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September 15, 2008

Alameda County
SEP 16 2008
Environmental Health

Mr. Jerry Wickham
Senior Hazardous Materials Specialist
Alameda County Health Care Services Agency
Environmental Health Services
Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: 9201 San Leandro Street, Oakland, CA; Former Paco Pumps, Inc. Facility
Fuel Leak Case No. RO0000320 and Geo Tracker Global ID T0600101592

Dear Mr. Wickham:

I am writing on behalf of our client, H. Mark Vignoles and 9201 San Leandro, LLC, the current owner of the above-referenced property located at 9201 San Leandro Street in Oakland.

On August 21, 2007, the Alameda County Health Care Services Agency ("Alameda County") sent a letter to John Lilla, of Paco Pumps, Inc., Dallas Nelson, of GP Holdings, LLC, and Mr. Vignoles to request copies of five referenced technical reports concerning previous environmental investigations at the property, dated between 1985 and 1991, and preparation of a work plan for a further investigation that would address the technical comments set forth your letter. As you know, Mr. Lilla failed to respond to the August 21, 2007 letter even though Alameda County has properly designated Paco Pumps, Inc. as the primary responsible party, and GP Holdings no longer owns the property. As a result, Mr. Vignoles complied with Alameda County's requirements by retaining a consultant, Eras Environmental, Inc. ("Eras"), to prepare and implement the requested work plan. On or about July 31, 2008, Eras submitted its Subsurface Investigation and Groundwater Monitoring Report, Quarter 2, 2008, which is currently under review by Alameda County. However, neither Mr. Vignoles nor Eras was able to provide any of the five earlier technical reports because Mr. Vignoles did not have copies of those documents.

9201 San Leandro, LLC is currently involved in litigation with PCC Flow Technologies Holdings, Inc. ("PCC Flow"), which is the corporate successor to Paco Pumps, Inc., concerning PCC Flow's failure to complete required investigation and remediation activities at the subject property. In the context of that litigation, PCC Flow recently produced to our office two of the five requested reports: (1) Danes & Moore. 1987. Site Contamination Study -- Paco Pumps Facility, Oakland, for Amsted Industries; and (2) Jonas & Associates, Inc. 1991. Soil Characterization Report, Stained Asphalt/Concrete Area -- Paco Pumps, Inc., 9201 San Leandro Street, Oakland, California, October 30, 1991. Therefore, in response to Alameda County's request, a copy of each of these reports is enclosed with this letter. PCC Flow did not produce, and thus Mr. Vignoles continues to be unable to provide, the other three technical reports.

John Lilla was formerly Vice President of Paco Pumps, Inc. and is currently a Vice President of PCC Flow. The corporate headquarters of PCC Flow is located at 16801 Greenspoint Park Drive, Houston, Texas, which is the address used for Mr. Lilla in Alameda County's August 21, 2007 letter. Thus, although Mr. Lilla and PCC Flow presumably received that letter, PCC Flow failed and refused for over a year to provide the enclosed reports directly to Alameda County and continues to refuse to comply with Alameda County's directives to further investigate and remediate the contamination caused by Paco Pumps, Inc. at the property.

In addition to the August 21, 2007 letter, Alameda County sent at least three subsequent letters concerning the property to the same three addressees (Messrs. Lilla, Nelson, and Vignoles) -- on October 11, 2007, and January 31 and May 9, 2008. With respect to Mr. Lilla, the three subsequent letters were addressed to him, for Paco Pumps, Inc., at 800 Koomey Road, Brookshire, Texas. This is to advise Alameda County that the Paco Pumps, Inc. located in Brookshire, Texas is not the same corporate entity as the Paco Pumps, Inc. which formerly owned and operated the property at 9201 San Leandro Street in Oakland.

Through the litigation, we have learned that in 1994, PCC Flow acquired all the stock of the Paco Pumps, Inc. that formerly owned and operated at 9201 San Leandro Street in Oakland, and Paco Pumps, Inc. later merged into PCC Flow. In 2004, PCC Flow sold the assets of Paco Pumps, Inc. to Sulzer Pumps, Inc. ("Sulzer"). However, Sulzer did not assume any of the pre-existing environmental liabilities of Paco Pumps, Inc. To the contrary, PCC Flow reportedly agreed to indemnify Sulzer for any such liabilities. In 2006, Sulzer in turn sold the assets of Paco Pumps, Inc. to another company, Grundfos CBS, Inc. ("Grundfos"). Thus, the Paco Pumps, Inc. located at Koomey Road, Brookshire, Texas is apparently owned by Grundfos.

PCC Flow has admitted in the litigation that it is the corporate successor by merger to Paco Pumps, Inc., the former owner and operator of the subject property in Oakland. For this reason, we respectfully suggest that Alameda County direct further correspondence concerning this property to Mr. John Lilla, Vice President, PCC Flow Technologies Holdings, Inc., 16801 Greenspoint Park Drive, Suite 355, Houston, Texas, 77060.

Finally, this is to advise Alameda County that, in 1995, Paco Pumps, Inc. entered into an Indemnification Agreement in connection with its sale of the subject property to GP Holdings, LLC. Under the Indemnification Agreement, Paco Pumps, Inc. agreed to investigate, monitor, and remediate all contaminants released into or on the property prior to the transfer of the property to GP Holdings, LLC, as requested or directed by any regulatory agency exercising authority over such matters, including Alameda County, until such time as the agency provided written notice that no further action is required. Paco Pumps, Inc. further agreed to indemnify GP Holdings, LLC, its lenders, and any of their assigns and successors in interest which may take title to the property, including Mr. Vignoles and 9201 San Leandro, LLC, from any liabilities, damages, fees, penalties, or losses arising out of any demand, claim, or suit by any agency or other party relating to any contaminants released into or onto the property prior to the transfer of the property to GP Holdings, LLC. (For your reference, a copy of the Indemnification Agreement is enclosed with this letter.) This Indemnification Agreement by Paco Pumps, Inc. and in favor subsequent property owners certainly supports Alameda County's August 15, 2007 Notice of Responsibility making Paco Pumps, Inc. the primary responsible party, and also supports making our client secondarily responsible inasmuch as our client is merely the current owner and did not cause or contribute to the unauthorized releases. Thus, in failing to comply with Alameda County's requirements for the property, PCC Flow, as successor to Paco Pumps, Inc., is in breach of its contractual obligations under the Indemnification Agreement as well as in breach of its obligations to Alameda County as primary responsible party.

Please contact me if you have any questions.

Sincerely,

Marc Zeppetello

Marc A. Zeppetello

MAZ/fmc

Enclosures

cc: H. Mark Vignoles, 9201 San Leandro, LLC (w/o enclosures)
Mr. John Lilla, Vice President, PCC Flow (w/o enclosures)
Mr. Scott Kaplan, Counsel for PCC Flow (w/o enclosures)

SOIL CHARACTERIZATION REPORT
STAINED ASPHALT/CONCRETE AREA

PACO PUMPS, INC.
9201 SAN LEANDRO STREET
OAKLAND, CALIFORNIA
October 30, 1991

JONAS & ASSOCIATES INC.
Environmental Consultants

PCC001279

SOIL CHARACTERIZATION REPORT
STAINED ASPHALT/CONCRETE AREA

PACO PUMPS, INC.
9201 SAN LEANDRO STREET
OAKLAND, CALIFORNIA
October 30, 1991

SOIL CHARACTERIZATION REPORT
STAINED ASPHALT/CONCRETE AREA

PACO PUMPS, INC.
9201 SAN LEANDRO STREET
OAKLAND, CALIFORNIA

October 30, 1991

Prepared for

PACO Pumps, Inc.
Oakland, California

Prepared by

Jonas & Associates Inc.
1056 Dale Place
Concord, California 94518
(415) 676-8554

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PACO Pumps, Inc.
October 30, 1991

In September of 1991, PACO Pumps retained Jonas & Associates Inc. to perform a soil investigation of an area located at the western boundary of their property, adjacent to the Central Pacific Railroad tracks. This area is approximately 35 feet by 15 feet in dimensions. The floor of this area is covered with asphalt and concrete pad, which extends into an asphalted parking lot. Drums and bins containing scrap metals are temporarily stored at this location. In this report, this area is identified as the Asphalt/Concrete Area.

Stained ground surface was observed at this location. In order to determine whether any or a release of chemical substances has occurred in this area, two soil samples were collected. Soil samples were collected in brass sleeves from the first six inches of the native soil encountered underneath the asphalt/concrete pad. Following the soil collection, the boring locations were plugged with the cuttings and re-asphalted.

Both samples were analyzed by Chromalab Inc., a California State Certified Analytical Laboratory for the following parameters:

- Extractable Petroleum Hydrocarbons (EPH) - EPA Method 3550/8015;
- Volatile Petroleum Hydrocarbons (VPH) - EPA Method 5030/8015;
- Volatile Organic Compounds (VOCs) - EPA Method 8240;
- Semi-Volatile Organic Compounds (Semi-VOCs) - EPA Method 8270;
- Pesticides and Polychlorinated Biphenyl - EPA Method 8080; and
- Title 22 Metals - EPA Method 6010 and 7000 series.

On October 12, 1991, laboratory analytical data was received by Jonas & Associates Inc. Extractable Petroleum Hydrocarbons, Volatile Petroleum Hydrocarbons, Volatile Organic Compounds, Semi-Volatile Organic Compounds, and Pesticides were not detected above the method detection limits in both of the soil samples. Polychlorinated Biphenyl (PCB 1260) was detected in both samples B6 and B7 at concentrations of 0.40 milligram/kilogram (mg/kg) and 0.67 mg/kg, respectively.

A source for PCB found in the soil is not yet identified. According to 40 CFR, Part 761, Subpart G - PCB Spill Cleanup Policy:

> "PCB contaminated soil should be removed to 10 mg/kg, provided that soil is excavated to a minimum depth of 10 inches. The excavated soil should be replaced with clean soil (less than 1 mg/kg PCBs)."

The PCB detected in this area is well below 10 mg/kg. In addition, PCB concentrations detected in this area also are below the Total Threshold Limit Concentration Value of 50 mg/kg.

Metals were detected in both of the samples. Barium (B6:10.7 mg/kg; B7:138 mg/kg), Cadmium (B6:0.595 mg/kg; B7:1.99 mg/kg), Cobalt (B6:0.804 mg/kg; B7:0.991 mg/kg), Chromium (B6:2.63 mg/kg; B7:57.8 mg/kg), and Nickel (B6:1.28 mg/kg; B7:348 mg/kg) were detected in both of the samples. Lead and Zinc were detected in sample B6 at concentrations of 85.4 mg/kg and 22.5 mg/kg, respectively. Molybdenum and Vanadium were detected in Sample B7 at concentration levels of 8.85 mg/kg and 146 mg/kg, respectively.

None of the metals exceeded the Total Threshold Limit Concentrations (TTLC). Since the detected PCB and metals are below the required regulatory levels, cleanup of this area may not be required. However, the final determination must be made by the regulatory agencies. It is recommended that a copy of this report be submitted to the Alameda County Health Care Services Agency for their review and approval*. Their address is as follows:

Alameda County Health Care Services Agency
Department of Environmental Health
Hazardous Materials Program
80 Swan Way, Room 200
Oakland, California 94621

Attention: Mr. Barney M. Chan, Hazardous Materials Specialist

* NOTE: A $400 deposit is required for submittal to the Alameda County Health Care Services Agency.

Soil Characterization Investigation
PACO Pumps, Inc.
October 30, 1991

SECTION 1.0

INTRODUCTION

1.1 FACILITY DESCRIPTION

PACO Pumps, Inc. is located at 9201 San Leandro Street, in the City of Oakland, Alameda County, California. Figure 1-1 is a regional site location map. This parcel is approximately 4.8 acres in size with approximately 92,240 square feet of office and manufacturing space. It is bounded to the north by Q.A. Products Inc., to the west by the Central Pacific Railroad, to the south by St. Vincent de Paul Resale Shop, and to the east by San Leandro Street, the Bay Area Transit (BART) and Western Pacific Railroad (WPRP).

PACO Pumps has been operating at this facility since 1945. Currently PACO Pumps is owned by Newpac Industries Inc. (Newpac). Prior to Newpac, the facility was owned by Amsted Industries, Inc. Before PACO's occupancy, a tent manufacturer operated at the site. Previous to that, this was the site of a foundry.

PACO Pumps manufactures pumps. Pump manufacturing is a 5-step process: machining, welding, assembly, painting, and packaging. Rough castings are received that require machining. The machining process includes milling, turning, and grinding, often using water-soluble cutting fluids. After welding and assembly, the parts are painted. Painting is performed in one of the two paint booths equipped with a water wash system to capture overspray. Waste paint is separated from the water with a centrifuge and the water is recirculated. Finished pumps are then packaged for shipment.

1.2 PURPOSE AND SCOPE

In September of 1991, PACO Pumps retained Jonas & Associates Inc. to perform a soil investigation of an area located at the western boundary of their property, adjacent to the Central Pacific Railroad tracks. This area is approximately 35 feet by 15 feet in dimensions. The floor of this area is covered with asphalt and concrete pads, which extend into an asphalted parking lot. Drums and bins containing scrap metals are temporarily stored at this location. Figure 1-2 identifies the location of the study area. In this report, this area will be referred to as Asphalt/Concrete Area.

The purpose of this report is to present a description of the facility and the study area, to discuss general environmental setting of the study area, describe the soil sampling activities performed by Jonas & Associates Inc., discuss the results of the soil sampling and analysis, and make recommendations for future actions.

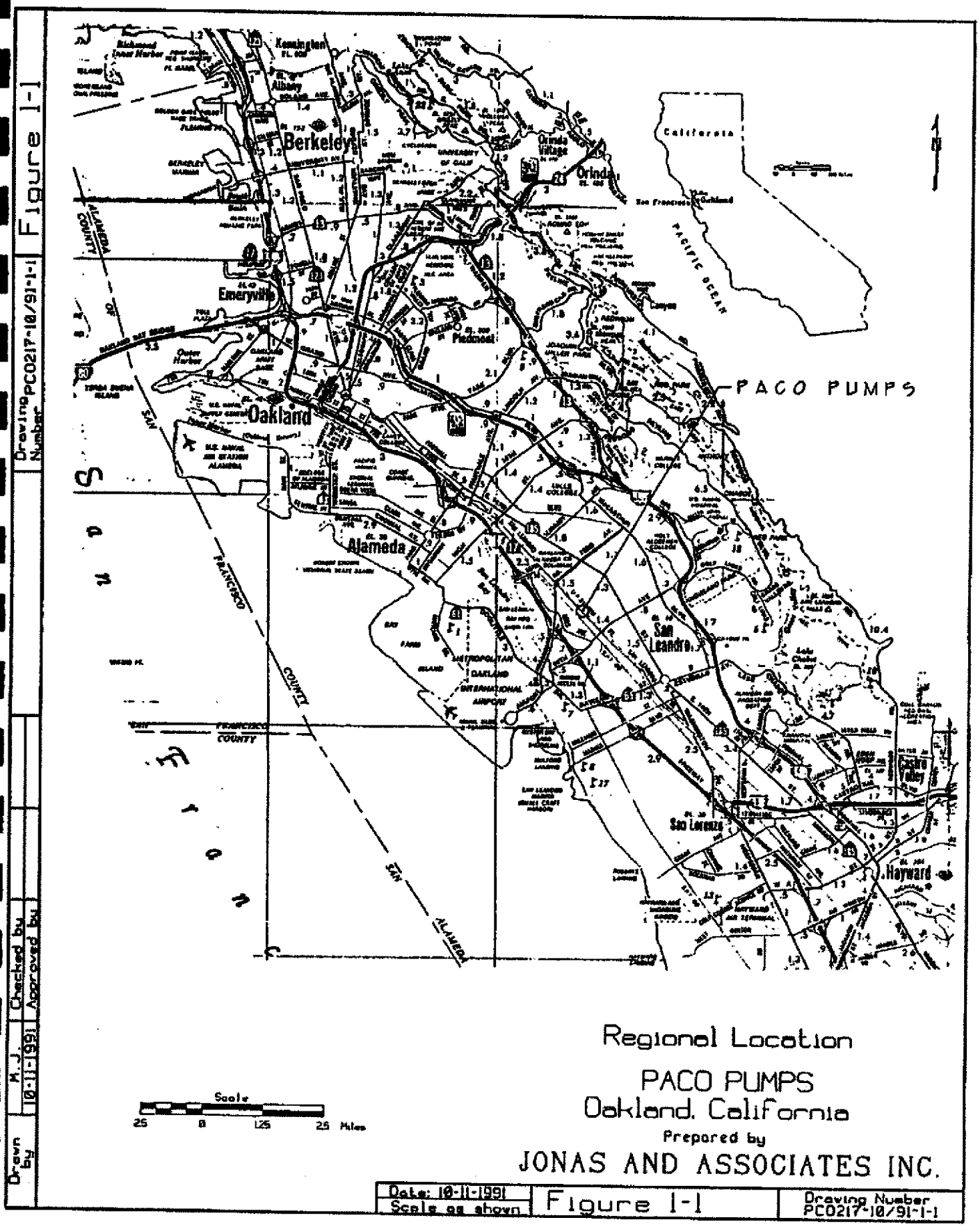
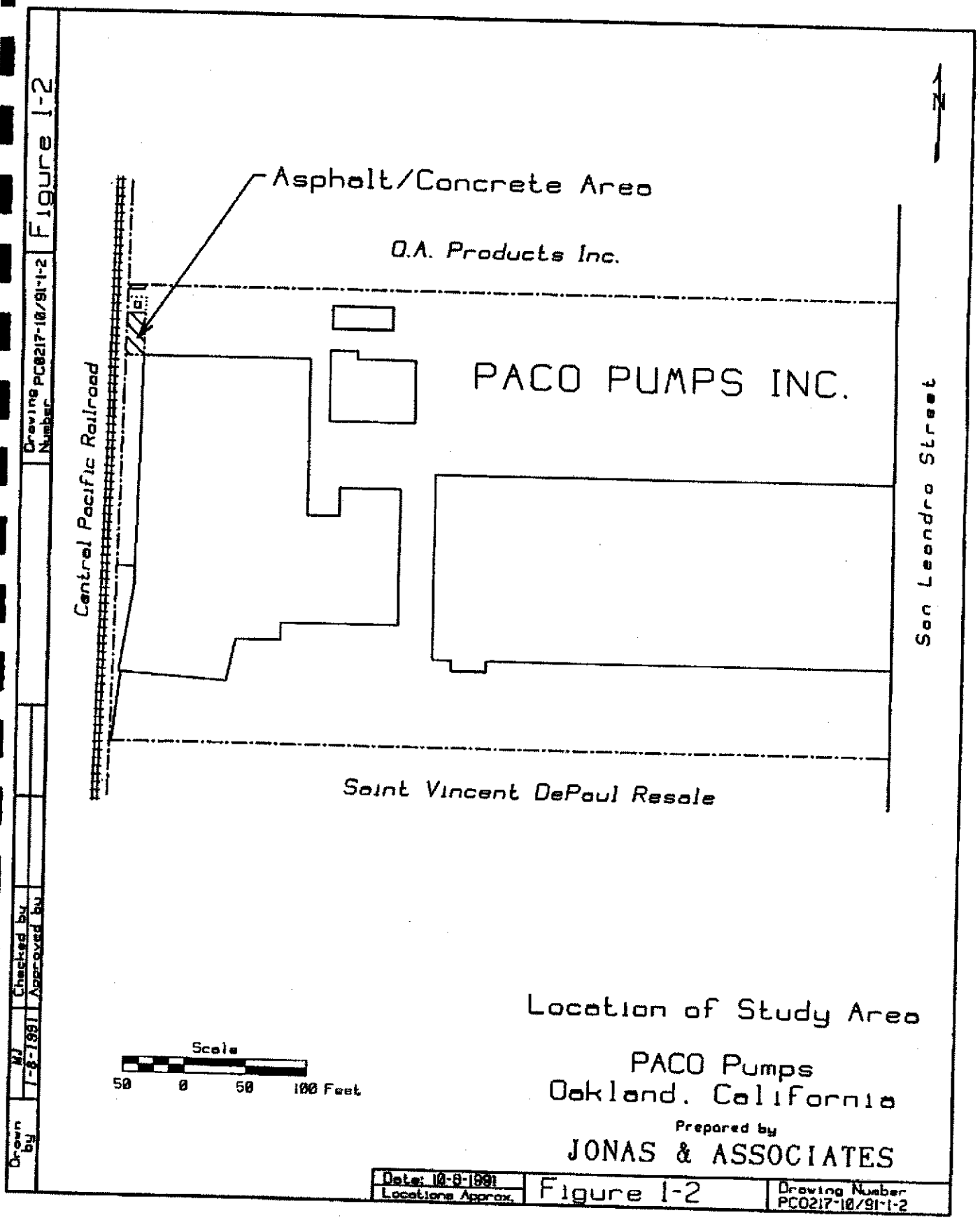


Figure 1-1
Drawing Number PC0217-10/91-1-1
Richmond Inner Harbor
Kensington
Albany
Berkeley
Orinda Village
Orinda
California
Emeryville
Piedmont
PACO PUMPS
Oakland
Alameda
San Leandro
San Lorenzo
Hayward
PACIFIC OCEAN
SAN FRANCISCO BAY
ALAMEDA COUNTY
SAN FRANCISCO COUNTY
Scale
25 0 1.25 2.5 Miles
Regional Location
PACO PUMPS
Oakland, California
Prepared by
JONAS AND ASSOCIATES INC.
Drawn by M.J.
Checked by
Approved by
10-11-1991
Date: 10-11-1991
Scale as shown
Figure 1-1
Drawing Number PC0217-10/91-1-1


Asphalt/Concrete Area
O.A. Products Inc.
PACO PUMPS INC.
Central Pacific Railroad
San Leandro Street
Saint Vincent DePaul Resale
N
Scale
50 0 50 100 Feet
Location of Study Area
PACO Pumps
Oakland, California
Prepared by
JONAS & ASSOCIATES
Date: 10-8-1991
Locations Approx.
Figure 1-2
Drawing Number PC0217-10/91-1-2
Figure 1-2
Drawing Number PC0217-10/91-1-2
Drawn by
Checked by
Approved by

This Soil Characterization Investigation report consists of the following three sections:

Section 1.0 is the introduction and presents an overview of the project, lists the contents of this report, and presents the environmental setting of the study site.

Section 2.0 discusses soil sampling results and recommendations.

Section 3.0 lists references used in preparation of this report.

1.3 ENVIRONMENTAL SETTING

1.3.1 GEOGRAPHY

PACO Pumps, Inc. is located in Alameda County, within the City of Oakland, approximately 25 miles northeast of the City of San Francisco. The city of Oakland is part of the San Francisco Bay region. The San Francisco Bay region lies between northern latitudes 36° and 39°. and extends across the lowest and narrowest segment of the Coast Ranges in central California. This region covers an area of 7,500 square miles consisting of northwest trending mountain ranges, broad basins, and narrow valleys generally paralleling major geologic structures and the coastline of central California (Helley, 1979).

About 65 percent of the San Francisco Bay consists of rounded hills and rugged mountain uplands with many ridge crests rising above 1,000 feet and a few peaks rising above 4,000 feet. Almost 11 percent of the San Francisco Bay consists of the open water and tidal marshlands adjacent to the Bay. The remaining 24 percent consists of relatively flat lowland areas (generally less than 200 feet above sea level) that constitute the broad alluvial plain surrounding the bay, the broad to narrow valley bottoms extending from the bay plains into the surrounding hills, and the narrow elevated marine terraces cut into the mountains along the Pacific Coast (Helley, 1979).

1.3.1.1 Climate

The San Francisco Bay region has a mediterranean climate with mild west winters and warm dry summers. The climate along the coast is marked by moderate and even temperatures, heavy persistent summer fog, and winds from the west-northwest. In contrast, inland areas have a wide range of temperature and have less wind. Temperatures are influenced by elevation and local topography. Higher summer temperatures and lower winter temperatures occur in low areas isolated by mountainous terrain. This kind of climate is also true of areas far distant from the bay and its temperature-moderating waters. Precipitation is distinctly seasonal, most falling between November and March, very little between June and September. The seasonal distribution of precipitation is largely controlled by the location of the anticyclonic cell that is normally found off the California coast, particularly in the summer. Winter precipitation occurs when this anticyclone is absent or far south of its normal position, which blocks storm systems from the Gulf of Alaska.

Almost all precipitation is in the form of rain and what little snow falls usually soon melts (Helley, 1979). Average annual precipitation ranges from 10-20 inches in the dry interior valleys to 40-60 inches and locally to 80 inches in the high coastal mountains.

The native vegetation in the bay region north through Sonoma County and south through Santa Clara County is dominated by plants adapted to mild climatic conditions including a summer drought. The native plants evolved here in their own ecological niches, which are referred to as biotic communities. These plant communities are bay and salt marsh, freshwater marsh, the open coast, chaparral, grasslands, broad-leaved forest, and coniferous forest. The flatland deposits underlie almost all but the last two communities. However, the broad-leaved and coniferous forests do cover stream terrace deposits in the outer valleys (Helley, 1979).

1.3.2 SOILS

Limited information is available regarding the stratigraphy below the PACO Pumps facility. However, shallow soil stratigraphy at the study site was observed by Jonas & Associates during 1991 soil sampling effort. Soil consisted of gravely fill material from the ground surface to an approximate depth of 1.5 feet. From 1.5 feet to 3.5 feet below the ground surface a well compacted, dark brown clay layer was encountered.

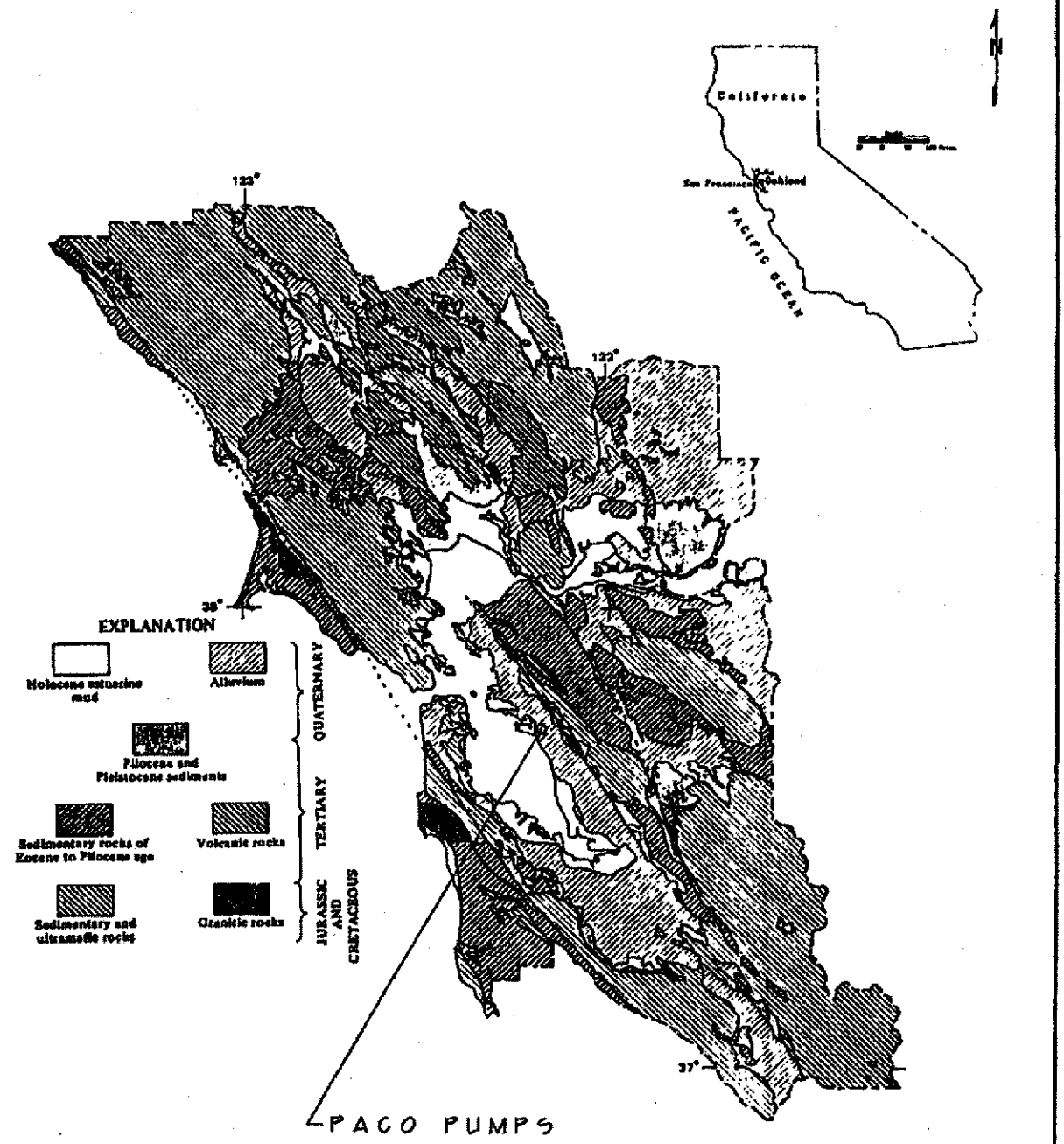
1.3.3 GEOLOGY

The geologic units underlying the East Bay area consist of bedrock of the Franciscan group and an unconsolidated sedimentary sequence (Radbruch, 1957). The bedrock surface beneath San Francisco Bay tilts eastward and becomes deeper towards the south. Figure 1-3 illustrates the geology of the San Francisco Bay Region. As illustrated in this figure, beneath the PACO Pumps property are alluvium formations and Quaternary in age. Published information on the geology of the area occupied by PACO Pumps facility was not found.

The geologic information presented below are obtained from a geologic log of a well drilled on Bay Farm Island, north of Oakland Airport. This information was presented in a report titled Geologic Study, Oakland Outer Harbor, Oakland, California, prepared by Geomatrix Consultants for Port of Oakland, in 1986. According to this report, a well on Bay Farm Island, north of Oakland Airport, encountered bedrock at a depth greater than 1,000 feet. Overlying this bedrock surface is a sequence of sediments that have been subdivided differently by various authors. These various interpretations are presented in Table 1-1.

The unit names proposed by Radbruch (1957) are used for this project because they have wide acceptance among local professionals. These units are described below (Track and Rolston, 1951; Radbruch, 1957; Louderback, 1951; and Helley and others, 1979).

- Artificial fill. Manmade. Miscellaneous Bay Mud or sand dredged from the Bay, rock and soil used for fill and construction materials. Permeability generally varies with composition from low to high.



Scale
15 0 15 30 Miles

Geology of San Francisco Bay Region
PACO PUMPS
Oakland, California

Prepared by
JONAS AND ASSOCIATES INC.

Drawn by	Date	Checked by	Approved by	Drawing Number
M.J.	10-11-1991			PC0217-10/91-1-3

Date: 10-11-1991 | Scale as shown | Figure 1-3 | Drawing Number PC0217-10/91-1-3

Table 1-1
Correlation Chart of Sedimentary Units
(Geomatrix, 1986)

Track, P. and Rolston, J.W. (1951)	Treasher (1963)	Radbruch (1957)	Helley and Others (1979)
—	—	Artificial Fill	—
Bay Mud	Younger Bay Mud	Bay Mud	Bay Mud
Merritt Sand	San Deposits	Merritt Sand	Merritt Sand
—	—	Temescal Formation (Non Marine)	Late Pleistocene Alluvium
Track, P. and Rolston, J.W. (1951)	Treasher (1963)	Radbruch (1957)	Helley and Others (1979)
Posey Formation			
San Antonio Formation	Older Bay Mud	Alameda Formation	Early Pleistocene Alluvium (Marine & Non-Marine)
Alameda Formation			
Bedrock	Bedrock	Bedrock	Bedrock

- Bay Mud. Silty clay; sandy, with lenses of sand. Permeability is low; most mud is saturated. Recent young Bay Mud overlies the Merritt Sand along the edge of the Bay or the Alameda Formation where the Merritt has been removed by erosion. Bay Mud underlies most of the Artificial Fill.

- Merritt Sand. Sand; fine-grained, silty, clayey. Slightly indurated. The Merritt Sand is well-sorted, in part showing evidence of wind-blown origin. Permeability of these deposits is high. The sand deposit filled in valleys previously formed on an older erosion surface. Following this deposition the valleys were partly re-excavated. Lake Merritt was formed during this period.

- Temescal Formation. The Merritt Sand grades laterally into the Temescal Formation, which is the non-marine extension of the Merritt sand. The Temescal is an alluvial-fan deposit located on the plains below the steep hill front. The deposit extends toward the Bay and grades into the Merritt Sand. It is thought that the two were deposited at about the same time. The Temescal consists of clayey gravel, sandy silty clay, and sand mixtures. In some places the gravel is as much as 20 feet thick (Radbruch, 1957). Overall, the permeability of this unit is moderate, but some gravel lenses have relatively high permeability.

- Alameda Formation. The Alameda Formation is a marine deposit that commonly contains alternating layers of sandy clay and sand with the sand containing fine gravel. The lower portion of formation appears to be similar to the Santa Clara Formation observed at the surface in the southern part of the Bay Area. Permeability is moderate to low.

- Bedrock of the Franciscan group. The Franciscan Formation is a complex assemblage of serpentinite, greenstone, graywacke, chert, shale, sandstone, and schist, and is found on may ridges and mountains of the San Francisco Bay Region. Permeability is relatively low.

1.3.4 HYDROGEOLOGY

1.3.4.1 Hydrogeologic Units

A library search was performed to obtain information on the hydrogeology of Oakland. Very little information was found. According to the Department of Water Resources, Merritt Sand and the Alameda Formation are potential aquifers within the Oakland area (DWR, 1982). The groundwater level within the area underlaid by the Merritt Sand appears to be within 5 to 20 feet of surface (City of Oakland, 1986). However, specifics as to the quality, yield, and groundwater use from this aquifer is unknown. Unpublished information provided by County of Alameda, Public Works Agency identifies an aquifer in the zone from slightly above sea level to about 100 feet below sea level. It is reported to probably represent the Merritt Sand.

The Alameda Formation is used as a limited source of water within the Oakland area (DWR, 1982, Alameda County, 1986). However, very limited data are available on the number of active wells, recharge rate, yield, groundwater levels, and water quality.

SECTION 2.0

SOIL SAMPLING ACTIVITIES AND RESULTS

2.1 SOIL SAMPLE COLLECTION PROCEDURES

As stated in Section 1.0 of this report, stained ground surface was observed at the Asphalt/Concrete Area. In order to determine whether release of chemical substances have occurred in this area, two soil samples were collected. Figure 2-1 denotes the soil sampling locations. Soil samples were collected in brass sleeves from the first six inches of the native soil encountered underneath the asphalt/concrete pad. Following the soil collection, the boring locations were plugged with the cuttings and re-asphalted.

Once collected, samples were placed in an ice chest with ice packs. Each cooler contained sufficient ice and/or ice packs to ensure that a proper temperature of 4° Celsius is maintained. The samples were packed in a manner to decrease the potential for any damage of the sample containers. Field Chain-of-Custody records, completed at the time of sample collection accompanied the samples inside the cooler for shipment to the Chromalab Laboratory. All coolers were delivered to the laboratory by Jonas & Associates field personnel, within 24 hours after sampling. After initially inspecting the samples, the laboratory completed a Sample Condition Report form. This form summarizes the sample conditions as reported by the laboratory. Both samples were analyzed for the following parameters:

- Extractable Petroleum Hydrocarbons (EPH) - EPA Method 3550/8015;
- Volatile Petroleum Hydrocarbons (VPH) - EPA Method 5030/8015;
- Volatile Organic Compounds (VOCs) - EPA Method 8240;
- Semi-Volatile Organic Compounds (Semi-VOCs) - EPA Method 8270;
- Pesticides and Polychlorinated Biphenyl - EPA Method 8080; and
- Title 22 Metals - EPA Method 6010 and 7000 series.

2.1.1 DECONTAMINATION AND POST-SAMPLING PROCEDURES

Decontamination of equipment used for sampling took place in a specific decontamination zone designated at the site. Sampling equipment was decontaminated prior to initial use and at the completion of sampling activities. A manual scrubbing to remove foreign material followed by a thorough wash with a non-phosphate soap, was used to decontaminate all the equipment between and prior to sampling. All non-disposable equipment was decontaminated according to the procedures summarized below:

- Manual scrub without water or soap
- Manual scrub and wash with a non-phosphate soap solution

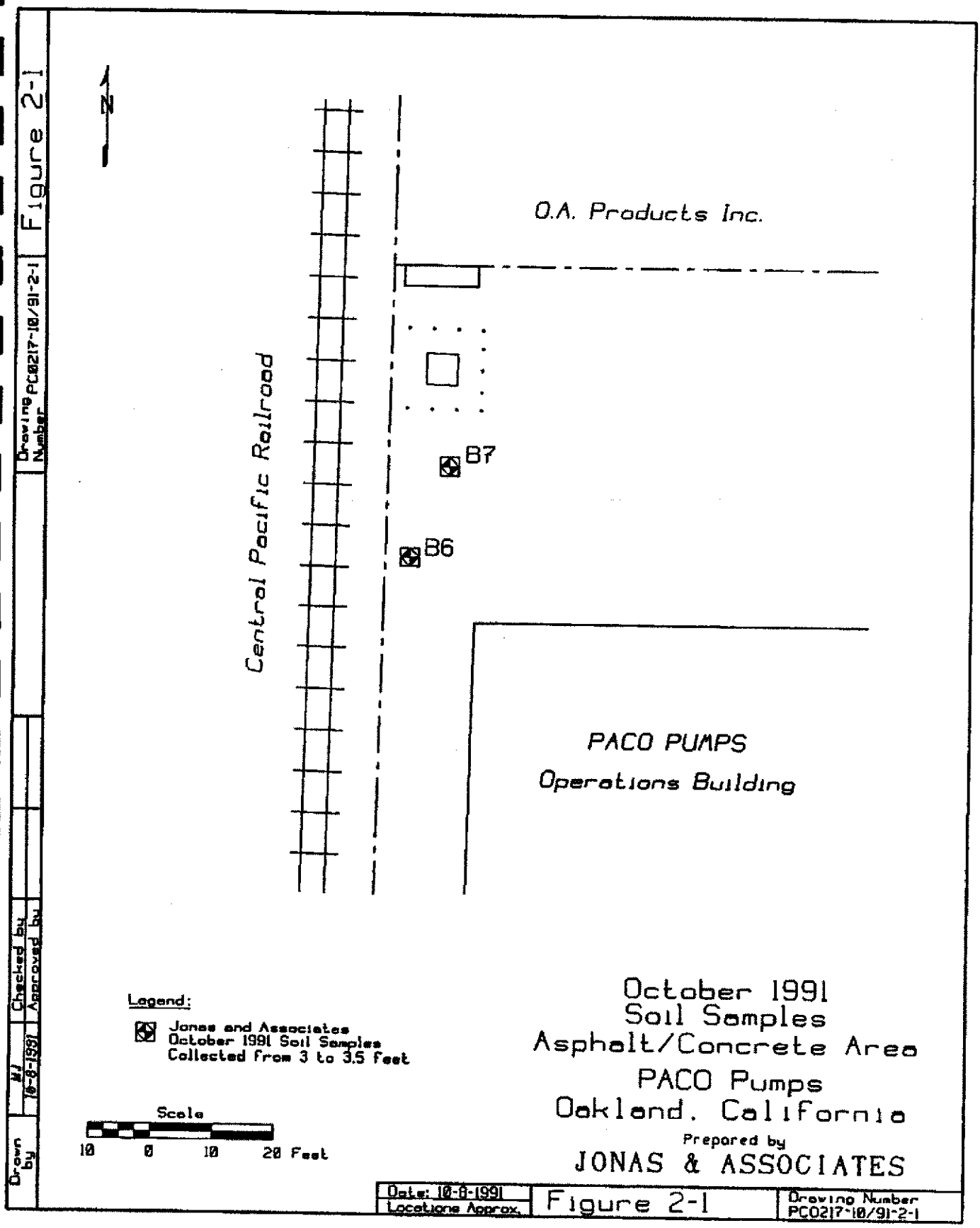


Figure 2-1
Drawing Number PC0217-10/91-2-1
Drawn by MJ 10-8-1991
Checked by
Approved by
N
O.A. Products Inc.
Central Pacific Railroad
B7
B6
PACO PUMPS
Operations Building
Legend:
Jonas and Associates October 1991 Soil Samples Collected from 3 to 3.5 feet
Scale
10 0 10 20 Feet
October 1991
Soil Samples
Asphalt/Concrete Area
PACO Pumps
Oakland, California
Prepared by
JONAS & ASSOCIATES
Date: 10-8-1991
Locations Approx.
Figure 2-1
Drawing Number PC0217-10/91-2-1

- Tap water rinse
- Distilled water rinse
- Air dry
- Distilled water rinse

2.2 SAMPLE DOCUMENTATION

Sample documentation included field logbooks, sample labels, Chain-of-Custody records, and sample condition report forms. All field documentation was written legibly in waterproof ink. Errors was crossed out with a single line, initialed, and dated.

2.2.1 SAMPLE IDENTIFICATION NUMBERS

Each sample was assigned a unique identification number that allow retrieval of information regarding the sample. The sample identification number consisted of three main segments, which were separated by a hyphen. The first segment is made up of the letter "B" and a one or two-digit number representing the boring number. The second segment represents the sampling depth. The third segment represents the sampling date.

Example: B1-0.5-10191

Boring one, collected at a depth of 0.5 feet on October 1, 1991.

2.2.2 FIELD LOGBOOKS

A project field logbook was used during the field effort to document the following:

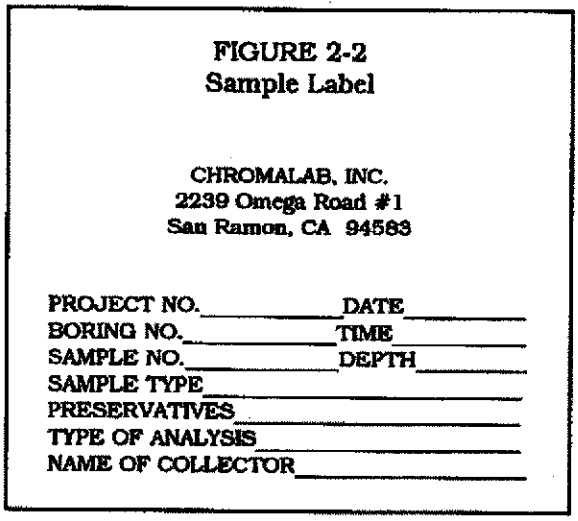
- Date and time of log entries;
- Field conditions (weather, terrain, hazards, etc.);
- Personnel present during field operations;
- Waste containment procedures, and a daily inventory of wastes present onsite;
- Field measurements taken, instrumentation used, and frequency of instrument calibration;
- Information recorded on sample labels, as well as the site identification number and the sampling depth;
- Any unusual sample characterization;
- Other specific considerations pertaining to sample acquisition; and
- Boring data (depth, lithology, and etc.).

2.2.3 SAMPLE LABELS

A pre-printed adhesive label was affixed to each sample (Figure 2-2). The information below was written on every sample label;

- Project number;
- Sample identification number;
- Date and time of sampling;
- Name of sample collector;
- Type of analysis to be performed.

FIGURE 2-2
Sample Label



2.2.4 CHAIN-OF-CUSTODY RECORDS / SAMPLE CONDITION REPORT FORM

A Chain-of-Custody record accompanied all samples when they were shipped to the analytical laboratory. A copy of the Chain-of-Custody form is presented in Figure 2-3. The Chain-of-Custody record documents transfer of samples from one party to another.

Additional information that were noted on the form were as follows:

- Project number;
- Sample identification number;
- Date and time of sampling;
- Type of sample; and
- Type of analysis to be performed.

Figure 2-3

CHROMALAB, INC.

2239 Omega Road, #1 • San Ramon, California 94583
415/831-1788 • Facsimile 415/831-8798

Chain of Custody

DATE _____ PAGE _____ OF _____

PROJ. MGR. _____

COMPANY Jonas & Associates Inc.

ADDRESS 1056 Dale Place
Concord, California 94518

SAMPLERS (SIGNATURE) (PHONE NO.) (510) 676-8554

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	TPH - Gasoline (EPA 5030)	TPH - Gasoline (5030, 8015) w/BTEX (EPA 602, 8020)	TPH - Diesel (EPA 3510, 3550, 8015	PURGEABLE AROMATICS BTEX (EPA 602, 8020)	PURGEABLE HALOCARBONS (EPA 601, 8010)	VOLATILE ORGANICS (EPA 624, 8240)	BASE/NEUTRALS, ACIDS (EPA 625/627, 8270)	TOTAL OIL & GREASE (EPA 5520 D&F)	PESTICIDES/PCB (EPA 608, 8080)	PHENOLS (EPA 604, 8040)			METALS: Cd, Cr, Pb, Zn	CAM METALS (18) w/Cr VI	PRIORITY POLLUTANT METALS (13)						NUMBER OF CONTAINERS

PROJECT INFORMATION

PROJECT NAME:

PROJECT NUMBER

SHIPPING ID. NO.

VIA:

SAMPLE RECEIPT

TOTAL NO. OF CONTAINERS	
CHAIN OF CUSTODY SEALS	
RECD GOOD CONDITION/COLD	
CONFORMS TO RECORD	
LAB NO	

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY 1	RELINQUISHED BY 2.	RELINQUISHED BY 3.
(SIGNATURE) (TIME)	(SIGNATURE) (TIME)	(SIGNATURE) (TIME)
(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)
(COMPANY)	(COMPANY)	(COMPANY)
RECEIVED BY 1.	**RECEIVED BY 2.**	**RECEIVED BY (LABORATORY) 3.**
(SIGNATURE) (TIME)	(SIGNATURE) (TIME)	(SIGNATURE) (TIME)
(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)
(COMPANY)	(COMPANY)	(LAB)

PCC001298

Figure 2-4 provides a copy of a Sample Condition Report form. The form was completed by the laboratory at the time the samples were received. This form summarizes sample conditions. Information which were noted on this form include:

- Date of request;
- Job number;
- Client;
- Source of samples;
- Shipper;
- Arrival date;
- Sample number;
- Condition received at laboratory; and
- Specific analyses requested.

2.3 SAMPLE SHIPMENT

The Jonas and Associates Technical Manager notified the Project Chemist at the Chromalab analytical laboratory a week prior to sampling. This provided an opportunity for the laboratory to anticipate the arrival of the samples. In addition, coolers and sample bottles was sent from the laboratory to Jonas and Associates.

Within 24 hours after the samples were collected, Jonas and Associates transported all samples to the analytical laboratory. Samples were packaged for shipment in a cooler chilled with bags of ice. Foam padding was used to protect sample containers. The original Chain-of-Custody record was placed in a plastic pouch affixed to the inside lid of the cooler. The Field Manager retained a copy of the form. To secure the cooler during transport, the lid was sealed with tape. When possession of the samples is transferred, the individuals relinquishing and accepting custody wrote their names, the names of their organizations, and the time and date of custody transfer on the Chain-of-Custody record.

Figure 2-4 Sample Condition Report Form

SAMPLE CONDITION REPORT FORM

Page___of___
Date of Request _____Job No._____
Client _____
Source of Samples _____
Shipper _____ Arrival Date _____

Analysis Authorized by _____
Affiliation/Address _____
_____ Phone_____
Report Results to _____ Phone _____

Lab # (Lab to fill in)	Sample Type[1]	Identify Information (e.g. site taken, field I.D. number, etc.)	Condition Received at Laboratory[2]	Date of Collection	Specific Analyses Requested
			1. Custody Form? 2. Package O.K.? 3. In Ice? 4. Container Type Suitable? 5. Air bubbles present/absent in VOA? 6. Proper preservation? 7. Custody Seal? Remarks:		

[1] *Specify as water (W), soil (S), or other (describe on back if need to).*

[2] *Questions are to be answered (Y) or no (N) if possible. Special concerns (re. condition of sample, detection limits desired, important information re. sample history, etc.) should be noted under remarks.*

SECTION 3.0

1991 SOIL SAMPLING RESULTS

3.1 SOIL SAMPLING RESULTS

Laboratory analytical results for these samples are summarized in Tables 3-1, 3-2, 3-3, 3-4, and 3-5. As illustrated in these tables, Extractable Petroleum Hydrocarbons, Volatile Petroleum Hydrocarbons, Volatile Organic Compounds, Semi-Volatile Organic Compounds, and Pesticides were not detected above the method detection limits in both of the soil samples. Polychlorinated Biphenyl (PCB 1260) was detected in both samples B6 and B7 at concentrations of 0.40 mg/kg and 0.67 mg/kg, respectively.

A source for PCB found in the soil is not yet identified. According to 40 CFR, Part 761, Subpart G - PCB Spill Cleanup Policy:

> "PCB contaminated soil should be removed to 10 mg/kg, provided that soil is excavated to a minimum depth of 10 inches. The excavated soil should be replaced with clean soil (less than 1 mg/kg PCBs)."

The PCB detected in this area is well below 10 mg/kg. In addition, PCB concentrations detected in this area also are below the Total Threshold Limit Concentration Value of 50 mg/kg.

Metals were detected in both of the samples. Barium (B6:10.7 mg/kg; B7:138 mg/kg), Cadmium (B6:0.595 mg/kg; B7:1.99 mg/kg), Cobalt (B6:0.804 mg/kg; B7:0.991 mg/kg), Chromium (B6:2.63 mg/kg; B7:57.8 mg/kg), and Nickel (B6:1.28 mg/kg; B7:348 mg/kg) were detected in both of the samples. Lead and Zinc were detected in sample B6 at concentrations of 85.4 mg/kg and 22.5 mg/kg, respectively. Molybdenum and Vanadium were detected in Sample B7 at concentration levels of 8.85 mg/kg and 146 mg/kg, respectively.

None of the metals exceeded the Total Threshold Limit Concentrations (TTLC). These limits are listed in Table 3-5.

Since the detected PCB and metals are below the required regulatory levels, cleanup of this area may not be required. However, the final determination must be made by the regulatory agencies. It is recommended that a copy of this report be submitted to the Alameda County Health Care Services Agency for their review and approval. Their address is as follows:

Alameda County Health Care Services Agency
Department of Environmental Health
Hazardous Materials Program
80 Swan Way, Room 200
Oakland, California 94621

Attention: Mr. Barney M. Chan, Hazardous Materials Specialist

Table 3-1
Gasoline/BTEX and Diesel Analysis
Sampling Date October 1, 1991
Analysis Date October 4-7, 1991

Sample Number	Gasoline (Method 5030/8015) (1.0 mg/kg)[3] (mg/kg)	Diesel (Method 3550/8015) (1.0 mg/kg) (mg/kg)	Benzene (Method 8020) (0.005 mg/kg) (mg/kg)	Toluene (Method 8020) (0.005 mg/kg) (mg/kg)	Ethylbenzene (Method 8020) (0.005 mg/kg) (mg/kg)	Total Xylenes (Method 8020) (0.005 mg/kg) (mg/kg)
B6-0.5-1019[4]	ND[5]	ND	ND	ND	ND	ND
B7-0.5-1019	ND	ND	ND	ND	ND	ND

[3] (1.0 mg/kg) = Method Detection Limit

[4] B6-0.5-10191

B6 = Soil sampling boring number one
0.5 = Sample depth in Feet
10191 = Sampling Date October 1, 1991 (Laboratory reports deleted the last number "1" due to insufficient space in the column)

[5] ND - Not Detected Above the Reported Detection Limit.

Table 3-2
Volatile Organic Compounds
Date Sampled October 1, 1991
Date Analyzed October 4-8, 1991

Compound Name	Volatile Organic Compounds, EPA Method 8240 Detection Limit: 0.005 mg/kg	
	B6-0.5-10191	B7-0.5-10191
Chloromethane	ND[6]	ND
Vinyl Chloride	ND	ND
Bromomethane	ND	ND
Chloroethane	ND	ND
Trichlorofluoromethane	ND	ND
1,1-Dichloroethene	ND	ND
Methylene Chloride	ND	ND
1,2-Dichloroethene (Total)	ND	ND
1,1-Dichloroethane	ND	ND
Chloroform	ND	ND
1,1,1-Trichloroethane	ND	ND
Carbon Tetrachloride	ND	ND
1,2-Dichloroethane	ND	ND
Benzene	ND	ND
Trichloroethene	ND	ND
1,2-Dichloropropane	ND	ND
Bromodichloromethane	ND	ND

[6] ND = Not Detected Above the Reported Detection Limit.

Table 3-2 (Continued)
Volatile Organic Compounds
Date Sampled October 1, 1991
Date Analyzed October 4-8, 1991

Compound Name	Volatile Organic Compounds, EPA Method 8240 Detection Limit: 0.005 mg/kg	
	B6-0.5-10191	B7-0.5-10191
2-Chloroethylvinylether	ND	ND
Trans-1,3-Dichloropropene	ND	ND
Toluene	ND	ND
Cis-1,3-Dichloropropene	ND	ND
1,1,2-Trichloroethane	ND	ND
Tetrachloroethene	ND	ND
Dibromochloromethane	ND	ND
Chlorobenzene	ND	ND
Ethylbenzene	ND	ND
Bromoform	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND
1,2-Dichlorobenzene	ND	ND
Total Xylenes	ND	ND
Acetone	ND	ND
Methyl Ethyl Ketone	ND	ND
Methyl Isobutyl Ketone	ND	ND

Table 3-3
Base/Neutrals/Acids-Soil
Date Sampled October 1, 1991
Date Analyzed October 4-8, 1991

Compound Name	Base/Neutrals/Acids-Soil, EPA Method 8270	
	B6-0.5-10191	B7-0.5-10191
Phenol	ND(0.05)[7]	ND(0.05)
Bis(2-Chloroethyl) Ether	ND(0.05)	ND(0.05)
2-Chlorophenol	ND(0.05)	ND(0.05)
1,3-Dichlorobenzene	ND(0.05)	ND(0.05)
1,4-Dichlorobenzene	ND(0.05)	ND(0.05)
Benzyl Alcohol	ND(0.10)	ND(0.10)
1,2-Dichlorobenzene	ND(0.05)	ND(0.05)
2-Methylphenol	ND(0.05)	ND(0.05)
Bis(2-Chloroisopropyl)ether	ND(0.05)	ND(0.05)
4-Methylphenol	ND(0.05)	ND(0.05)
N-Nitroso-Di-N-Propylamine	ND(0.05)	ND(0.05)
Hexachloroethane	ND(0.05)	ND(0.05)
Nitrobenzene	ND(0.05)	ND(0.05)
Isophorone	ND(0.05)	ND(0.05)
2-Nitrophenol	ND(0.05)	ND(0.05)
2,4-Dimethylphenol	ND(0.05)	ND(0.05)
Benzoic Acid	ND(0.25)	ND(0.25)

[7] ND = Not Detected Above the Reported Detection Limit.

Table 3-3 (Continued)
Base/Neutrals/Acids-Soil
Date Sampled October 1, 1991
Date Analyzed October 4-8, 1991

Compound Name	Base/Neutrals/Acids-Soil, EPA Method 8270	
	B6-0.5-10191	B7-0.5-10191
Bis-(2-Chloroethoxy)Methane	ND(0.05)	ND(0.05)
2,4-Dichlorophenol	ND(0.05)	ND(0.05)
1,2,4-Trichlorobenzene	ND(0.05)	ND(0.05)
Naphthalene	ND(0.05)	ND(0.05)
4-Chloroaniline	ND(0.10)	ND(0.10)
Hexachlorobutadiene	ND(0.05)	ND(0.05)
4-Chloro-3-Methylphenol	ND(0.10)	ND(0.10)
2-Methylnaphthalene	ND(0.05)	ND(0.05)
Hexachlorocyclopentadiene	ND(0.05)	ND(0.05)
2,4,6-Trichlorophenol	ND(0.05)	ND(0.05)
2,4,5-Trichlorophenol	ND(0.05)	ND(0.05)
2-Chloronaphthalene	ND(0.05)	ND(0.05)
2-Nitroaniline	ND(0.25)	ND(0.25)
Dimethyl Phthalate	ND(0.05)	ND(0.05)
Acenaphthylene	ND(0.05)	ND(0.05)
3-Nitroaniline	ND(0.25)	ND(0.25)
Acenaphthene	ND(0.05)	ND(0.05)
2,4-Dinitrophenol	ND(0.25)	ND(0.25)
4-Nitrophenol	ND(0.25)	ND(0.25)

Table 3-3 (Continued)
Base/Neutrals/Acids-Soil
Date Sampled October 1, 1991
Date Analyzed October 4-8, 1991

Compound Name	Base/Neutrals/Acids-Soil, EPA Method 8270	
	B6-0.5-10191	B7-0.5-10191
Dibenzofuran	ND(0.05)	ND(0.05)
2,4-Dinitrotoluene	ND(0.05)	ND(0.05)
2,6-Dinitrotoluene	ND(0.05)	ND(0.05)
Diethyl Phthalate	ND(0.05)	ND(0.05)
4-Chloro-Phenyl Phenyl Ether	ND(0.05)	ND(0.05)
Fluorene	ND(0.05)	ND(0.05)
4-Nitroaniline	ND(0.25)	ND(0.25)
4-6-Dinitro-2-Methyl Phenol	ND(0.25)	ND(0.25)
N-Nitrosodiphenylamine	ND(0.05)	ND(0.05)
4-Bromophenyl Phenyl Ether	ND(0.05)	ND(0.05)
Hexachlorobenzene	ND(0.05)	ND(0.05)
Pentachlorophenol	ND(0.25)	ND(0.25)
Phenanthrene	ND(0.05)	ND(0.05)
Anthracene	ND(0.05)	ND(0.05)
Di-N-Butyl Phthalate	ND(0.05)	ND(0.05)
Fluoranthene	ND(0.05)	ND(0.05)
Pyrene	ND(0.05)	ND(0.05)
Butylbenzylphthalate	ND(0.05)	ND(0.05)
3,3'-Dichlorobenzidine	ND(0.10)	ND(0.10)

NOT UNDERGROUND STORAGE TANK UNAUTHORIZED RELEASE (LEAK) / CONTAMINATION SITE REPORT

EMERGENCY: [ ] YES [X] NO
HAS STATE OFFICE OF EMERGENCY SERVICES REPORT BEEN FILED? [ ] YES [X] NO
REPORT DATE: M M D D Y Y
CASE #:
FOR LOCAL AGENCY USE ONLY
I HEREBY CERTIFY THAT I HAVE DISTRIBUTED THIS INFORMATION ACCORDING TO THE DISTRIBUTION SHOWN ON THE INSTRUCTION SHEET ON THE BACK PAGE OF THIS FORM.
SIGNED: DATE:

REPORTED BY

NAME OF INDIVIDUAL FILING REPORT: Scott Liddicoat
PHONE: (415)639-3323
SIGNATURE:
REPRESENTING: [X] OWNER/OPERATOR [ ] REGIONAL BOARD [ ] LOCAL AGENCY [ ] OTHER
COMPANY OR AGENCY NAME: PACO Pumps, Inc.
ADDRESS: 9201 STREET San Leandro Street CITY Oakland STATE CA ZIP 94603-1237

RESPONSIBLE PARTY

NAME: [X] UNKNOWN
CONTACT PERSON:
PHONE: ( )
ADDRESS: STREET CITY STATE ZIP

SITE LOCATION

FACILITY NAME (IF APPLICABLE): PACO Pumps, Inc.
OPERATOR: PACO Pumps, Inc.
PHONE: (415) 639-3323
ADDRESS: 9201 STREET San Leandro Street CITY Oakland COUNTY CA ZIP 94603-1237
CROSS STREET: 92nd Avenue

IMPLEMENTING AGENCIES

LOCAL AGENCY AGENCY NAME: Alameda County Health Care, Enviro, Health
CONTACT PERSON: Mr. Barney M. Chan
PHONE: (415) 271-4320
REGIONAL BOARD:
CONTACT PERSON:
PHONE: ( )

SUBSTANCE(S) INVOLVED

(1) NAME: Metals and PCBs
QUANTITY LOST (GALLONS): [X] UNKNOWN
(2) NAME:
QUANTITY LOST (GALLONS): [ ] UNKNOWN

DISCOVERY/ABATEMENT

DATE DISCOVERED: 10 1 4 91
HOW DISCOVERED: [ ] INVENTORY CONTROL [ ] SUBSURFACE MONITORING [ ] NUISANCE CONDITIONS [ ] TANK TEST [ ] TANK REMOVAL [XX] OTHER Soil Sampling
DATE DISCHARGE BEGAN: [X] UNKNOWN
HAS DISCHARGE BEEN STOPPED? [ ] YES [ ] NO IF YES, DATE: Not Applicable
METHOD USED TO STOP DISCHARGE (CHECK ALL THAT APPLY)
[ ] REMOVE CONTENTS [ ] CLOSE TANK & REMOVE [ ] REPAIR PIPING
[ ] REPAIR TANK [ ] CLOSE TANK & FILL IN PLACE [ ] CHANGE PROCEDURE
[ ] REPLACE TANK [ ] OTHER Not Applicable

SOURCE/CAUSE

SOURCE OF DISCHARGE: [ ] TANK LEAK [ ] UNKNOWN [ ] PIPING LEAK [XX] OTHER
CAUSE(S): [ ] OVERFILL [ ] RUPTURE/FAILURE [ ] SPILL [ ] CORROSION [XX] UNKNOWN [ ] OTHER

CASE TYPE

CHECK ONE ONLY
[ ] UNDETERMINED [XX] SOIL ONLY [ ] GROUNDWATER [ ] DRINKING WATER - (CHECK ONLY IF WATER WELLS HAVE ACTUALLY BEEN AFFECTED)

CURRENT STATUS

CHECK ONE ONLY
[ ] NO ACTION TAKEN [ ] PRELIMINARY SITE ASSESSMENT WORKPLAN SUBMITTED [X] POLLUTION CHARACTERIZATION
[ ] LEAK BEING CONFIRMED [ ] PRELIMINARY SITE ASSESSMENT UNDERWAY [ ] POST CLEANUP MONITORING IN PROGRESS
[ ] REMEDIATION PLAN [ ] CASE CLOSED (CLEANUP COMPLETED OR UNNECESSARY) [ ] CLEANUP UNDERWAY

REMEDIAL ACTION

CHECK APPROPRIATE ACTION(S) (SEE BACK FOR DETAILS)
[ ] CAP SITE (CD) [ ] EXCAVATE & DISPOSE (ED) [ ] REMOVE FREE PRODUCT (FP) [ ] ENHANCED BIO DEGRADATION (IT)
[ ] CONTAINMENT BARRIER (CB) [ ] EXCAVATE & TREAT (ET) [ ] PUMP & TREAT GROUNDWATER (GT) [ ] REPLACE SUPPLY (RS)
[ ] VACUUM EXTRACT (VE) [ ] NO ACTION REQUIRED (NA) [ ] TREATMENT AT HOOKUP (HU) [ ] VENT SOIL (VS)
[ ] OTHER (OT)

COMMENTS

See Enclosed Report.

HSC 05 (7/89)

PCC001309

SLIC PROGRAM

NEW CASE DATA SHEET

1. Discharger Information

Name: PACO Pumps, Inc.
Location of sit: *9201 San Leandro Street, Oakland, California 94603-1237*
Telephone number of Site or Consultant:

Site: (415) 639-3323
Consultants - Jonas & Associates Inc.: (510) 676-8554

2. Proposition 65 Reporting (check one)

X No report deemed necessary (SL or DC initials)

__ Date Report completed

3. Site Characteristics

State specific levels of pollutants in soil and groundwater
(e.g., 58 ppm TCE in soil and 5 ppm in groundwater)

Concentrations found in soil:
Barium:10.7 mg/kg - 138 mg/kg; Cadmium: 0.595 mg/kg - 1.99 mg/kg; Cobalt:0.804 mg/kg - 0.991 mg/kg; Chromium:2.63 mg/kg - 57.8 mg/kg;
Nickel:1.28 mg/kg - 348 mg/kg; Lead:85.4 mg/kg; Zinc:22.5 mg/kg;
Molybdenum:8.85 mg/kg; Vanadium:146 mg/kg.
PCB: 0.40 mg/kg - 0.67 mg/kg.

4. Comments

State how the information was received. State any plans for additional study. State any staff opinions as to whether additional study is required. Add any additional screening information such as "large site", "historic problem", "Federal facility", etc.

Soil Characterization report dated October 30, 1991 submitted by PACO Pumps, Inc.

5. Lead Agency

State whether any agency has assumed the lead role for investigation and/or cleanup.

Alameda County Health Care Services Agency, Department of Environmental Health, Hazardous Materials Program.

6. Status

Regional Board assignment status (e.g., Unassigned or RB Lead).
If RB lead, give name of staff person.

Unassigned.

Table 3-3 (Continued)
Base/Neutrals/Acids-Soil
Date Sampled October 1, 1991
Date Analyzed October 4-8, 1991

Compound Name	Base/Neutrals/Acids-Soil, EPA Method 8270	
	B6-0.5-10191	B7-0.5-10191
Benzo(A)Anthracene	ND(0.05)	ND(0.05)
Bis(2-Ethylhexyl)Phthalate	ND(0.05)	ND(0.05)
Chrysene	ND(0.05)	ND(0.05)
Di-N-Octylphthalate	ND(0.05)	ND(0.05)
Benzo(B)Fluoranthene	ND(0.05)	ND(0.05)
Benzo(K)Fluoranthene	ND(0.05)	ND(0.05)
Benzo(A)Pyrene	ND(0.05)	ND(0.05)
Indeno(1,2,3 C,D)Pyrene	ND(0.05)	ND(0.05)
Dibenzo(A,H)Anthracene	ND(0.05)	ND(0.05)
Benzo(G,H,I)Perylene	ND(0.05)	ND(0.05)

Table 3-4
Chlorinated Pesticides and PCB Analysis[8]
Date Sampled October 1, 1991
Date Analyzed October 4-8, 1991

Sample #	Chlorinated Pesticides and PCBs (EPA Method 8080) - Unit in Mg/kg																			
	Aldrin	Dieldrin	Endrin Aldehyde	Endrin	Heptachlor	Hepta chlor Epoxide	P,P' DDT	P,P' DDE	P,P' DDD	Endo sulfan I	Endo sulfan II	α - BHC	β - BHC	γ - BHC	δ - BHC	Endo sulfan Sulfate	P,P' Methoxy chlor	Toxa phene	PCBs 1260	Chlor-dane
B6-0.5-10191	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.40	ND
B7-0.5-10191	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.67	ND

[8] METHOD DETECTION LIMITS: Aldrin (0.01 mg/kg); Dieldrin (0.01 mg/kg); Endrin Aldehyde (0.05 mg/kg); Endrin (0.01 mg/kg); Heptachlor (0.01 mg/kg); Heptachlor Epoxide (0.01 mg/kg); P,P' - DDT (0.05 mg/kg); P,P' - DDE (0.01 mg/kg); P,P' - DDD (0.05 mg/kg); Endosulfan I (0.05 mg/kg); Endosulfan II (0.05 mg/kg); α - BHC (0.01 mg/kg); β - BHC (0.01 mg/kg); γ - BHC (0.01 mg/kg); δ - BHC (0.01 mg/kg); Endosulfan Sulfate (0.1 mg/kg); P,P' - Methoxychlor (0.1 mg/kg); Toxaphene (0.1 mg/kg); PCB's (0.1 mg/kg); Chlordane (0.1 mg/kg).

Table 3-5
Title 22 Metals - Soil
Date Sampled October 1, 1991
Date Analyzed October 4-8, 1991

Parameters	EPA Method 3050/6010 Detection Limits (mg/kg)	Sample Number B6-0.5-10191	Sample Number B7-0.5-10191	Total Threshold Limit Concentration (TTLC)
Silver (Ag)	0.004	ND[9]	ND	500
Arsenic (As)	0.088	ND	ND	500
Barium (Ba)	0.005	10.7	138	10000
Beryllium (Be)	0.001	ND	ND	75
Cadmium (Cd)	0.012	0.595	1.99	100
Cobalt (Co)	0.020	0.804	0.991	8000
Chromium (Cr)	0.006	2.63	57.8	2500
Copper (Cu)	0.004	67.6	ND	2500
Mercury (Mg)	0.200	ND	ND	20
Molybdenum (Mo)	0.040	ND	8.85	3500
Nickel (Ni)	0.026	1.28	348	2000
Lead (Pb)	0.044	85.4	ND	1000
Antimony (Sb)[10]	0.040	ND	ND	500
Selenium (Se)	0.200	ND	ND	100
Thallium (Tl)	0.088	ND	ND	700
Vanadium (V)	0.004	ND	146	2400
Zinc (Zn)	0.006	22.5	ND	5000

[9] ND - Not Detected Above the Method Detection Limit

[10] Method of Analysis: 3005/6010

SECTION 4.0

REFERENCES

1. Atwater, B., Hedel, C. and Helley, E., 1977, Late Quaternary Depositional History, Holocene Sea-Level Changes, and Vertical Crustal Movement, South San Francisco Bay, California U.S.G.S., Professional Paper 1014, U.S. Government Printing Office, Washington.

2. California Department of Health Service, Hazardous Waste Management Branch, Toxic Substances Control Program, Guidance for PCB Storage Facility Closure Plan, March 1991.

3. County of Alameda, Public Works Agency, unpublished material on Oakland Upland and Alluvial and Merritt San Outcrop.

4. Dames & Moore, August 12, 1987, Letter Report, Site Contamination Study, PACO Pumps Facility, Oakland, California, for Amsted Industries, Inc.

5. Helley, E. J. and Lajoie, K.R., 1979, Flatland deposits of the San Francisco Bay Region, California - their geology and engineering properties, and their importance to comprehensive planning, Geological Survey Professional Paper 943, U.S. Government Printing Office, Washington.

6. Lawson, A.C., 1914, Geology of the San Francisco District: U.S. Geological Survey United States, Geol. Atlas, 24 p.

7. Radbruch, D.H., 1957, Areal and engineering geology of the Oakland West quadrangle, California: U.S. Geological Survey Geological Quadrangle Miscellaneous Investigation Series Map I-239, scale 1:24,000. - M(200)2 vUn3m no. 239.

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9. U.S. Environmental Protection Agency (EPA), PCB Regulations, 40 CFR, Part 76, 7-01-90 Edition.

10. U.S. EPA, Office of Toxic Substance, TSCA Guidance Manual for Commercial PCB Storage Facility Applications, October 18, 1989.

ATTACHMENT A
SOIL SAMPLING
ANALYTICAL LABORATORY RESULTS
CHROMALAB ANALYTICAL LABORATORY
October 1, 1991

CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

October 9, 1991 ChromaLab File No.: 1091017

JONAS & ASSOCIATES

Attn: R. Jonas

RE: Seven soil samples for Gasoline/BTEX and Diesel analysis

Project Name: PACO PUMPS SOIL
Date Sampled: Oct. 1, 1991 Date Submitted: Oct. 2, 1991
Date Extracted: Oct. 4-7, 1991 Date Analyzed: Oct. 4-7, 1991

RESULTS:

Sample I.D.	Gasoline (mg/kg)	Diesel (mg/kg)	Benzene (µg/kg)	Toluene (µg/kg)	Ethyl Benzene (µg/kg)	Total Xylenes (µg/kg)
B1-3.5-1019	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
B2-3.5-1019	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
B3-3.5-1019	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
B4-3.5-1019	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
B5-3.5-1019	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
B6-0.5-1019	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
B7-0.5-1019	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE REC.	101.3%	93.0%	95.4%	103.9%	94.6%	103.1%
DUP SPIKE REC	98.0%	100.7%	89.3%	88.3%	89.5%	90.8%
DET. LIMIT	1.0	1.0	5.0	5.0	5.0	5.0
METHOD OF ANALYSIS	5030/ 8015	3550/ 8015	8020	8020	8020	8020

ChromaLab, Inc.

David Duong
Chief Chemist

Eric Tam (by DD)
Eric Tam
Laboratory Director

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CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

October 09, 1991 ChromaLab File # 1091017 F

Client: Jonas & Associates, Inc. Attn: Romena Jonas
Date Sampled: Oct. 01, 1991 Date Submitted: Oct. 02, 1991
Date Analyzed: Oct. 08, 1991

Project Name: PACO PUMPS SOIL
Sample I.D.: B6-0.5-1019
Method of Analysis: 8240 Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	91.8% 93.5%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	94.7% 96.0%
TRICHLOROETHENE	N.D.	---
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	92.5% 93.6%
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	---
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	91.0% 91.8%
ETHYLBENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	---
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.

David Duong
Senior Chemist

Eric Tam
Lab Director

CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

October 09, 1991 ChromaLab File # 1091017 G

Client: Jonas & Associates, Inc. Attn: Romena Jonas
Date Sampled: Oct. 01, 1991 Date Submitted: Oct. 02, 1991
Date Analyzed: Oct. 08, 1991

Project Name: PACO PUMPS SOIL
Sample I.D.: B7-0.5-1019
Method of Analysis: 8240 Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	91.8% 93.5%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	94.7% 96.0%
TRICHLOROETHENE	N.D.	---
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	92.5% 93.6%
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	---
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	91.0% 91.8%
ETHYLBENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	---
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.

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Eric Tam
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CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

October 10, 1991 ChromaLab File # 1091017 F

Client: Jonas & Associates, Inc.
Attn: Romena Jonas
Date Sampled: Oct. 01, 1991 Date Submitted: Oct. 02, 1991
Date Extracted: Oct. 07, 1991 Date Analyzed: Oct. 9, 1991

Project Name: PACO PUMPS SOIL
Sample I.D.: B6-0.5-10191
Method of Analysis: EPA 8270 Matrix: soil

COMPOUND NAME	Sample mg/Kg	MDL mg/Kg	Spike Recovery
PHENOL	N.D.	0.05	-----
BIS(2-CHLOROETHYL) ETHER	N.D.	0.05	91.5% 89.2%
2-CHLOROPHENOL	N.D.	0.05	-----
1,3-DICHLOROBENZENE	N.D.	0.05	-----
1,4-DICHLOROBENZENE	N.D.	0.05	-----
BENZYL ALCOHOL	N.D.	0.10	-----
1,2-DICHLOROBENZENE	N.D.	0.05	-----
2-METHYLPHENOL	N.D.	0.05	-----
BIS(2-CHLOROISOPROPYL)ETHER	N.D.	0.05	-----
4-METHYLPHENOL	N.D.	0.05	-----
N-NITROSO-DI-N-PROPYLAMINE	N.D.	0.05	-----
HEXACHLOROETHANE	N.D.	0.05	-----
NITROBENZENE	N.D.	0.05	-----
ISOPHORONE	N.D.	0.05	-----
2-NITROPHENOL	N.D.	0.05	-----
2,4-DIMETHYLPHENOL	N.D.	0.05	-----
BENZOIC ACID	N.D.	0.25	-----
BIS(2-CHLOROETHOXY)METHANE	N.D.	0.05	91.5% 93.2%
2,4-DICHLOROPHENOL	N.D.	0.05	-----
1,2,4-TRICHLOROBENZENE	N.D.	0.05	-----
NAPHTHALENE	N.D.	0.05	-----
4-CHLOROANILINE	N.D.	0.10	-----
HEXACHLOROBUTADIENE	N.D.	0.05	-----
4-CHLORO-3-METHYLPHENOL	N.D.	0.10	-----
2-METHYLNAPHTHALENE	N.D.	0.05	-----
HEXACHLOROCYCLOPENTADIENE	N.D.	0.05	-----
2,4,6-TRICHLOROPHENOL	N.D.	0.05	-----
2,4,5-TRICHLOROPHENOL	N.D.	0.05	-----
2-CHLORONAPHTHALENE	N.D.	0.05	-----
2-NITROANILINE	N.D.	0.25	-----
DIMETHYL PHTHALATE	N.D.	0.05	-----
ACENAPHTHYLENE	N.D.	0.05	-----
3-NITROANILINE	N.D.	0.25	-----
ACENAPHTHENE	N.D.	0.05	87.5% 88.2%
2,4-DINITROPHENOL	N.D.	0.25	-----
4-NITROPHENOL	N.D.	0.25	-----
DIBENZOFURAN	N.D.	0.05	-----

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CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

ChromaLab File # 1091017 F

Project Name: PACO PUMPS SOIL
Sample I.D.: B6-0.5-10191
Method of Analysis: EPA 8270 Matrix: soil

COMPOUND NAME	Sample mg/Kg	MDL mg/Kg	Spike Recovery
2,4-DINITROTOLUENE	N.D.	0.05	-----
2,6-DINITROTOLUENE	N.D.	0.05	89.1% 87.1%
DIETHYL PHTHALATE	N.D.	0.05	-----
4-CHLORO-PHENYL PHENYL ETHER	N.D.	0.05	-----
FLUORENE	N.D.	0.05	-----
4-NITROANILINE	N.D.	0.25	-----
4,6-DINITRO-2-METHYL PHENOL	N.D.	0.25	-----
N-NITROSODIPHENYLAMINE	N.D.	0.05	-----
4-BROMOPHENYL PHENYL ETHER	N.D.	0.05	-----
HEXACHLOROBENZENE	N.D.	0.05	-----
PENTACHLOROPHENOL	N.D.	0.25	-----
PHENANTHRENE	N.D.	0.05	-----
ANTHRACENE	N.D.	0.05	-----
DI-N-BUTYL PHTHALATE	N.D.	0.05	-----
FLUORANTHENE	N.D.	0.05	-----
PYRENE	N.D.	0.05	-----
BUTYLBENZYLPHTHALATE	N.D.	0.05	-----
3,3'-DICHLOROBENZIDINE	N.D.	0.10	-----
BENZO(A)ANTHRACENE	N.D.	0.05	-----
BIS(2-ETHYLHEXYL)PHTHALATE	N.D.	0.05	-----
CHRYSENE	N.D.	0.05	86.1% 85.1%
DI-N-OCTYLPHTHALATE	N.D.	0.05	-----
BENZO(B)FLUORANTHENE	N.D.	0.05	-----
BENZO(K)FLUORANTHENE	N.D.	0.05	-----
BENZO(A)PYRENE	N.D.	0.05	-----
INDENO(1,2,3 C,D)PYRENE	N.D.	0.05	-----
DIBENZO(A,H)ANTHRACENE	N.D.	0.05	-----
BENZO(G,H,I)PERYLENE	N.D.	0.05	-----

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CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

October 10, 1991 ChromaLab File # 1091017 G

Client: Jonas & Associates, Inc.
Attn: Romena Jonas
Date Sampled: Oct. 01, 1991 Date Submitted: Oct. 02, 1991
Date Extracted: Oct. 07, 1991 Date Analyzed: Oct. 9, 1991

Project Name: PACO PUMPS SOIL
Sample I.D.: B7-0.5-10191
Method of Analysis: EPA 8270 Matrix: soil

COMPOUND NAME	Sample mg/Kg	MDL mg/Kg	Spike Recovery
PHENOL	N.D.	0.05	-----
BIS(2-CHLOROETHYL) ETHER	N.D.	0.05	91.5% 89.2%
2-CHLOROPHENOL	N.D.	0.05	-----
1,3-DICHLOROBENZENE	N.D.	0.05	-----
1,4-DICHLOROBENZENE	N.D.	0.05	-----
BENZYL ALCOHOL	N.D.	0.10	-----
1,2-DICHLOROBENZENE	N.D.	0.05	-----
2-METHYLPHENOL	N.D.	0.05	-----
BIS(2-CHLOROISOPROPYL)ETHER	N.D.	0.05	-----
4-METHYLPHENOL	N.D.	0.05	-----
N-NITROSO-DI-N-PROPYLAMINE	N.D.	0.05	-----
HEXACHLOROETHANE	N.D.	0.05	-----
NITROBENZENE	N.D.	0.05	-----
ISOPHORONE	N.D.	0.05	-----
2-NITROPHENOL	N.D.	0.05	-----
2,4-DIMETHYLPHENOL	N.D.	0.05	-----
BENZOIC ACID	N.D.	0.25	-----
BIS(2-CHLOROETHOXY)METHANE	N.D.	0.05	91.5% 93.2%
2,4-DICHLOROPHENOL	N.D.	0.05	-----
1,2,4-TRICHLOROBENZENE	N.D.	0.05	-----
NAPHTHALENE	N.D.	0.05	-----
4-CHLOROANILINE	N.D.	0.10	-----
HEXACHLOROBUTADIENE	N.D.	0.05	-----
4-CHLORO-3-METHYLPHENOL	N.D.	0.10	-----
2-METHYLNAPHTHALENE	N.D.	0.05	-----
HEXACHLOROCYCLOPENTADIENE	N.D.	0.05	-----
2,4,6-TRICHLOROPHENOL	N.D.	0.05	-----
2,4,5-TRICHLOROPHENOL	N.D.	0.05	-----
2-CHLORONAPHTHALENE	N.D.	0.05	-----
2-NITROANILINE	N.D.	0.25	-----
DIMETHYL PHTHALATE	N.D.	0.05	-----
ACENAPHTHYLENE	N.D.	0.05	-----
3-NITROANILINE	N.D.	0.25	-----
ACENAPHTHENE	N.D.	0.05	87.5% 88.2%
2,4-DINITROPHENOL	N.D.	0.25	-----
4-NITROPHENOL	N.D.	0.25	-----
DIBENZOFURAN	N.D.	0.05	-----

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CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

ChromaLab File # 1091017 G

Project Name: PACO PUMPS SOIL
Sample I.D.: B7-0.5-10191
Method of Analysis: EPA 8270 Matrix: soil

COMPOUND NAME	Sample mg/Kg	MDL mg/Kg	Spike Recovery
2,4-DINITROTOLUENE	N.D.	0.05	-----
2,6-DINITROTOLUENE	N.D.	0.05	89.1% 87.1%
DIETHYL PHTHALATE	N.D.	0.05	-----
4-CHLORO-PHENYL PHENYL ETHER	N.D.	0.05	-----
FLUORENE	N.D.	0.05	-----
4-NITROANILINE	N.D.	0.25	-----
4,6-DINITRO-2-METHYL PHENOL	N.D.	0.25	-----
N-NITROSODIPHENYLAMINE	N.D.	0.05	-----
4-BROMOPHENYL PHENYL ETHER	N.D.	0.05	-----
HEXACHLOROBENZENE	N.D.	0.05	-----
PENTACHLOROPHENOL	N.D.	0.25	-----
PHENANTHRENE	N.D.	0.05	-----
ANTHRACENE	N.D.	0.05	-----
DI-N-BUTYL PHTHALATE	N.D.	0.05	-----
FLUORANTHENE	N.D.	0.05	-----
PYRENE	N.D.	0.05	-----
BUTYLBENZYLPHTHALATE	N.D.	0.05	-----
3,3'-DICHLOROBENZIDINE	N.D.	0.10	-----
BENZO(A)ANTHRACENE	N.D.	0.05	-----
BIS(2-ETHYLHEXYL)PHTHALATE	N.D.	0.05	-----
CHRYSENE	N.D.	0.05	86.1% 85.1%
DI-N-OCTYLPHTHALATE	N.D.	0.05	-----
BENZO(B)FLUORANTHENE	N.D.	0.05	-----
BENZO(K)FLUORANTHENE	N.D.	0.05	-----
BENZO(A)PYRENE	N.D.	0.05	-----
INDENO(1,2,3 C,D)PYRENE	N.D.	0.05	-----
DIBENZO(A,H)ANTHRACENE	N.D.	0.05	-----
BENZO(G,H,I)PERYLENE	N.D.	0.05	-----

ChromaLab, Inc.

David Duong
Senior Chemist

Eric Tam
Lab Director

CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

October 9, 1991 ChromaLab File No.: 1091017 F

JONAS & ASSOCIATES

Attn: R. Jonas

RE: 8080 ANALYSIS

Project Name: PACO PUMPS SOIL
Date Sampled: Oct. 1, 1991 Date Submitted: Oct. 2, 1991
Date Analyzed: October 4-8, 1991

RESULTS: Sample I.D.: B6-0.5-10191

CHLORINATED PESTICIDE ANALYSIS

Compounds	Concentration (µg/kg)	Detection Limit (µg/kg)	Spike Recovery
ALDRIN	N.D.	10	----
DIELDRIN	N.D.	10	87.4%
ENDRIN ALDEHYDE	N.D.	50	----
ENDRIN	N.D.	10	90.2%
HEPTACHLOR	N.D.	10	----
HEPTACHLOR EPOXIDE	N.D.	10	----
p,p' - DDT	N.D.	50	84.6%
p,p' - DDE	N.D.	10	93.1%
p,p' - DDD	N.D.	50	----
ENDOSULFAN I	N.D.	50	100.8%
ENDOSULFAN II	N.D.	50	----
α - BHC	N.D.	10	----
β - BHC	N.D.	10	----
γ - BHC (LINDANE)	N.D.	10	86.9%
δ - BHC	N.D.	10	----
ENDOSULFAN SULFATE	N.D.	100	----
p,p' - METHOXYCHLOR	N.D.	100	----
TOXAPHENE	N.D.	100	102.2%
PCB'S	400*	100	----
CHLORDANE	N.D.	100	----

*PCB 1260

ChromaLab, Inc.

David Duong
Chief Chemist

Eric Tam (by DD)
Eric Tam
Laboratory Director

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CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

October 9, 1991 ChromaLab File No.: 1091017 G

JONAS & ASSOCIATES

Attn: R. Jonas

RE: 8080 ANALYSIS

Project Name: PACO PUMPS SOIL
Date Sampled: Oct. 1, 1991 Date Submitted: Oct. 2, 1991
Date Analyzed: October 4-8, 1991

RESULTS: Sample I.D.: B7-0.5-10191

CHLORINATED PESTICIDE ANALYSIS

Compounds	Concentration (µg/kg)	Detection Limit (µg/kg)	Spike Recovery
ALDRIN	N.D.	10	----
DIELDRIN	N.D.	10	87.4%
ENDRIN ALDEHYDE	N.D.	50	----
ENDRIN	N.D.	10	90.2%
HEPTACHLOR	N.D.	10	----
HEPTACHLOR EPOXIDE	N.D.	10	----
p,p' - DDT	N.D.	50	84.6%
p,p' - DDE	N.D.	10	93.1%
p,p' - DDD	N.D.	50	----
ENDOSULFAN I	N.D.	50	100.8%
ENDOSULFAN II	N.D.	50	----
α - BHC	N.D.	10	----
β - BHC	N.D.	10	----
γ - BHC (LINDANE)	N.D.	10	86.9%
δ - BHC	N.D.	10	----
ENDOSULFAN SULFATE	N.D.	100	----
p,p' - METHOXYCHLOR	N.D.	100	----
TOXAPHENE	N.D.	100	102.2%
PCB'S	670*	100	----
CHLORDANE	N.D.	100	----

*PCB 1260

ChromaLab, Inc.

David Duong
Chief Chemist

Eric Tam (by DD)
Eric Tam
Laboratory Director

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CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

October 9, 1991 ChromaLab File No.: 1091017 G

JONAS & ASSOCIATES, INC.

Attn: R. Jonas

RE: One soil sample for TTLC CAM 17 Metals analysis

Project Name: PACO PUMPS SOIL
Date Sampled: Oct. 1, 1991 Date Submitted: Oct. 2, 1991
Date Analyzed: October 8, 1991

RESULTS: Sample I.D.: B7-0.5-10191

Metals	Concentration (mg/kg)	Detection Limit (mg/kg)	% Spiked Recovery	Regulatory Levels (mg/kg)
*Ag	N.D.	0.004	97.6%	500
As	N.D.	0.088	90.3%	500
Ba	138	0.005	102.3%	10000
Be	N.D.	0.001	103.2%	75
Cd	1.99	0.012	72.0%	100
Co	0.991	0.020	97.0%	8000
Cr	57.8	0.006	97.3%	2500
Cu	N.D.	0.004	105.6%	2500
Hg	N.D.	0.200	91.4%	20
Mo	8.85	0.040	87.1%	3500
Ni	348	0.026	97.2%	2000
Pb	N.D.	0.044	93.6%	1000
*Sb	N.D.	0.040	101.5%	500
Se	N.D.	0.200	87.6%	100
Tl	N.D.	0.088	100.1%	700
V	146	0.004	104.4%	2400
Zn	N.D.	0.006	102.2%	5000

Method of Analysis: 3050/6010
*Method of Analysis: 3005/6010

ChromaLab, Inc.

David Duong
Chief Chemist

Eric Tam (by DD)
Eric Tam
Laboratory Director

2239 Omega Road, #1 • San Ramon, California 94583
510/831-1788 • Facsimile 510/831-8798
Federal ID #68-0140157

CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

October 9, 1991 ChromaLab File No.: 1091017 F

JONAS & ASSOCIATES, INC.

Attn: R. Jonas

RE: One soil sample for TTLC CAM 17 Metals analysis

Project Name: PACO PUMPS SOIL
Date Sampled: Oct. 1, 1991 Date Submitted: Oct. 2, 1991
Date Analyzed: October 8, 1991

RESULTS: Sample I.D.: B6-0.5-10191

Metals	Concentration (mg/kg)	Detection Limit (mg/kg)	% Spiked Recovery	Regulatory Levels (mg/kg)
*Ag	N.D.	0.004	97.6%	500
As	N.D.	0.088	90.3%	500
Ba	10.7	0.005	102.3%	10000
Be	N.D.	0.001	103.2%	75
Cd	0.595	0.012	72.0%	100
Co	0.804	0.020	97.0%	8000
Cr	2.63	0.006	97.3%	2500
Cu	67.8	0.004	105.6%	2500
Hg	N.D.	0.200	91.4%	20
Mo	N.D.	0.040	87.1%	3500
Ni	1.28	0.026	97.2%	2000
Pb	85.4	0.044	93.6%	1000
*Sb	N.D.	0.040	101.5%	500
Se	N.D.	0.200	87.6%	100
Tl	N.D.	0.088	100.1%	700
V	N.D.	0.004	104.4%	2400
Zn	22.5	0.006	102.2%	5000

Method of Analysis: 3050/6010
*Method of Analysis: 3005/6010

ChromaLab, Inc.

David Duong
Chief Chemist

Eric Tam (by ,,)
Eric Tam
Laboratory Director

2239 Omega Road, #1 • San Ramon, California 94583
510/831-1788 • Facsimile 510/831-8798

JONAS & ASSOCIATES INC.
P. O. Box 27153
Concord, California 94527
Telephone: (415) 676-8554
FAX #: (415) 680-6511

SAMPLE CONDITION REPORT FORM

Page 1 of 1
Date of Request 10/1/91 Job No. 8CO-217-d-Soil
Client PACO Pumps / Jonas + Associates INC.
Source of Samples Soil
Shipper _____ Arrival Date 10/2/91

Analysis Authorized by R. Jonas
Affiliation/Address Jonas + Associates Inc. 1656 Dale Ave Concord, CA Phone 510-676-8554
Report Results to J+A Phone 510-676-8554

Lab # (Lab to fill in)	Sample Type[1]	Identify Information (e.g. site taken, field I.D. number, etc.)	Condition Received at Laboratory[2]	Date of Collection	Specific Analyses Requested
	Soil	B1-3.5-101991	1. Custody Form? ✓	10/1/91	• 8240; 8270; 3550/8015; 5030/8015; 8080
		B2- "	2. Package O.K.? ✓		• 8240; 8550/8015; 5030/8015; 8080
		B3 "	3. In Ice? ✓		• 8240; 8270; 3550/8015; 5030/8015; 8080
		B4 "	4. Container Type Suitable? ✓		• same as B2
		B5 "	5. Air bubbles present/absent in VOA? ✓		• same as B1
		B6 "	6. Proper preservation? ✓		• 8240; 8270; 3550/8015; 5030/8015; 8080; Title 26 Metals
		B7 "	7. Custody Seal? ✓		• same as B6
			Remarks: Samples received in good conditions		

1 *Specify as water (W), soil (S), or other (describe on back if need to).*

2 *Questions are to be answered (Y) or no (N) if possible. Special concerns (re. condition of sample, detection limits desired, important information re. sample history, etc.) should be noted under remarks.*

PCC001327

CHROMALAB, INC.

2239 Omega Road, #
415/831-1788 •

CHROMALAB FILE # 1091017
ORDER # 3653

Chain of Custody

DATE 10/2/91 PAGE 1 OF 1

PROJ. MGR. R. Jones
COMPANY Jones + Associates Inc.
ADDRESS 1056 Dale Place
Concord, CA 94518

SAMPLERS (SIGNATURE) R. Jones
(PHONE NO.) 510-676-8554

SAMPLE ID.	DATE	TIME	MATRIX	LAB ID.	TPH - Gasoline (EPA 5030)	TPH - Gasoline (5030, 8015) w/BTEX (EPA 602, 8020)	TPH - Diesel (EPA 3510, 3550, 8015)	PURGEABLE AROMATICS BTEX (EPA 602, 8020)	PURGEABLE HALOCARBONS (EPA 601, 8010)	VOLATILE ORGANICS (EPA 624, 8240)	BASE/NEUTRALS, ACIDS (EPA 625/627, 8270)	TOTAL OIL & GREASE (EPA 5520 D&F)	PESTICIDES/PCB (EPA 608, 8080)	PHENOLS (EPA 604, 8040)	T;Tl Zn Mo Tin		METALS: Cd, Cr, Pb, Zn	CAM METALS (17) w/Cr VI	PRIORITY POLLUTANT METALS (13)						NUMBER OF CONTAINERS
B1-3.5-10191	10/1/91	12:50	Soil			X	X			X	X		X												
B2-3.5-10191	10/1/91	1:05	Soil			X	X			X			X												
B3-3.5-10191	10/1/91	1:35	Soil			X	X			X	X		X												
B4-3.5-10191	10/1/91	2:26	Soil			X	X			X	X		X												
B5.3.5-10191	10/1/91	1:35	Soil			X	X			X	X		X												
B6-0.5-10191	10/1/91	12:10	Soil			X	X			X	X		X		X										
B7-0.5-10191	10/1/91	11:50	Soil			X	X			X	X		X		X										

PROJECT INFORMATION

PROJECT NAME: PACO Pumps Soil
PROJECT NUMBER: R. Jones
SHIPPING ID. NO.: Hand delivered
VIA:

SAMPLE RECEIPT

TOTAL NO. OF CONTAINERS	7
CHAIN OF CUSTODY SEALS	
REC'D GOOD CONDITION/COLD	
CONFORMS TO RECORD	
LAB NO.	

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY 1.	RELINQUISHED BY 2.	RELINQUISHED BY 3.
(SIGNATURE) (TIME) Romona Jones 11:30	(SIGNATURE) (TIME)	(SIGNATURE) (TIME)
(PRINTED NAME) (DATE) Romona Jones 10/2/91	(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)
(COMPANY) Jones + Associates Inc.	(COMPANY)	(COMPANY)
RECEIVED BY 1.	**RECEIVED BY 2.**	**RECEIVED BY (LABORATORY) 3.**
(SIGNATURE) (TIME)	(SIGNATURE) (TIME)	(SIGNATURE) 11:30 AM (TIME)
(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)	(PRINTED NAME) DAVID DUONG 10/02/91 (DATE)
(COMPANY)	(COMPANY)	(LAB) Chromalab, Inc.

PCC001328

Indemnification Agreement

INDEMNIFICATION AGREEMENT

Paco Pumps, Inc. a Delaware Corporation ("Indemnitor") enters into this indemnification Agreement in order to induce and encourage **Heller First Capital Corp. ("Lender") and Bay Area Employment Development Company** ("BAEDC") and the United States Small Business Administration ("SBA") to provide loans to GP Holdings, LLC a California limited liability company ("Borrower")

For valuable consideration and with the intention to be bound legally, the undersigned parties agree as follows:

I. Definitions.

For the purposes of this Agreement, the following definitions apply:

A. The term "environment" incorporates by reference the definition of the term at 42 U.S.C. S 9601.

B. The term "release shall means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment.

C. The term "contaminant" means any substance that is hazardous or detrimental to the environment and which is regulated by law, including, without limitation, any hazardous substance (as that term is defined at 42 U.S.C. S 9601), and petroleum (as that term is defined at 42 U.S.C. SS 6991).

D. The term "Agency" shall means any federal, state or local governmental agency with statutory or regulatory authority to enforce the laws regarding the release of any contaminant into the environment.

E. The term "Property" means 9201 San Leandro St, Oakland, CA now owned by

Indemnitor, and which is described in greater detail in the mortgages that will be given by Borrower to Lender, Bay Area Employment Development Company , and SBA in the event that the loans are made to finance borrower's purchase of the Property from Indemnitor.

F. The term "ENSR Report" means a Report showing the results of a Environmental Assessment regarding the Property dated May 15, 1995 that has been prepared by ENSR Consulting & Engineering prior to this Agreement, a copy of which is attached hereto as Exhibit A.

II. Recitals

A. Borrower desires to purchase the Property, and has submitted an application to Lender, Bay Area Employment Development Company, and SBA for loans which are to be secured by the Property.

B. The ENSR Report indicates that there has been a release of a contaminant or contaminants into or on the Property and that remediation of such contaminants is or may be necessary under law.

C. Lender, Bay Area Employment Development Company and SBA will not make a loan to Borrower unless they are provided with indemnification from indemnitor against losses they may sustain as the result of the release of any contaminant into or on the Property prior to the transfer of such Property to Borrower.

D. Indemnitor desires to cooperate with and assist Borrower in its efforts to secure a loan from Lender, Bay Area Employment Development Company and SBA by agreeing to perform remediation of all contaminants released into or on the Property prior to the transfer of such Property to Borrower.

III. Terms and Conditions

A. Indemnity From Remediation.

(1) Indemnitor agrees, at its sole cost and expense, to cause to be performed such investigation, monitoring and/or. remediation of all contaminants released into or on the Property as described in the ENSR Report.

(2) In the event that any contaminant, not identified in the ENSR Report, is found to have been released into or on the Property prior to the transfer of the Property to Borrower, Indemnitor further agrees, at its sole cost and expense, to cause to be performed such investigation, monitoring and/or remediation of all such contaminants as may be requested or directed by any Agency or that an owner or operator of the Property may be required to perform under law, now or at any time in the future.

(3) Indemnitor's obligations under paragraphs III.A.(1) and III.A.(2) shall continue until such time as any Agency exercising authority over the investigation, remediation and/or monitoring at the Property approves such actions and provides written notice that no further action will be required.

B. Indemnity from Claims. Indemnitor further agrees to indemnify, defend and hold harmless Borrower, Lender, Bay Area Employment Development Company and SBA, and any of their assigns and successors in interest, which may take title to the Property, from and against any liabilities, damages, fees, penalties or losses arising out of any demand, claim or suit by any Agency or any other party relating to any contaminants found to have been released into or on the Property prior to the transfer of the Property to Borrower.

C. Manner of Performance. Indemnitor shall perform its investigation, monitoring and/or remediation in a prompt manner and in compliance with all applicable laws and in a manner and at times which will not unreasonably interfere with Borrower's use of the Property.

D. Cooperation To Indemnitor. Borrower, Lender, Bay Area Employment Development Company, SBA, and any of their assigns and successors in interest who may take title to the Property shall provide reasonable cooperation to Indemnitor (1) to allow Indemnitor to cause to be performed any investigation, monitoring and/or remediation pursuant to paragraphs III.A.(1) and III.A.(2) to allow Indemnitor to conduct its defense of any claim or suit referenced in paragraph III.B.(1).

E. Reporting Requirements

(1) Indemnitor shall promptly provide Lender, BAEDC, SBA and Borrower with copies of any written communications between Indemnitor and any Agency regarding the investigation, monitoring and/or remediation described in paragraphs III.A.(1) and III.A.(2), unless, at its sole option, Lender, BAEDC, SBA and/or Borrower agree to waive their right to obtain some or all of such communications.

(2) Indemnitor shall promptly provide Borrower, Lender, BAEDC and SBA with a copy of (a) any written communication received from any Agency regarding any contaminants released into or on the Property for which Indemnitor may be responsible under paragraphs III.A. (1) or III.A. (2), and (b) any notice of any demand, claim or suit referenced in paragraph B(1) for which Indemnitor may be responsible.

(3) Borrower, Lender and SBA, and any of their assigns and successors in interest who may take title to the Property, shall promptly provide indemnitor with a copy of (a) any written communication received from any Agency regarding any contaminants released into or on the Property for which Indemnitor may be responsible under paragraphs III.A. (1) or III.A. (2), and (b) any notice of any demand, claim or suit referenced in paragraph III.B.(1) for which Indemnitor may be responsible.

(4) In the event that the Property has been transferred or assigned to a party other

than Borrower, Lender, BAEDC or SBA and that indemnitor has been notified in writing of this transfer or assignment, Indemnitor's obligations under paragraphs III.E.(1) and III.E.(2) also extend to such assignee or transferee.

P. Attorney Fees and Costs of Litigation. Indemnitor agrees to pay all attorney fees and costs of litigation incurred by Borrower, Lender, BAEDC and/or SBA, and any of their assigns and successors in interest who may take title to the Property, in any case brought to enforce the terms of this Agreement in which judgment is entered against Indemnitor.

G. Notices

All notices required under this agreement shall be made to the following:

(1) All notices to SBA shall be made to:

District Counsel
211 Main St, 4th floor
San Francisco, CA 94105

(2) All notices to Lender shall be made to:
Kathryn J. Sennott , Senior Loan Officer
Heller First Capital Corp.
650 California St, 23rd Fl, San Francisco, CA 94108

(3) All notices to Borrower shall be made to:
Leonard M. Silvani, GP Holdings, LLC
9201 San Leandro St, Oakland, CA 94603

(4) All notices to BAEDC shall be made to:
James Baird
Bay Area Employment Development Company
1801 Oakland Blvd #300
Walnut Creek, CA 94596

(5) All notices to Indemnitor shall be made to:
Newflo Corporation (for Paco Pumps, Inc.)
301 Camp Craft Road #100
Westlake Hills, Austin, TX 78746
Attn: John Lilla
Phone 512-314-8500 FAX 512-314-8511

H. Authority To Sign.

By signing below, each individual represents and warrants that he or she has proper authority to execute this Agreement.

Indemnitor has attached as Exhibit "B" to this Agreement a valid, certified resolution confirming such authority.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed as of the latest date set forth below.

Dated: 9/28/95

On Behalf of and
John Lilla for Paco Pumps, INC.
John Lilla, Vice President
Paco Pumps, Inc. a Delaware corporation

Dated: _____

Kathryn J. Sennott
Heller First Capital Corp.

Dated: _____

Richard Jones
U.S. SMALL BUSINESS ADMINISTRATION

Dated: 9-25-95

Leonard M. Silvani
Leonard M. Silvani
GP Holdings, LLC

Dated: 9/25/95

Exec. Dir.
James Baird
Bay Area Employment Development Company

Report
Site Contamination Study
PACO Pump Facility
Oakland, California
For Amsted Industries, Inc.

August 12, 1987
Job No. 15215-008-43

Dames & Moore

DAMES & MOORE A PROFESSIONAL LIMITED PARTNERSHIP
221 MAIN STREET, SUITE 600, SAN FRANCISCO, CALIFORNIA 94105-1917 (415) 896-5858

PRIVILEGED AND CONFIDENTIAL

August 12, 1987
Job No. 15215-008-43

Mr. Edward J. Brosius
Senior Attorney
Amsted Industries, Inc.
44th Floor Boulevard Towers South
205 North Michigan Avenue
Chicago, Illinois 60601

Dear Mr. Brosius:

Report
Site Contamination Study
PACO Pump Facility
Oakland, California
For Amsted Industries, Inc.

This letter report presents the results of a site investigation performed at the PACO Pump facility located at 9201 San Leandro Street, Oakland, California (Figure 1). The purpose of the study was to explore an area on the west side of the PACO Pump machinery shop for potential contamination. The study area is bound by a cyclone fence on the east and the machine shop foundation on the west (Figure 2). The scope of our investigation was limited to excavating four shallow exploratory pits across the area, examining the sidewalls of each pit for evidence of discolored or oily soil, and analyzing two soil samples collected from each pit for concentrations of volatile and semi-volatile organic compounds as well as volatile and extractable petroleum hydrocarbons. All work was conducted as proposed. The details of our investigation, as well as our findings and recommendations, are presented below.

FIELD INVESTIGATION

Four exploratory pits were excavated in the study area on Monday, July 27, 1987. Each pit, measuring approximately 3 feet by 3 feet in plan view, was excavated with a backhoe to a depth of about 3 feet (Figure 2). The work was performed by a licensed backhoe operator and monitored by a Dames & Moore geologist. Prior to beginning each excavation, the backhoe bucket was thoroughly steam cleaned to minimize the potential for cross contamination between pits.

Soil samples were collected from the sidewall of each pit at depths of 1.5 and 3.0 feet. Samples were collected by scooping soil into 3-inch stainless steel tubes with a trowel. The rings were covered at each end with 2 mil Teflon sheets, capped, taped, labeled and placed on ice. Samples were transported under chain-of-custody to Anatec Laboratories in Santa Rosa, California for analysis. Once samples were collected and sidewall observations were completed, exploratory pits were backfilled.

A total of eight soil samples were delivered to Anatec Laboratories for analysis. Each sample was analyzed for volatile and semi-volatile organic compounds (E.P.A. Methods 8240 and 8270, respectively) and extractable petroleum hydrocarbons (EPA Method 3550/8015). In addition, two samples were analyzed for volatile petroleum hydrocarbons (EPA Method 5020/8015) as well as polychlorinated biphenyls (EPA Method 8080). One sample was also analyzed for heavy metals (EPA Method 6010). For quality control purposes, analytical results were duplicated for one soil sample. A summary of analytical results is provided in Tables 1.0 and 2.0 and the actual laboratory results are attached to this report.

CONCLUSIONS AND RECOMMENDATIONS

Data from the exploratory pits indicate that shallow soils in the study area consist of a dark brown to black gravelly fill material containing glass, bottles, bolts and garbage. At a depth of roughly 1.5 feet, the soil begins to increase in moisture, apparently the result of saturation with an oily substance. A visible oily sheen on the soil as well as a strong hydrocarbon odor was noted in each pit (Figure 3). At a depth of about three feet, the soil grades into a dark brown, stiff, silty clay. A hydrocarbon odor was still present. A free floating black oily looking substance was observed in pit number three at a depth of two feet.

Chemical analyses of the pit samples indicate that subsurface soils are contaminated with motor oil, creosote, and toluene. A variety of indentifiable, non-target organic compounds were also reported by the lab. Further analytical research of these compounds suggest they are various hydrocarbon residues typical of petroleum products.

As shown on Table 1.0, creosote, a wood preservative, was detected at a concentration of 790 mg/kg (ppm) in pit "3" at a depth of 1.5 feet. Motor oil was found in exploratory pits "1", "3" and "4" at concentrations ranging from 130 mg/kg (pit "1" at 3 feet) to 1100 mg/kg (pit "4" at 3 feet). Toluene, a solvent, was found at concentrations ranging from 110 ug/kg (ppb) (pit "4" at 1.5 feet) to a maximum concentration of 600 ug/kg (pits "1" and "2" at depths of 1.5 and 3.0 feet, respectively) (Table 1.0). No concentrations of PCB's or other organic compounds were detected. Metal concentrations were below California Total Threshold Limit Concentration (TTLC) and Soluble Threshold Limit Concentration (STLC), used to classify hazardous wastes (Table 2.0).

In summary, our investigation indicates that the nature of subsurface contamination at the site is motor oil, petroleum hydrocarbons and associated solvents used as additives to fuel products or solvents mixed with waste oils. Although creosote was identified in one sample, its presence may be isolated contamination linked to the adjacent railroad ties. The source and extent of hydrocarbon and solvent contamination is not known. However, the source may be attributed to spillage of waste oils. Further, the analytical results indicate that the northern portion of the study area (pits "3" and "4") have higher concentrations of extractable petroleum hydrocarbons than the southern area (pits "1" and "2").

To assess the extent of site soil contamination and the impact on groundwater (anticipated to be shallow), we recommend that additional site exploration be performed. Future activities should include the following:

- Drill five to seven exploratory borings to a depth of approximately 15 feet. Samples should be collected at approximately 4, 8, 12, and 15 feet.
- Complete one to two borings as groundwater monitoring wells. The wells should be screened at an appropriate depth to penetrate approximately the upper 10 feet of groundwater.
- Inspect soil samples and groundwater wells for evidence of petroleum products.
- Analyze selected soil and groundwater samples for total petroleum hydrocarbons, benzene, toluene and xylene.

If evidence of deeper soil or groundwater contamination is discovered, additional borings may be necessary. Once the horizontal and vertical extent of contaminantion are better understood, appropriate clean up measures can be recommended. In applying guidelines set forth by the California Regional Water Quality Control Board, we anticipate that soils contaminated with petroleum hydrocarbons in excess of 1000 mg/kg may have to be excavated and disposed of at a Class I disposal facility. On-site treatment and disposal at Class II facilities can be considered for those materials contaminated between 100 mg/kg and 1000 mg/kg. Remediation of groundwater contamination will depend on the beneficial uses of the ground water, the feasibility of remedial technologies, the potential environmental impact and agency approvals.

We have enjoyed the opportunity to assist you on this investigation. If you have any questions concerning our findings or desire that we further investigate your facility, please do not hesitate to contact me at 415/896-5858.

Very truly yours,

DAMES & MOORE

David M. Klimberg

David M. Klimberg
Associate

DMK:fs

Attachments: Table 1.0-Summary of Analytical Results.
Table 2.0-Summary of Metal Results
Plate 1-Site Location
Plate 2-Site Plan
Plate 3-Logs of Exploratory Pits
Anatec Laboratories Report of Analytical Results, August 5, 1987.

cc: Mike Ander - Dames & Moore, Chicago

TABLE 1.0
Summary of Analytical Results
PACO Pump Facility
Oakland, California

Analyte	Pit 1/1.5'	Pit 1/3.0'	Pit 2/1.5'	Pit 2/3.0'	Pit 3/1.5'	Pit 3/3.0'	Pit 4/1.5'	Pit 4/3.0'
Extractable Petroleum Hydrocarbons[b] (mg/Kg)[a] EPA Method 3550/8015	250	130	<10	<10	780[d](800[d])	600	780	1,100
Volatile Petroleum Hydrocarbons (mg/Kg) EPA Method 5020/8015	NR[c]	NR	<10	NR	NR	<10	NR	NR
Toluene (ug/Kg) EPA Method 8240	600	470	420	600	230	380	110	45
Pyrene (ug/Kg) EPA Method 8270	59	ND[e]	ND	ND	ND	59	ND	ND

---

[a] - mg/Kg - Data are expressed as milligrams analyte per kilogram sample, as received basis
[b] - Data are quantitated as motor oil, unless otherwise noted
[c] - NR - Analysis not requested.
[d] - Quantitated as creosote
[e] - ND - not detected
( ) - Duplicate analysis

TABLE 2.0
SUMMARY OF METAL RESULTS[c]
PIT #3 AT 3.0 FEET

Parameter	Results (mg/Kg[a])
Antimony	<50
Arsenic	14
Barium	190
Beryllium	<2
Cadmium	<3
Chromium (VI)	NA[b]
Chromium (total)	41
Cobalt	6
Copper	22
Lead	<20
Mercury	<0.05
Molybdenum	<20
Nickel	41
Selenium	<0.5
Silver	<1
Thallium	<30
Vanadium	36
Zinc	42

[a] mg/Kg--Data are expressed as milligrams analyte per kilogram sample, as-received basis.

[b] NA--Not applicable; total chromium level is below regulatory limit (Section 66699, Article II, California Administrative Code)

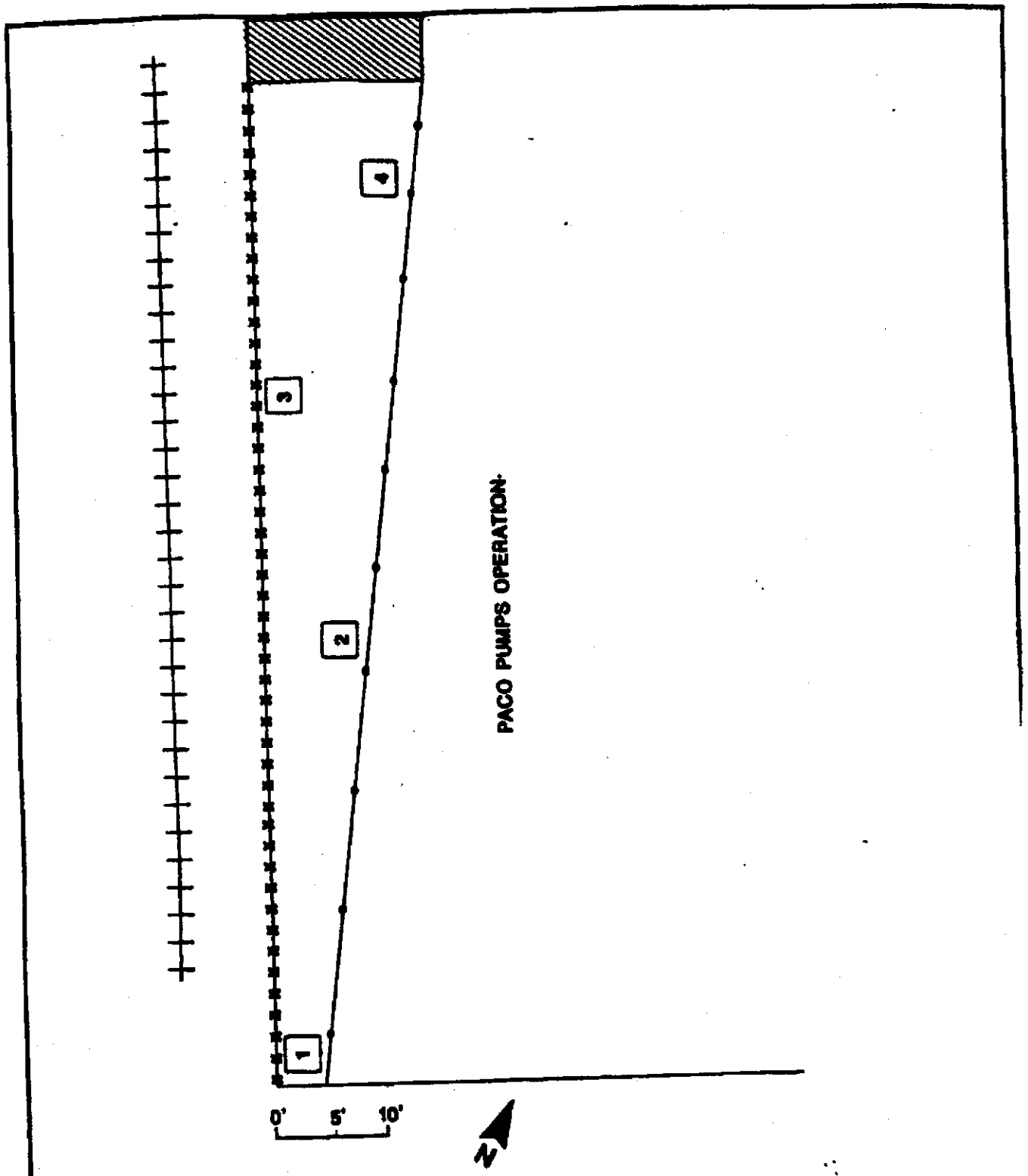
[c] --Arsenic - EPA Method 7060
Mercury - EPA Method 7471
Selenium - EPA Method 7740
Metals - all others - EPA Method 6010

REFERENCE: California State Automoble Assoc. I

Page 9 of 47
Schedule 4.16

SITE LOCATI
AMSTEAD INDUSTRIES, I
Paco Pumps,
Oakland, Califo
Dames & M

Figure 1



KEY:

Foundation of Building

xxxx Cyclone Fence

Railroad Tracks

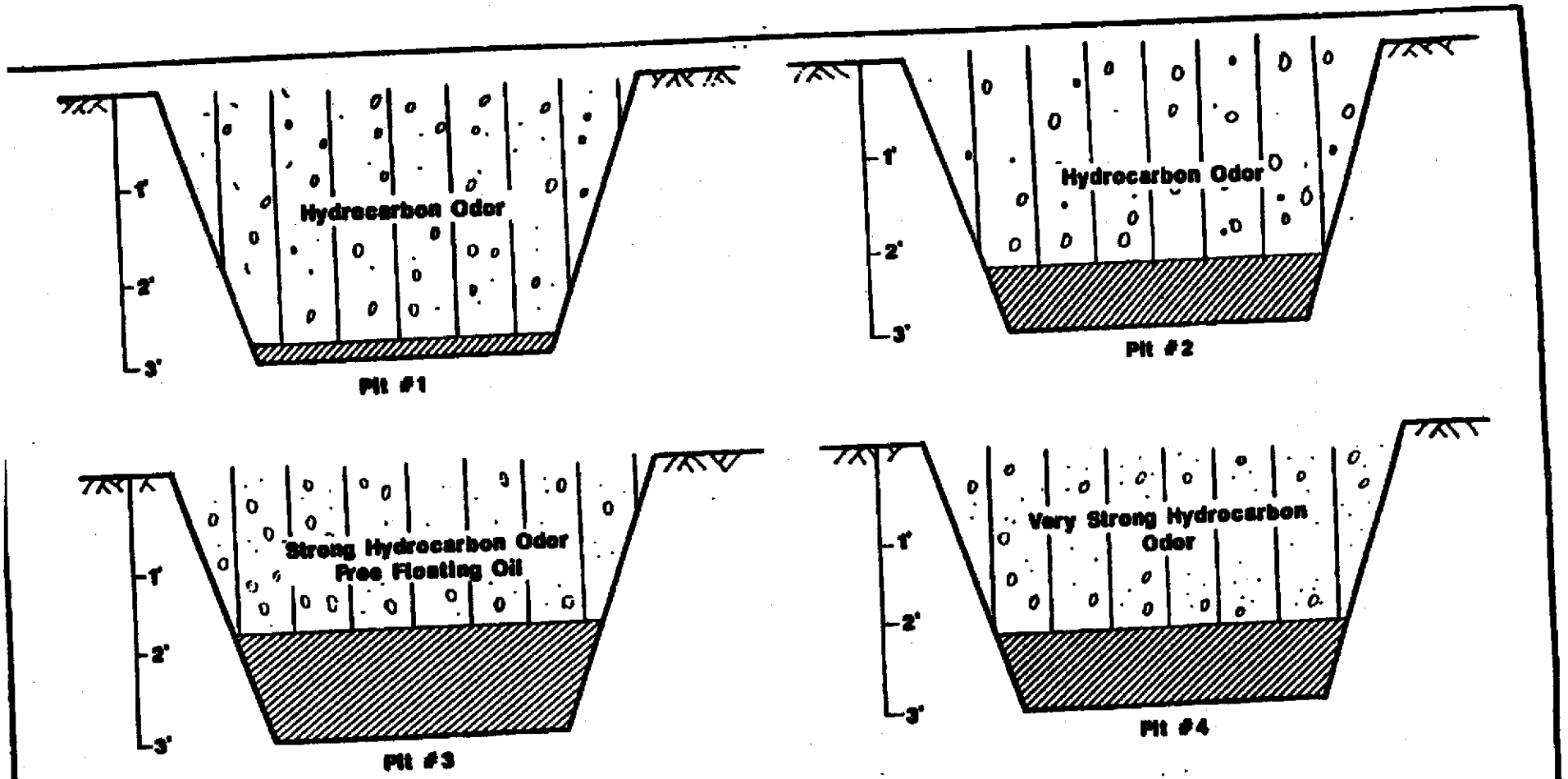
Asphalt

Excavation Pit

LOCATION OF EXCAVATION PITS

AMSTEAD INDUSTRIES, INC

Paco Pumps Oakland, Californ



KEY:

Dark Brown to Black Gravelly Fill Material, Moist, with Pieces of Glass, Bottles, Bolts, Cans and Garbage.

Dark Grey Clay, V. Stiff, Hydrocarbon Odor.

LOGS OF EXCAVATION PITS

AMSTEAD INDUSTRIES, INC.
Paco Pumps Site
Oakland, California
Dames & Moore

Figure 3

ANATEC LABORATORIES INC.

435 Tesconi Circle • Santa Rosa, California 95401 • 707-526-7200

Kris Franklin
Dames & Moore
221 Main Street, Ste 600
San Francisco, CA 94105

August 5, 1987
ANATEC Log No. 9853 (1-8)
Series No: 338/053
Client Proj No: 15215-008-043

Subject: URGENT Priority Analysis of Eight Soil Samples Identified as "PACO PUMPS, Project No. 15215-008-043" Received July 28, 1987.

Dear Ms. Franklin:

Analysis of the above referenced samples has been completed. This report provides details of analytical methodologies used to produce the results transmitted to you on August 4, 1987.

Sample Receipt and Log-in

Eight soil samples were received at the laboratory under documented chain-of-custody on July 28, 1987. Sample custody was transferred to ANATEC Sample Control staff who initiated the laboratory log-in process. The log-in process consisted of the following activities:

(1) Inspection and notation of the condition of all samples received;

(2) Inspection of sample label information and reconciliation with information submitted on sample custody documents;

(3) Assignation of ANATEC laboratory log and sample numbers;

(4) Matching of analyses to be performed with sample containers prepared by methods compatible with analyses;

(5) Documentation of processes listed above and any irregularities on the laboratory log sheet; and

(6) Inspection and approval of the documents package and testing protocols by the Project Manager.

Subsequent to completion of log-in procedures, all samples were placed in secure storage where they were maintained at 4 °C until analysis commenced.

It was noted that all samples were in good condition on arrival (cold and labeled legibly and completely).

One sample "#6, 3/3' 7/27 1600" was analyzed to measure various metals. All samples were analyzed to measure volatile and semi-volatile organic compounds, volatile and extractable petroleum hydrocarbons, and polychlorinated biphenyls (PCBs). The methods used for these determinations are listed in Table 1 and are described in the following sections of this report.

Metals Measurements

Concentrations of seventeen metals ("project metals") were measured using several atomic spectroscopic techniques. Project metals other than arsenic, selenium and mercury were measured using inductively coupled argon plasma atomic emission spectroscopy (ICP). Samples were prepared for ICP analysis by acid dissolution in accord with requirements of Method 6010 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," U.S. EPA, SW-846, 2nd edition, revised 1984. Briefly, 1-gram aliquots of samples were heated with nitric acid (without boiling) until the appearance of the digestate was constant. The solution was cooled, dilute hydrochloric acid added, and then warmed again. Reagent water was addded to a final volume of 50 mL, and the solution filtered.

The filtered digestates were analyzed on a Perkin-Elmer Model 6500 Plasma Emission Spectrometer. The spectrometer operates by nebulizing a solution which is then transported to an argon-plasma torch where characteristic atomic-line emission spectra are generated and intensities of characteristic wavelengths measured by the optical system. The following wavelengths were monitored for each element:

Element	Wavelength (nm)	Element	Wavelength (nm)
Antimony	206.833	Lead	220.353
Barium	233.527	Molybdenum	202.030
Beryllium	313.042	Nickel	231.604
Cadmium	226.502	Silver	328.068
Chromium	267.716	Thallium	190.864
Cobalt	228.616	Vanadium	292.402
Copper	324.754	Zinc	213.856

The spectra were compared by computer to spectra obtained from calibration solutions containing the elements of interest.

Preparation of the sample for arsenic and selenium measurement was similar to that for other metals except that hydrochloric acid was omitted from the procedure; prior to analysis nickel nitrate was added to digestates to reduce analyte volatility. Arsenic and selenium were quantitated using the following atomization program:

Drying Time - Temperature - 30 sec at 125 °C
Ashing Time - Temperature - 30 sec at 1,200 °C
Atomizing Time - Temperature - 6 sec at 2,700 °C
Wavelength 193.7nm (arsenic), 196.0 nm (selenium)
Background correction: Deuterium arc

Mercury content of samples was measured using the "Manual Cold-Vapor" atomic absorption spectroscopic method. Procedural details are available as Method 7471 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," U.S. EPA, SW-846, 2nd edition, revised 1984. Samples were prepared for mercury analysis by gentle heating with nitric and sulfuric acids and potassium permanganate and potassium persulfate. Analysis of digests involved reduction of mercuric ions generated during preparation to elemental mercury. Elemental mercury was swept from the reduction flask into an absorption cell on the optical bench of an atomic absorption spectrometer. Absorbance was monitored at 253.7nm with deuterium arc background correction.

Petroleum Hydrocarbons Testing - Volatile and Extractable

Volatile Petroleum Hydrocarbons

Samples were analyzed to measure volatile petroleum hydrocarbon (e.g. gasoline, jet fuel) residues by headspace sampling/flame ionization-gas chromatography. In performing the analysis a portion of sample was measured into and sealed in a septum-top glass vial. The vial was heated at 90 °C during which time volatile hdyrocarbons equilibrated with headspace gases. A two-milliliter portion of headspace gas was removed through the septum with a gas-tight syringe and injected onto the analytical column of a gas chromatograph equipped with a flame-ionization detector. The analytical system was calibrated by analysis of standards treated as described for samples. The standards were prepared with commercial (regular) gasolines.

Interpretation of sample chromatograms consisted of first inspecting the chromatographic pattern or "fingerprint" and comparing it with those generated by calibration standards. Hydrocarbon mixtures if detected in samples were then quantitated using response factors generated by standards which match or approximate sample chromatograms.

Chromatographic operating conditions for measurement of volatile petroleum hydrocarbons were as follows:

Column:	6' x 1/8" SP1500
Carrier:	Nitrogen at 20 mL/minute
Oven Program:	
	Initial Temperature-Time 150 °C - 2 min
	Program Rate - 10 °C/min
	Final Temperature - 230 °C

Injector Temperature - 280 °C
FID Temperature - 300 °C

Details of the procedure are consistent with "Method I. Total Fuel Hydrocarbons Analysis (Low to Medium Boiling Point Hydrocarbons)" in "Guidelines for Addressing Fuel Leaks," Regional Water Quality Control Board, San Francisco Bay Region, revised 1986. Further information regarding chromatographic interpretation may be found in "Method D3328-78," in "Comparison of Waterborne Petroleum Oils by Gas Chromatography," ASTM Standards on Chromatography, 1st edition, 1981. Additional information pertaining to headspace techniques may be found as Method 5020 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," U.S. EPA, SW-846, 2nd edition, revised 1984.

Extractable Petroleum Hydrocarbons

Measurement of extractable petroleum hydrocarbon (e.g., diesel, creosote, motor oil) residues is performed by analysis of methylene chloride sample extracts by gas chromatography with flame ionization detection. Fifteen gram portions of sample are extracted by sonication with 30 milliliters of methylene chloride using ultrasonic agitation. The organic layer is drawn off and the sample extracted two additional times. Extracts are combined, dried over sodium sulfate and concentrated in Kuderna-Danish apparatus by evaporation of solvent at 70 °C. Concentrated extracts are injected into a capillary-column gas chromatograph equipped with a flame ionization detector. Interpretation of

sample chromatograms is as described above for volatile petroleum hydrocarbons except that commercial diesel fuel, creosote and 10-40W motor oil are used as calibration standards. Chromatographic operating conditions are as follows.

Column dimensions:	30m x 0.25 mm fused silica capillary
Coating	SPB-1
Head pressure	12 psi helium
Temperature program	40°C for 6 min, 10°C/min to 270°C, hold for 11 min
Injection technique	Splitless
Temperature	260°C
Detector	FID at 250°C

Volatile Organic Compounds

Samples were tested in accord with U.S. EPA Method 8240 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," U.S. EPA, SW-846, 2nd edition, revised 1984 to measure contents of 31 volatile organic priority pollutants and other purgeable compounds. Briefly, the method involves making a slurry of 1-gram of sample and deionized water, dosing the slurry with internal and surrogate standards, and bubbling inert gas through the mixture at ambient temperature. The volatile compounds are transferred to the vapor phase which is swept through a sorbent trap. After purging is complete, the trap is heated and backflushed with inert gas to desorb the compounds onto a gas chromatographic column. The column is then temperature programmed, and the compounds detected with a mass spectrometer. The following instrument parameters were used:

Purge and Trap Device:	Tekmar Model LSC-2
Trap packing	1 cm methyl silicone 15 cm 2,6-diphenylene oxide polymer (TENAX) 8 cm silica gel
Purge gas	Helium at 30 mL/min
Purge time	11 min
Desorb temp	180°C
Desorb time	4 min

(cont.)

GC/MS Unit:	HP 5970 MSD
Column dimensions	6' x 0.1" stainless steel
Coating	1% SP-1000 on 60/80 mesh Carbopak B
Head pressure	50 psi helium
Temperature program	40°C for 4 min, 6°C/min to 220°C, hold 15 min
Mass spectrometer mode	Electron Impact
Electron energy	70 eV
Mass range	35 - 260 amu
Scan time	2.5 seconds
Calibration gas	Perfluorotributylamine (PFTBA)
Data system	HP-1000

Semi-volatile (Extractable) Organic Compounds

Samples were tested in accord with U.S. EPA Method 8270 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," U.S. EPA, SW-846, 2nd edition, revised 1984 to measure contents of 66 semi-volatile (extractable) priority pollutants and other extractable compounds. Briefly, a fifteen gram aliquot of sample which has been dosed with internal and surrogate standards is extracted with methylene chloride using ultrasonic agitation. The organic layer is drawn off and the sample extracted two additional times. The extracts are combined, dried over sodium sulfate and concentrated by gentle evaporation in Kuderna-Danish apparatus to a final volume of one milliliter. An aliquot of the resulting extract is analyzed by GC/MS under the following conditions:

Column dimensions	30m x 0.25 mm
Coating	DB-5 at 0.25 micron thickness
Head pressure	12 psi helium
Temperature program	40°C for 2.5 min, 8°C/min to 310°C, hold for 5 min
Injection technique	Splitless
Volume	2 microliters
Temperature	275°C
Mass spectrometer mode	Electron Impact
Electron energy	70 eV
Scan range	35 - 450 amu
Scan time	0.5 sec
Calibration gas	Perfluorotributylamine (PFTBA)
Data system	HP-1000

It was noted that the total ion chromatograms for analyses of semi-volatile compounds by GC/MS contained peaks other than those specified by Method 8240 for most samples. A single sample was chosen (#8, 4/3' 7/27 1600) and the ten most prominent non-target compound peaks in the chromatogram were compared with the computer library of mass spectra, which contains data compiled by the National Bureau of Standards, the Environmental Protection Agency and the National Institutes of Health. The five most likely identities, if five were available, of each unknown compound peak are listed in Table 7.

Polychlorinated Biphenyls

Samples were tested in accord with U.S. EPA Method 8080 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," U.S. EPA, SW-846, 2nd edition, revised 1984 to measure contents of seven common (Aroclor) mixtures of polychlorinated byphenyl compounds (PCBs). Briefly, 15-grams of sample were extracted with methylene chloride using ultrasonic agitation. The organic layer was decanted and the extraction repeated twice more. Solvent extracts were combined and dried over sodium sulfate, then exchanged to hexane by repeated concentration in a Kuderna-Danish apparatus and dilution with hexane. Extracts were then passed through a column of partially deactivated Florisil and compounds of interest subsequently eluted using 40% ethyl ether in n-pentane. The isolated extract was concentrated by gentle evaporation in Kuderna-Danish apparatus. Reduced extracts were stored at -20°C until analyzed.

Analysis was performed by injection of an aliquot of the final extract onto the column of a gas chromatograph equipped with electron capture detectors. Any positive results were considered presumptive until confirmed by reanalysis on a second chromatographic column of quite different chromatographic quality. The following instrument parameters were used:

Carrier gas	5% methane in argon
Column 1 dimensions	30m x 0.75 mm fused silica capillary
Coating	SPB-1 at 1 micron thickness
Temperature program	160°C for 2 min, 2°C/min to 220°C, hold for 17 min

(cont.)

Column 2 dimensions	30m x 0.75 mm fused silica capillary
Coating	SPB-5 at 21 micron thickness
Temperature program	same as for column 1
Injection technique	Splitless
Volume	2 microliters
Temperature	200°C
Detector	ECD at 250°C

Presentation of Results

Results of all sample analyses are contained in the following tables:

TABLE 2 - Metals Analyses for "Sample 6, 3/3' 7/27 1600"

TABLE 3 - Volatile Organics Analyses

TABLE 4 - PCBs

TABLE 5 - Extractable and Volatile Petroleum Hydrocarbons

TABLE 6 - Semi-volatile Organics Analyses

TABLE 7 - Possible Identities of Non-target Compound Peaks Obtained During Analyses of Organic Compounds by GC/MS

APPENDIX A - Total Ion Chromatograms of Sample Analyses for Semi-volatile Organic Compounds by GC/MS

APPENDIX B - Chromatograms of Sample Analyses for Extractable Petroleum Hydrocarbons by GC/FID

Quality Assurance

Analysis of samples was accompanied by various quality control procedures. These included preparation and analysis of method blanks and standards, and replicate and analyte-fortified ("spiked") sample portions. Results of quality control procedures are available on request but are not included in this report.

Please feel welcome to contact us should you have questions regarding procedures or results.

Submitted by:

David Hirano
Project Chemist

Approved by:

Greg Anderson, Director
Analytical Laboratories

Enc: Custody Documentation

TABLE 1. SUMMARY OF ANALYTICAL METHODS AND METHOD REFERENCES FOR "PROJECT NO. 15215-008-043, PACO PUMPS" SOIL SAMPLES RECEIVED JULY 28, 1987

Parameter	Method Description[1]	Method Number	Method Reference[2]
Arsenic	AAS-HGA	7060	1
Mercury	AAS-CV	7471	1
Selenium	AAS-HGA	7740	1
Metals- all others	ICPAES	6010	1
Organic compounds-			
Semi-volatile	GC/MS	8270	1
Volatile	GC/MS (purge & trap)	8240	1
Petroleum hydrocarbons-			
Extractable	GC-FID	3550/8015	1
Volatile	GC-FID (headspace)	5020/8015	1
PCBs	GC-EC	8080	1

[1]Abbreviations:
AAS-- Atomic absorption spectrophotometry
HGA-- Heated graphite atomization
CV-- Cold-vapor generation
ICPAES--Inductively coupled argon plasma atomic emission spectroscopy
GC-EC-- Gas chromatograph with electron capture detector
GC-FID--Gas chromatography with flame ionization detection.
GC/MS-- Gas chromatography/mass spectrometry

[2]References:
1--"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," U.S. EPA, SW-846, 2nd edition, revised 1984.

TABLE 2. SUMMARIZED RESULTS OF METALS ANALYSES FOR "SAMPLE 6, 3/3' 7/27 1600" SOIL SAMPLE RECEIVED JULY 28, 1987

Parameter	Results (mg/Kg)[a]
Antimony	<50
Arsenic	14
Barium	190
Beryllium	<2
Cadmium	<3
Chromium (total)	41
Cobalt	6
Copper	22
Lead	<20
Mercury	<0.05
Molybdenum	<20
Nickel	41
Selenium	<0.5
Silver	<1
Thallium	<30
Vanadium	36
Zinc	42

[a]mg/Kg--Data are expressed as milligrams analyte per kilogram sample, as-received basis.

TABLE 3. SUMMARIZED RESULTS OF VOLATILE ORGANICS ANALYSES FOR "PROJECT NO. 15215-008-043, PACO PUMPS" SOIL SAMPLES RECEIVED JULY 28, 1987

Analyte	MDL[b] (ug/Kg)	Descriptor, Lab No. & Results (ug/Kg)[a]: 1/1.5' 7/27 1600 Sample #1 (9853-1)	2/1.5' 7/27 1600 Sample #3 (9853-2)	3/1.5' 7/27 1600 Sample #5 (9853-3)	3/1.5 DUPLICATE (9853-3R)	4/1.5' 7/27 1600 Sample #7 (9853-4)	1/3' 7/27 1600 Sample #2 (9853-5)	2/3' 7/27 1600 Sample #4 (9853-6)
Benzene	25	ND[c]	ND	ND	ND	ND	ND	ND
Bromodichloromethane	10	ND	ND	ND	ND	ND	ND	ND
Bromoform	25	ND	ND	ND	ND	ND	ND	ND
Bromomethane	15	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	15	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	25	ND	ND	ND	ND	ND	ND	ND
Chloroethane	15	ND	ND	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether	35	ND	ND	ND	ND	ND	ND	ND
Chloroform	10	ND	ND	ND	ND	ND	ND	ND
Chloromethane	15	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	15	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	25	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	25	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	25	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	20	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	15	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	15	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	10	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	25	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	20	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	25	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	30	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	15	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	30	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	20	ND	ND	ND	ND	ND	ND	ND
Toluene	25	600	420	230	300	110	470	600
1,1,1-Trichloroethane	20	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	25	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	10	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	15	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	15	ND	ND	ND	ND	ND	ND	ND

[a] ug/Kg—Data are expressed as milligrams analyte per kilogram sample, as-received basis.
[b] MDL—Method detection limit.
[c] ND—Not detected at the method detection limit.

TABLE 3. (cont.)

Analyte	MDL[2] (ug/Kg)	Descriptor, Lab No. & Results (ug/Kg)[1] 3/3' 7/27 1600 Sample #6 (9853-7)	4/3' 7/27 1600 Sample #8 (9853-8)
Benzene	25	ND[3]	ND
Bromodichloromethane	10	ND	ND
Bromoform	25	ND	ND
Bromomethane	15	ND	ND
Carbon tetrachloride	15	ND	ND
Chlorobenzene	25	ND	ND
Chloroethane	15	ND	ND
2-Chloroethylvinyl ether	35	ND	ND
Chloroform	10	ND	ND
Chloromethane	15	ND	ND
Dibromochloromethane	15	ND	ND
1,2-Dichlorobenzene	25	ND	ND
1,3-Dichlorobenzene	25	ND	ND
1,4-Dichlorobenzene	25	ND	ND
1,1-Dichloroethane	20	ND	ND
1,2-Dichloroethane	15	ND	ND
1,1-Dichloroethene	15	ND	ND
trans-1,2-Dichloroethene	10	ND	ND
1,2-Dichloropropane	25	ND	ND
cis-1,3-Dichloropropene	20	ND	ND
trans-1,3-Dichloropropene	25	ND	ND
Ethyl benzene	30	ND	ND
Methylene chloride	15	ND	ND
1,1,2,2-Tetrachloroethane	30	ND	ND
Tetrachloroethene	20	ND	ND
Toluene	25	380	45
1,1,1-Trichloroethane	20	ND	ND
1,1,2-Trichloroethane	25	ND	ND
Trichloroethene	10	ND	ND
Trichlorofluoromethane	15	ND	ND
Vinyl chloride	15	ND	ND

[1]Data expressed in units of micrograms analyte per liter sample.
[2]MDL--Method detection limit.
[3]ND--Not detected at the method detection limit.

TABLE 4. SUMMARIZED RESULTS FOR PCBS ANALYSIS FOR "PROJECT NO. 15215-008-043, PACO PUMPS" SOIL SAMPLES RECEIVED JULY 28, 1987

Parameter	MDL[2] (mg/Kg)	Descriptor, Lab No. & Results (mg/Kg)[1] 2/1.5' 7/27 1600 Sample #3 (9853-2)	3/3' 7/27 1600 Sample #6 (9853-7)
PCB-1016	0.2	ND[3]	ND
PCB-1221	0.2	ND	ND
PCB-1232	0.2	ND	ND
PCB-1242	0.2	ND	ND
PCB-1248	0.2	ND	ND
PCB-1254	0.2	ND	ND
PCB-1260	0.2	ND	ND

[1]mg/Kg--Data are expressed as milligrams analyte per kilogram sample, as-received basis. liter sample.
[2]MDL--Method detection limit.
[3]ND--Not detected at the listed method detection limit.

TABLE 5. SUMMARIZED RESULTS FOR SEMI-VOLATILE AND VOLATILE PETROLEUM HYDROCARBON ANALYSES FOR "PROJECT NO 15215-008-043, PACO PUMPS" SOIL SAMPLES RECEIVED JULY 28, 1987

ANATEC Lab No.	Sample Descriptor				Results (mg/Kg)[a] Semi-volatile Petroleum Hydrocarbons[b]	Volatile Petroleum Hydrocarbons
9853-1	1/1.5'	7/27	1600	Sample #1	250	NR[c]
9853-2	2/1.5'	7/27	1600	Sample #3	<10	<10
9853-3	3/1.5'	7/27	1600	Sample #5	780[d]	NR
9853-3R	3/1.5'	DUPLICATE			800[d]	NR
9853-4	4/1.5'	7/27	1600	Sample #7	780	NR
9853-5	1/3'	7/27	1600	Sample #2	130	NR
9853-6	2/3'	7/27	1600	Sample #4	<10	NR
9853-7	3/3'	7/27	1600	Sample #6	600	<10
9853-8	4/3'	7/27	1600	Sample #8	1,100	NR

[a]mg/Kg--Data are expressed as milligrams analyte per kilogram sample, as-received basis.
[b]Data are quantitated as motor oil, unless otherwise noted.
[c]NR--Analysis not requested.
[d]Quantitated as creosote.

TABLE 6. SUMMARIZED RESULTS OF SEMI-VOLATILE ORGANIC COMPOUNDS ANALYSES FOR "PROJECT NO. 15215-008-043, PACO PUMPS" SOIL SAMPLES RECEIVED JULY 28, 1987

Analyte	MDL[2] (ug/Kg)	Descriptor, Lab No. & Results (ug/Kg)[1] 1/1.5' Sample 1 (9853-1)	2/1.5' Sample 3 (9853-2)	3/1.5' Sample 5 (9853-3)	3/1.5' DUPLICATE (9853-3R)	4/1.5' Sample 7 (9853-4)	1/3' Sample 2 (9853-5)	2/3' Sample 4 (9853-6)
Acenaphthene								
Acenaphthylene								
Aldrin								
Anthracene								
Benzidine								
Benzo(a)anthracene								
Benzo(b)fluoranthene								
Benzo(k)fluoranthene								
Benzo(a)pyrene								
Benzo(ghi)perylene								
Benzyl butyl phthalate								
delta-BHC								
Gamma-BHC								
Bis(2-chloroethyl)ether								
Bis(2-chloroethoxy)methane								
Bis(2-chloroisopropyl)ether								
Bis(2-ethylhexyl)phthalate	3,3							
4-Bromophenyl phenyl ether								
2-Chloronaphthalene								
4-Chlorophenyl phenyl ether								
Chrysene								
4,4'-DDD								
4,4'-DDE								
4,4'-DDT								
Dibenzo(a,h)anthracene								
Di-n-butyl phthalate	1,6							
1,2-Dichlorobenzene								
1,3-Dichlorobenzene								
1,4-Dichlorobenzene								
3,3'-Dichlorobenzidine								
Dieldrin								
Diethyl phthalate	7							
Dimethyl phthalate								
2,4-Dinitrotoluene								
2,6-Dinitrotoluene								
Di-n-octylphthalate								
Endosulfan sulfate								
Endrin aldehyde								
Fluoranthene								
Fluorene								
Heptachlor								
Heptachlor epoxide								
Hexachlorobenzene								
Hexachlorobutadiene								
Hexachlorocyclopentadiene								
Hexachloroethane								
Indeno(1,2,3-cd)pyrene								
Isophorone								
Naphthalene								
Nitrobenzene								
N-Nitrosodi-n-propylamine	1,3							
PCB-1260								
Phenanthrene								
Pyrene								
1,2,4-Trichlorobenzene								
4-Chloro-3-methylphenol								
2-Chlorophenol								
2,4-Dichlorophenol	1,6							
2,4-Dimethylphenol	7							
2,4-Dinitrophenol								
2-Methyl-4,6-dinitrophenol								
2-Nitrophenol								
4-Nitrophenol								
Pentachlorophenol								
Phenol								
2,4,6-Trichlorophenol								

[1] Data expressed in units of micrograms analyte per kilogram sample.
[2] MDL—Method detection limit.
[3] ND—Not detected at the method detection limit.

Table 6, (cont.)

Analyte	MDL[2] (ug/Kg)	Descriptor, Lab No. & Results (ug/Kg)[1] 3/3' Sample 9853-7I	4/3' Sample 9853-8I
Acenaphthene		ND[3]	ND
Acenaphthylene		ND	ND
Aldrin		ND	ND
Anthracene		ND	ND
Benzidine		ND	ND
Benzo(a)anthracene		ND	ND
Benzo(b)fluoranthene		ND	ND
Benzo(k)fluoranthene		ND	ND
Benzo(a)pyrene		ND	ND
Benzo(ghi)perylene		ND	ND
Benzyl butyl phthalate		ND	ND
delta-BHC		ND	ND
gamma-BHC		ND	ND
Bis(2-chloroethyl)ether		ND	ND
Bis(2-chloroethoxy)methane		ND	ND
Bis(2-chloroisopropyl)ether		ND	ND
Bis(2-ethylhexyl)phthalate	3,300	ND	ND
4-Bromophenyl phenyl ether		ND	ND
2-Chloronaphthalene		ND	ND
4-Chlorophenyl phenyl ether		ND	ND
Chrysene		ND	ND
4,4'-DDD		ND	ND
4,4'-DDE		ND	ND
4,4'-DDT		ND	ND
Dibenzo(a,h)anthracene		ND	ND
Di-n-butyl phthalate	1,600	ND	ND
1,2-Dichlorobenzene		ND	ND
1,3-Dichlorobenzene		ND	ND
1,4-Dichlorobenzene		ND	ND
3,3'-Dichlorobenzidine		ND	ND
Dieldrin		ND	ND
Diethyl phthalate	7	ND	ND
Dimethyl phthalate		ND	ND
2,4-Dinitrotoluene		ND	ND
2,6-Dinitrotoluene		ND	ND
Di-n-octylphthalate		ND	ND
Endosulfan sulfate		ND	ND
Endrin aldehyde		ND	ND
Fluoranthene		ND	ND
Fluorene		ND	ND
Heptachlor		ND	ND
Heptachlor epoxide		ND	ND
Hexachlorobenzene		ND	ND
Hexachlorobutadiene		ND	ND
Hexachlorocyclopentadiene		ND	ND
Hexachloroethane		ND	ND
Indeno(1,2,3-cd)pyrene		ND	ND
Isophorone		ND	ND
Naphthalene		ND	ND
Nitrobenzene	1,300	ND	ND
N-Nitrosodi-n-propylamine		ND	ND
PCB-1260		ND	ND
Phenanthrene		ND	ND
Pyrene		ND	ND
1,2,4-Trichlorobenzene		ND	ND
4-Chloro-3-methylphenol		ND	ND
2-Chlorophenol	7	ND	ND
2,4-Dichlorophenol	1,600	ND	ND
2,4-Dimethylphenol		ND	ND
2,4-Dinitrophenol	7	ND	ND
2-Methyl-4,6-dinitrophenol		ND	ND
2-Nitrophenol		ND	ND
4-Nitrophenol		ND	ND
Pentachlorophenol		ND	ND
Phenol		ND	ND
2,4,6-Trichlorophenol		ND	ND

[1]Data expressed in units of micrograms analyte per kilogram sample.
[2]MDL--Method detection limit.
[3]ND--Not detected at the method detection limit.

TABLE 7. POSSIBLE IDENTITIES OF THE TEN MOST-PROMINENT NON-TARGET PEAKS OBTAINED DURING GC/MS ANALYSIS OF "SAMPLE #8, 4/3' 7/27 1600" RECEIVED JULY 28, 1987

Peak No.[1]	Possible Identity of Compounds	Percent Probability[2]	Molecular Weight	Molecular Formula
1	17-Pentatriacontene	61	490	C35H70
	NEOPHYTADIENE	60	278	C20H38
	Heptadecane, 9-(2-cyclohexylethyl)-	55	350	C25H50
	Nonacosanol	52	424	C29H60O
	OLEIC ACID, PROPYL ESTER	48	324	C21H40O2
2	Nonacosanol	59	424	C29H60O
	OLEIC ACID, PROPYL ESTER	58	324	C21H40O2
	CYCLODOCOSANE, ETHYL-	53	336	C24H48
	.alpha.-Humulene	53	204	C15H24
	1-Hexacosene	44	364	C26H52
3	17-Pentatriacontene	69	490	C35H70
	CYCLODOCOSANE, ETHYL-	67	336	C24H48
	1-Pentacontanol	53	718	C50H102O
	3,4-Octadiene, 7-methyl-	49	124	C9H16
	Nonacosanol	49	424	C29H60O
4	1-Pentacontanol	65	718	C50H102O
	Octadecanal	60	268	C18H36O
	Oxirane, [(dodecyloxy)methyl]-	59	242	C15H30O2
	17-Pentatriacontene	50	490	C35H70
	Dodecane, 1,2-dibromo	47	326	C12H24Br2
5	1-Pentacontanol	46	718	C50H102O
	Heptadecane	38	240	C17H36
	17-Pentatriacontene	37	490	C35H70
	TRIDECANE, 6-CYCLOHEXYL-	36	266	C19H38
	Tetradecane, 1-chloro-	35	232	C14H29Cl

[1]Number of compound peak in decreasing order of prominence.
[2]Probability of correct identity of unknown compound, expressed as percentage.

Table 7, (con.t)

Peak No.[1]	Possible Identity of Compounds	Percent Probability[2]	Molecular Weight	Molecular Formula
6	17-Pentatriacontene	30	490	C35H70
	Cyclopentane, 1,1'-[3-(2-cyclopentylethyl-idene)-1,5-pentanediyl]bis-	29	302	C22H38
	Heptadecane, 9-(2-cyclohexylethyl)-	28	350	C25H50
	3-METHOXY-2-METHYLPYRROL	28	111	C6H9NO
	3-Octadecene, (E)-	25	252	C18H36
7	17-Pentatriacontene	47	490	C35H70
	7-CYCLOHEXYLTRIDECANE	47	266	C19H38
	Heptadecane, 9-(2-cyclohexylethyl)-	43	350	C25H50
	1-Pentacontanol	42	718	C50H102O
	1-Dotriacontanol	39	466	C32H66O
8	5-Ethylnorbornane	42	124	C9H16
	ENDOISOCAMPHANE	40	138	C10H18
	CIS-1-ETHINYL-2-METHYL-1-CYCLOHEXANOLE	35	138	C9H14O
	8-EPIAMBREINOLIDE	30	264	C17H28O2
	3,8-Nonadien-2-one, (E)-	25	138	C9H14O
9	Pentalene, octahydro-1-(2-octyldecyl)-	69	362	C26H50
	1-Pentacontanol	66	718	C50H102O
	Cyclopentane, (4-octyldodecyl)-	47	350	C25H50
	7-CYCLOHEXYLTRIDECANE	36	266	C19H38
	1,1';3',1''-Tercyclopentane, 2'-dodecyl-	35	374	C27H50
10	1,5,9-DECATRIENE, 2,3,5,8-TETRAMETHYL-	85	192	C14H24
	Phenanthrene, 2-dodecyltetradecahydro-	36	360	C26H48
	2-N-BUTYL-3-N-HEXYLDECAHYDRONAPHTHALENE	34	278	C20H38
	2-N-BUTYL-8-N-HEXYLDECAHYDRONAPHTHALENE	34	278	C20H38
	Pentalene, octahydro-1-(2-octyldecyl)-	31	362	C26H50

[1]Number of compound peak in decreasing order of prominence.
[2]Probability of correct identity of unknown compound, expressed as percentage.

SAN FRANCISCO

OFFICE MEMORANDUM

	ACTION	INFO	
TO:	CCS		FILE:
	RDD		
	SD		
	BDD		
	AMH		
	KJH		
	DCK		
	WTL		
	MKP		
	AFR		
	S. SAUNDERS		
	JRT		
	MJW		
	MCY		
			DATE: AUGUST 12, 1987

FROM: BILLY VILLET REPLY REQUIRED BY:

SUBJECT: MINI-CONE & EARTH TECHNOLOGY

The moment you have been eagerly awaiting!! Without even knowing it!!!

Earth Technology will be displaying their mini-cone (a CPT unit on a four-wheel drive truck) in our very own parking lot (Howard & Beale) at 4:30 pm, Thursday, August 13. The unit can be used for rapid exploration to 20-foot depths.