundwater analyses results from the January 1999 sampling event.

5.1 Water-Level Measurements

Depth-to-water measurements for January 1999 ranged from 5.26 feet (MW-2) to 5.59 feet (MW-4) below the TOC. Groundwater water-level elevations ranged from 94.48 feet (MW-3) to 95.34 feet (MW-1) referenced to site datum established by ENVIRON (ENVIRON, 1997). Depth-to-water measurements and calculated water-level elevations since installation of the monitoring wells in June 1997 and for the current period are presented in Table 2.

Plate 3 presents water-level elevation contours developed from water levels measured on January 19, 1999. The contoured water-level elevations indicate that groundwater flow is generally to the southwest. This flow direction is generally consistent with previous observations, and has shifted only slightly from the flow direction observed in October 1998. The groundwater gradient is approximately 0.008 foot per foot (ft/ft).

5.2 Groundwater Chemistry

A summary of laboratory chemical analyses for petroleum hydrocarbons since well installation in June 1997 and for the current period is presented in Table 3. The analytical laboratory reports and chain-of-custody forms are presented in Appendix B.

Petroleum hydrocarbon compounds were detected in the groundwater samples from Wells MW-1 and MW-4. At Well MW-1, TPH-g was detected at a concentration of 1,000 micrograms per liter (μg/L), and benzene, ethylbenzene, and xylenes were detected at concentrations of 40, 18, and 68 μg/L, respectively. MTBE was detected at a concentration of 8.3 μg/L using EPA Test Method 8020 and confirmed at a concentration of 6.9 using EPA Test Method 8260. These concentrations are higher than those observed during the December 1997 and March 1998 groundwater monitoring events, but significantly lower than concentrations observed in June and September 1997.

At Well MW-4, TPH-g was detected at a concentration of 2,600 μg/L, and benzene, toluene, ethylbenzene, and xylenes were detected at concentrations of 1,700, 3.8, 25, and 29 μg/L, respectively. MTBE was detected and confirmed at concentrations of 13,000 and 16,000 μg/L using EPA Test Methods 8020 and 8260, respectively. Petroleum hydrocarbon concentrations at Well MW-4 are significantly lower than those observed in September 1998.

A trace amount of benzene (0.78 μg/L) was detected in the groundwater sample from Well MW-3. MTBE was detected at a concentration of 8.7 μg/L in Well MW-3 using EPA Test Method 8020, but was not detected during confirmation analysis using EPA Test Method 8260. No petroleum hydrocarbons were detected in the groundwater sample from Well MW-2. In general, the low concentrations or absence of petroleum hydrocarbon compounds in wells MW-2 and MW-3 is consistent with results for the four previous monitoring events.

6.0 REFERENCES

Alameda County Environmental Health Services (ACEHS), 1997. *Soil and Groundwater Investigation for Pacific Electric Motor Co., 1009-66th Ave., Oakland, CA 94601.* August 19.

_____, 1998a. *Evaluation of Residual Health Risks at Pacific Electric Motor Company, 1009 66th Avenue, Oakland, CA 94601.* May 13.

_____, 1998b. *Additional Soil and Groundwater Investigation Report, 1009 66th Ave., Oakland, 94601.* December 1.

ENVIRON Corporation, 1997. *Soil and Groundwater Investigation, Summary Report, Pacific Electric Motor Co., 1009-66th Avenue, Oakland, California.* July 17.

PES Environmental, Inc. (PES), 1998a. *Results of Additional Soil and Groundwater Investigation, 1009 66th Avenue, Oakland, California.* November 11.

_____, 1998b. *Proposal, Quarterly Groundwater Sampling, Pacific Electric Motor Company, Oakland, California.* December 11.

W. A. Craig, Inc. (*WAC*), 1997. *Excavation and Sampling Report, Pacific Electric Motor Co., 1009 66th Avenue, Oakland, California.* May 12. (Partial)

Table 1. Monitoring Well Completion Details
Pacific Electric Motor Company
1009 66th Avenue
Oakland, California

Well Number	Date Installed	Installed By	TOC Elevation (feet*)	Boring Diameter (inches)	Casing Diameter (inches)	Total Depth Boring (feet bgs)	Total Depth of Casing (feet bgs)	Screened Interval Depth (feet bgs)	
								Top	Bottom
MW-1	6/10/97	ENVIRON	101.04	8	2	26.5	25.5	5	25
MW-2	6/10/97	ENVIRON	100.12	8	2	25.5	25.5	5	25
MW-3	6/10/97	ENVIRON	100.23	8	2	25.5	25.5	5	25
MW-4	9/14/98	PES	100.32	8	2	25.0	25.0	15	25

Notes:
* = Referenced to site datum established by ENVIRON (1997).
bgs = Below ground surface.

Table 2. Water-Level Elevation Data
Quarterly Monitoring Program
Pacific Electric Motor Company
1009 66th Avenue, Oakland, California

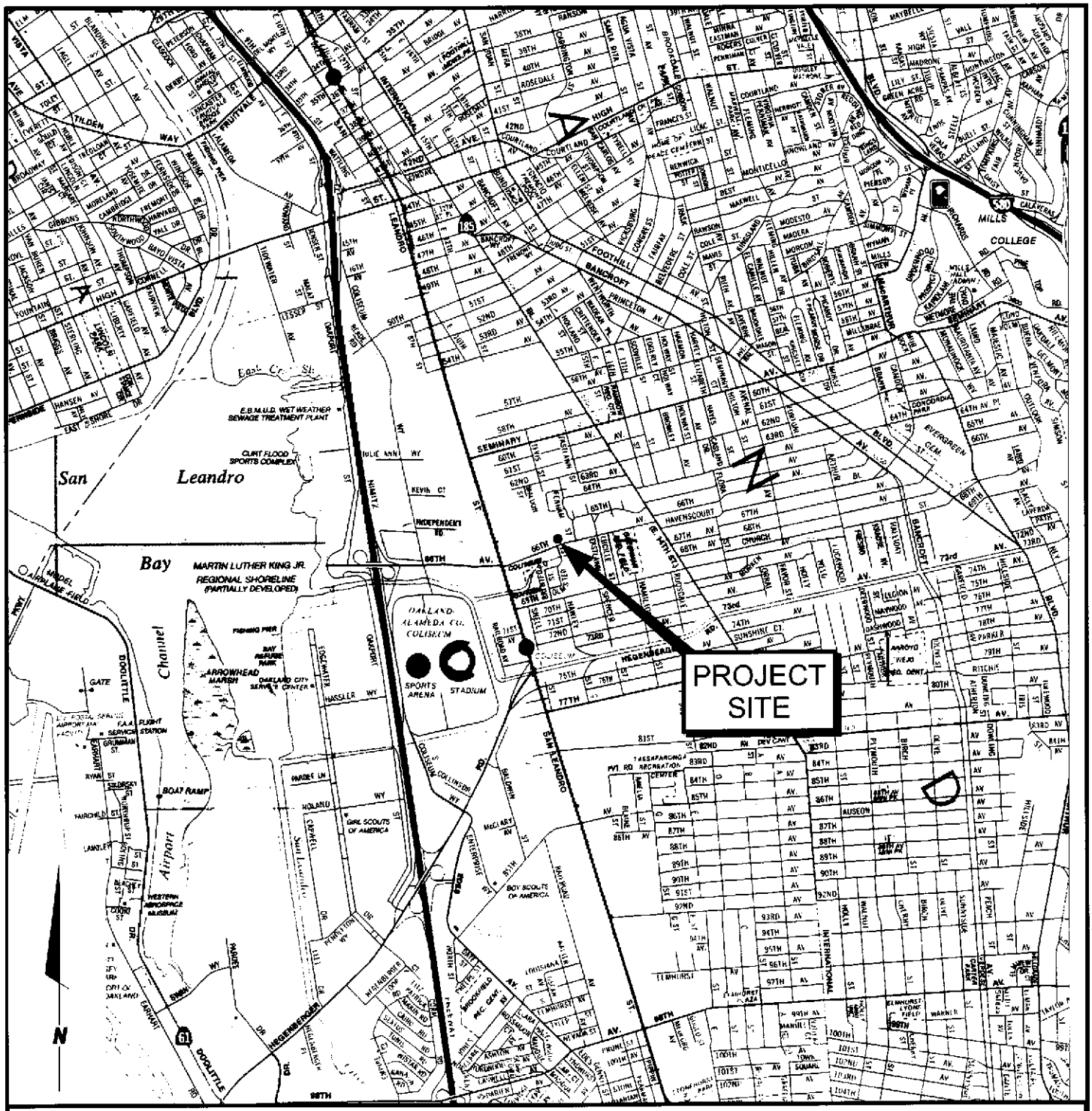
Well Number	Date	Measured By	Top of Casing Elevation (feet*)	Depth to Water (feet BTOC)	Water-level Elevation (feet*)
MW-1	6/19/97	ENVIRON	100.67	5.87	94.80
	7/1/97	ENVIRON	100.67	5.88	94.79
	9/29/97	PES	100.67	6.45	94.22
	12/16/97	PES	100.67	3.42	97.25
	3/10/98	PES	100.67	3.06	97.61
	10/1/98	PES	100.67	6.36	94.31
	1/19/99	PES	100.67	5.33	95.34
MW-2	6/19/97	ENVIRON	99.85	5.30	94.55
	7/1/97	ENVIRON	99.85	5.37	94.48
	9/29/97	PES	99.85	6.05	93.80
	12/16/97	PES	99.85	3.81	96.04
	3/10/98	PES	99.85	2.89	96.96
	10/1/98	PES	99.85	5.83	94.02
	1/19/99	PES	99.85	5.26	94.59
MW-3	6/19/97	ENVIRON	99.93	5.50	94.43
	7/1/97	ENVIRON	99.93	5.52	94.41
	9/29/97	PES	99.93	6.16	93.77
	12/16/97	PES	99.93	5.52	94.41
	3/10/98	PES	99.93	3.11	96.82
	10/1/98	PES	99.93	5.96	93.97
	1/19/99	PES	99.93	5.45	94.48
MW-4	10/1/98	PES	100.32	6.32	94.00
	1/19/99	PES	100.32	5.59	94.73

Notes:
* = Referenced to site datum established by ENVIRON (1997).
BTOC = Below top of casing.

Table 3. Analytical Results for Groundwater Samples - Organics
Quarterly Groundwater Monitoring Report
First Quarter 1999
Pacific Electric Motor Company
1009 66th Avenue, Oakland, California

Sample Location	Date Sampled	Sampled By	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	MTBE EPA 8020 (µg/L)	MTBE EPA 8260 (µg/L)
MW-1	6/19/97	ENVIRON	18,000	3,300	200	1,100	4,900	<250	--
	9/29/97	PES	29,000	4,800	<25	2,000	3,500	<250	--
	12/16/97	PES	<50	1.3	<0.5	0.6	0.7	<5	--
	3/10/98	PES	190	2.0	<0.5	5.7	1.7	<5	--
	1/19/99	PES	1,000	40	<0.5	18	68	8.3	6.9
MW-2	6/19/97	ENVIRON	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	9/29/97	PES	<50	<0.5	<0.5	<0.5	<0.5	<5	--
	12/16/97	PES	<50	<0.5	<0.5	<0.5	<0.5	<5	--
	3/10/98	PES	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	1/19/99	PES	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<5.0
MW-3	6/19/97	ENVIRON	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	9/29/97	PES	<50	<0.5	<0.5	<0.5	<0.5	<5	--
	12/16/97	PES	<50	<0.5	<0.5	<0.5	<0.5	<5	--
	3/10/98	PES	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
	1/19/99	PES	<50	0.78	<0.5	<0.5	<0.5	8.7	<5.0
MW-4	9/15/98	PES	170,000	26,000	32,000	2,900	18,000	26,000	--
	1/19/99	PES	2,600	1,700	3.8	25	29	13,000	16,000

Notes:
TPH-g = Total petroleum hydrocarbons quantified as gasoline (EPA 8015M).
MTBE = Methyl tert-butyl ether (EPA 8020; detected concentrations were confirmed by EPA 8260.)
µg/L = Micrograms per liter.
<50 = Not detected at or above the laboratory reporting limit indicated.



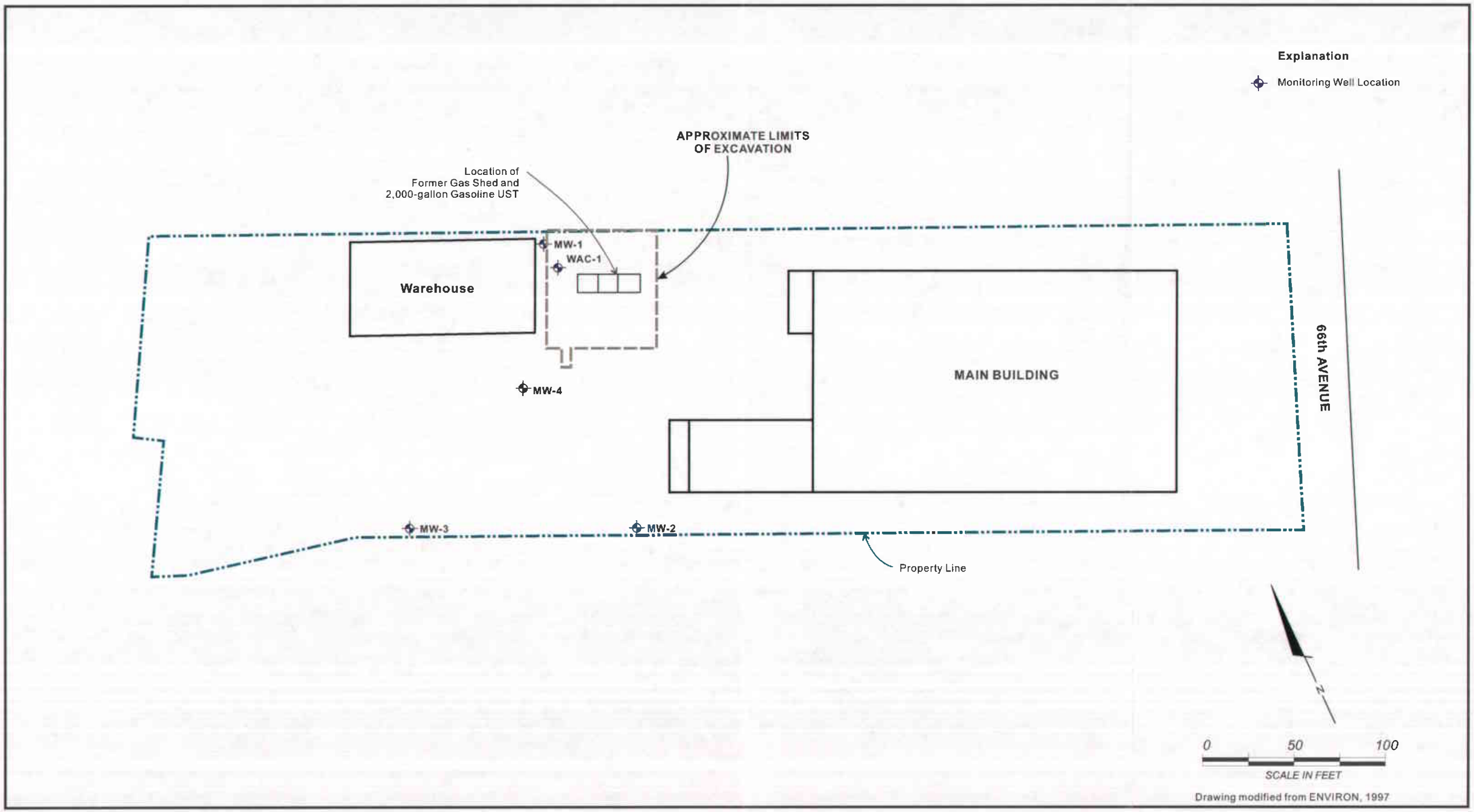
Oakland Map, California State Automobile Association, 1997.

PES Environmental, Inc.
Engineering & Environmental Services

Site Location Map
Pacific Electric Motor Company
1009 66th Avenue
Oakland, California

PLATE
1

618.0101.004	6180101002_V1.CDR	WWM	2/99
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE

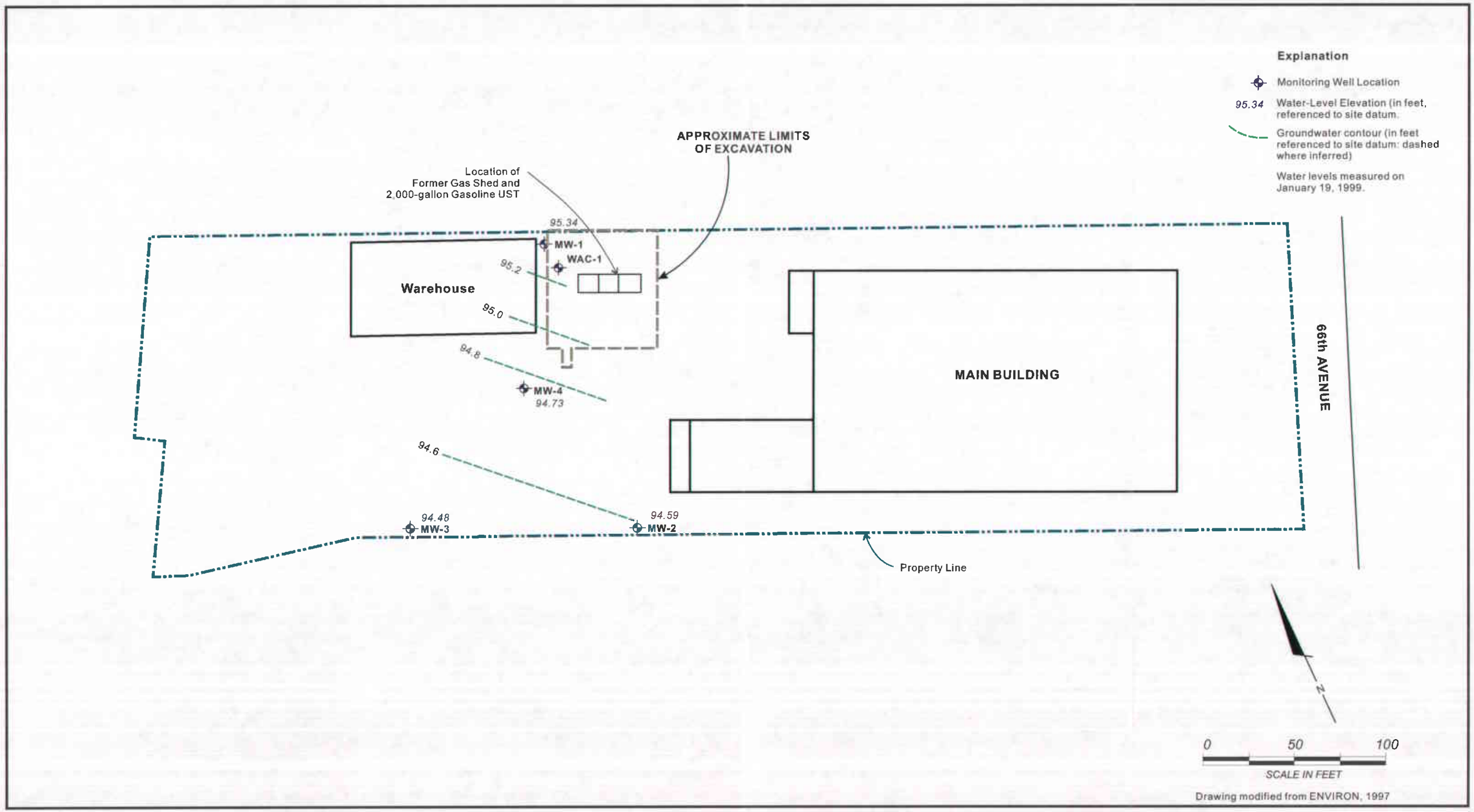


PES Environmental, Inc.
Engineering & Environmental Services

Site Plan and Monitoring Well Locations
Pacific Electric Motor Company
1009 66th Avenue
Oakland, California

PLATE
2

618.0101.004	6180101003_S99.CDR	WWM	2/99
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE



PES Environmental, Inc.
Engineering & Environmental Services

Water-Level Elevation Map
Pacific Electric Motor Company
1009 66th Avenue
Oakland, California

PLATE
3

618.0101.004	6180101003_S99.CDR	WWM	2/99
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE

APPENDIX A

GROUNDWATER SAMPLING REPORT

BLAINE
TECH SERVICES INC.

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

February 12, 1999

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

ATTN: Jane Gill

Site:
Pacific Electric Motor Company
1099 66th Ave.
Oakland, California

Date:
January 19, 1999

GROUNDWATER SAMPLING REPORT 990119-Z-1

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

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

STANDARD PRACTICES

Evacuation and Sampling Equipment

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

Samples were collected using bailers.

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

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

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

Decontamination

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

Effluent Materials

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

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

Sampling Methodology

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

Sample Containers

Sample containers are supplied by the laboratory performing the analyses.

Sample Handling Procedures

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

Sample Designations

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

Chain of Custody

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

Hazardous Materials Testing Laboratory

The samples obtained at this site were delivered to Entech in Sunnyvale, California. Entech is certified by the California Department of Health Services as a Hazardous Materials Testing Laboratory, and is listed as DOHS HMTL #2224.

Personnel

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

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

Reportage

Submission to the Regional Water Quality Control Board and the local implementing agency should include copies of the sampling report, the chain of custody and the certified analytical report issued by the Hazardous Materials Testing Laboratory.

Please call if we can be of any further assistance.

for:
William Jones

WRJ/pc

attachments: table of well monitoring data
chain of custody

TABLE OF WELL MONITORING DATA

Well I.D.	MW-1			MW-2			MW-3			MW-4		
Date Sampled	01/19/99			01/19/99			01/19/99			01/19/99		
Well Diameter (in.)	2			2			2			2		
Total Well Depth (ft.)	25.08			25.04			25.00			24.90		
Depth To Water (ft.)	5.33			5.26			5.45			5.59		
Free Product (in.)	NONE			NONE			NONE			NONE		
Reason If Not Sampled	--			--			--			--		
1 Case Volume (gal.)	3.2			3.2			3.1			3.1		
Did Well Dewater?	NO			NO			NO			NO		
Gallons Actually Evacuated	9.75			9.75			9.5			9.3		
Purging Device	BAILER			BAILER			BAILER			BAILER		
Sampling Device	BAILER			BAILER			BAILER			BAILER		
Time	09:35	09:39	09:43	08:56	09:00	09:03	09:13	09:17	09:20	09:55	09:59	10:03
Temperature (Fahrenheit)	64.6	64.2	63.8	62.4	61.8	61.6	63.6	62.0	61.8	69.2	68.6	67.8
pH	7.8	7.6	7.7	7.6	7.8	7.7	7.3	7.2	7.2	6.4	6.4	6.3
Conductivity (micromhos/cm)	1800	1300	1500	1400	1200	1000	6500	4500	4000	7500	6500	6000
Nephelometric Turbidity Units	180	85	76	>200	>200	>200	>200	>200	>200	>200	>200	>200
Dissolved Oxygen (D.O) (mg/L)	--			--			--			--		
Oxidation Reduction Potential (:	--			--			--			--		
BTS Chain of Custody	990119-Z1			990119-Z1			990119-Z1			990119-Z1		
BTS Sample I.D.	MW-1			MW-2			MW-3			MW-4		
DOHS HMTL Laboratory	ENTECH			ENTECH			ENTECH			ENTECH		
Analysis	TPH-G, BTEX, MTBE			TPH-G, BTEX, MTBE			TPH-G, BTEX, MTBE			TPH-G, BTEX, MTBE		

APPENDIX B

LABORATORY REPORT
AND
CHAIN-OF-CUSTODY RECORDS

RECEIVED JAN 2 9 1999

Entech Analytical Labs, Inc.

CA ELAP# 2224

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

PES Environmental, Inc.
1682 Novato Boulevard, Suite 100
Novato, CA 94947
Attn: Will Mast

Date: 1/27/99
Date Received: 1/20/99
Project:
PO #:
Sampled By: Client

Certified Analytical Report

Water Sample Analysis:

Sample ID	MW1			MW2			MW3				
Sample Date	1/19/99			1/19/99			1/19/99				
Sample Time	9:45			9:05			9:23				
Lab #	G2107			G2108			G2109				
	Result	DF	DLR	Result	DF	DLR	Result	DF	DLR	PQL	Method
Results in µg/Liter:											
Analysis Date	1/21/99			1/21/99			1/21/99				
TPH-Gas	**1,000**	1.0	50	**ND**	1.0	50	**ND**	1.0	50	50	8015M
MTBE	**8.3**	1.0	5.0	**ND**	1.0	5.0	**8.7**	1.0	5.0	5.0	8020
Benzene	**40**	1.0	0.50	**ND**	1.0	0.50	**0.78**	1.0	0.50	0.50	8020
Toluene	**ND**	1.0	0.50	**ND**	1.0	0.50	**ND**	1.0	0.50	0.50	8020
Ethyl Benzene	**18**	1.0	0.50	**ND**	1.0	0.50	**ND**	1.0	0.50	0.50	8020
Xylenes	**68**	1.0	0.50	**ND**	1.0	0.50	**ND**	1.0	0.50	0.50	8020
Analysis Date	1/27/99			1/27/99			1/27/99				
MTBE	**6.9**	1.0	5.0	**ND**	1.0	5.0	**ND**	1.0	5.0	5.0	8260

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 #2224)

Michelle L. Anderson, Lab Director

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# 2224

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

PES Environmental, Inc.
1682 Novato Boulevard, Suite 100
Novato, CA 94947
Attn: Will Mast

Date: 1/27/99
Date Received: 1/20/99
Project:
PO #:
Sampled By: Client

Certified Analytical Report

Water Sample Analysis:

Sample ID	MW4										
Sample Date	1/19/99										
Sample Time	10:05										
Lab #	G2110										
	Result	DF	DLR							PQL	Method
Results in µg/Liter:											
Analysis Date	1/21-1/22/99										
TPH-Gas	**2,600**	1.0	50							50	8015M
MTBE	**13,000**	100	500							5.0	8020
Benzene	**1,700**	100	50							0.50	8020
Toluene	**3.8**	1.0	0.50							0.50	8020
Ethyl Benzene	**25**	1.0	0.50							0.50	8020
Xylenes	**29**	1.0	0.50							0.50	8020
Analysis Date	1/27/99										
MTBE	**16,000**	250	1250							5.0	8260

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 #2224)

Michelle L. Anderson, Lab Director

Entech Analytical Labs, Inc.

525 Del Rey Ave., Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

Volatile Organic Compounds

QC Batch #: WGCMS990125
Matrix: Water
Units: µg/L

Date analyzed: 01/25/99
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	25	ND	23	**93**	22	**87**	6.2	25	50-150
Methyl-tert-butyl ether	8240/8260	25	ND	29	**116**	27	**106**	8.6	25	50-150
Benzene	8240/8260	25	ND	24	**95**	23	**90**	5.6	25	50-150
Trichloroethene	8240/8260	25	ND	27	**109**	25	**101**	7.6	25	50-150
Toluene	8240/8260	25	ND	26	**102**	24	**94**	8.2	25	50-150
Chlorobenzene	8240/8260	25	ND	25	**98**	23	**91**	7.6	25	50-150

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
- NC: Not Calculated

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

METHOD: Gas Chromatography

QC Batch #: GBG4990122
Matrix: Water
Units: µg/L

Date Analyzed: 01/22/99
Quality Control Sample: Blank Spike

PARAMETER	Method #	MB µg/L	SA µg/L	SR µg/L	SP µg/L	**SP % R**	SPD µg/L	**SPD %R**	RPD	QC LIMITS RPD	QC LIMITS %R
Benzene	8020	<0.50	40	ND	39	**97**	39	**98**	1.4	25	86-109
Toluene	8020	<0.50	40	ND	39	**98**	40	**101**	2.5	25	83-111
Ethyl Benzene	8020	<0.50	40	ND	38	**95**	39	**98**	4.0	25	86-109
Xylenes	8020	<0.50	120	ND	112	**94**	116	**97**	4	25	84-111
Gasoline	8015	<50.0	500	ND	495	**99**	427	**85**	14.8	25	79-110

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

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

Definition of Terms:

na: Not Analyzed in QC batch
MB: Method Blank
SA: Spike Added
SR: Sample Result
RPD(%): Duplicate Analysis - Relative Percent Difference
SP: Spike Result
SP (%R): Spike % Recovery
SPD: Spike Duplicate Result
SPD (%R): Spike % Recovery
NC: Not Calculated

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

METHOD: Gas Chromatography

QC Batch #: GBG4990120
Matrix: Water
Units: µg/L

Date Analyzed: 01/20/99
Quality Control Sample: Blank Spike

PARAMETER	Method #	MB µg/L	SA µg/L	SR µg/L	SP µg/L	**SP % R**	SPD µg/L	**SPD %R**	RPD	QC LIMITS RPD	QC LIMITS %R
Benzene	8020	<0.50	40	ND	39	**97**	38	**95**	2.3	25	86-109
Toluene	8020	<0.50	40	ND	38	**95**	37	**93**	2.8	25	83-111
Ethyl Benzene	8020	<0.50	40	ND	39	**97**	39	**99**	1.3	25	86-109
Xylenes	8020	<0.50	120	ND	118	**98**	117	**98**	0	25	84-111
Gasoline	8015	<50.0	500	ND	495	**99**	530	**106**	6.9	25	79-110

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

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

Definition of Terms:

na: Not Analyzed in QC batch
MB: Method Blank
SA: Spike Added
SR: Sample Result
RPD(%): Duplicate Analysis - Relative Percent Difference
SP: Spike Result
SP (%R): Spike % Recovery
SPD: Spike Duplicate Result
SPD (%R): Spike % Recovery
NC: Not Calculated

BLAINE
TECH SERVICES INC.

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

CHAIN OF CUSTODY BTS #990119-21

CLIENT PES

SITE PACIFIC ELECTRIC MOTOR
1099 66TH AVE
OAKLAND, CA

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
ATTN: WILL MAST

* CONFIRM MTBE DETECTIONS BY EPA 8240/8260

CONDUCT ANALYSIS TO DETECT

C = COMPOSITE ALL CONTAINERS

SAMPLE I.D.	Date	Time	MATRIX S = SOIL W = H2O	CONTAINERS TOTAL	C	* TPH-G / BTEX / MTBE	MTBE by 8260 Added Per Will Mast on 1/21/99 @ 1:42 PM	ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
MW1	1/19	945	W	3		X	X				G2107
MW2	↓	905		↓		X	X				G2108
MW3		923				X	X				G2109
MW4		1005				X	X				G2110

SAMPLING COMPLETED	DATE	TIME	SAMPLING PERFORMED BY	RESULTS NEEDED NO LATER THAN
	1/19	1030	Jeremy	STANDARD

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
[signature]	1/20/99	1251	S. McNeil	1-20-99	12:51
S. McNeil	1/20/99	1:42			
			Entranco	1/20/99	2:40pm

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #

DISTRIBUTION

QUARTERLY MONITORING REPORT
FIRST QUARTER 1999
PACIFIC ELECTRIC MOTOR COMPANY
1009 66TH AVENUE
OAKLAND, CALIFORNIA

MARCH 2, 1999

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