

**ERAS**

**Environmental, Inc.**

**RECEIVED**

2:12 pm, Jan 18, 2008

Alameda County  
Environmental Health

1533 B Street

Hayward, CA 94541

---

(510) 247-9885 Facsimile: (510) 886-5399

info@eras.biz

**WORKPLAN**

FOR

**FORMER PACO PUMPS FACILITY  
9201 SAN LEANDRO STREET  
OAKLAND, CALIFORNIA**

Prepared for

Mr. Mark Vignoles  
Service West  
9201 San Leandro Street  
Oakland, California 94603

January 16, 2008

# TABLE OF CONTENTS

<b>CERTIFICATION.....</b>	<b>II</b>
<b>1.0 INTRODUCTION AND BACKGROUND .....</b>	<b>1</b>
1.1 PREVIOUS INVESTIGATIONS .....	1
1.2 GEOLOGY AND HYDROGEOLOGY .....	3
<b>2.0 GROUNDWATER MONITORING .....</b>	<b>3</b>
2.1 RESULTS OF GROUNDWATER ELEVATION MONITORING.....	4
<b>3.0 PROPOSED WORK .....</b>	<b>4</b>

## Figures

1. Site Location Map
2. Groundwater Potentiometric Map – Quarter 4, 2007
3. Proposed Work Map

## Tables

1. Groundwater Data and Analytical Results – November 14, 2007
2. Historical Analytical Results –Soil Samples
3. Historical Analytical Results – Groundwater Samples
4. Historical Analytical Results – Soil Gas Samples

## Appendices

- A ACEH Letter August 21, 2007
- B Maps of Previous and Proposed Subsurface Investigations
- C Field Forms
- D Standard Operating Procedures
- E Well Elevation Survey
- F Laboratory Reports and Chain-of-Custody Forms
- G Geo Tracker Upload Confirmation

## **CERTIFICATION**

---

This **Work Plan** for 9201 San Leandro Street, Oakland, California, has been prepared by ERAS Environmental, Inc. (ERAS) under the professional supervision of the Geologist whose signature appears hereon.

This work plan was prepared in general accordance with the accepted standard of practice that exists in Northern California at the time the investigation was performed. Judgments leading to conclusions and recommendations are generally made with an incomplete knowledge of the conditions present. More extensive studies, including additional environmental investigations, can tend to reduce the inherent uncertainties associated with such studies.

Our firm has prepared this work plan for the Client's exclusive use for this particular project and in accordance with generally accepted professional practices within the area at the time of our investigation. No other representations, expressed or implied, and no warranty or guarantee is included or intended.

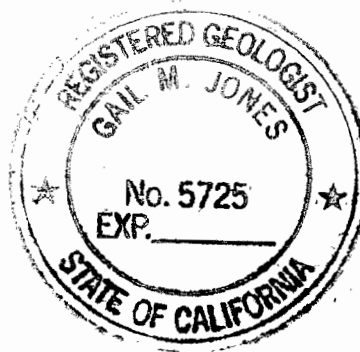
This work plan may be used only by the client and only for the purposes stated within a reasonable time from its issuance. Land use, site conditions (both on-site and off-site) or other factors may change over time, and additional work may be required with the passage of time. Any party other than the client who wishes to use this report shall notify ERAS of such intended use. Based on the intended use of report, ERAS may require that additional work be performed and that an updated report be issued. Non-compliance with any of these requirements by the client or anyone else will release ERAS from any liability resulting from the use of this report by any unauthorized party.

Respectfully submitted,



Gail M. Jones  
California Registered Geologist 5725

16 January 2008



## 1.0 INTRODUCTION AND BACKGROUND

ERAS Environmental, Inc. (ERAS) is pleased to present this work plan for the Paco Pumps, Inc. (Paco) fuel leak site at 9201 San Leandro Street in Oakland, California (the "Property"). The location of the Property is shown on **Figure 1**, Site Location Map.

This plan addresses eight items pertaining to subsurface environmental conditions: (1) location of piping terminus extending from the 1992 UST excavation, (2) groundwater characterization in the vicinity of the former 550-gallon UST, (3) additional soil vapor testing inside the building adjacent to the 550-gallon UST excavation, (4) location of the suspected second former UST located in the vicinity of 9MW-4, (5) identification of source of contamination along railroad tracks on the southwest side of the Property and additional characterization of the soil contamination in this area, (6) determination of source of PCE contamination on the northwest side of the Property, (7) further characterization of soil contamination in the vicinity of boring B18, and (8) groundwater monitoring program.

These issues are addressed in order of the item numbers listed in a letter from Mr. Jerry Wickham of the Alameda County Environmental Health (ACEH) dated August 21, 2007 included in **Appendix A**.

### 1.1 PREVIOUS INVESTIGATIONS

The following is a summary of the previous subsurface investigation that has been performed at the Property. Work prior to 2007 was performed by the environmental consultant for Paco, Jonas & Associates. The analytical results from the previous investigations for which information was available was compiled in three tables included with this work plan.

#### 1992 UST Removal

A Soil Characterization Report and Work Plan by Jonas & Associates dated in October 1992 identified a former UST site on the Property. The UST location was excavated and gasoline impacted soil was discovered. This site was over excavated but impacted soil remained near the foundation of the building to the west of the former UST. The former UST is shown on the attached **Figure 2**.

#### 1992 Soil Boring Investigation

Soil samples were collected in 1992 from twenty-five locations on the Property. The sample analysis did not detect concentrations of petroleum hydrocarbons, volatile organic compounds (VOCs), or pesticides with one exception. A soil sample from boring B18, located at the southeastern side of the Property near the wood shop building, contained elevated concentrations of Total Petroleum Hydrocarbons as kerosene (TPH-k) and as motor oil (TPH-mo) at shallow depths in an area of surface staining.

The concentration of TPH-k of 8,000 milligrams per kilogram (mg/Kg) is above the current (November 2007) Regional Water Quality Control Board (RWQCB) Environmental Screening Level (ESL) of 100 mg/Kg. The concentration of TPH-mo of 8,000 mg/Kg was above the ESL of

1,000 mg/Kg. The contaminants detected at B18 were not detected in the nearest sample location B19 northeast or in B16 to the southwest indicating the contamination appeared to be limited in extent.

A copy of a Sampling Location Map (**ACEH Item 1 in Appendix B**) is included with this letter. Note the former UST location near Boring B22.

#### 2000 Risk Management Plan and Monitoring

The Risk Management Plan (Jonas & Associates, 2000) addresses a ventilation system to mitigate vapor exposure risks within a room of Building 4, poly chlorinated biphenyls (PCB) in soil, health and safety plans and buyer notification.

The plan recommended that the ventilation system should be maintained, that a small area of PCB contaminated soil currently covered by an asphalt cap not be disturbed, that a Health and Safety Plan be prepared prior to excavation activities in specified areas, that disclosure of these conditions be made to future buyers and that a Risk Management Plan be maintained and provided to any future owner.

The report also documents the detection of polychlorinated biphenyls (PCBs) of 0.4 milligrams per kilogram (mg/Kg) in a soil sample from boring B6 and 0.67 in a soil sample from boring B7, above the RWQCB ESL of 0.3 mg/Kg. The locations of these borings are shown on **ACEH Item 6 in Appendix B**. These analytical results of these and other sample results are presented in **Table 2**.

#### 2002 Addendum to Risk Management Plan

The Addendum to Risk Based Corrective Action Model (Jonas & Associates, 2002) evaluated indoor air risk from benzene in soil vapors and evaluated the RBCA model using a residential scenario. This RBCA identified two carcinogenic risks, based on the average and on the maximum groundwater results, using the residential indoor air exposure carcinogenic risk simulations.

#### Groundwater Monitoring

A total of five groundwater monitoring wells 9MW1 through 9MW5 have been installed at the Property. Monitoring of the groundwater wells has been conducted from 1992 to 2000. The locations of these wells are shown on **Figure 2**.

All of the wells except for 9MW3 have contained only low or less than detectable concentrations of gasoline hydrocarbons. Samples from 9MW3 have contained high concentrations, as high as 40 milligrams per liter (mg/L) of TPH-g and 9 mg/L of benzene. The concentration of TPH-g decreased from 40 mg/L in 1992 to 1.9 mg/L in 2000. The concentration of benzene, however was at its highest observed concentration of 9 mg/L in 2000.

## 1.2 GEOLOGY and HYDROGEOLOGY

The Property is located near the northern edge of an area known as the San Leandro Cone, which is in the Fremont Subarea of the Santa Clara Valley Groundwater Basin (California Department of Water Resources, 1967). The San Leandro Cone generally consists of thick permeable units separated by thick impermeable units. These sediments act as a groundwater recharge area of the Santa Clara Valley Groundwater Basin. Groundwater in the vicinity occurs in thin discontinuous water bearing strata. The regional groundwater flow follows the topography, moving from areas of higher elevation to areas of lower elevation. The regional groundwater flow direction in the area of the Property has been determined to be to be to the southwest toward San Francisco Bay.

The sediments in the vicinity of the Property are fine-grained alluvial sediments that represent distal deposits of alluvial fans that were deposited by rivers draining upland surfaces to the west and east of the Property. These sediments were deposited in a low energy environment on the margins of San Francisco Bay. At shallow depths beneath these sediments are a series of Recent-age (<10,000 years) blue clay layers that become increasingly thicker toward San Francisco Bay (Helley, et al, 1974). These clay layers are known as the Bay Mud and were deposited in San Francisco Bay during higher stands of sea level. In the vicinity of the Property it is likely that several hundred feet of these sediments overlie sandstone and serpentine sedimentary and metamorphic rocks of the Jurassic-aged Franciscan Formation bedrock.

## 2.0 GROUNDWATER MONITORING.

### 2.1 WORK PERFORMED

ERAS conducted a fourth quarter groundwater monitoring event to aid in the determination of boring placement and to evaluate the current subsurface conditions beneath the Property since the last monitoring event was conducted in 2000.

On the 14<sup>th</sup> of November 2007, ERAS recorded groundwater elevations and collected groundwater samples from five on-site monitoring wells MW-1, MW-2, MW-3, MW-4, and MW-5. The locations of the monitoring wells are shown on **Figure 2**.

At each monitoring well, the water-tight cap was removed and the water level in the well was allowed to equilibrate to atmospheric pressure at least one-half hour. Static water level was measured using an electronic water-level probe. The probe was decontaminated between wells using a non-phosphate detergent and rinsed with purified water. The field records of water-level measurements are included in **Appendix C**. The standard operating procedure for groundwater sampling is included as **Appendix D**.

Groundwater was purged using a new disposable bailer from each well until the pH, conductivity, and temperature stabilized to within 10%. Samples were then collected from each

well and transferred to appropriate containers using a VOC-tip. The well purging and sampling forms are included in **Appendix C**. The sample containers were labeled and stored in a cooler with blue-ice, to be transported under chain-of-custody documentation to the State certified analytical laboratory. The chain-of-custody forms are included in **Appendix F**.

Purge water is temporarily stored onsite. The 55-gallon drum will be transported to an appropriate disposal facility.

On November 14<sup>th</sup> the CSS Environmental Services surveyed the well elevations and locations. The survey report is included as **Appendix E**.

## 2.2 RESULTS OF GROUNDWATER ELEVATION MONITORING

The depth-to-water data and casing elevation data was used to calculate the groundwater elevation in **Table 1**. The groundwater elevation data was used to infer the contours in the potentiometric map of **Figure 2**. The groundwater flow direction between MW-3 and MW-4 was determined to be to the west with a gradient of 0.02 ft/ft. The groundwater flow direction under the operations building was found to be toward the northwest at a gradient of 0.006 ft/ft. This groundwater flow pattern mirrors the topographic contours shown on **Figure 1**.

All groundwater samples were analyzed for TPH-g, BTEX, and MTBE by EPA method 8015/8021. The groundwater sample collected from groundwater monitoring well MW-4 was also analyzed for TPH-d by EPA method 8015. No concentrations of TPH-g or BTEX were detected in the groundwater samples collected from MW-1, MW-2, and MW-5. No concentrations of MTBE were detected in any of the groundwater samples collected.

Both monitoring wells MW-3 and MW-4 contained concentrations of benzene above the ESL at a concentrations of 3,900µg/L (MW-3) to 6.3µg/L (MW-4). Monitoring well MW-3 also contained a concentration of TPH-g at a concentration of 13,000µg/L, toluene at 370µg/L, Ethylbenzene at 300µg/L, and xylenes at 130µg/L. The analytical results are displayed on **Table 1** and the laboratory report is included as **Appendix F**.

## 3.0 PROPOSED WORK

The following are descriptions of the work proposed for the Property. The items are numbered in the order of the issues presented in the Technical Comments section of the ACEH letter dated August 21, 2007. All proposed borings and utility locating areas are shown on **Figure 3**.

1) Former 550-gallon UST area – Search for piping that was associated with this former UST and attempt to locate the piping terminus that may be inside the building. A utility locating contractor will be utilized to use magnetic and ground penetrating radar methods. The ACHSA Item #1 map in **Appendix A** shows the approximate area to be searched.

2) Former 550-gallon UST area - Perform additional soil and groundwater characterization for this area. Concentrations of petroleum hydrocarbons have been consistently detected in

samples from monitoring well MW-3. Six soil and groundwater sample borings are proposed to delineate the horizontal extent of contamination in soil and groundwater.

Prior to drilling activities a soil boring permit will be obtained from the Alameda County Public Works Department. Three soil borings will be drilled by a qualified contractor to collect soil and groundwater samples approximately 10-15 feet from the edge of the former 550-gallon excavation on the northwest, northeast, and southeast sides. A fourth boring will be drilled to collect soil and groundwater sample along the southwest Property boundary to assess if contamination is migrating off-site in that direction. The fifth and sixth borings will be located along the property boundary northwest of the operations building to assess if contamination is migrating offsite in the apparent downgradient direction.

The approximate locations of the proposed borings are shown on the ACHSA Item #2 map in **Appendix B**. The borings would be advanced using a direct push sample rig will be advanced about 4 feet below the top of groundwater. Soil will be screened in the field using an organic vapor meter. All soil and groundwater samples collected will be submitted to a state certified laboratory and analyzed for total petroleum hydrocarbons as gasoline (TPH-g), benzene, toluene, ethylbenzene and xylenes (BTEX), and methyl tertiary butyl ether (MTBE). The standard operating procedures for collection of groundwater samples from direct push borings are included in **Appendix D**.

The analytical results of this investigation will be used to assess if additional monitoring wells are necessary and where would be the best location(s).

3) Former 550-gallon UST area – Perform sub-slab and soil vapor sampling. One sub slab vapor sample northwest of the former 550-gallon UST area inside of the building one soil vapor sample and a soil sample will be collected southwest of monitoring well MW-3. The vapor sample locations are shown on Item #3 map in **Appendix B**. The sub-slab vapor sample will be collected by cutting a hole in the concrete building pad and sealing a vapor point under the slab for collection of sub-slab vapor. The soil vapor sample will be collected by drilling to 5 feet below ground surface (bgs). Once the soil vapor sample is collected a soil sample will be collected from the vadose zone to delineate soil contamination on the southwest side of the former UST. The two vapor samples will be submitted to a state certified laboratory and analyzed for TPH-g, BTEX and MTBE. The standard operating procedures for collection of soil-gas samples from direct push borings are included in **Appendix D**.

4) Suspect 2<sup>nd</sup> UST area - Perform utility survey, and perform ground penetrating radar to be combined with Item 1, See Item #4 map to assess the area for the presence of this suspect UST. Note that ERAS could not find any information in the previous reports or at the City of Oakland Fire Department to verify the location of this UST reported by Jonas. The area to be investigated is shown on the ACHSA Item #4 map in **Appendix B**.

5) Soil Along Railroad Tracks – Elevated concentrations of petroleum hydrocarbons were reported in two of the four soil borings drilled in this area in 1987. Prior to drilling activities a soil boring permit will be obtained from the Alameda County Public Works Department. A total



of six soil borings will be dug using a hand-auger to an approximate depth of 3 feet in the areas of borings 3 and 4 to collect soil samples for analysis. The approximate locations of the borings are shown on the ACHSA Item #5 map in **Appendix B**.

Soil samples from the borings will be submitted to a state certified laboratory and analyzed for total petroleum hydrocarbons as motor oil (TPH-mo), BTEX, and poly aromatic hydrocarbons (PAH) which includes Creosote. The standard operating procedures for collection of soil samples from hand borings are included in **Appendix D**.

*Note that these borings will be combined with the borings for ACHSA Items #6 and #7 described below.*

6) PCB in Soil– Soil samples were collected by Jonas and analyzed for polychlorinated biphenyls (PCBs). The samples were collected near the west and south corners of the Property. Two of the three samples collected near the west corner contained elevated concentrations of PCBs.

ERAS proposes three four borings to be drilled by hand in the approximate locations shown on the ACHSA Item #6 map in **Appendix B**. The borings will be drilled to a depth of approximately 3 to 4 feet.

7) B18 Area - Elevated concentrations of kerosene and motor oil were found in soil from this area. ERAS proposes to drill three soil borings by hand along the southern side of Property as shown on the Item #7 map in **Appendix B**. The soil borings will be drilled to depths of approximately 3 feet bgs to collect soil samples for analysis. The samples will be submitted to a state certified laboratory for analysis for TPH-mo, TPH-kerosene, BTEX, and volatile organic compounds (VOCs).

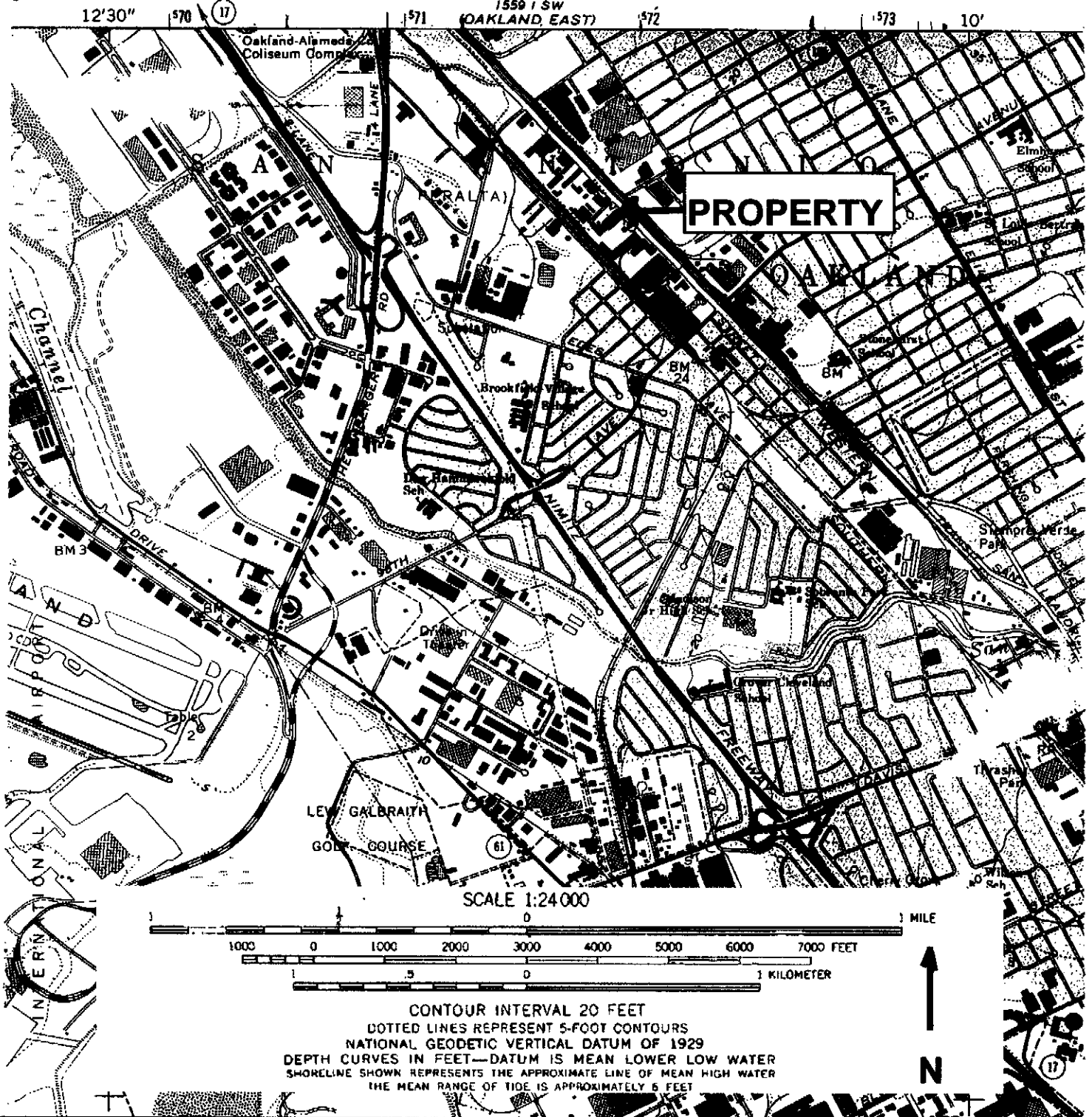
8) GW Monitoring – ERAS will perform an additional groundwater monitoring event in conjunction with the soil and groundwater sample portion of the investigation and include those results in the investigation report. The report will include proposal of additional wells, if needed, and a groundwater monitoring program.

A final report will detail the field procedures, present the results of the investigation including laboratory reports and boring logs, and interpret the data with respect to the RWQCB ESLs. Analytical results, groundwater elevation data, and survey data will be uploaded to the GeoTracker database. The report will include recommendations for a groundwater monitoring program and, if necessary, additional investigation or well installation.

## **FIGURES**

STATE OF CALIFORNIA  
DEPARTMENT OF WATER RESOURCES

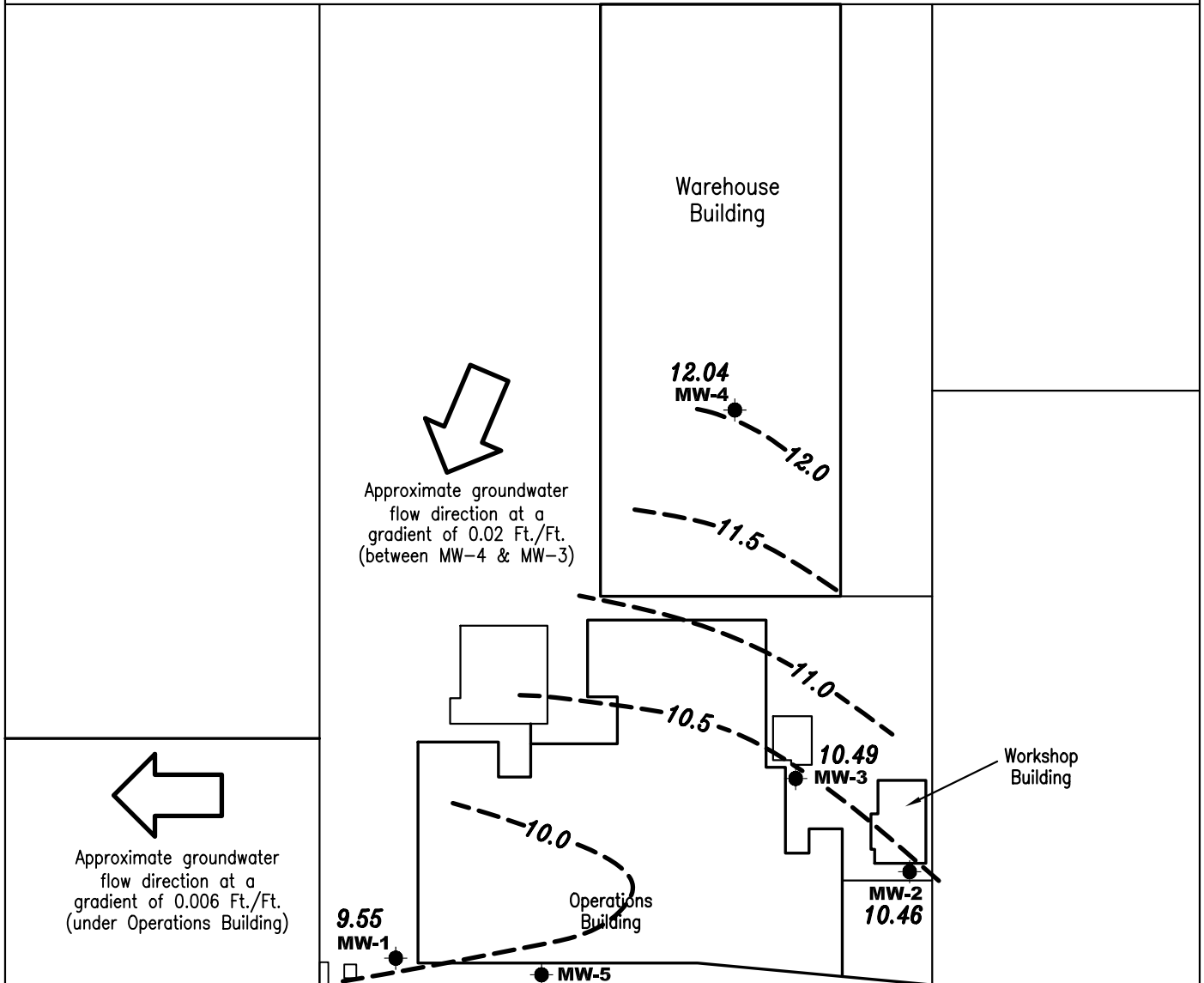
50 (CIVIC CENTER) 17 MI.  
LAND (CITY HALL) 5.9 MI.



**FIGURE 1**  
**LOCATION MAP**  
9201 San Leandro Street  
Oakland, CA 94603

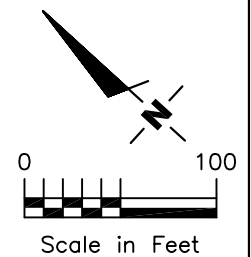
ERAS Environmental, Inc.

**SAN LEANDRO STREET**



**EXPLANATION**

- Groundwater monitoring well
- 10.49 Groundwater elevation in feet referenced to Mean Sea Level
- - - 10.5 - - - Potentiometric surface contour



**GROUNDWATER POTENTIOMETRIC MAP - QUARTER 4, 2007**

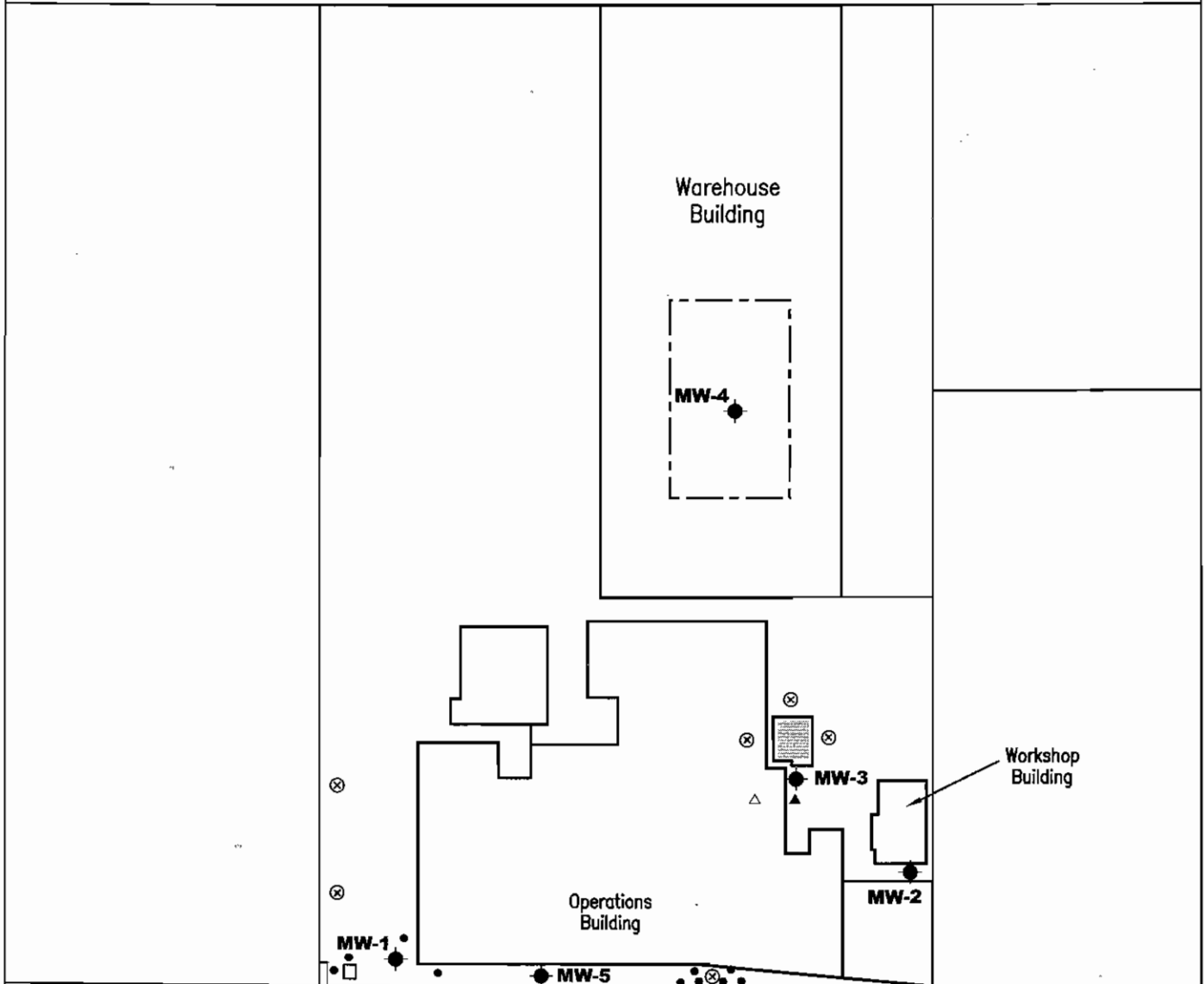
DATE  
01/08  
REVIEWED BY  
GJ

9201 San Leandro Street  
Oakland, California

JOB NUMBER  
07-001-02  
FIGURE  
2

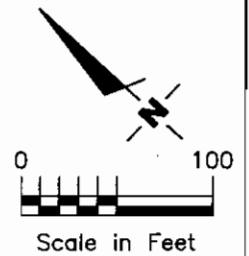
**ERAS Environmental Inc.**

**SAN LEANDRO STREET**



**EXPLANATION**

- |   |   |   |                              |
|---|---|---|------------------------------|
| ● | Groundwater monitoring well                   | ▨ | Former UST                   |
| ⊗ | Proposed soil and groundwater sample location | ⌚ | Proposed utility survey area |
| △ | Proposed sub-slab vapor sample location       |   |                              |
| ▲ | Proposed soil-gas and soil sample location    |   |                              |
| • | Proposed soil sample location                 |   |                              |



**PROPOSED BORINGS**

DATE  
01/08  
REVIEWED BY  
GJ

9201 San Leandro Street  
Oakland, California

JOB NUMBER  
07-001-02  
FIGURE  
3

**ERAS** Environmental Inc.

## **TABLES**

**TABLE 1. GROUNDWATER DATA AND ANALYTICAL RESULTS NOVEMBER 14, 2007**

**9201 San Leandro Street, Oakland CA**

Sample ID	Date Monitored	Total Depth (feet bgs)	TOC Elevation (feet amsl)	Depth to Water (feet)	GW Elevation (feet amsl)	TPH-d (µg/l)	TPH-g (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenze (µg/l)	Xylenes (µg/l)	MTBE (µg/l)
MW-1	14-Nov-07	20	18.05	8.50	9.55	NA	<50	<0.50	<0.50	<0.50	<0.50	<2.0
MW-2	14-Nov-07	20	19.40	8.94	10.46	NA	<50	<0.50	<0.50	<0.50	<0.50	<2.0
MW-3	14-Nov-07	19.9	19.70	9.21	10.49	NA	<b>13,000</b>	<b>3,900</b>	<b>370</b>	<b>300</b>	<b>130</b>	<40
MW-4	14-Nov-07	19.9	19.65	7.61	12.04	<50	<50	<b>6.3</b>	0.56	3.4	1.0	<2.0
MW-5	14-Nov-07	19.9	18.49	8.16	10.33	NA	<50	<0.50	<0.50	<0.50	<0.50	<2.0
ESL						100	100	1	40	30	20	5

**Notes**

TOC ELEV = Top of well casing elevation in feet above mean sea level

GW ELEV = Top of groundwater elevation.

TPH-G = Total petroleum hydrocarbons as gasoline.

MTBE = Methyl-tert-butyl ether.

NA = Not Analyzed

**TABLE 2 - HISTORICAL ANALYTICAL RESULTS - SOIL SAMPLES**

**9201 San Leandro Street  
Oakland, California**

Sample Id	Date	Boring or Pit	Depth (feet)	TPH-g (mg/kg)	TPH-d (mg/kg)	TPH-mo (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	VOC's	PCB's (mg/kg)	Arsenic* (mg/kg)
Pit 1	7/27/1987	Pit	1.5	NA	NA	250	NA	0.600	NA	NA	NA	NA	NA
Pit 1	7/27/1987	Pit	3	NA	NA	130	NA	0.470	NA	NA	NA	NA	NA
Pit 2	7/27/1987	Pit	1.5	<10	NA	<10	NA	0.420	NA	NA	NA	NA	NA
Pit 2	7/27/1987	Pit	3	NA	NA	<10	NA	0.600	NA	NA	NA	NA	NA
Pit 3	7/27/1987	Pit	1.5	NA	NA	780 (800**)¹	NA	0.230	NA	NA	NA	NA	NA
Pit 3	7/27/1987	Pit	3	<10	NA	600	NA	0.380	NA	NA	NA	NA	14
Pit 4	7/27/1987	Pit	1.5	NA	NA	780	NA	0.110	NA	NA	NA	NA	NA
Pit 4	7/27/1987	Pit	3	NA	NA	1100	NA	0.045	NA	NA	NA	NA	NA
B-1	10/1/1991	Boring	3.5	ND	ND	NA	ND	ND	ND	ND	ND	ND	NA
B-2	10/1/1991	Boring	3.5	ND	ND	NA	ND	ND	ND	ND	ND	ND	NA
B-3	10/1/1991	Boring	3.5	ND	ND	NA	ND	ND	ND	ND	ND	ND	NA
B-4	10/1/1991	Boring	3.5	ND	ND	NA	ND	ND	ND	ND	ND	ND	NA
B-5	10/1/1991	Boring	3.5	ND	ND	NA	ND	ND	ND	ND	ND	ND	NA
B-6	10/1/1991	Boring	0.5	NA	NA	NA	NA	NA	NA	NA	NA	0.40	NA
B-7	10/1/1991	Boring	0.5	NA	NA	NA	NA	NA	NA	NA	NA	0.67	NA
MW-1	11/4/1992	Boring	5	NA	NA	NA	NA	NA	NA	NA	NA	0.29	NA
MW-1	11/4/1992	Boring	10	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA
MW-1	11/4/1992	Boring	15	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA
B-1	1/31/1997	Boring	8.5	ND (1.0)	NA	NA	0.012	ND (0.0050)	ND (0.0050)	ND (0.0050)	NA	NA	NA
B-2	1/31/1997	Boring	8.5	9.5	NA	NA	0.042	0.014	0.035	0.058	NA	NA	NA
ESLres				100	100	500	0.044	2.9	3.3	2.3		<del>0.22</del>	5.5
ESLind				100	100	1000	0.044	2.9	3.3	2.3		<del>0.74</del>	5.5

0.3

Notes

TPH-g = Total petroleum hydrocarbons as gasoline

TPH-d = Total petroleum hydrocarbons as diesel

TPH-mo = Total petroleum hydrocarbons as motor oil

VOC's = Volatile Organic Compounds

PCB's = Polychlorinated biphenyls

\* = Analyzed for Antimony, Barium, Beryllium, Cadmium, Chromium (IV), Chromium (total), Cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, zinc as well - all concentrations below residential and industrial ESL's

\*\* = Duplicate Sample

¹ = Quantitated as cresote

ESLres = Environmental screening levels set forth by the Regional Water Quality Control Board, February 2005, residential area, groundwater is shallow and a potential source of drinking water

ESLind = Environmental screening levels set forth by the Regional Water Quality Control Board, February 2005, industrial area, groundwater is shallow and a potential source of drinking water



# TABLE 3

Table A/GW1

## TPH-GASOLINE & BTEX GROUNDWATER RESULTS PACO PUMPS - 9201 SAN LEANDRO STREET

Sample I.D.	Sampling Date	Depth (feet)	Matrix	Lab	TPH-Gasoline (5030/8015M) (mg/L)	Benzene (602/8020) (mg/L)	Toluene (602/8020) (mg/L)	Ethyl Benzene (602/8020) (mg/L)	Total Xylenes (602/8020) (mg/L)	MTBE (8020A/8015M) (mg/L)
<u>Monitoring Well 9MW1</u>										
GW9-MW1-Q5	5/26/94	5¼'-20¼' <sub>screen</sub>	water	CrLab	ND(0.050)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-
GW9-MW1-Q6	9/24/94	5¼'-20¼' <sub>screen</sub>	water	CrLab	ND(0.050)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-
GW9-MW1-Q7	11/22/94	5¼'-20¼' <sub>screen</sub>	water	CrLab	ND(0.050)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-
GW9-MW1-Q8	2/8/95	5¼'-20¼' <sub>screen</sub>	water	CrLab	ND(0.050)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-
GW9-MW1-Q9	5/31/95	5¼'-20¼' <sub>screen</sub>	water	CrLab	ND(0.050)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-
GW9-MW1-Q13	5/23/96	5¼'-20¼' <sub>screen</sub>	water	CrLab	ND(0.050)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-
9MW1	10/27/00	5¼'-20¼' <sub>screen</sub>	water	CrLab	ND(0.050)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-
<u>Monitoring Well 9MW2</u>										
GW9-MW2-Q1	11/16/92	5¼'-20¼' <sub>screen</sub>	water	CrLab	ND(0.050)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0015)	-
GW9-MW2-Q2	3/9/93	5¼'-20¼' <sub>screen</sub>	water	CrLab	ND(0.050)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-
GW9-MW2-Q3 <sup>1</sup>	7/21/93	5¼'-20¼' <sub>screen</sub>	water	CrLab	ND(0.050)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-
GW9-MW2-Q4	1/29/94	5¼'-20¼' <sub>screen</sub>	water	CrLab	ND(0.050)	ND(0.002) <sup>2</sup>	ND(0.002) <sup>2</sup>	ND(0.002) <sup>2</sup>	ND(0.002) <sup>2</sup>	-
GW9-MW2-Q5	5/26/94	5¼'-20¼' <sub>screen</sub>	water	CrLab	ND(0.050)	0.0023	0.0008	ND(0.0005)	ND(0.0005)	-
GW9-MW2-Q6	9/24/94	5¼'-20¼' <sub>screen</sub>	water	CrLab	ND(0.050)	0.0061	0.0014	0.0005	0.0006	-
GW9-MW2-Q7	11/22/94	5¼'-20¼' <sub>screen</sub>	water	CrLab	ND(0.050)	0.0034	0.0018	ND(0.0005)	0.0005	-
GW9-MW2-Q8	2/8/95	5¼'-20¼' <sub>screen</sub>	water	CrLab	ND(0.050)	0.0045	0.0013	ND(0.0005)	0.0005	-
GW9-MW2-Q10	8/9/95	5¼'-20¼' <sub>screen</sub>	water	CrLab	ND(0.050)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-
GW9-MW2-Q12	2/29/96	5¼'-20¼' <sub>screen</sub>	water	CrLab	ND(0.050)	ND(0.00050)	ND(0.00050)	ND(0.00050)	ND(0.00050)	-
<u>Monitoring Well 9MW3</u>										
GW9-MW3-Q1	11/16/92	5¼'-20¼' <sub>screen</sub>	water	CrLab	40.000	2.900	6.700	0.550	1.700	-
GW9-MW3-Q2	3/9/93	5¼'-20¼' <sub>screen</sub>	water	CrLab	12.000	1.000	0.300	0.110	0.170	-
GW9-MW3-Q3 <sup>1</sup>	7/21/93	5¼'-20¼' <sub>screen</sub>	water	CrLab	3.400	0.420	0.063	0.036	0.037	-
GW9-MW3-Q4	1/29/94	5¼'-20¼' <sub>screen</sub>	water	CrLab	5.600	0.910 <sup>2</sup>	0.220 <sup>2</sup>	0.047 <sup>2</sup>	0.036 <sup>2</sup>	-
GW9-MW3-Q5	5/26/94	5¼'-20¼' <sub>screen</sub>	water	CrLab	5.200	0.890	0.180	0.045	0.043	-
GW9-MW3-Q6	9/24/94	5¼'-20¼' <sub>screen</sub>	water	CrLab	5.200	0.580	0.076	0.029	0.022	-
GW9-MW3-Q7	11/22/94	5¼'-20¼' <sub>screen</sub>	water	CrLab	2.200	0.670	0.130	0.031	0.028	-
GW9-MW3-Q8	2/8/95	5¼'-20¼' <sub>screen</sub>	water	CrLab	2.900	0.780	0.120	0.031	0.033	-
GW9-MW3-Q9P	5/31/95	5¼'-20¼' <sub>screen</sub>	water	CrLab	9.1	2.800	0.160	0.091	0.072	-
GW9-MW3-Q9	5/31/95	5¼'-20¼' <sub>screen</sub>	water	CrLab	5.3	1.300	0.170	0.037	0.044	-

con't following page

# TABLE 3

Table A/GW1<sup>cont</sup>

Page A

## TPH-GASOLINE & BTEX GROUNDWATER RESULTS PACO PUMPS - 9201 SAN LEANDRO STREET

Sample I.D.	Sampling Date	Depth (feet)	Matrix	Lab	TPH-Gasoline (5030/8015M) (mg/L)	Benzene (602/8020) (mg/L)	Toluene (602/8020) (mg/L)	Ethyl Benzene (602/8020) (mg/L)	Total Xylenes (602/8020) (mg/L)	MTBE (8020A/8015M) (mg/L)
<u>Monitoring Well 9MW3<sup>cont</sup></u>										
GW9-MW3-Q10P	8/28/95	5¼'-20¼' screen	water	CrLab	1.4	ND(0.0005)	ND(0.0005)	0.0017	0.0079	-
GW9-MW3-Q10	8/28/95	5¼'-20¼' screen	water	CrLab	4.8	2.500	0.150	0.053	0.044	-
GW9-MW3-Q11P	11/29/95	5¼'-20¼' screen	water	CrLab	3.0	0.780	0.043	0.032	0.032	-
GW9-MW3-Q11	11/29/95	5¼'-20¼' screen	water	CrLab	2.4	0.830	0.038	0.021	0.016	-
GW9-MW3-Q12P	2/29/96	5¼'-20¼' screen	water	CrLab	3.8	1.200	0.130	0.036	0.035	-
GW9-MW3-Q12	2/29/96	5¼'-20¼' screen	water	CrLab	8.0	3.400	0.430	0.100	0.099	-
GW9-MW3-Q13P	5/23/96	5¼'-20¼' screen	water	CrLab	6.900	3.300	0.340	0.071	0.074	-
GW9-MW3-Q13	5/23/96	5¼'-20¼' screen	water	CrLab	4.300	3.200	0.350	0.072	0.074	-
GW9-MW3-Q14P	11/4/96	5¼'-20¼' screen	water	CrLab	4.900	2.100	0.110	0.070	0.044	-
GW9-MW3-Q14	11/4/96	5¼'-20¼' screen	water	CrLab	4.500	2.100	0.130	0.061	0.039	-
GW9-MW3-Q15	5/13/97	5¼'-20¼' screen	water	CrLab	10.000	4.800	0.530	0.100	0.092	ND(0.100)
GW9-MW3-Q16	1/26/98	5¼'-20¼' screen	water	CrLab	12.000	5.000	0.250	0.091	0.100	-
9MW3	10/27/00	5¼'-20¼' screen	water	CrLab	19.000	9.000	1.000	0.250	0.130	-
<u>Monitoring Well 9MW4</u>										
GW9-MW4-Q1	11/16/92	5¼'-20¼' screen	water	CrLab	0.560	0.066	0.073	0.016	0.130	-
GW9-MW4-Q1	11/16/92	5¼'-20¼' screen	water	CrLab	0.520	0.063	0.067	0.015	0.140	-
GW9-MW4-Q2	3/9/93	5¼'-20¼' screen	water	CrLab	0.750	0.067	0.012	0.029	0.062	-
GW9-MW4-Q3	7/21/93	5¼'-20¼' screen	water	CrLab	0.250	0.021	0.0042	0.0084	0.011	-
GW9-MW4-Q4	1/29/94	5¼'-20¼' screen	water	CrLab	0.180	0.028	0.0022	0.0062	0.010	-
GW9-MW4-Q5	5/26/94	5¼'-20¼' screen	water	CrLab	0.130	0.014	0.0032	0.0061	0.0047	-
GW9-MW4-Q6	9/24/94	5¼'-20¼' screen	water	CrLab	0.070	0.0067	0.0009	0.0028	0.0026	-
GW9-MW4-Q7	11/22/94	5¼'-20¼' screen	water	CrLab	0.090	0.016	0.0017	0.0056	0.0034	-
GW9-MW4-Q8	2/8/95	5¼'-20¼' screen	water	CrLab	0.090	0.017	0.0013	0.0055	0.0030	-
GW9-MW4-Q9	5/31/95	5¼'-20¼' screen	water	CrLab	0.08	0.013	0.0006	0.0023	0.0012	-
GW9-MW4-Q10	8/9/95	5¼'-20¼' screen	water	CrLab	ND(0.05)	0.0036	ND(0.0005)	0.0014	0.0006	-
GW9-MW4-Q11	11/29/95	5¼'-20¼' screen	water	CrLab	ND(0.05)	0.0045	0.0007	0.0010	0.0007	-
GW9-MW4-Q12	2/29/96	5¼'-20¼' screen	water	CrLab	0.08	0.0074	0.0010	0.0032	0.0024	-
GW9-MW4-Q13	5/23/96	5¼'-20¼' screen	water	CrLab	ND(0.050)	0.011	0.0020	0.0023	0.0019	-

Note: con't following page

# TABLE 3

Table A/GW1<sup>cont</sup>

Page A 1

## TPH-GASOLINE & BTEX GROUNDWATER RESULTS PACO PUMPS - 9201 SAN LEANDRO STREET

Sample I.D.	Sampling Date	Depth (feet)	Matrix	Lab	TPH-Gasoline (5030/8015M) (mg/L)	Benzene (602/8020/8015) (mg/L)	Toluene (602/8020/8015) (mg/L)	Ethyl Benzene (602/8020/8015) (mg/L)	Total Xylenes (602/8020/8015) (mg/L)	MTBE (8020A/8015M) (mg/L)
<u>Monitoring Well 9MW5</u>										
GW9-MW5-Q6	9/24/94	5¼'-20¼' <sup>screen</sup>	water	CrLab	ND(0.050)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-
GW9-MW5-Q7	11/22/94	5¼'-20¼' <sup>screen</sup>	water	CrLab	ND(0.050)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-
GW9-MW5-Q8	2/8/95	5¼'-20¼' <sup>screen</sup>	water	CrLab	ND(0.050)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-
GW90MW5-Q10	8/9/95	5¼'-20¼' <sup>screen</sup>	water	CrLab	ND(0.05)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-
GW90MW5-Q12	2/29/96	5¼'-20¼' <sup>screen</sup>	water	CrLab	ND(0.05)	0.0006	ND(0.0005)	ND(0.0005)	ND(0.0005)	-
GW90MW5-Q15	5/13/97	5¼'-20¼' <sup>screen</sup>	water	CrLab	ND(0.05)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-
* 9MW5	10/27/00	5¼'-20¼' <sup>screen</sup>	water	CrLab	ND(0.05)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-
<u>B1</u>										
B1-GW	2/3/97	15'-20' <sup>screen</sup>	water	CrLab	31.000	7.100	4.100	0.520	1.400	-
<u>B2</u>										
B1-GW	2/3/97	15'-20' <sup>screen</sup>	water	CrLab	41.000	14.000	2.600	0.740	1.700	-
<u>B3</u>										
B3-GW	2/2/98	15'-20' <sup>screen</sup>	water	CrLab	1.400	0.310	0.0099	0.027	0.056	-
<u>B4</u>										
B4-GW	2/2/98	15'-20' <sup>screen</sup>	water	CrLab	ND(0.050)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)	-

notes: TPH: Total Petroleum Hydrocarbons  
 BTEX: Benzene, Toluene, Ethyl Benzene, Total Xylenes  
<sup>1</sup> = probably corrected, apparently switched.  
<sup>2</sup> = EPA Method 624  
 ND(0.1) = Not Detected above the laboratory detection limit in parentheses.  
 - = Not Analyzed.  
 GW9-MW3-Q9P: Sampled prior to purging. For baseline study for use of Oxygen Release Compound (ORC).  
 GW9-MW3-Q9: Sampled after purging. Installed ORC after collection of sample.  
 GW9-MW3-QnP: Sampled after removal of ORC and prior to purging.  
 GW9-MW3-Qn: Sampled after purging. n = 10, 11, 12, 13.

# TABLE 4

## JONAS & ASSOCIATES INC.

### Environmental Consultants

2815 Mitchell Drive, Suite 209 • Walnut Creek, CA 94598 • Tel: (925) 933-5360 • Fax: (925) 933-5362

Ms. Eva Chu  
 Hazardous Materials Specialist  
 Alameda County Environmental Health Services  
 1131 Harbor Bay Parkway, Second Floor  
 Alameda, California 94502  
 (510) 567-6762; 337-9335 fax

May 1, 2000

Subject: Attachment to October 16, 1998 "B5 and B6 Soil Vapor Sampling and Results."

Project: Former PACO Pumps, 9201 San Leandro Street, Oakland, California.  
 J&A #: PCO-220

Dear Ms. Chu:

This correspondence is in response to your recent request for us to provide the results presented in our October 16, 1998 "B5 and B6 Soil Vapor Sampling and Results" in terms of mg/m<sup>3</sup>. Following are the B5 and B6 soil vapor sampling results in terms of ppbv and mg/m<sup>3</sup>:

#### BTEX AND TPH-GASOLINE SOIL VAPOR RESULTS

Analyte	M.W. (g/mol)	B5-3' (ppbv)	B5-3' (mg/m <sup>3</sup> )	B6-3' (ppbv)	B6-3' (mg/m <sup>3</sup> )
Benzene	78.11	51,000	162.9	29,000	92.7
Toluene	92.15	6,800	25.6	5,300	20.0
Ethyl Benzene	106.16	ND(2,500)	ND(10.9)	ND(2,100)	ND(9.1)
Total Xylenes	106.16	4,400	19.1	4,900	21.3
TPH (C5+) Gasoline	~ 100	15,000,000	61,350	9,800,000	40,082
TPH (C2-C4) Gasoline	~ 40	160,000	262	2,000,000	3,272

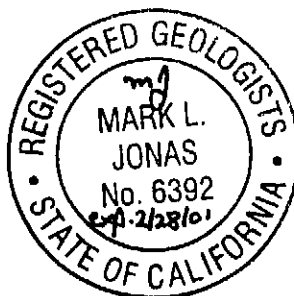
The conversion calculation used in this table is  $mg/m^3 = (ppbv/1000) \times (M.W./24.45)$  and was obtained from the U.S. Environmental Protection Agency along with the molecular weigh (M.W.) for BTEX. Air Toxics, Ltd. provided the M.W. for the gasolines.

Please attach this correspondence to the October 16, 1998 "B5 and B6 Soil Vapor Sampling and Results."

Sincerely,  
 JONAS & ASSOCIATES INC.

Mark Jonas, R.G.  
 Project Manager

cc: Distribution



## **APPENDIX A**

**ACEH Letter August 21, 2007**

ALAMEDA COUNTY  
HEALTH CARE SERVICES

AGENCY

DAVID J. KEARS, Agency Director



ENVIRONMENTAL HEALTH SERVICES

ENVIRONMENTAL PROTECTION  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577  
(510) 567-6700  
FAX (510) 337-9335

August 21, 2007

Mr. John Lilla  
PACO Pumps, Inc.  
16801 Greenspoint Park Drive  
Houston, TX 77060

Mr. Harold Vignoles  
9201 San Leandro LLC  
9201 San Leandro Street  
Oakland, CA 94603

Mr. Dallas Nelson  
GP Holdings LLC  
P.O. Box 14046  
Oakland, CA 94614

Dear Mr. Lilla, Mr. Vignoles, and Mr. Nelson:

Alameda County Environmental Health (ACEH) staff has reviewed the fuel leak case file for the above-referenced site. Two underground storage tanks (UST) were believed to be present at the site; however, there does not appear to be a record of either tank being removed. Soil was excavated in the suspected location of a former 550-gallon UST (southeast of the former Manufacturing, Engineering, & Storage Building) in 1992. During the excavation, no UST was found but possible fill, piping, and tank debris was observed. Petroleum hydrocarbons were detected in soil in the area of the excavation. Total petroleum hydrocarbons as gasoline (TPHg) and benzene have been detected in groundwater in the area of the former UST at concentrations up to 19,000 and 9,000 micrograms per liter ( $\mu\text{L}$ ), respectively. A second UST was suspected in the area of a former steel building; however, no reports exist in ACEH files to document removal of the UST.

Polychlorinated biphenyls (PCBs) have been detected in soil in the northwestern portion of the site. The PCBs apparently remain in place below an asphalt cover.

A soil investigation and removal was conducted in an area adjacent to the Central Pacific Railroad tracks in 1987. The 1987 investigation and soil removal was apparently conducted without regulatory oversight. During the 1987 excavation, oily water, heavy hydrocarbon odor, and various debris were observed. We request that you **prepare a Work Plan by October 22, 2007** to address the technical comments below and to complete characterization of the site.

**REQUEST FOR INFORMATION**

We request that you submit copies of any the following reports, which are reference but are not in the ACEH case file:

- Cutliffe, S., 1987. Findings and Results of the Cleanup Project Performed on 14 and 15 December 1987 at PACO Oakland Site.
- Dames & Moore, 1987. Site Contamination Study – PACO Pumps Facility, Oakland, for Amsted Industries.

- Ecology and Environment Inc., 1985. CERCLA Site Inspection, PACO Pumps 845 92<sup>nd</sup> Avenue, Oakland, CA. Site ERRIS #CAD 088772629, Inspection ID# C(85)C371, Date of Inspection 9/17/85, Report Due November 8, 1985.
- Jonas & Associates, Inc., 1991. Soil Characterization Report Stained Asphalt/Concrete Area – PACO Pumps, 9201 San Leandro Street, Oakland, CA, October 30, 1991.
- Van Aken, B., 1987. Internal PACO Correspondence to Mr. John G. Terranova regarding excavation, November 4, 1987.

### TECHNICAL COMMENTS

1. **1992 UST Excavation.** Multiple phases of soil excavation were conducted between June and August 1992 to locate a former 550-gallon UST and remove contaminated soil in the area southeast of the former Quality Control Room and Casting Storage. No UST was encountered but possible fill, piping, and tank debris was observed during the excavation. Figure 5-2 of the report entitled, "Site Characterization Report and Work Plan," by Jonas & Associates and dated October 16, 1992, shows piping extending from the center of the excavation to the building foundation. The piping was apparently removed up to the building foundation. Please provide further information or propose further investigation to locate the extent and termination of the piping. Specifically, please determine whether the piping remains in place beneath the building or whether the piping extended to a dispenser at another location. Please present this information and plans for additional work in the Work Plan requested below.
2. **Elevated Concentrations of Fuel Hydrocarbons in Groundwater.** Highly elevated concentrations of dissolved fuel hydrocarbons and benzene have been detected in groundwater in the area of the former 550-gallon UST discussed in technical comment 1. During the December 11, 2000 groundwater sampling event, benzene was detected in groundwater collected from well 9MW3 at a concentration of 9,000 µ/L. However, the UST was suspected to have been out of use for approximately 20 years prior to the 1992 excavation. The continued detection of highly elevated concentrations of fuel hydrocarbons and BTEX in groundwater indicates that a significant source remains in the area of the former UST. Please propose further work to complete characterization of this area.
3. **Soil Vapor Sampling.** Two soil vapor samples (B5 and B6) were collected on September 22, 1998 inside the building adjacent to the former UST discussed in technical comment 1. Benzene was detected in soil vapor collected from B5 and B6 at concentrations of 51,000 and 29,000 parts per billion by volume, respectively. These concentrations significantly exceed the Environmental Screening Level (San Francisco Bay Regional Water Quality Control Board, 2005) for benzene in soil vapor for both residential and commercial land use. We request that you conduct further investigation to characterize the extent of the elevated concentrations of BTEX in soil vapor.

4. **Second UST.** A suspected UST was described in the area of well 9MW4. No reports exist in ACEH files to indicate that this UST was removed. Please describe what tasks have been conducted to date to confirm that the UST was removed. In addition, please propose additional work as necessary, to confirm that the UST was removed and to investigate the extent of any residual contamination in the area of the former UST.
5. **Soil Removal Along Railroad Tracks.** A soil removal was conducted within a narrow area between the building and railroad tracks along the western border of the property. Soil was apparently excavated within five "pits" within this area. Elevated concentrations of petroleum hydrocarbons and creosote were detected in soil in this area. Please describe the likely source(s) of this contamination. In the Work Plan requested below, please propose additional investigation as necessary, to assess whether the contamination encountered in the pits extends beneath the adjacent building.
6. **PCBs in Soil.** PCBs were detected in soil in the northwestern portion of the site at concentrations ranging from 0.40 to 0.67 milligrams per kilogram. In the Work Plan requested below, please provide a more detailed map of the area that shows the likely source of the PCBs and the sampling locations where PCBs have been detected in soil.
7. **Elevated Concentrations of TPH as Kerosene and TPH as Motor Oil Detected in Boring B18.** Elevated concentrations of TPH as kerosene and TPH as motor oil were detected in a soil sample collected from boring B18. Boring B18 was reported to be in the area of an air compressor. In the Work Plan requested below, please provide a more detailed map of the area of boring B18 and proposed additional investigation as necessary to evaluate whether the contamination extends off-site.
8. **Groundwater Monitoring.** Groundwater samples have apparently not been collected from monitoring wells at the site since 2000. In the Work Plan requested below, please propose groundwater monitoring to evaluate current groundwater quality.

#### **TECHNICAL REPORT REQUEST**

Please submit technical reports to Alameda County Environmental Health (Attention: Jerry Wickham), according to the following schedule:

- **October 22, 2007** – Work Plan

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.



#### ELECTRONIC SUBMITTAL OF REPORTS

The Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program ftp site are provided on the attached "Electronic Report Upload (ftp) Instructions." Please do not submit reports as attachments to electronic mail.

Submission of reports to the Alameda County ftp site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) Geotracker website. Submission of reports to the Geotracker website does not fulfill the requirement to submit documents to the Alameda County ftp site. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitor wells, and other data to the Geotracker database over the Internet. Beginning July 1, 2005, electronic submittal of a complete copy of all necessary reports was required in Geotracker (in PDF format). Please visit the SWRCB website for more information on these requirements ([http://www.swrcb.ca.gov/ust/cleanup/electronic\\_reporting](http://www.swrcb.ca.gov/ust/cleanup/electronic_reporting)).

#### PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

#### PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

#### UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

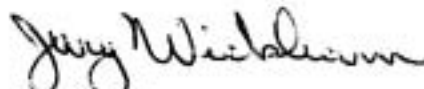
Mr. John Lilla  
Mr. Harold Vignoles  
Mr. Dallas Nelson  
RO0000320  
August 21, 2007  
Page 5

**AGENCY OVERSIGHT**

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

If you have any questions, please call me at (510) 567-6791.

Sincerely,



Jerry Wickham  
Hazardous Materials Specialist

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Sami Malaeb  
Jonas & Associates, Inc.  
1350 Arnold Drive, Suite 202  
Martinez, CA 94553

Donna Drogos, ACEH  
Jerry Wickham, ACEH  
File

<b>Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC)</b>	<b>ISSUE DATE:</b> July 5, 2005
	<b>REVISION DATE:</b> December 16, 2005
	<b>PREVIOUS REVISIONS:</b> October 31, 2005
<b>SECTION:</b> Miscellaneous Administrative Topics & Procedures	<b>SUBJECT:</b> Electronic Report Upload (ftp) Instructions

Effective **January 31, 2006**, the Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities.

#### REQUIREMENTS

- Entire report including cover letter must be submitted to the ftp site as a **single portable document format (PDF) with no password protection**. (Please do not submit reports as attachments to electronic mail.)
- It is **preferable** that reports be converted to PDF format from their original format, (e.g., Microsoft Word) rather than scanned.
- Signature pages and perjury statements **must** be included and have either original or electronic signature.
- **Do not password protect the document**. Once indexed and inserted into the correct electronic case file, the document will be secured in compliance with the County's current security standards and a password. **Documents with password protection will not be accepted.**
- Each page in the PDF document should be rotated in the direction that will make it easiest to read on a computer monitor.
- Reports must be named and saved using the following naming convention:  
RO#\_Report Name\_Year-Month-Date (e.g., RO#5555\_WorkPlan\_2005-06-14)

#### Additional Recommendations

- A separate copy of the tables in the document should be submitted by e-mail to your Caseworker in **Excel** format. These are for use by assigned Caseworker only.

#### Submission Instructions

- 1) Obtain User Name and Password:
  - a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
    - i) Send an e-mail to [dehloptoxic@acgov.org](mailto:dehloptoxic@acgov.org)  
or
    - ii) Send a fax on company letterhead to (510) 337-9335, to the attention of Alicia Lam-Finneke.
  - b) In the subject line of your request, be sure to include **"ftp PASSWORD REQUEST"** and in the body of your request, include the **Contact Information, Site Addresses, and the Case Numbers (RO# available in Geotracker) you will be posting for.**
- 2) Upload Files to the ftp Site
  - a) Using Internet Explorer (IE4+), go to <ftp://alcoftp1.acgov.org>
    - (i) Note: Netscape and Firefox browsers will not open the FTP site.
  - b) Click on File, then on Login As.
  - c) Enter your User Name and Password. (Note: Both are Case Sensitive.)
  - d) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the ftp site.
  - e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.
- 3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
  - a) Send email to [dehloptoxic@acgov.org](mailto:dehloptoxic@acgov.org) notify us that you have placed a report on our ftp site.
  - b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name at acgov.org. (e.g., [firstname.lastname@acgov.org](mailto:firstname.lastname@acgov.org))
  - c) The subject line of the e-mail must start with the RO# followed by **Report Upload**. (e.g., Subject: RO1234 Report Upload)

## **APPENDIX B**

### **Maps of Previous and Proposed Subsurface Investigations**

Drawn by

A.J. 5-8-1992

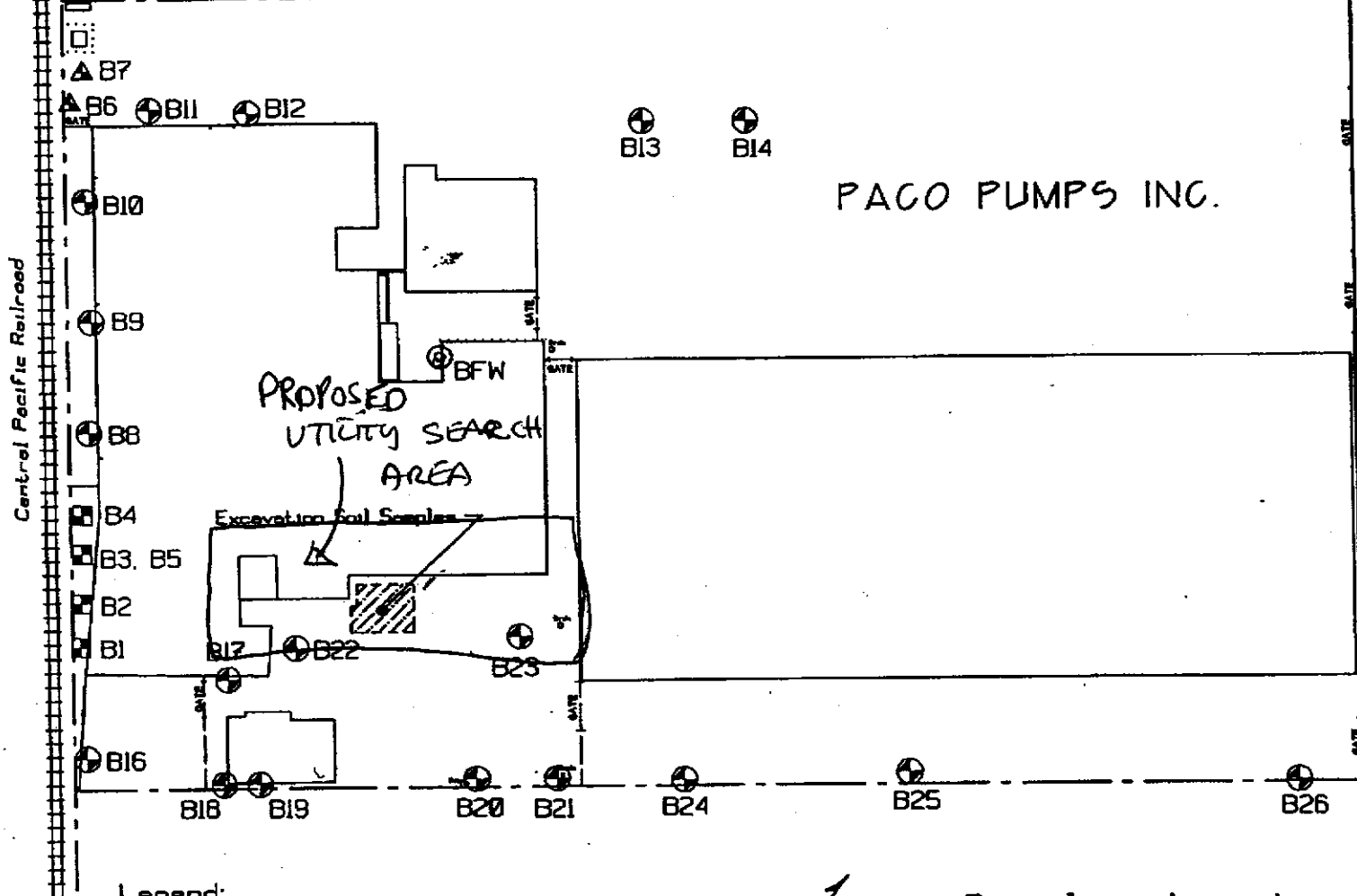
Checked by

Approved by

Drawing Number PC0220-5/92:F4-1

FIGURE 4-1

Central Pacific Railroad

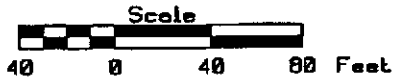


PACO PUMPS INC.

San Leandro Street

Legend:

- ⊕ Composite Soil Sample 0'-0.5' & 1.0'-1.5'
- ⊠ Discrete Soil Sample 3.0'-3.5'
- ▲ Discrete Soil Sample 0'-0.5'
- ⊙ Water Sample



Sampling Locations  
 PACO Pumps  
 9201 San Leandro Street  
 Oakland, California

Prepared by  
**JONAS & ASSOCIATES INC.**

Date: 5-8-1992  
 Locations Approx.

Figure 4-1

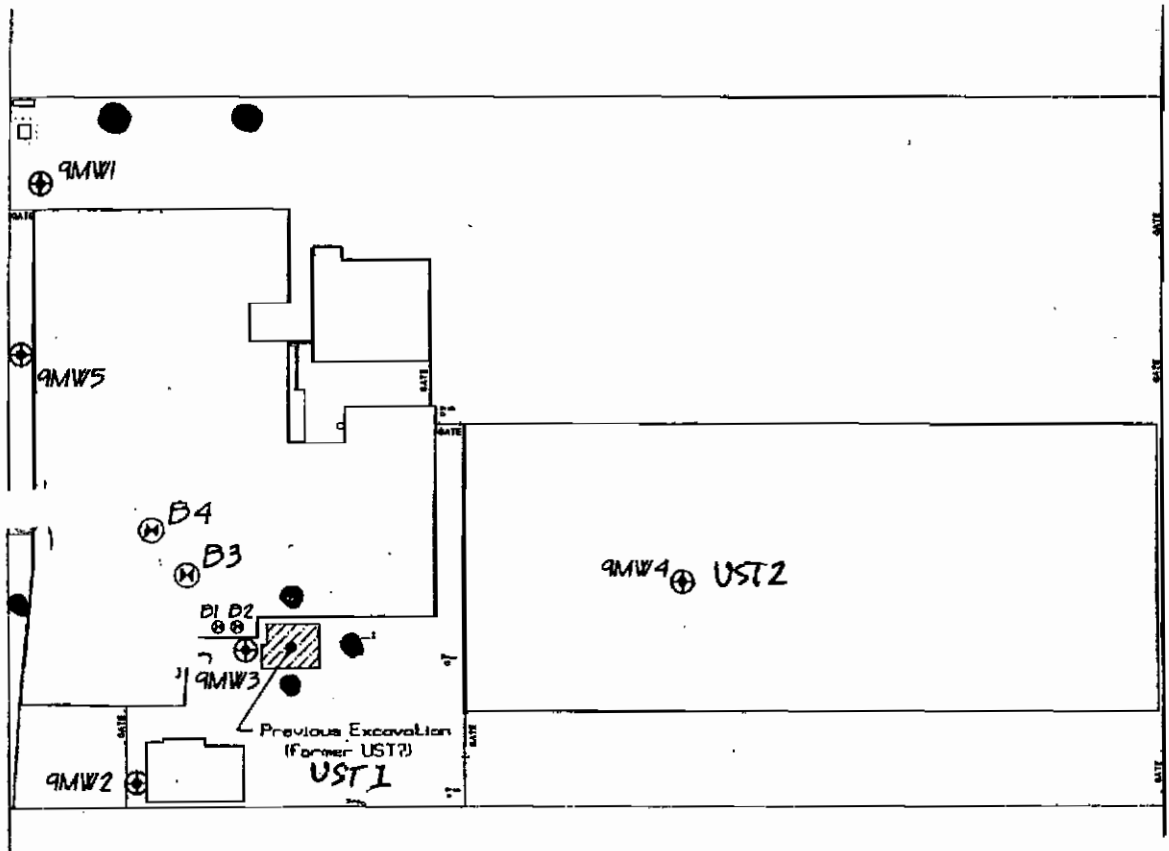
Drawing Number  
 PC0220-5/92:F4-1

ACTSA ITEM # 1 locate piping former dispenser

WHS# ITEM # 2

Soil & Gw Borings  
in Area of UST 1

San Leandro Street



● Proposed soil borings

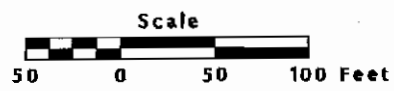
### Facility and Groundwater Sampling Locations

Former PACO PUMPS  
9201 San Leandro Street  
Oakland, California

Prepared by  
**JONAS & ASSOCIATES INC.**

#### Legend:

- ⊕ Monitoring Well
- ⊗ Geoprobe Sampling Location



Date: 2-16-1998  
Locations Approx.

Figure 2

Drawing Number  
PCO220-2/98:F2

Drawn by	M.L.J.	Drawing Number	PCO220-2/98:F2
	2-16-1998		

Figure 2

ACHSA ITEM # 3

Soil VAPOR SURVEY  
VST #1 AREA

**9MW5 (GW)**  
Results of Last Four Sampling Rounds:  
(mg/L)

	2/8/95	8/9/95	2/29/96	5/13/97
TPH-Gasoline	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
Benzene	ND(0.0005)	ND(0.0005)	0.0006	ND(0.0005)
Toluene	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
Ethyl Benzene	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
Total Xylenes	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.0005)
VOCs (8010A) (except RTEX)	ND	ND	ND	ND

**B3 (GW)**  
2/2/98 Sampling Results:  
(mg/L)

TPH-Gasoline	1.400
Benzene	0.310
Toluene	0.0099
Ethyl Benzene	0.027
Total Xylenes	0.056

**B1 (GW)**  
2/3/97 Sampling Results:  
(mg/L)

TPH-Gasoline	31.000
Benzene	7.100
Toluene	4.100
Ethyl Benzene	0.520
Total Xylenes	1.400

9MW5

**B4 (GW)**  
2/2/98 Sampling Results:  
(mg/L)

TPH-Gasoline	ND(0.050)
Benzene	ND(0.0005)
Toluene	ND(0.0005)
Ethyl Benzene	ND(0.0005)
Total Xylenes	ND(0.0005)

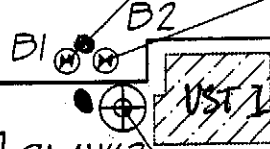
**B1-5.5' (Soil)**  
1/31/97 Sampling Results:

Moisture Content	25.3%
Dry Density	95.4 pcf
Porosity	42.8%
Organic Content	2.9%
Specific Gravity	2.67

B4  
B3

Soil VAPOR TESTS

Groundwater Direction



**B2 (GW)**  
2/3/97 Sampling Results:  
(mg/L)

TPH-Gasoline	41.000
Benzene	14.000
Toluene	2.600
Ethyl Benzene	0.740
Total Xylenes	1.700

Proposed Vapor Sample Location

**9MW3 (GW)**  
Results of Last Four Sampling Rounds:  
(mg/L)

	5/23/96	11/4/96	5/13/97	1/26/98
TPH-Gasoline	4.300	4.500	10.000	12.000
Benzene	3.200	2.100	4.800	5.000
Toluene	0.350	0.130	0.530	0.250
Ethyl Benzene	0.072	0.061	0.100	0.091
Total Xylenes	0.074	0.039	0.092	0.100
MTBE	-	-	ND(0.100)	-
VOCs (8010A) (except BTEX)	ND	ND	ND	ND

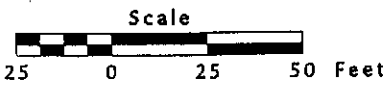
Legend:

- ⊕ Monitoring Well
- ⊗ Geoprobe Sampling Location
- ▨ Previous Excavation (UST?)

Sampling Results for RBCA Model

Former PACO PUMPS  
9201 San Leandro Street  
Oakland, California

Prepared by  
JONAS & ASSOCIATES INC.



Date: 2-16-1998  
Locations Approx.

Figure 3

Drawing Number  
PCO220-2/98:F3

A475A ITEM # 4

Drawn by M.J. 7-24-1995

Drawing Number PC0220-2/95:G8F2-1

Figure 2-1

**9MW1**  
 TPH - Gasoline with BTEX  
 Volatile Organics (8010)

**9MW5**  
 TPH - Gasoline with BTEX  
 TEPH - Diesel, Kerosene, Motor Oil  
 Volatile Organics (8010)

**9MW3**  
 TPH - Gasoline with BTEX  
 TEPH - Diesel, Kerosene, Motor Oil  
 Volatile Organics (8010)

**9MW2**  
 TPH - Gasoline with BTEX  
 TEPH - Diesel, Kerosene, Motor Oil  
 Volatile Organics (8010)

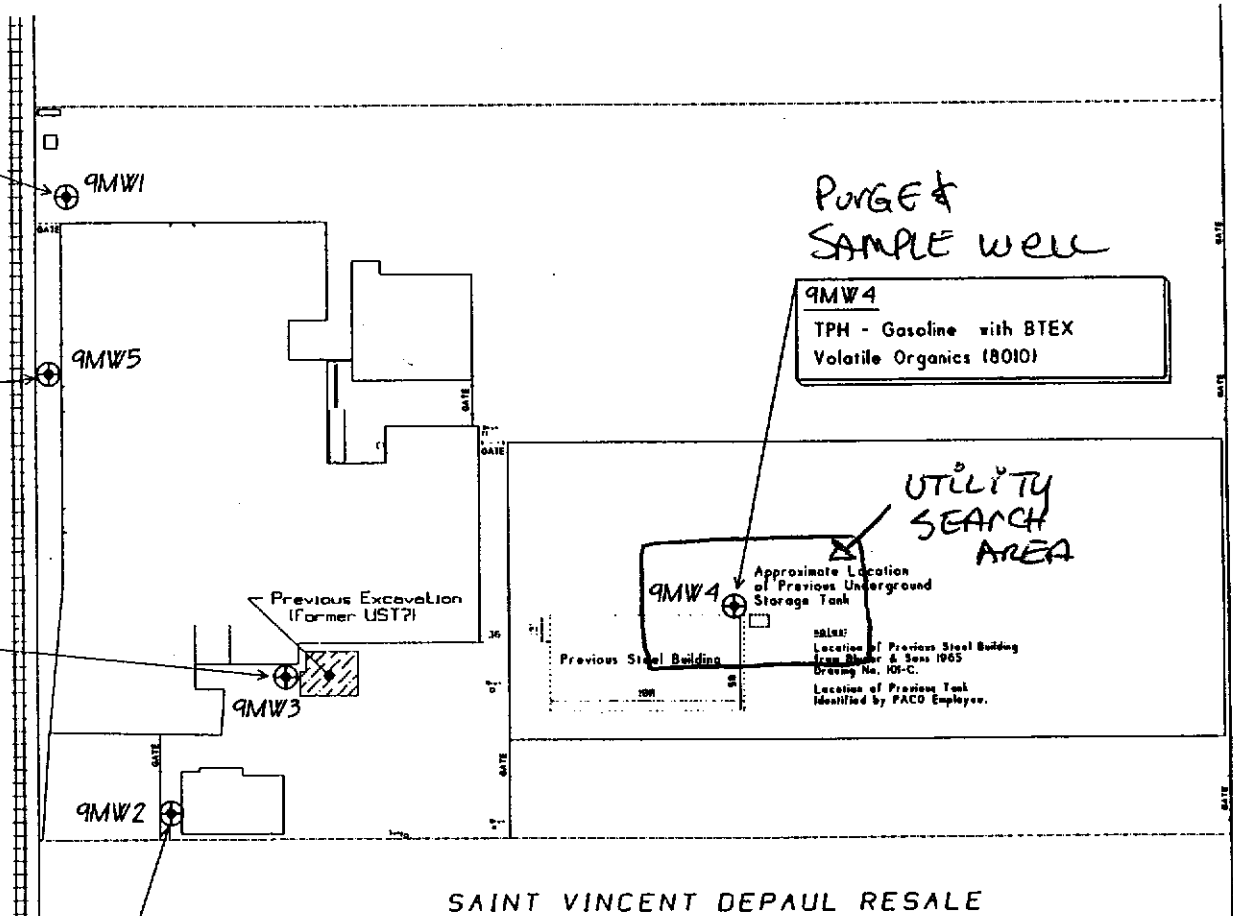
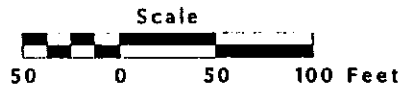
**9MW4**  
 TPH - Gasoline with BTEX  
 Volatile Organics (8010)

**Legend:**

⊕ Monitoring Well  
 With groundwater analyses performed during Round Eight 12/8/1995.

- TPH = Total Petroleum Hydrocarbons
- TEPH = Total Extractable Petroleum Hydrocarbons
- BTEX = Benzene, Toluene, Ethyl Benzene, Total Xylenes
- UST = Underground Storage Tank

Well	Date Installed	Total Depth	Casing Diameter	Borehole Diameter	Screen Depth	Sand Pack Depth
9MW1	11-4-1992	21'	4"	8.5"	5.25'-20.25'	4.25'-21'
9MW2	11-3-1992	21'	4"	8.5"	5.25'-20.25'	4.25'-21'
9MW3	11-4-1992	21'	4"	8.5"	5.25'-20.25'	4.25'-21'
9MW4	11-9-1992	21'	4"	8.5"	5.25'-20.25'	4.25'-21'
9MW5	8-12-1994	21'	4"	8.5"	5.25'-20.25'	4.25'-21'



## Monitoring Wells and Round Eight Groundwater Analyses

PACO Pumps Inc.  
 9201 San Leandro Street  
 Oakland, California

Prepared by  
**JONAS & ASSOCIATES INC.**

Date: 2-24-1995 Locations Approx.	Figure 2-1	Drawing Number PC0220-2/95:G8F2-1
--------------------------------------	------------	--------------------------------------



# ACHSA ITEM # 5 Soil Along RR TRACKS

Propose  
SOIL BORINGS  
along building  
foundation

TEST  
SOIL FOR  
TPH-MO

TRPH @ 3'  
in pits

NO PCB  
detected  
NO VOC'S

Figure 1  
Drawing PC0217-10/91-1-4  
Number

Central Pacific Railroad

Asphalt

4 1100 mg/kg

3 600 mg/kg  
(as creosote)  
only water noted  
in pit

2 < 10

TRPH (TPH-MO)  
130 mg/kg  
@ 3'

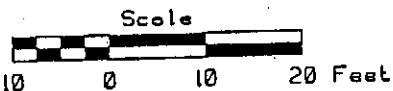
PACO PUMPS  
Operations Building

• Proposed soil borings



Legend:

◆ Dames & Moore  
Soil Samples



Locations of 1987  
Soil Samples

PACO Pumps  
Oakland, California

Prepared by  
**JONAS & ASSOCIATES**

Checked by  
Approved by  
MJ  
10-8-1991

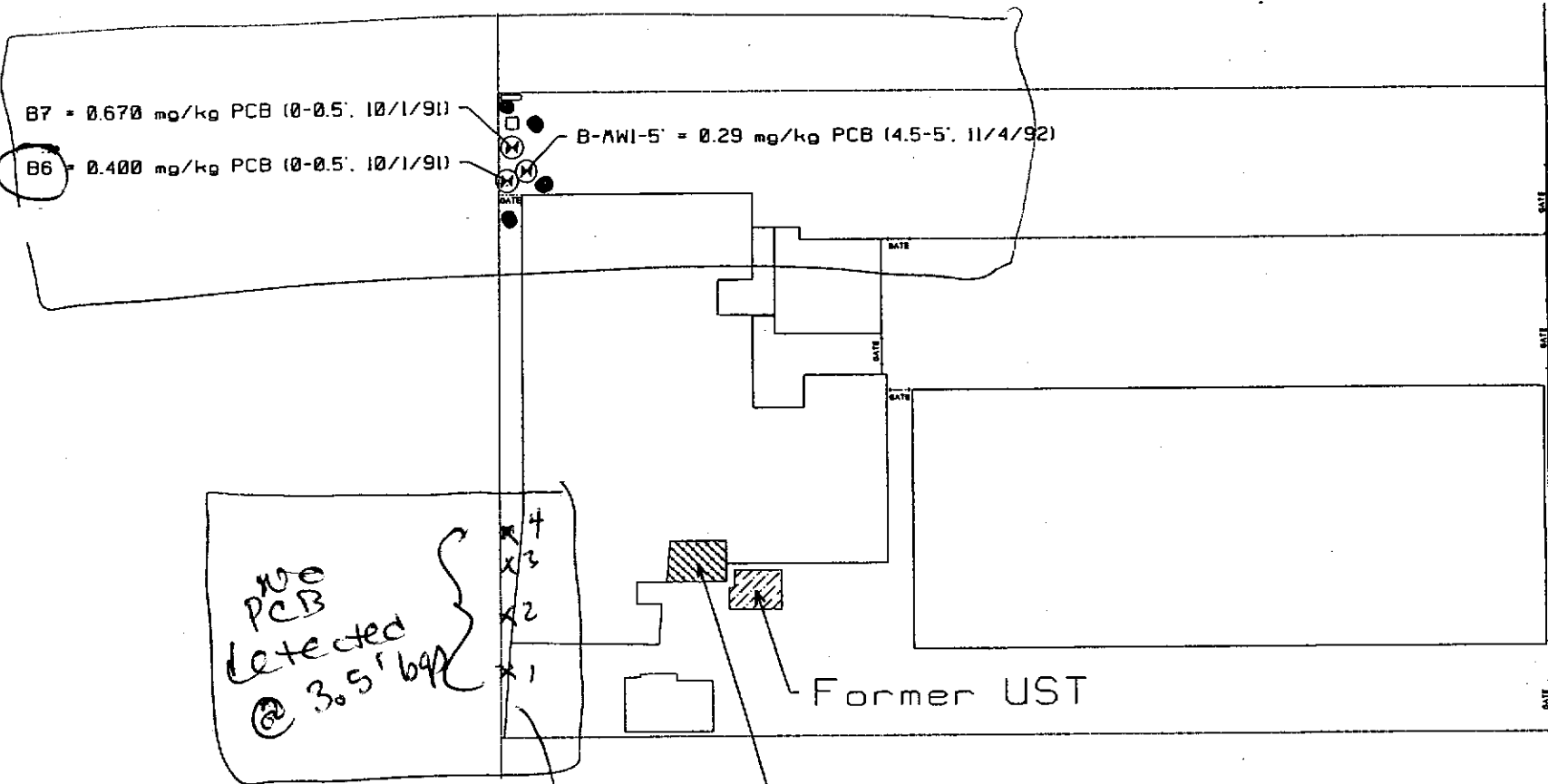
Date: 10-8-1991  
Locations Approx.

Figure 1-4

Drawing Number  
PC0217-10/91-1-4

B6 - Soil vapor

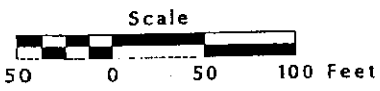
Drawn by M.L.J. 3-3-2000  
Drawing Number PC0220-3/00:F1  
Figure 1



ARKSA ITEM # 6  
 PCB SAMPLE RESULTS - SOURCE?  
 TESTS EXP007-05

Legend:

- ⊗ Borehole Locations
- UST = Underground Storage Tank



### Facility Map

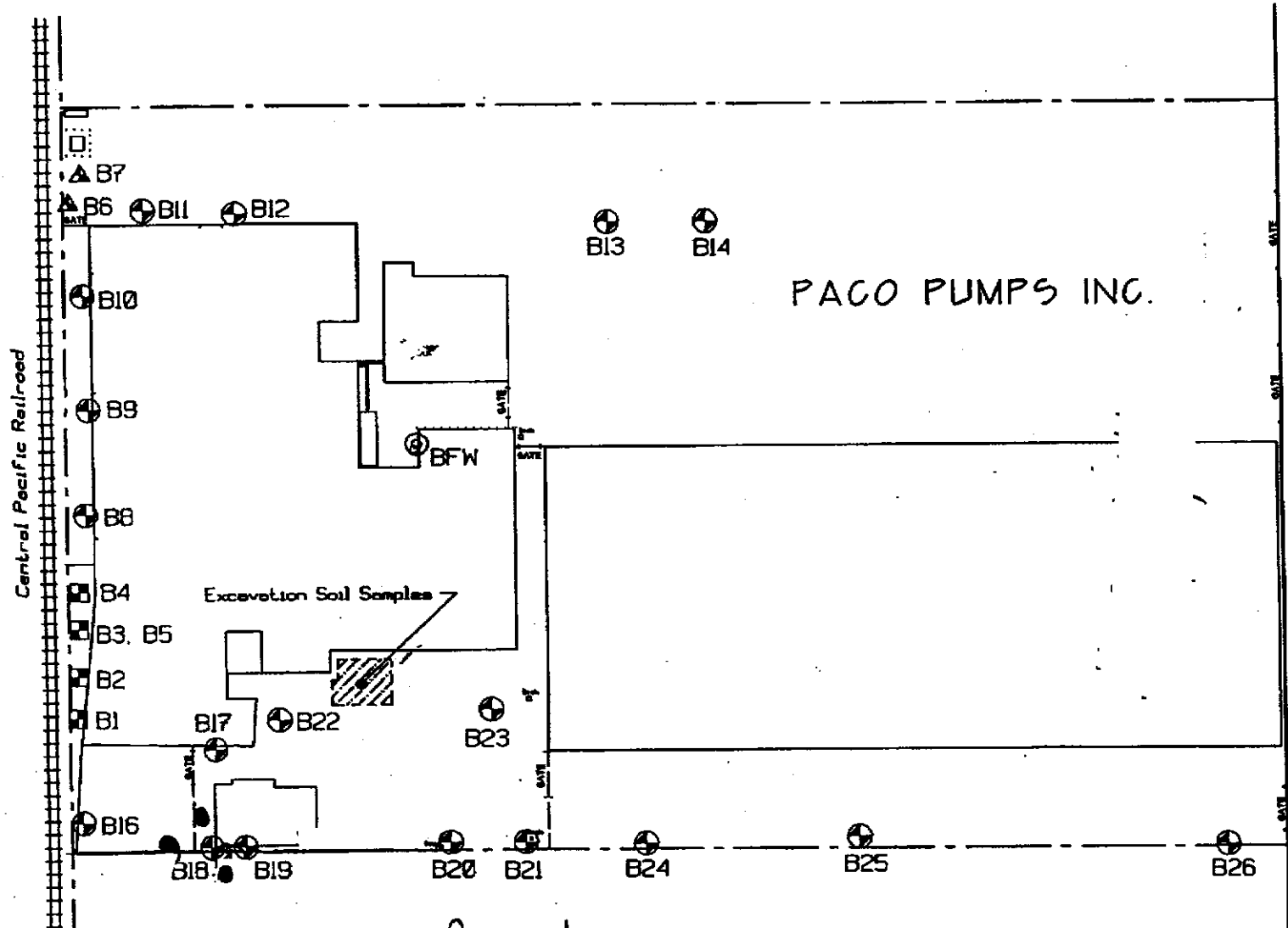
Former PACO PUMPS  
9201 San Leandro Street  
Oakland, California

Prepared by  
**JONAS & ASSOCIATES INC.**

Date: 3-3-2000	Figure 1	Drawing Number PC0220-3/00:F1
Locations Approx.		

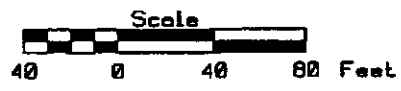
AQHS A ITEM # 7

Drawn by A.J. 5-8-1992 Checked by Approved by Drawing Number PC0228-5/92:F4-1 Figure 4-1



- Legend:**
- ⊕ Composite Soil Sample 0-0.5' & 1.0'-1.5'
  - Discrete Soil Sample 3.0-3.5'
  - ▲ Discrete Soil Sample 0-0.5'
  - ⊙ Water Sample

● Proposed soil boring



Sampling Locations  
PACO Pumps  
9201 San Leandro Street  
Oakland, California

Prepared by  
**JONAS & ASSOCIATES INC.**

Date: 5-8-1992	Figure 4-1	Drawing Number PC0228-5/92:F4-1
Locations Approx.		

## **APPENDIX C**

### **Field Forms**



**GROUNDWATER SAMPLE DATA**

Well #	<u>9MW1</u>	Project Location	<u>9201 SL St.</u>
Project #	<u>07-001-01</u>	Personnel	<u>KC</u>
Purge Date	<u>11.14.07</u>	Purge Rate (pump only)	
Purge Method	<u>Bailer</u>	Parameter Meter	<u>Oakton</u>

Depth to Bottom	- Depth to Water	= Casing volume	* Volume Factor 0.75"=.023 2"=.17 4"=.66	= Gallons per CV
19.9	<b>8.50</b>	<b>11.1</b>	0.66	<b>7.32</b>

Time (24 hour clock)	Gallons Removed	EC (uS/cm)	Temp [C]	pH	Sheen (Y,N,U)	NOTES
<b>14:40</b>	<b>START</b>					
<b>14:45</b>	<b>8</b>	<b>91.0</b>	<b>19.4</b>	<b>7.78</b>		
<b>14:49</b>	<b>16</b>	<b>80.9</b>	<b>19.6</b>	<b>7.82</b>		
<b>14:53</b>	<b>24</b>	<b>87.9</b>	<b>19.1</b>	<b>7.88</b>		
<del>14:56</del>						
<b>14:56</b>	<b>SAMPLE</b>					

Well Dewatered (Y/N)	Total Volume Removed (gal)	Casing Vol removed
<b>N</b>	<b>24</b>	<b>3</b>

Depth to Water at Sampling	Date Sampled	Time Sampled	Sample Method	#/type containers
<b>—</b>	11.14.07	<b>14:56</b>	Disp Bailer	4/VOA

Well # 9MW1

### GROUNDWATER SAMPLE DATA

Well #	9MW2		
Project #	07-001-01	Project Location	9201 SL St.
Purge Date	11.14.07	Personnel	KC
Purge Method	Baller	Purge Rate (pump only)	
Parameter Meter	Oakton		

Depth to Bottom	- Depth to Water	= Casing volume	* Volume Factor 0.75"=.023 2"=.17 4"=.66	= Gallons per CV
20	8.94	12.06	0.66	7.95

Time (24 hour clock)	Gallons Removed	EC (uS/cm)	Temp [C]	pH	Sheen (Y,N,U)	NOTES
12:05 START						
12:25	8		17.7	7.2	7.94	
12:35	16	1055	19.8	7.61		
12:42	24	1083	19.5	7.68		
12:44 SAMPLE						

Well Dewatered (Y/N)	Total Volume Removed (gal)	Casing Vol removed
N	24	3

Depth to Water at Sampling	Date Sampled	Time Sampled	Sample Method	#/type containers
—	11.14.07	12:44	Disp Baller	4/VOA

Well # 9MW2

**GROUNDWATER SAMPLE DATA**

Well #	9MW3		
Project #	07-001-01	Project Location	9201 SL St.
Purge Date	11.14.07	Personnel	KC
Purge Method	Bailer	Purge Rate (pump only)	
Parameter Meter	Oakton		

Depth to Bottom	- Depth to Water	= Casing volume	* Volume Factor 0.75"=.023 2"=0.17 4"=0.66	= Gallons per CV
19.9	9.21	10.69	0.66	7.05

Time (24 hour clock)	Gallons Removed	EC (uS/cm)	Temp [C]	pH	Sheen (Y,N,U)	NOTES
12:57	START					
<del>13:03</del>	<del>7</del>	<del>137.5</del>	<del>19.7</del>	<del>7.54</del>		
13:06	7	137.5	19.7	7.54		
13:15	14	133.7	19.9	7.67		
13:30	21	134.4	20.0	7.62		
13:33	SAMPLE					

Well Dewatered (Y/N)	Total Volume Removed (gal)	Casing Vol removed
N	21	3

Depth to Water at Sampling	Date Sampled	Time Sampled	Sample Method	#/type containers
—	11.14.07	13:33	Disp Bailer	4/VOA

Well # 9MW3



**GROUNDWATER SAMPLE DATA**

<b>Well #</b>	<b>9MW4</b>		
<b>Project #</b>	<b>07-001-01</b>	<b>Project Location</b>	<b>9201 SL St.</b>
<b>Purge Date</b>	<b>11.14.07</b>	<b>Personnel</b>	<b>KC</b>
<b>Purge Method</b>	<b>Bailer</b>	<b>Purge Rate (pump only)</b>	
<b>Parameter Meter</b>	<b>Oakton</b>		

Depth to Bottom	- Depth to Water	= Casing volume	* Volume Factor 0.75"=.023 2"=0.17 4"=0.66	= Gallons per CV
19.9	<b>7.61</b>	<b>12.29</b>	0.66	<b>8.4</b>

Time (24 hour clock)	Gallons Removed	EC (uS/cm)	Temp [C]	pH	Sheen (Y,N,U)	NOTES
<b>14:00</b>	<b>START</b>					
<b>14:03</b>	<b>8</b>	<b>1055</b>	<b>18.5</b>	<b>7.62</b>		
<b>14:07</b>	<b>16</b>	<b>101.1</b>	<b>18.2</b>	<b>7.69</b>		
<b>14:14</b>	<b>24</b>	<b>978</b>	<b>18.1</b>	<b>7.70</b>		
<b>14:16</b>	<b>SAMPLE</b>					

Well Dewatered (Y/N)	Total Volume Removed (gal)	Casing Vol removed
<b>N</b>	<b>24</b>	<b>3</b>

Depth to Water at Sampling	Date Sampled	Time Sampled	Sample Method	#/type containers
<b>7.61</b>	<b>11.14.07</b>	<b>14:16</b>	<b>Disp Bailer</b>	<b>4/VOA</b>

Well # 9MW4

**GROUNDWATER SAMPLE DATA**

Well # 9MW-5  
 Project # 07-001-01 Project Location 9201 SL St.  
 Purge Date 11.14.07 Personnel KC  
 Purge Method Bailer Purge Rate (pump only) \_\_\_\_\_  
 Parameter Meter Oakton

Depth to Bottom	- Depth to Water	= Casing volume	* Volume Factor 0.75"=.023 2"=0.17 4"=0.66	= Gallons per CV
20	<del>5.16</del>	<del>11.84</del>	0.66	<del>25.7</del> 7.81

Time (24 hour clock)	Gallons Removed	EC (uS/cm)	Temp [C]	pH	Sheen (Y,N,U)	NOTES
11:20	START					
11:30	9	66.6	21.2	7.45		
11:55	16	65.7	20.6	7.80		
11:40	24	63.7	20.7	7.88		
11:45	SAMPLE					

Well Dewatered (Y/N)	Total Volume Removed (gal)	Casing Vol removed
N	24	3

Depth to Water at Sampling	Date Sampled	Time Sampled	Sample Method	#/type containers
—	11.14.07	11:45	Disp Bailer	4/VOA

Well # 9MW-5

## **APPENDIX D**

### **Well Elevation Survey**



CSS ENVIRONMENTAL SERVICES, INC.  
 Managing Cost, Scope and Schedule  
 100 Galli Drive, Suite 1  
 Novato, CA 94949  
 Telephone: (415) 883-6203  
 Facsimile: (415) 883-6204

### Site Positions

CSS PROJECT 6513 - ERAS Environmental, Inc.  
 9201 San Leandro Street, Oakland

Horizontal Coordinate System: North American 1983-CONUS      Survey Date: 11/14/07  
 Height System: North American Vertical Datum 1988-Ortho. Ht. (GEOID03)  
 Project file: 6513 ERAS Oakland.spr  
 Desired Horizontal Accuracy: 0.100Ft + 1ppm  
 Desired Vertical Accuracy: 0.100Ft + 2ppm  
 Confidence Level: 95% Err.  
 Linear Units of Measure: Int. Feet

Site ID	Site Descriptor	Position	95% Error	Fix Status	Position Status
1 9MW1	TBM-A IS ON PIN	Lat. 37° 44' 31.93309" N	0.016		Adjusted
	PIN SET DUE TO LOOSE BOX	Lon. 122° 11' 10.99377" W	0.015		
	TBM-A/PIN	Elv. 18.41	0.029		
	N RIM WELL LOCATION	Elv. 18.72			
	N TOC	Elv. 18.05			
2 9MW2	NR WELL LOC	Lat. 37° 44' 30.08494" N	0.017		Adjusted
		Lon. 122° 11' 07.74021" W	0.016		
	N RIM WELL LOCATION	Elv. 19.80			
	N TOC	Elv. 19.40			
3 9MW4	NR WELL LOC	Lat. 37° 44' 32.68602" N	2.000		Adjusted
	INDOOR MW/SHOT OFFSET & ADJ	Lon. 122° 11' 06.40506" W	2.000		
	N RIM WELL LOCATION	Elv. 20.19			
	N TOC	Elv. 19.65			
4 3814	MONUMENT AA3814	Lat. 37° 44' 59.76244" N	0.000	Fixed	Adjusted
		Lon. 122° 12' 18.12186" W	0.000	Fixed	
		Elv. 11.581	0.000	Fixed	
5 9MW3	TBM-B ON N RIM	Lat. 37° 44' 31.02555" N	0.018		Adjusted
		Lon. 122° 11' 07.83577" W	0.017		
	TBM-B/N RIM WELL LOCATION	Elv. 19.98			
	N TOC	Elv. 19.70			
6 9MW5	NR WELL LOC	Lat. 37° 44' 31.34461" N	0.018		Adjusted
		Lon. 122° 11' 10.32096" W	0.016		
	N RIM WELL LOCATION	Elv. 18.72			
	N TOC	Elv. 18.49			
8 2327	MONUMENT HT2327	Lat. 37° 42' 03.09518" N	0.000	Fixed	
		Lon. 122° 11' 22.16561" W	0.000	Fixed	
		Elv. 8.825	0.000	Fixed	



## **APPENDIX E**

### **Standard Operating Procedures**

## **STANDARD OPERATING PROCEDURES --- GROUNDWATER SAMPLING**

---

Prior to groundwater sampling, a measurement is made of the static water level using a water level probe. At sites where the presence of separate-phase hydrocarbons is suspected, a product bailer or an interface probe is used to measure product thickness. The water level probe is cleaned with non-phosphate detergent and rinsed with de-ionized (DI) water between wells.

### **STANDARD PURGE PROCEDURES**

The static water level and well depth are used to calculate the well casing volume. A minimum of 4 well casing volumes of water are purged from the well prior to sampling in order to obtain a representative sample of the groundwater from the formation surrounding the well. Wells should be purged and sampled in order of least to highest suspected concentrations.

Standard purging equipment is a new disposable bailer for each well. Alternatively, purging and sampling systems may be stainless steel bailers; HDPE tubing with a foot-valve, or low-flow purging using a peristaltic pumps. Appropriate personal protective equipment is worn during purging. The well is purged until the clarity, pH, and conductivity of the discharged water have stabilized. "Stabilized" is defined as three consecutive readings within 10% of one another.

These parameters are measured and recorded initially, after every well casing volume is removed, and after the sample is collected. In some localities, turbidity, Eh, and dissolved oxygen measurements may also be required. If the well is purged dry prior to the removal of three or four casing volumes of water, the water level is allowed to recover to 80% of the static level before sampling. Whenever possible, samples will be collected within 24 hours after purging. Ideally, samples will be collected immediately after purging to minimize volatilization of aromatic hydrocarbons.

The standard sampling equipment will be inert polyethylene disposable bailers. New sampling gloves are worn during each sample collection. Sample containers typically consist, depending on the analysis, 40 milliliter volatile organic analysis (VOA) vials with Teflon septa, 1 liter amber glass bottles, or plastic bottles. HCl or other preservative are added to the sample containers as appropriate by the laboratory prior to sampling. The groundwater sample is decanted into each VOA vial to form a meniscus at the top to eliminate air bubbles when capped. The sample is labeled with date, time, sample number, project number and analysis. The samples are stored in a cooler with blue ice or ice, and delivered under chain-of-custody to the state-certified analytical laboratory. For quality control purposes, duplicate samples, trip blanks, and equipment blanks may also be collected. The duplicate sample is given a different number than the original sample from the same well. Trip blanks are prepared by the laboratory using DI water and remain in the cooler. Equipment blanks are collected from sampling equipment using DI water after the equipment has been decontaminated and rinsed.

All non-dedicated purging and sampling equipment is washed in non-phosphate detergent solution and double rinsed with DI water after use in every well to avoid cross-contamination.

Purge water will be properly disposed or temporarily contained in labeled steel barrels pending chemical analysis to determine proper disposal procedure.

## **STANDARD OPERATING PROCEDURE – DIRECT PUSH BORINGS**

### **SOIL CORING AND SAMPLING PROCEDURES**

Prior to drilling, all boreholes will be hand dug to a depth of 4-5 feet below ground surface (bgs) to check for underground utility lines.

Soil and groundwater samples are collected for lithologic and chemical analyses using a direct driven soil coring system. A hydraulic hammer drives sampling rods into the ground to collect continuous soil cores. As the rods are advanced, soil is driven into an approximately 2.5-inch-diameter sample barrel that is attached to the end of the rods. Soil samples are collected in sleeves inside the sample barrel as the rods are advanced. After being driven 4 to 5 feet into the ground, the rods are removed from the borehole. The sleeve containing the soil core is removed from the sample barrel, and can then be preserved for chemical analyses, or used for lithologic description. This process is repeated until the desired depth is reached.

A soil core interval selected for analyses is cut from the sleeve using a hacksaw. The ends of the tube are covered with aluminum foil or Teflon liner and sealed with plastic caps. The soil-filled liner is labeled with the bore number, sample depth, site location, date, and time. The samples are placed in bags and stored in a cooler containing ice. Soil from the core adjacent to the interval selected for analyses is placed in a plastic zip-top bag. The soil is allowed to volatilize for a period of time, depending on the ambient temperature. The soil is scanned with a flame-ionization detector (FID) or photo-ionization detector (PID).

All sample barrels, rods, and tools are cleaned with Alconox or equivalent detergent and de-ionized water. All rinsate from the cleaning is contained in 55-gallon drums at the project site.

### **GROUNDWATER SAMPLING FROM DIRECT PUSH BORINGS**

After the targeted water-bearing zone has been penetrated, the soil-sample barrel is removed from the borehole. Small-diameter well casing with 0.010-inch slotted well screen may be installed in the borehole to facilitate the collection of groundwater samples. Threaded sections of PVC are lowered into the borehole. Groundwater samples may then be collected with a bailer, peristaltic pump, or WaTerra pump until adequate sample volume is obtained.

Groundwater samples are preserved, stored in an ice-filled cooler, and are delivered, under chain-of-custody, to a laboratory certified by the California Department of Health Services (DHS) for hazardous materials analysis.

### **BOREHOLE GROUTING FOR DIRECT PUSH BORINGS**

Upon completion of soil and water sampling, boreholes will be abandoned with neat cement grout to the surface. If the borehole was advanced into groundwater, the grout is pumped through a grouting tube positioned at the bottom of the borehole.

## **STANDARD OPERATING PROCEDURE A- HAND BORINGS**

### **SOIL CORING AND SAMPLING PROCEDURES**

Prior to drilling, the surface is either cored if concrete or hammered through using a pick, if asphalt.

A hand operated coring device equipped with a 3-inch diameter auger bit is advanced into the soil until full. The auger is removed and emptied and this process is repeated until the desired depth is reached. The hand auger is removed and a slide hammer core sampling device, equipped with two 3-inch long, 2-inch diameter brass liners is advanced six inches into the undisturbed soil at the bottom of the borehole.

One of the 3-inch liners is selected and the ends of the tube are covered with Teflon liner and sealed with plastic caps. The soil-filled liner is labeled with the borehole number, sample depth, site location, date, and time. The samples are placed in bags and stored in a cooler containing ice. Soil from the core adjacent to the interval selected for analyses is placed in a plastic zip-top bag. The soil is allowed to volatilize for a period of time, depending on the ambient temperature. The soil is scanned with a flame-ionization detector (FID) or photo-ionization detector (PID).

All sample barrels, rods, and tools are cleaned with Alconox or equivalent detergent and de-ionized water. All rinsate from the cleaning is contained in covered 5-gallon plastic buckets or 55-gallon drums at the project site.

### **BOREHOLE GROUTING FOR HAND BORINGS**

Upon completion of soil and water sampling, boreholes will be abandoned with neat cement grout. If the borehole was advanced into groundwater, the grout is pumped through a grouting tube positioned at the bottom of the borehole.



## **STANDARD OPERATING PROCEDURE – GEOPORBE SOIL-GAS SAMPLING**

A soil-gas sample will not be collected within seven days following a measurable precipitation event.

Sample rods are driven to the desired depth. A soil-gas sampling tubing system is inserted into the rods and connected to an expendable point holder. The rods are retracted a desired 6-inch interval and the expendable drive point on the bottom of the rods is released. Hydrated bentonite is placed around where the drill rod exits the ground to prevent surface air migrating down the outer portion of the rods. The bentonite will be allowed to hydrate and expand for at least 30 minutes prior to purging the sample line.

The soil sample is then collected into a Summa canister. A summa canister is a stainless steel vessel which has had the internal surfaces specially passivated using a "Summa" process. The Summa canister arrives pre-cleaned from the laboratory and with an internal vacuum between 25" Hg and 20" Hg. Prior to use, the pressure in the summa canister is checked with a pressure gauge to ensure a vacuum of at least 25" Hg for quality control purposes.

As a check for air leaks a paper towel or rag wetted with isopropyl alcohol will be placed on all sample line fittings and the top of the inside of the drill rod. Analysis of the sample for isopropyl alcohol will indicate if ambient air entered the sample.

A vacuum is applied to the tubing to purge at least three volumes of air from the sample tubing using a flow regulator at a purge rate from 100 to 200 ml/min.

Once the tubing has been purged of ambient air, it is connected to a summa canister. A particulate filter is used in-line to filter out particles and liquids. A flow controller is placed in line between the filter and the canister to maintain a low purge rate.

The valve on the summa canister is opened, and the soil-gas sample is drawn into the canister. The sample tubing will be checked for condensation. If observed, the sample will be discarded. The flow controller will stop drawing in air after a pre-set time interval. The remaining canister vacuum should be about 5-inches Hg. The vacuum left inside the canister is recorded on the chain-of-custody. The soil-gas samples will be transferred under chain-of-custody procedures to a state certified laboratory for analyses. Upon receipt, the laboratory will check the pressure in the canister and compare it to the pressure recorded on the chain-of-custody for quality control purposes.

## **APPENDIX F**

### **Laboratory Reports and Chain-of-Custody Forms**



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 199356  
ANALYTICAL REPORT

ERAS Environmental  
1533 B Street  
Hayward, CA 94541

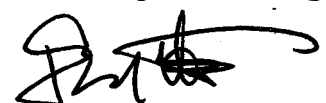
Project : 07-001-01  
Location : 9201 SL St  
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
9MW1	199356-001
9MW2	199356-002
9MW3	199356-003
9MW4	199356-004
9MW5	199356-005

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature:   
Project Manager

Date: 11/30/2007

Signature:   
Operations Manager

Date: 12/05/2007

### CASE NARRATIVE

Laboratory number: 199356  
Client: ERAS Environmental  
Project: 07-001-01  
Location: 9201 SL St  
Request Date: 11/16/07  
Samples Received: 11/16/07

This hardcopy data package contains sample and QC results for five water samples, requested for the above referenced project on 11/16/07. The samples were received cold and intact.

**TPH-Purgeables and/or BTXE by GC (EPA 8015B and EPA 8021B):**

No analytical problems were encountered.

**TPH-Extractables by GC (EPA 8015B):**

No analytical problems were encountered.

# CHAIN OF CUSTODY FORM

**Curtis & Tompkins, Ltd.**  
 Analytical Laboratories, Since 1878  
 2323 Fifth Street  
 Berkeley, CA 94710  
 (510) 486-0900 Phone  
 (510) 486-0532 Fax

C&T  
 LOGIN # 199356

**Analyses**

Project No: 07-001-01 Report To: Gail Jones  
 Project Name: 9201 SL St Company: ERAS Environmental, Inc.  
 Project P.O.: 07-001-02 Telephone: 510.247.9885  
 Turnaround Time: EMAIL: [info@eras.biz](mailto:info@eras.biz)

Lab Number	Sample ID.	Sampling Date Time	Matrix			# of Containers	Preservative					Field Notes	TPH-G/MTBE/BTEX BY 8015/8021 TPH-D
			Soil	Water	Waste		HCL	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	ICE	None		
	9MW1	11.14.07/ 14:56	X			4	X						X
	9MW2	11.14.07/ 12:44	X			4	X						X
	9MW3	11.14.07/ 13:33	X			4	X						X
	9MW4	11.14.07/ 14:16	X			4	X						X
	9MW5	11.14.07/ 11:45	X			4	X						X
	<u>9MW4</u>	<u>11.14.07/14:18</u>	X			<u>2</u>					X		

Notes:  
 Global ID T0608564059; NEED PDF AND EDF

<b>RELINQUISHED BY:</b> <u>[Signature]</u> DATE/TIME <u>11.16.07</u>	<b>RECEIVED BY:</b> <u>[Signature]</u> <u>11/16/07 1424</u> DATE/TIME _____ DATE/TIME _____
--	--

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	199356	Location:	9201 SL St
Client:	ERAS Environmental	Prep:	EPA 5030B
Project#:	07-001-01		
Matrix:	Water	Sampled:	11/14/07
Units:	ug/L	Received:	11/16/07

Field ID:	9MW1	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	131912
Lab ID:	199356-001	Analyzed:	11/19/07

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	92	73-134	EPA 8015B
Bromofluorobenzene (FID)	96	77-140	EPA 8015B
Trifluorotoluene (PID)	74	65-142	EPA 8021B
Bromofluorobenzene (PID)	78	74-135	EPA 8021B

Field ID:	9MW2	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	131912
Lab ID:	199356-002	Analyzed:	11/19/07

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	96	73-134	EPA 8015B
Bromofluorobenzene (FID)	104	77-140	EPA 8015B
Trifluorotoluene (PID)	78	65-142	EPA 8021B
Bromofluorobenzene (PID)	86	74-135	EPA 8021B

ND= Not Detected  
 RL= Reporting Limit

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	199356	Location:	9201 SL St
Client:	ERAS Environmental	Prep:	EPA 5030B
Project#:	07-001-01		
Matrix:	Water	Sampled:	11/14/07
Units:	ug/L	Received:	11/16/07

Field ID:	9MW3	Diln Fac:	20.00
Type:	SAMPLE	Batch#:	131976
Lab ID:	199356-003	Analyzed:	11/21/07

Analyte	Result	RL	Analysis
Gasoline C7-C12	13,000	1,000	EPA 8015B
MTBE	ND	40	EPA 8021B
Benzene	3,900	10	EPA 8021B
Toluene	370	10	EPA 8021B
Ethylbenzene	300	10	EPA 8021B
m,p-Xylenes	87	10	EPA 8021B
o-Xylene	42	10	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	104	73-134	EPA 8015B
Bromofluorobenzene (FID)	101	77-140	EPA 8015B
Trifluorotoluene (PID)	90	65-142	EPA 8021B
Bromofluorobenzene (PID)	91	74-135	EPA 8021B

Field ID:	9MW4	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	131976
Lab ID:	199356-004	Analyzed:	11/20/07

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	6.3	0.50	EPA 8021B
Toluene	0.56	0.50	EPA 8021B
Ethylbenzene	3.4	0.50	EPA 8021B
m,p-Xylenes	1.0	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	95	73-134	EPA 8015B
Bromofluorobenzene (FID)	99	77-140	EPA 8015B
Trifluorotoluene (PID)	83	65-142	EPA 8021B
Bromofluorobenzene (PID)	89	74-135	EPA 8021B

ND= Not Detected  
 RL= Reporting Limit

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	199356	Location:	9201 SL St
Client:	ERAS Environmental	Prep:	EPA 5030B
Project#:	07-001-01		
Matrix:	Water	Sampled:	11/14/07
Units:	ug/L	Received:	11/16/07

Field ID:	9MW5	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	131976
Lab ID:	199356-005	Analyzed:	11/20/07

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	91	73-134	EPA 8015B
Bromofluorobenzene (FID)	100	77-140	EPA 8015B
Trifluorotoluene (PID)	79	65-142	EPA 8021B
Bromofluorobenzene (PID)	89	74-135	EPA 8021B

Type:	BLANK	Batch#:	131912
Lab ID:	QC416194	Analyzed:	11/19/07
Diln Fac:	1.000		

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	101	73-134	EPA 8015B
Bromofluorobenzene (FID)	102	77-140	EPA 8015B
Trifluorotoluene (PID)	81	65-142	EPA 8021B
Bromofluorobenzene (PID)	81	74-135	EPA 8021B

ND= Not Detected  
 RL= Reporting Limit



**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	199356	Location:	9201 SL St
Client:	ERAS Environmental	Prep:	EPA 5030B
Project#:	07-001-01		
Matrix:	Water	Sampled:	11/14/07
Units:	ug/L	Received:	11/16/07

Type:	BLANK	Batch#:	131976
Lab ID:	QC416449	Analyzed:	11/20/07
Diln Fac:	1.000		

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	95	73-134	EPA 8015B
Bromofluorobenzene (FID)	96	77-140	EPA 8015B
Trifluorotoluene (PID)	85	65-142	EPA 8021B
Bromofluorobenzene (PID)	88	74-135	EPA 8021B

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	199356	Location:	9201 SL St
Client:	ERAS Environmental	Prep:	EPA 5030B
Project#:	07-001-01	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC416195	Batch#:	131912
Matrix:	Water	Analyzed:	11/19/07
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	927.9	93	79-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	116	73-134
Bromofluorobenzene (FID)	102	77-140

Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	199356	Location:	9201 SL St
Client:	ERAS Environmental	Prep:	EPA 5030B
Project#:	07-001-01	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	131912
MSS Lab ID:	199069-009	Sampled:	11/07/07
Matrix:	Water	Received:	11/08/07
Units:	ug/L	Analyzed:	11/19/07
Diln Fac:	1.000		

Type: MS Lab ID: QC416196

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	116.2	2,000	1,791	84	72-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	131	73-134
Bromofluorobenzene (FID)	105	77-140

Type: MSD Lab ID: QC416197

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,778	83	72-120	1	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	129	73-134
Bromofluorobenzene (FID)	103	77-140

RPD= Relative Percent Difference

## Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	199356	Location:	9201 SL St
Client:	ERAS Environmental	Prep:	EPA 5030B
Project#:	07-001-01	Analysis:	EPA 8021B
Matrix:	Water	Batch#:	131912
Units:	ug/L	Analyzed:	11/19/07
Diln Fac:	1.000		

Type: BS Lab ID: QC416198

Analyte	Spiked	Result	%REC	Limits
MTBE	10.00	8.944	89	73-123
Benzene	10.00	8.669	87	80-120
Toluene	10.00	8.747	87	80-120
Ethylbenzene	10.00	8.612	86	80-120
m,p-Xylenes	10.00	8.818	88	80-121
o-Xylene	10.00	8.752	88	80-120

Surrogate	%REC	Limits
Trifluorotoluene (PID)	76	65-142
Bromofluorobenzene (PID)	76	74-135

Type: BSD Lab ID: QC416199

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	10.00	9.244	92	73-123	3	20
Benzene	10.00	8.906	89	80-120	3	20
Toluene	10.00	9.553	96	80-120	9	20
Ethylbenzene	10.00	8.871	89	80-120	3	20
m,p-Xylenes	10.00	9.086	91	80-121	3	20
o-Xylene	10.00	8.894	89	80-120	2	20

Surrogate	%REC	Limits
Trifluorotoluene (PID)	77	65-142
Bromofluorobenzene (PID)	77	74-135

RPD= Relative Percent Difference

## Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	199356	Location:	9201 SL St
Client:	ERAS Environmental	Prep:	EPA 5030B
Project#:	07-001-01		
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC416450	Batch#:	131976
Matrix:	Water	Analyzed:	11/20/07
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits	Analysis
MTBE	10.00	9.696	97	73-123	EPA 8021B
Benzene	10.00	10.04	100	80-120	EPA 8021B
Toluene	10.00	9.787	98	80-120	EPA 8021B
Ethylbenzene	10.00	10.52	105	80-120	EPA 8021B
m,p-Xylenes	10.00	10.29	103	80-121	EPA 8021B
o-Xylene	10.00	10.28	103	80-120	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	94	73-134	EPA 8015B
Bromofluorobenzene (FID)	99	77-140	EPA 8015B

## Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	199356	Location:	9201 SL St
Client:	ERAS Environmental	Prep:	EPA 5030B
Project#:	07-001-01	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC416451	Batch#:	131976
Matrix:	Water	Analyzed:	11/20/07
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	889.8	89	79-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	110	73-134
Bromofluorobenzene (FID)	99	77-140

## Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	199356	Location:	9201 SL St
Client:	ERAS Environmental	Prep:	EPA 5030B
Project#:	07-001-01	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	131976
MSS Lab ID:	199368-003	Sampled:	11/19/07
Matrix:	Water	Received:	11/19/07
Units:	ug/L	Analyzed:	11/20/07
Diln Fac:	1.000		

Type: MS Lab ID: QC416452

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	167.6	2,000	1,841	84	72-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	118	73-134
Bromofluorobenzene (FID)	104	77-140

Type: MSD Lab ID: QC416453

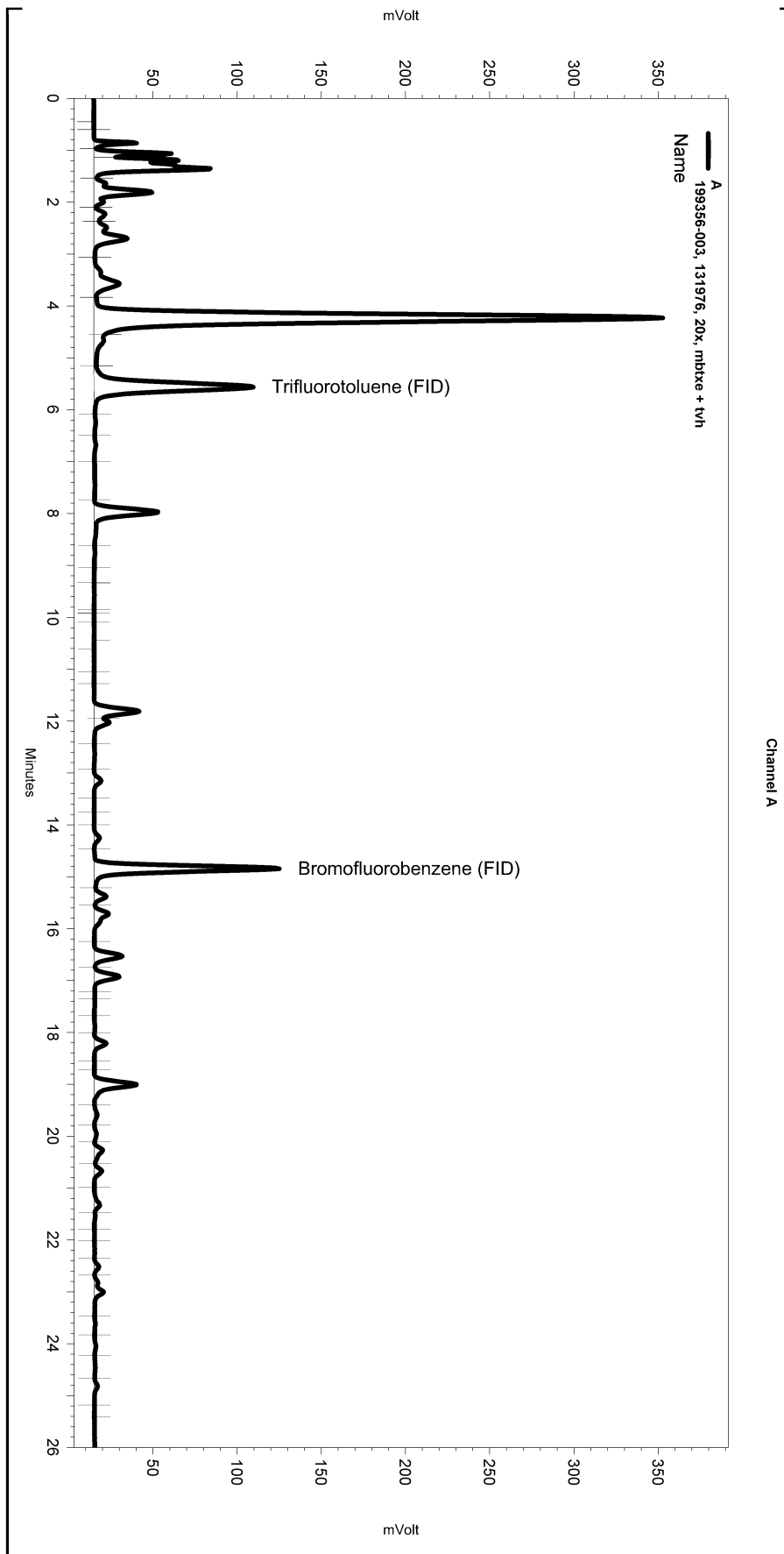
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,825	83	72-120	1	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	118	73-134
Bromofluorobenzene (FID)	105	77-140

RPD= Relative Percent Difference

Sequence File: \\Lims\gdrive\ezchrom\Projects\GC07\Sequence\324.seq  
 Sample Name: 199356-003, 131976, 20x, mbtXe + tvh  
 Data File: \\Lims\gdrive\ezchrom\Projects\GC07\Data\324\_021  
 Instrument: GC07 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)  
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC07\Method\TvhbtXe310.met

Software Version 3.1.7  
 Run Date: 11/21/2007 12:24:56 AM  
 Analysis Date: 11/21/2007 8:29:14 AM  
 Sample Amount: 5 Multiplier: 5  
 Vial & pH or Core ID: c1.3



---< General Method Parameters >---

No items selected for this section

---< A >---

No items selected for this section

Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Width	0	0	0.2
Yes	Threshold	0	0	50

Manual Integration Fixes

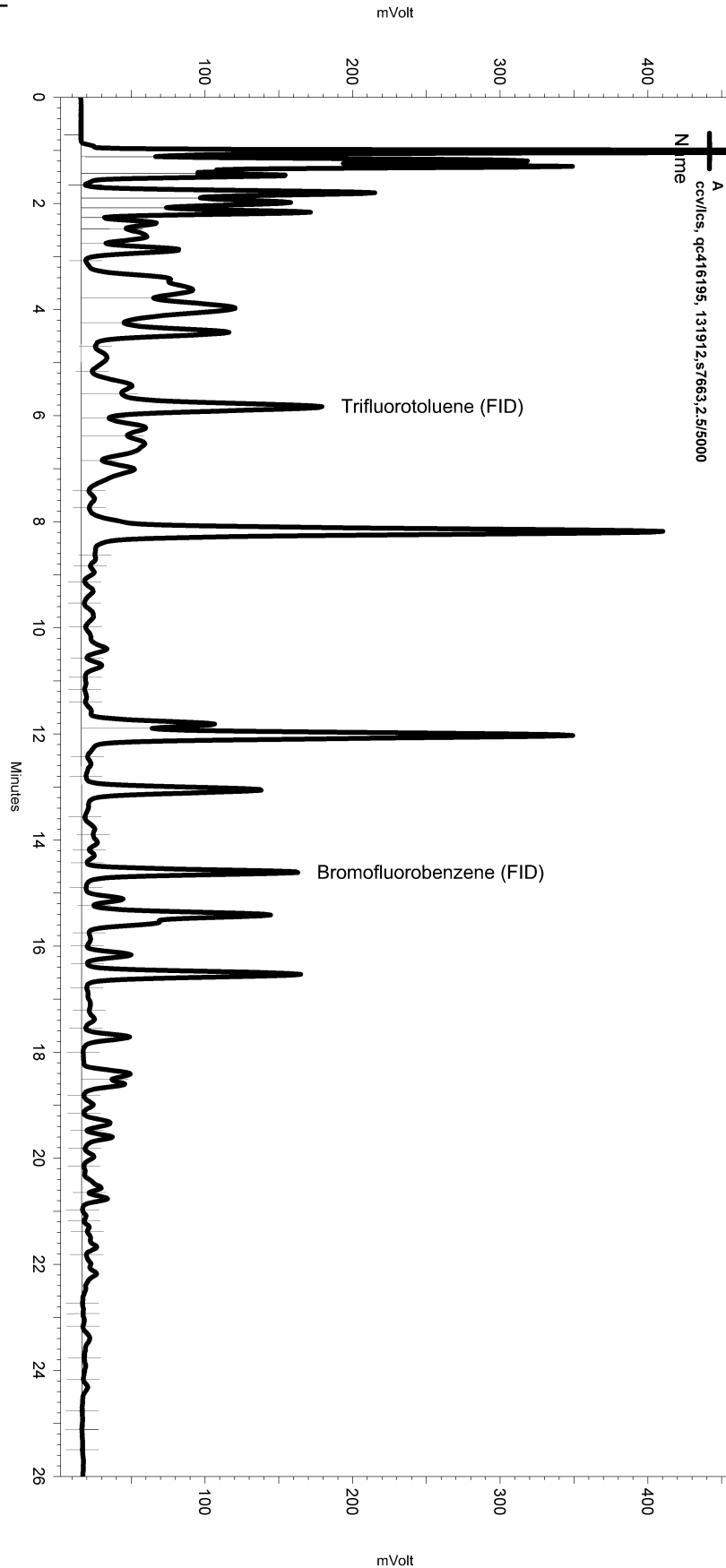
Data File: \\Lims\gdrive\ezchrom\Projects\GC07\Data\324\_021

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Split Peak	4.546	0	0



Sequence File: \\Lims\gdrive\ezchrom\Projects\GC04\Sequence\323.seq  
 Sample Name: ccv/lcs, qc416195, 131912,s7663,2.5/5000  
 Data File: \\Lims\gdrive\ezchrom\Projects\GC04\Data\323\_004  
 Instrument: GC04 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)  
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC04\Method\TVHBTXE302.MET

Software Version 3.1.7  
 Run Date: 11/19/2007 9:16:16 AM  
 Analysis Date: 11/20/2007 11:50:23 AM  
 Sample Amount: 5 Multiplier: 5  
 Vial & pH or Core ID: {Data Description}



---< General Method Parameters >---

No items selected for this section

---< A >---

No items selected for this section

Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Width	0	0	0.2
Yes	Threshold	0	0	50

Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC04\Data\323\_004

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
None				

Total Extractable Hydrocarbons			
Lab #:	199356	Location:	9201 SL St
Client:	ERAS Environmental	Prep:	EPA 3520C
Project#:	07-001-01	Analysis:	EPA 8015B
Field ID:	9MW4	Sampled:	11/14/07
Matrix:	Water	Received:	11/16/07
Units:	ug/L	Prepared:	11/19/07
Diln Fac:	1.000	Analyzed:	11/21/07
Batch#:	131927		

Type: SAMPLE Lab ID: 199356-004

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
Hexacosane	89	61-133

Type: BLANK Lab ID: QC416275

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
Hexacosane	97	61-133

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	199356	Location:	9201 SL St
Client:	ERAS Environmental	Prep:	EPA 3520C
Project#:	07-001-01	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	131927
Units:	ug/L	Prepared:	11/19/07
Diln Fac:	1.000	Analyzed:	11/20/07

Type: BS Cleanup Method: EPA 3630C  
 Lab ID: QC416276

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	1,726	69	58-128

Surrogate	%REC	Limits
Hexacosane	70	61-133

Type: BSD Cleanup Method: EPA 3630C  
 Lab ID: QC416277

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	1,967	79	58-128	13	29

Surrogate	%REC	Limits
Hexacosane	80	61-133

RPD= Relative Percent Difference

## **APPENDIX G**

### **GeoTracker Upload Confirmation**

## Electronic Submittal Information

[Main Menu](#) | [View/Add Facilities](#) | [Upload EDD](#) | [Check EDD](#)

### UPLOADING A GEO\_XY FILE

**Processing is complete. No errors were found!  
Your file has been successfully submitted!**

<b><u>Submittal Title:</u></b>	<b>9201 - XY survey EDF</b>
<b><u>Facility Global ID:</u></b>	<b>T0600101592</b>
<b><u>Facility Name:</u></b>	<b>PACO PUMPS INC</b>
<b><u>Submittal Date/Time:</u></b>	<b>1/8/2008 2:23:09 PM</b>
<b><u>Confirmation Number:</u></b>	<b>1953017294</b>

[Back to Main Menu](#)

Logged in as eras (AUTH\_RP)

CONTACT SITE [ADMINISTRATOR](#).

## Electronic Submittal Information

[Main Menu](#) | [View/Add Facilities](#) | [Upload EDD](#) | [Check EDD](#)

### UPLOADING A GEO\_WELL FILE

**Processing is complete. No errors were found!  
Your file has been successfully submitted!**

<b><u>Submittal Title:</u></b>	<b>9201 - Q4.07 Geo_well</b>
<b><u>Facility Global ID:</u></b>	<b>T0600101592</b>
<b><u>Facility Name:</u></b>	<b>PACO PUMPS INC</b>
<b><u>Submittal Date/Time:</u></b>	<b>1/8/2008 2:21:05 PM</b>
<b><u>Confirmation Number:</u></b>	<b>2379397332</b>

[Back to Main Menu](#)

Logged in as eras (AUTH\_RP)

CONTACT SITE [ADMINISTRATOR](#).

# Electronic Submittal Information

[Main Menu](#) | 
 [View/Add Facilities](#) | 
 [Upload EDD](#) | 
 [Check EDD](#)

Your EDF file has been successfully uploaded!

**Confirmation Number:** 8690705955  
**Date/Time of Submittal:** 1/8/2008 2:05:45 PM  
**Facility Global ID:** T0600101592  
**Facility Name:** PACO PUMPS INC  
**Submittal Title:** 9201 - Q4.07 EDF  
**Submittal Type:** GW Monitoring Report

Click [here](#) to view the detections report for this upload.

<b>PACO PUMPS INC</b> 9201 SAN LEANDRO OAKLAND, CA 94603	<b><u>Regional Board - Case #: 01-1721</u></b> SAN FRANCISCO BAY RWQCB (REGION 2) <b><u>Local Agency (lead agency) - Case #: R00000320</u></b> ALAMEDA COUNTY LOP - (JTW)
--	--

<b><u>CONF #</u></b>	<b><u>TITLE</u></b>	<b><u>QUARTER</u></b>
8690705955	9201 - Q4.07 EDF	Q4 2007
<b><u>SUBMITTED BY</u></b>	<b><u>SUBMIT DATE</u></b>	<b><u>STATUS</u></b>
Kasey Cordoza	1/8/2008	PENDING REVIEW

**SAMPLE DETECTIONS REPORT**

# FIELD POINTS SAMPLED	5
# FIELD POINTS WITH DETECTIONS	2
# FIELD POINTS WITH WATER SAMPLE DETECTIONS ABOVE MCL	1
SAMPLE MATRIX TYPES	WATER

**METHOD QA/QC REPORT**

METHODS USED	CATPH-D,CATPH-G,SW8021B
TESTED FOR REQUIRED ANALYTES?	N
MISSING PARAMETERS NOT TESTED:	
- CATPH-D REQUIRES TPHC28C40 TO BE TESTED - CATPH-D REQUIRES TPHC10C28 TO BE TESTED - CATPH-G REQUIRES TPHC6C12 TO BE TESTED - SW8021B REQUIRES ETBE TO BE TESTED - SW8021B REQUIRES TAME TO BE TESTED - SW8021B REQUIRES DIPE TO BE TESTED - SW8021B REQUIRES TBA TO BE TESTED - SW8021B REQUIRES DCA12 TO BE TESTED - SW8021B REQUIRES EDB TO BE TESTED - SW8021B REQUIRES XYLENES TO BE TESTED	
LAB NOTE DATA QUALIFIERS	Y

**QA/QC FOR 8021/8260 SERIES SAMPLES**

TECHNICAL HOLDING TIME VIOLATIONS	0
METHOD HOLDING TIME VIOLATIONS	0
LAB BLANK DETECTIONS ABOVE REPORTING DETECTION LIMIT	0

LAB BLANK DETECTIONS		0
DO ALL BATCHES WITH THE 8021/8260 SERIES INCLUDE THE FOLLOWING?		
- LAB METHOD BLANK		Y
- MATRIX SPIKE		N
- MATRIX SPIKE DUPLICATE		N
- BLANK SPIKE		Y
- SURROGATE SPIKE		Y
<b><u>WATER SAMPLES FOR 8021/8260 SERIES</u></b>		
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135%		n/a
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30%		n/a
SURROGATE SPIKES % RECOVERY BETWEEN 85-115%		Y
BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130%		Y
<b><u>SOIL SAMPLES FOR 8021/8260 SERIES</u></b>		
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135%		n/a
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30%		n/a
SURROGATE SPIKES % RECOVERY BETWEEN 70-125%		n/a
BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130%		n/a
<b><u>FIELD QC SAMPLES</u></b>		
<u>SAMPLE</u>	<u>COLLECTED</u>	<u>DETECTIONS &gt; REPD</u>
QCTB SAMPLES	N	0
QCEB SAMPLES	N	0
QCAB SAMPLES	N	0

Logged in as eras (AUTH\_RP)

CONTACT SITE [ADMINISTRATOR](#).



## Electronic Submittal Information

[Main Menu](#) | [View/Add Facilities](#) | [Upload EDD](#) | [Check EDD](#)

### UPLOADING A GEO\_Z FILE

**Processing is complete. No errors were found!  
Your file has been successfully submitted!**

<b><u>Submittal Title:</u></b>	<b>9201 - Z survey EDF</b>
<b><u>Facility Global ID:</u></b>	<b>T0600101592</b>
<b><u>Facility Name:</u></b>	<b>PACO PUMPS INC</b>
<b><u>Submittal Date/Time:</u></b>	<b>1/8/2008 2:24:25 PM</b>
<b><u>Confirmation Number:</u></b>	<b>9913683831</b>

[Back to Main Menu](#)

Logged in as eras (AUTH\_RP)

CONTACT SITE [ADMINISTRATOR](#).