

91071-41-010107

SOIL CHARACTERIZATION REPORT
SOIL EXCAVATION AREA

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

74603

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OAKLAND, CALIFORNIA

October 30, 1991

Prepared for

PACO Pumps, Inc.
Oakland, California

Prepared by

Jonas & Associates Inc.
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Attachment A - Laboratory Analytical Results as Presented by Chromalab - 1991

EXECUTIVE SUMMARY

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

In early 1991, PACO Pumps was interested in building a wall at the western section of its facility located at 9201 San Leandro Street. In 1987, a soil contamination investigation and cleanup was conducted adjacent to the location of the proposed wall. This work appears to have been performed by Dames & Moore and Crosby & Overton. A cleanup effort was completed, apparently without notifying regulatory authorities. The regulatory requirement is that any potential release of hazardous substances should be reported to the Department of Health Services and the Regional Water Quality Control Board or their representative, under the provisions of the State Hazardous Waste and Control Act and Porter Cologne Water Quality Act (enforced under Health and Safety Code and California Code of Regulations Title 22 and 23). In any such cleanup, regulatory authority should be represented in making the cleanup level determinations.

Jonas & Associates Inc. was retained by PACO Pumps to perform a confirmatory soil investigation of the previous excavation area and to assist PACO Pumps in pursuing regulatory compliance. In this report, the area which was previously sampled and excavated is identified as the Soil Excavation Area.

On October 1, 1991, Jonas & Associates Inc. collected five soil samples from the Soil Excavation Area. Soil samples at the Soil Excavation Area were collected from the native soil, approximately 3 to 3.5 feet below ground surface. Based on the previous results of soil investigations performed by Dames & Moore and Crosby & Overton, the soil samples collected by Jonas & Associates Inc. were analyzed for:

- » Volatile Organic Compounds (VOCs) - EPA Methods 8240;
- » Extractable Petroleum Hydrocarbons (EPH) - EPA Method 3550/8015;
- » Volatile Petroleum Hydrocarbons (VPH) - EPA Method 5030/8015; and
- » Pesticides and PolyChlorinated Biphenyl (PCBs) - EPA Method 8080.

On October 12, 1991, laboratory analytical data was received by Jonas & Associates Inc. Analytical results for soil samples collected from the Soil Excavation Area did not detect any of the constituents analyzed for. Therefore, based on the recent sampling, the previous clean-up of soils appears to have been successful in the removal of contaminated materials. Therefore, further investigation of this area is not recommended. A copy of this report should 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

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.

In 1987, a soil contamination investigation and cleanup was conducted at a location immediately west of the PACO Pumps machinery shop. This area is bound by cyclone fence on the west and the machine shop on the east. Figure 1-2 denotes the study area. In this report, the area which was previously sampled and excavated is identified as the Soil Excavation Area.

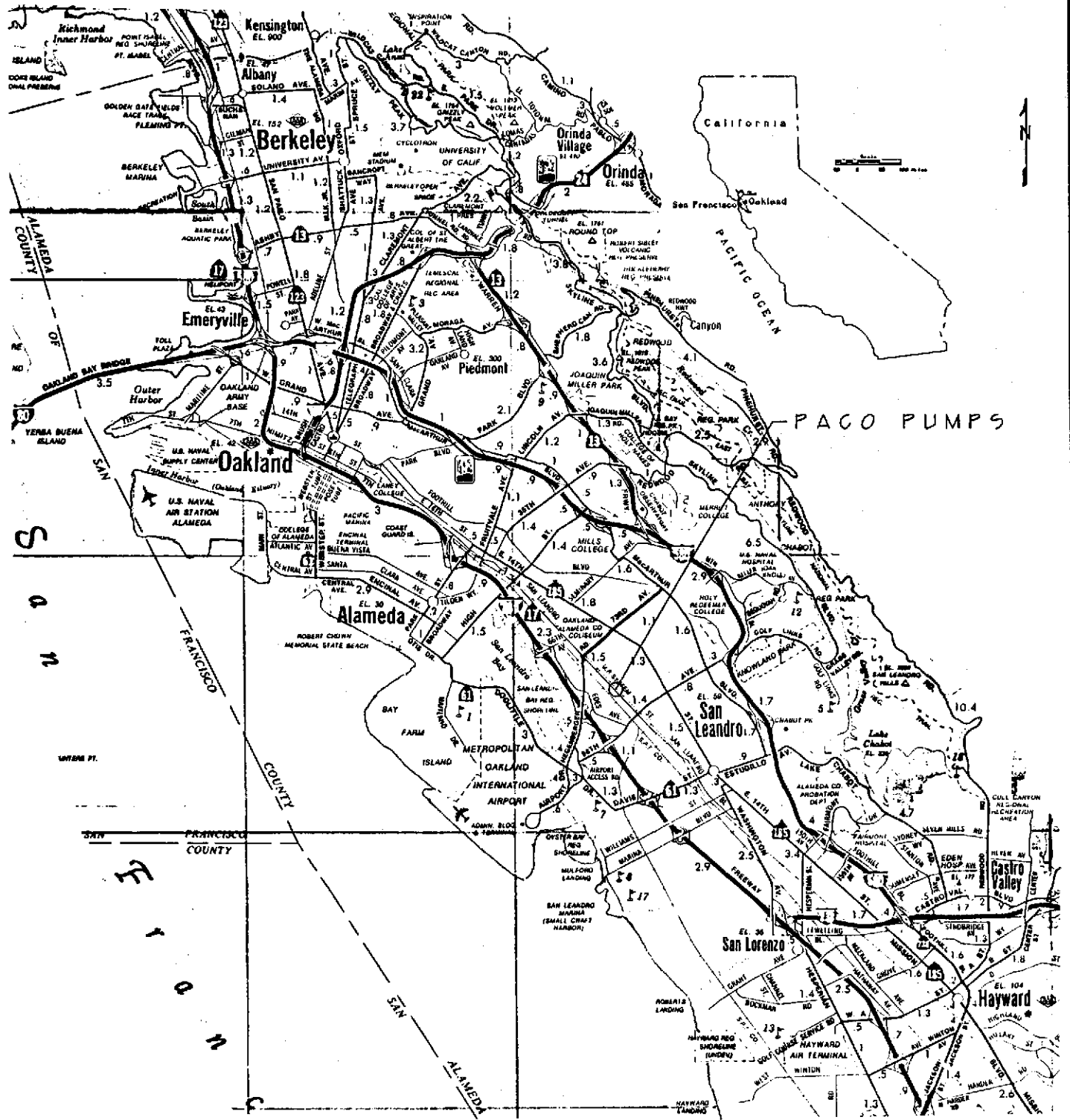
1.2 PURPOSE AND SCOPE

In early 1991, PACO Pumps was interested in building a wall at the eastern section of its facility located at 9201 San Leandro Street. In 1987, a soil contamination investigation and cleanup was conducted at a location immediately adjacent to the location of the proposed wall. This investigation was performed by the facility's previous property owners, the Amsted Industries, Inc. Contractors hired to perform the work were Dames & Moore and Crosby & Overton. A cleanup effort was completed, apparently without notifying regulatory authorities. The regulatory requirement is that any potential release of hazardous substances should be reported to the Department of Health Services and the Regional Water Quality Control Board or their representative, under the provisions of the State Hazardous

Figure 1-1

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Number

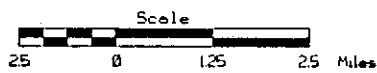
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Checked by
10-11-1991
Approved by



Regional Location
PACO PUMPS
Oakland, California

Prepared by

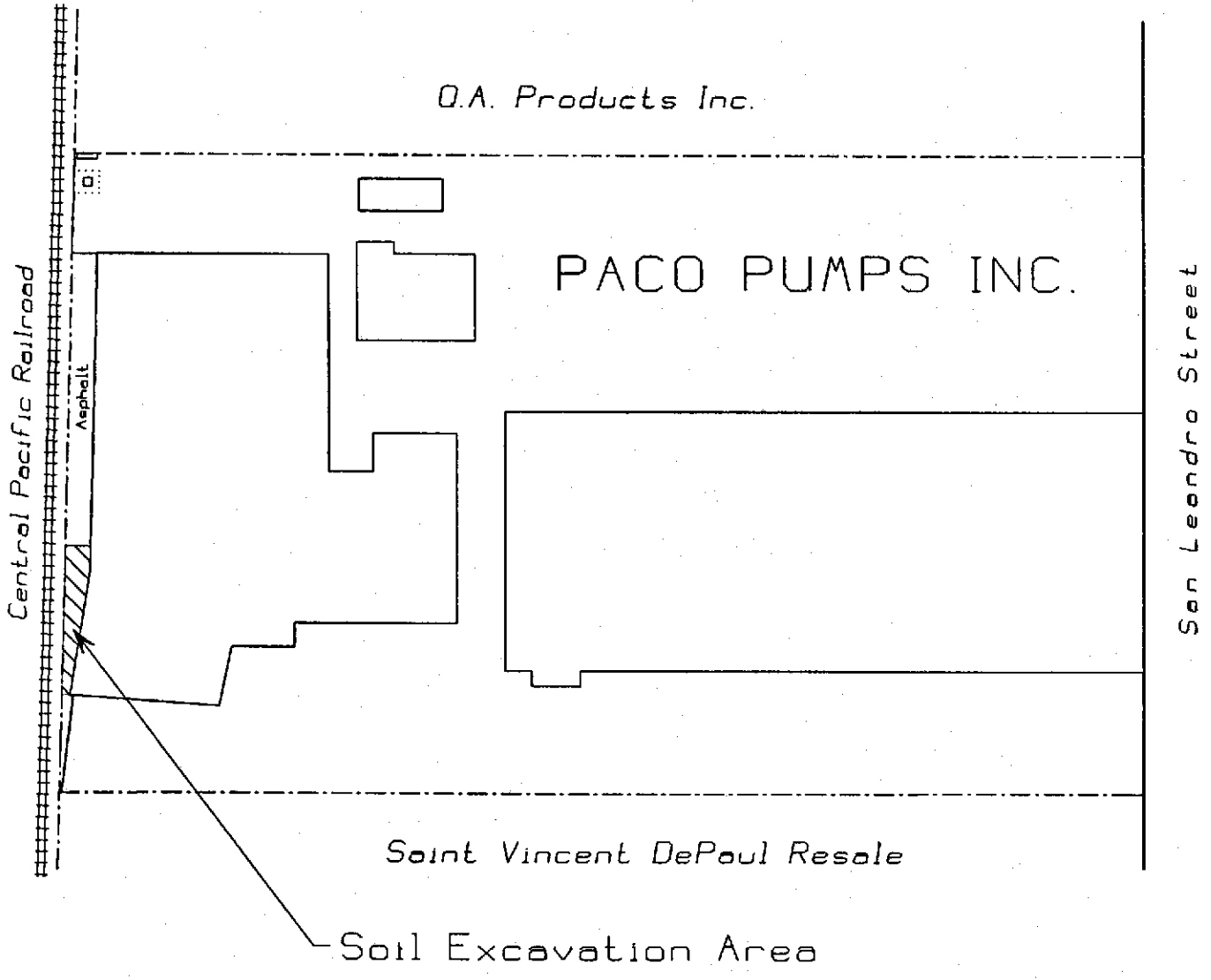
JONAS AND ASSOCIATES INC.



Date: 10-11-1991
Scale as shown

Figure 1-1

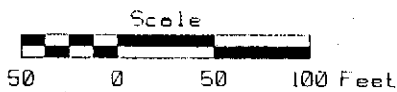
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Location of Study Area

PACO Pumps
Oakland, California

Prepared by
JONAS & ASSOCIATES



Date: 10-8-1991
Locations Approx.

Figure 1-2

Drawing Number
PC0217-10/91-1-2

Waste and Control Act and Porter Cologne Water Quality Act (enforced under Health and Safety Code and California Code of Regulations Title 22 and 23). In any such cleanup, regulatory authority should be represented in making the cleanup level determinations. Jonas & Associates Inc. was retained by PACO Pumps' current property owners, Newpac Industries Inc., to perform a confirmatory soil investigation of the previous excavation area and to assist PACO Pumps in pursuing regulatory compliance.

The purpose of this report is to summarize previous site investigations conducted by Dames & Moore and Crosby & Overton, present the environmental setting of the study area, describe the soil sampling activities performed by Jonas & Associates Inc., discuss the results of the recent soil sampling and analysis, and make recommendations for future actions.

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

Section 1.0 is the introduction and presents an overview of the project, lists the contents of this report, presents the environmental setting of the study site and provides a summary of the 1987 soil investigation and cleanup activities performed at the study area.

Section 2.0 provides rationale for the 1991 soil sampling and analysis conducted by Jonas & Associates Inc. and describes sampling procedures.

Section 3.0 discusses soil sampling results.

Section 4.0 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.

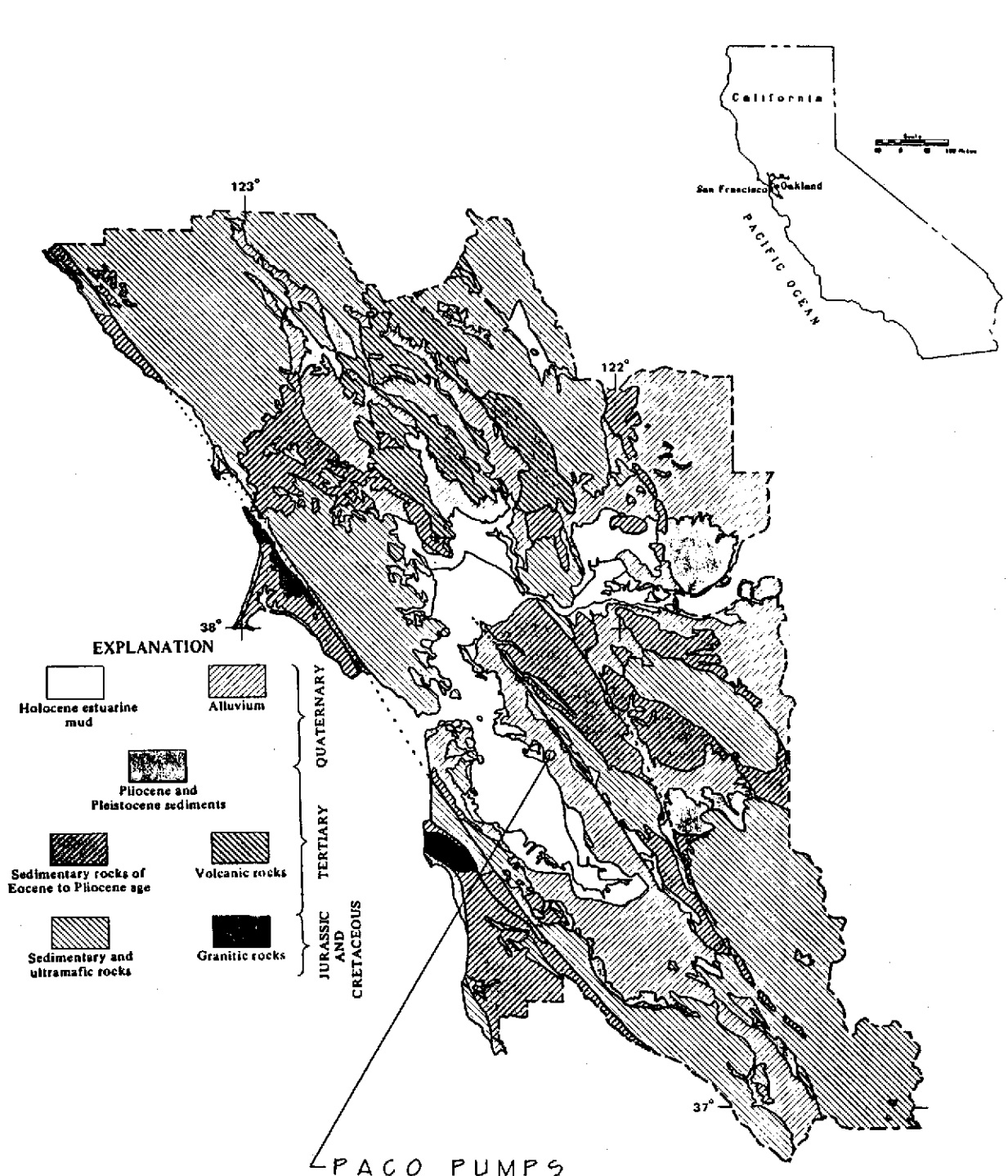
The native vegetation in the bay region north through Sonoma County and south through Santa Clara County is dominated by plants adapted to mild climatic conditions including a summer drought. The native plants evolved here in their own ecological niches, which are referred to as biotic communities. These 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 gravelly 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

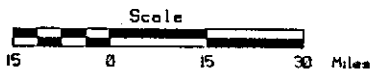
The geologic units underlying the East Bay area consist of bedrock of the Franciscan group and an unconsolidated sedimentary sequence (Radbruch, 1957). The bedrock surface beneath San Francisco Bay tilts eastward and becomes deeper towards the south. Figure 1-3 illustrates the geology of the San Francisco 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.



Geology of San Francisco Bay Region
PACO PUMPS
Oakland, California

Prepared by

JONAS AND ASSOCIATES INC.



Date: 10-11-1991
Scale as shown

Figure 1-3

Drawing Number
PC0217-10/91-1-3

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.

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

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.
- » 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.

1.4 SUMMARY OF PREVIOUS SOILS INVESTIGATION AND CLEANUP - 1987

The background information about this area has been obtained from the following two reports:

- * Dames & Moore, August 12, 1987, Letter Report, Site Contamination Study, PACO Pumps Facility, Oakland, California, for Amsted Industries, Inc.
- * Steve Cutcliffe, 1987, Memorandum, Subject: PACO Oakland Clean-up Project Field Notes.

1.4.1 WORK PERFORMED BY DAMES & MOORE

In 1987 Dames & Moore initiated a site contamination study at PACO Pumps Facility in Oakland, California. As part of this study, on July 27, 1987, four exploratory pits were excavated in the area on the west side of the PACO Pumps machinery shop. Figure 1-4 presents the sample locations. Each pit, measuring approximately 3 feet by 3 feet in plan view and was excavated with a backhoe to an approximate depth of 3 feet. 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.

These 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 biphenyl (EPA method 8080). One sample was also

Figure 1-4

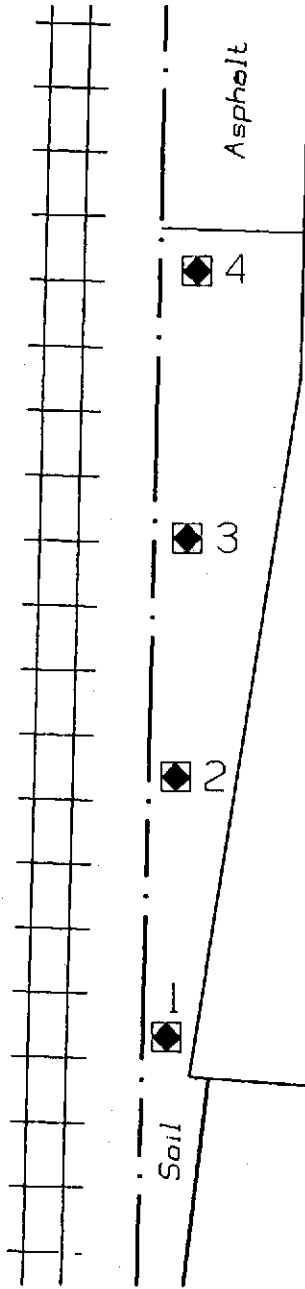
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Checked by MJ 10-8-1991

Approved by

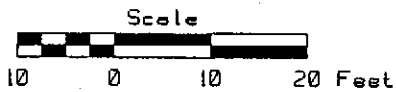
Drawn by

Central Pacific Railroad



Legend:

◆ Jones & Moore Soil Samples



Locations of 1987
Soil Samples

PACO Pumps
Oakland, California

Prepared by
JONAS & ASSOCIATES

Date: 10-8-1991
Locations Approx.

Figure 1-4

Drawing Number
PC0217-10/91-1-4

analyzed for heavy metals (EPA method 6010). Analytical results, as reported by Dames & Moore are provided in Tables 1-2 and 1-3.

Data from the exploratory pits indicated that shallow soils in the study area consisted of a dark brown to black gravelly fill material containing glass, bottles, bolts and garbage. Figure 1-5 illustrates the lithology of the pits sampled (as described by Dames and Moore). As presented by Dames & Moore, at a depth of roughly 1.5 feet, the soil began to increase in moisture, apparently the results 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.** At a depth of about three feet, the soil graded 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 indicated that subsurface soils were contaminated with motor oil, creosote, and toluene. A variety of unidentifiable, non-target organic compounds were also reported by the lab. Further analytical research of these compounds suggested they were various hydrocarbon residues typical of petroleum products.

As shown on Table 1-2, **creosote**, a wood preservative, was detected at a concentration of 780 milligram/kilogram (mg/kg) 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 0.110 mg/kg (pit "3" at 1.5 feet) to a maximum concentration of 0.600 mg/kg (pits "1" and "2" at depths of 1.5 and 3.0 feet, respectively). **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 1-3).**

In summary, Dames & Moore's investigation indicated that the nature of subsurface contamination at the site was 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 was suggested to potentially be isolated contamination linked to the adjacent railroad ties. The source of hydrocarbon and solvent contamination was identified as unknown. However, it was suggested that the source may be attributed to spillage of waste oils. Further, the analytical results indicated that the northern portion of the study area (pits "3" and "4") had higher concentrations of extractable petroleum hydrocarbons than the southern area (pits "1" and "2").

TABLE 1-2
 Summary of Analytical Results
 PACO Pumps Facility
 Oakland, California
 Dames & Moore, 1987

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 Hydrocarbon ¹ (mg/Kg) ² Detection Limit: 10 mg/kg	250	130	<10	<10	780 ³ (800) ⁴	600	780	1,100
Volatile Petroleum Hydrocarbons (mg/kg) EPA Method 5020/8015 Detection Limit: 10 mg/kg	NR ⁵	NR	<10	NR	NR	<10	NR	NR
Toluene (mg/kg) EPA Method 8240 Detection Limit: 0.025 mg/kg	0.600	0.470	0.420	0.600	0.230	0.380	0.110	0.045
Pyrene (mg/kg) EPA Method 8270 Detection Limit: 0.033 mg/kg	0.059	ND ⁶	ND	ND	ND	0.059	ND	ND

¹ Data are quantitated as motor oil, unless otherwise noted.

² mg/kg - Data are expressed as milligrams analyte per kilogram sample, as received basis.

³ Quantitated as creosote

⁴ () - Duplicate Analysis.

⁵ NR - Analysis not requested.

⁶ ND - Not Detected Above the Reported Detection Limit.

TABLE 1-3
 Summary of Metal Results⁷
 PIT #3 at 3.0 Feet
 Dames & Moore, 1987

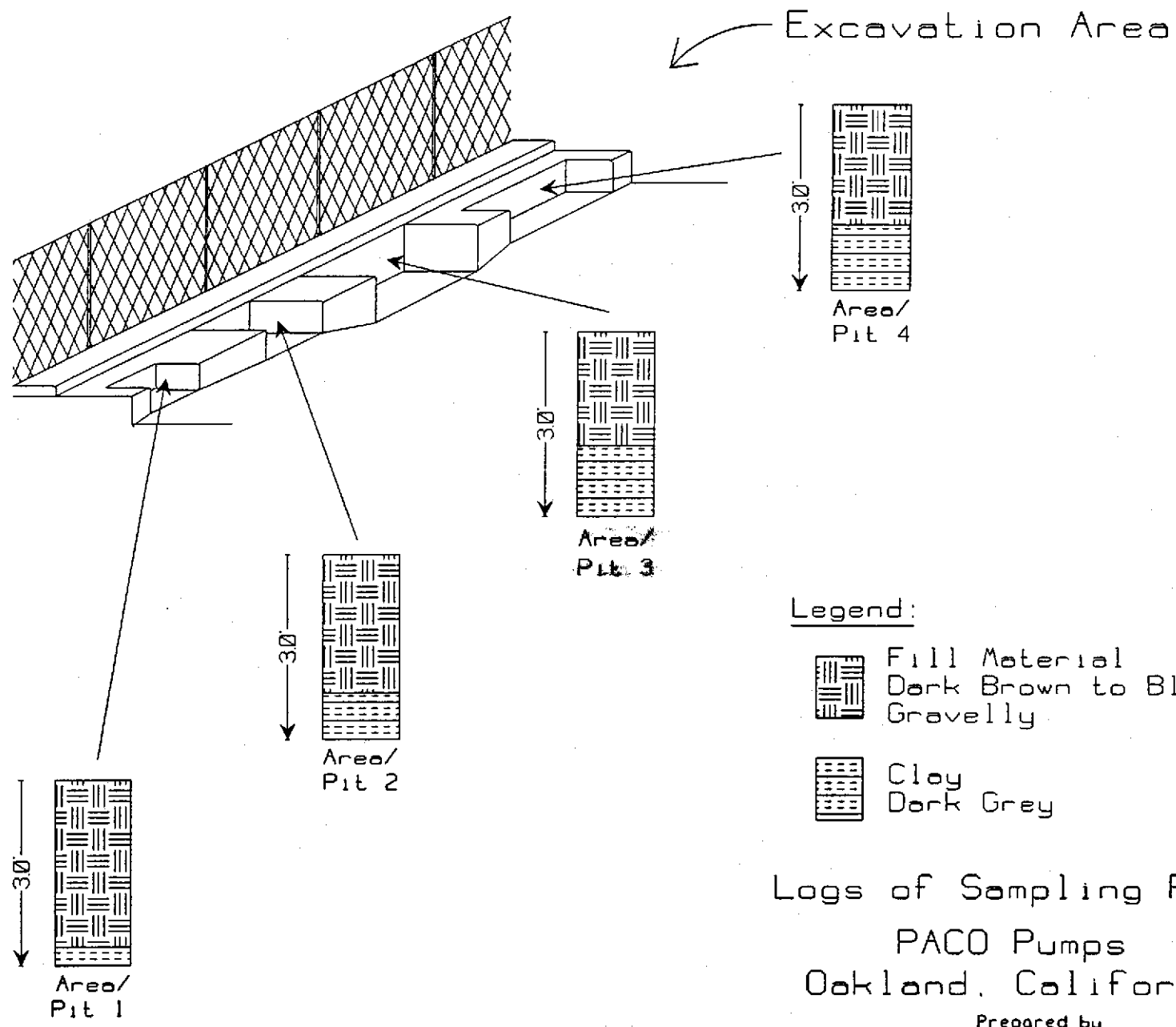
Parameter	Results (mg/kg) ⁸
Antimony	<50
Arsenic	14
Barium	190
Beryllium	<2
Cadmium	<3
Chromium (VI)	NA ⁹
Chromium (total)	41
Cobalt	6
Copper	22
Lead	<20
Mercury	<0.05
Molybdenum	<20
Nickel	41
Selenium	<0.5
Silver	<1
Thallium	<30
Vanadium	36
Zinc	42

- ⁷ Analytical Methods:
 Arsenic - EPA Method 7060
 Mercury - EPA Method 7471
 Selenium - EPA Method 7740
 Metals - all others - EPA Method 6010



Detection Limits were not noted in Dames & Moore's report.

- ⁸ mg/kg - Data are expressed as milligrams analyte per kilogram sample, as-received basis.
- ⁹ NA - Not Applicable; total chromium level is below regulatory limit (Section 66699, Article II, California Administrative Code).

Drawn by: AJ
 10-9-1991
 Checked by:
 Approved by:
 Drawing Number: PC0217-10/91-1-5
 Figure 1-5



Legend:

-  Fill Material
Dark Brown to Black
Gravelly
-  Clay
Dark Grey

Logs of Sampling Pits
 PACO Pumps
 Oakland, California

Prepared by
JONAS & ASSOCIATES

Logs from Dames & Moore Fig. 3

Date: 10-9-1991
 Locations Approx.

Figure 1-5

Drawing Number
 PC0217-10/91-1-5

1.4.2 WORK PERFORMED BY CROSBY & OVERTON

According to an internal memorandum from Steve Cutcliffe of PACO Pumps, on October 27, 1987 further testing by Crosby & Overton was performed to determine the extend of contamination and to formulate an effective cleanup strategy. On December 14, 1987 four areas where soil contamination was detected were slated for excavation. Figure 1-6 illustrates the four areas. Areas one and two were excavated first. Soil was excavated at location one to approximate depths of 18 to 20 inches from an area 36 by 36 inches in dimensions. A close inspection of the bottom and sides of the area was made to insure sufficient soils were removed. During and following the excavation no evidence of motor oil or hydrocarbons odor was observed.

Area two was excavated to an approximate depth of 24 inches, from an area 48 by 60 inches in parameters. During the excavation in location two, an unidentified pipe line (2.5 inches in diameter) was discovered running parallel to the building's foundation. According to Mr. Cutcliffe, the pipe may have been a waterline, based upon the moisture from perhaps rusted areas of the subject pipe. Liquid was reported by Mr. Cutcliffe, not to be hydrocarbon or solvents. According to the internal memorandum, there was no odor to indicate the liquid to be anything else but water. The pipe was left in place.

Area three was excavated to a depth of 36 inches from an area approximately 60 by 60 inches in parameters. Oily water and heavy hydrocarbon smell were observed in this pit.

Area four was excavated to a depth of 24 to 30 inches from an area 60 by 36 inches in dimensions. Soil was observed to be dry and visibly cleaner than soils in location two and three. A total of ten drums of Class I hazardous materials were excavated, labeled and manifested for disposal at Casmalia Resources in Casmalia, California. Eighteen to twenty cubic yards of Class II hazardous material were removed and deposited at East Bay Rubbish. With this soil there were twenty crossties from a buried railroad spur and other associated debris. A composite soil sample was taken from each of the locations, placed into one sealed container and was given to Crosby & Overton for extractable hydrocarbons analysis.

In addition, according to a November 4, 1987 interoffice correspondence from Mr. Bruce Van Aken to Mr. John G. Terranova, both of PACO Pumps:

"four soil samples were taken by Crosby and Overton, one from each location previously tested by Dames & Moore in August 1987. Also, one composite sample was taken along the fence. The analysis showed that sample #4 had 380 mg/kg of hydrocarbons (solvents) and sample #3 had traces of heavy oils and grease."

On December 15, 1987 the excavated area was backfilled and graded. Cleanup was considered complete.

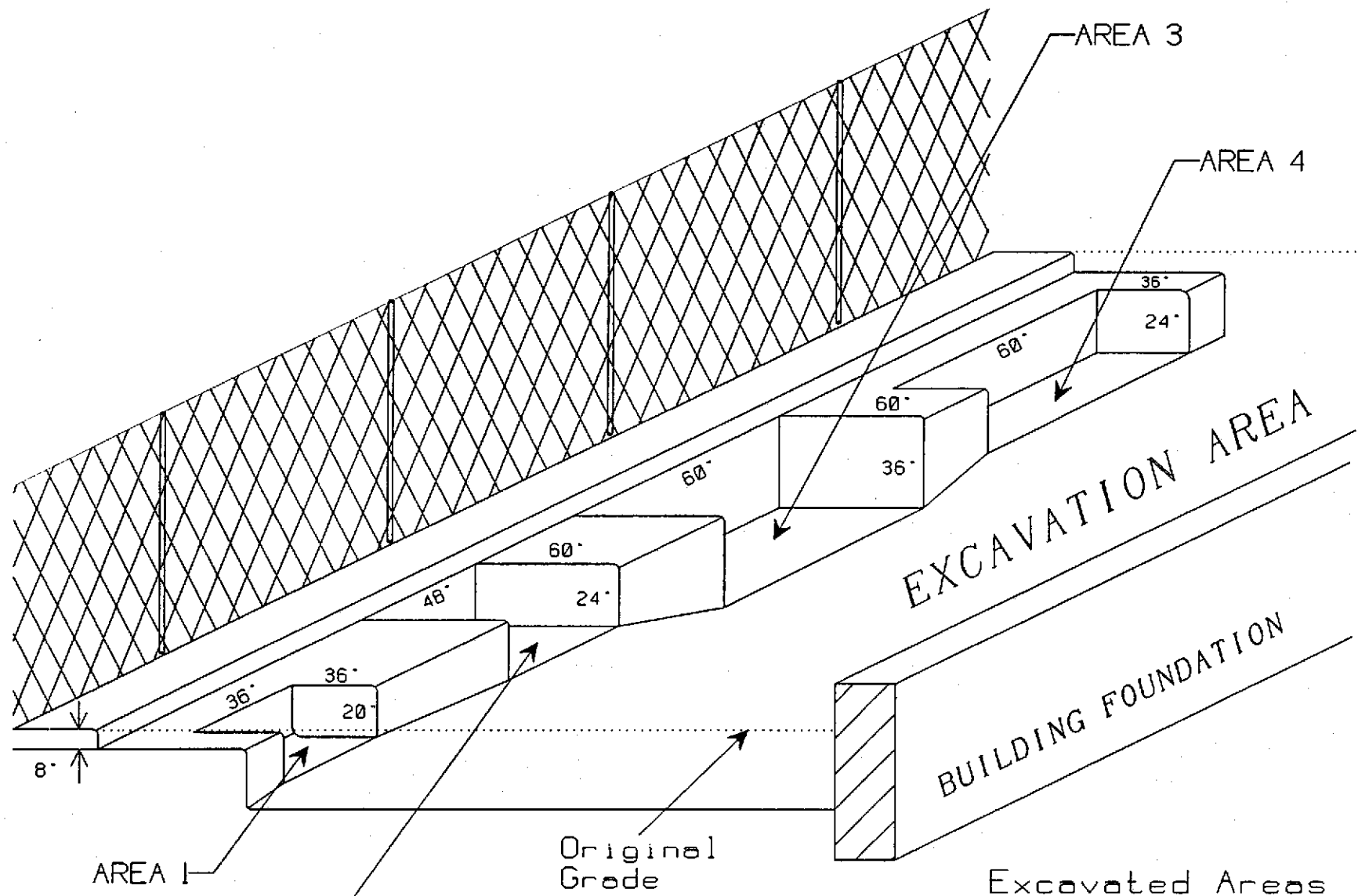
Drawn by

AJ
10-10-1991

Checked by
Approved by

Drawing Number
PC0217-10/91-1-6

Figure 1-6



EXCAVATION AREA

BUILDING FOUNDATION

Excavation Performed 12/14-15/1987

Excavated Areas
PACO Pumps
Oakland, California

Prepared by
JONAS & ASSOCIATES

Date: 10-10-1991
Locations Approx.

Figure 1-6

Drawing Number
PC0217-10/91-1-6

SECTION 2.0

SOIL INVESTIGATION STUDIES

2.1 SUMMARY OF RECENT SOIL INVESTIGATION - 1991

2.1.1 RATIONALE FOR SAMPLING

As discussed above, records available through PACO Pumps regarding a soil cleanup effort conducted in 1987 were reviewed (Cutcliffe 1988; Dames & Moore 1987; Trace Analytical Lab 1987; Van Aken 1987). This cleanup effort was completed without notifying regulatory authorities. Jonas & Associates Inc. was retained by PACO Pumps to perform a confirmatory soil investigation of the previous excavation area and to assist PACO Pumps in pursuing regulatory compliance.

On October 1, 1991, Jonas & Associates Inc. collected five soil samples. Figure 2-1 shows the boring locations collected on October 1, 1991. Soil samples at the Soil Excavation Area were collected from the native soil, approximately 3 to 3.5 feet below ground surface. Based on the previous results of soil investigations performed by Dames & Moore and Crosby & Overton, the soil samples were analyzed for extractable petroleum hydrocarbons (EPA Method 3550/8015); volatile petroleum hydrocarbons (EPA Method 5030/8015); pesticides and polychlorinated biphenyl (EPA Method 8080); and volatile organic compounds (EPA Methods 8240). Previous soil sampling performed by Dames & Moore from pit number one and three detected semi-volatile organic compounds. Semi-volatiles were not detected in the samples of the other pits. Therefore, soil samples number one and three were also analyzed for semi-volatile organic compounds (EPA Method 8270).

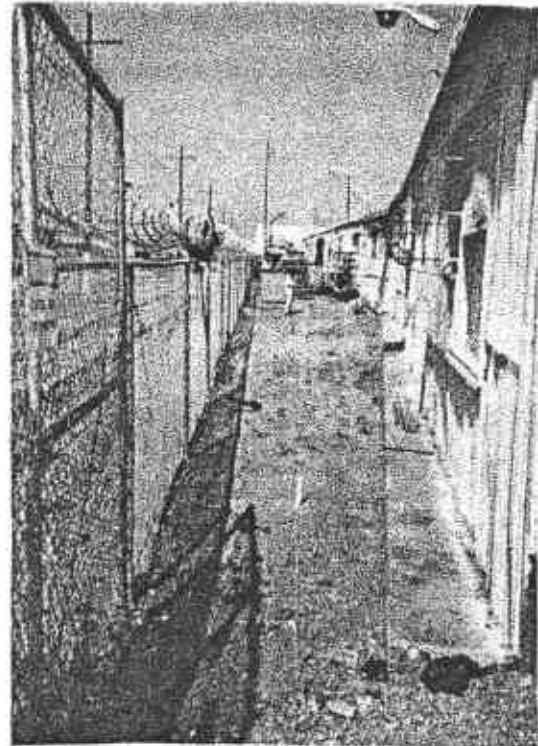
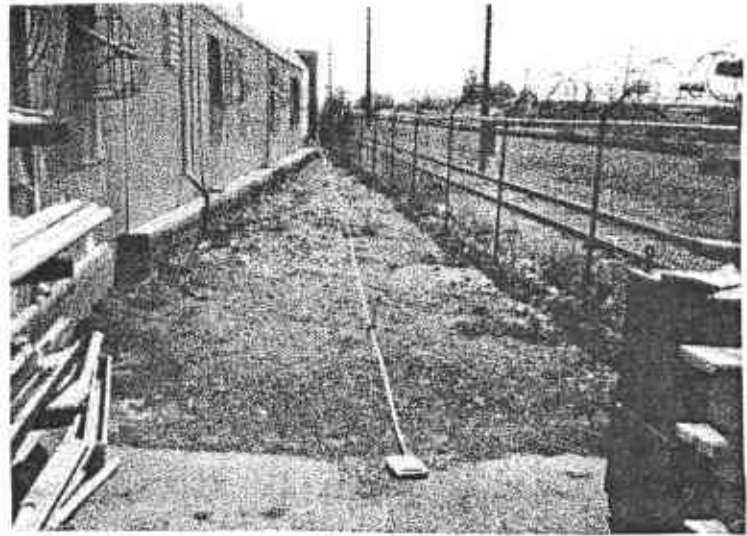
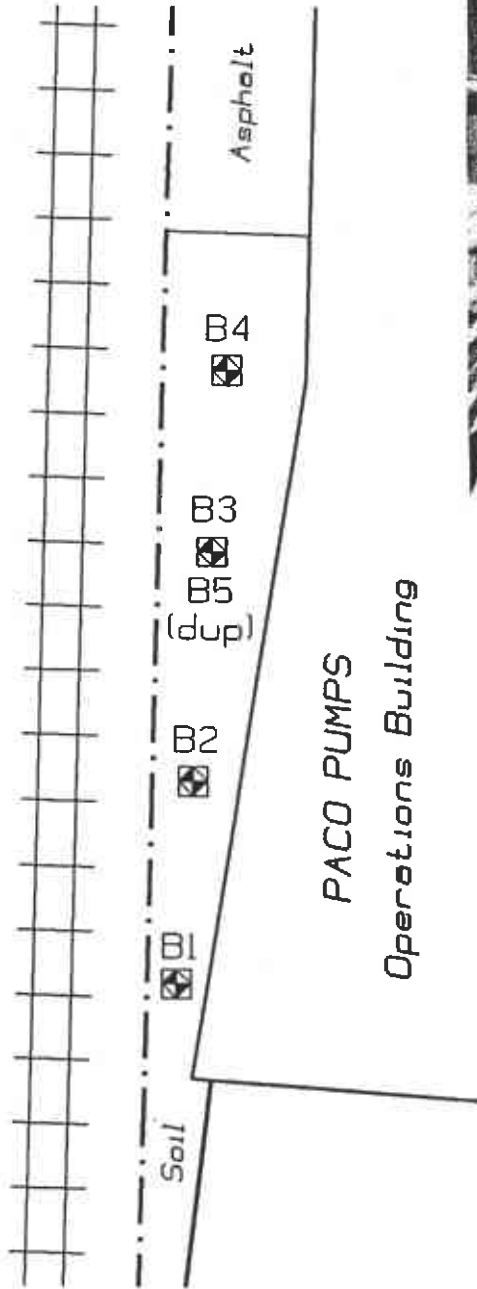
2.1.2 SAMPLE COLLECTION PROCEDURES

A total of five (including one duplicate) soil samples were collected in six inches brass sleeves from the native soil, approximately 3 to 3.5 feet below ground surface. Boreholes were drilled using a two-inch stainless steel hand auger. During the sample collection, the lithology of the soil in the pit was described. Following the soil collection, the boring location was plugged with the cuttings.

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.

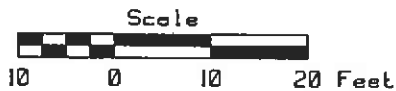


Central Pacific Railroad



Legend:

- Jones and Associates
 October 1991 Soil Samples
 Collected from 3 to 3.5 feet



October 1991
 Soil Samples
 Soil Excavation Area
 PACO Pumps
 Oakland, California

Prepared by
JONAS & ASSOCIATES

2.1.3 QUALITY CONTROL SAMPLES

Quality control of laboratory analytical procedures are routinely performed by analyzing a lab duplicate. One duplicate soil sample was collected from sample location B3 and analyzed for the same parameters.

2.1.4 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
- » 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: B1-3.5-10191

Boring one, collected at a depth of 3.5 feet on October 1, 1991.

Duplicate sample was numbered the same way as the other samples.

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

CHROMALAB, INC.
2239 Omega Road #1
San Ramon, CA 94583

PROJECT NO. _____ DATE _____
BORING NO. _____ TIME _____
SAMPLE NO. _____ DEPTH _____
SAMPLE TYPE _____
PRESERVATIVES _____
TYPE OF ANALYSIS _____
NAME OF COLLECTOR _____

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 2-4 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.

SECTION 3.0

1991 SOIL SAMPLING RESULTS

3.1 SOIL SAMPLING RESULTS

On October 1, 1991, a total of five (including one duplicate) soil samples were collected in six inches brass sleeves from the native soil, approximately 3 to 3.5 feet below ground surface. The soil samples were analyzed for volatile compounds (EPA Methods 8240); extractable petroleum hydrocarbons (EPA Method 3550/8015); volatile petroleum hydrocarbons (EPA Method 5020/8015); and pesticides and polychlorinated biphenyl (EPA Method 8080). Soil samples number one and three were also analyzed for semi-volatile organic compounds (EPA Method 8270).

Laboratory analytical results for these samples are summarized in Tables 3-1, 3-2, 3-3 and 3-4. As illustrated in these tables, none of the chemical constituents analyzed for were detected in any of the samples. Therefore, the previous cleanup activities of soils can be considered successful. No additional work is recommended for this area.

A copy of this report should 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) ¹² (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)
B1-3.5-1019 ¹³	ND ¹⁴	ND	ND	ND	ND	ND
B2-3.5-1019	ND	ND	ND	ND	ND	ND
B3-3.5-1019	ND	ND	ND	ND	ND	ND
B4-3.5-1019	ND	ND	ND	ND	ND	ND
B5-3.5-1019	ND	ND	ND	ND	ND	ND

¹² (1.0 mg/kg) = Method Detection Limit

¹³ B1-3.5-10191

B1 = Soil sampling boring number one

3.5 = Sample depth in Feet

10191 = Sampling Date October 1, 1991 (Laboratory reports deleted the last number "1" due to insufficient space in the column)

¹⁴ ND - Not Detected Above the Reported Detection Limit.

Table 3-2
 Chlorinated Pesticides and PCB Analysis¹⁵
 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	Heptachlor 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	Chlor-dane	
B1-3.5-10191	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B2-3.5-10191	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B3-3.5-10191	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B4-3.5-10191	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B5-3.5-10191	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

¹⁵ **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 3-3
 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				
	B1-3.5-10191	B2-3.5-10191	B3-3.5-10191	B4-3.5-10191	B5-3.5-10191
Chloromethane	ND ¹⁶	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND
Methylene Chloride	ND	ND	ND	ND	ND
1,2-Dichloroethene (Total)	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND

¹⁶ ND = Not Detected Above the Reported Detection Limit.

Table 3-3 (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				
	B1-3.5-10191	B2-3.5-10191	B3-3.5-10191	B4-3.5-10191	B5-3.5-10191
2-Chloroethylvinylether	ND	ND	ND	ND	ND
Trans-1,3-Dichloropropene	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND
Cis-1,3-Dichloropropene	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	ND
Acetone	ND	ND	ND	ND	ND
Methyl Ethyl Ketone	ND	ND	ND	ND	ND
Methyl Isobutyl Ketone	ND	ND	ND	ND	ND

Jonas & Associates Inc.

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

Compound Name	Base/Neutrals/Acids-Soil, EPA Method 8270		
	B1-3.5-10191	B3-3.5-10191	B5-3.5-10191
Phenol	ND(0.05) ¹⁷	ND(0.05)	ND(0.05)
Bis(2-Chloroethyl) Ether	ND(0.05)	ND(0.05)	ND(0.05)
2-Chlorophenol	ND(0.05)	ND(0.05)	ND(0.05)
1,3-Dichlorobenzene	ND(0.05)	ND(0.05)	ND(0.05)
1,4-Dichlorobenzene	ND(0.05)	ND(0.05)	ND(0.05)
Benzyl Alcohol	ND(0.10)	ND(0.10)	ND(0.10)
1,2-Dichlorobenzene	ND(0.05)	ND(0.05)	ND(0.05)
2-Methylphenol	ND(0.05)	ND(0.05)	ND(0.05)
Bis(2-Chloroisopropyl)ether	ND(0.05)	ND(0.05)	ND(0.05)
4-Methylphenol	ND(0.05)	ND(0.05)	ND(0.05)
N-Nitroso-Di-N-Propylamine	ND(0.05)	ND(0.05)	ND(0.05)
Hexachloroethane	ND(0.05)	ND(0.05)	ND(0.05)
Nitrobenzene	ND(0.05)	ND(0.05)	ND(0.05)
Isophorone	ND(0.05)	ND(0.05)	ND(0.05)
2-Nitrophenol	ND(0.05)	ND(0.05)	ND(0.05)
2,4-Dimethylphenol	ND(0.05)	ND(0.05)	ND(0.05)
Benzoic Acid	ND(0.25)	ND(0.25)	ND(0.25)

¹⁷ ND = Not Detected Above the Reported Detection Limit.

Table 3-4 (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		
	B1-3.5-10191	B3-3.5-10191	B5-3.5-10191
Bis-(2-Chloroethoxy)Methane	ND(0.05)	ND(0.05)	ND(0.05)
2,4-Dichlorophenol	ND(0.05)	ND(0.05)	ND(0.05)
1,2,4-Trichlorobenzene	ND(0.05)	ND(0.05)	ND(0.05)
Naphthalene	ND(0.05)	ND(0.05)	ND(0.05)
4-Chloroaniline	ND(0.10)	ND(0.10)	ND(0.10)
Hexachlorobutadiene	ND(0.05)	ND(0.05)	ND(0.05)
4-Chloro-3-Methylphenol	ND(0.10)	ND(0.10)	ND(0.10)
2-Methylnaphthalene	ND(0.05)	ND(0.05)	ND(0.05)
Hexachlorocyclopentadiene	ND(0.05)	ND(0.05)	ND(0.05)
2,4,6-Trichlorophenol	ND(0.05)	ND(0.05)	ND(0.05)
2,4,5-Trichlorophenol	ND(0.05)	ND(0.05)	ND(0.05)
2-Chloronaphthalene	ND(0.05)	ND(0.05)	ND(0.05)
2-Nitroaniline	ND(0.25)	ND(0.25)	ND(0.25)
Dimethyl Phthalate	ND(0.05)	ND(0.05)	ND(0.05)
Acenaphthylene	ND(0.05)	ND(0.05)	ND(0.05)
3-Nitroaniline	ND(0.25)	ND(0.25)	ND(0.25)
Acenaphthene	ND(0.05)	ND(0.05)	ND(0.05)
2,4-Dinitrophenol	ND(0.25)	ND(0.25)	ND(0.25)
4-Nitrophenol	ND(0.25)	ND(0.25)	ND(0.25)
Dibenzofuran	ND(0.05)	ND(0.05)	ND(0.05)

Jonas & Associates Inc.

Table 3-4 (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		
	B1-3.5-10191	B3-3.5-10191	B5-3.5-10191
2,4-Dinitrotoluene	ND(0.05)	ND(0.05)	ND(0.05)
2,6-Dinitrotoluene	ND(0.05)	ND(0.05)	ND(0.05)
Diethyl Phthalate	ND(0.05)	ND(0.05)	ND(0.05)
4-Chloro-Phenyl Phenyl Ether	ND(0.05)	ND(0.05)	ND(0.05)
Fluorene	ND(0.05)	ND(0.05)	ND(0.05)
4-Nitroaniline	ND(0.25)	ND(0.25)	ND(0.25)
4-6-Dinitro-2-Methyl Phenol	ND(0.25)	ND(0.25)	ND(0.25)
N-Nitrosodiphenylamine	ND(0.05)	ND(0.05)	ND(0.05)
4-Bromophenyl Phenyl Ether	ND(0.05)	ND(0.05)	ND(0.05)
Hexachlorobenzene	ND(0.05)	ND(0.05)	ND(0.05)
Pentachlorophenol	ND(0.25)	ND(0.25)	ND(0.25)
Phenanthrene	ND(0.05)	ND(0.05)	ND(0.05)
Anthracene	ND(0.05)	ND(0.05)	ND(0.05)
Di-N-Butyl Phthalate	ND(0.05)	ND(0.05)	ND(0.05)
Fluoranthene	ND(0.05)	ND(0.05)	ND(0.05)
Pyrene	ND(0.05)	ND(0.05)	ND(0.05)
Butylbenzylphthalate	ND(0.05)	ND(0.05)	ND(0.05)
3,3'-Dichlorobenzidine	ND(0.10)	ND(0.10)	ND(0.10)
Benzo(A)Anthracene	ND(0.05)	ND(0.05)	ND(0.05)
Bis(2-Ethylhexyl)Phthalate	ND(0.05)	ND(0.05)	ND(0.05)

Jonas & Associates Inc.

Table 3-4 (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		
	B1-3.5-10191	B3-3.5-10191	B5-3.5-10191
Chrysene	ND(0.05)	ND(0.05)	ND(0.05)
Di-N-Octylphthalate	ND(0.05)	ND(0.05)	ND(0.05)
Benzo(B)Fluoranthene	ND(0.05)	ND(0.05)	ND(0.05)
Benzo(K)Fluoranthene	ND(0.05)	ND(0.05)	ND(0.05)
Benzo(A)Pyrene	ND(0.05)	ND(0.05)	ND(0.05)
Indeno(1,2,3 C,D)Pyrene	ND(0.05)	ND(0.05)	ND(0.05)
Dibenzo(A,H)Anthracene	ND(0.05)	ND(0.05)	ND(0.05)
Benzo(G,H,I)Perylene	ND(0.05)	ND(0.05)	ND(0.05)

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

Compound Name	Base/Neutrals/Acids-Soil, EPA Method 8270		
	B1-3.5-10191	B3-3.5-10191	B5-3.5-10191
Phenol	ND(0.05) ¹⁷	ND(0.05)	ND(0.05)
Bis(2-Chloroethyl) Ether	ND(0.05)	ND(0.05)	ND(0.05)
2-Chlorophenol	ND(0.05)	ND(0.05)	ND(0.05)
1,3-Dichlorobenzene	ND(0.05)	ND(0.05)	ND(0.05)
1,4-Dichlorobenzene	ND(0.05)	ND(0.05)	ND(0.05)
Benzyl Alcohol	ND(0.10)	ND(0.10)	ND(0.10)
1,2-Dichlorobenzene	ND(0.05)	ND(0.05)	ND(0.05)
2-Methylphenol	ND(0.05)	ND(0.05)	ND(0.05)
Bis(2-Chloroisopropyl)ether	ND(0.05)	ND(0.05)	ND(0.05)
4-Methylphenol	ND(0.05)	ND(0.05)	ND(0.05)
N-Nitroso-Di-N-Propylamine	ND(0.05)	ND(0.05)	ND(0.05)
Hexachloroethane	ND(0.05)	ND(0.05)	ND(0.05)
Nitrobenzene	ND(0.05)	ND(0.05)	ND(0.05)
Isophorone	ND(0.05)	ND(0.05)	ND(0.05)
2-Nitrophenol	ND(0.05)	ND(0.05)	ND(0.05)
2,4-Dimethylphenol	ND(0.05)	ND(0.05)	ND(0.05)
Benzoic Acid	ND(0.25)	ND(0.25)	ND(0.25)

¹⁷ ND = Not Detected Above the Reported Detection Limit.

Table 3-4 (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		
	B1-3.5-10191	B3-3.5-10191	B5-3.5-10191
Bis-(2-Chloroethoxy)Methane	ND(0.05)	ND(0.05)	ND(0.05)
2,4-Dichlorophenol	ND(0.05)	ND(0.05)	ND(0.05)
1,2,4-Trichlorobenzene	ND(0.05)	ND(0.05)	ND(0.05)
Naphthalene	ND(0.05)	ND(0.05)	ND(0.05)
4-Chloroaniline	ND(0.10)	ND(0.10)	ND(0.10)
Hexachlorobutadiene	ND(0.05)	ND(0.05)	ND(0.05)
4-Chloro-3-Methylphenol	ND(0.10)	ND(0.10)	ND(0.10)
2-Methylnaphthalene	ND(0.05)	ND(0.05)	ND(0.05)
Hexachlorocyclopentadiene	ND(0.05)	ND(0.05)	ND(0.05)
2,4,6-Trichlorophenol	ND(0.05)	ND(0.05)	ND(0.05)
2,4,5-Trichlorophenol	ND(0.05)	ND(0.05)	ND(0.05)
2-Chloronaphthalene	ND(0.05)	ND(0.05)	ND(0.05)
2-Nitroaniline	ND(0.25)	ND(0.25)	ND(0.25)
Dimethyl Phthalate	ND(0.05)	ND(0.05)	ND(0.05)
Acenaphthylene	ND(0.05)	ND(0.05)	ND(0.05)
3-Nitroaniline	ND(0.25)	ND(0.25)	ND(0.25)
Acenaphthene	ND(0.05)	ND(0.05)	ND(0.05)
2,4-Dinitrophenol	ND(0.25)	ND(0.25)	ND(0.25)
4-Nitrophenol	ND(0.25)	ND(0.25)	ND(0.25)
Dibenzofuran	ND(0.05)	ND(0.05)	ND(0.05)

Jonas & Associates Inc.

Table 3-4 (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		
	B1-3.5-10191	B3-3.5-10191	B5-3.5-10191
2,4-Dinitrotoluene	ND(0.05)	ND(0.05)	ND(0.05)
2,6-Dinitrotoluene	ND(0.05)	ND(0.05)	ND(0.05)
Diethyl Phthalate	ND(0.05)	ND(0.05)	ND(0.05)
4-Chloro-Phenyl Phenyl Ether	ND(0.05)	ND(0.05)	ND(0.05)
Fluorene	ND(0.05)	ND(0.05)	ND(0.05)
4-Nitroaniline	ND(0.25)	ND(0.25)	ND(0.25)
4-6-Dinitro-2-Methyl Phenol	ND(0.25)	ND(0.25)	ND(0.25)
N-Nitrosodiphenylamine	ND(0.05)	ND(0.05)	ND(0.05)
4-Bromophenyl Phenyl Ether	ND(0.05)	ND(0.05)	ND(0.05)
Hexachlorobenzene	ND(0.05)	ND(0.05)	ND(0.05)
Pentachlorophenol	ND(0.25)	ND(0.25)	ND(0.25)
Phenanthrene	ND(0.05)	ND(0.05)	ND(0.05)
Anthracene	ND(0.05)	ND(0.05)	ND(0.05)
Di-N-Butyl Phthalate	ND(0.05)	ND(0.05)	ND(0.05)
Fluoranthene	ND(0.05)	ND(0.05)	ND(0.05)
Pyrene	ND(0.05)	ND(0.05)	ND(0.05)
Butylbenzylphthalate	ND(0.05)	ND(0.05)	ND(0.05)
3,3'-Dichlorobenzidine	ND(0.10)	ND(0.10)	ND(0.10)
Benzo(A)Anthracene	ND(0.05)	ND(0.05)	ND(0.05)
Bis(2-Ethylhexyl)Phthalate	ND(0.05)	ND(0.05)	ND(0.05)

Jonas & Associates Inc.

Table 3-4 (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		
	B1-3.5-10191	B3-3.5-10191	B5-3.5-10191
Chrysene	ND(0.05)	ND(0.05)	ND(0.05)
Di-N-Octylphthalate	ND(0.05)	ND(0.05)	ND(0.05)
Benzo(B)Fluoranthene	ND(0.05)	ND(0.05)	ND(0.05)
Benzo(K)Fluoranthene	ND(0.05)	ND(0.05)	ND(0.05)
Benzo(A)Pyrene	ND(0.05)	ND(0.05)	ND(0.05)
Indeno(1,2,3 C,D)Pyrene	ND(0.05)	ND(0.05)	ND(0.05)
Dibenzo(A,H)Anthracene	ND(0.05)	ND(0.05)	ND(0.05)
Benzo(G,H,I)Perylene	ND(0.05)	ND(0.05)	ND(0.05)

SECTION 4.0

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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

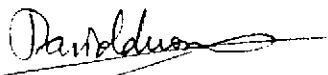
Date Extracted: Oct. 4-7, 1991

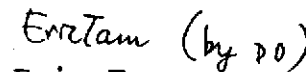
Date Analyzed: Oct. 4-7, 1991

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
Laboratory Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

October 9, 1991

ChromaLab File No.: 1091017 A

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.: B1-3.5-10191

CHLORINATED PESTICIDE ANALYSIS

<u>Compounds</u>	<u>Concentration ($\mu\text{g}/\text{kg}$)</u>	<u>Detection Limit ($\mu\text{g}/\text{kg}$)</u>	<u>Spike Recovery</u>
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	N.D.	100	----
CHLORDANE	N.D.	100	----

ChromaLab, Inc.

David Duong

David Duong
Chief Chemist

Eric Tam (by PD)
Eric Tam
Laboratory Director

CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

October 9, 1991

ChromaLab File No.: 1091017 B

JONAS & ASSOCIATES

Attn: R. Jonas

RE: 8080 ANALYSIS

Project Name: PACO PUMPS SOIL

Date Sampled: Oct. 1, 1991

Date Submitted: Oct. 2, 1991

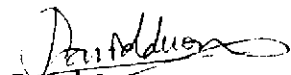
Date Analyzed: October 4-8, 1991

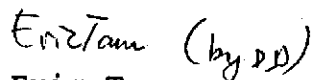
RESULTS: Sample I.D.: B2-3.5-10191

CHLORINATED PESTICIDE ANALYSIS

Compounds	Concentration ($\mu\text{g}/\text{kg}$)	Detection Limit ($\mu\text{g}/\text{kg}$)	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	N.D.	100	----
CHLORDANE	N.D.	100	----

ChromaLab, Inc.


David Duong
Chief Chemist


Eric Tam
Laboratory Director

CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

October 9, 1991

ChromaLab File No.: 1091017 C

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

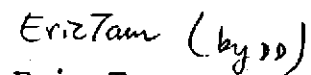
RESULTS: Sample I.D.: B3-3.5-10191

CHLORINATED PESTICIDE ANALYSIS

<u>Compounds</u>	<u>Concentration ($\mu\text{g}/\text{kg}$)</u>	<u>Detection Limit ($\mu\text{g}/\text{kg}$)</u>	<u>Spike Recovery</u>
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	N.D.	100	----
CHLORDANE	N.D.	100	----

ChromaLab, Inc.


David Duong
Chief Chemist


Eric Tam
Laboratory Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

October 9, 1991

ChromaLab File No.: 1091017 D

JONAS & ASSOCIATES

Attn: R. Jonas

RE: 8080 ANALYSIS

Project Name: PACO PUMPS SOIL

Date Sampled: Oct. 1, 1991

Date Submitted: Oct. 2, 1991

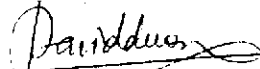
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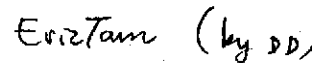
RESULTS: Sample I.D.: B4-3.5-10191

CHLORINATED PESTICIDE ANALYSIS

<u>Compounds</u>	<u>Concentration ($\mu\text{g}/\text{kg}$)</u>	<u>Detection Limit ($\mu\text{g}/\text{kg}$)</u>	<u>Spike Recovery</u>
ALDRIN	N.D.	10	----
DIELDIN	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	N.D.	100	----
CHLORDANE	N.D.	100	----

ChromaLab, Inc.


David Duong
Chief Chemist


Eric Tam
Laboratory Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

October 9, 1991

ChromaLab File No.: 1091017 E

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.: B5-3.5-10191

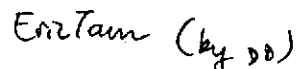
CHLORINATED PESTICIDE ANALYSIS

<u>Compounds</u>	<u>Concentration ($\mu\text{g}/\text{kg}$)</u>	<u>Detection Limit ($\mu\text{g}/\text{kg}$)</u>	<u>Spike Recovery</u>
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	N.D.	100	----
CHLORDANE	N.D.	100	----

ChromaLab, Inc.



David Duong
Chief Chemist



Eric Tam
Laboratory Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

October 09, 1991

ChromaLab File # 1091017 A

Client: Jonas & Associates, Inc.
Date Sampled: Oct. 01, 1991
Date Analyzed: Oct. 08, 1991


Attn: Romena Jonas
Date Submitted: Oct. 02, 1991

Project Name: PACO PUMPS SOIL
Sample I.D.: B1-3.5-1019
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-CHLOROETHYL VINYLETHER	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.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

October 09, 1991

ChromaLab File # 1091017 B

Client: Jonas & Associates, Inc.
Date Sampled: Oct. 01, 1991
Date Analyzed: Oct. 08, 1991

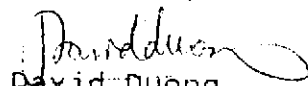
Attn: Romena Jonas
Date Submitted: Oct. 02, 1991

Project Name: PACO PUMPS SOIL
Sample I.D.: B2-3.5-1019
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-CHLOROETHYL VINYLETHER	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
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510/831-1788 • Facsimile 510/831-8798

Federal ID #68-0140157

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

October 09, 1991

ChromaLab File # 1091017 C

Client: Jonas & Associates, Inc.
Date Sampled: Oct. 01, 1991
Date Analyzed: Oct. 08, 1991

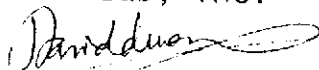
Attn: Romena Jonas
Date Submitted: Oct. 02, 1991

Project Name: PACO PUMPS SOIL
Sample I.D.: B3-3.5-1019
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-CHLOROETHYL VINYLETHER	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.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

October 09, 1991

ChromaLab File # 1091017 D

Client: Jonas & Associates, Inc.
Date Sampled: Oct. 01, 1991
Date Analyzed: Oct. 08, 1991

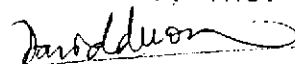
Attn: Romena Jonas
Date Submitted: Oct. 02, 1991

Project Name: PACO PUMPS SOIL
Sample I.D.: B4-3.5-1019
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-CHLOROETHYL VINYLETHER	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.	---
CHLORO BENZENE	N.D.	91.0% 91.8%
ETHYL BENZENE	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.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

October 09, 1991

ChromaLab File # 1091017 E

Client: Jonas & Associates, Inc.
Date Sampled: Oct. 01, 1991
Date Analyzed: Oct. 08, 1991

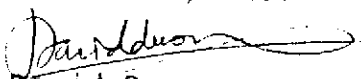
Attn: Romena Jonas
Date Submitted: Oct. 02, 1991


Project Name: PACO PUMPS SOIL
Sample I.D.: B5-3.5-1019
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-CHLOROETHYL VINYLETHER	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
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Federal ID #68-0140157

CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

October 10, 1991

ChromaLab File # 1091017 A

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.: B1-3.5-10191

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	-----

(continued on next page)

CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

Page 2

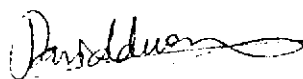
ChromaLab File # 1091017 A

Project Name: PACO PUMPS SOIL
Sample I.D.: B1-3.5-10191
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 10, 1991

ChromaLab File # 1091017 C

Client: Jonas & Associates, Inc.
Attn: Romena Jonas

Date Sampled: Oct. 01, 1991
Date Extracted: Oct. 07, 1991

Date Submitted: Oct. 02, 1991
Date Analyzed: Oct. 9, 1991

Project Name: PACO PUMPS SOIL
Sample I.D.: B3-3.5-10191
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	-----	-----

(continued on next page)

CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

Page 2

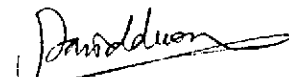
ChromaLab File # 1091017 C

Project Name: PACO PUMPS SOIL
Sample I.D.: B3-3.5-10191
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.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

October 10, 1991

ChromaLab File # 1091017 E

Client: Jonas & Associates, Inc.
Attn: Romena Jonas

Date Sampled: Oct. 01, 1991
Date Extracted: Oct. 07, 1991

Date Submitted: Oct. 02, 1991
Date Analyzed: Oct. 9, 1991

Project Name: PACO PUMPS SOIL
Sample I.D.: B5-3.5-10191
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	-----	

(continued on next page)

CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

Page 2

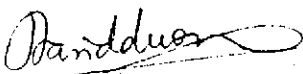
ChromaLab File # 1091017 E

Project Name: PACO PUMPS SOIL
Sample I.D.: B5-3.5-10191
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.

2239 Omega Road, #
415/831-1788

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.	ANALYSIS REPORT														NUMBER OF CONTAINERS								
					TPH - Gasoline (EPA 5030)	TPH - Gasoline (5030, 8015) w/BTEX (EPA 602, 8020)	TPH - Diesel (EPA 3510, 8550, 8015)	PURGEABLE AROMATICS BTEX (EPA 602, 8020)	PURGEABLE HALOCARBONS (EPA 801, 8010)	VOLATILE ORGANICS (EPA 8240)	BASE/NEUTRAL ACIDS (EPA 625/627, 8270)	TOTAL OIL & GREASE (EPA 5520 D&F)	PESTICIDES (EPA 608, 8080)	PHENOLS (EPA 604, 8040)	7:7k 26 Methods		METALS: Cd, Cr, Pb, Zn	CAM METALS (18) w/Cr VI		PRIORITY POLLUTANT METALS (13)							
B1-3.5-10191	10/1/91	12:50	Soil		X	X	X	X	X	X	X	X	X	X	X	X											
B2-3.5-10191	14/1/91	1:05	Soil		X	X	X	X	X	X	X	X	X	X	X	X											
B3-3.5-10191	10/1/91	1:35	Soil		X	X	X	X	X	X	X	X	X	X	X	X											
B4-3.5-10191	10/1/91	2:26	Soil		X	X	X	X	X	X	X	X	X	X	X	X											
B5-3.5-10191	10/1/91	1:35	Soil		X	X	X	X	X	X	X	X	X	X	X	X											
B6-0.5-10191	10/1/91	12:10	Soil		X	X	X	X	X	X	X	X	X	X	X	X	X										
B7-0.5-10191	10/1/91	11:50	Soil		X	X	X	X	X	X	X	X	X	X	X	X	X										

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY		RELINQUISHED BY		RELINQUISHED BY	
PROJECT NAME: <u>PACO Pumps Soil</u>	TOTAL NO. OF CONTAINERS <u>7</u>	RELINQUISHED BY 1. <u>Romana Jones 11:30</u> (SIGNATURE) (TIME)		RELINQUISHED BY 2. _____ (SIGNATURE) (TIME)		RELINQUISHED BY 3. _____ (SIGNATURE) (TIME)			
PROJECT NUMBER: <u>R. Jones</u>	CHAIN OF CUSTODY SEALS	RELINQUISHED BY 1. <u>Romana Jones 10/2/91</u> (PRINTED NAME) (DATE)		RELINQUISHED BY 2. _____ (PRINTED NAME) (DATE)		RELINQUISHED BY 3. _____ (PRINTED NAME) (DATE)			
SHIPPING ID. NO. <u>Hand delivered</u>	CONFORMS TO RECORD	RELINQUISHED BY 1. <u>Jones & Associates Inc</u> (COMPANY)		RELINQUISHED BY 2. _____ (COMPANY)		RELINQUISHED BY 3. _____ (COMPANY)			
VIA:	LAB NO.	RECEIVED BY 1. _____ (SIGNATURE) (TIME)		RECEIVED BY 2. _____ (SIGNATURE) (TIME)		RECEIVED BY (LABORATORY) 3. <u>Dan Duong 11:30 AM</u> (SIGNATURE) (TIME)			
SPECIAL INSTRUCTIONS/COMMENTS:		RECEIVED BY 1. _____ (PRINTED NAME) (DATE)		RECEIVED BY 2. _____ (PRINTED NAME) (DATE)		RECEIVED BY (LABORATORY) 3. <u>DAVID DUONG 10/02/91</u> (PRINTED NAME) (DATE)			
		RECEIVED BY 1. _____ (COMPANY)		RECEIVED BY 2. _____ (COMPANY)		RECEIVED BY (LABORATORY) 3. <u>Chromalab, Inc</u> (LAB)			

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 10/19/91 Job No. RCO-217-d-Soil
 Client PACO PUMPS/ JONAS & ASSOCIATES INC.
 Source of Samples Soil
 Shipper _____ Arrival Date 10/21/91

Analysis Authorized by R. Jones
 Affiliation/Address JONAS & ASSOCIATES INC.
1056 Dale Place Phone 510-676-8554
Concord, CA
 Report Results to J&A Phone 310-676-8554

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	B1-3.5-1019) B2- " B3 " B4 " B5 " B6 " B7 "	1. Custody Form? <input checked="" type="checkbox"/> 2. Package O.K.? <input checked="" type="checkbox"/> 3. In Ice? <input checked="" type="checkbox"/> 4. Container Type Suitable? <input checked="" type="checkbox"/> 5. Air bubbles present/absent in VOA? <input checked="" type="checkbox"/> 6. Proper preservation? <input checked="" type="checkbox"/> 7. Custody Seal? <input checked="" type="checkbox"/> Remarks: <i>Samples received in good conditions</i>	10/11/91	• 8240, 8270, 3550/8015; 5030/ 8015; 8080 • 8240; 8550/8015; 5030/ 8015; 8080 • 8240; 8270; 3550/8015; 5030/ 8015; 8080 • Same as B2 8015; 8080 • Same as B1 8015; 8080; Ti/Tk 26 Metal

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.