JONAS & ASSOCIATES INC.
Environmental Consultants

(510) 933-5360
Walnut Creek, California

FAX / TELECOPY TRANSMITTAL

From: Mark Jonas	**of:** J&A	**FAX #:** (510) 933 - 5362
To: Eva Chu	**of:** Alameda County	**FAX #:** (510) 337 - 9335

Date: 7 / 18 / 1997	**Project:** Paco 9201 SL
Time:	**Project #:** PCO-220

Attachments:

1) Figures 4-5 and 3-1
2) 40 CFR 761 Subpart G - PCB Spill Cleanup Policy
3)

Number of Attached Pages (not including transmittal page): 5

Message:

Dear Eva,

We are currently writing the work plan for Paco Pumps, as we discussed in our May 14, 1997 meeting.

I am attempting to understand the rational for excavation of soil in the area of boreholes B6 and B7. Samples collected on October 1, 1991 detected 0.400 mg/kg (B6) and 0.670 mg/kg (B7). These concentrations are both below federal cleanup limits of 10 mg/kg (1987 - 40 CFR 761) and 50 mg/kg (1992 - 40 CRF 761).

Assuming that we do need to excavate soil in this area, what is the rational for the excavation activity?

Please call or fax back your answer.

Sincerely,

Mark Jonas
Project Manager

JONAS & ASSOCIATES INC.
Environmental Consultants

(925) 933-5360
Walnut Creek, California

FAX / TELECOPY TRANSMITTAL

From: Mark Jonas	**of:** J&A	**FAX #:** (925) 933 - 5362
To: Eva Chu	**of:** Alameda County Health	**FAX #:** (510) 337 - 9335

Date: 1 / 10 / 2000	**Project:** Former Paco Pump, Oakland
Time:	**Project #:** PCO-220

Attachments:

1) Previous Documents on PCB Issue

2)

3)

Number of Attached Pages (not including transmittal page): 14

Message:

Dear Eva,

Attached is the information you requested on the PCB issue for the former PACO facility located at 9201 San Leandro Street, in Oakland, California.

Please consider the following:

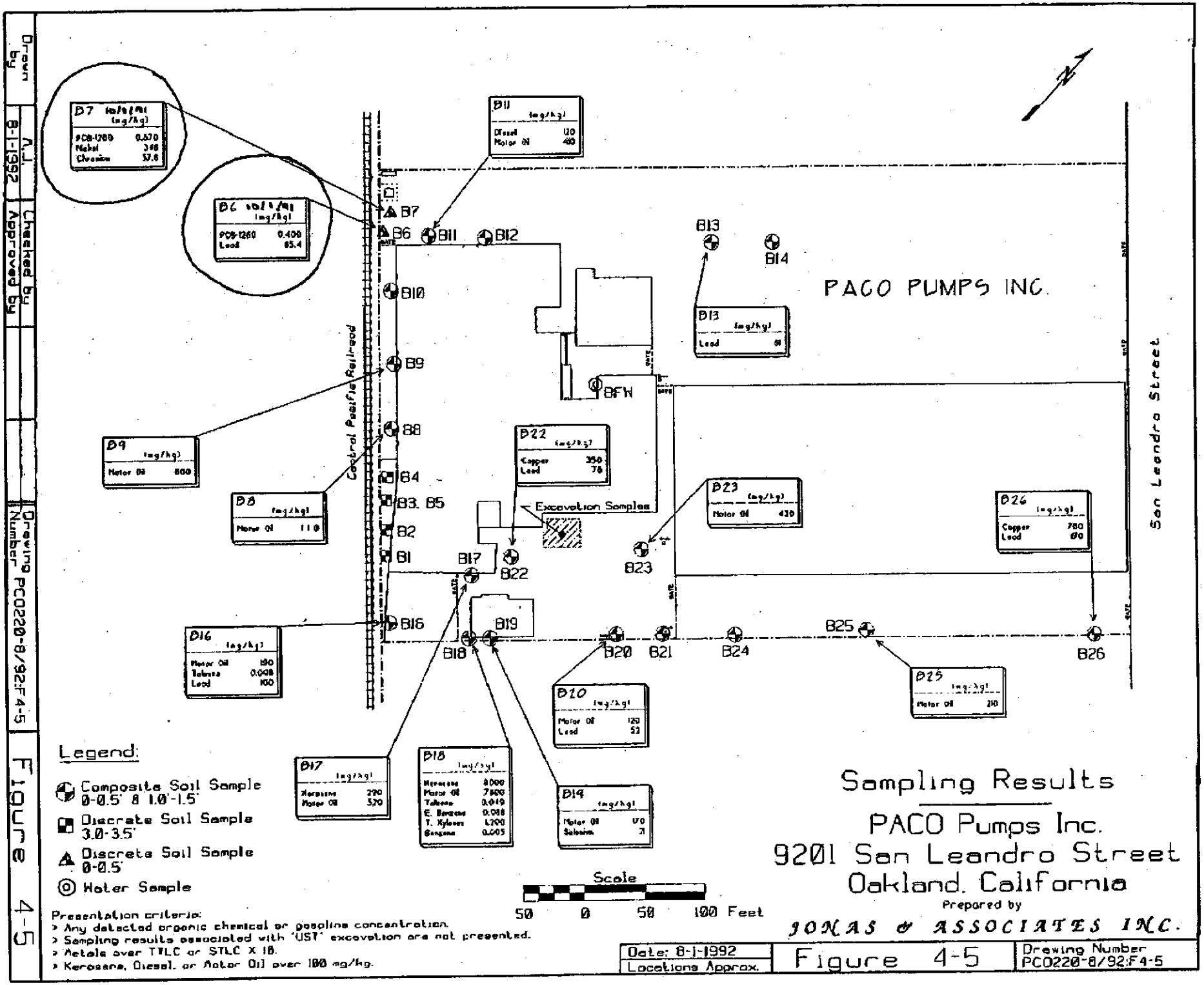
- **PCB at 0.670 mg/kg at B7 (0-0.5')**
- **PCB at 0.400 mg/kg at B6 (0-0.5')**
- **Monitoring Well MW-1 soil samples (11/4/92):**
  5' - PCB 0.29 mg/kg
  10' - PCB ND(0.1)
  15' - PCB ND(0.1)
- **PCB ND(0.05) mg/L groundwater sample Monitoring Well MW-1, sampled 11/16/92**
- **PCB ND(0.05) mg/L groundwater sample Monitoring Well MW-1, sampled 3/9/93**
- **CFR Part 761, Subpart G - PCB Spill Cleanup Policy**
  Uses a 50 mg/kg PCB cleanup level (see attachment for details)

I hope this provides the information you need for your evaluation.

Please call to discuss any issue.

Sincerely,

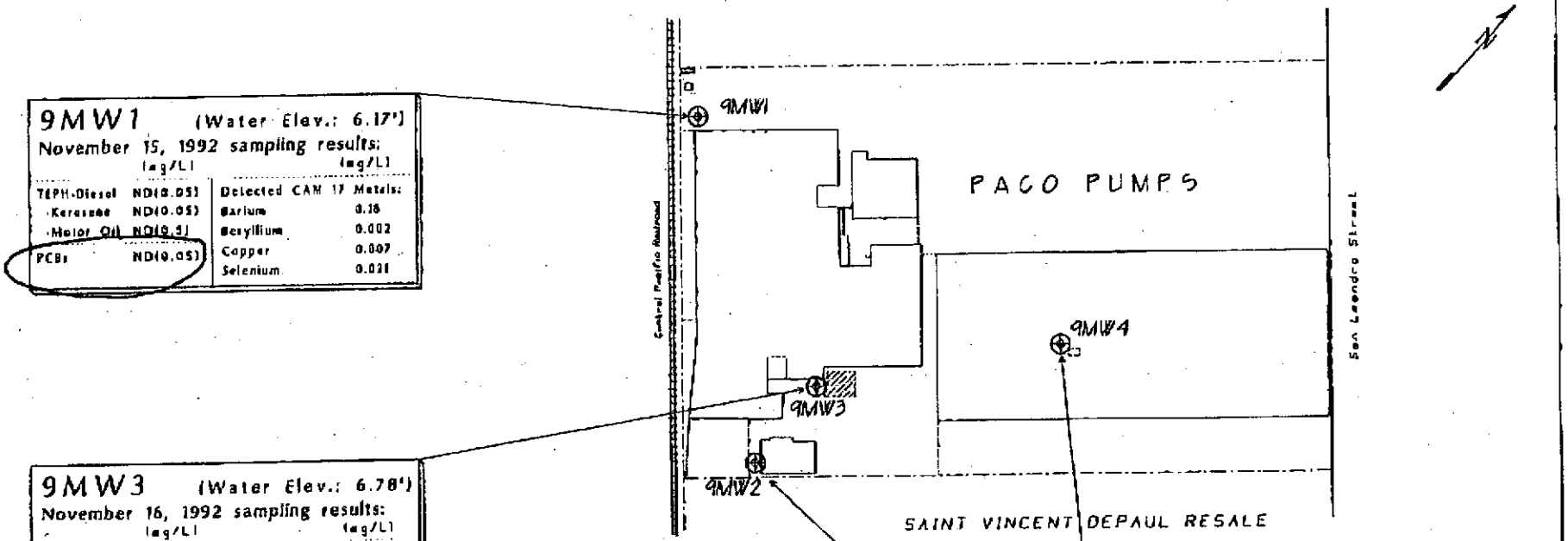
Mark Jonas, R.G.
Project Manager



Drawn by M.J. 10-29-1993

Drawing Number PCO220-10/93:F3-1

Figure 3-1



9MW1 (Water Elev.: 6.17')
November 15, 1992 sampling results:

	(mg/L)		(mg/L)
TEPH-Diesel	ND(0.05)	Detected CAM 17 Metals:	
-Kerosene	ND(0.05)	Barium	0.18
-Motor Oil	ND(0.5)	Beryllium	0.002
PCBs	ND(0.05)	Copper	0.007
		Selenium	0.021

9MW3 (Water Elev.: 6.78')
November 16, 1992 sampling results:

	(mg/L)		(mg/L)
TPH-Gasoline	40.000	Benzene	2.900
TEPH-Diesel	ND(0.05)	Toluene	6.700
-Kerosene	ND(0.05)	Ethyl Benzene	0.550
-Motor Oil	ND(0.5)	Total Xylenes	3.700

9MW2 (Water Elev.: 6.78')
November 16, 1992 sampling results:

	(mg/L)		(mg/L)
TPH-Gasoline	ND(0.05)	Benzene	ND(0.0005)
TEPH-Diesel	ND(0.05)	Toluene	ND(0.0005)
-Kerosene	0.590	Ethyl Benzene	ND(0.0005)
-Motor Oil	9.5	Total Xylenes	ND(0.0015)

Detected Method 524 Volatile Organics: (mg/L)
1,1-Dichloroethane 0.0036

9MW4 (Water Elev.: 8.21')
November 16, 1992 sampling results:

	(mg/L)		(mg/L)
TPH-Gasoline	0.560	Benzene	0.066
TEPH-Diesel	ND(0.05)	Toluene	0.073
-Kerosene	ND(0.05)	Ethyl Benzene	0.016
-Motor Oil	ND(0.5)	Total Xylenes	0.130

Legend:

⊕ Monitoring Well

TPH = Total Petroleum Hydrocarbons

TEPH = Total Extractable Petroleum Hydrocarbons

PCBs = Polychlorinated biphenyls

ND(0.05) = Not Detected above laboratory detection limit in parentheses.

Well	Date Installed	Total Depth	Casing Diameter	Borehole Diameter	Screen Depth	Sand Pack Depth
9AW1	11-4-1992	21'	4"	8.5"	5.25'-20.25'	4.25'-21'
9AW2	11-3-1992	21'	4"	8.5"	5.25'-20.25'	4.25'-21'
9AW3	11-4-1992	21'	4"	8.5"	5.25'-20.25'	4.25'-21'
9AW4	11-9-1992	21'	4"	8.5"	5.25'-20.25'	4.25'-21'

Scale
75 0 75 150 Feet

Round One Groundwater Sampling Results

PACO Pumps Inc.
9201 San Leandro Street
Oakland, California

Prepared by
JONAS & ASSOCIATES INC.

Date: 10-29-1993
Locations Approx.

Figure 3-1

Drawing Number PCO220-10/93:F3-1

included in the class exemption. Until EPA issues a final rule, individuals and companies included in the class exemption will be allowed to continue processing and distributing PCBs in small quantities for research and development.

[55 FR 38999, Sept. 24, 1990]

Subpart F—[Reserved]

Subpart G—PCB Spill Cleanup Policy

SOURCE: 52 FR 10705, Apr. 2, 1987, unless otherwise noted.

§ 761.120 Scope.

(a) *General.* This policy establishes criteria EPA will use to determine the adequacy of the cleanup of spills resulting from the release of materials containing PCBs at concentrations of 50 ppm or greater. The policy applies to spills which occur after May 4, 1987.

(1) Existing spills (spills which occurred prior to May 4, 1987, are excluded from the scope of this policy for two reasons:

(i) For old spills which have already been discovered, this policy is not intended to require additional cleanup where a party has already cleaned a spill in accordance with requirements imposed by EPA through its regional offices, nor is this policy intended to interfere with ongoing litigation of enforcement actions which bring into issue PCB spills cleanup.

(ii) EPA recognizes that old spills which are discovered after the effective date of this policy will require site-by-site evaluation because of the likelihood that the site involves more pervasive PCB contamination than fresh spills and because old spills are generally more difficult to clean up than fresh spills (particularly on porous surfaces such as concrete). Therefore, spills which occurred before the effective date of this policy are to be decontaminated to requirements established at the discretion of EPA, usually through its regional offices.

(2) EPA expects most PCB spills subject to the TSCA PCB regulations to conform to the typical spill situations considered in developing this policy. This policy does, however, exclude from application of the final numerical cleanup standards certain spill situations from its scope: Spills directly into surface waters, drinking water, sewers, grazing lands, and vegetable gardens. These types of spills are subject to final cleanup standards to be established at the discretion of the regional office. These spills are, however, subject to the immediate notification requirements and measures to minimize further environmental contamination.

(3) For all other spills, EPA generally expects the decontamination standards of this policy to apply. Occasionally, some small percentage of spills covered by this policy may warrant more stringent cleanup requirements because of additional routes of exposure or significantly greater exposures than those assumed in developing the final cleanup standards of this policy. While the EPA regional offices have the authority to require additional cleanup in these circumstances, the Regional Administrator must first make a finding based on the specific facts of a spill that additional cleanup must occur to prevent unreasonable risk. In addition, before a final decision is made to require additional cleanup, the Regional Administrator must notify the Director, Office of Pollution Prevention and Toxics at Headquarters of his/her finding and the basis for the finding.

(4) There may also be exceptional spill situations that requires less stringent cleanup or a different approach to cleanup because of factors associated with the particular spill. These factors may mitigate expected exposures and risks or make cleanup to these requirements impracticable.

(b) *Spills that may require more stringent cleanup levels.* For spills within the scope of this policy, EPA generally retains, under § 761.135, the authority to require additional cleanup upon finding that, despite good faith efforts by the responsible party, the numerical decontamination levels in the policy have not been met. In addition, EPA foresees the possibility of exceptional spill situations in which site-specific risk factors may warrant additional cleanup to more stringent

numerical decontamination levels than are required by the policy. In these situations, the Regional Administrator has the authority to require cleanup to levels lower than those included in this policy upon finding that further cleanup must occur to prevent unreasonable risk. The Regional Administrator will consult with the Director, Office of Pollution Prevention and Toxics, prior to making such a finding.

(1) For example, site-specific characteristics, such as short depth to ground water, type of soil, or the presence of a shallow well, may pose exceptionally high potential for ground water contamination by PCBs remaining after cleanup to the standards specified in this policy. Spills that pose such a high degree of potential for ground water contamination have not been excluded from the policy under paragraph (d) of this section because the presence of such potential may not be readily apparent. EPA feels that automatically excluding such spills from the scope of the policy could result in the delay of cleanup—a particularly undesirable outcome if potential ground water contamination is, in fact, a significant concern.

(2) In those situations, the Regional Administrator may require cleanup in addition to that required under § 761.125 (b) and (c). However, the Regional Administrator must first make a finding, based on the specific facts of a spill, that additional cleanup is necessary to prevent unreasonable risk. In addition, before making a final decision on additional cleanup, the Regional Administrator must notify the Director of the Office of Pollution Prevention and Toxics of his finding and the basis for the finding.

(c) *Flexibility to allow less stringent or alternative requirements.* EPA retains the flexibility to allow less stringent or alternative decontamination measures based upon site-specific considerations. EPA will exercise this flexibility if the responsible party demonstrates that cleanup to the numerical decontamination levels is clearly unwarranted because of risk-mitigating factors, that compliance with the procedural requirements or numerical standards in the policy is impracticable at a particular site, or that site-specific characteristics make the costs of cleanup prohibitive. The Regional Administrator will notify the Director of OPPT of any decision and the basis for the decision to allow less stringent cleanup. The purpose of this notification is to enable the Director of OPPT to ensure consistency of spill cleanup standards under special circumstances across the regions.

(d) *Excluded spills.* (1) Although the spill situations in paragraphs (d)(2) (i) through (vi) of this section are excluded from the automatic application of final decontamination standards under § 761.125 (b) and (c), the general requirements under § 761.125(a) do apply to these spills. In addition, all of these excluded situations require practicable, immediate actions to contain the area of contamination. While these situations may not always require more stringent cleanup measures, the Agency is excluding these scenarios because they will always involve significant factors that may not be adequately addressed by cleanup standards based upon typical spill characteristics.

(2) For the spill situations in paragraphs (d)(2)(i) through (vi) of this section, the responsible party shall decontaminate the spill in accordance with site-specific requirements established by the EPA regional offices.

(i) Spills that result in the direct contamination of surface waters (surface waters include, but are not limited to, "waters of the United States" as defined in Part 122 of this chapter, ponds, lagoons, wetlands, and storage reservoirs).

(ii) Spills that result in the direct contamination of sewers or sewage treatment systems.

(iii) Spills that result in the direct contamination of any private or public drinking water sources or distribution systems.

(iv) Spills which migrate to and contaminate surface waters, sewers, or drinking water supplies before cleanup has been completed in accordance with this policy.

(v) Spills that contaminate animal grazing lands.

(vi) Spills that contaminate vegetable gradens.

(e) *Relationship of policy to other statutes.* (1) This policy does not affect cleanup standards or requirements for the reporting of spills imposed, or to be imposed, under other Federal statutory authorities, including but not limited to, the Clean Water Act (CWA), the Resource Conservation and Recovery Act (RCRA), and the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA). Where more than one requirement applies, the stricter standard must be met.

(2) The Agency recognizes that the existence of this policy will inevitably result in attempts to apply the standards to situations within the scope of other statutory authorities. However, other statutes require the Agency to consider different or alternative factors in determining appropriate corrective actions. In addition, the types and magnitudes of exposures associated with sites requiring corrective action under other statutes often involve important differences from those expected of the typical, electrical equipment-type spills considered in developing this policy. Thus, cleanups under other statutes, such as RCRA corrective actions or remedial and response actions under SARA may result in different outcomes.

§ 761.123 Definitions.

For purposes of this policy, certain words and phrases are used to denote specific materials, procedures, or circumstances. The following definitions are provided for purposes of clarity and are not to be taken as exhaustive lists of situations and materials covered by the policy.

Double wash/rinse means a minimum requirement to cleanse solid surfaces (both impervious and nonimpervious) two times with an appropriate solvent or other material in which PCBs are at least 5 percent soluble (by weight). A volume of PCB-free fluid sufficient to cover the contaminated surface completely must be used in each wash/rinse. The wash/rinse requirement does not mean the mere spreading of solvent or other fluid over the surface, nor does the requirement mean a once-over wipe with a soaked cloth. Precautions must be taken to contain any runoff resulting from the cleansing and to dispose properly of wastes generated during the cleansing.

High-concentration PCBs means PCBs that contain 500 ppm or greater PCBs, or those materials which EPA requires to be assumed to contain 500 ppm or greater PCBs in the absence of testing.

High-contact industrial surface means a surface in an industrial setting which is repeatedly touched, often for relatively long periods of time. Manned machinery and control panels are examples of high-contact industrial surfaces. High-contact industrial surfaces are generally of impervious solid material. Examples of low-contact industrial surfaces include ceilings, walls, floors, roofs, roadways and sidewalks in the industrial area, utility poles, unmanned machinery, concrete pads beneath electrical equipment, curbing, exterior structural building components, indoor vaults, and pipes.

High-contact residential/commercial surface means a surface in a residential/commercial area which is repeatedly touched, often for relatively long periods of time. Doors, wall areas below 6 feet in height, uncovered flooring, windowsills, fencing, bannisters, stairs, automobiles, and children's play areas such as outdoor patios and sidewalks are examples of high-contact residential/commercial surfaces. Examples of low-contact residential/commercial surfaces include interior ceilings, interior wall areas above 6 feet in height, roofs, asphalt roadways, concrete roadways, wooden utility poles, unmanned machinery, concrete pads beneath electrical equipment, curbing, exterior structural building components (e.g., aluminum/vinyl siding, cinder block, asphalt tiles), and pipes.

Impervious solid surfaces means solid surfaces which are nonporous and thus unlikely to absorb spilled PCBs within the short period of time required for cleanup of spills under this policy. Impervious solid surfaces include, but are not limited to, metals, glass, aluminum siding, and enameled or laminated surfaces.

Low-concentration PCBs means PCBs that are tested and found to contain less than 500 ppm PCBs, or those PCB-containing materials which EPA requires to be assumed to be at concentrations below 500 ppm (i.e., untested mineral oil dielectric fluid).

Nonimpervious solid surfaces means solid surfaces which are porous and are more likely to absorb spilled PCBs prior to completion of the cleanup requirements prescribed in this policy. Nonimpervious solid surfaces include, but are not limited to, wood, concrete, asphalt, and plasterboard.

Nonrestricted access areas means any area other than restricted access, outdoor electrical substations, and other restricted access locations, as defined in this section. In addition to residential/commercial areas, these areas include unrestricted access rural areas (areas of low density development and population where access is uncontrolled by either man-made barriers or naturally occurring barriers, such as rough terrain, mountains, or cliffs).

Other restricted access (nonsubstation) locations means areas other than electrical substations that are at least 0.1 kilometer (km) from a residential/commercial area and limited by man-made barriers (e.g., fences and walls) to substantially limited by naturally occurring barriers such as mountains, cliffs, or rough terrain. These areas generally include industrial facilities and extremely remote rural locations. (Areas where access is restricted but are less than 0.1 km from a residential/commercial area are considered to be residential/commercial areas.)

Outdoor electrical substations means outdoor, fenced-off, and restricted access areas used in the transmission and/or distribution of electrical power Outdoor electrical substations restrict public access by being fenced or walled off as defined under § 761.300(b)(1)(ii). For purposes of this TSCA policy, outdoor electrical substations are defined as being located at least 0.1 km from a residential/commercial area. Outdoor fenced-off and restricted access areas used in the transmission and/or distribution of electrical power which are located less than 0.1 km from a residential/commercial area are considered to be residential/commercial areas.

PCBs means polychlorinated biphenyls as defined under § 761.3. As specified under § 761.1(b), no requirements may be avoided through dilution of the PCB concentration.

Requirements and standards means: (1) "Requirements" as used in this policy refers to both the procedural responses and numerical decontamination levels set forth in this policy as constituting adequate cleanup of PCBs.

(2) "Standards" refers to the numerical decontamination levels set forth in this policy.

Residential/commercial areas means those areas where people live or reside, or where people work in other than manufacturing or farming industries. Residential areas include housing and the property on which housing is located, as well as playgrounds, roadways, sidewalks, parks, and other similar areas within a residential community. Commercial areas are typically accessible to both members of the general public and employees and include public assembly properties, institutional properties, stores, office buildings, and transportation centers.

Responsible party means the owner of the PCB equipment, facility, or other source of PCBs or his/her designated agent (e.g., a facility manager or foreman).

Soil means all vegetation, soils and other ground media, including but not limited to, sand, grass , gravel, and oyster shells. It does not include concrete and asphalt.

Spill means both intentional and unintentional spills, leaks, and other uncontrolled discharges where the release results in any quantity of PCBs running off or about to run off the external surface of the equipment or other PCB source, as well as the contamination resulting from those releases. This policy applies to spills of 50 ppm or greater PCBs. The concentration of PCBs spilled is determined by the PCB concentration in the material spilled as opposed to the concentration of PCBs in the material onto

(iii) At the option of the responsible party, low-contact, indoor, nonimperious surfaces will be cleaned either to 1 μg/100 cm² or to 100 μg/100 cm² nd encapsulated. The Regional Administrator, however, retains the authority to disallow the encapsulation ption for a particular spill situation pon finding that the uncertainties associated with that option pose special ncerns at that site. That is, the Reonal Administrator would not permit ncapsulation if he/she determined at if the encapsulation failed the illure would create an imminent zard at the site.

(iv) Low-contact, outdoor surfaces oth impervious and nonimpervious) hall be cleaned to 100 μg/100 cm².

(v) Soil contaminated by the spill ill be cleaned to 25 ppm PCBs by eight.

(4) *Requirements for decontaminating spills in nonrestricted access reas.* Spills which occur in nonrestricted access locations, as defined nder §761.123, shall be decontaminated in accordance with paragraphs (c)(4)(i) through (v) of this section. onformance to the cleanup standards t paragraphs (c)(4)(i) through (v) of is section shall be verified by postcleanup sampling as specified under 761.130.

(i) Furnishings, toys, and other asily replaceable household items hall be disposed of in accordance with he provisions of §761.60 and replaced y the responsible party.

(ii) Indoor solid surfaces and high-contact outdoor solid surfaces, defined s high contact residential/commerial surfaces under §761.123, shall be leaned to 10 μg/100 cm² (as measured y standard wipe tests).

(iii) Indoor vault areas and low-contact, outdoor, impervious solid surfaces shall be decontaminated to 10 g/100 cm².

(iv) At the option of the responsible arty, low-contact, outdoor, nonimperious solid surfaces shall be either leaned to 10 μg/100 cm² or cleaned to 100 μg/100 cm² and encapsulated. The Regional Administrator, however, retains the authority to disallow the encapsulation option for a particular pill situation upon finding that the ncertainties associated with that option pose special concerns at that site. That is, the Regional Administrator would not permit encapsulation if he/she determined that if the encapsulation failed the failure would create an imminent hazard at the site.

(v) Soil contaminated by the spill will be decontaminated to 10 ppm PCBs by weight provided that soil is excavated to a minimum depth of 10 inches. The excavated soil will be replaced with clean soil, i.e., containing less than 1 ppm PCBs, and the spill site will be restored (e.g., replacement of turf).

(5) *Records.* The responsible party shall document the cleanup with records of decontamination. The records must be maintained for a period of 5 years. The records and certification shall consist of the following:

(i) Identification of the source of the spill, e.g., type of equipment.

(ii) Estimated or actual date and time of the spill occurrence.

(iii) The date and time cleanup was completed or terminated (if cleanup was delayed by emergency or adverse weather; the nature and duration of the delay).

(iv) A brief description of the spill location and the nature of the materials contaminated. This information should include whether the spill occurred in an outdoor electrical substation, other restricted access location, or in a nonrestricted access area.

(v) Precleanup sampling data used to establish the spill boundaries if required because of insufficient visible traces and a brief description of the sampling methodology used to establish the spill boundaries.

(vi) A brief description of the solid surfaces cleaned.

(vii) Approximate depth of soil excavation and the amount of soil removed.

(viii) Postcleanup verification sampling data and, if not otherwise apparent from the documentation, a brief description of the sampling methodology and analytical technique used.

(ix) While not required for compliance with this policy, information on the estimated cost of cleanup (by man-hours, dollars, or both) would be useful if maintained in the records.

§ 761.130 Sampling requirements.

Postcleanup sampling is required to verify the level of cleanup under §761.125(c) (2) through (4). The responsible party may use any statistically valid, reproducible, sampling scheme (either random samples or grid samples) provided that the requirements of paragraphs (a) and (b) of this section are satisfied.

(a) The sampling area is the greater of (1) an area equal to the area cleaned plus an additional 1-foot boundary, or (2) an area 20 percent larger than the original area of contamination.

(b) The sampling scheme must ensure 95 percent confidence against false positives.

(c) The number of samples must be sufficient to ensure that areas of contamination of a radius of 2 feet or more within the sampling area will be detected, except that the minimum number of samples is 3 and the maximum number of samples is 40.

(d) The sampling scheme must include calculation for expected variability due to analytical error.

(e) EPA recommends the use of a sampling scheme developed by the Midwest Research Institute (MRI) for use in EPA enforcement inspections: "Verification of PCB Spill Cleanup by Sampling and Analysis." Guidance for the use of this sampling scheme is available in the MRI report "Field Manual for Grid Sampling of PCB Spill Sites to Verify Cleanup." Both the MRI sampling scheme and the guidance document are available from the TSCA Assistance Office, Environmental Protection Agency, Rm. E-543, 401 M St. SW., Washington, DC 20460 (202-554-1404). The major advantage of this sampling scheme is that it is designed to characterize the degree of contamination within the entire sampling area with a high degree of confidence while using fewer samples than any other grid or random sampling scheme. This sampling scheme also allows some sites to be characterized on the basis of composite samples.

(f) EPA may, at its discretion, take samples from any spill site. If EPA's sampling indicates that the remaining concentration level exceeds the required level, EPA will require further cleanup. For this purpose, the numerical level of cleanup required for spills cleaned in accordance with §761.125(b) is deemed to be the equivalent of numerical cleanup requirements required for cleanups under §761.125(c)(2) through (4). Using its best engineering judgement, EPA may sample a statistically valid random or grid sampling technique, or both. When using engineering judgment or random "grab" samples, EPA will take into account that there are limits on the power of a grab sample to dispute statistically based sampling of the type required of the responsible party. EPA headquarters will provide guidance to the EPA regions on the degree of certainty associated with various grab sample results.

§ 761.135 Effect of compliance with this policy and enforcement.

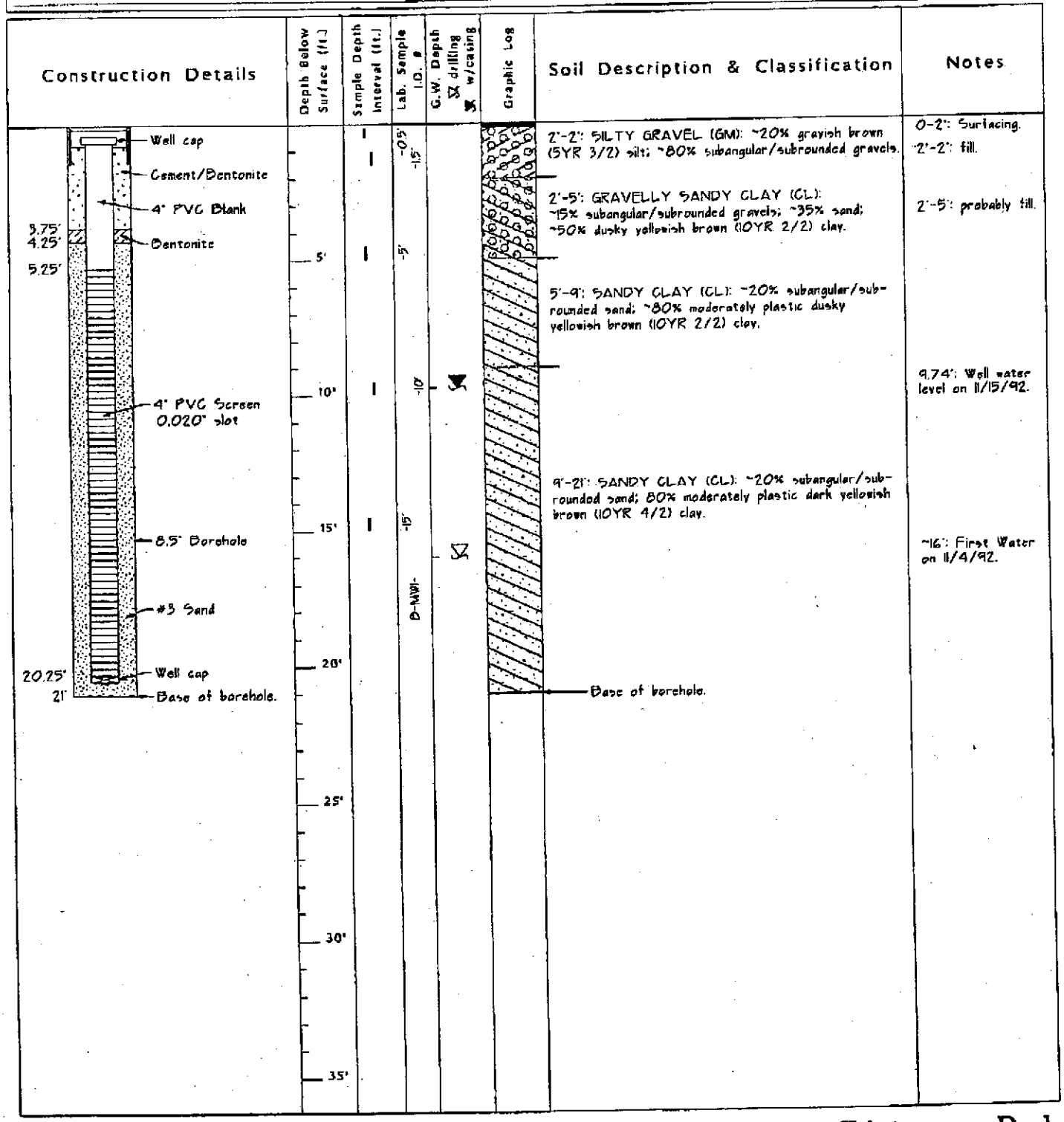
(a) Although a spill of material containing 50 ppm or greater PCBs is considered improper PCB disposal, this policy establishes requirements that EPA considers to be adequate cleanup of the spilled PCBs. Cleanup in accordance with this policy means compliance with the procedural as well as the numerical requirements of this policy. Compliance with this policy creates a presumption against both enforcement action for penalties and the need for further cleanup under TSCA. The Agency reserves the right, however, to initiate appropriate action to compel cleanup where, upon review of the records of cleanup or EPA sampling following cleanup, EPA finds that the decontamination levels in the policy have not been achieved. The Agency also reserves the right to seek penalties where the Agency believes that the responsible party has not made a good faith effort to comply with all provisions of this policy, such as prompt notification of EPA of a spill, recordkeeping, etc.

(b) EPA's exercise of enforcement discretion does not preclude enforcement action under other provisions of TSCA or any other Federal statute. This includes, even in cases where the numerical decontamination levels set forth in this policy have been met, civil or criminal action for penalties

DRILLING & CONSTRUCTION WELL LOG

Well #: 9MW1
Site: PACO Pumps
9201 San Leandro St.
Sheet: 1 of 1

Driller: Advance Drilling Co. Inc. Rig: CME-75 Method: Hollow Stem Auger
Started: November 4, 1992 Finished: November 4, 1992 Location: N. of Mnft. Blg.
Elevation: Top PVC:15.51'; Lid/PVT:15.91' Boring Depth: 21 feet bgs Screen Depth: 5.25'-20.25'bgs
Field Supervisor: Mark Jonas Supervising Engineer/Geologist: Dr. Jeff Sullivan, R.G.
Note:



9MW1 Well Log

Figure D-1

CHROMALAB, INC.

2239 Ome
511

CHROMALAB FILE # 1192026
ORDER # 8398

Chain of Custody

11/4/92 PAGE 1 OF 2

PROJ. MGR N. Jonas
COMPANY JONAS & ASSOCIATES INC.
ADDRESS 1056 Dale Place
Concord, California 94518
SAMPLERS (SIGNATURE) (PHONE NO.)
Jonas & Associates Inc. (510) 676-8554

SAMPLE ID.	DATE	TIME	MATRIX	LAB ID.	TPH - Gasoline (EPA 5030, 8015)	TPH - Gasoline (5030, 8015) w/BTeX (EPA 602,8020)	TPH - Diesel (Ext., M.O. (EPA 3510/3550, 8015)	PURGEABLE AROMATICS BTEX (EPA 602, 8020)	PURGEABLE HALOCARBONS (EPA 601, 8010)	VOLATILE ORGANICS (EPA 624, 8240, 524.2)	BASE/NEUTRALS, ACIDS (EPA 625/627, 8270, 525)	TOTAL OIL & GREASE (EPA 5520 E&F)	PESTICIDES/PCB (EPA 608, 8080)	PHENOLS (EPA 604, 8040)	TOTAL RECOVERABLE HYDROCARBONS (EPA 418.1)	PCBs (8080 mod.)	METALS: Cd, Cr, Pb, Zn, Ni	CAM METALS (17)	PRIORITY POLLUTANT METALS (13)	EXTRACTION (TTLC, STLC)	STLC Lead	STLC Nickel	STLC Cr (Total)	STLC Cr VI	NUMBER OF CONTAINERS
B-MW1-0.5', B-MW1-1.5', comp	11/4	1540	soil																	X	X	X	X	X	2
B-MW1-5'	11/4	1545	soil				X									X									1
B-MW1-10'	11/4	1615	soil				X									X									1
B-MW1-15'	11/4	1630	soil				X									X									1
B-MW2-0.5', B-MW2-1.5', comp	11/3	1250	soil			X																			x2
B-MW2-5'	11/3	1300	soil			X	X																		1
B-MW2-10'	11/3	1315	soil			X	X																		1
B-MW2-15'	11/3	1325	soil			X	X																		1

ANALYSIS REPORT

PROJECT INFORMATION

PROJECT NAME: 9201 PACO Pumps
PROJECT NUMBER: PCO-220-02-REM
SHIPPING ID. NO.
VIA: hand-to-hand

SAMPLE RECEIPT

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

SPECIAL INSTRUCTIONS/COMMENTS:
comp. = composite
Please call before disposing of samples.

RELINQUISHED BY 1.	RELINQUISHED BY 2.	RELINQUISHED BY 3.
(SIGNATURE) Romena Jones 9:20 (TIME)	(SIGNATURE) (TIME)	(SIGNATURE) (TIME)
(PRINTED NAME) Romena Jonas 11/5/92 (DATE)	(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)
(COMPANY) Jonas & Associates Inc.	(COMPANY)	(COMPANY)
RECEIVED BY 1.	**RECEIVED BY 2.**	**RECEIVED BY (LABORATORY) 3.**
(SIGNATURE) (TIME)	(SIGNATURE) (TIME)	(SIGNATURE) Mary Capelle 9:17 (TIME)
(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)	(PRINTED NAME) MARY CAPPELLE 11/5/92 (DATE)
(COMPANY)	(COMPANY)	(LAB) Chromalab, Inc.

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

November 12, 1992 ChromaLab File No.:1192028

Jonas & Associates, Inc.

Attn: Mark Jonas

RE: Three soil samples for PCB analysis

Project Name: 9201 PACO Pumps
Project Number: PCO-220-02-REM
Date Sampled: Nov. 04, 1992
Date Submitted: Nov. 05, 1992
Date Analyzed: Nov. 12, 1992

RESULTS:

SAMPLE I.D.	PCB (mg/kg)
B-MW1-5'	0.29
B-MW1-10'	N.D.
B-MW1-15'	N.D.

*PCB found: AROCHLOR 1254

BLANK	N.D.
SPIKE RECOVERY	102%
DUPLICATE SPIKE RECOVERY	100%
DETECTION LIMIT	0.1
METHOD OF ANALYSIS	8080

ChromaLab, Inc.

Yiu Tam
Analytical Chemist

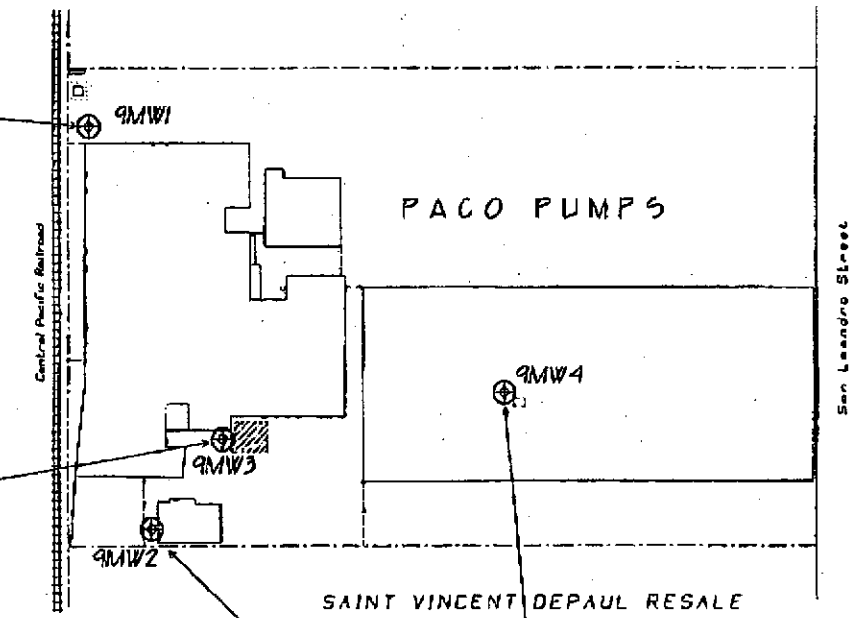
Eric Tam
Laboratory Director

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

Drawn by M.J. 10-29-1993

Drawing Number PCO220-10/93:F3-1

Figure 3-1



9MW1 (Water Elev.: 6.17')
November 15, 1992 sampling results:

(mg/L)		(mg/L)	
TEPH-Diesel	ND(0.05)	Detected CAM 17 Metals:	
-Kerosene	ND(0.05)	Barium	0.18
-Motor Oil	ND(0.5)	Beryllium	0.002
PCBs	ND(0.05)	Copper	0.007
		Selenium	0.021

9MW3 (Water Elev.: 6.78')
November 16, 1992 sampling results:

(mg/L)		(mg/L)	
TPH-Gasoline	40.000	Benzene	2.900
TEPH-Diesel	ND(0.05)	Toluene	6.700
-Kerosene	ND(0.05)	Ethyl Benzene	0.550
-Motor Oil	ND(0.5)	Total Xylenes	1.700

9MW2 (Water Elev.: 6.78')
November 16, 1992 sampling results:

(mg/L)		(mg/L)	
TPH-Gasoline	ND(0.05)	Benzene	ND(0.0005)
TEPH-Diesel	ND(0.05)	Toluene	ND(0.0005)
-Kerosene	0.590	Ethyl Benzene	ND(0.0005)
-Motor Oil	9.5	Total Xylenes	ND(0.00015)

Detected Method 624 Volatile Organics: (mg/L)
1,1-Dichloroethane 0.0026

9MW4 (Water Elev.: 8.21')
November 16, 1992 sampling results:

(mg/L)		(mg/L)	
TPH-Gasoline	0.550	Benzene	0.066
TEPH-Diesel	ND(0.05)	Toluene	0.073
-Kerosene	ND(0.05)	Ethyl Benzene	0.016
-Motor Oil	ND(0.5)	Total Xylenes	0.130

Legend:

⊕ Monitoring Well

TPH = Total Petroleum Hydrocarbons
TEPH = Total Extractable Petroleum Hydrocarbons
PCBs = Polychlorinated biphenyls
ND(0.05) = Not Detected above laboratory detection limit in parentheses.

Well	Date Installed	Total Depth	Casing Diameter	Borehole Diameter	Screen Depth	Sand Pack Depth
9AW1	11-4-1992	21'	4"	8.5"	5.25'-20.25'	4.25'-21'
9AW2	11-3-1992	21'	4"	8.5"	5.25'-20.25'	4.25'-21'
9AW3	11-4-1992	21'	4"	8.5"	5.25'-20.25'	4.25'-21'
9AW4	11-9-1992	21'	4"	8.5"	5.25'-20.25'	4.25'-21'

Scale
75 0 75 150 Feet

Round One Groundwater Sampling Results

PACO Pumps Inc.
9201 San Leandro Street
Oakland, California

Prepared by
JONAS & ASSOCIATES INC.

Date: 10-29-1993
Locations Approx.

Figure 3-1

Drawing Number PCO220-10/93:F3-1

CHROMALAB, INC.

2239 Omega
511

CHROMALAB FILE # 1192132
ORDER # 8532

Chain of Custody

DATE 11/16/92 PAGE 1 OF 1

PROJ. MGR. Mark L. Jonas
COMPANY JONAS & ASSOCIATES INC.
ADDRESS 1056 Dale Place
Concord, California 94518

SAMPLERS (SIGNATURE) (PHONE NO.)

Jonas & Associates Inc. (510) 676-8554

ANALYSIS REPORT

SAMPLE ID.	DATE	TIME	MATRIX	LAB ID.	TPH - Gasoline (EPA 5030, 8015)	TPH - Gasoline (5030, 8015) w/BTeX (EPA 8020)	TPH - Diesel (EPA 3510/3550, 8015)	PURGEABLE AROMATICS BTEX (EPA 602, 8020)	PURGEABLE HALOCARBONS (EPA 601, 8010)	VOLATILE ORGANICS (EPA 624, 8240, 524.2)	BASE/NEUTRALS, ACIDS (EPA 625/627, 8270, 525)	TOTAL OIL & GREASE (EPA 5520 E&F)	PESTICIDES/PCB (EPA 608, 8080) PCBs	PHENOLS (EPA 604, 8040)	TOTAL RECOVERABLE HYDROCARBONS (EPA 418.1)	TEPH-Diesel,Kero., Motor O.(3510/8020	METALS: Cd, Cr, Pb, Zn, Ni	CAM METALS (17)	PRIORITY POLLUTANT METALS (13)	EXTRACTION (TCLP, STLC)					NUMBER OF CONTAINERS
GW9-MW1-Q1	11/16/92	1230	water										X			X		X							4
GW9-MW2-Q1	11/16/92	1010	water			X				X						X									6
GW9-MW3-Q1	11/16/92	1355	water			X										X									4
GW9-MW4-Q1	11/16/92	1525	water			X										X									4
GW9-MW41-Q1	11/16/92	1425	water			X										X									4

PROJECT INFORMATION

PROJECT NAME: 9201 PACO Pumps
PROJECT NUMBER: PCO-220-02-REM
SHIPPING ID. NO.
VIA: hand-to-hand

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
Mark Jonas 1635 (SIGNATURE) (TIME)	(SIGNATURE) (TIME)	(SIGNATURE) (TIME)
Mark Jonas 11/16/92 (PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)
Jonas & Associates Inc. (COMPANY)	(COMPANY)	(COMPANY)
RECEIVED BY 1.	**RECEIVED BY 2.**	**RECEIVED BY (LABORATORY) 3.**
(SIGNATURE) (TIME)	(SIGNATURE) (TIME)	Gary Cook 1640 (SIGNATURE) (TIME)
(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)	Gary Cook 11/16/92 (PRINTED NAME) (DATE)
(COMPANY)	(COMPANY)	Chromalab, Inc. (LAB)

1-10-200 1:17PM FROM P.12

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

November 21, 1992 ChromaLab File No.:1192132

Jonas & Associates, Inc.

Attn: Mark Jonas

RE: One water sample for PCB analysis.

Project Name: 9201 PACO Pumps
Project No.: PCO-220-02-REM
Date Sampled: Nov. 15, 1992
Date Submitted: Nov. 16, 1992
Date Analyzed: Nov. 20, 1992

RESULTS:

SAMPLE I.D.	PCB (mg/L)
MW-1	N.D.

BLANK	N.D.
SPIKE RECOVERY	98%
DUPLICATE SPIKE RECOVERY	103%
DETECTION LIMIT	0.05
METHOD OF ANALYSIS	608

ChromaLab, Inc.

Yiu Tam
Analytical Chemist

Eric Tam
Laboratory Director

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

CHROMALAB FILE # 393129
ORDER # 10765

CHROMALAB, INC.

2239 Omega Road, #1 • San Ramon, California 94
510/831-1786 • Facsimile 510/831-8798

DATE March 9,1993 PAGE 1 OF 1

PROJ. MGR. Mark Jonas/Jeff Sullivan, R.G.
COMPANY JONAS & ASSOCIATES INC.
ADDRESS 1056 Dale Place
Concord, California 94518
SAMPLERS (SIGNATURE) (PHONE NO.)
Jonas & Associates Inc. (510) 676-8554

ANALYSIS REPORT

SAMPLE ID.	DATE	TIME	MATRIX	LAB ID.	TPH - Gasoline (EPA 5030, 8015)	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, 524.2)	BASE/NEUTRALS, ACIDS (EPA 625/627, 8270, 525)	TOTAL OIL & GREASE (EPA 5520 E&F)	PESTICIDES/PCB (EPA 608, 8080)	PHENOLS (EPA 604, 8040)	TOTAL RECOVERABLE HYDROCARBONS (EPA 418.1)	soluble Selenium	METALS: Cd, Cr, Pb, Zn, Ni	CAM METALS (17)	PRIORITY POLLUTANT METALS (13)	EXTRACTION (TCLP, STLC)					NUMBER OF CONTAINERS
GW9-MW1-Q2	3/9/93	1320	gw				X						X					X							4
GW9-MW2-Q2	3/9/93	1450	gw			X	X			X						X									7
GW9-MW3-Q2	3/9/93	1600	gw			X	X																		4
GW9-MW4-Q2	3/9/93	1720	gw			X	X																		4

PROJECT INFORMATION

PROJECT NAME: 9201 PACO Pumps
PROJECT NUMBER: PCO-220-02
SHIPPING ID. NO.
VIA: hand-to-hand

SAMPLE RECEIPT

TOTAL NO. OF CONTAINERS	19
CHAIN OF CUSTODY SEALS	-
REC'D GOOD CONDITION/COLD	✓
CONFORMS TO RECORD	✓
LAB NO.	

SPECIAL INSTRUCTIONS/COMMENTS:

Posi-Filter w/ 0.45 micron filter used for metal(s) samples.

RELINQUISHED BY 1.	RELINQUISHED BY 2	RELINQUISHED BY 3
(SIGNATURE) 17:15 (TIME)	(SIGNATURE) (TIME)	(SIGNATURE) (TIME)
Mark L. Jonas 3/9/93 (PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)
Jonas & Associates Inc. (COMPANY)	(COMPANY)	(COMPANY)
RECEIVED BY 1.	**RECEIVED BY 2.**	**RECEIVED BY (LABORATORY) 3.**
(SIGNATURE) 17:15 (TIME)	(SIGNATURE) (TIME)	(SIGNATURE) (TIME)
Gary Cook 3/9/93 (PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)
Chromalab (COMPANY)	(COMPANY)	Chromalab, Inc. (LAB)

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

March 16, 1993 ChromaLab File No.: 0393129

Jonas & Associates, Inc.

Attn: Mark Jonas / Jeff Sullivan, R.G.

RE: One water sample for chlorinated pesticides analysis by EPA 608 method.

Project Name: 9201 PACO PUMPS
Project Number: PCO-220-02
Date Sampled: Mar. 9, 1993
Date Extracted: Mar. 15, 1993
Date Submitted: Mar. 10, 1993
Date Analyzed: Mar. 15, 1993
Dilution Factor: None

Sample I.D.: GW9-MW1-Q2

CHLORINATED PESTICIDE ANALYSIS

Compounds	Concentration (µg/L)	Reporting Detection Limit (µg/L)
ALDRIN	N.D.	.10
DIELDRIN	N.D.	.10
ENDRIN ALDEHYDE	N.D.	.50
ENDRIN	N.D.	.10
HEPTACHLOR	N.D.	.10
HEPTACHLOR EPOXIDE	N.D.	.10
p,p' - DDT	N.D.	.50
p,p' - DDE	N.D.	.10
p,p' - DDD	N.D.	.50
ENDOSULFAN I	N.D.	.50
ENDOSULFAN II	N.D.	.50
α - BHC	N.D.	.10
β - BHC	N.D.	.10
γ - BHC (LINDANE)	N.D.	.10
δ - BHC	N.D.	.10
ENDOSULFAN SULFATE	N.D.	.50
p,p' - METHOXYCHLOR	N.D.	.50
TOXAPHENE	N.D.	.50
PCB'S	N.D.	.50
CHLORDANE	N.D.	.50

ChromaLab, Inc.

Yiu Tam
Analytical Chemist

Eric Tam
Laboratory Director

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