

A Report Prepared For:

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

Attention: Mr. Rand Perry

SECOND QUARTER 2000
GROUNDWATER MONITORING REPORT
PACIFIC ELECTRIC MOTOR COMPANY
1009 66TH AVENUE
OAKLAND, CALIFORNIA

SEPTEMBER 5, 2000

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618.001.02.002

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1.0 INTRODUCTION

This report presents the results of quarterly groundwater monitoring performed by PES Environmental, Inc. (PES) during the second quarter of 2000 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). Because of its uncertain construction, ACEHS stated that no monitoring of Well WAC-1 is required (ACEHS, 1997). 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 May 18, 2000. 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.

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 May 18, 2000, Blaine Tech, under the direct supervision of PES, collected groundwater samples from Wells MW-1, MW-2, MW-3, and MW-4. 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 March 2000 sampling event.

5.1 Water-Level Measurements

Depth-to-water measurements during the March 2000 event ranged from 4.04 feet (MW-2) to 4.40 feet (MW-4) below TOC. Groundwater water-level elevations ranged from 95.77 feet (MW-3) to 96.33 feet (MW-1) referenced to site datum established by ENVIRON (ENVIRON, 1997). Historical and current depth-to-water measurements and calculated water-level elevations are presented in Table 2.

Plate 3 presents water-level elevation contours developed from water levels measured on May 18, 2000. The water-level elevation contours indicate that groundwater flow is generally to the southwest. The observed flow direction differs slightly from the southern flow direction observed during the March 2000 monitoring event, but is within the historical range of

observed groundwater flow direction. The groundwater gradient is approximately 0.004 foot per foot (ft/ft).

5.2 Groundwater Chemistry

A summary of current and historical laboratory chemical results for petroleum hydrocarbons is presented in Table 3. The analytical laboratory reports and chain-of-custody forms are presented in Appendix B.

During the current monitoring period petroleum hydrocarbon compounds were detected in groundwater samples from Well MW-1 and MW-4.

No petroleum hydrocarbon compounds were detected in the samples collected from Wells MW-2, and MW-3 during the current sampling event. Low concentrations had been last detected in these wells during early 1999 sampling events.

At Well MW-1, TPH-g, benzene, toluene, ethyl benzene, and xylenes were detected at concentrations of 1,300, 10, 1.2, 38 and 130 micrograms per liter (μ g/L), respectively. MTBE was detected at a concentration of 8.6 μ g/L using EPA Test Method 8020. MTBE was not detected in the sample collected from Well MW-1 when analyzed by EPA Test Method 8260. Although petroleum hydrocarbon concentrations in Well MW-1 have fluctuated over the past year, concentrations have generally decreased since June 1997.

At Well MW-4, TPH-g, benzene, toluene, ethyl benzene, and xylenes were detected at concentrations of 91,000, 15,000, 10,000, 2,200 and 9,600 μ g/L, respectively. MTBE was detected at a concentration of 64,000 μ g/L using EPA Test Methods 8020 and confirmed at a concentration of 77,000 μ g/L using EPA Test Method 8260.

Current data from the downgradient monitoring wells (MW-2 and MW-3), consistent with that of the November 1999 event, appear to indicate that the petroleum hydrocarbon plume associated with the former UST remains stable and localized. Current data from Well MW-1 indicates a slight increase in petroleum hydrocarbon concentrations from the March 2000 sampling event, though current data remains consistent with historical concentrations. Petroleum hydrocarbon concentrations detected in Well MW-4 are consistent with concentrations observed during the March 2000 sampling event.

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 Co. 1009 66th Avenue, Oakland, CA 94601. May 13. | mpany, |
|---|---------------|
| , 1998b. Additional Soil and Groundwater Investigation Report, 1009 66th Oakland, 94601. December 1. | ı Ave., |
| ENVIRON Corporation, 1997. Soil and Groundwater Investigation, Summary Re- Electric Motor Co., 1009-66th Avenue, Oakland, California. July 17. | port, Pacific |
| PES Environmental, Inc. (PES), 1998a. Results of Additional Soil and Groundwa Investigation, 1009 66th Avenue, Oakland, California. November 11. | ter |
| , 1998b. Proposal, Quarterly Groundwater Sampling, Pacific Electric Mod Company, Oakland, California. December 11. | tor |

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

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Table 1. Monitoring Well Completion Details Quarterly Monitoring Report Second Quarter 2000 **Pacific Electric Motor Company** 1009 66th Avenue, Oakland, California

| Well | Date | installed | TOC Elevation | Boring Diameter | Casing Diameter | Total Depth Boring | Total Depth of Casing | | ed Interval |
|--------|-----------|-----------|------------------|--------------------|--------------------|-----------------------|-----------------------|-----|-------------|
| Number | Installed | Ву | (feet*) | (inches) | (inches) | (feet bgs) | (feet bgs) | Тор | 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 Report Second Quarter 2000 Pacific Electric Motor Company 1009 66th Avenue, Oakland, California

| Well | Date | Measured | Top of Casing Elevation | Depth to Water | Water-leve |
|--------|-----------|----------------|----------------------------|-------------------|------------|
| | Date | | (feet*) | (feet BTOC) | Elevation |
| Number | | Ву | (reer) | (leer B (OC) | (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 |
| | 4/15/99 | PES | 100.67 | 3.23 | 97.44 |
| | 5/6/99 | PES | 100.67 | 4.36 | 96.31 |
| | 7/30/99 | PES | 100.67 | 5.49 | 95.18 |
| | 11/15/99 | PES | 100.67 | 6.30 | 94.37 |
| | 3/24/00 | PES | 100.67 | 3.47 | 97.20 |
| | 5/18/00 | PES | 100.67 | 4.34 | 96.33 |
| | _,,,,,,,, | | • | | |
| 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 |
| | 4/15/99 | PES | 99.85 | 3.19 | 96.66 |
| | 5/6/99 | PES | 99.85 | 3.91 | 95,94 |
| | 7/30/99 | PES | 99.85 | 4.79 | 95.06 |
| | 11/15/99 | PES | 99.85 | 5.92 | 93.93 |
| | 3/24/00 | PES | 99.85 | 3.55 | 96.30 |
| | 5/18/00 | PES | 99.85 | 4.04 | 95.81 |
| 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 |
| | 4/15/99 | PES | 99.93 | 3.85 | 96.08 |
| | 5/6/99 | PES | 99.93 | 4.12 | 95.81 |
| | 7/30/99 | PES | 99.93 | 5.14 | 94.79 |
| | 11/15/99 | PES | 99.93 | 6.35 | 93.58 |
| | 3/24/00 | PES | 99.93 | 3.29 | 96.64 |
| | 5/18/00 | PES | 99.93 | 4,16 | 95.77 |

Table 2. Water-Level Elevation Data Quarterly Monitoring Report Second Quarter 2000 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-leve Elevation (feet*) | |
|----------------|----------|----------------|---------------------------------------|----------------------------------|------------------------------------|--|
| MW-4 | 10/1/98 | PES | 100.32 | 6.32 | 94.00 | |
| | 1/19/99 | PES | 100.32 | 5.59 | 94.73 | |
| • | 4/15/99 | PES | 100.32 | 7.71 # | 92.61 # | |
| | 5/6/99 | PES | 100.32 | 4.50 | 95.82 | |
| | 7/30/99 | PES | 100.32 | 5.18 | 95.14 | |
| | 11/15/99 | PES | 100.32 | 6.27 | 94.05 | |
| | 3/24/00 | PES | 100.32 | 3.59 | 96.73 | |
| | 5/18/00 | PES | 100.32 | 4.40 | 95.92 | |

Notes:

BTOC = Below top of casing.

^{* =} Referenced to site datum established by ENVIRON (1997).

^{# =} Anomalous data, not used for water-level elevation contouring.

Table 3. Analytical Results for Groundwater Samples
Quarterly Monitoring Report
Second Quarter 2000
Pacific Electric Motor Company
1009 66th Avenue, Oakland, California

| | | | | | | Ethyl- | | MTBE | MTBE |
|----------|----------|----------------|--------|---------|---------|---------|---------|----------|----------|
| Sample | Date | Sampled | TPH-g | Benzene | Toluene | benzene | Xylenes | EPA 8020 | EPA 8260 |
| Location | Sampled | Ву | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (μg/L) | (µg/L) | (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 |
| | 4/15/99 | PES | <50 | 0.92 | 0.9 | 0.7 | 0.87 | <5.0 | |
| | 7/30/99 | PES | 1,400 | 60 | <0.5 | 63 | 120 | 13 | <5.0 |
| | 11/15/99 | PES | 3,600 | 120 | <0.5 | 150 | 620 | <5.0 | |
| | 3/24/00 | PES | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | } |
| | 5/18/00 | PES | 1,300 | 10 | 1.2 | 38 | 130 | 8.6 | <5.0 |
| | | | | | | | | | |
| 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 |
| | 4/15/99 | PES | <50 | 0.75 | 0.64 | <0.5 | 0.74 | <5.0 | |
| | 7/30/99 | PES | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 11/15/99 | PES | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 3/24/00 | PES | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 5/18/00 | PES | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <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 | |
| i | 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 |
| | 4/15/99 | PES | <50 | 5.4 | 3.9 | 1.7 | 5.6 | 23 | 25 |
| | 7/30/99 | PES | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 11/15/99 | PES | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 3/24/00 | PES | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | 5/18/00 | PES | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | |
| | | | | | | | | | |

Table 3. Analytical Results for Groundwater Samples Quarterly Monitoring Report Second Quarter 2000 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) | Ethył- benzene (µg/L) | Xylenes (μg/L) | MTBE EPA 8020 (µg/L) | MTBE EPA 8260 (µg/L) |
|--------------------|-----------------|---------------|-----------------|-------------------|-------------------|-----------------------------|-------------------|----------------------------|----------------------------|
| 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 |
| | 4/15/99 | PES | 210,000 | 28,000 | 15,000 | 3,700 | 19,000 | 52,000 | 67,000 |
| | 7/30/99 | PES | 91,000 | 16,000 | 7,500 | 2,300 | 8,500 | 68,000 | 67,000 |
| | 11/15/99 | PES | 63,000 | 8,500 | 2,400 | 1,400 | 4,000 | 57,000 | 58,000 |
| | 3/24/00 | PES | 95,000 | 16,000 | 13,000 | 2,500 | 12,000 | 44,000 | NA |
| | 5/18/00 | PES | 91,000 | 15,000 | 10,000 | 2,200 | 9,600 | 64,000 | 77,000 |

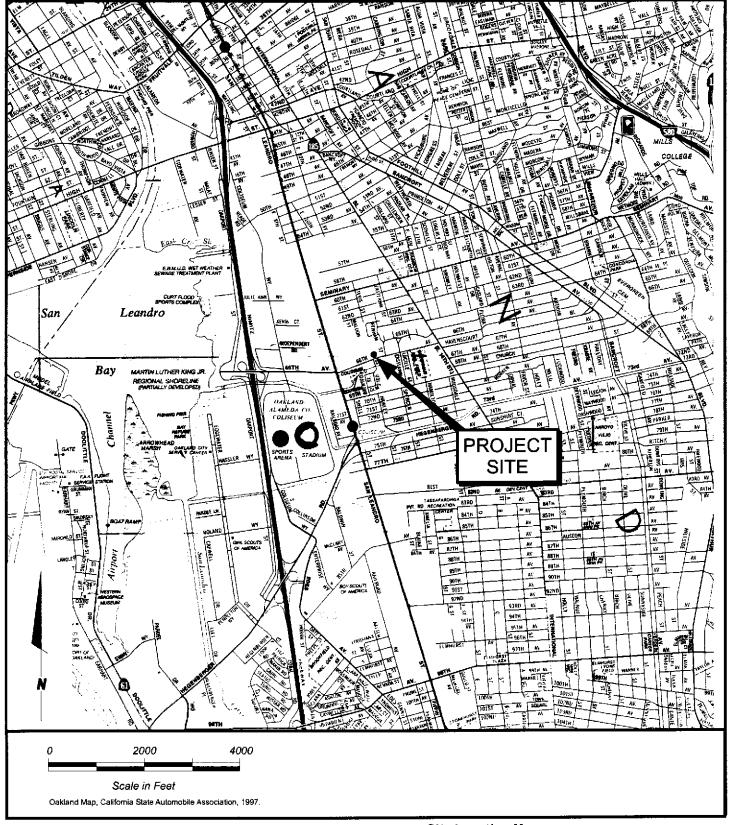
Notes:

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 indicated laboratory reporting limit.





Site Location Map Quarterly Groundwater Monitoring - Second Quarter 2000 Pacific Electric Motor Company 1009 66th Avenue, Oakland, California

618.00102.002

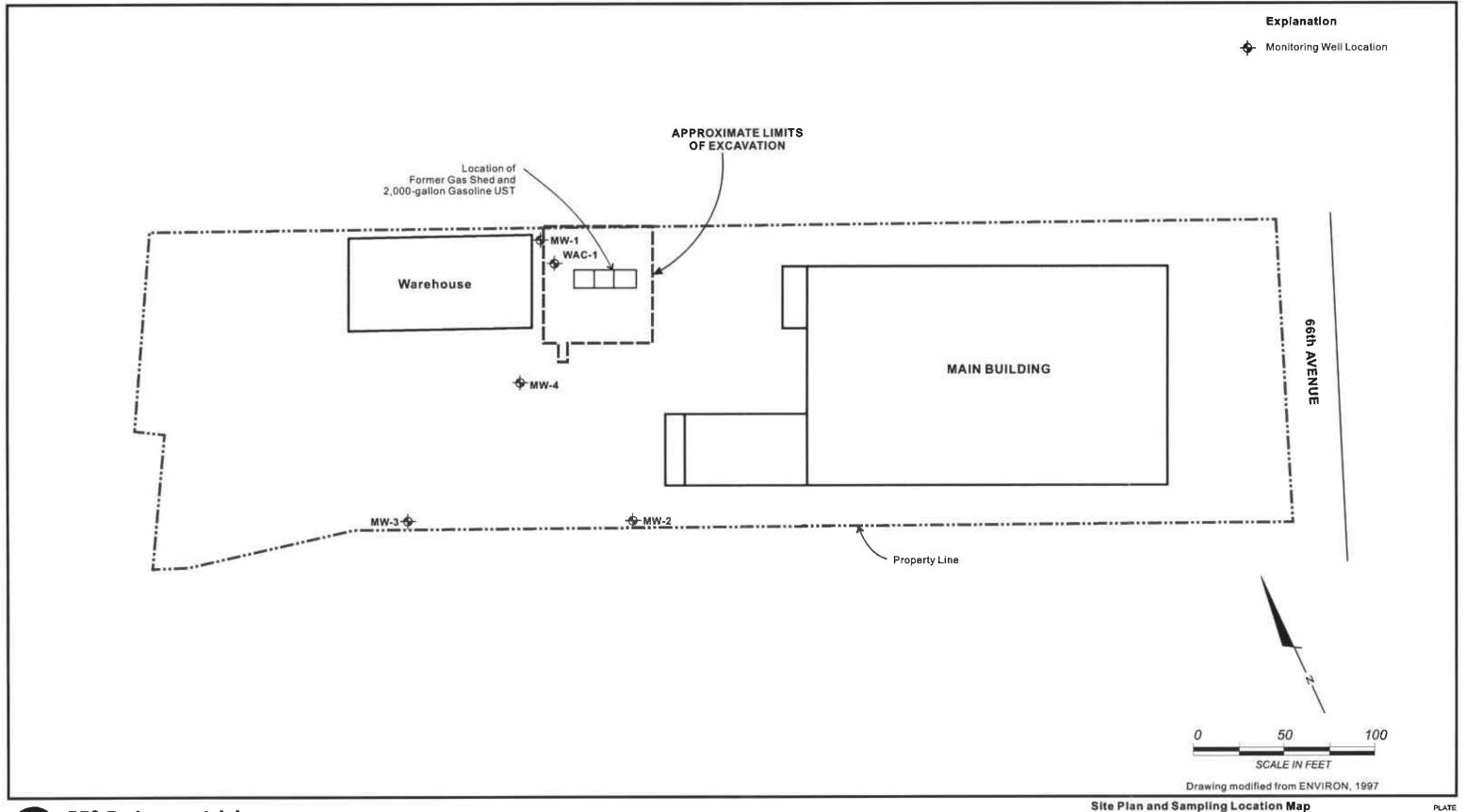
61800101004_V1.CDR

08/00

JOB NUMBER

DRAWING NUMBER

REVIEWED BY





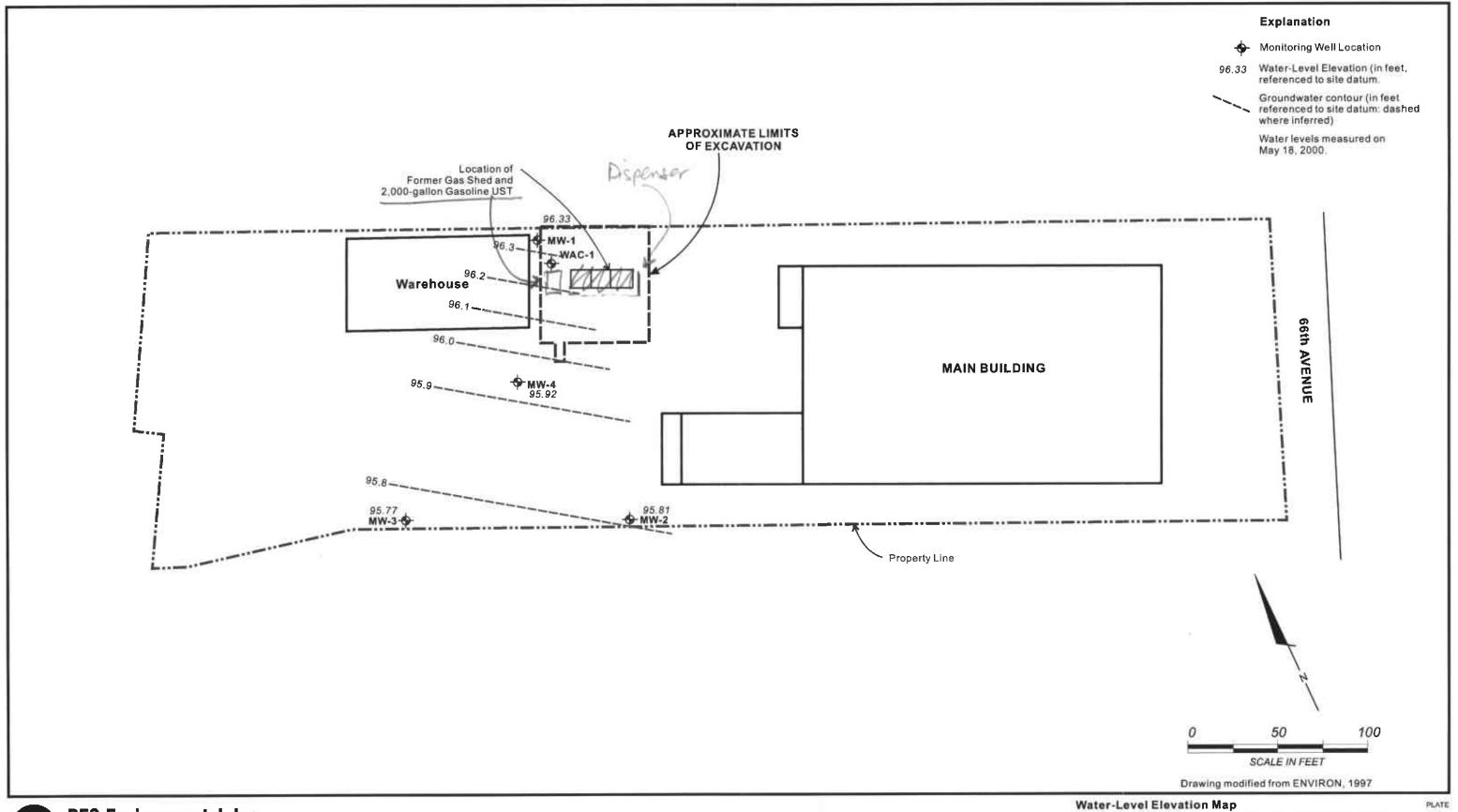
Site Plan and Sampling Location Map Quarterly Groundwater Monitoring Report - Second Quarter 2000 Pacific Electric Motor Company 1009 66th Avenue, Oakland, California

PLATE

618,00102.002 JOB NUMBER

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DRAWING NUMBER



PES Environmental, Inc.
Engineering & Environmental Services

Water-Level Elevation Map Quarterly Groundwater Monitoring - Second Quarter 2000 Pacific Electric Motor Company 1009 66th Avenue, Oakland, California 3

618.00102.002

JOB NUMBER

61800101004_S00-2q.CDR

DRAWING NUMBER

REVIEWED BY

08/00

APPENDIX A

GROUNDWATER SAMPLING REPORT



1680 ROGERS AVENUE SAN JOSE, CA 95112-1105 (408) 573-7771 FAX (408) 573-0555 PHONE CONTRACTOR'S LICENSE #746684 www.blainetech.com

RECEIVED JUN 0 7 2000

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

ATTN: Will Mast

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

Date: May 18, 2000

GROUNDWATER SAMPLING REPORT 000518-K-2

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 disposable bailers.

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

Two types of bailers are used in groundwater wells at sites where fuel hydrocarbons 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 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 analyzed at Entech in Sunnyvale, California. Entech is certified by the California Department of Health Services under the Environmental Laboratory Accreditation Program (ELAP), and is listed as ELAP #I-2346.

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.

William Jones

WRJ/pb

attachments: table of well monitoring data

chain of custody

TABLE OF WELL MONITORING DATA

| Well I.D. Date Sampled | MW-1 05/18/00 | | | MW-2 05/18/00 | | | MW-3 05/18/00 |) | | MW-4 05/18/00 |) | |
|---|---|--------------------------------------|--|--|---------------------------------------|--|--|---------------------------------------|--|-------------------------------------|-------------------------------------|-------------------------------------|
| Well Diameter (in.) Total Well Depth (ft.) Depth To Water (ft.) | 2 24.96 4.34 | | | 2 24.93 4.04 | | | 2 24.82 4.16 | | | 2 24.58 4.40 | | |
| Free Product (in.) Reason If Not Sampled | NONE | | | NONE | | | NONE | | | NONE | | |
| Case Volume (gal.) Did Well Dewater? Gallons Actually Evacuated | 3.3 NO 10.00 | | | 3.3 NO 10.00 | | | 3.3 NO 10.00 | | | 3.2 NO 10.00 | | |
| Purging Device Sampling Device | DISPOSABLE BAILER DISPOSABLE BAILER | | DISPOSABLE BAILER DISPOSABLE BAILER | | | DISPOSABLE BAILER DISPOSABLE BAILER | | | DISPOSABLE BAILER DISPOSABLE BAILER | | | |
| Time Temperature (Fahrenheit) pH Conductivity (micromhos/cm) Nephelometric Turbidity Units Dissolved Oxygen (D.O) (mg/L) Oxidation Reduction Potential (mV) | 9:56 65.2 6.22 342 67 | 10:02 64.6 6.55 403 >200 | 10:06 64.4 6.52 408 >200 | 11:33 63.9 7.00 1110 >200 | 11:38 63.8 6.96 1098 >200 | 11:42 63.8 6.97 1060 >200 | 11:04 63.7 6.87 3213 >200 | 11:08 63.3 6.75 4313 >200 | 11:12 63.3 6.74 5098 >200 | 10:29 67.4 6.36 6064 61 | 10:33 67.7 6.45 6444 52 | 10:38 67.8 6.47 6525 46 |
| BTS Chain of Custody BTS Sample I.D. DOHS HMTL Laboratory Analysis | 000518-K- MW-1 ENTECH TPH-G, B | | <u>=</u> | 000518-} MW-2 ENTECH TPH-G, I | | E | 000518-1 MW-3 ENTECH TPH-G, I | | E | 000518- MW-4 ENTECH TPH-G, | _ | Ē |

| BIA | | 0.4 | | 1680 R | OGERS AVE | 1UE | | CO | NDUC | T ANAL | YSIS TO D | DETECT | LAB Entech | , — | |
|-----------------------|----------------|----------|---------------------|---------------|---|--|-----------|------------------|---------|-------------|-------------|----------|--|------------------------------|---------------|
| BLA TECH SER | RVICES, 11 | | .N JOSE, | FA | DRNIA 95112-1 AX (408) 573-7 NE (408) 573-0 | 7771 | | | | | 1010 10 [| 761601 | ALL ANALYSES MUST MEET SPECIFI LIMITS SET BY CALIFORNIA DHS ANI | ICATIONS AN D RWQCB RE | |
| CHAIN OF CU | | BTS# | ‡ 000 | 518 | - KZ_ | ERS | | | | | | | OTHER | | |
| SITE | PES Pacific | Electric | Motor | | | CONTAINERS | | | | | | | SPECIAL INSTRUCTIONS | | |
| | 1099 66 | | | | T | ALL CO | 1 4 1 | | * | | | | Invoice and Report to: PES Attn: Will Mast | | |
| | Oakland | , CA | TakeTDU | d 00 | VITABLE DO | | 18 (801 | (8020) | (8020) | | | | * Confirm MTBE hits by EPA | A 8240/82 | 60 |
| SAMPLE I.D. | DATE | TIME | MATRIX S= SOIL W | TOTAL | NTAINERS | = COMPOSITE | TPH - Gas | BTEX (8 | MTBE (8 | | | | | | |
| MW-1 | 5/18/00 | | W SC | 101AL | HU | 0 | X | X X | × | - | | ++ | ADD'L INFORMATION STATUS | CONDITION | LAB SAMPLE |
| MW-2 | | 1144 | | 6 | VOAS | 1 | X | X | X | | | +++ | | | |
| mw-3 | | 11(4 | | 6 | 40m | | Х | イ | X | | | | | | |
| 1mw-4 | | 1041 | - | 6 | <u></u> | <u> </u> | X | X | X | | | | | | |
| | | | <u> </u> | | | | \vdash | | | | | - | | | |
| | - | | | | | | | | | | | + | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| SAMPLING COMPLETED | DATE 3/6/22 | TIME | SAMPLIN PERFOR | VG RMED BY | | <u> </u> | | | | | | | RESULTS NEEDED | | |
| RELEASED BY | | | | | | DATE | f , | , | TIME | | RECE | EIVED BY | NO LATER THAN Per Client | DATE, | TIME |
| RELEASED BY | noul | -their | ew | | | S/L DATE | 196 | | TIME | 35 | RECE | EIVED BY | 5. Mylin | 5/19 10 | |
| RELEASED BY | | | | | | DATE | | 1 | TIME | | RECE | IVED BY | | PATE | TIME |
| SHIPPED VIA | | | | | | DATE | SENT | - - | TIME S | ENT | COOL | ED# | | | [· · · · · · |

APPENDIX B

LABORATORY REPORTS
AND
CHAIN-OF-CUSTODY RECORDS

CA ELAP# 2346

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

May 26, 2000

Will Mast

PES Environmental, Inc.

1682 Novato Boulevard, Suite 100

Novato, CA 94947

Order: 20587

Date Collected: 5/18/00

Project Name:

Date Received: 5/19/00

Project Number: 000518-K2

P.O. Number:

Project Notes:

On May 19, 2000, samples were received under documentented chain of custody. Results for the following analyses are attached:

<u>Matrix</u>

Test

<u>Method</u>

Liquid

Gas/BTEX/MTBE

EPA 8015 MOD. (Purgeable)

EPA 8020

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 408-735-1550.

Sincerely,

Michelle L. Anderson

Lab Director

CA ELAP# 2346

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: 5/26/00 Date Received: 5/19/00

Project Name:

Project Number: 000518-K2

P.O. Number:

Sampled By: Blaine Tech

Certified Analytical Report

| Order ID: 205 | 87 | Lab Sa | mple ID | : 2058 | 7-001 | | Client Sam | ple ID: M | W-1 | | |
|----------------------|--------|--------|----------|---------|-------------|------------------------|--------------------|------------------|--------------------|------------------------------|--|
| Sample Time: 10:0 | 8 AM | Sam | ple Date | : 5/18/ | 00 | | | | | | |
| Parameter . | Result | Flag | DF | PQL | DLR | Units | Extraction Date | Analysis Date | QC Batch ID | Method | |
| Benzene | 10.0 | | 1 | 0.5 | 0.5 | μg/L | | 5/22/00 | WGC4000522B | EPA 8020 | |
| Toluene | 1.2 | | I | 0.5 | 0.5 | μg/L | | 5/22/00 | WGC4000522B | EPA 8020 | |
| Ethyl Benzene | 38 | | 1 | 0.5 | 0.5 | μg/L | | 5/22/00 | WGC4000522B | EPA 8020 | |
| Xylenes, Total | 130 | | 1 | 0.5 | 0.5 | μg/L | | 5/22/00 | WGC4000522B | EPA 8020 | |
| | | | | | Surroga | ate Surrogate Recovery | | | Control Limits (%) | | |
| | | | | aa | a-Tritluoro | toluene | | 83 | j | 65 - 135 | |
| Parameter | Result | Flag | DF | PQL | DLR | Units | Extraction Date | Analysis Date | QC Batch ID | Method | |
| Methyl-t-butyl Ether | 8.6 | | 1 | 5 | 5 | μg/L | | 5/22/00 | WGC4000522B | EPA 8020 | |
| mong or cery, sens, | | | | | Surroga | ıte | Surr | ogate Recover | ry Contr | ol Limits (%) | |
| | | | | aa | a-Trifluoro | toluene | | 83 | | 65 - 135 | |
| Parameter | Result | Flag | DF | PQL | DLR | Units | Extraction Date | Analysis Date | QC Batch ID | Method | |
| TPH as Gasoline | 1300 | | ı | 50 | 50 | μg/L | | 5/22/00 | WGC4000522B | EPA 8015 MOD. (Purgeable) | |
| | | | | | Surroga | ite | Surr | ogate Recove | ry Contr | ol Limits (%) | |
| | | | | aa | a-Trifluoro | toluene | | 72 | | 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

CA ELAP# 2346

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: 5/26/00

Date Received: 5/19/00

Project Name:

Project Number: 000518-K2

P.O. Number:

Sampled By: Blaine Tech

Certified Analytical Report

| Order ID: 205 | 87 | Lab Sa | mple I | D: 2058 | 7-002 | | Client Sam | ple ID: M | fW-2 | | | |
|-----------------------|--------|--------|---------|----------|-------------|----------------|--------------------|------------------|-------------|------------------------------|--|--|
| Sample Time: 11:4 | 14 AM | Sam | ple Dat | e: 5/18/ | 00 | 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 | | 5/23/00 | WGC4000522B | EPA 8020 | | |
| Toluene | ND | | 1 | 0.5 | 0.5 | μg/L | | 5/23/00 | WGC4000522B | EPA 8020 | | |
| Ethyl Benzene | ND | | 1 | 0.5 | 0.5 | μg/L | | 5/23/00 | WGC4000522B | EPA 8020 | | |
| Xylenes, Total | ND | | 1 | 0.5 | 0.5 | μg/L | | 5/23/00 | WGC4000522B | EPA 8020 | | |
| , , | | | | | Surroga | | Surr | ogate Recove | ery Contr | Control Limits (%) | | |
| | | | | aa | a-Trifluoro | toluene | | 99 | , | 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 | | 5/23/00 | WGC4000522B | EPA 8020 | | |
| Wedlyt-t-oacyt Editor | 112 | | - | | Surroga | | Surr | ogate Recove | ery Contr | ol Limits (%) | | |
| | | | | aa | a-Trifluoro | toluene | | 99 | | 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 | | 5/23/00 | WGC4000522B | EPA 8015 MOD. (Purgeable) | | |
| | | | | | Surroga | ite | Surr | ogate Recove | ery Contr | Control Limits (%) | | |
| | | | | aa | a-Trifluore | toluene | | 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

CA ELAP# 2346

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: 5/26/00 Date Received: 5/19/00

Project Name:

Project Number: 000518-K2

P.O. Number:

Sampled By: Blaine Tech

Certified Analytical Report

| Order ID: 205 | 87 | Lab Sa | mple II | D: 2058 | 7-003 | | Client Sam | ple ID: M | fW-3 | | | |
|--|--------|--------|---------|---------------|-------------|----------------|--------------------|------------------|-------------|-----------------------------|--|--|
| Sample Time: 11:1 | 4 AM | Sam | ple Dat | e: 5/18/ | 00 | 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 | | 5/22/00 | WGC4000522B | EPA 8020 | | |
| Toluene | ND | | l | 0.5 | 0,5 | μg/Ľ | | 5/22/00 | WGC4000522B | EPA 8020 | | |
| Ethyl Benzene | ND | | ı | 0.5 | 0.5 | μg/L | | 5/22/00 | WGC4000522B | EPA 8020 | | |
| Xylenes, Total | ND | | ì | 0.5 | 0.5 | μg/L | | 5/22/00 | WGC4000522B | EPA 8020 | | |
| | | | | | Surroga | ıte | Surre | gate Recove | ery Contr | ol Limits (%) | | |
| | | | | aa | a-Trifluoro | toluene | | 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 | | 5/22/00 | WGC4000522B | EPA 8020 | | |
| many to any to an and an | | | | | Surroga | | Surr | ogate Recove | ery Contr | ol Limits (%) | | |
| | | | | aa | a-Trifluoro | | | 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 | 2 | 5/22/00 | WGC4000522B | EPA 8015 MOD (Purgeable) | | |
| | | | | Surroga | | ite | Surrogate Recovery | | ery Contr | Control Limits (%) | | |
| | | | | aaa-Trifluoro | | | 107 | | | 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

CA ELAP# 2346

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: 5/26/00 Date Received: 5/19/00

Project Name:

Project Number: 000518-K2

P.O. Number:

Sampled By: Blaine Tech

Certified Analytical Report

| Order ID: 2058 | 7 | Lab Sa | ımple II |): 2 058 | 7-004 | | Client Sam | ple ID: M | 1W-4 | | | |
|----------------------|--------|--------|----------|-----------------|-------------|----------------|--------------------|------------------|-------------|-----------------------------|--|--|
| Sample Time: 10:41 | I AM | Sam | ple Dat | e: 5/18/ | 00 | Matrix: Liquid | | | | | | |
| Parameter . | Result | Flag | DF | PQL | DLR | Units | Extraction Date | Analysis Date | QC Batch ID | Method | | |
| Benzene | 15000 | | 500 | 0.5 | 250 | μg/L | | 5/23/00 | WGC4000522B | EPA 8020 | | |
| Toluene | 10000 | | 500 | 0.5 | 250 | μg/L | | 5/23/00 | WGC4000522B | EPA 8020 | | |
| Ethyl Benzene | 2200 | | 500 | 0.5 | 250 | μg/L | | 5/23/00 | WGC4000522B | EPA 8020 | | |
| Xylenes, Total | 9600 | | 500 | 0.5 | 250 | μg/L | | 5/23/00 | WGC4000522B | EPA 8020 | | |
| | | | | | Surroga | ite | Surr | ogate Recove | ery Contr | ol Limits (%) | | |
| | | | | aa | a-Trifluoro | toluene | | 101 | f | 65 - 135 | | |
| Parameter | Result | Flag | DF | PQL | DLR | Units | Extraction Date | Analysis Date | QC Batch ID | Method | | |
| Methyl-t-butyl Ether | 64000 | | 500 | 5 | 2500 | μg/L | | 5/23/00 | WGC4000522B | EPA 8020 | | |
| | | | | | Surroga | ite | Surr | ogate Recove | ery Contr | ol Limits (%) | | |
| | | | | aa | a-Trifluoro | toluene | | 101 | ! | 65 - 135 | | |
| Parameter | Result | Flag | DF | PQL | DLR | Units | Extraction Date | Analysis Date | QC Batch ID | Method | | |
| TPH as Gasoline | 91000 | | 500 | 50 | 25000 | μg/L | ~ 4.4 | 5/23/00 | WGC4000522B | EPA 8015 MOD (Purgeable) | | |
| | | | | | Surroga | ite | Surr | ogate Recov | ery Contr | Control Limits (%) | | |
| | | | | aa | a-Trifluoro | | | 106 | | 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

QUALITY CONTROL RESULTS SUMMARY

Volatile Organic Compounds Laboratory Control Sample

QC Batch #: WMS000525 Matrix: Liquid

Units: µg/L

Date analyzed: 05/25/00 Spiked Sample: Blank Spike

| PARAMETER | Method # | SA | SR | SP | SP | SPD | SPD | RPD | (| QC LIMITS |
|-------------------------|-----------|------|------|------|-----|------|-----|-----|-----|-----------|
| · | | μg/L | μg/L | μg/L | %R | μg/L | %R | | RPD | %R |
| 1,1- Dichloroethene | 8240/8260 | 25 | ND | 24.3 | 97 | 25.2 | 101 | 3.6 | 25 | 50-150 |
| Methyl-tert-butyl ether | 8240/8260 | 25 | ND | 23.9 | 96 | 24.7 | 99 | 3.3 | 25 | 50-150 |
| Benzene | 8240/8260 | 25 | ND | 24.9 | 100 | 25.5 | 102 | 2.4 | 25 | 50-150 |
| Trichloroethene | 8240/8260 | 25 | ND | 28.9 | 116 | 29.7 | 119 | 2.7 | 25 | 50-150 |
| Toluene | 8240/8260 | 25 | ND | 24.0 | 96 | 24.6 | 98 | 2.5 | 25 | 50-150 |
| Chlorobenzene | 8240/8260 | 25 | ND | 25.6 | 102 | 26.3 | 105 | 2.7 | 25 | 50-150 |
| Surrogates | | | | | | | | | | |
| Toluene -d8 | 8240/8260 | | 98% | 98% | | 98% | | | | 65-135 |
| Dibromofluoromethane | 8240/8260 | | 119% | 114% | | 119% | | | | 65-135 |
| 4-Bromofluorobenzene | 8240/8260 | } | 96% | 97% | | 96% | | | | 65-135 |
| MTBE-d3 | 8240/8260 | | 113% | 109% | | 110% | | | | 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

QUALITY CONTROL RESULTS SUMMARY

METHOD: Gas Chromatography Laboratory Control Sample

QC Batch #: WGC4000522B

Matrix: Liquid Units: μg/Liter Date Analyzed: 05/22/00 Quality Control Sample: Blank Spike

| r | | | | | | • | | | | | |
|-------------------|----------|----------------|----------------|----------------|----------------|-----------|-----------------|-----------|----------|-----------|---------------|
| PARAMETER | Method # | MB μg/Liter | SA μg/Liter | SR μg/Liter | SP µg/Liter | SP % R | SPD μg/Liter | SPD %R | % RPD | Q(RPD | CLIMITS %R |
| Benzene | 8020 | <0.50 | 4.7 | ND | 3.8 | 80 | 4.2 | 89 | 11.1 | 25 | 70-130 |
| Toluene | 8020 | <0.50 | 29 | ND | 26 | 90 | 28 | 95 | 5.5 | 25 | 70-130 |
| Ethyl Benzene | 8020 | <0.50 | 5.6 | ND | 5.0 | 90 | 5.1 | 91 | 1.4 | 25 | 70-130 |
| Xylenes | 8020 | <0.50 | 32 | ND | 29 | 90 | 31 | 97 | 6.7 | 25 | 70-130 |
| Gasoline | 8015 | <50.0 | 469 | ND | 439 | 94 | 458 | 98 | 4.2 | 25 | 70-130 |
| aaa-TFT(S.S.)-FID | 8020 | | • | 105% | 115% | • | 109% | | | | 65-135 |
| aaa-TFT(S.S.)-PID | 8015 | | | 98% | 100% | | 108% | | | | 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

QUALITY CONTROL RESULTS SUMMARY

Volatile Organic Compounds Laboratory Control Sample

QC Batch #: WMS000527

Matrix: Liquid Units: μg/L Date analyzed: 05/27/00 Spiked Sample: Blank Spike

| | Ollis. PB = | | | | | | | | | |
|-------------------------|-------------|------------|------------|------------|----------|-------------|-----------|------|-----|-----------------|
| PARAMETER | Method # | SA μg/L | SR μg/L | SP µg/L | SP %R | SPD μg/L | SPD %R | RPD | RPD | QC LIMITS %R |
| 1.1- Dichloroethene | 8240/8260 | 40 | ND | 39.8 | 99 | 39.7 | 99 | 0.3 | 25 | 50-150 |
| Methyl-tert-butyl ether | 8240/8260 | 40 | ND | 44.2 | 111 | 42.1 | 105 | 5.0 | 25 | 50-150 |
| Benzene | 8240/8260 | 40 | ND | 42.1 | 105 | 41.6 | 104 | 1.2 | 25 | 50-150 |
| Trichloroethene | 8240/8260 | 40 | ND | 42.1 | 105 | 41.3 | 103 | 2.0. | 25 | 50-150 |
| Toluene | 8240/8260 | 40 | ND | 41.3 | 103 | 40.4 | 101 | 2.1 | 25 | 50-150 |
| Chlorobenzene | 8240/8260 | 40 | ND | 41.0 | 103 | 39.7 | 99 | 3.3 | 25 | 50-150 |
| Surrogates | | [| ! ! | | | | | | Ì | |
| Toluene -d8 | 8240/8260 | • | 100% | 97% | | 97% | | | } | 65-135 |
| Dibromofluoromethane | 8240/8260 | i ! | 108% | 101% | | 103% | | | | 65-135 |
| 4-Bromofluorobenzene | 8240/8260 | • | 93% | 103% | | 103% | | ĺ | 1 | 65-135 |
| мтве-d3 | 8240/8260 | | 106% | 106% | | 105% | | ĺ | ŀ | 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

| | | . | | | | GERS AVENU | | | CON | DUCT | ANALY | 'SIS T | O DE | FECT | LAB | Entech | | DHS# | |
|------|---------------------------------------|-----------------|---------------|---------------------------|-------------|--|------------|----------|-------------|---------------|-------|--------|------|---------|---------------------------------|---------------|---------------|---------------------------------------|--|
| | BLAI TECH SERV | | SAN | I JOSE, (| FA | RNIA 95112-110 X (408) 573-777 E (408) 573-050 | 71 | | | | | | | | ALL ANALYSES MUS | FORNIA DHS AN | ID | | |
| | CHAIN OF CUS | TODY | BTS# | 0005 | 518. | - KZ_ | ္က | | | | | | | | LIA OTHER | | | | |
| | CLIENT | PES | | | | | CONTAINERS | | | | | | | | SPECIAL INSTRUCT | IONS | | | |
| | SITE | Pacific E | lectric | Motor | | | | 5) | | * | | | | | Invoice and Report to: PES | | | | |
| ļ | | 1099 66tl | 1 Aven | ue | | | E ALL | (801: | 6 | ŀ | | | | | Attn: Will Mas | t | | | |
| | 2058 | Oakland, o | | MATRIX | СО | NTAINERS | COMPOSITE | Gas (| (8020) | (8020) | | | | | * Confirm MT | BE hits by EF | A 8240/82 | , A | |
| | 0000 | ナ | | SOIL =H ₂ 0 | | | = CON | TPH- | BTEX | MTBE | | | | | | 1 | 1 1 | · Javi | |
| | SAMPLE I.D. | DATE | TIME | | TOTAL |) | ပ | <u> </u> | | | | - | | | ADD'L INFORMATIO | N STATUS | CONDITION | LAB SAMPLE# | |
| 91 | MW-1 | 5/18/00 | | <i>ν</i> | 0 | HCL | - | X | X | <u> </u> | | | | | | | | | |
| WL. | -MW-2 | | 1144 | | 6 | VOAS | | X | イス | X | | | | | | | | | |
| . W. | 1 mw-3 4 mw-4 | - | 11(4 | | 6 | 40m1 | | X | X | X | | | | | | | | " - | |
| | MW | · <u> </u> | 1041 | _ | 6 | <u> </u> | | | | $\overline{}$ | | | | | | | | <u></u> | |
| | · · · · · · · · · · · · · · · · · · · | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | <u> </u> | | | | | | | | | · · | |
| | | | | | | | | | | | | | | | | | | , A t-: | |
| | SAMPLING COMPLETED | DATE 3/18/00 | | SAMPLI PERFO | | Y MA | π | <u> </u> | m | 77 | + | | | | RESULTS NEEDED NO LATER THAN | Per Client | | , , , , , , , , , , , , , , , , , , , | |
| | RELEASED BY | nakh | | | | | DAT | E. | | TIME | 35 | | | IVED_BY | 5 Mul | 111 | 5/19 h | 00 /1 35 | |
| | RELEASED BY | | M | ul. | <u> </u> | | DAT | Flo | | TIME | 7.13 | ل | RECE | IVED BY | m Dank | ande) | DATE 5/14/ | TIME | |
| | RELEASED BY | | v y .v | | | | DÁT | Ē | * | TIME | | | RECE | IVED BY | \bigcirc | | DATE | TIME | |
| | SHIPPED VIA | | | | | | DAT | E SEN | İT | TIME | SENT | | COOL | ER# | | | | | |

CA ELAP# 2346

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

May 30, 2000

Will Mast

RECEIVED JUN 0 9 2000

PES Environmental, Inc.

1682 Novato Boulevard, Suite 100

Novato, CA 94947

Order: 20587

Project Name:

Project Number: 000518-K2

Project Notes:

Date Collected: 5/18/00

Date Received: 5/19/00

P.O. Number:

On May 19, 2000, samples were received under documentented chain of custody. Results for the following analyses are attached:

Matrix

Test

Method.

Liquid

MTBE by EPA 8260B

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 408-735-1550.

Sincerely,

Aichelle L. Anderson

Lab Director

CA ELAP# 2346

Method

EPA 8260B

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: 5/30/00

Date Received: 5/19/00

Project Name:

Project Number: 000518-K2

P.O. Number:

Sampled By: Blaine Tech

Certified Analytical Report

Order ID: 20587

Lab Sample ID: 20587-001

Client Sample ID: MW-1

Sample Time: 10:08 AM

Sample Date: 5/18/00

Matrix: Liquid

| Parameter | Result I | lag | DF | PQL | DLR | Units | Analysis Date | QC Batch ID | | |
|----------------------|----------------|---------|----|----------|-----------|----------|--------------------|-------------|--|--|
| Methyl-t-butyl Ether | ND | | 1 | 5 | 5 | μg/L | 5/26/00 | WMS000525 | | |
| | Surrogate | | | Surrogat | e Recover | y | Control Limits (%) | | | |
| | 4-Bromofluorob | | 1 | 100 | | 65 - 135 | | | | |
| | Dibromofluoron | nethane | | 1 | 117 | | 65 - 135 | | | |
| | Toluene-d8 | | | | 97 | | 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

Page 1 of 2

CA ELAP# 2346

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: 5/30/00

Date Received: 5/19/00

Project Name:

Project Number: 000518-K2

P.O. Number:

Sampled By: Blaine Tech

Certified Analytical Report

| Order ID: 20587 | | Lab San | ple ID: | 20587-0 | 004 | Clie | Client Sample ID: MW-4 | | |
|----------------------|----------|----------------|----------------|---------|------------|-------|------------------------|-------------|-----------|
| Sample Time: | 10:41 AM | Samp | le Date: | 5/18/00 | | | Matrix: | Liquid | |
| Parameter | Result | Flag | DF | PQL | DLR | Units | Analysis Date | QC Batch ID | Method |
| Methyl-t-butyl Ether | 7700 | 0 | 500 | 5 | 2500 | μg/L | 5/27/00 | WMS000527 | EPA 8260B |
| | Surro | Surrogate | | | te Recover | Y | Control Limits (| | |
| | 4-Bron | nofluorobenzen |) | | 98 | | 65 - 135 | | |
| Dibron | | nofluoromethan | ofluoromethane | | 108 | | 65 - 135 | | |
| | Toluer | ne-d8 | | | 96 | | 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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SEPTEMBER 5, 2000

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