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October 4, 2000

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Northern California – Coastal Cleanup  
Operations Branch  
Department of Toxic Substances Control  
700 Heinz Avenue, Building F, Suite 200  
Berkeley, CA 94710-2721

Subject: **Former J&A Truck Repair and Container Freight sites  
500 Kirkham Street and 1285 5<sup>th</sup> Street, Oakland, California**

Dear Ms. Cook:

The following document is enclosed for your review in accordance with Voluntary Cleanup Agreement No. 4-1625-C for the Cypress Freeway Reconstruction Project:

- Site Investigation Report ,Task Order Number 04-192203-RJ Contract Number 43A0012, Former J&A Truck Repair and Container Freight Sites, Oakland, California By Professional Service Industries, Inc., September 22, 2000

Please direct any comments or questions you may have regarding this site to Jill Pollock at (510) 286-5638.

Sincerely,

HARRY Y. YAHATA  
District Director

By: *Jill Pollock*

for  
CELIA McCUAIG  
District Branch Chief

Enclosure:

CC: Ms. Betty Graham, Regional Water Quality Control Board  
Ms. Susan Hugo, Alameda Health Agency

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**SITE INVESTIGATION REPORT  
TASK ORDER NUMBER 04-192203-RJ  
CONTRACT NUMBER 43A0012**

**FORMER J & A TRUCK REPAIR &  
CONTAINER FREIGHT SITES  
OAKLAND, CALIFORNIA**

prepared for

**CALIFORNIA DEPARTMENT OF TRANSPORTATION  
District 4  
111 Grand Avenue  
Oakland, California**

prepared by

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September 22, 2000  
575-0G011

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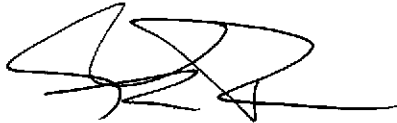
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STATEMENT OF LIMITATIONS AND PROFESSIONAL CERTIFICATION

Information provided in this Site Investigation Report (SIR), prepared by Professional Service Industries, Inc. (PSI), is intended exclusively for the use of Caltrans for the evaluation of subsurface conditions as it pertains to the subject sites. The professional services provided have been performed in accordance with practices generally accepted by other geologists, hydrologists, hydrogeologists, engineers, and environmental scientists practicing in this field. No other warranty, either expressed or implied, is made.

As with all subsurface investigations, there is no guarantee that the work conducted will identify any or all sources or locations of contamination.

This SIR is issued with the understanding that Caltrans is responsible for ensuring that the information contained herein is brought to the attention of the appropriate regulatory agency. This SIR has been reviewed by a geologist who is registered in the State of California and whose signature and license number appears below.



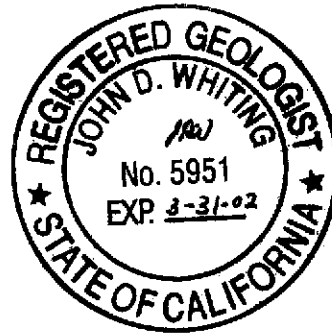
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## 1.0 INVESTIGATION SUMMARY

Professional Service Industries, Inc. (PSI) has been retained by the California Department of Transportation (Caltrans), under Task Order Number 04-192203-RJ and Contract Number 43A0012, to prepare this Site Investigation Report to assess current soil and groundwater conditions at the Former J & A Truck Repair Facility, located at 500 Kirkham Street (Site JA) and Container Freight (Site CF), located at 1285 5<sup>th</sup> Street, in the City of Oakland, California (subject site; Figure 1).

Seven soil boreholes were advanced on the two sites named above using a hollow-stem auger drill rig. All of the boreholes were completed as groundwater monitoring wells on April 25 and 26, 2000. Seven groundwater samples and one duplicate were collected from the new wells on May 2, 2000.

Based on the information presented in this report, the following conclusions have been reached:

- None of the soil samples collected from the Site JA contained detectable levels of total petroleum hydrocarbon as gasoline (TPH-G), total petroleum hydrocarbon as diesel (TPH-D), motor oil, organochlorine pesticides, and polychlorinated biphenyls. Five volatile organic compounds (VOCs) (1,1-Dichloroethane, Naphthalene, Styrene, 1,1,1-Trichloroethane, and Trichlorotrifluoroethane) and five semi-VOCs (SVOCs) (Acenaphthylene, Fluoranthene, Naphthlene, Phenanthrene, and Pyrene) were detected at levels well below the Cypress Preliminary Remedial Goals (PRG) levels for soil.
- Ten metals (Arsenic, Barium, Chromium, Cobalt, Copper, Lead, Nickel, Thallium, Vanadium, Zinc) were detected above the detection limit in the soil samples collected for this investigation from the Site JA. The detected levels were well below the Cypress PRGs.
- Groundwater samples collected from the four new groundwater monitoring wells installed at Site JA did not contain motor oil, organochlorine pesticides or PCBs above the detection limits. Fourteen VOCs were detected in the water samples collected from this site. The detected concentrations of VOCs are less than the detected amounts in the grab groundwater sample collected on August 30, 1995. The highest levels of contaminants were detected in the groundwater sample collected from the groundwater monitoring well JA-4, located down gradient of the former site sumps.
- Soil samples collected from the Site CF contained detectable levels of TPH-G, TPH-D, and motor oil. TPH-G was detected at levels between 0.69 mg/kg and 0.77 mg/kg.

TPH-D was detected at levels ranging between 19 mg/kg to 370 mg/kg. The detected levels decrease with depth, between 0.5 m to 2 m (1.65 feet to 6 feet).

- Two VOCs (benzene and naphthalene) were detected at levels above the detection limit. Both values are well below the previous maximum detected levels.
- Sixteen SVOCs were detected in the tested soil samples above the detection limit. All of the detected levels were below the previous maximum detected levels at Site CF.
- Organochlorine pesticides as 4,4'-DDD was detected only in two soil samples, with the maximum level of 9.3 mg/kg.
- Aroclor-1260 was the only PCBs detected at a level of 0.082 mg/kg, with 0.918 mg/kg below the industrial PRG level for soil. Previous soil sampling performed at this site did not report PCBs above the detection limit.
- Ten metals were detected at concentrations well below the maximum detected levels reported by the previous subsurface investigations.
- Groundwater samples collected from the three new installed wells at the Site CF contained detectable levels of TPH-G, TPH-D, VOCs, and SVOCs. TPH-G was detected in all groundwater samples at levels between 0.5 mg/L and 94 mg/L. TPH-D was detected in two groundwater samples collected from the wells CF-1 and CF-2 at levels between 2.8 mg/L and 21 mg/L.
- Nine VOCs were detected in the water samples collected during this investigation at the Site CF. One groundwater sample collected from the groundwater monitoring well CF-2 contained eight of the detected VOCs. Benzene, Carbon Disulfide, Ethylbenzene, Naphthalene, Styrene, Toluene, 1,2,4-Trimethylbenzene, Trichloroethene, and Xylenes were detected at levels above the MCL/EPA Region 9 PRG levels for drinking water.
- Nineteen SVOCs were detected in the groundwater samples tested during this investigation. Eighteen of the SVOCs detected levels were well below the maximum detected levels reported by the previous investigations.
- Motor oil, organochlorine pesticides, and PCBs were not detected in the groundwater samples collected from the Site CF.

- Only one metal was detected above the detection limit in the groundwater samples collected for this investigation from the Site CF. The detected level was 0.28 mg/l of barium.

Based on the results presented in this report, PSI recommends the following course of action:

- Groundwater monitoring be continued at the Site JA and Site CF, on a quarterly basis. According to the DTSC requirements, total dissolved solids (TDS) measurements should be collected. Also, filtered and unfiltered samples from the Site CF should be analyzed for SVOCs using EPA Method 8270.



## 1.0 INTRODUCTION

Professional Service Industries, Inc. (PSI) has been retained by the California Department of Transportation (Caltrans), under Task Order Number 04-192203-RJ and Contract Number 43A0012, to prepare this Site Investigation Report to assess current soil and groundwater conditions at the Former J & A Truck Repair Facility, located at 500 Kirkham Street (Site JA) and Container Freight (Site CF), located at 1285 5<sup>th</sup> Street, in the City of Oakland, California (subject site; Figure 1).

The scope of work for this investigation included:

- Drill 7 soil borings to a maximum depth of 5 meters (16.4 feet) (4 soil borings at Site 1 and 3 soil borings at Site 2),
- Install seven new groundwater monitoring wells in the drilled soil borings and survey the designated points,
- Develop, purge, and sample new monitoring wells to characterize groundwater in the upper aquifer (Merritt Sand Aquifer),
- Perform chemical analyses of soil and groundwater samples,
- Perform sieve analysis of one soil sample per each site and at changes in lithology (if any) to characterize the shallow aquifer,
- Prepare a technical report describing the investigation and interpretation of the data generated.
- Perform quarterly groundwater quality monitoring and reporting for a minimum of one year.

### 2.1 PROJECT OBJECTIVE

The objective of the project is to determine the general presence and concentration of contaminants of concern in the groundwater at each site and monitor these concentrations over a minimum of one year.

### 2.2 SITE BACKGROUND

#### 2.2.1. J & A Truck Repair Facility (Site JA)

The former J & A Truck Repair facility was located at 500 Kirkham Street, in the City of Oakland, County of Alameda, California. For the extension of Cypress Freeway, Caltrans purchased the property from Mr. Barney Smilo, in the summer of 1994. The 1996 report prepared by Jonas and Associates, Incorporated (JAI) showed that an inspection of the site in 1979 by Alameda County Health Department (ACHD) revealed the presence of a white pigment, titanium oxide (TiO<sub>2</sub>) in a storm drain southwest of the site. The California

Department of Health Services (DHS), currently known as Department of Toxic Substances Control (DTSC), performed an inspection on October 28, 1980, due to a citizen complaint. The inspector found *"improper storage and disposal of hazardous wastes which include spills on soil, disposal into dumpster and onto adjacent property and storage in a pit"* (JAI, 1996).

In March 1981, the DHS performed another inspection and an area of dead vegetation adjacent to a hole was observed on the eastern side of the site. Analysis of soil samples collected by DHS revealed the presence of pesticides and heavy metals in the surface soils. DHS and the California Regional Water Quality Control Board (RWQCB) recommended corrective action to clean-up contaminated soil and prevent future releases. No documentation exists to verify if any corrective action was performed at the site.

On June 23, 1992, GeoResource Consultants, Inc. (GeoResource) drilled one soil boring in the southeastern portion of this site, as part of a series of investigations on the site area performed for Caltrans. Two soil samples were collected at 0.3 and 1 meter (m) (1 and 3 feet) below ground surface (bgs) and submitted for laboratory analysis of organochlorine pesticides and Title 26 metals. The 1996 JAI 's report indicated that no organochlorine pesticides were detected in either of the two soil samples. The soil sample collected at 0.3 m (1 feet) bgs contained 81 mg/kg of lead.

The environmental assessment at this site continued in October 1994, when Environmental Solutions, Inc. (ESI) collected wipe samples of the former warehouse interior walls and soil and groundwater samples in the underground storage tank (UST) area and the remaining area of the site. Results of the wipe sample analysis indicated detectable concentrations of total recoverable petroleum hydrocarbons (TRPH), Metals, Organochlorine Pesticides, Polychlorinated Biphenyls (PCBs), Semi-Volatile Organic Compounds (SVOCs) and Volatile Organic Compounds (VOCs) on the interior walls of the warehouse. ESI subsurface investigation showed that, in general, soils on the site have been reported to be impacted by TRPH, Lead, and low concentrations of SVOCs and VOCs. The ESI's study showed that groundwater beneath the site has been impacted by TRPH, TPH-G, unknown compounds in the diesel range, oil and grease, metals, and VOCs (JAI, 1996).

All the structures on the property were demolished in April 1995. On August 30, 1995, under ACHD's supervision, one 1,100-gallon steel gasoline underground storage tank (UST) was removed from the western side of the property. At the time of the UST removal, two soil samples were collected from the walls of the excavation, at a depth of approximately 7 feet below ground surface. Petroleum hydrocarbons were detected in only one soil sample collected from the western side of the excavation pit at the following

concentrations: 5,500 mg/kg of total petroleum hydrocarbons as gasoline (TPH-G), 40 mg/kg of benzene, 260 mg/kg of toluene, 100 mg/kg of ethylbenzene, and 52 mg/kg of total xylenes. One groundwater sample was collected from the bottom of the excavation pit. Total petroleum hydrocarbons were detected in the groundwater sample at the following concentrations: 32 mg/l of TPH-G, 5.6 mg/l of benzene, 5.1 mg/l of toluene, 0.063 mg/l of ethylbenzene, and 5.5 mg/l of total xylenes. Lead was detected at 0.11 mg/l. One composite soil sample was collected from the soil stockpile and contained the following contaminants: barium (39 mg/kg), cadmium (0.5 mg/kg), chromium (17 mg/kg) lead (13 mg/kg), and mercury (0.05 mg/kg). Approximately forty cubic yards of soil was excavated and stockpiled at the site. Following waste characterization, on November 16, 1995, the soil stockpile along with the other soil excavated from the former J & A Truck Repair site was transported and disposed at ECDC Environmental, located in East Carbon, Utah as non-RCRA hazardous waste solid (JAI, 1995).

From November 13 through November 16, 1995, approximately 3,426.3 m<sup>3</sup> (4,700 cubic yards) of soil was excavated to an approximate depth of 1.8 m (6 feet) bgs, by MCM Construction, Inc. (MCM). A total of 92 soil samples were collected from the walls and the bottom of the excavation pit. Thirty-two of the soil samples were collected from the walls of the excavation at depths of approximately three feet bgs. In addition, 60 samples were collected at the bottom of the excavation pit, at depth of approximately 1.8 m (6 feet) bgs. Twenty-five chemicals were detected in the tested soil samples. An evaluation of the data and an estimation of human health risk was performed by SOMA Corporation of Emeryville, California. The estimation of risk was based on a quantitative comparison of the soil sample analytical results (both excavation and site characterization samples) with US EPA Region 9 Preliminary Remedial Goals (PRGs) and the calculation of equivalent risks. For the carcinogenic compounds, only the 95 percent upper confident limit (UCL) concentration for PCB was found to exceed the PRG value. The total estimated excess carcinogenic risk for the identified chemicals is 7.88E-06. Without the excess carcinogenic risk from the PCB, the total estimated excess carcinogenic risk for the identified chemicals would be 5.01E-07. For the identified non-carcinogenic compounds, none of the 95 percent UCL concentrations exceeded the corresponding PRG values, that is, individual chemical hazard quotients were less than a value of 1. The total hazard index for the identified non-carcinogenic compounds was also less than a value of 1 (2.89E-01) (JAI, 1996).

#### 2.2.2. Container Freight Site, Oakland, California (Site CF)

The Container Freight site is located at 1285 5<sup>th</sup> Street in Oakland, Alameda County, California. According to Environmental Solutions, Inc.'s (ESI) report dated June 21, 1995, this site has been operated as a warehouse and distribution facility since 1967. Site activities consisted of unloading cargo from freight trains and transferring to trucks. Prior

to this use, the site was owned by the Commissary Department of the South Pacific Rail Road (SPRR). It is not known what site activities took place at the site when it was owned by SPRR. Caltrans purchased the site in 1994 in connection with the reconstruction of the Cypress Freeway. The Site CF is currently vacant because the former warehouse was demolished in May, 1995 to prepare for the construction of nine footings for an aerial structure of the main freeway alignment and an embankment for the 5<sup>th</sup> Street on and off ramps. A 700-gallon diesel UST, located in front of the former warehouse building, was removed from the site in late August 1995 (JAI, 1995).

On June 24, 1992, GeoResource Consultants (GRC) drilled four soil borings to depths ranging from 1.06 m to 2.6 m (3.5 to 8.5) feet bgs around the former diesel UST. One groundwater sample was collected using a Hydropunch sampling device. None of the soil and groundwater samples analyzed showed the presence of TPH-D at or above reported detection limits.

In November 1994, Environmental Solutions, Inc. (ESI) performed soil and groundwater sampling in the truck parking area in the back of the warehouse building advancing seven soil borings. In March 1995, ESI resumed the soil and groundwater sampling within the footprint of the former warehouse after it was demolished, advancing four more soil borings. Laboratory analysis results of soil samples collected from the former parking area have been impacted by petroleum hydrocarbons, heavy metals (mainly copper and lead), VOCs, and SVOCs. No PCBs were detected at or above the detection limits. A coal tar odor was detected in three of the soil borings at depths ranging from approximately 0.65 m to 1.32 m (2 to 4 feet) bgs. TRPH was detected at concentrations up to 1,000 mg/kg in three of the soil borings. Lead concentrations exceeding 50 mg/kg were detected in all tested soil samples, with a maximum concentration of 27,000 mg/kg in one of the soil samples collected at 1.05 m (3.5 feet bgs). Groundwater samples collected by ESI beneath the former truck parking area and beneath the former warehouse building has been impacted by TRPH, VOCs, metals, and SVOCs. Acetone was detected only in one groundwater sample taken from under the former warehouse site with a concentration of 78 µg/L. Benzene, toluene, ethylbenzene, and xylenes (BTEX) group was detected at concentrations ranging from 39 to 2,400 µg/L. Styrene, arsenic, nickel, and chromium were detected at concentrations exceeding National Pollutant Discharge Elimination System (NPDES) and East Bay Municipal Utilities District (EBMUD) permit discharge limits.

The "Underground Storage Tank Report" issued by JAI in 1995, presented that one 700-gallon steel UST was closed at the end of August 1995. Two soil samples collected from the tank pit contained detectable levels of TPH-G, Lead, and BTEX group. Unknown hydrocarbons in the diesel and motor oil range were also detected. The groundwater collected from the excavation pit contained none of the petroleum hydrocarbon

compounds tested for. Only one unknown hydrocarbon compound in the kerosene range was detected at a concentration of 0.63 mg/l (JAI, 1995).

Additional soil sampling performed by Harding Lawson Associates in the area of Cypress Freeway re-alignment on November 24, 1997 revealed that shallow soil samples collected at 0.3 m (1 foot) and 1 m (3 feet) bgs contained detectable levels of oil and grease, an unknown petroleum hydrocarbon, naphthalene, toluene, benzene, mercury barium, chromium, cobalt copper, lead, molybdenum, nickel, vanadium, and zinc.

## 3.0 SITE GEOLOGY AND HYDROGEOLOGY

### 3.1 Site Geology

The subject site is located within a large region known as the Coast Ranges geomorphic province. This region is characterized by extensive folding, faulting and fracturing of variable intensity (Norris, 1990). The faults and folds trend northwesterly and comprise the pronounced northwest trending ridge-valley system. The oldest geologic formations in the Bay Area are probably of Jurassic age (138-205 million years ago). These formations have been subject to repeated episodes of deformation. By comparison, the youngest formations (Quaternary age – last 2 million years) have been only mildly flexed.

According to the "Geologic Map of the Flatland Deposits of the Southern Part of the San Francisco Bay Region" the subject site is underlain by fine-grained alluvium that consists of unconsolidated, plastic, moderately to poorly sorted silt and clay, rich in organic material. On the basis of borings drilled and logged at the subject site, the soil types encountered consist of the following:

- At Site JA, approximately 0.6 meter (m) (2 feet) of fill consisting of gravelly sand and silty sand was underlain by a green, poorly graded sand.
- At Site CF, the upper soil unit consisted of approximately 1.5 m (5 feet) of well graded gravelly silty sand, underlain by a poorly graded fine sand interbedded with clayey silt.

### 3.2 Site Hydrogeology

Environmental Solutions, Inc.' (ESI) s report issued on April 3, 1995 mentioned that the Merritt Sand is the first encountered subsurface aquifer, and is usually unconfined. The Merritt Sand is believed to be continuous across much of west Oakland south to Alameda Island. At the Site JA, the depths to groundwater were between 1.17 m to 1.89 m (3.83 feet to 6.2 feet). At the Site CF, the depths to groundwater were between 0.832 m to 1.54 m (2.73 feet to 5.06 feet). The Merritt Sand aquifer extends to a depth of approximately 18.3 m (60 feet) bgs, where Temascal Formation is believed to provide a competent aquitard between it and the deeper confined aquifer present in the Alameda Formation. ESI's report stated also, that based on aquifer pump test data, the Merritt Sand has a hydraulic conductivity on the order of  $10^{-3}$  to  $10^{-2}$  centimeters per second. (cm/sec). The next aquifer below the Merritt Sand aquifer is the Alameda Formation which ranges from 36.6 m (120 feet) to 48.8 (160 feet). In general, this aquifer is confined, and is believed to be continuous across much of west Oakland, with a thickness of over 60.96 m (200 feet).

## 4.0 SUBSURFACE INVESTIGATION

This section describes the methodology that was implemented during the soil and groundwater investigation at the site. The objectives of the sampling procedures were to provide an accurate assessment of the current soil and groundwater conditions and to minimize the potential for cross-contamination during sampling operations.

### 4.1 PRE-FIELD ACTIVITIES

This section describes the tasks PSI performed prior to initiating any field activities. These tasks included:

- 1) attending the Caltrans Task Order Meeting;
- 2) reviewing of pertinent results of past site investigation reports;
- 3) preparing the Pre-Work Site Visit Checklist;
- 4) locating any underground utility lines in conjunction with Underground Service Alert (USA); and
- 5) obtaining two Caltrans Encroachment permits from the Caltrans Maintenance Permit Office and two Drilling Permits from Alameda County Public Works Agency.

#### 4.1.2 Task Order Meeting and Pre-Work Site Visit

A Task Order Meeting was completed on March 10, 2000, with Mr. Frank Poss and Ms. Adriana Constantinescu of PSI and Ms. Jill Pollock and Mr. Peter Altherr of Caltrans in attendance. The primary purpose of the meeting was to familiarize PSI with site conditions that may impact field operations.

At the Pre-Work Site Visit on March 10, 2000, the boring locations were determined and a Pre-Work Site Visit Checklist was completed. Topics specified in the checklist included identification of borehole locations, confirmation of underground utility clearance, location of water/power supply sources, and storage areas for drill cuttings.

#### 4.1.2 Health and Safety Plan

Prior to the commencement of field activities at the site, a site-specific Health and Safety Plan (HSP) was developed in compliance with 29 CFR 1910.120 and Title 8 California Code of Regulations, § 5192, under the supervision of a Certified Industrial Hygienist. The HSP was revised by DTSC and their conclusions were presented in a Memorandum dated April 20, 2000. The HSP was designed to address the potential hazardous materials that may be encountered during field activities at the site. Further, the HSP was

designed to minimize the exposure to potentially hazardous materials and unsafe working conditions to on-site personnel.

#### 4.1.3 Utility Clearance

At least 48 hours prior to drilling activities, PSI contacted Underground Service Alert (USA) to identify utility lines that may underlie the areas of investigation. Two USA numbers were obtained for this project: 0074308 for Site JA and 0074319 for Site CF.

#### 4.1.4 Project Permits

PSI obtained two drilling permits (one per each site) from Alameda County-Public Works Department and two encroachment permits from Caltrans – District 4, prior to drilling. Copies of permits are included in Appendix E.

### 4.2 SOIL BORINGS

Seven soil borings were advanced to investigate the soil and groundwater quality at the sites. The boring locations are presented in Figure 2 and were selected by Caltrans to assess the soil and groundwater quality down gradient of the former USTs and the effectiveness of the remedial excavations performed at both sites. The local groundwater gradient dips gently to the southeast towards the estuary (Laidlaw, 1995). V&W Drilling of Rio Vista, California provided the drilling services.

The borings were drilled using a hollow stem augers rig. The borings were extended to a maximum depth of approximately 5 meter (m) (16.4 feet bgs) and were 0.20 m (8 inches) in diameter.

At Site JA, soil samples were collected at the groundwater interface to assess the residual levels of contaminants in soil, if any, after the remedial excavation performed at this site. Groundwater was encountered at 2.3 m (7.5 feet) and 2.22 m (7 feet) below ground surface(bgs). Soil samples were collected at 2.2 m (7 feet) and at 1.95 m (6.5 feet) bgs.

At Site CF, four soil samples per boring were proposed to be collected at depths of 0.5, 1, and 2 m (1.64, 3.28, and 6.56 feet, respectively) bgs and at the groundwater interface to assess the vertical and horizontal extent of soil contamination, if any. Because groundwater was encountered at 2 m (6.56 feet) bgs, only three soil samples were collected from each boring. Field work for drilling and soil sampling activities were conducted in accordance with the field procedures described in Appendix A.



#### 4.2.1 Soil Sampling Protocol

Soil samples were collected by a PSI geologist working under the supervision of a State of California Registered Geologist. The samples were collected using a 0.05 meter (2 inches) diameter stainless steel sampler containing three brass tubes. Upon retrieval of the sampler, a representative undisturbed soil sample was preserved for chemical analyses in a 0.15 meter (6 inches) stainless steel tube. Once the sampler was retrieved the ends of the sample tube were covered with Teflon sheets and capped with polyethylene end caps. The soil sample was labeled and placed in a zip-lock bag in a chilled cooler.

The soil samples were logged on chain-of-custody records and transported to Centrum Analytical of Redlands, California, a California Department of Health Services certified hazardous materials testing laboratory, following chain-of-custody protocol.

#### 4.2.2 Soil Classification

Soil was described by a PSI geologist and recorded on a field boring log for each boring drilled. The data recorded on the logs were based on examination of soil samples retrieved and drilling conditions observed in the field. Boring logs included information regarding the location of the boring, type of sampler used, and geologic descriptions of materials encountered.

Soils were classified according to the "Soil and Rock Logging Classification Manual" prepared by the State of California, Department of Transportation. The Soil and Rock Logging Classification Manual is consistent with the Unified Soil Classification System. Other information to be recorded on the logs included indications of contamination and the occurrence of groundwater. Organic vapor analyzer (OVA) measurements for soil samples were recorded on the field boring logs.

### 4.3 MONITORING WELL INSTALLATION AND DEVELOPMENT

Following drilling of the borings, PSI installed four groundwater monitoring wells at Site JA and three groundwater monitoring wells at Site CF (see Figure 2 for selected locations). The wells were installed through the hollow-stem augers. The well casings consisted of 5.08-centimeter (cm) (2-inch) inside diameter Schedule 40 PVC casing with 0.0508 cm (0.020-inch) machine-slotted screen. The selection of the screen size and filter pack material was performed using the description presented in the referenced reports of the first encountered aquifer as consisting of the Merritt sand, a yellowish brown silty and clayey sand. The length of screen was 4 m (14 feet). The sand filter pack was placed slow free-fall, from the bottom of the borehole until approximately 0.6 m (2 feet) bgs. The

drilling measuring tape was also moved continuously inside the annular space to prevent the bridging. In addition, the volume of the filter pack required was calculated and recorded before placement and the actual volume used was determined and recorded during well construction. The sand pack extended approximately 0.3 meters (1 foot) above the screen interval. Monterey-type number 3 sand was used for the sand pack. Approximately 0.3 meter (1 foot) of hydrated bentonite chips was placed above the sand pack by slow free-fall; neat cement mixed at a ratio of 5 gallons of water per 94-pound sack of cement provided the annular seal from the top of the bentonite to grade [approximately 0.3 m (1 foot)]. Well casing (including the well locking cap was completed approximately 0.05 m (2 inches) below the traffic-rated road box (Christie box) cover. The road box was completed approximately one inch above the existing grade surface to allow for precipitate run off. All concrete works, both inside and outside the road traffic box, were completed with a smooth finish.

The groundwater monitoring wells were initially developed in order to clean the well and stabilize the sand and disturbed aquifer materials from around the screened internal perforations. Well development was accomplished by bailing.

#### 4.4 DECONTAMINATION PROCEDURES

Decontamination procedures were implemented to maintain sample integrity and to prevent cross-contamination between sampling locations. All sampling equipment was cleaned with a non-phosphate detergent and rinsed twice with deionized water prior to use at a new sampling location or was pressure washed. Sampling equipment included:

- Stainless-steel sampling equipment,
- Drilling equipment,
- Groundwater sampling equipment, and
- Sounders.

#### 4.5 STORAGE AND DISPOSAL OF GENERATED WASTES

Water from equipment cleaning, well development, well purging activities, and soil cuttings were stored in individually labeled 55-gallon drums. The drums were placed on the southwestern corner of the Site CF and had metals covers. Each drum was labeled with the project number and location, generation date and soil boring number.

Disposition of the soil cuttings and waste water will be determined upon receipt of laboratory analytical results of the soil and water samples. PSI will arrange for the

management and appropriate disposal of soil and water generated during the field activities under Contract 43A0012.

#### 4.6 MONITORING WELL SAMPLING

Prior to groundwater sampling, the groundwater elevation was measured from the top of the well casing using an electrical sounder. Static water levels were measured to the nearest  $\pm 0.003$  m (0.01 foot) from the top of the casing. The data is presented in Table 1 and Figure 3. The elevation survey of the top of the well casings was performed by a State of California licensed surveyor and data was submitted in both metric and English units using the vertical datum NGVD 1929 and horizontal datum CCS27 Zone 3. The results of the survey are included in Appendix C. This data was collected to allow calculation of the hydraulic gradient. Each monitoring well was purged of a minimum of three well volumes until pH, conductivity, and temperature stabilized. The purging was completed by bailing.

Samples used to be analyzed for volatile organic compounds were collected first. The groundwater samples were collected according to PSI's standard protocol, presented in Appendix A.

Following groundwater sample collection, the samples were logged on a chain-of-custody record and stored in an ice chest at 4 degrees Celsius. Sample preservatives were utilized as instructed by the analytical laboratory. All transportation and handling of the groundwater samples followed chain-of-custody protocol.

## 5.0 LABORATORY ANALYSIS PROGRAM

The soil and groundwater samples collected during this investigation were submitted to Centrum Analytical, a State of California Department of Health Services certified hazardous waste laboratory. A summary of the types of analyses and analytical methods is presented below and in the Table 2 through Table 7. Copies of the analytical results are attached in Appendix D.

All soil and groundwater samples collected were analyzed for the following constituents:

- EPA Modified 8015 – TPH-Gasoline
- EPA Method 8015 modified – TPH as Diesel (TPH-D)
- EPA Method 8015 modified – Motor Oil
- ICAP EPA Method 6010 – Heavy Metals
- EPA Method 8260B – Volatile Organic Compounds (VOCs); including MTBE and oxygenates.
- EPA Method 8270C – Semi-Volatile Organic Compounds (SVOCs).

Soil and groundwater samples collected from the Site JA and from the proposed groundwater monitoring well CF-1, located on Site CF, were tested for extra constituents, as follows:

- EPA Method 8081 – Organochlorine pesticides
- EPA Method 8082 – PCBs.

During groundwater purging and sampling the following parameters were measured:

- pH (field measurement)
- Conductivity (field measurement)
- Temperature (field measurement)

Grain size distribution of two soil samples collected from the Site JA and one soil sample collected from the Site CF were analyzed to characterize the shallow aquifer materials conditions. Results of the grain size tests are attached in Appendix D.

## 6.0 FIELD QUALITY ASSURANCE/QUALITY CONTROL

The following equipment calibration procedure and field documentation procedures were implemented by PSI field personnel.

### 6.1 SAMPLE IDENTIFICATION

Soil samples collected in the field were labeled according to standard protocol, as described in Appendix A.

### 6.2 CHAIN-OF-CUSTODY PROCEDURES

Chain-of-Custody records were used to document sample handling and shipping procedures. Chain-of-Custody records traced the samples from collection, through any custody transfers to the analytical laboratory. Information recorded on the Chain-of-Custody records included location of sample collection, sample identification, number, date and time of collection, number and type of sample containers, and analyses requested. The shipping conditions were also described on the Chain-of-Custody records. The name of the sampler(s) as well as the name of the person relinquishing the samples were documented. Chain-of-Custody procedures are described in Appendix A.

### 6.3 FIELD INSTRUMENTS

An organic-vapor analyzer (OVA) was used in the field for health and safety monitoring, as well as site assessment purposes. The OVA was used as an indicator of total petroleum hydrocarbons in soil samples and for health and safety purposes. A copy of the on-site calibration and air monitoring data sheet is attached to our report in Appendix F.

## 7.0 DATA EVALUATION AND DISCUSSION

Summaries of the analytical results are presented in Table 2 through Table 9. A copy of the laboratory reports and chain-of-custody records are included in Appendix D.

### 7.1 J & A TRUCK REPAIR SITE (SITE JA)

#### *Laboratory Analytical Results - Soil*

Tables 2 and 3 present a statistical analysis of the analytical data for soil samples collected at Site JA. For each contaminant a count of concentrations reported above the detection limit, a concentration maximum, a concentration minimum, a concentration average of the detected concentrations, and concentration standard deviation is provided.

#### Oil and Grease

The soil oil and grease analytical results are presented in Table 2 and Figure 4. Oil and grease was not detected above the detection limit of 10 mg/kg from soil samples collected during this investigation. The JAI's investigation performed in 1996, identified oil and grease in five of the soil samples collected from the walls of the remedial excavation at concentrations ranging from 88 mg/kg to 200 mg/kg (JAI, 1996).

#### Total Petroleum Hydrocarbons – Diesel (TPH-D)

The TPH-D analytical results for soil samples are presented in Table 2 and Figure 4. TPH-D was not detected in the soil samples collected from this site during this investigation. TPH-D was not detected in the previous investigations performed at Site JA (JAI, 1996).

#### Total Petroleum Hydrocarbons – Gasoline (TPH-G)

The TPH-G analytical results for soil samples are presented in Table 2 and Figure 4. TPH-G was not detected in the soil samples collected during this investigation at Site JA. Soil samples collected from the bottom of the remedial excavation performed at the subject site in 1995, contained TPH-G at levels between 13 mg/kg and 3,100 mg/kg (JAI, 1996).

### Volatile Organic Compounds (VOC) detected by EPA Method 8260B.

The VOC analytical results for soil samples collected during this investigation are presented in Table 2 and Figure 4. Five VOCs were detected in the four collected soil samples. The detected levels are well below the Cypress Preliminary Remedial Goals (PRG)s for each specific chemical.

1,1-Dichloroethane was detected in three soil samples collected from soil borings JA-1, JA-3, and JA-4 (0.001 mg/kg, same as the detection limit). This level is with 0.419 mg/kg below the Cypress PRG for this chemical.

Naphthalene was detected in two soil samples collected from soil borings JA-3 and JA-4 at levels between 0.003 to 0.02 mg/kg. The maximum detected value is with 81.98 mg/kg below the Cypress PRG level for soil. The average concentration was 0.0115 mg/kg.

Styrene was detected in two of the soil samples collected from the soil borings JA-2 and JA-3 at a level equal with the detection limit of 0.001 mg/kg. No Cypress PRG was provided for this chemical.

1,1,1-Trichloroethane was detected in all soil samples collected during this investigation from the Site JA. Detected levels ranged from 0.005 to 0.007 mg/kg. The maximum detected level is with 469.993 mg/kg below the Cypress PRG level. The average concentration for 1,1,1-Trichloroethane was 0.006 mg/kg.

Trichlorotrifluoroethane was detected in all four soil samples collected from the Site JA at levels between 0.005 to 0.008 mg/kg. The average concentration was 0.007 mg/kg. No Cypress PRG for soil is provided for this chemical.

### Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270C

The SVOC analytical results for soil samples collected during this investigation are presented in Table 2 and Figure 4. Five SVOCs were detected in the tested soil samples. The detected levels are well below the Cypress PRG levels for soil for each specific chemical.

Acenaphthylene was detected only in one soil sample collected from the soil boring JA-3. at a detected level of 0.055 mg/kg. No Cypress PRG is provided for this chemical.

Fluoranthene was detected only in one soil sample collected from the soil boring JA-3 at 2.25 m (7 feet) below ground surface (bgs). The detected level was 0.072 mg/kg, with 2299.928 mg/kg below the Cypress PRG level for soil.

Naphthalene was detected only in one soil sample collected from the soil boring JA-3. The detected level was 0.28 mg/kg which is with 81.72 mg/kg below the Cypress PRG for soil.

Phenanthrene was detected only in one soil sample collected from the soil boring JA-4. The detected level was 0.1 mg/kg, with 0.034 mg/kg above the detection limit. No Cypress PRG for soil is provided for this chemical.

Pyrene was detected only in one soil sample collected from the soil boring JA-4. The detected level was 0.14 mg/kg, with 1,699.86 mg/kg below the Cypress PRG level for soil.

#### Organochlorine Pesticides by EPA Method 8080

Organochlorine pesticides were not detected in the soil samples collected for this investigation. Only one confirmatory soil samples collected after the 1995 remedial excavation showed detectable concentrations of organochlorine pesticides (0.005 mg/kg of p,p-DDE) (JAI, 1996).

#### PCBs by EPA Method 8080

PCBs were not detected above the detection limits in the soil samples collected during this investigation. The confirmatory soil samples collected after the remedial excavation showed detectable concentrations of PCBs (up to 1.2 mg/kg of Aroclor) (JAI, 1996).

#### Metals by EPA Method 6010

Ten metals were detected above the detection limit in the soil samples collected for this investigation. The detected levels were well below the PRGs for the industrial soils. Antimony, Beryllium, Cadmium, Mercury, Molybdenum, Selenium, and Silver were not detected in the soil samples collected during this investigation. No metals were reported by the previous investigation above the Cypress PRGs for soil.

Antimony was not detected above the detection limit in the four soil samples collected during this investigation at Site JA. Previous soil samples analytical results did not report levels above the Cypress PRG level for soil.

Arsenic was detected in all soil samples at levels between 2.1 mg/kg and 3.0 mg/kg. The average value was 2.5 mg/kg. The maximum detected value is with 1.6 mg/kg below the Cypress PRG value for soil.



Barium was detected in all soil samples at levels between 37 mg/kg and 56 mg/kg. The average value was 46.75 mg/kg. The maximum detected value is with 11,944 mg/kg below the Cypress PRG value for soil.

Chromium was detected in all soil samples at levels between 30 mg/kg and 48 mg/kg. The average value was 37.75 mg/kg.

Cobalt was detected in all soil samples at levels between 4.6 mg/kg and 5.8 mg/kg. The average value was 5.325 mg/kg. No Cypress PRG value for soil is provided for cobalt.

Copper was detected in all soil samples at levels between 5.3 mg/kg and 8.4 mg/kg. The average value was 7.025 mg/kg. The maximum detected value is with 4,991.6 mg/kg below the Cypress PRG value for soil.

Lead was detected in all soil samples at levels between 1.5 mg/kg and 3.9 mg/kg. The average value was 2.475 mg/kg. The maximum detected value is with 836.1 mg/kg below the Cypress PRG value for soil.

Nickel was detected in all soil samples at levels between 26 mg/kg and 35 mg/kg. The average value was 31.25 mg/kg. The maximum detected value is with 9 mg/kg below the Cypress PRG value for soil.

Thallium was detected in two soil samples collected from soil borings JA-1 and JA-3, at levels between 19 mg/kg and 34 mg/kg. The average value was 26.5 mg/kg. The maximum detected value is with 7 mg/kg above the Cypress PRG value for soil.

Vanadium was detected in all soil samples at levels between 21 mg/kg and 30 mg/kg. The average value was 26.75 mg/kg. The maximum detected value is with 1,170 mg/kg below the Cypress PRG value for soil.

Zinc was detected in all soil samples at levels between 19 mg/kg and 26 mg/kg. The average value was 23.25. The maximum detected value is with 49,974 mg/kg below the Cypress PRG value for soil.

#### Soil Sieve Analysis

Two soil samples collected from the soil borings JA-2 and JA-4 were tested by PSI Geotechnical Laboratory, located in Corona, California. The soil sample collected from soil boring JA-2 at 2.25 m (7 feet) below ground surface was described as an orange-

brown silty fine and medium sand (SM). For this soil sample, 99% of the soil particles passed sieve #4 and 18% of the soil particles passed sieve #200. Soil sample collected from soil boring JA-4 at 1.5 m (5 feet) below ground surface was described a black gravelly sand (SP) with brown clayey sand with gravel (SC). For this soil sample, 62% of the soil particles passed sieve #4 and 18% of the soil particles passed sieve #200.

### ***Laboratory Analytical Results - Groundwater***

Groundwater samples were collected from the four new four installed groundwater monitoring wells, after developing and purging. Wells were purged until pH, temperature, and conductivity stabilized. Average measurements were pH (6.7), temperature (17.8 C), and conductivity (3,951 microSiemens).

No floating product or product sheen was observed in any groundwater sample collected at Site JA. Floating product was not reported in the previous investigations (JAI, 1996 and ESI, 1995).

Table 4 and 5 present a statistical analysis and a summary of the groundwater analytical data. For each contaminant a count of concentrations reported above the detection limit, a concentration maximum, a concentration minimum, a concentration average of the detected concentrations, and concentration standard deviation is provided.

### **Motor Oil**

The groundwater oil and grease analytical results are presented in Table 4 and Figure 5. Motor oil was not detected above the detection limit of 10mg/L in the water samples collected during this investigation. Oil and grease was reported only in the grab groundwater sample collected from this site near the former UST for the ESI's investigation at a level of 2 mg/l (ESI, 1995).

### **Total Petroleum Hydrocarbons – Diesel**

The TPH-D analytical results are presented in Table 4 and Figure 5. TPH-D was detected only in the groundwater sample collected from groundwater monitoring well JA-2 (0.8 mg/l). Well JA-2 is located along the western side of the property, at the limit of the remedial excavation. It is noted that TPH-D was not detected in the grab groundwater sample collected on August 30, 1995 (JAI, 1996, Figure 1-13).

### **Total Petroleum Hydrocarbons – Gasoline**

The TPH-G analytical results are presented in Table 4 and Figure 5. TPH-G was detected only in one groundwater sample collected from groundwater monitoring well JA-2 (0.77 mg/l). This level is well below the levels of TPH-G detected in the previous grab groundwater sample collected on August 30, 1995 (32 mg/L) (JAI, 1996, Figure 1-13).

#### Volatile Organic Compounds (VOCs) by EPA Method 8260

Fourteen VOCs were detected in the water samples collected from the new four installed groundwater monitoring wells. VOCs analytical results are presented in Table 4 and Figure 5. One groundwater sample collected from well JA-4 contained thirteen of the detected VOCs. This groundwater monitoring well is located down-gradient of the former on-site sumps. The other three groundwater samples contained only minor amounts of detected VOCs. The detected concentrations of VOCs are less than the detected amounts in the grab groundwater sample collected on August 30, 1995 (JAI, 1996).

1,1-Dichloroethane was detected only in one groundwater sample collected from well JA-4 (0.0082mg/l). This level is with 0.0032 mg/l above the MCL for drinking water for this compound. No 1,1-Dichloroethane was reported before for this project site.

1,2 - Dichloroethane was detected only in one groundwater sample collected from well JA-2 (0.0088mg/l). This level is with 0.0083 mg/kg above the EPA Region 9 PRG level for tap water for this compound. No 1,2-Dichloroethane was reported before for this project site.

1,1-Dichloroethene was detected only in one groundwater sample collected from well JA-4 (0.0062 mg/l). This level is with 0.00608 mg/kg above the EPA Region 9 PRG level for drinking water for this compound. No 1,2-Dichloroethene was reported before for this project site.

Naphthalene was detected in all four groundwater samples collected from this project site. The detected levels ranged between 0.0013 to 0.0083 mg/l. The average value of 0.0058 mg/l. The maximum level is with 0.0021 mg/l above the EPA Region 9 PRG level for tap water. No naphthalene was reported before in the grab groundwater sample collected at Site JA.

Tetrachloroethene (PCE) was detected only in one groundwater sample collected from the well JA-4 (0.13 mg/l). This level is with 0.125 mg/l above the MCL for drinking water. Trichloroethene (TCE) was detected in two of the tested groundwater monitoring wells, JA-2 and JA-4. The detected levels were 0.0007 and 0.63 mg/l, respectively. Only the level detected in well JA-4 is with 0.625 mg/l above the MCL for drinking water.

Vinyl chloride was detected only in one groundwater sample collected from the well JA-4 (0.0011 mg/l). This level is with 0.006 mg/l above the MCL for drinking water.

Benzene was detected only in the groundwater sample collected from well JA-4 (0.0007mg/l). This level is with 0.0093 mg/l below the MCL for drinking water for this compound and well below the previous maximum detected level in the grab groundwater sample collected on August 30, 1995 (32 mg/l) (JAI, 1996).

Chloroform was detected only in one groundwater sample collected from well JA-4 (0.0017mg/l). This level is with 0.0093 mg/kg below the EPA Region 9 PRG level for tap water for this compound.

Cis-1,2-Dichloroethene was detected only in one groundwater sample collected from well JA-4 (0.057 mg/l). No 1,2-Dichloroethane was reported before for this project site. No MCL or EPA Region 9 PRG is provided for this chemical.

Trans-1,2-Dichloroethene was detected only in one groundwater sample collected from well JA-4 (0.0008 mg/l). No trans-1,2-Dichloroethane was reported before for in the grab groundwater samples collected for this project site. No MCL or EPA Region 9 PRG is provided for this chemical.

1,1,1-Trichloroethane and 1,1,2-Trichloroethane were detected only in the well JA-4 at levels of 0.0042 and 0.0006 mg/l, respectively. These two levels are with 0.1958 mg/l and 0.0044 mg/l below the MCLs for drinking water.

Trichlorotrifluoroethane was detected only in one groundwater sample collected from the well JA-4 (0.0075 mg/l). This level is with 0.1425 mg/l below the MCL for drinking water.

#### Semivolatile Organic Compounds (SVOCs) using EPA Method 8270

SVOCs analytical results are presented in Table 4 and Figure 5. Only one compound was detected by EPA Method 8270: naphthalene, in the groundwater sample collected from well JA-1 (0.002mg/l). This level is with 0.0042 mg/l below the PRG level for tap water. Naphthalene levels detected by EPA Methods 8270 and 8260 cannot be compared because different sample preparation methods were used in the laboratory.

Organochlorine Pesticides by EPA Method 8080

Organochlorine pesticides were not detected above the detection limit in the groundwater samples collected for this investigation. The previous investigation results do not present detected levels of organochlorine pesticides above the detection limits.

Polychlorinated Biphenyls (PCBs)

Polychlorinated Biphenyls (PCBs) were not detected above the detection limits in the groundwater samples collected for this investigation. The previous investigation results did not present detected levels of PCBs above the detection limits in the tested grab groundwater samples.

## 7.2 CONTAINER FREIGHT SITE (SITE CF)

### ***Laboratory Analytical Results - Soil***

Tables 6 and 7 present a statistical analysis of the analytical data for soil samples collected at former Container Freight site (Site CF). For each contaminant a count of concentrations reported above the detection limit, a concentration maximum, a concentration minimum, a concentration average of the detected concentrations, and concentration standard deviation is provided.

#### Motor Oil

The soil motor oil analytical results are presented in Table 6 and Figure 4. Oil and grease was detected above the detection limit in 8 of the ten tested soil samples, at levels between 23 mg/kg to 630 mg/kg. The maximum level (630 mg/kg) was detected in the soil boring advanced for groundwater monitoring well CF-1, at 0.5 meters (m) (1.64 feet below ground surface (bgs)). The motor oil concentration decreases with depth, i.e. at 2.0 m (6.56 feet) the detected level was 35 mg/kg. In the soil boring CF-2, the maximum detected level was 520 mg/kg at 1 m bgs. Soil samples collected from soil boring CF-3 contained comparable levels of motor oil (<100 mg/kg). Motor oil levels detected in the soil samples collected at the time of the former UST removal were 180 mg/kg to 1,100 mg/kg (JAI, 1995). Possible motor oil was reported by 1997 investigation performed by Harding Lawson Associates (HLA) at a level of 7,900 mg/kg.

#### Total Petroleum Hydrocarbons – Diesel (TPH-D)

The TPH-D analytical results for soil samples are presented in Table 6 and Figure 4. TPH-D was detected in all tested soil samples collected during this investigation, at levels ranging between 19 mg/kg to 370 mg/kg. The detected levels decrease with depth only in the soil samples collected from soil boring CF-1. The results of the soil samples collected from CF-2 and CF-3 did not present the same trend. TPH in the diesel range was detected by a previous subsurface investigation at a level up to 380 mg/kg in the soil sample collected from the former UST excavation pit (JAI, 1995). HLA's soil sampling performed in 1997 showed up to 2,600 mg/kg of TPH-D.

#### Total Petroleum Hydrocarbons – Gasoline

The TPH-G analytical results for soil samples are presented in Table 6 and Figure 4. TPH-G was detected only in two of the soil samples collected during this investigation from this site, in soil borings CF-1 and CF-2. The detected levels were 0.77 mg/kg and

0.69 mg/kg. These levels were below the level of TPH-G detected at the time of former UST removal (6.4 mg/kg).

#### Volatile Organic Compounds (VOC) detected by EPA Method 8260B.

The VOC analytical results for soil samples collected during this investigation are presented in Table 6 and Figure 4. Two VOCs (benzene and naphthalene) were detected in the soil samples collected from this site. Benzene was detected in two soil samples collected at 1 m and 3 m below ground surface (bgs) from soil borings CF-1 and CF-2 (0.001 mg/kg and 0.4 mg/kg, respectively, with an average of 0.2 mg/kg). The maximum value is below the previous maximum detected level of 13 mg/kg (Caltrans, 1998).

Naphthalene was detected in seven soil samples collected at different depths (0.5 m, 1 m, 2 m, and 3 m bgs) from soil borings CF-1, CF-2, and CF-3. The detected levels were between 0.005 and 390 mg/kg which are below the previous maximum detected value of 2,600 mg/kg (Caltrans, 1998). The average concentration was 56 mg/kg.

#### Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270C

The SVOC analytical results for soil samples collected during this investigation are presented in Table 6 and Figure 4. Sixteen SVOCs were detected in the tested soil samples, as follows:

Benzo[a]anthracene was detected in five soil samples collected from all soil borings, at detected levels between 0.91 mg/kg and 16 mg/kg. The maximum detected level (16 mg/kg) is below the previous maximum detected level of 300 mg/kg (Caltrans, 1998).

Benzo[a]pyrene was detected in 7 soil samples collected from all soil borings, at detected levels between 0.79 mg/kg to 40 mg/kg. The average value was 9.75 mg/kg. The maximum detected level (40 mg/kg) is below the previous maximum detected level of 520 mg/kg (Caltrans, 1998).

Benzo[b]fluoranthene was detected in 8 soil samples collected from all soil borings at depths between 0.5 m and 2 m, at detected levels between 0.59 mg/kg to 47 mg/kg. The average value was 10.7 mg/kg. The maximum detected level (47 mg/kg) is below the previous maximum detected level of 240 mg/kg (Caltrans, 1998).

Benzo[k]fluoranthene was detected in 7 soil samples collected from all soil borings at depths between 0.5m and 2 m bgs, at detected levels between 0.61 mg/kg and 47 mg/kg.

The average value was 12.1 mg/kg. The maximum detected level (47 mg/kg) is below the previous maximum detected level of 140 mg/kg (Caltrans, 1998).

Dibenzo[a,h]anthracene was detected in 3 soil samples collected from the soil borings CF-2 and CF-3 at depths between 1 m and 2 m bgs, at detected levels between 1.2 mg/kg to 6.3 mg/kg. The average value was 3.1 mg/kg. The maximum detected level (6.3 mg/kg) is below the previous maximum detected level of 67 mg/kg (Caltrans, 1998).

Indeno[1,2,3-cd]pyrene was detected in 4 soil samples collected from the soil borings CF-2 and CF-3 at depths between 0.5 to 2 m bgs, at detected levels between 2.6 mg/kg to 30 mg/kg. The average value was 13.5 mg/kg. The maximum detected level (30 mg/kg) is below the previous maximum detected level of 480 mg/kg (Caltrans, 1998).

Acenaphthene was detected only in one soil sample collected from the soil boring CF-2, at 0.5 m bgs (0.34 mg/kg). The detected level is below the previous maximum detected level of 170 mg/kg (Caltrans, 1998).

Acenaphthylene was detected in five soil samples collected from the soil borings CF-1 at 2 m bgs, CF-2 at 0.5 m and 2 m bgs, and CF-3 at 1 and 2 m bgs. The detected levels were between 0.675 mg/kg and 2 mg/kg. The maximum detected level (2 mg/kg) is below the previous maximum detected level of 230 mg/kg (Caltrans, 1998).

Anthracene was detected in five soil samples collected from all soil borings, at detected levels between 0.5 mg/kg and 4.6 mg/kg. The average value was 2 mg/kg. The maximum detected level (4.6 mg/kg) is below the previous maximum detected level of 180 mg/kg (Caltrans, 1998).

Benzo[g,h,i]perylene was detected in 7 soil samples collected from all soil borings at depths between 0.5 m and 2 m, at detected levels between 1 mg/kg to 33 mg/kg. The average value was 9.7 mg/kg. The maximum detected level (33 mg/kg) is below the previous maximum detected level of 700 mg/kg (Caltrans, 1998).

Chrysene was detected in 7 soil samples collected from all soil borings at depths between 0.5 m and 2 m bgs, at detected levels between 0.62 mg/kg and 19 mg/kg. The average value was 5.67 mg/kg. The maximum detected level (19 mg/kg) is below the previous maximum detected level of 470 mg/kg (Caltrans, 1998).

Fluoranthene was detected in 7 soil samples collected from all soil borings at depths between 0.5 m and 2 m bgs, at detected levels between 0.59 mg/kg to 62 mg/kg. The



average value was 16.7 mg/kg. The maximum detected level (62 mg/kg) is below the previous maximum detected level of 1,100 mg/kg (Caltrans, 1998).

Fluorene was detected in 4 soil samples collected from the soil borings CF-2 and CF-3 at depths between 0.5 m and 2 m, at detected levels between 0.53 mg/kg to 1.6 mg/kg. The average value was 0.88 mg/kg. The maximum detected level (1.6 mg/kg) is below the previous maximum detected level of 160 mg/kg (Caltrans, 1998).

Naphthalene was detected in 6 soil samples collected from all soil borings at depths between 0.5 m to 2 m. The detected levels were between 0.37 mg/kg and 2.4 mg/kg. The average value was 1.3 mg/kg. The maximum detected level (2.4 mg/kg) is below the previous maximum detected level of 2,600 mg/kg (Caltrans, 1998).

Phenanthrene was detected in 7 soil samples collected from all soil borings at depths between 0.5 m and 2 m. The detected levels were between 0.81 mg/kg to 26 mg/kg. The average value was 8.5 mg/kg. The maximum detected level (26 mg/kg) is below the previous maximum detected level of 1,800 mg/kg (Caltrans, 1998).

Pyrene was detected in 8 soil samples collected from all soil borings at depths between 0.5 m and 2 m bgs. The detected levels were between 0.85 mg/kg to 74 mg/kg. The average value was 8.5 mg/kg. The maximum value (74 mg/kg) is below the previous maximum detected level of 1,200 mg/kg (Caltrans, 1998).

#### Organochlorine Pesticides by EPA Method 8080

Organochlorine pesticides were detected only in the soil samples collected for this investigation from the soil borings CF-1 and CF-2. No organochloride pesticides were tested by the previous soil samplings performed at this site (Caltrans, 1998).

4,4-DDE was detected at two different levels, 0.5 m and 1 m bgs, in soil boring CF-1. The detected levels were between 0.009 mg/kg and 0.018 mg/kg. The average value was 0.0135 mg/kg.

4,4'-DDD was detected in two soil samples collected from soil borings CF-1 and CF-2, at levels between 0.003 mg/kg and 9.3 mg/kg. The average value was 4.6 mg/kg.

Dieldrin was detected only in one soil sample collected at 1 m bgs, from the soil boring CF-1, at a level of 0.002 mg/kg.

Endosulfan I was detected only in one soil sample collected at 0.5 m bgs, in the soil boring CF-1, at a level of 0.006 mg/kg.

### PCBs by EPA Method 8080

PCBs as Arochlor-1260 was detected above the detection limit only in one soil sample collected from the soil boring CF-1 at 0.5 m bgs. The detected concentration is 0.082 mg/kg. Previous soil samplings performed at this site did not report PCBs above the detection limits.

### Metals by EPA Method 6010

Twelve metals were detected above the detection limit in the soil samples collected for this investigation from the Container Freight site. Antimony, Beryllium, Selenium, Silver, and Thallium were not detected in the soil samples collected during this investigation.

Arsenic was detected in 9 soil samples at levels between 2.5 mg/kg and 12 mg/kg. The average value was 6.2 mg/kg. The maximum detected value is below the previous maximum detected value of 22 mg/kg (Caltrans, 1998).

Barium was detected in all soil samples at levels between 18 mg/kg and 130 mg/kg. The average value was 83.33 mg/kg. The maximum detected value is below the previous maximum detected value of 310 mg/kg (Caltrans, 1998).

Cadmium was detected in 2 soil samples at levels between 0.62 mg/kg and 0.28 mg/kg. The average value was 0.72 mg/kg. The maximum detected value is below the previous maximum detected value of 3.7 mg/kg (Caltrans, 1998).

Chromium was detected in all soil samples at levels between 2.9 mg/kg and 35 mg/kg. The average value was 22.8 mg/kg. The maximum detected value is below the previous maximum detected value of 5,000 mg/kg (Caltrans, 1998).

Cobalt was detected in all soil samples at levels between 0.59 mg/kg and 8.8 mg/kg. The average value was 5.46 mg/kg. The maximum detected value is below the previous maximum detected value of 2.2 mg/kg (Caltrans, 1998).

Copper was detected in all soil samples at levels between 14 mg/kg and 80 mg/kg. The average value was 43.9 mg/kg. The maximum detected value is below the previous maximum detected value of 920 mg/kg (Caltrans, 1998).

Lead was detected in all soil samples at levels between 22 mg/kg and 74 mg/kg. The average value was 54.7 mg/kg. The maximum detected value is below the previous maximum detected value of 27,000 mg/kg (Caltrans, 1998).

Mercury was detected in all soil samples at levels between 0.18 mg/kg and 0.3 mg/kg. The average value was 0.242 mg/kg. The maximum detected value is below the previous maximum detected value of 2.6 mg/kg (Caltrans, 1998).

Molybdenum was detected in all soil samples at levels between 0.66 mg/kg and 1.4 mg/kg. The average value was 0.88 mg/kg.

Nickel was detected in all soil samples at levels between 7.6 mg/kg and 41 mg/kg. The average value was 24.6 mg/kg. The maximum detected value is below the previous maximum detected value of 72 mg/kg (Caltrans, 1998).

Vanadium was detected in all soil samples at levels between 13 mg/kg and 37 mg/kg. The average value was 26.55 mg/kg. The maximum detected value is below the previous maximum detected value of 38 mg/kg (Caltrans, 1998).

Zinc was detected in all soil samples at levels between 30 mg/kg and 230 mg/kg. The average value was 108.8 mg/kg. The maximum detected value is below the previous maximum detected value of 17,000 mg/kg (Caltrans, 1998).

All concentrations of the ten metals detected during this investigation at the Site CF are below their maximum detected levels reported by the previous subsurface investigations performed at this site.

#### Soil Sieve Analysis

One soil sample collected from the soil boring CF-2 at 0.75 m (2.25 feet) bgs was tested by PSI Geotechnical Laboratory, located in Corona, California. The soil sample was described as a black gravelly sand (SW). For this soil sample, 62% of the soil particles passed sieve #4 and 18% of the soil particles passed sieve #200.

#### ***Laboratory Analytical Results – Groundwater***

Groundwater samples were collected from the three new installed groundwater monitoring wells, after developing and purging. Wells were purged until pH, temperature, and conductivity stabilized. Average measurements were pH (6.9), temperature (18.7 C), and conductivity (1430 microSiemens).

No floating product was observed in any groundwater sample collected at the Site CF. A dark-gray color and sulfide and volatile odors were observed at the time of the groundwater sampling. Floating product was not reported in the previous investigations (JAI, 1996 and ESI, 1995).

Table 8 and 9 present a statistical analysis and a summary of the groundwater analytical data. For each contaminant a count of concentrations reported above the detection limit, a concentration maximum, a concentration minimum, a concentration average of the detected concentrations, and concentration standard deviation is provided.

#### Motor Oil

The groundwater TPH-motor oil analytical results are presented in Table 8 and Figure 5. Motor oil was not detected above the detection limits of 0.4 to 4.0 mg/L in the water samples collected during this investigation, at this site. No motor oil was reported in the grab groundwater samples collected from this site by the previous investigations (JAI, 1996 and JAI, 1995).

#### Total Petroleum Hydrocarbons – Diesel

The TPH-D analytical results are presented in Table 8 and Figure 5. TPH-D was detected in two groundwater samples collected from wells CF-1 and CF-2 (21 mg/kg and 2.8 mg/l, respectively). The average value was 8.5 mg/kg.

#### Total Petroleum Hydrocarbons – Gasoline

The TPH-G analytical results are presented in Table 8 and Figure 5. TPH-G was detected in all groundwater samples collected from this site at levels between 0.5 mg/l to 94 mg/l. TPH-G was detected in the grab groundwater sample collected on August 30, 1995 at a level of 32 mg/L (JAI, 1996, Figure 1-13).

#### Volatile Organic Compounds (VOCs) by EPA Method 8260

Nine VOCs were detected in the water samples collected from the new installed groundwater monitoring wells at Site CF. VOCs analytical results are presented in Table 8 and Figure 5. One groundwater sample collected from well CF-2 contained eight of the detected VOCs. The detected concentrations of VOCs are less than the detected amounts in the grab groundwater sample collected on August 30, 1995 (JAI, 1996).

Benzene was detected in all groundwater samples at levels between 0.0009 mg/l and 34 mg/l. The average value was 8.6 mg/l. The maximum detected level is with 33.999 mg/l above the MCL for drinking water for this compound. Previous investigations detected a maximum level of 2.4 mg/l of benzene (Caltrans, 1998).

Carbon Disulfide was detected only in one groundwater sample collected from well CF-2 (0.068 mg/l). This chemical was not reported by the previous subsurface investigations (Caltrans, 1998).

Naphthalene was detected in all groundwater samples collected from this site at levels between 0.0017 mg/l and 19 mg/l. The average value was 5.9 mg/L. Previous investigations detected a maximum level of 23 mg/l of naphthalene (Caltrans, 1998).

Styrene was detected in two groundwater samples collected from the wells CF-1 and CF-2 at levels between 0.0008 mg/l and 0.59 mg/l. The average value was 0.29 mg/l. The maximum detected level is with 0.49 mg/l above MCL for drinking water for this compound. Previous investigations detected a maximum level of 0.061 mg/l of styrene.

Toluene was detected in two groundwater samples collected from the wells CF-1 and CF-2 at levels between 0.01 mg/l and 1.6 mg/l. The average value was 0.54 mg/l. The maximum detected level is with 1.45 mg/l above the MCL for drinking water for this compound. Previous investigations detected a maximum level of 0.29 mg/l of toluene (Caltrans, 1998).

1,2,4-Trimethylbenzene was detected only in one groundwater sample collected from well CF-2 (0.0014 mg/l). This level is with 0.0036 mg/kg above the EPA Region 9 PRG level for tap water for this compound. No 1,2,4-Trimethylbenzene was reported before for this project site (Caltrans, 1998).

Trichloroethene was detected only in one groundwater sample collected from well CF-1 (0.19 mg/l). This level is with 0.185 mg/l above the MCL for drinking water for this compound. No trichloroethene was reported before for this project site (Caltrans, 1998).

Ethylbenzene was detected in two of the groundwater samples collected from wells CF-1 and CF-2 (0.34 mg/l and 0.012 mg/l, respectively). This level is with 0.36 mg/l below the MCL for drinking water for this compound. Previous investigations detected a maximum level of 0.140 mg/l of ethylbenzene Caltrans, 1998).

Xylenes (total) were detected only in one groundwater sample collected from well CF-2 (0.011 mg/l). This level is 1.739 mg/l below the MCL for drinking water for this compound. Previous investigations detected a maximum level of 0.120 mg/l of xylenes (Caltrans, 1998).

## Semivolatile Organic Compounds (SVOCs) using EPA Method 8270

SVOCs analytical results are presented in Table 8 and Figure 5. Nineteen SVOCs were detected by EPA Method 8270 in the groundwater samples collected from Site CF, as follows:

Benzo[a]anthracene was detected only in one groundwater sample collected from well CF-3 (0.004 mg/l). This value is with 0.003908 mg/l above the EPA Region 9 PRG level for tap water. Previous investigations detected a maximum level of 2.8 mg/l (Caltrans, 1998).

Benzo[a]pyrene was detected in two groundwater samples collected from the wells CF-2 and CF-3 at levels between 0.003 mg/l and 0.008 mg/l. The average value was 0.004 mg/l. The maximum detected level is with 0.0078 mg/l above the EPA Region 9 PRG level for tap water. Previous investigations detected a maximum level of 5,000 mg/l (Caltrans, 1998).

Benzo[b]fluoranthene was detected in two groundwater samples collected from the wells CF-2 and CF-3 at levels between 0.003 mg/l and 0.01 mg/l. The average value was 0.005 mg/l. The maximum detected level is with 0.009908 above the EPA Region 9 PRG level for tap water. Previous investigations detected a maximum level of 2.5 mg/l (Caltrans, 1998).

Benzo[k]fluoranthene was detected in two groundwater samples collected from the wells CF-2 and CF-3 at levels between 0.003 mg/l and 0.01 mg/l. The average value was 0.005 mg/l. The maximum detected level is with 0.00908 above the EPA Region 9 PRG level for drinking water. Previous investigations detected a maximum level of 2.7 mg/l (Caltrans, 1998).

Indeno[1,2,3-cd]pyrene was detected in only one groundwater sample collected from well CF-3 (0.006 mg/l). This level is with 0.00508 mg/l above the EPA Region 9 PRG level for tap water. Previous investigations detected a maximum level of 3,300 mg/l (Caltrans, 1998).

Naphthalene was detected in all groundwater samples at levels between 0.007 mg/l to 5.5 mg/l. The average value was 1.8 mg/l. The maximum detected level is with 5.4938 mg/l above the EPA region 9 PRG level for tap water. Previous investigations detected a maximum level of 23 mg/l (Caltrans, 1998).

Acenaphthene was detected only in two groundwater samples collected from the wells CF-1 and CF-2 at levels between 0.004 mg/l and 0.008 mg/l. The average value was

0.005 mg/l. The maximum detected level is 0.366 mg/l below EPA Region 9 PRG level for tap water. Previous investigations detected a maximum level of 4.2 mg/l (Caltrans, 1998).

Acenaphthylene was detected only in one groundwater sample collected from well CF-2 (0.069 mg/l). Previous investigations detected a maximum level of 3.6 mg/l (Caltrans, 1998). No MCL/PRG for drinking water was published for this chemical.

Anthracene was detected in two groundwater samples collected from the wells CF-2 and CF-3 at levels between 0.001 mg/l and 0.007 mg/l. The average value was 0.005 mg/l. The maximum detected level is with 1.793 below the EPA Region 9 PRG level for tap water. Previous investigations detected a maximum level of 4.3 mg/l (Caltrans, 1998).

Benzo[g,h,i]perylene was detected in one groundwater sample collected from the well CF-3 (0.009 mg/l). Previous investigations detected a maximum level of 5.1 mg/l, (Caltrans, 1998). No MCL/EPA Region 9 PRG level is provided for this chemical.

Chrysene was detected in two groundwater samples collected from the wells CF-2 and CF-3 at levels between 0.002 mg/l and 0.006 mg/l. The average value was 0.0037 mg/l. The maximum detected level is with 0.0032 mg/l below the EPA Region 9 PRG level for tap water. Previous investigations detected a maximum level of 5.8 mg/l (Caltrans, 1998).

Dibenzofuran was detected in two groundwater samples collected from the wells CF-1 and CF-2 at a level of 0.003 mg/l. This detected level is with 0.021 mg/l below the EPA Region 9 PRG level for tap water. Previous investigations detected a maximum level of 0.000002 mg/l (Caltrans, 1998).

Fluoranthene was detected in all groundwater samples collected, at detected levels between 0.007 mg/kg and 0.014 mg/kg. The average value was 0.011 mg/kg. The maximum detected level is with 1.486 mg/l below the EPA Region 9 PRG level for tap water. Previous investigations detected a maximum level of 12 mg/l (Caltrans, 1998).

Fluorene was detected in two groundwater samples collected from the wells CF-1 and CF-2 at levels between 0.013 mg/l and 0.016 mg/l. The maximum detected level is with 0.224 mg/l below the PRG level for tap water. Previous investigations detected a maximum level of 1.6 mg/l (Caltrans, 1998), with 0.224 mg/l above the EPA Region 9 PRG level for tap water.

2-Methylnaphthalene was detected in two groundwater samples collected from the wells CF-1 and CF-2, at detected levels between 0.022 mg/kg and 0.067 mg/kg. The average

value was 0.032 mg/kg. Previous investigations did not report detected levels for this chemical (Caltrans, 1998).

4-Methylphenol was detected only in one groundwater sample collected from the well CF-2 (0.17 mg/l and 0.041 mg/l (duplicate)). The maximum detected level is with 0.01 mg/l below the EPA Region 9 PRG level for tap water. Previous investigations detected a maximum level of 0.370 mg/l (Caltrans, 1998) which is with 0.19 mg/l above the PRG level.

Phenanthrene was detected in all groundwater samples at levels between 0.004 mg/l to 0.055 mg/l. The average value was 0.035 mg/l. Previous investigations detected a maximum level of 22 mg/l (Caltrans, 1998).

Phenol was detected in two groundwater samples collected from the wells CF-1 and CF-2, at levels between 0.011 mg/l and 0.046 mg/l. The average value was 0.027 mg/l. The maximum detected level is with 21.959 mg/l below the EPA Region 9 PRG for tap water. Previous investigations detected a maximum level of 0.24 mg/l (Caltrans, 1998).

Pyrene was detected in all groundwater samples, at levels between 0.011 mg/l and 0.018 mg/l. The average value was 0.0145 mg/l. The maximum detected level is with 0.162 mg/l below the EPA Region 9 PRG level for tap water. Previous investigations detected a maximum level of 14 mg/l (Caltrans, 1998).

As presented above, eighteen of the SVOCs detected levels were well below the maximum detected levels reported by the previous investigations performed at this site.

#### Organochlorine Pesticides by EPA Method 8080

Organochlorine pesticides were not detected in the water samples collected during this investigation at Site CF. Previous investigations did not report detectable levels of organochlorine pesticides in the tested groundwater samples.

#### PCBs by EPA Method 8080

PCBs were not detected above the detection limit in the water samples collected during this investigation at Site CF. Previous investigations did not report detectable levels of PCBs in the groundwater samples.



Metals by EPA Method 6010

Only one metal was detected above the detection limit in the groundwater samples collected for this investigation from the Container Fright site. The detected level was 0.28 mg/l of barium. This detected level is with 2,599 mg/l below the EPA Region 9 PRG for tap water.

Previous investigations reported the following maximum levels of metals in the site groundwater: 0.054 mg/l of arsenic, 0.11 mg/l of barium, 0.006 mg/l cadmium, 1.4 mg/l of total chromium, 0.02 mg/l of cobalt, 7.0 mg/l of copper, 14 mg/l of lead, 0.008 mg/l of mercury, 1.8 mg/l of nickel, 0.01 mg/l of vanadium, and 28 mg/l of zinc.

## 7.0 CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

Based on the information presented in this report, the following conclusions have been reached:

#### Site JA

- None of the soil samples collected from the Site JA contained detectable levels of TPH-G, TPH-D, motor oil, organochlorine pesticides, and polychlorinated biphenyls. Five VOCs (1,1-Dichloroethane, Naphthalene, Styrene, 1,1,1-Trichloroethane, and Trichlorotrifluoroethane) and five SVOCs (Acenaphthylene, Fluoranthene, Naphthlene, Phenanthrene, and Pyrene) were detected at levels well below the industrial PRG levels for soil.
- Ten metals (Arsenic, Barium, Chromium, Cobalt, Copper, Lead, Nickel, Thallium, Vanadium, Zinc) were detected above the detection limit in the soil samples collected for this investigation from the Site JA. The detected levels were well below the industrial PRG levels for soils. Antimony, Beryllium, Cadmium, Mercury, Molybdenum, Selenium, Silver, and Thallium were not detected in the soil samples collected during this investigation at Site JA. No metals were reported by the previous investigations above the industrial PRG levels for soil.
- Groundwater samples collected from the four new groundwater monitoring wells installed at Site JA did not contain motor oil, organochlorine pesticides or PCBs above the detection limits. Only seven of the detected VOCs (1,1-Dichloroethane, 1,2-Dichloroethane, 1,1-Dichloroethene, Naphthalene, Tetrachloroethane (PCE), Trichloroethene (TCE), and Vinyl Chloride) were above MCL/EPA Region 9 PRG levels for drinking water. The highest levels of contaminants were detected in the groundwater sample collected from the groundwater monitoring well JA-4, located down gradient of the former site sumps.

#### Site CF

- Soil samples collected from the Site CF contained detectable levels of TPH-G, TPH-D, and motor oil. TPH-G was detected at levels between 0.69 mg/kg and 0.77 mg/kg. TPH-D was detected at levels ranging between 19 mg/kg to 370 mg/kg. The detected levels decrease with depth, between 0.5 m to 2 m (1.65 feet to 6 feet).

- Two VOCs (benzene and naphthalene) were detected at levels above the detection limit. Only maximum level of naphthalene was with 200 mg/l above the Cypress PRG level for soil. Sixteen SVOCs were detected in the tested soil samples above the detection limit. All of the detected levels were well below the maximum detected levels reported by the previous investigations performed at this site. The highest levels of SVOCs were detected in the soil samples collected from the boring CF-2 at 2 m (6 feet) below ground surface.
- Organochlorine pesticides as 4,4'-DDD was detected only in two soil samples, with the maximum level (9.3 mg/kg).
- Aroclor-1260 was the only PCBs detected at a level of 0.082 mg/kg. Previous soil samplings performed at this site had not reported PCBs levels above the detection limits.
- Twelve metals were detected in the collected soil samples at levels above the detection limits.
- Groundwater samples collected from the three new installed groundwater monitoring wells of the Site CF contained detectable levels of TPH-G, TPH-D, VOCs, and SVOCs. TPH-G was detected in all groundwater samples at levels between 0.5 mg/L and 94 mg/L. TPH-D was detected in two groundwater samples collected from the wells CF-1 and CF-2 at levels between 2.8 mg/L and 21 mg/L.
- Nine VOCs were detected in the water samples collected during this investigation. One groundwater sample collected from the groundwater monitoring well CF-2 contained eight of the detected VOCs. Benzene, Carbon Disulfide, Ethylbenzene, Naphthalene, Styrene, Toluene, 1,2,4-Trimethylbenzene, Trichloroethene, and Xylenes were detected at levels above the MCL/EPA Region 9 PRG levels for drinking water.
- Nineteen SVOCs were detected in the groundwater samples tested during this investigation. Eighteen of the SVOCs detected levels were well below the maximum detected levels reported by the previous investigations.
- Motor oil, organochlorine pesticides, and PCBs were not detected in the groundwater samples collected from the Site CF.
- Only one metal (barium) was detected above the detection limit in the groundwater samples collected for this investigation from the Site CF.

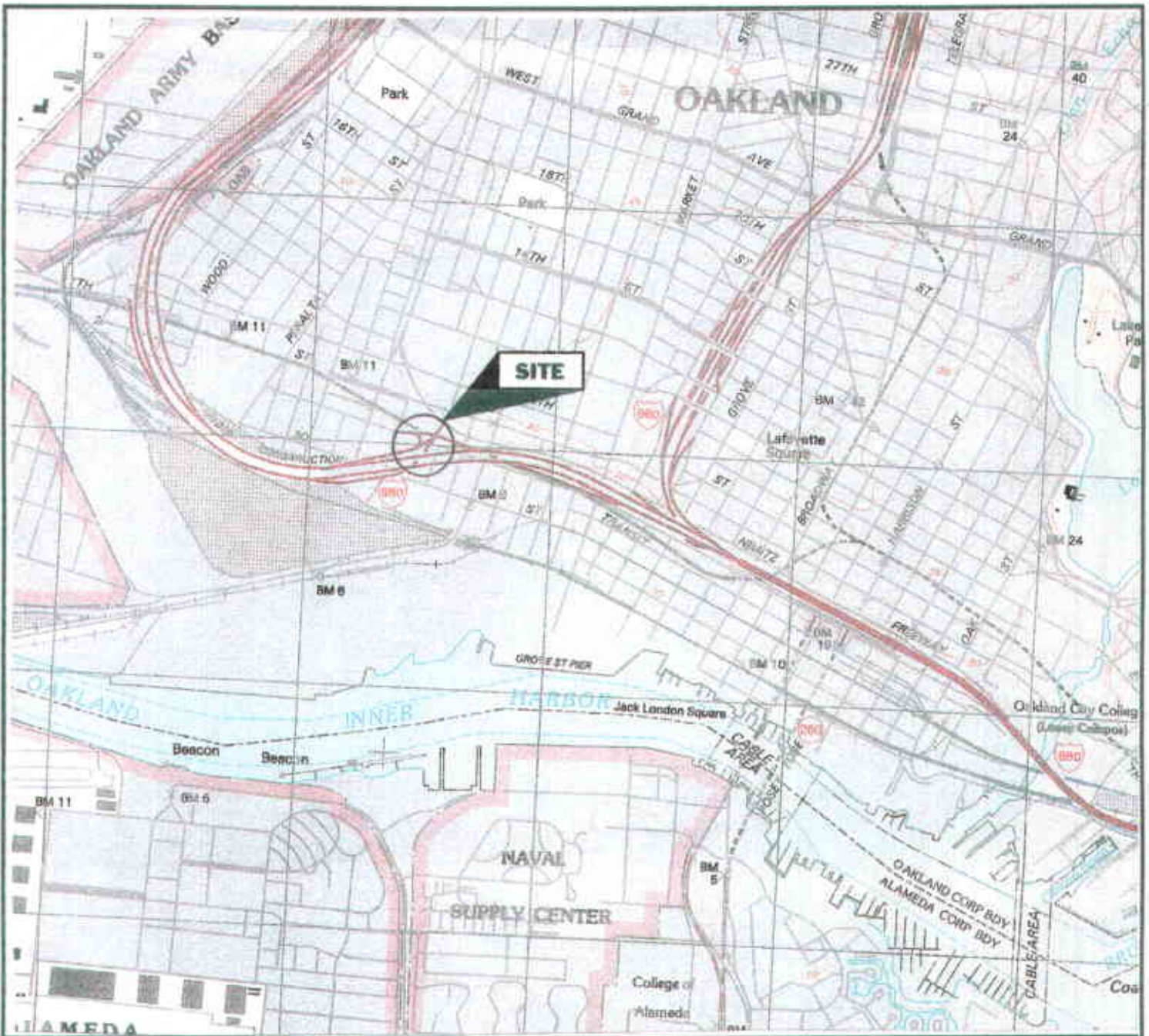
## Recommendations

Based on the results presented in this report, PSI recommends the following course of action:

- Continued groundwater monitoring at the Site JA and Site CF, on a quarterly basis. According to the DTSC recommendations, total dissolved solids (TDS) measurements should be collected. Also, filtered and unfiltered water samples from the Container Freight site should be analyzed for SVOCs using EPA Method 8270.

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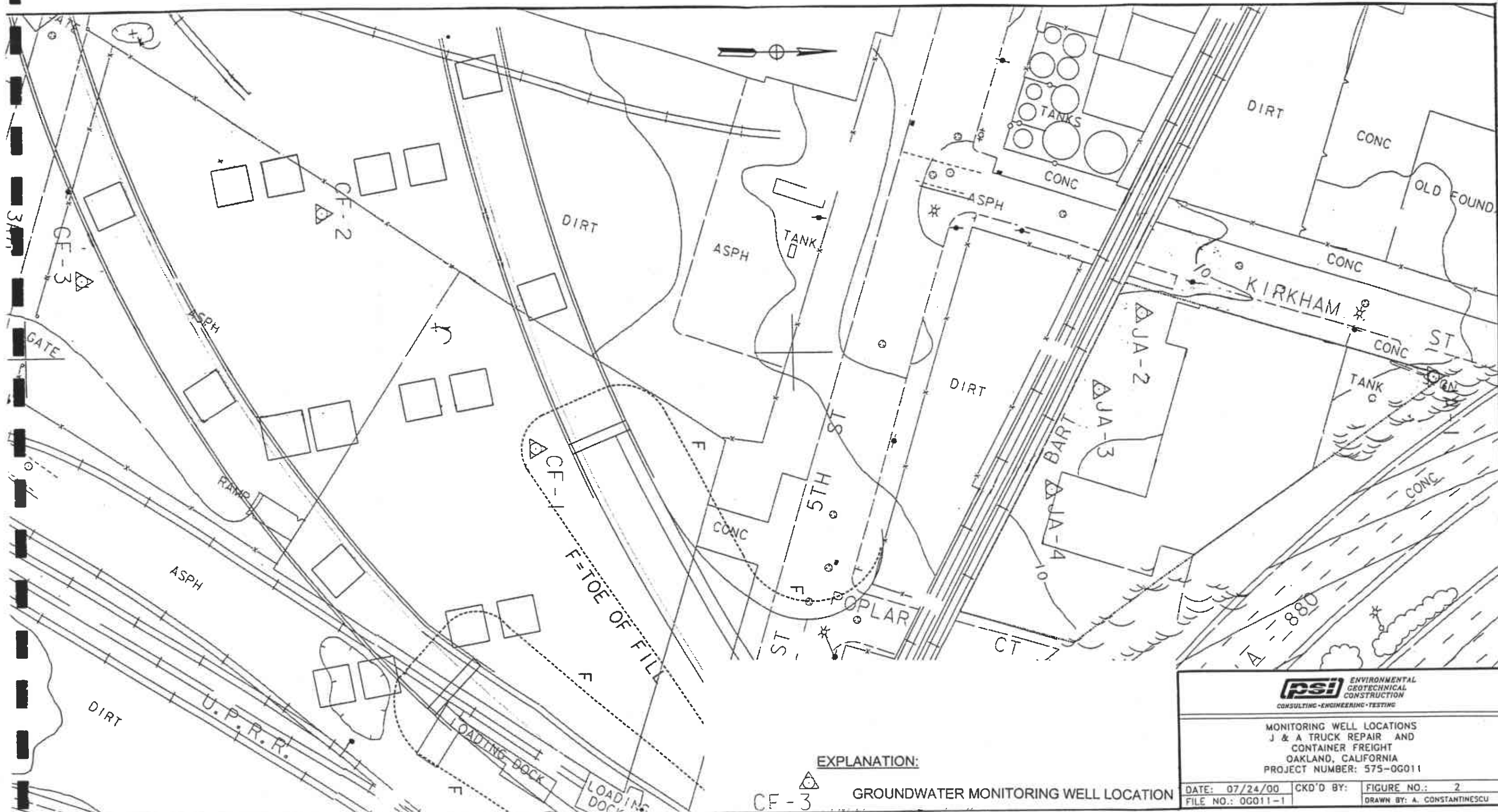


REFERENCE:  
 U.S.G.S. OAKLAND WEST QUADRANGLE, CALIFORNIA, 1993  
 7.5 - MINUTE SERIES (TOPOGRAPHIC)

**psi** ENVIRONMENTAL  
 GEOTECHNICAL  
 CONSTRUCTION  
 CONSULTING-ENGINEERING-TESTING

SITE LOCATION  
 J & A TRUCK REPAIR AND  
 CONTAINER FREIGHT  
 OAKLAND, CALIFORNIA  
 PROJECT NUMBER: 575-0G011

DATE: 03/14/00	CKD'D BY:	FIGURE NO.: 1
FILE NO.: 0G011-1		DRAWN BY: A. CONSTANTINESCU



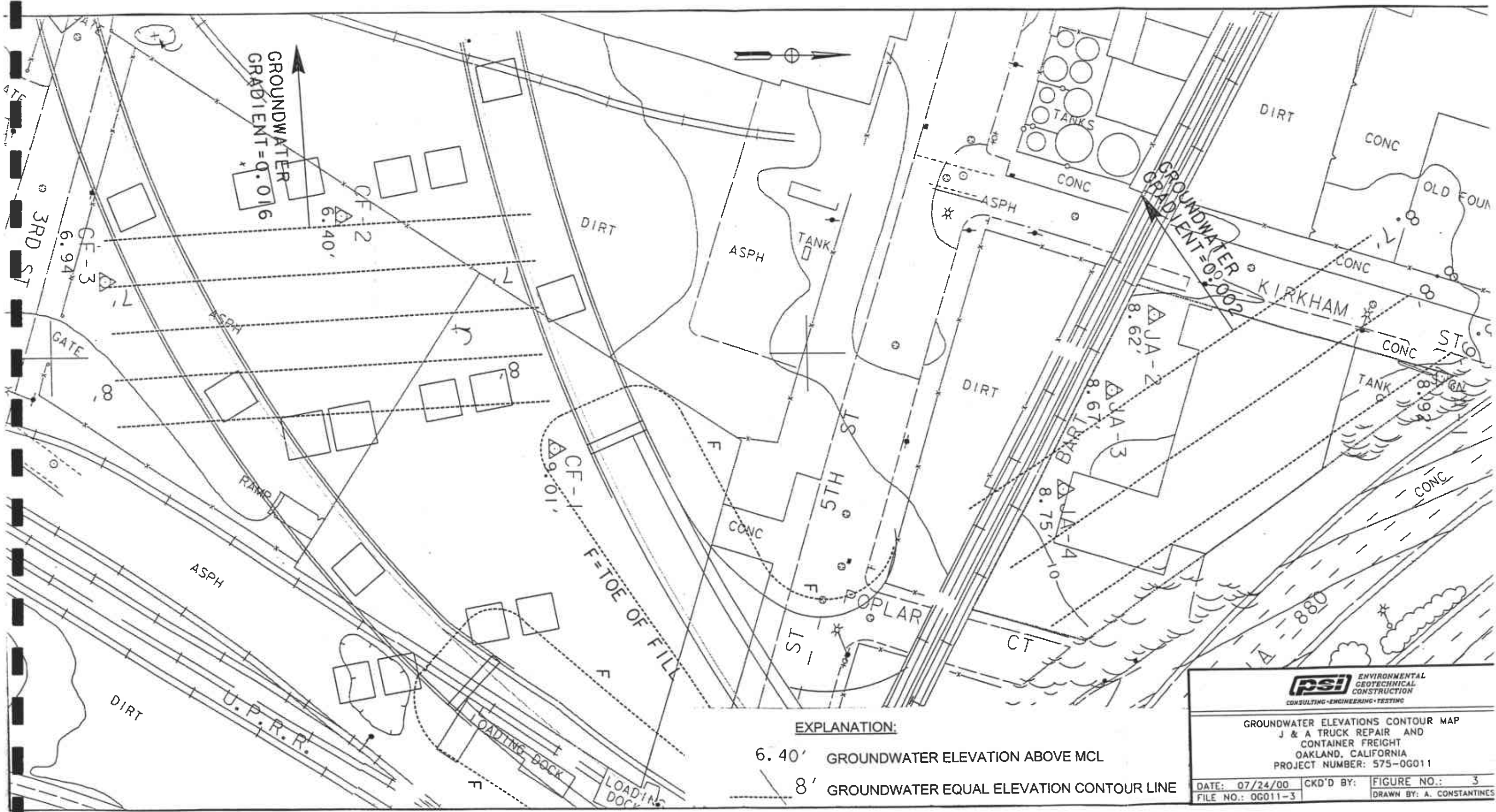
**EXPLANATION:**

△ CF-3 GROUNDWATER MONITORING WELL LOCATION



MONITORING WELL LOCATIONS  
 J & A TRUCK REPAIR AND  
 CONTAINER FREIGHT  
 OAKLAND, CALIFORNIA  
 PROJECT NUMBER: 575-OG011

DATE: 07/24/00	CK'D BY:	FIGURE NO.: 2
FILE NO.: 0G011-1		DRAWN BY: A. CONSTANTINESCU



**EXPLANATION:**

- 6.40' GROUNDWATER ELEVATION ABOVE MCL
- 8' GROUNDWATER EQUAL ELEVATION CONTOUR LINE

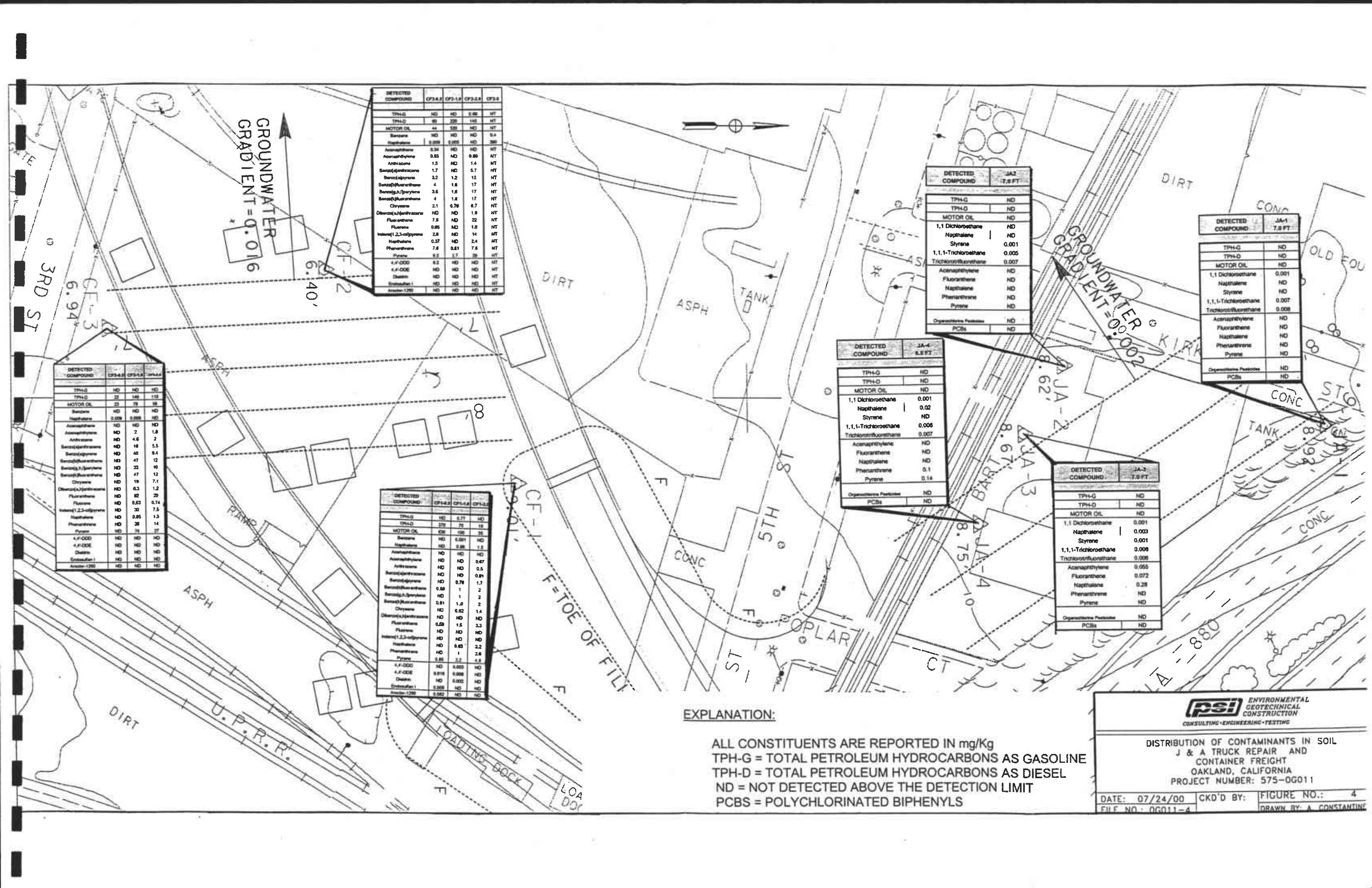


ENVIRONMENTAL  
 GEOTECHNICAL  
 CONSTRUCTION  
 CONSULTING-ENGINEERING-TESTING

GROUNDWATER ELEVATIONS CONTOUR MAP  
 J & A TRUCK REPAIR AND  
 CONTAINER FREIGHT  
 OAKLAND, CALIFORNIA  
 PROJECT NUMBER: 575-0G011

DATE: 07/24/00	CK'D BY:	FIGURE NO.: 3
FILE NO.: 0G011-3		DRAWN BY: A. CONSTANTINES





DETECTED COMPOUND	CF-1.1	CF-1.2	CF-2.1	CF-2.2
TPH-G	ND	ND	0.86	NT
TPH-D	ND	220	142	NT
MOTOR OIL	44	539	ND	NT
Benzene	ND	ND	ND	0.4
Naphthalene	0.009	0.005	ND	38
Acenaphthylene	0.34	ND	ND	NT
Acenaphthene	0.65	ND	0.89	NT
Anthracene	1.5	ND	1.4	NT
Benzo(a)anthracene	1.7	ND	5.7	NT
Benzo(b)fluoranthene	3.2	1.2	12	NT
Benzo(k)fluoranthene	4	1.8	17	NT
Benzo(a)pyrene	3.8	1.8	17	NT
Benzo(e)pyrene	4	1.8	17	NT
Chrysene	2.1	0.78	6.7	NT
Dibenz(a,h)anthracene	ND	ND	1.8	NT
Fluoranthene	7.8	ND	22	NT
Fluorene	0.85	ND	1.8	NT
Indeno(1,2,3-cd)pyrene	2.8	ND	14	NT
Naphthalene	0.37	ND	2.4	NT
Phenanthrene	7.8	0.81	7.8	NT
Pyrene	0.2	0.1	39	NT
4-fl-DOO	0.3	ND	ND	NT
4-fl-DOE	ND	ND	ND	NT
Dioxin	ND	ND	ND	NT
Dibenzofuran	ND	ND	ND	NT
Acenaphthene	ND	ND	ND	NT

DETECTED COMPOUND	JA-2 7.8 FT
TPH-G	ND
TPH-D	ND
MOTOR OIL	ND
1,1-Dichloroethane	ND
Naphthalene	ND
Styrene	0.001
1,1,1-Trichloroethane	0.005
Trichlorofluoroethane	0.007
Acenaphthylene	ND
Fluoranthene	ND
Naphthalene	ND
Phenanthrene	ND
Pyrene	ND
Organochlorine Pesticides	ND
PCBs	ND

DETECTED COMPOUND	JA-1 7.8 FT
TPH-G	ND
TPH-D	ND
MOTOR OIL	ND
1,1-Dichloroethane	0.001
Naphthalene	ND
Styrene	ND
1,1,1-Trichloroethane	0.007
Trichlorofluoroethane	0.008
Acenaphthylene	ND
Fluoranthene	ND
Naphthalene	ND
Phenanthrene	ND
Pyrene	ND
Organochlorine Pesticides	ND
PCBs	ND

DETECTED COMPOUND	CF-3.1	CF-3.2	CF-3.3
TPH-G	ND	ND	ND
TPH-D	22	148	113
MOTOR OIL	23	78	88
Benzene	ND	ND	ND
Naphthalene	0.009	0.008	ND
Acenaphthylene	ND	ND	ND
Acenaphthene	ND	2	1.8
Anthracene	ND	4.6	2
Benzo(a)anthracene	ND	18	5.5
Benzo(b)fluoranthene	ND	46	9.4
Benzo(k)fluoranthene	ND	47	12
Benzo(a)pyrene	ND	33	16
Benzo(e)pyrene	ND	19	12
Chrysene	ND	17	7.1
Dibenz(a,h)anthracene	ND	0.3	1.2
Fluoranthene	ND	82	29
Fluorene	ND	0.53	0.74
Indeno(1,2,3-cd)pyrene	ND	30	7.5
Naphthalene	ND	0.85	1.3
Phenanthrene	ND	28	14
Pyrene	ND	14	27
4-fl-DOO	ND	ND	ND
4-fl-DOE	ND	ND	ND
Dioxin	ND	ND	ND
Dibenzofuran	ND	ND	ND
Acenaphthene	ND	ND	ND

DETECTED COMPOUND	JA-4 8.5 FT
TPH-G	ND
TPH-D	ND
MOTOR OIL	ND
1,1-Dichloroethane	0.001
Naphthalene	0.02
Styrene	ND
1,1,1-Trichloroethane	0.006
Trichlorofluoroethane	0.007
Acenaphthylene	ND
Fluoranthene	ND
Naphthalene	ND
Phenanthrene	0.1
Pyrene	0.14
Organochlorine Pesticides	ND
PCBs	ND

DETECTED COMPOUND	JA-3 7.5 FT
TPH-G	ND
TPH-D	ND
MOTOR OIL	ND
1,1-Dichloroethane	0.001
Naphthalene	0.003
Styrene	0.001
1,1,1-Trichloroethane	0.006
Trichlorofluoroethane	0.006
Acenaphthylene	0.053
Fluoranthene	0.072
Naphthalene	0.28
Phenanthrene	ND
Pyrene	ND
Organochlorine Pesticides	ND
PCBs	ND

DETECTED COMPOUND	CF-1.1	CF-1.2	CF-1.3
TPH-G	ND	0.77	ND
TPH-D	279	75	18
MOTOR OIL	636	106	38
Benzene	ND	0.001	ND
Naphthalene	ND	0.06	1.5
Acenaphthylene	ND	ND	ND
Acenaphthene	ND	ND	0.67
Anthracene	ND	ND	0.5
Benzo(a)anthracene	ND	ND	0.81
Benzo(b)fluoranthene	ND	0.78	1.7
Benzo(k)fluoranthene	0.58	1	2
Benzo(a)pyrene	ND	1	2
Benzo(e)pyrene	0.81	1.5	2
Chrysene	ND	0.82	1.4
Dibenz(a,h)anthracene	ND	ND	ND
Fluoranthene	0.58	1.5	3.3
Fluorene	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND
Naphthalene	ND	0.65	2.2
Phenanthrene	ND	1	2.6
Pyrene	0.85	2.2	4.8
4-fl-DOO	ND	0.003	ND
4-fl-DOE	0.018	0.008	ND
Dioxin	ND	0.002	ND
Dibenzofuran	0.006	ND	ND
Acenaphthene	0.002	ND	ND

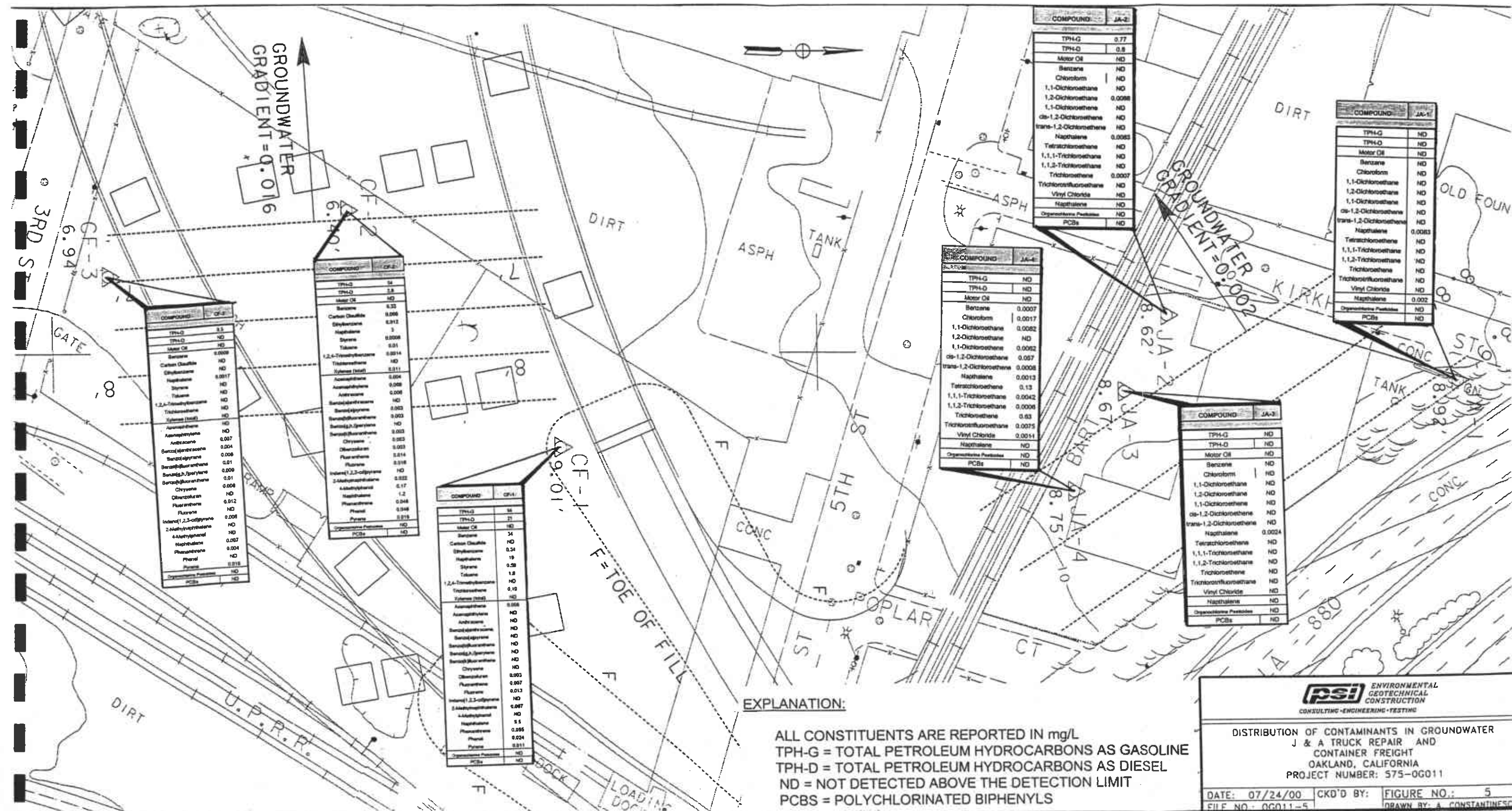
**EXPLANATION:**

ALL CONSTITUENTS ARE REPORTED IN mg/Kg  
 TPH-G = TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
 TPH-D = TOTAL PETROLEUM HYDROCARBONS AS DIESEL  
 ND = NOT DETECTED ABOVE THE DETECTION LIMIT  
 PCBs = POLYCHLORINATED BIPHENYLS

**psi** ENVIRONMENTAL GEOTECHNICAL CONSTRUCTION  
 CONSULTING-ENGINEERING-TESTING

DISTRIBUTION OF CONTAMINANTS IN SOIL  
 J & A TRUCK REPAIR AND CONTAINER FREIGHT  
 OAKLAND, CALIFORNIA  
 PROJECT NUMBER: 575-0G011

DATE: 07/24/00 CKD'D BY: FIGURE NO.: 4  
 FILE NO.: 0G011-4 DRAWN BY: A. CONSTANTIN



COMPOUND	CF-3
TPH-G	3.5
TPH-D	ND
Motor Oil	ND
Benzene	0.009
Carbon Dioxide	ND
Chlorobenzene	ND
Naphthalene	0.0017
Styrene	ND
Toluene	ND
1,2,4-Trichlorobenzene	ND
Trichloroethane	ND
Toluene (total)	ND
Arsenic	ND
Asphaltene	ND
Anthracene	0.007
Benzofluoranthene	0.004
Benzofluoranthene	0.008
Benzofluoranthene	0.01
Benzofluoranthene	0.009
Benzofluoranthene	0.01
Chrysene	0.008
Dibenzofuran	ND
Fluoranthene	0.012
Fluorene	ND
Indeno(1,2,3-cd)pyrene	0.008
2-Methylnaphthalene	ND
4-Methylnaphthalene	ND
Naphthalene	0.007
Phenanthrene	0.004
Phenol	0.018
Organochlorine Pesticides	ND
PCBs	ND

COMPOUND	CF-2
TPH-G	52
TPH-D	2.8
Motor Oil	ND
Benzene	0.23
Carbon Dioxide	0.085
Ethylbenzene	0.012
Naphthalene	1
Styrene	0.008
Toluene	0.01
1,2,4-Trichlorobenzene	0.014
Trichloroethane	ND
Toluene (total)	0.011
Arsenic	0.004
Asphaltene	0.008
Anthracene	0.006
Benzofluoranthene	ND
Benzofluoranthene	0.003
Benzofluoranthene	0.003
Benzofluoranthene	0.003
Chrysene	0.003
Dibenzofuran	0.003
Fluoranthene	0.014
Fluorene	0.018
Indeno(1,2,3-cd)pyrene	ND
2-Methylnaphthalene	0.022
4-Methylnaphthalene	0.017
Naphthalene	1.2
Phenanthrene	0.048
Phenol	0.048
Phenol	0.019
Organochlorine Pesticides	ND
PCBs	ND

COMPOUND	CF-1
TPH-G	36
TPH-D	21
Motor Oil	ND
Benzene	34
Carbon Dioxide	ND
Ethylbenzene	0.34
Naphthalene	19
Styrene	0.29
Toluene	1.8
1,2,4-Trichlorobenzene	ND
Trichloroethane	0.19
Toluene (total)	ND
Arsenic	0.008
Asphaltene	ND
Anthracene	ND
Benzofluoranthene	ND
Benzofluoranthene	ND
Benzofluoranthene	ND
Benzofluoranthene	ND
Chrysene	ND
Dibenzofuran	0.003
Fluoranthene	0.007
Fluorene	0.013
Indeno(1,2,3-cd)pyrene	ND
2-Methylnaphthalene	0.007
4-Methylnaphthalene	ND
Naphthalene	5.5
Phenanthrene	0.095
Phenol	0.024
Phenol	0.011
Organochlorine Pesticides	ND
PCBs	ND

COMPOUND	JA-2
TPH-G	0.77
TPH-D	0.8
Motor Oil	ND
Benzene	ND
Chlorobenzene	ND
1,1-Dichloroethane	ND
1,2-Dichloroethane	0.0088
1,1-Dichloroethane	ND
cis-1,2-Dichloroethane	ND
trans-1,2-Dichloroethane	ND
Naphthalene	0.0083
Tetrachloroethane	ND
1,1,1-Trichloroethane	ND
1,1,2-Trichloroethane	ND
Trichloroethane	0.0007
Trichlorofluoroethane	ND
Vinyl Chloride	ND
Naphthalene	ND
Organochlorine Pesticides	ND
PCBs	ND

COMPOUND	JA-4
TPH-G	ND
TPH-D	ND
Motor Oil	ND
Benzene	0.0007
Chlorobenzene	0.0017
1,1-Dichloroethane	0.0082
1,2-Dichloroethane	ND
1,1-Dichloroethane	0.0082
cis-1,2-Dichloroethane	0.007
trans-1,2-Dichloroethane	0.0008
Naphthalene	0.0013
Tetrachloroethane	0.13
1,1,1-Trichloroethane	0.0042
1,1,2-Trichloroethane	0.0006
Trichloroethane	0.93
Trichlorofluoroethane	0.0075
Vinyl Chloride	0.0011
Naphthalene	ND
Organochlorine Pesticides	ND
PCBs	ND

COMPOUND	JA-1
TPH-G	ND
TPH-D	ND
Motor Oil	ND
Benzene	ND
Chlorobenzene	ND
1,1-Dichloroethane	ND
1,2-Dichloroethane	ND
1,1-Dichloroethane	ND
cis-1,2-Dichloroethane	ND
trans-1,2-Dichloroethane	ND
Naphthalene	0.0083
Tetrachloroethane	ND
1,1,1-Trichloroethane	ND
1,1,2-Trichloroethane	ND
Trichloroethane	ND
Trichlorofluoroethane	ND
Vinyl Chloride	ND
Naphthalene	0.0002
Organochlorine Pesticides	ND
PCBs	ND

COMPOUND	JA-3
TPH-G	ND
TPH-D	ND
Motor Oil	ND
Benzene	ND
Chlorobenzene	ND
1,1-Dichloroethane	ND
1,2-Dichloroethane	ND
1,1-Dichloroethane	ND
cis-1,2-Dichloroethane	ND
trans-1,2-Dichloroethane	ND
Naphthalene	0.0024
Tetrachloroethane	ND
1,1,1-Trichloroethane	ND
1,1,2-Trichloroethane	ND
Trichloroethane	ND
Trichlorofluoroethane	ND
Vinyl Chloride	ND
Naphthalene	ND
Organochlorine Pesticides	ND
PCBs	ND

**EXPLANATION:**

ALL CONSTITUENTS ARE REPORTED IN mg/L  
 TPH-G = TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
 TPH-D = TOTAL PETROLEUM HYDROCARBONS AS DIESEL  
 ND = NOT DETECTED ABOVE THE DETECTION LIMIT  
 PCBs = POLYCHLORINATED BIPHENYLS

**psd** ENVIRONMENTAL GEOTECHNICAL CONSTRUCTION CONSULTING-ENGINEERING-TESTING

DISTRIBUTION OF CONTAMINANTS IN GROUNDWATER  
 J & A TRUCK REPAIR AND CONTAINER FREIGHT  
 OAKLAND, CALIFORNIA  
 PROJECT NUMBER: 575-0G011

DATE: 07/24/00 CKD'D BY: FIGURE NO.: 5  
 FILE NO.: 0G011-5 DRAWN BY: A. CONSTANTINESC

**TABLE 1**

**GROUNDWATER ELEVATION AND PARAMETERS  
J & A TRUCK REPAIR (SITE JA) AND CONTAINER FREIGHT (SITE CF)  
OAKLAND, CALIFORNIA**

Sample Location	Date	TOC Elevation (feet msl)*	Depth To Groundwater	Groundwater Elevation (feet msl)*	Temperature (°C)	Conductivity (mS/cm)	pH
CF-1	5/2/00	14.07	5.06	9.01	14.4	4760	7.3
CF-2	5/2/00	10.2	3.8	6.4	14.8	17.85**	6.41
CF-3	5/2/00	9.67	2.73	6.94	22.2	5360	5.95
JA-1	5/2/00	15.12	6.2	8.92	16.9	1380	7.15
JA-2	5/2/00	13.15	4.53	8.62	16.7	2175	7.03
JA-3	5/2/00	12.64	3.97	8.67	17.3	1144	6.68
JA-4	5/2/00	12.58	3.83	8.75	19.2	1584.00	6.52

**Notes:**

mS/cm = milliseimens per centimeter

NM = Not Measured

All measurements are recorded in feet.

\* TOC Measurements are from data supplied by ENGINEERING ASSOCIATES

Feet msl = feet above mean sea level

\*\* Conductivity values for CF-2 were confirmed by the second groundwater sampling event performed on 8/7/00.

**TABLE 2**  
**STATISTICAL ANALYSIS AND SUMMARY OF SOIL ANALYTICAL RESULTS: ORGANICS**  
**J & A TRUCK REPAIR (SITE JA)**  
**OAKLAND, CALIFORNIA**

ANALYTICAL METHOD	DETECTED COMPOUND	JA-1 7.0 FT	JA2 7.0 FT	JA-3 7.0 FT	JA-4 6.5 FT	DETECTION LIMIT	CYPRESS PRG	STATISTICAL FUNCTION				
								count	max	min	Average	STD.DEV.
EPA METHOD 8015	TPH-G	ND	ND	ND	ND	0.5	NA	0	NA	NA	NA	NA
EPA METHOD 8015	TPH-D	ND	ND	ND	ND	10	100	0	NA	NA	NA	NA
EPA METHOD 8015	MOTOR OIL	ND	ND	ND	ND	10	NA	0	NA	NA	NA	NA
VOC by EPA 8260B	1,1 Dichloroethane	0.001	ND	0.001	0.001	0.001	0.42-3.8	3	0.001	0.001	0.001	NA
	Naphthalene	ND	ND	0.003	0.02	0.002	82	2	0.02	0.003	0.0115	0.012021
	Styrene	ND	0.001	0.001	ND	0.001	NA	2	0.001	0.001	0.001	NA
	1,1,1-Trichloroethane	0.007	0.005	0.006	0.006	0.001	470	4	0.007	0.005	0.006	0.000816
	Trichlorotrifluoroethane	0.008	0.007	0.006	0.007	0.005	NA	4	0.008	0.006	0.007	0.000816
SVOC by EPA 8270C	Acenaphthylene	ND	ND	0.055	ND	0.033	NA	1	0.055	0.055	0.055	NA
	Fluoranthene	ND	ND	0.072	ND	0.033	2,300	1	0.072	0.072	0.072	NA
	Naphthalene	ND	ND	0.28	ND	0.033	82	1	0.28	0.28	0.28	NA
	Phenanthrene	ND	ND	ND	0.1	0.066	NA	1	0.1	0.1	0.1	NA
	Pyrene	ND	ND	ND	0.14	0.033	1,700	1	0.14	0.14	0.14	NA
ORGANOCHLORINE PESTICIDES by EPA 8081		ND	ND	ND	ND	0.001-0.020	NA	0	NA	NA	NA	NA
PCBs by EPA 8082		ND	ND	ND	ND	0.05	NA	0	NA	NA	NA	NA

Notes:

ND = Not Detected

Depth is presented in feet below ground surface.

All samples are reported as total concentration in milligrams per kilogram (mg/kg), unless indicated.

VOC = Total of Volatile Organic Compounds

SVOC = Semi-Volatile Organic Compounds

PRG = Preliminary remediation goals (EPA Region 9)

count = Number of concentrations reported above the detection limit

max = Maximum value

min = Minimum value

average = Average of the detected values above the detection limit

STD.DEV. = Standard deviation

**TABLE 3**  
**STATISTICAL ANALYSIS AND SUMMARY OF SOIL ANALYTICAL RESULTS: METALS**  
**J & A TRUCK REPAIR - SITE JA**  
**OAKLAND, CALIFORNIA**

SAMPLE I.D.	DEPTH (F)	SB	AS	BA	BE	CD	CR	CO	CU	PB	HG	MO	NI	SE	AG	TL	V	ZN
JA1	7	ND	2.1	37	ND	ND	30	4.6	5.3	1.5	ND	ND	26	ND	ND	19	21	19
JA2	7	ND	2.5	47	ND	ND	35	5.3	6.8	2	ND	ND	32	ND	ND	ND	27	23
JA3	7	ND	3.0	47	ND	ND	38	5.6	8.4	3.9	ND	ND	32	ND	ND	34	29	25
JA4	6.5	ND	2.4	56	ND	ND	48	5.8	7.6	2.5	ND	ND	35	ND	ND	ND	30	26
<b>CYPRESS PRG</b>		67	4.6-19*	12,000	1.8-0.2	24-2.7	NA	NA	5,000	840	45	830	400-44	830	830	14-27*	1,200	50,000
<b>DETECTION LIMIT</b>		2.50	0.50	0.50	0.50	0.05	0.50	0.50	0.50	0.50	0.10	0.50	1.00	2.50	0.50	2.50	0.50	10.00
<b>STATISTICAL FUNCTION</b>	count	0	4	4	0	0	4	4	4	4	0	0	4	0	0	2	4	4
	max	NA	3	56	NA	NA	48	5.8	8.4	3.9	NA	NA	35	NA	NA	34	30	26
	min	NA	2.1	37	NA	NA	30	4.6	5.3	1.5	NA	NA	26	NA	NA	19	21	19
	Average	NA	2.5	46.75	NA	NA	37.75	5.325	7.025	2.475	NA	NA	31.25	NA	NA	NA	26.75	23.25
	STD.DEV.	NA	0.37417	7.76209	NA	NA	7.58837	0.5252	1.32256	1.03401	NA	NA	3.77492	NA	NA	NA	4.03113	3.0957

**Notes:**

Depth is presented in feet below ground surface

ND = Not detected at or above the laboratory detection limits

Metals are designated by their symbol on the periodic table of elements.

All samples are reported as total concentration in milligrams per kilogram (mg/kg), unless indicated.

PRG = Preliminary remediation goals (EPA Region 9)

NA = Not Available/Not applicable

count = Number of concentrations reported above the detection limit.

max = Maximum value

min = Minimum value

average = Average of the detected values above the detection limit

STD.DEV. = Standard deviation

**TABLE 4**  
**STATISTICAL ANALYSIS AND SUMMARY OF GROUNDWATER ANALYTICAL RESULTS: ORGANICS**  
**J & A TRUCK REPAIR (SITE JA)**  
**OAKLAND, CALIFORNIA**

ANALYTICAL METHOD	COMPOUND	JA-1	JA-2	JA-3	JA-4	DETECTION LIMIT	MCL/ PRG(mg/L)	STATISTICAL FUNCTION				
								count	max	min	Average	STD.DEV.
EPA METHOD 8015	TPH-G	ND	0.77	ND	ND	0.5	NA	1	0.77	0.77	0.77	NA
EPA METHOD 8015	TPH-D	ND	0.8	ND	ND	0.4	NA	1	0.8	0.8	0.8	NA
EPA METHOD 8015	Motor Oil	ND	ND	ND	ND	10	NA	0	NA	NA	NA	NA
VOCs by EPA 8260B	Benzene	ND	ND	ND	0.0007	0.0005	0.001*	1	0.0007	0.0007	0.0007	NA
	Chloroform	ND	ND	ND	0.0017	0.0005	0.011	1	0.0017	0.0017	0.0017	NA
	1,1-Dichloroethane	ND	ND	ND	0.0082	0.0005	0.005*	1	0.0082	0.0082	0.0082	NA
	1,2-Dichloroethane	ND	0.0088	ND	ND	0.0005	0.0005*	1	0.0088	0.0088	0.0088	NA
	1,1-Dichloroethene	ND	ND	ND	0.0062	0.0005	0.00012	1	0.0062	0.0062	0.0062	NA
	cis-1,2-Dichloroethene	ND	ND	ND	0.057	0.0005	0.006	1	0.057	0.057	0.057	NA
	trans-1,2-Dichloroethene	ND	ND	ND	0.0008	0.0005	0.01	1	0.0008	0.0008	0.0008	NA
	Napthalene	0.0083	0.0083	0.0024	0.0013	0.0005	0.0062	4	0.0083	0.0013	0.00508	0.0037509
	Tetrachloroethene	ND	ND	ND	0.13	0.0005	0.005*	1	0.13	0.13	0.13	NA
	1,1,1-Trichloroethane	ND	ND	ND	0.0042	0.0005	0.2*	1	0.0042	0.0042	0.0042	NA
	1,1,2-Trichloroethane	ND	ND	ND	0.0006	0.0005	0.005*	1	0.0006	0.0006	0.0006	NA
Trichloroethene	ND	0.0007	ND	0.63	0.0005	0.005*	2	0.63	0.0007	0.31535	0.4449823	
Trichlorotrifluoroethane	ND	ND	ND	0.0075	0.005	0.15*	1	0.0075	0.0075	0.0075	NA	
Vinyl Chloride	ND	ND	ND	0.0011	0.0005	0.0005*	1	0.0011	0.0011	0.0011	NA	
SVOCs by EPA 8270C	Napthalene	0.002	ND	ND	ND	0.0011	0.0062	1	0.002	0.002	0.002	NA
ORGANOCHLORINE PESTICIDES by EPA 8081		ND	ND	ND	ND	0.00005-0.001	NA	0	NA	NA	NA	NA
PCBs by EPA 8082		ND	ND	ND	ND	0.001	0.000034	0	NA	NA	NA	NA

Notes:

ND = Not Detected

MCL\* = Maximum contaminant levels for the primary drinking water chemicals. Where MCL were not available EPA Region 9 Preliminary Remediation Goals for tap water were presented, if available.

All samples are reported as total concentration in milligrams per kilogram (mg/kg) unless indicated.

VOCs = Volatile Organic Compounds

SVOCs = Semi-Volatile Organic Compounds

count = Number of concentrations reported above the detection limit

max = Maximum value

min = Minimum value

average = Average of the detected values above the detection limit

STD.DEV. = Standard deviation

**TABLE 5**  
**STATISTICAL ANALYSIS AND SUMMARY OF GROUNDWATER ANALYTICAL RESULTS: METALS**  
**J & A TRUCK REPAIR - SITE JA**  
**OAKLAND, CALIFORNIA**

SAMPLE I.D.	SB	AS	BA	BE	CD	CR	CO	CU	PB	HG	MO	NI	SE	AG	TL	V	ZN
JA-1	ND	ND	0.1600	ND	ND	ND	ND	ND	ND	ND	ND	0.0450	ND	ND	ND	ND	0.1200
JA-2	ND	ND	0.1500	ND	ND	0.0100	ND	ND	ND	ND	ND	0.0350	ND	ND	ND	ND	0.1000
JA-3	ND	ND	0.1800	ND	ND	ND	ND	ND	ND	ND	ND	0.0300	ND	ND	ND	ND	0.1200
JA-4	ND	ND	0.1200	ND	ND	ND	ND	ND	ND	ND	ND	0.0270	ND	ND	ND	ND	ND
PRG	15.0000	0.0450	2600	73.0000	18.0000	NA	2200	1400	0.0036	11.0000	180	730	180	180	NA	260	1100
DETECTION LIMIT	0.0150	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0002	0.1000	0.0100	0.0150	0.0100	0.0100	0.0100	0.1000
STATISTICAL FUNCTION	count	0.0000	0.0000	4.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	4.0000	0.0000	0.0000	0.0000	0.0000	3.0000
	max	0.0000	0.0000	0.1800	NA	NA	0.0100	0.0000	0.0000	0.0000	NA	0.0450	NA	NA	NA	0.0000	0.1200
	min	0.0000	0.0000	0.1200	NA	NA	0.0100	0.0000	0.0000	0.0000	NA	0.0270	NA	NA	NA	0.0000	0.1000
	AVERAGE	NA	NA	0.1525	NA	NA	0.0100	NA	NA	NA	NA	0.0343	NA	NA	NA	NA	0.1133
STD.DEV.	NA	NA	0.0250	NA	NA	NA	NA	NA	NA	NA	0.0079	NA	NA	NA	NA	0.0115	

Notes:

ND = Not detected at or above the laboratory detection limits  
 Metals are designated by their symbol on the periodic table of elements.  
 All samples are reported as total concentration in milligrams per kilogram (mg/L), unless indicated.  
 PRG = Preliminary remediation goals (EPA Region 9) for tap water  
 NA = Not Available/Not applicable  
 count = Number of concentrations reported above the detection limit  
 max = Maximum value  
 min = Minimum value  
 average = Average of the detected values above the detection limit  
 STD.DEV. = Standard deviation

**TABLE 6**  
**STATISTICAL ANALYSIS AND SUMMARY OF SOIL ANALYTICAL RESULTS: ORGANICS**  
**CONTAINER FRIGHT (SITE CF)**  
**OAKLAND, CALIFORNIA**

ANALYTICAL METHOD	DETECTED COMPOUND	CF1-0.5	CF1-1.0	CF1-2.0	CF2-0.5	CF2-1.0	CF2-2.0	CF2-3	CF3-0.5	CF3-1.0	CF3-2.0	DETECTION LIMIT	STATISTICAL FUNCTION				
													count	max	min	Average	STD.DEV.
EPA METHOD 8015	TPH-G	ND	0.77	ND	ND	ND	0.69	NT	ND	ND	ND	0.5	2	0.77	0.89	0.73	0.056589
EPA METHOD 8015	TPH-D	370	70	19	60	220	140	NT	22	140	110	10-100	9	370	19	127.8889	111.0996
EPA METHOD 8015	MOTOR OIL	830	100	35	44	520	ND	NT	23	78	58	10-100	8	630	23	188	243.0861
VOCs by EPA 8260B	Benzene	ND	0.001	ND	ND	ND	0.4	ND	ND	ND	ND	0.001	2	0.4	0.001	0.2005	0.282138
	Naphthalene	ND	0.98	1.5	0.009	0.005	ND	390	0.008	0.009	ND	0.002	7	390	0.005	56.073	147.2492
SVOCs by EPA 8270C	Acenaphthene	ND	ND	ND	0.34	ND	ND	NT	ND	ND	ND	0.33	1	0.34	0.34	0.34	NA
	Acenaphthylene	ND	ND	0.67	0.85	ND	0.69	NT	ND	2	1.8	0.033	5	2	0.67	1.202	0.64488
	Anthracene	ND	ND	0.5	1.5	ND	1.4	NT	ND	4.8	2	0.33	5	4.8	0.5	2	1.550806
	Benzo[a]anthracene	ND	ND	0.91	1.7	ND	5.7	NT	ND	16	5.5	0.66	5	16	0.91	5.962	6.015207
	Benzo[a]pyrene	ND	0.79	1.7	3.2	1.2	12	NT	ND	40	9.4	0.66	7	40	0.79	9.755714	14.03173
	Benzo[b]fluoranthene	0.59	1	2	4	1.8	17	NT	ND	47	12	0.33	8	47	0.59	10.67375	15.83467
	Benzo[g,h,i]perylene	ND	1	2	3.5	1.6	17	NT	ND	33	10	0.99	7	33	1	9.728571	11.79897
	Benzo[k]fluoranthene	0.61	1	2	4	1.8	17	NT	ND	47	12	0.33	8	47	0.61	10.67625	15.83285
	Chrysene	ND	0.62	1.4	2.1	0.76	8.7	NT	ND	19	7.1	0.33	7	19	0.62	5.668571	6.702028
	Dibenzo[a,h]anthracene	ND	ND	ND	ND	ND	1.8	NT	ND	6.3	1.2	0.99	3	6.3	1.2	3.1	2.787472
	Fluoranthene	0.59	1.5	3.3	7.6	ND	22	NT	ND	62	20	0.33	7	62	0.59	16.71286	21.77158
	Fluorene	ND	ND	ND	0.65	ND	1.8	NT	ND	0.53	0.74	0.33	4	1.8	0.53	0.88	0.487647
	Indeno[1,2,3-cd]pyrene	ND	ND	ND	2.6	ND	14	NT	ND	30	7.5	1.3	4	30	2.6	13.525	11.93465
	Naphthalene	ND	0.83	2.2	0.37	ND	2.4	NT	ND	0.85	1.3	0.33	6	2.4	0.37	1.325	0.812964
Phenanthrene	ND	1	2.6	7.6	0.81	7.8	NT	ND	26	14	0.66	7	26	0.81	8.544286	9.018337	
Pyrene	0.85	2.2	4.8	9.3	2.7	29	NT	ND	74	27	0.33	8	74	0.85	18.73125	24.96141	
ORGANOCHLORINE PESTICIDES by EPA 8081	4,4'-DDD	ND	0.003	ND	9.3	ND	ND	NT	ND	ND	ND	0.001-0.02	2	9.3	0.003	4.6515	6.573972
	4,4'-DDE	0.018	0.009	ND	ND	ND	ND	NT	ND	ND	ND	0.002	2	0.018	0.009	0.0135	0.006364
	Dieldrin	ND	0.002	ND	ND	ND	ND	NT	ND	ND	ND	0.002	1	0.002	0.002	0.002	NA
	Endosulfan I	0.006	ND	ND	ND	ND	ND	NT	ND	ND	ND	0.001	1	0.006	0.006	0.006	NA
PCBs by EPA 8082	Aroclor-1260	0.082	ND	ND	ND	ND	ND	NT	ND	ND	ND	0.05	1	0.082	0.082	0.082	NA

Notes:  
 ND = Not Detected  
 Depth is presented in feet below ground surface.  
 All samples are reported as total concentration in milligrams per kilogram (mg/kg), unless indicated.  
 VOCs = Total of Volatile Organic Compounds  
 SVOCs = Semi-Volatile Organic Compounds  
 PRG = Preliminary remediation goals (EPA Region 9)  
 NA = Not Available/Not Applicable  
 count = Number of concentrations above the detection limit  
 max = Maximum value  
 min = Minimum value  
 average = Average of the detected values above the detection limit  
 STD.DEV. = Standard deviation



**TABLE 7**  
**SUMMARY OF SOIL ANALYTICAL RESULTS: METALS**  
**CONTAINER FREIGHT (SITE CF)**  
**OAKLAND, CALIFORNIA**

SOIL SAMPLE I.D.	DEPTH (m)	SB	AS	BA	BE	CD	CR	CO	CU	PB	HG	MO	NI	SE	AG	TL	V	ZN
CF1-0.5	0.5	ND	4.7	130	ND	ND	30	7.8	30	49	ND	0.66	33	ND	ND	ND	32	89
CF1-1.0	1	ND	8.8	120	ND	ND	35	8.8	51	49	0.3	1	41	ND	ND	ND	37	87
CF1-2.0	2	ND	5.8	130	ND	0.82	27	6.4	36	74	0.23	1.4	25	ND	ND	ND	26	150
CF2-0.5	0.5	ND	5.9	71	ND	ND	20	6.2	41	65	0.24	ND	19	ND	ND	ND	28	76
CF2-1.0	1	ND	5.4	99	ND	ND	29	6.6	38	64	0.26	0.71	30	ND	ND	ND	31	87
CF2-2.0	2	ND	12.0	55	ND	0.62	7.1	2.5	80	48	ND	ND	12	ND	ND	ND	13	230
CF3-0.5	0.5	ND	2.5	77	ND	ND	22	4.1	14	73	0.18	ND	16	ND	ND	ND	19	50
CF3-1.0	1	ND	6.0	18	ND	ND	2.9	0.59	71	22	ND	ND	7.6	ND	ND	ND	25	30
CF3-2.0	2	ND	5.1	50	ND	ND	32	6.2	34	48	ND	0.67	38	ND	ND	ND	28	180
<b>DETECTION LIMIT</b>																		
		2.50	0.50	0.50	0.50	0.05	0.50	0.50	0.50	0.50	0.10	0.50	1.00	2.50	1.00	2.50	0.50	10.00
<b>STATISTICAL FUNCTION</b>	<b>count</b>	0	9	9	0	2	9	9	9	9	5	5	9	0	0	0	9	9
	<b>max</b>	NA	12	130	NA	0.82	35	8.8	80	74	0.3	1.4	41	NA	NA	NA	37	230
	<b>min</b>	NA	2.5	18	NA	0.62	2.9	0.59	14	22	0.18	0.66	7.6	NA	NA	NA	13	30
	<b>AVERAGE</b>	NA	6.24444	83.3333	NA	0.72	22.7778	5.46555556	43.8889	54.6667	0.242	0.888	24.6222	NA	NA	NA	26.5556	108.778
	<b>STD.DEV.</b>	NA	2.70329	39.2428	NA	0.14142	11.1376	2.60378144	20.5514	16.2942	0.04382	0.31854	11.7339	NA	NA	NA	7.12585	64.751

Notes:

ND = not detected at or above the laboratory detection limits  
Metals are designated by their symbol on the periodic table of elements.  
All samples are reported as total concentration in milligrams per kilogram (mg/kg), unless indicated.  
NA = Not Available/Not Applicable  
count = Number of concentrations above the detection limit  
max = Maximum value  
min = Minimum value  
average = Average of the detected values above the detection limit  
STD.DEV. = Standard deviation

**TABLE 8**  
**STATISTICAL ANALYSIS AND SUMMARY OF GROUNDWATER ANALYTICAL RESULTS**  
**CONTAINER FREIGHT (SITE CF)**  
**OAKLAND, CALIFORNIA**

ANALYTICAL METHOD	COMPOUND	CF-1	CF-2	CF-3	CF-10	DETECTION LIMIT	MCL* PRG(mg/L)	STATISTICAL FUNCTION				
								count	max	min	average	STD.DEV.
EPA METHOD 8015	TPH-G	94	54	0.5	7.7	0.5-50	NA	4	94	0.5	39.05	43.63458
EPA METHOD 8015	TPH-D	21	2.8	ND	1.8	0.4-4.0	NA	3	21	1.8	8.533333	10.80802
EPA METHOD 8015	Motor Oil	ND	ND	ND	ND	0.4-4.0	NA	0	NA	NA	NA	NA
VOCs by EPA 8260B	Benzene	34	0.33	0.0009	0.27	0.0005	0.001*	4	34	0.0009	8.650225	16.90046
	Carbon Disulfide	ND	0.068	ND	ND	0.0005		1	0.068	0.068	0.068	NA
	Ethylbenzene	0.34	0.012	ND	0.013	0.0005	0.7*	3	0.34	0.012	0.121867	0.189083
	Naphthalene	19	3	0.0017	1.6	0.0005	0.0062	4	19	0.0017	5.875425	8.829638
	Styrene	0.59	0.0008	ND	ND	0.0005	0.1*	2	0.59	0.0008	0.2954	0.416627
	Toluene	1.6	0.01	ND	0.014	0.0005	0.15*	3	1.6	0.01	0.541333	0.916834
	1,2,4-Trimethylbenzene	ND	0.0014	ND	ND	0.0005	0.005	1	0.0014	0.0014	0.0014	NA
	Trichloroethene	0.19	ND	ND	ND	0.0005	0.005*	1	0.19	0.19	0.19	NA
Xylenes (total)	ND	0.011	ND	ND	0.005	1.75*	1	0.011	0.011	0.011	NA	
SVOCs by EPA 8270C	Acenaphthene	0.008	0.004	ND	0.004	0.001	0.37	3	0.008	0.004	0.005333	0.002309
	Acenaphthylene	ND	0.069	ND	0.031	0.001	NA	2	0.069	0.031	0.05	0.02687
	Anthracene	ND	0.008	0.007	0.001	0.006	1.8	3	0.007	0.001	0.004667	0.003215
	Benzo[a]anthracene	ND	ND	0.004	ND	0.002	0.000092	1	0.004	0.004	0.004	NA
	Benzo[a]pyrene	ND	0.003	0.008	0.002	0.002	0.0002*	3	0.008	0.002	0.004333	0.003215
	Benzo[b]fluoranthene	ND	0.003	0.01	0.003	0.001	0.000092	3	0.01	0.003	0.005333	0.004041
	Benzo[g,h,i]perylene	ND	ND	0.009	ND	0.003	NA	1	0.009	0.009	0.009	NA
	Benzo[k]fluoranthene	ND	0.003	0.01	0.003	0.001	0.00092	3	0.01	0.003	0.005333	0.004041
	Chrysene	ND	0.003	0.006	0.002	0.001	0.0092	3	0.006	0.002	0.003667	0.002082
	Dibenzofuran	0.003	0.003	ND	0.003	0.001	0.024	3	0.003	0.003	0.003	0
	Fluoranthene	0.007	0.014	0.012	0.011	0.001	1.5	4	0.014	0.007	0.011	0.002944
	Fluorene	0.013	0.016	ND	0.014	0.001	0.24	3	0.016	0.013	0.014333	0.001528
	Indeno[1,2,3-cd]pyrene	ND	ND	0.006	ND	0.004	0.00092	1	0.006	0.006	0.006	NA
	2-Methylnaphthalene	0.067	0.022	ND	0.008	0.001	NA	3	0.067	0.008	0.032333	0.030827
	4-Methylphenol	ND	0.17	ND	0.041	0.005	0.18	2	0.17	0.041	0.1055	0.091217
	Naphthalene	5.5	1.2	0.007	0.52	0.001	0.0062	4	5.5	0.007	1.80675	2.510184
Phenanthrene	0.055	0.048	0.004	0.033	0.002	NA	4	0.055	0.004	0.035	0.022613	
Phenol	0.024	0.046	ND	0.011	0.004	22	3	0.046	0.011	0.027	0.017692	
Pyrene	0.011	0.018	0.016	0.013	0.001	0.18	4	0.018	0.011	0.0145	0.003109	
ORGANOCHLORINE PESTICIDES by EPA 8080	All Compounds	ND	ND	ND	ND	0.00005-0.001	NA	0	NA	NA	NA	NA
PCBs by EPA 8080	All Compounds	ND	ND	ND	ND	0.001	0.000034	0	NA	NA	NA	NA

**Notes:**

ND = Not Detected

MCL\* = Maximum contaminant levels for the primary drinking water chemicals/ Where MCL were not available EPA Region 9 Preliminary Remediation Goals were presented, if available.

All samples are reported as total concentration in milligrams per kilogram (mg/L), unless indicated.

VOCs = Volatile Organic Compounds

SVOCs = Semi-Volatile Organic Compounds

TPH-G = Total petroleum hydrocarbons as gasoline

TPH-D = Total petroleum hydrocarbons as diesel

\* = MCL is for either a single isomer or the sum of the isomers

NA = Not Available/Not Applicable

count = Number of Tests

max = Maximum value

min = Minimum value

average = Average value of the detected values above the detection limit

STD.DEV. = Standard deviation

**TABLE 9**  
**SUMMARY OF GROUNDWATER ANALYTICAL RESULTS: METALS**  
**CONTAINER FREIGHT (SITE CF)**  
**OAKLAND, CALIFORNIA**

SOIL SAMPLE I.D.		SB	AS	BA	BE	CD	CR	CO	CU	PB	HG	MO	NI	SE	AG	TL	V	ZN
CF-1		ND	ND	0.28	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CF-2		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CF-3		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CF-10		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>DETECTION LIMIT</b>		0.30	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.0002	0.20	0.20	0.30	0.20	0.20	0.20	2.00
<b>STATISTICAL FUNCTION</b>	count	NA	NA	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	max	NA	NA	0.28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	min	NA	NA	0.28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AVERAGE	NA	NA	0.28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	STD.DEV.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

- ND = not detected at or above the laboratory detection limits
- Metals are designated by their symbol on the periodic table of elements.
- All samples are reported as total concentration in milligrams per kilogram (mg/L), unless indicated.
- NA = Not Available/Not Applicable
- count = Number of concentrations above the detection limit
- max = Maximum value
- min = Minimum value
- average = Average of the detected values above the detection limit
- STD.DEV. = Standard deviation

**APPENDIX A**

**FIELD PROCEDURES**

**APPENDIX A**  
**FIELD PROCEDURES**

**I. DRILLING OF SOIL BORINGS AND COLLECTION OF SOIL SAMPLES**

The following procedures will be used for the drilling and sampling of the soil borings drilled at the site:

1. Drilling will be conducted by V&W Drilling Environmental under the supervision of PSI. Drilling equipment will be pressure washed at the beginning of the day and between soil borings.
2. Prior to the commencement of drilling activities at the site, Underground Service Alert (USA) will be contacted to identify underground utilities in the areas that the borings will be located.
3. Boring logs for the soil borings drilled at the site will be prepared under the supervision of a State of California Registered Geologist. The soil cuttings observed during drilling will be described in accordance with the Unified Soil Classification System.
4. Soil samples will be collected using a California stainless steel sampler with 2-inch diameter. When the boring has been advanced to the appropriate sampling depth, a 2-inch diameter sampler lined with 2-inch diameter brass tubes will be placed in the open boring. When the sampler is advanced to the appropriate depth an undisturbed soil sample will be collected by pushing the sampler into the subsurface using a 140 pounds hammer.
5. Once the sampler has been retrieved the ends of the sample tube will be covered with Teflon sheets and capped with polyethylene end caps. The sample will be labeled and placed in a zip-lock bag in a chilled cooler pending delivery to the laboratory for analysis.
6. Soil samples will be assigned identification numbers such as JA1-0.5, where JA1 indicates the site name, boring 1 and -0.5 indicates that the sample was collected at 0.5 meters bgs from boring 1 at that site. The samples will be labeled with the sampling designation, depth, date, client name, and project number.
7. Soil samplers will be washed between sampling intervals with Alconox soap followed by two deionized-water rinses.

8. Chain-of-custody procedures using chain-of-custody forms will be used to document sample handling and transportation.
9. A Century 128 organic vapor analyzer (OVA) or equivalent device will be used to monitor volatile organic compounds (VOCs) in the ambient air during drilling at the site in accordance with the site health and safety plan. VOC concentrations in the soil will be measured and recorded on the borings logs for depths that soil samples were collected. VOCs in the soil will be measured at the sampling depths by partially filling a zip-loc bag with soil. The components of the soil are allowed to volatilize and fill the headspace in the tube for at least 10 minutes prior to inserting the OVA probe through one of the end caps and recording the measurements.
10. Soil cuttings and steam wash water generated during drilling activities at the site will be contained in Department of Transportation (DOT) approved 55-gallon drums. The drums will be labeled with the contents, date, well or boring number, client name, and project number.

## **II FIELD DOCUMENTATION OF SAMPLING PROCEDURES**

The following outline describes the procedures adhered by PSI for proper sampling documentation.

1. Sampling procedures will be documented in a field notebook that will contain:
  1. Sample collection procedures
  2. Date and time of collection
  3. Date of shipping
  4. Sample collection location
  5. Sample identification number(s)
  6. Intended analysis
  7. Quality control samples
  8. Sample preservation
  9. Name of sampler
  10. Any pertinent observations

2. Samples will be labeled with the following information:

1. Sample number
2. Well number
3. Date and time sample was collected
4. Sampler's name
5. Sample preservatives (if required)

3. The following is the sample designation system for the site:

For Borings, the samples will be labeled JA(Boring Number)-(Depth) (i.e. sample collected from boring 1 at 0.5 m (1.65 feet) would be JA1-0.5)

For groundwater samples (W) (Boring Number) (i.e. WJA4)

4. Handling of the samples will be recorded on a chain of custody form which shall include:

1. Site name
2. Signature of Collector
3. Date and time of collection
4. Sample identification number
5. Number of containers in sample set
6. Description of sample and container
7. Name and signature of persons, and the companies or agencies they represent, who are involved in the chain of possession
8. Inclusive dates and times of possession
9. Analyses to be completed

### III. GROUNDWATER SAMPLING

The following are procedures that will be implemented while performing well monitoring, well purging, and water sampling.

1. All non-disposable equipment will be washed prior to entering the boring with an Alconox solution, followed by two tap water rinses and a deionized water rinse.

2. Groundwater samples will be collected after purging three to five well casing volumes. Purged water will be stored in 55-gallon drums for future disposal. Physical parameter measurements (temperature, pH, and specific conductance) will be closely monitored throughout the well purging process and will be used as indicators for assessing sufficient purging.
3. Water samples will be collected with a single-use Teflon bailer. The water will be immediately decanted into laboratory-supplied vials and bottles. The containers will be overfilled, capped, labeled, and placed in a chilled cooler prior to delivery to the laboratory for analysis. Table 2 attached to this appendix presents the container type and preservation method required by the EPA methods. Also, Table 3 is presenting the detection limits that will be used by Centrum Analytical Laboratories for the required EPA methods.
5. Chain-of-custody procedures, including chain-of-custody forms, will be used to document water sample handling and transport from collection to delivery to the laboratory for analyses.
6. Groundwater samples will be delivered to the State-certified hazardous waste laboratory within approximately 24-hours of collection.



**APPENDIX B  
BORING LOGS**

# SOIL BORING LOG

BORING NO: JA-1  
 SHEET 1 OF 1

PROJECT NAME: J & A TRUCK REPAIR (SITE 1), OAKLAND  
 PROJECT NUMBER: 575-0G011 DATE: 4/26/00  
 NORTHINGS: EASTINGS:  
 DRILLING COMPANY: V & W DRILLING  
 DRILLING METHOD: HOLLOW-STEM AUGER  
 BORING DIAMETER: 20 cm (8 inch) DEPTH: 5 m (16.4 feet)

GROUNDWATER LEVELS		
DATE	COMMENTS	DEPTH BGS
4/26/00	GROUNDWATER ENCOUNTERED	-2.3 m (-7.5 FEET)

DEPTH (m)	SAMPLE NO.	RECOVERY	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
0								Asphalt Pavement
0.6					Fill (gravelly sand) to approximately 0.6 m (2 feet).		SW	
2.3								Groundwater encountered at ~2.3 m ( 7.5 feet).
2.3	JA1-7.0				Sand, poorly graded, medium sand, green, damp to wet.		SP	
5								
10								Total depth = 5 meters (16.4 feet) bgs. Soil borehole was converted in a groundwater monitoring well.

LOGGED BY: Chris Merritt

# SOIL BORING LOG

BORING NO: JA-2  
 SHEET 1 OF 1

PROJECT NAME: J & A TRUCK REPAIR (SITE 1), OAKLAND  
 PROJECT NUMBER: 575-0G011 DATE: 4/26/00  
 NORTHINGS: EASTINGS:  
 DRILLING COMPANY: V & W DRILLING  
 DRILLING METHOD: HOLLOW-STEM AUGER  
 BORING DIAMETER: 20 cm (8 inch) DEPTH: 5 m (16.4 feet)

GROUNDWATER LEVELS		
DATE	COMMENTS	DEPTH BGS
#####	GROUNDWATER ENCOUNTERED	-2.3 m (-7.5 FEET)

DEPTH (m)	SAMPLE NO.	RECOVERY	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
0								Asphalt Pavement
0.8					Fill (silty sand) to approximately 0.8 m (2.5 feet).		SM	
1								
1.8				18				Groundwater encountered at -2.3 m (7.5 feet).
2.5	JA2-7.0			25	Sand, poorly graded, medium sand, green, damp to wet.		SP	
3				50/5				The color turns brown.
4								
5								
6								
7								
8								
9								
10								Total depth = 5 meters (16.4 feet) bgs. Soil borehole was converted in a groundwater monitoring well.

LOGGED BY: Chris Merritt

# SOIL BORING LOG

BORING NO: JA-3  
SHEET 1 OF 1

PROJECT NAME: J & A TRUCK REPAIR (SITE 1), OAKLAND  
PROJECT NUMBER: 575-0G011 DATE: 4/26/00  
NORTHINGS: EASTINGS:  
DRILLING COMPANY: V & W DRILLING  
DRILLING METHOD: HOLLOW-STEM AUGER  
BORING DIAMETER: 20 cm (8 inch) DEPTH: 5 m (16.4 feet)

GROUNDWATER LEVELS		
DATE	COMMENTS	DEPTH BGS
4/26/00	GROUNDWATER ENCOUNTERED	-2.3 m (-7.5 FEET)

DEPTH (m)	SAMPLE NO.	RECOVERY	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
0								Asphalt Pavement
1					Fill (silty sand) to approximately 0.8 m (2.5 feet).		SM	
2	JA3-7.0			18				Groundwater encountered at -2.3 m ( 7.5 feet).
2			25	50/5	Sand, poorly graded, medium sand, green, damp to wet.		SP	The color turns brown.
3								
4								
5								
6								
7								
8								
9								
10								Total depth = 5 meters (16.4 feet) bgs. Soil borehole was converted in a groundwater monitoring well.

LOGGED BY: Chris Merritt

# SOIL BORING LOG

BORING NO: JA-4  
SHEET 1 OF 1

PROJECT NAME: J & A TRUCK REPAIR (SITE 1), OAKLAND  
PROJECT NUMBER: 575-0G011 DATE: 4/26/00  
NORTHINGS: EASTINGS:  
DRILLING COMPANY: V & W DRILLING  
DRILLING METHOD: HOLLOW-STEM AUGER  
BORING DIAMETER: 20 cm (8 inch) DEPTH: 5 m (16.4 feet)

GROUNDWATER LEVELS		
DATE	COMMENTS	DEPTH BGS
4/26/00	GROUNDWATER ENCOUNTERED	-2.2 m (-7 FEET)

DEPTH (m)	SAMPLE NO.	RECOVERY	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
0								Asphalt Pavement
1				13	Fill (silty sand) to approximately 1.5 m (5 feet).		SM	
				10				
				14				Groundwater encountered at ~2.2 m ( 7 feet).
2	JA4-8.5			16				
				31	Sand, poorly graded, medium sand, green, damp to wet.		SP	
				26				The color turns brown.
3								
4								
5								
6								
7								
8								
9								
10								

Total depth = 5 meters (16.4 feet) bgs.  
Soil borehole was converted in a groundwater monitoring well.

LOGGED BY: Chris Merritt

# SOIL BORING LOG

BORING NO: CF-1  
SHEET 1 OF 1

PROJECT NAME: CONTAINER FREIGHT (SITE 2), OAKLAND  
PROJECT NUMBER: 575-0G011 DATE: 4/25/00  
NORTHINGS: EASTINGS:  
DRILLING COMPANY: V & W DRILLING  
DRILLING METHOD: HOLLOW-STEM AUGER  
BORING DIAMETER: 20 cm (8 inch) DEPTH: 5 m (16.4 feet)

GROUNDWATER LEVELS		
DATE	COMMENTS	DEPTH BGS
4/25/00	GROUNDWATER ENCOUNTERED	-2 m (-6 FEET)

DEPTH (m)	SAMPLE NO.	RECOVERY	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
0								Asphalt Pavement
1	CF1-0.5		100%	21	Gravelly sand, well graded, fine to coarse sand, with fine to coarse gravel, brown, dry to damp.	0	SW	Lot of concrete debris, hard to start drive at 0.5 m to 0.65 m.
1	CF1-1.0			25	Gravelly-silty sand, as above.	0		
2				39				
2				40				
2	CF1-2.0			38	As above; sample grades damp to wet in tubes.			Groundwater encountered at ~2 m ( 6 feet).
3				36	Gravelly sand, poorly graded, fine sand with coarse gravel, wet, grayish-green.	0	SP	
4								
5								
6								
7								
8								
9								
10								Total depth = 5 meters (16.4 feet) bgs. Soil borehole was converted in a groundwater monitoring well.

LOGGED BY: Chris Merritt

# SOIL BORING LOG

BORING NO: CF-2  
SHEET 1 OF 1

PROJECT NAME: CONTAINER FREIGHT (SITE 2), OAKLAND  
 PROJECT NUMBER: 575-0G011 DATE: 4/25/00  
 NORTHINGS: EASTINGS:  
 DRILLING COMPANY: V & W DRILLING  
 DRILLING METHOD: HOLLOW-STEM AUGER  
 BORING DIAMETER: 20 cm (8 inch) DEPTH: 5 m (16.4 feet)

GROUNDWATER LEVELS		
DATE	COMMENTS	DEPTH BGS
4/25/00	GROUNDWATER ENCOUNTERED	-2 m (-6 FEET)

DEPTH (m)	SAMPLE NO.	RECOVERY	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
				13	Gravelly silty sand, well graded, fine to coarse sand, with fine to		SW	Asphalt Pavement
	CF2-0.5			23	coarse gravel and silt, brown, dry to damp.	0		Lot of concrete debris, hard to start drive at 0.5 m to 0.65 m.
1				38			SP	
	CF2-1.0			30		0		
				50/3"	Clayey sand, poorly graded fine sand with clay, brown, damp.		SW	Groundwater encountered at -2 m ( 6 feet).
2				11				
	CF2-2.0			8	Gravelly silty sand, well graded, fine to coarse sand with gravel (fine to coarse), with traces of fines, wet, black.	0	SP	Soil cuttings smell like sewage/rotten eggs.
3				4	Clayey sand, poorly graded fine sand with clay, dark gray to black, wet.			
	CF2-3.0							
4								
5								
6								
7								
8								
9								
10								Total depth = 5 meters (16.4 feet) bgs. Soil borehole was converted in a groundwater monitoring well.

LOGGED BY: Chris Merritt

# SOIL BORING LOG

BORING NO: CF-3  
SHEET 1 OF 1

PROJECT NAME: CONTAINER FREIGHT (SITE 2), OAKLAND  
PROJECT NUMBER: 575-0G011 DATE: 4/25/00  
NORTHINGS: EASTINGS:  
DRILLING COMPANY: V & W DRILLING  
DRILLING METHOD: HOLLOW-STEM AUGER  
BORING DIAMETER: 20 cm (8 inch) DEPTH: 5 m (16.4 feet)

GROUNDWATER LEVELS		
DATE	COMMENTS	DEPTH BGS
4/25/00	GROUNDWATER ENCOUNTERED	-2.2 m (-7 FEET)

DEPTH (m)	SAMPLE NO.	RECOVERY	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
				45	Sandy gravel, well graded, fine to coarse gravel, with fine to coarse sand, gray/black, damp.	0	GW	Asphalt Pavement
1	CF3-1.0			5				
				4		0		
				4	Gravelly sand, well graded fine to coarse sand, with fine to coarse gravel, black, wet, with traces of finas.		SW	Groundwater encountered at -0.31 m ( 3 feet).
2	CF3-2.0			2				
				3				
				2	Silt, green, wet, with low plasticity.	0	ML	
3					Clayey silt, green, wet, with moderate plasticity.		ML	
4								
5								
6								
7								
8								
9								
10								

Total depth = 5 meters (16.4 feet) bgs.  
Soil borehole was converted in a groundwater monitoring well.

LOGGED BY: Chris Merritt



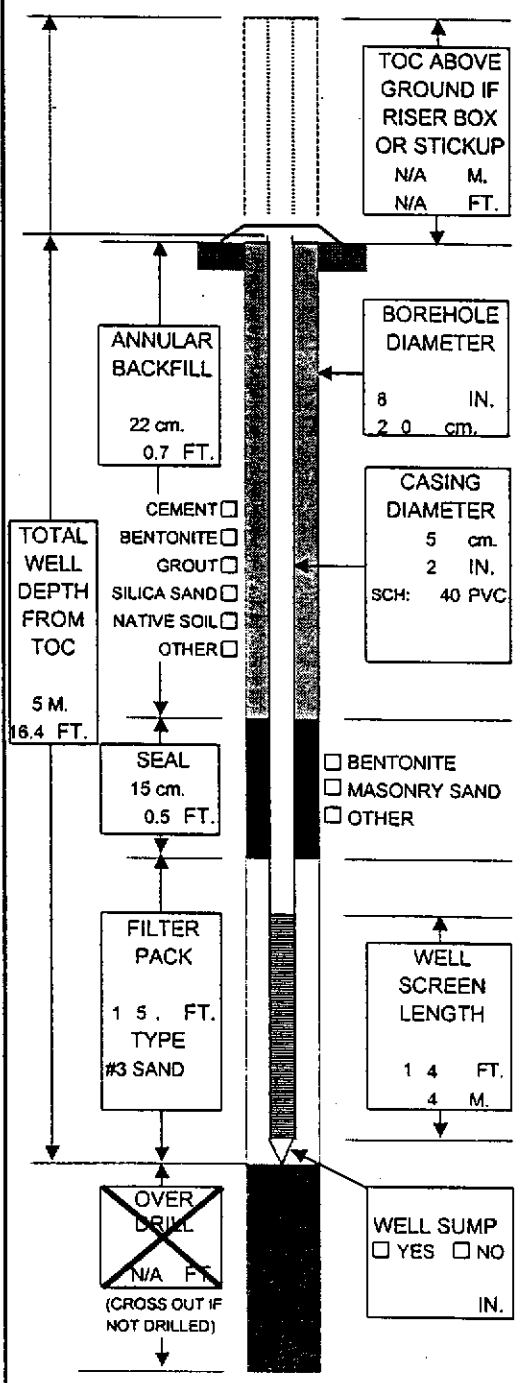
# MONITORING WELL CONSTRUCTION DATA

WELL/BORING NO: JA-1 to JA-4 and CF-1 to CF-4  
 PERMIT NO:

DATE: 04/25 & 26/00 PROJECT NAME: OAKLAND PROJECT NO: 575-0G011

WELL SITE LOCATION PLAN:  
 SEC: TWN: RGE: LAT: LONG:  
 DRILLING CO: V & W DRILLING  
 DRILL CREW:  
 WELL TYPE:  SHALLOW  SINGLE CASED  MONITORING  
 PERMANENT  INTERMEDIATE  DOUBLE CASED  RECOVERY  
 TEMPORARY  DEEP  OTHER MON  OTHER

## WELL SCHEMATIC



## INSTALLATION DATA

DECON:  STEAM CLEAN  HIGH PRESSURE WASH  
 SOAP WASH  OTHER

CASING TYPE:  PVC  STAINLESS  TEFLON  OTHER  
 JOINTS:  THREADED  WELDED  COUPLED  
 SCREWED  OTHER

PIT CASING:  YES  NO  DESCRIBE

WELL SCREEN:  PVC  STAINLESS  TEFLON  OTHER  
 DIAMETER:  2"  4"  6"  OTHER IN  
 SLOT:  0.010  0.020  OTHER IN

DRILLING METHOD:  SOLID STEM  HOLLOW STEM  MUD ROTARY  
 AIR ROTARY  DIRECT PUSH  HAND AUGER  
 OTHER

BIT SIZE:  2"  4"  6"  8"  12"  OTHER IN

DRILLING MUD:  NONE  WATER  BENTONITE  
 OTHER

CENTRALIZER:  YES  NO

COMPLETION:  FLUSH MOUNT  STICKUP  RISER BOX  
 LOCK TYPE:  DOLPHIN  MASTER KEY NO.  
 OTHER

PAD:  2'X2'  4'X4'  OTHER

CUTTINGS:  DRUMMED NUMBER OF DRUMS  
 SPREAD  OTHER

DEVELOPMENT METHOD:  NONE  BAILING  PUMPING  AIR LIFT  
 SURGE & BLOCK  OTHER

TIME:  10 MIN  20 MIN  OTHER MIN  
 AMOUNT:  5 GAL  10 GAL  OTHER GAL

WATER BEFORE:  SILTY  TURBID  OPAQUE  CLEAR  
 WATER AFTER:  SILTY  TURBID  OPAQUE  CLEAR

EVIDENT ODOR:  YES  NO TYPE

DEVELOPMENT WATER:  DRUMMED NUMBER OF DRUMS  
 SPREAD  TREATED  POTW  OTHER

PREPARED BY: *A. Combs*

**APPENDIX C:  
SURVEY DATA**

**MONITORING WELL  
LOCATIONS AND ELEVATIONS  
IN THE VICINITY OF  
500 KIRKHAM STREET  
OAKLAND, CALIFORNIA**

The following tables represent a summary of the Horizontal and Vertical Locations for the seven wells at or near the site. Values are shown for both **FEET** and **METERS**.

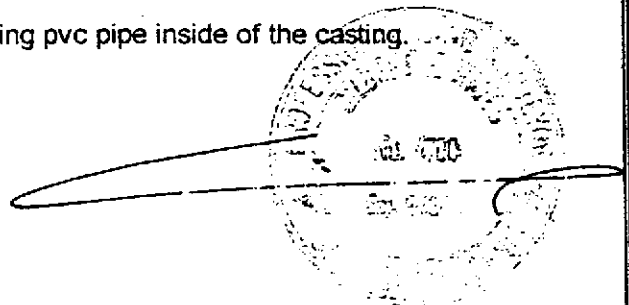
**ELEVATIONS (MSL)**

WELL ID	ELEV. (M)	ELEV. (Ft)
JA-4	3.83	12.58
JA-3	3.85	12.64
JA-2	4.01	13.15
JA-1	4.61	15.12
CR-3	2.95	9.67
CR-2	3.11	10.20
CR-1	4.29	14.07

Notes: Elevations were derived directly in feet and converted to meters using the standardized equation:  
1 Meter = 39.37 / 12 Feet.

Elevations were based upon information provided by CalTrans: Flight Cross @ 5<sup>th</sup> & Kirkham having an elevation of 11.05 - Mean Sea Level (MSL).

Elevations were taken upon the top of the well casing pvc pipe inside of the casing.



**MEMO**

July 17, 2000

To: **PSI**  
 1320 West Winton Avenue  
 Hayward, California

Attention: Ms. Adriana Constantinesc

From: **Gilbert E. Hayes**  
 Engineering Associates  
 P.O. Box 11078  
 Oakland, California; 94611-0078

Re: **Kirkham Street Monitoring Wells**

Dear: **Adriana:**

After receiving the necessary monument coordinates from CalTrans this afternoon, I have re-calculated the values for the wells as follows:

Values are Per Cal Trans Values for the found monuments, and are accurate to within 0.1'

POINT	NORTHING	EASTING	NOTES/COMMENTS
A829	479609.3440	1482692.9010	Found CalTrans Mon
A831	479582.0667	1482524.9894	Found CalTrans Mon
FD77	479491.1410	1483018.4670	Fnd. Tag in Curb
CF1	479332.7425	1482561.2768	M. Well
CF2	479195.0284	1482408.2584	M. Well
CF3	479037.4057	1482450.1000	M. Well
JA4	479665.4877	1482589.9081	M. Well
JA3	479699.0678	1482525.4298	M. Well
JA2	479728.5120	1482476.9972	M. Well
JA1	479916.6308	1482518.7732	M. Well

Please call if you have any questions.

g

**APPENDIX D**

**LABORATORY RESULTS AND  
CHAIN-OF-CUSTODY RECORDS**



# Centrum Analytical Laboratories, Inc.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

Client: PSI  
1320 W. Winton Ave.  
Hayward, CA 94545

Date Sampled: 04/26/00  
Date Received: 04/28/00  
Job Number: 16373

Project: Caltrans - J&A Trucking

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## CASE NARRATIVE

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The following information applies to samples which were received on 04/28/00 :

The samples were received at the laboratory chilled and sample containers were intact.

Unless otherwise noted below, the Quality Control acceptance criteria were met for all samples for every analysis requested.

Report approved by:



Robert R. Clark, Ph.D.  
Laboratory Director

ELAP # 1184

DL : Detection Limit – The lowest level at which the compound can reliably be detected under normal laboratory conditions.  
ND : Not Detected – The compound was analyzed for but was not found to be present at or above the detection limit.  
NA : Not Analyzed – Per client request, this analyte was not on the list of compounds to be analyzed for.



**Metals**

Client: PSI  
Project: Caltrans - J&A Trucking  
Job No: 16373  
Matrix: Soil  
Analyst: RLB/TLR

Date Sampled: 04/26/00  
Date Received: 04/28/00  
Date Digested: 05/01/00  
Date Analyzed: 05/02-06/00  
Batch Number: 6010S1551

Element	Method #	Sample ID:					
		DL	Blank mg/Kg	JA1-7.0 mg/Kg	JA2-7.0 mg/Kg	JA3-7.0 mg/Kg	JA4-6.5 mg/Kg
Antimony	6010	2.5	ND	ND	ND	ND	ND
Arsenic	6010	0.50	ND	2.1	2.5	3.0	2.4
Barium	6010	0.50	ND	37	47	47	56
Beryllium	6010	0.50	ND	ND	ND	ND	ND
Cadmium	6010	0.50	ND	ND	ND	ND	ND
Chromium	6010	0.50	ND	30	35	38	48
Cobalt	6010	0.50	ND	4.6	5.3	5.6	5.8
Copper	6010	0.50	ND	5.3	6.8	8.4	7.6
Lead	6010	0.50	ND	1.5	2.0	3.9	2.5
Mercury	7471	0.10	ND	ND	ND	ND	ND
Molybdenum	6010	0.50	ND	ND	ND	ND	ND
Nickel	6010	1.0	ND	26	32	32	35
Selenium	6010	2.5	ND	ND	ND	ND	ND
Silver	6010	1.0	ND	ND	ND	ND	ND
Thallium	6010	2.5	ND	ND	ND	ND	ND
Vanadium	6010	0.5	ND	21	27	29	30
Zinc	6010	10	ND	19	23	25	26

**QC Sample Report - Metals**

Matrix: Soil  
 Batch #: 6010S1551  
 MS/MSD Sample ID: JA1-7.0

Metal	Batch Precision Results:					Batch Accuracy Results:			
	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass / Fail	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits Percent Recovery	Pass / Fail
Antimony	52.2	52.0	0%	20%	Pass	50	112	75 - 125	Pass
Arsenic	51.8	52.0	0%	20%	Pass	50	107	75 - 125	Pass
Barium	85.9	86.4	1%	20%	Pass	50	105	75 - 125	Pass
Beryllium	50.7	52.3	3%	20%	Pass	50	107	75 - 125	Pass
Cadmium	48.2	48.7	1%	20%	Pass	50	107	75 - 125	Pass
Chromium	79.1	81.5	3%	20%	Pass	50	108	75 - 125	Pass
Cobalt	53.0	53.9	2%	20%	Pass	50	108	75 - 125	Pass
Copper	57.4	58.2	1%	20%	Pass	50	108	75 - 125	Pass
Lead	50.7	50.6	0%	20%	Pass	50	107	75 - 125	Pass
Mercury	2.74	2.80	2%	20%	Pass	2.5	111	75 - 125	Pass
Molybdenum	52.2	52.2	0%	20%	Pass	50	113	75 - 125	Pass
Nickel	75.4	77.7	3%	20%	Pass	50	108	75 - 125	Pass
Selenium	48.1	48.9	2%	20%	Pass	50	103	75 - 125	Pass
Silver	49.1	50.1	2%	20%	Pass	50	104	75 - 125	Pass
Thallium	48.0	48.8	2%	20%	Pass	50	107	75 - 125	Pass
Vanadium	70.3	71.2	1%	20%	Pass	50	109	75 - 125	Pass
Zinc	69.0	70.1	2%	20%	Pass	50	115	75 - 125	Pass

**Analytical Notes**

LCS: Laboratory Control Sample

MS: Matrix Spike

RPD: Relative Percent Difference

LCS D: Laboratory Control Sample Duplicate

MSD: Matrix Spike Duplicate





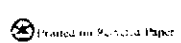
(800) 798-9336

# Modified 8015 - Fuel Screen

Client: PSI  
Project: Caltrans - J&A Trucking  
Job No.: 16373  
Matrix: Soil  
Analyst: JL

Date Sampled: 04/26/00  
Date Received: 04/28/00  
Date Extracted: 05/01/00  
Date Analyzed: 05/01/00  
Batch Number: 8015DS1909

Fuel Identified:	Diesel	Motor Oil	Detection Limits
Units:	mg/kg	mg/kg	mg/kg
Blank	ND	ND	10
JA1-7.0	ND	ND	10
JA2-7.0	ND	ND	10
JA3-7.0	ND	ND	10
JA4-6.5	ND	ND	10



**QC Sample Report - EPA 8015M Diesel**

Matrix: Soil  
Batch #: 8015DS1909

**Batch Accuracy Results**

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Diesel	100	82	70 - 130	Pass

Analytical Notes:

**Batch Precision Results**

MS/MSD Sample ID: Laboratory Control Sample

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Diesel	82	75	9%	29%	Pass

Analytical Notes:

MS: Matrix Spike Sample  
MSD: Matrix Spike Duplicate

### Modified 8015 - Total Volatile Hydrocarbons as Gasoline

Client: PSI  
 Project: Caltrans - J&A Trucking  
 Job No.: 16373  
 Matrix: Soil  
 Analyst: CP

Date Sampled: 04/26/00  
 Date Received: 04/28/00  
 Date Analyzed: 05/01/00  
 Batch Number: 8015GS2591

Sample ID	Detection Limit mg/kg	Petroleum Hydrocarbons as Gasoline mg/kg
Method Blank	0.50	ND
JA1-7.0	0.50	ND
JA2-7.0	0.50	ND
JA3-7.0	0.50	ND
JA4-6.5	0.50	ND

**QC Sample Report - EPA 8015M Gasoline**

Matrix: Soil  
Batch #: 8015GS2591

**Batch Accuracy Results**

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Gasoline	10.0	100	70 - 130	Pass

Analytical Notes:

**Batch Precision Results**

MS/MSD Sample ID: 16369-1

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Gasoline	7.24	7.37	2%	30%	Pass

Analytical Notes:

MS: Matrix Spike Sample  
MSD: Matrix Spike Duplicate

**EPA 8080 - Organochlorine Pesticides & PCBs**

Client: PSI  
 Project: Caltrans - J&A Trucking  
 Job No.: 16373  
 Matrix: Soil  
 Analyst: TPW

Date Sampled: 04/26/00  
 Date Received: 04/28/00  
 Date Extracted: 05/01/00  
 Date Analyzed: 05/05/00  
 Batch Number: PESTS0249

Pesticides	Sample ID: DL	Blank mg/Kg	JA1-7.0 mg/Kg	JA2-7.0 mg/Kg	JA3-7.0 mg/Kg	JA4-6.5 mg/Kg
Aldrin	0.001	ND	ND	ND	ND	ND
Alpha-BHC	0.001	ND	ND	ND	ND	ND
Beta-BHC	0.001	ND	ND	ND	ND	ND
Delta-BHC	0.001	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)	0.001	ND	ND	ND	ND	ND
Chlordane	0.010	ND	ND	ND	ND	ND
4,4'-DDD	0.002	ND	ND	ND	ND	ND
4,4'-DDE	0.002	ND	ND	ND	ND	ND
4,4'-DDT	0.002	ND	ND	ND	ND	ND
Dieldrin	0.002	ND	ND	ND	ND	ND
Endosulfan I	0.001	ND	ND	ND	ND	ND
Endosulfan II	0.002	ND	ND	ND	ND	ND
Endosulfan sulfate	0.002	ND	ND	ND	ND	ND
Endrin	0.002	ND	ND	ND	ND	ND
Endrin Aldehyde	0.002	ND	ND	ND	ND	ND
Endrin Kefone	0.010	ND	ND	ND	ND	ND
Heptachlor	0.001	ND	ND	ND	ND	ND
Heptachlor Epoxide	0.001	ND	ND	ND	ND	ND
Methoxychlor	0.010	ND	ND	ND	ND	ND
Toxaphene	0.020	ND	ND	ND	ND	ND
<b>PCBs</b>						
Aroclor-1016	0.050	ND	ND	ND	ND	ND
Aroclor-1221	0.050	ND	ND	ND	ND	ND
Aroclor-1232	0.050	ND	ND	ND	ND	ND
Aroclor-1242	0.050	ND	ND	ND	ND	ND
Aroclor-1248	0.050	ND	ND	ND	ND	ND
Aroclor-1254	0.050	ND	ND	ND	ND	ND
Aroclor-1260	0.050	ND	ND	ND	ND	ND

**Surrogates (% recovery) Limits: 50 - 150**

Sample ID:	Blank	JA1-7.0	JA2-7.0	JA3-7.0	JA4-6.5
Tetrachloro-m-xylene	117	135	118	118	131

QC Sample Report - EPA 8080 Pesticides



Matrix: Soil  
Batch #: PESTS0249

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analytical Notes:

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lindane	0.0066	90	32 - 127	Pass
Heptachlor	0.0066	98	34 - 111	Pass
Aldrin	0.0066	109	42 - 122	Pass
Dieldrin	0.026	88	36 - 146	Pass
Endrin	0.026	102	30 - 147	Pass
DDT	0.026	93	25 - 160	Pass
Aroclor 1242	0.0667	83	75 - 127	Pass

Batch Precision Results

MS/MSD Sample ID: Laboratory Control Sample

Analytical Notes:

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lindane	0.0030	0.0028	7%	25%	Pass
Heptachlor	0.0033	0.0036	9%	25%	Pass
Aldrin	0.0036	0.0035	3%	25%	Pass
Dieldrin	0.0117	0.0108	8%	25%	Pass
Endrin	0.0135	0.0117	14%	25%	Pass
DDT	0.0124	0.0112	10%	25%	Pass

MS: Matrix Spike Sample  
MSD: Matrix Spike Duplicate

EPA 8260 - Volatile Organics with Oxygenates



Client: PSI  
 Project: Caltrans - J&A Trucking  
 Job No.: 16373  
 Matrix: Soil  
 Analyst: MBH

Date Sampled: 04/26/00  
 Date Received: 04/28/00  
 Date Analyzed: 05/01/00  
 Batch Number: M48260S182

Compounds	Sample ID:	Blank	JA1-7.0	JA2-7.0	JA3-7.0	JA4-6.5
	DL	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Acetone	0.05	ND	ND	ND	ND	ND
tert-Amyl Methyl Ether (TAME)	0.005	ND	ND	ND	ND	ND
Benzene	0.001	ND	ND	ND	ND	ND
Bromobenzene	0.005	ND	ND	ND	ND	ND
Bromochloromethane	0.005	ND	ND	ND	ND	ND
Bromodichloromethane	0.001	ND	ND	ND	ND	ND
Bromoform	0.005	ND	ND	ND	ND	ND
Bromomethane	0.01	ND	ND	ND	ND	ND
tert-Butanol (TBA)	0.05	ND	ND	ND	ND	ND
2-Butanone (MEK)	0.01	ND	ND	ND	ND	ND
n-Butylbenzene	0.002	ND	ND	ND	ND	ND
sec-Butylbenzene	0.002	ND	ND	ND	ND	ND
tert-Butylbenzene	0.002	ND	ND	ND	ND	ND
Carbon disulfide	0.01	ND	ND	ND	ND	ND
Carbon tetrachloride	0.001	ND	ND	ND	ND	ND
Chlorobenzene	0.001	ND	ND	ND	ND	ND
Chloroethane	0.005	ND	ND	ND	ND	ND
Chloroform	0.002	ND	ND	ND	ND	ND
Chloromethane	0.001	ND	ND	ND	ND	ND
2-Chlorotoluene	0.002	ND	ND	ND	ND	ND
4-Chlorotoluene	0.002	ND	ND	ND	ND	ND
Dibromochloromethane	0.002	ND	ND	ND	ND	ND
1,2-Dibromoethane	0.002	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	0.01	ND	ND	ND	ND	ND
Dibromomethane	0.001	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	0.001	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	0.002	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	0.002	ND	ND	ND	ND	ND
Dichlorodifluoromethane	0.005	ND	ND	ND	ND	ND
1,1-Dichloroethane	0.001	ND	0.001	ND	0.001	0.001
1,2-Dichloroethane	0.001	ND	ND	ND	ND	ND
1,1-Dichloroethene	0.005	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	0.002	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	0.002	ND	ND	ND	ND	ND
1,2-Dichloropropane	0.001	ND	ND	ND	ND	ND
1,3-Dichloropropane	0.001	ND	ND	ND	ND	ND
2,2-Dichloropropane	0.001	ND	ND	ND	ND	ND
1,1-Dichloropropene	0.001	ND	ND	ND	ND	ND

EPA 8260 - Volatile Organics with Oxygenates



Client: PSI  
 Project: Caltrans - J&A Trucking  
 Job No.: 16373  
 Matrix: Soil  
 Analyst: MBH

Date Sampled: 04/26/00 (800) 798-9336  
 Date Received: 04/28/00  
 Date Analyzed: 05/01/00  
 Batch Number: M48260S182

Compounds	Sample ID: DL	Blank mg/Kg	JA1-7.0 mg/Kg	JA2-7.0 mg/Kg	JA3-7.0 mg/Kg	JA4-6.5 mg/Kg
cis-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND
Diisopropyl Ether (DIPE)	0.005	ND	ND	ND	ND	ND
Ethylbenzene	0.001	ND	ND	ND	ND	ND
Ethyl tert-Butyl Ether (EtBE)	0.005	ND	ND	ND	ND	ND
Hexachlorobutadiene	0.001	ND	ND	ND	ND	ND
2-Hexanone	0.01	ND	ND	ND	ND	ND
Isopropylbenzene	0.001	ND	ND	ND	ND	ND
p-Isopropyltoluene	0.002	ND	ND	ND	ND	ND
Methylene chloride	0.02	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	0.01	ND	ND	ND	ND	ND
Methyl tert-Butyl Ether (MtBE)	0.005	ND	ND	ND	ND	ND
Napthalene	0.002	ND	ND	ND	0.003	0.020
n-Propylbenzene	0.001	ND	ND	ND	ND	ND
Styrene	0.001	ND	0.001	0.001	ND	0.001
1,1,1,2-Tetrachloroethane	0.001	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	0.002	ND	ND	ND	ND	ND
Tetrachloroethene	0.001	ND	ND	ND	ND	ND
Toluene	0.001	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	0.002	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	0.002	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.001	ND	0.007	0.005	0.006	0.006
1,1,2-Trichloroethane	0.003	ND	ND	ND	ND	ND
Trichloroethene	0.001	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	0.003	ND	ND	ND	ND	ND
Trichlorofluoromethane	0.001	ND	ND	ND	ND	ND
Trichlorotrifluoroethane	0.005	ND	0.008	0.007	0.006	0.007
1,2,4-Trimethylbenzene	0.001	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	0.001	ND	ND	ND	ND	ND
Vinyl chloride	0.002	ND	ND	ND	ND	ND
Xylenes (total)	0.003	ND	ND	ND	ND	ND

Surrogates (% recovery) Limits: 80 - 130

Sample ID:	Blank	JA1-7.0	JA2-7.0	JA3-7.0	JA4-6.5
Dibromofluoromethane	102	105	98	101	104
Toluene-d8	102	94	110	101	100
Bromofluorobenzene	98	97	106	102	97



**QC Sample Report - EPA Method 8260**

Matrix: Soil

Batch #: MS48260S182

**Batch Accuracy Results**

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
1,1-Dichloroethene	0.020	107	59 - 172	Pass
Benzene	0.020	93	66 - 142	Pass
Trichloroethene	0.020	90	71 - 137	Pass
Toluene	0.020	88	59 - 139	Pass
Chlorobenzene	0.020	94	60 - 133	Pass

Analytical Notes:

**Batch Precision Results**

MS/MSD Sample ID: 16350-1

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
1,1-Dichloroethene	0.0225	0.0235	4%	22%	Pass
Benzene	0.0196	0.0198	1%	21%	Pass
Trichloroethene	0.0202	0.0190	6%	24%	Pass
Toluene	0.0195	0.0176	10%	21%	Pass
Chlorobenzene	0.0201	0.0201	0%	21%	Pass

Analytical Notes:

MS: Matrix Spike Sample

MSD: Matrix Spike Duplicate

**EPA 8270 Semivolatile Organics**

Client: PSI  
 Project: Caltrans - J&A Trucking  
 Job No.: 16373  
 Matrix: Soil  
 Analyst: TPW

Date Sampled: 04/26/00  
 Date Received: 04/28/00  
 Date Extracted: 05/03/00  
 Dates Analyzed: 05/05/00  
 Batch Number: 8270S0621

Compound	Sample ID: DL	Blank mg/Kg	JA1-7.0 mg/Kg	JA2-7.0 mg/Kg	JA3-7.0 mg/Kg	JA4-6.5 mg/Kg
Acenaphthene	0.033	ND	ND	ND	ND	ND
Acenaphthylene	0.033	ND	ND	ND	0.055	ND
Anthracene	0.033	ND	ND	ND	ND	ND
Benzo[a]anthracene	0.066	ND	ND	ND	ND	ND
Benzo[a]pyrene	0.066	ND	ND	ND	ND	ND
Benzo[b]fluoranthene	0.033	ND	ND	ND	ND	ND
Benzo[g,h,i]perylene	0.099	ND	ND	ND	ND	ND
Benzo[k]fluoranthene	0.099	ND	ND	ND	ND	ND
Benzyl alcohol	0.13	ND	ND	ND	ND	ND
bis(2-Chloroethoxy)methane	0.066	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	0.066	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	0.099	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	0.33	ND	ND	ND	ND	ND
4-Bromophenylphenylether	0.033	ND	ND	ND	ND	ND
Butylbenzylphthalate	0.033	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	0.16	ND	ND	ND	ND	ND
4-Chloroaniline	0.16	ND	ND	ND	ND	ND
2-Chloronaphthalene	0.033	ND	ND	ND	ND	ND
2-Chlorophenol	0.13	ND	ND	ND	ND	ND
4-Chlorophenylphenylether	0.033	ND	ND	ND	ND	ND
Chrysene	0.033	ND	ND	ND	ND	ND
Di-n-butylphthalate	0.33	ND	ND	ND	ND	ND
Di-n-octylphthalate	0.033	ND	ND	ND	ND	ND
Dibenzo[a,h]anthracene	0.099	ND	ND	ND	ND	ND
Dibenzofuran	0.033	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	0.033	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	0.033	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	0.033	ND	ND	ND	ND	ND
3,3-Dichlorobenzidine	0.13	ND	ND	ND	ND	ND
2,4-Dichlorophenol	0.16	ND	ND	ND	ND	ND
Diethylphthalate	0.33	ND	ND	ND	ND	ND
2,4-Dimethylphenol	0.099	ND	ND	ND	ND	ND
Dimethylphthalate	0.033	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	0.33	ND	ND	ND	ND	ND
2,4-Dinitrophenol	1.6	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	0.033	ND	ND	ND	ND	ND

**EPA 8270 Semivolatile Organics**

Client: PSI  
 Project: Caltrans - J&A Trucking  
 Job No.: 16373  
 Matrix: Soil  
 Analyst: TPW

Date Sampled: 04/26/00  
 Date Received: 04/28/00  
 Date Extracted: 05/03/00  
 Dates Analyzed: 05/05/00  
 Batch Number: 8270S0621

Compound	Sample ID: DL	Blank mg/Kg	JA1-7.0 mg/Kg	JA2-7.0 mg/Kg	JA3-7.0 mg/Kg	JA4-6.5 mg/Kg
2,6-Dinitrotoluene	0.099	ND	ND	ND	ND	ND
Fluoranthene	0.033	ND	ND	ND	0.072	ND
Fluorene	0.033	ND	ND	ND	ND	ND
Hexachlorobenzene	0.033	ND	ND	ND	ND	ND
Hexachlorobutadiene	0.033	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	1.6	ND	ND	ND	ND	ND
Hexachloroethane	0.033	ND	ND	ND	ND	ND
Indeno[1,2,3-c,d]pyrene	0.13	ND	ND	ND	ND	ND
Isophorone	0.033	ND	ND	ND	ND	ND
2-Methylnaphthalene	0.033	ND	ND	ND	ND	ND
2-Methylphenol	0.16	ND	ND	ND	ND	ND
4-Methylphenol	0.16	ND	ND	ND	ND	ND
N-Nitrosodi-n-propylamine	0.033	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	0.033	ND	ND	ND	ND	ND
Naphthalene	0.033	ND	ND	ND	0.28	ND
2-Nitroaniline	0.099	ND	ND	ND	ND	ND
3-Nitroaniline	0.099	ND	ND	ND	ND	ND
4-Nitroaniline	0.33	ND	ND	ND	ND	ND
Nitrobenzene	0.099	ND	ND	ND	ND	ND
2-Nitrophenol	0.13	ND	ND	ND	ND	ND
4-Nitrophenol	0.33	ND	ND	ND	ND	ND
Pentachlorophenol	1.6	ND	ND	ND	ND	ND
Phenanthrene	0.066	ND	ND	ND	0.10	ND
Phenol	0.13	ND	ND	ND	ND	ND
Pyrene	0.033	ND	ND	ND	0.14	ND
1,2,4-Trichlorobenzene	0.033	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	0.2	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	0.33	ND	ND	ND	ND	ND

**Surrogates (Limits) in Percent Recovery**

Sample ID:	Blank	JA1-7.0	JA2-7.0	JA3-7.0	JA4-6.5
2-Fluorophenol (25 - 121%)	75	84	81	87	79
Phenol-D5 (24 - 113%)	73	82	80	87	77
Nitrobenzene-D5 (23 - 120%)	60	67	65	71	64
2-Fluorobiphenyl (30 - 115%)	77	83	84	87	80
2,4,6-Tribromophenol (19 - 122%)	90	92	94	95	87
p-Terphenyl-D14 (18 - 137%)	86	82	84	108	80

**QC Sample Report - EPA 8270**

Batch #: 8270S0621 Matrix: Soil

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Phenol	2.66	80	5 - 112	Pass
2-Chlorophenol	2.66	94	23 - 134	Pass
1,4-Dichlorobenzene	1.33	91	20 - 124	Pass
N-Nitrosodi-n-propylamine	1.33	71	0 - 230	Pass
1,2,4-Trichlorobenzene	1.33	96	44 - 142	Pass
4-Chloro-3-Methylphenol	2.66	90	22 - 147	Pass
Acenaphthene	1.33	89	47 - 145	Pass
4-Nitrophenol	2.66	104	0 - 132	Pass
2,4-Dinitrotoluene	1.33	92	39 - 139	Pass
Pentachlorophenol	2.66	126	14 - 176	Pass
Pyrene	1.33	90	52 - 115	Pass

Analytical Notes:

**Batch Precision Results**

MS/MSD Sample ID: Laboratory Control Sample

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Phenol	2.12	1.95	9%	35%	Pass
2-Chlorophenol	2.50	2.27	10%	50%	Pass
1,4-Dichlorobenzene	1.22	1.12	9%	27%	Pass
N-Nitrosodi-n-propylamine	0.95	0.88	7%	38%	Pass
1,2,4-Trichlorobenzene	1.28	1.16	10%	23%	Pass
4-Chloro-3-Methylphenol	2.39	2.23	7%	33%	Pass
Acenaphthene	1.18	1.09	8%	23%	Pass
4-Nitrophenol	2.77	2.60	6%	50%	Pass
2,4-Dinitrotoluene	1.23	1.15	6%	47%	Pass
Pentachlorophenol	3.36	3.11	8%	47%	Pass
Pyrene	1.20	1.11	8%	36%	Pass

Analytical Notes:



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lab@centrum-labs.com

Chain of Custody Record

Project No: CG011		Project Name: CALTRANS - JATEVAKINE CONTAINER FREIGHT					Please Circle Analyses Requested										Turn-Around Time				
Project Manager: FRANK PUSS		Phone: 510 785-1111		Fax: 510 785-1192													<input type="checkbox"/> 24 Hr. RUSH* <input type="checkbox"/> 48 Hr. RUSH* <input checked="" type="checkbox"/> Normal TAT				
Client Name: (Report and Billing) PSI		Address: (Report and Billing) 1320 W. WINTON AVE HAYWARD, CA 94545															*Requires PRIOR approval, additional charges apply  Requested due date: _____				
Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	8015M: <input checked="" type="checkbox"/> Please Fuel Screen, Carbon Charcoal	8015M: <input type="checkbox"/> Gas only	8021B: <input type="checkbox"/> STEMMIBE Only	418.1 (TRPH), 413.2	TPH MO - EPA 805.17	GCMS: <input checked="" type="checkbox"/> 8260B, <input checked="" type="checkbox"/> 8021B, <input checked="" type="checkbox"/> 82A, <input checked="" type="checkbox"/> 82B	GCMS: <input type="checkbox"/> MIBE Conf. Only	GCMS: <input checked="" type="checkbox"/> 6270C, 625	8080: <input type="checkbox"/> Pesticides, PCBs (Pest/PCB)	Metals: <input checked="" type="checkbox"/> Title 22 (CAM)	RCRA, PP	pH, TDS, TSS, Conductivity	Flashpoint, Hex Cr	Remarks/Special Instructions	
1	JAI-7.0	4-26-00	0839	SOIL		1555	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
2	JAI-7.0	↓	1050	↓		↓	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
3	JAI-7.0	↓	1305	↓		↓	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
4	JAI-6.5	↓	1516	↓		↓	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
1) Relinquished by: (Sampler's Signature) CHRIS MERRETT		Date: 4-27-00	Time: 1700	3) Relinquished by:		Date:	Time:	To be completed by Laboratory personnel:										Sample Disposal			
2) Received by:		Date:	Time:	4) Received by:		Date:	Time:	Samples chilled? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> From Field Custody seals? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No All sample containers intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Courier <input checked="" type="checkbox"/> UPS/Fed Ex <input type="checkbox"/> Hand carried										<input type="checkbox"/> Client will pick up <input type="checkbox"/> Return to client <input checked="" type="checkbox"/> Lab disposal			
The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.						5) Relinquished by:		Date:	Time:												
						6) Received for Laboratory by:		Date:	Time:												
Laboratory Notes:						Jen Orquey		Date:	Time:	RECEIVED AT 4°C										Sample Locator No. E-5	



# Centrum Analytical Laboratories, Inc.

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## Chain of Custody Record

Centrum Job # **12393**

Page 1 of 1

Project No: <b>06011</b>		Project Name: <b>CALTRANS JTA TRUCK CONTAINER FREIGHT</b>		Please Circle Analyses Requested										Turn-Around Time																
Project Manager: <b>FRANK POSS</b>		Phone: <b>510 785-1111</b>		Fax: <b>510 785-1192</b>		<table border="1"> <tr> <td>8015M: Diesel, Fuel Screen, Carbon Chain</td> <td>8015M: Gas only</td> <td>8021B: BTEX/MIBE Only</td> <td>418.1 (TRPH), 413.2</td> <td>TPH 90 - EPA 815M</td> <td>GCMS: 6250B, 6021B, 625, 524.2</td> <td>GCMS: MIBE Conf. Only</td> <td>GCMS: 6270C 625</td> <td>8080: Pesticides, PCBs (Pest/PCB)</td> <td>Metals: <u>11</u> 22 (CAM)</td> <td>RCRA, PP</td> <td>PH, TDS, TSS, Conductivity</td> <td>Flashpoint, Hex Cr</td> </tr> </table>										8015M: Diesel, Fuel Screen, Carbon Chain	8015M: Gas only	8021B: BTEX/MIBE Only	418.1 (TRPH), 413.2	TPH 90 - EPA 815M	GCMS: 6250B, 6021B, 625, 524.2	GCMS: MIBE Conf. Only	GCMS: 6270C 625	8080: Pesticides, PCBs (Pest/PCB)	Metals: <u>11</u> 22 (CAM)	RCRA, PP	PH, TDS, TSS, Conductivity	Flashpoint, Hex Cr	<input type="checkbox"/> 24 Hr. RUSH* <input type="checkbox"/> 48 Hr. RUSH* <input checked="" type="checkbox"/> Normal TAT	
8015M: Diesel, Fuel Screen, Carbon Chain	8015M: Gas only	8021B: BTEX/MIBE Only	418.1 (TRPH), 413.2	TPH 90 - EPA 815M	GCMS: 6250B, 6021B, 625, 524.2											GCMS: MIBE Conf. Only	GCMS: 6270C 625	8080: Pesticides, PCBs (Pest/PCB)	Metals: <u>11</u> 22 (CAM)	RCRA, PP	PH, TDS, TSS, Conductivity	Flashpoint, Hex Cr								
Client Name: <b>PSI</b>		Address: <b>1320 W. WINTON AVE HAYWARD CA. 94545</b>		*Requires PRIOR approval, additional charges apply Requested due date: _____																										
Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	8015M: Diesel, Fuel Screen, Carbon Chain	8015M: Gas only	8021B: BTEX/MIBE Only	418.1 (TRPH), 413.2	TPH 90 - EPA 815M	GCMS: 6250B, 6021B, 625, 524.2	GCMS: MIBE Conf. Only	GCMS: 6270C 625	8080: Pesticides, PCBs (Pest/PCB)	Metals: <u>11</u> 22 (CAM)	RCRA, PP	PH, TDS, TSS, Conductivity	Flashpoint, Hex Cr	Remarks/Special Instructions										
1	JA-1	5-2-00	0955	1x20		10	X	X			X	X		X	X	X					* 1 LITER BOTTLE BROKEN									
2	JA-2		1045			10	X	X			X	X		X	X	X					* 2 LITER BOTTLES BROKEN									
3	JA-3		1150			10	X	X			X	X		X	X	X					* 1 LITER BOTTLE BROKEN									
4	JA-4		1220			10	X	X			X	X		X	X	X					* 1 LITER BOTTLE BROKEN.									
5	CF-1		1515			8	X	X			X	X		X	X	X														
6	CF-2		1415			8	X	X			X	X		X	X	X														
7	CF-3		1335			10	X	X			X	X		X	X	X														
8	CF-10		1530			8	X	X			X	X		X	X	X														
1) Relinquished by: (Sampler's Signature) <b>CHRIS MERRITT</b>		Date: <b>5-2-00</b>	Time: <b>1700</b>	3) Relinquished by:		Date:	Time:	To be completed by Laboratory personnel:										Sample Disposal												
2) Received by:		Date:	Time:	4) Received by:		Date:	Time:	Samples chilled? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> From Field Custody seals? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No All sample containers intact? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Courier <input checked="" type="checkbox"/> UPS/ Fed Ex <input type="checkbox"/> Hand carried										<input type="checkbox"/> Client will pick up <input type="checkbox"/> Return to client <input checked="" type="checkbox"/> Lab disposal												
The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.						5) Relinquished by:		Date:	Time:																					
						6) Received for Laboratory by:		Date: <b>5/3</b>	Time: <b>1:00</b>																					
Laboratory Notes: <b>FILTER METALS</b>																		Sample Locator No. <b>F-1 + VOA</b>												



# Centrum Analytical Laboratories, Inc.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

Client: PSI  
1320 W. Winton Ave.  
Hayward, CA 94545

Date Sampled: 05/02/00  
Date Received: 05/03/00  
Job Number: 16393

Project: CT J&A Truck/Container Freight

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## CASE NARRATIVE

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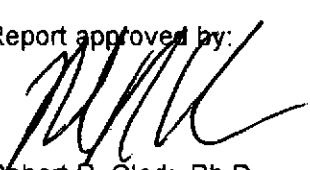
The following information applies to samples which were received on 05/03/00 :

The samples were received at the laboratory chilled and sample containers were intact.

Unless otherwise noted below, the Quality Control acceptance criteria were met for all samples for every analysis requested.

**6010B:** Some samples were run at a dilution due to sample matrix effects; consequently, reporting limits were raised.

Report approved by:

  
Robert R. Clark, Ph.D.  
Laboratory Director

ELAP # 1184

DL : Detection Limit -- The lowest level at which the compound can reliably be detected under normal laboratory conditions.  
ND : Not Detected -- The compound was analyzed for but was not found to be present at or above the detection limit.  
NA : Not Analyzed -- Per client request, this analyte was not on the list of compounds to be analyzed for.

**Metals**

Client: PSI  
 Project: CT J&A Truck/Container Freight  
 Job No: 16393  
 Matrix: Water  
 Analyst: RLB/TLR

Date Sampled: 05/02/00  
 Date Received: 05/03/00  
 Date Digested: 05/04/00  
 Date Analyzed: 05/04-15/00  
 Batch Number: 6010W1555

Element	Method #	Sample ID:		Blank	JA-1	JA-2	JA-3	JA-4
		DL	mg/L	mg/L	mg/L	mg/L	mg/L	
Antimony	6010B	0.015	ND	ND	ND	ND	ND	ND
Arsenic	6010B	0.010	ND	ND	ND	ND	ND	ND
Barium	6010B	0.010	ND	0.16	0.15	0.18	0.12	
Beryllium	6010B	0.010	ND	ND	ND	ND	ND	ND
Cadmium	6010B	0.010	ND	ND	ND	ND	ND	ND
Chromium	6010B	0.010	ND	ND	0.010	ND	ND	ND
Cobalt	6010B	0.010	ND	ND	ND	ND	ND	ND
Copper	6010B	0.010	ND	ND	ND	ND	ND	ND
Lead	6010B	0.010	ND	ND	ND	ND	ND	ND
Mercury	7470	0.0002	ND	ND	ND	ND	ND	ND
Molybdenum	6010B	0.010	ND	ND	ND	ND	ND	ND
Nickel	6010B	0.010	ND	0.045	0.035	0.030	0.027	
Selenium	6010B	0.015	ND	ND	ND	ND	ND	ND
Silver	6010B	0.010	ND	ND	ND	ND	ND	ND
Thallium	6010B	0.010	ND	ND	ND	ND	ND	ND
Vanadium	6010B	0.010	ND	ND	ND	ND	ND	ND
Zinc	6010B	0.10	ND	0.12	0.10	0.12	ND	





Metals

Client: PSI  
Project: CT J&A Truck/Container Freight  
Job No: 16393  
Matrix: Water  
Analyst: RLB/TLR

Date Sampled: 05/02/00  
Date Received: 05/03/00  
Date Digested: 05/04/00  
Date Analyzed: 05/04-15/00  
Batch Number: 6010W1555

Element	Method #	Sample ID:				
		DL*	CF-1	CF-2	CF-3	CF-10
			mg/L	mg/L	mg/L	mg/L
Antimony	6010B	0.30	ND	ND	ND	ND
Arsenic	6010B	0.20	ND	ND	ND	ND
Barium	6010B	0.20	0.28	ND	ND	ND
Beryllium	6010B	0.20	ND	ND	ND	ND
Cadmium	6010B	0.20	ND	ND	ND	ND
Chromium	6010B	0.20	ND	ND	ND	ND
Cobalt	6010B	0.20	ND	ND	ND	ND
Copper	6010B	0.20	ND	ND	ND	ND
Lead	6010B	0.20	ND	ND	ND	ND
Mercury	7470	0.0002	ND	ND	ND	ND
Molybdenum	6010B	0.20	ND	ND	ND	ND
Nickel	6010B	0.20	ND	ND	ND	ND
Selenium	6010B	0.30	ND	ND	ND	ND
Silver	6010B	0.20	ND	ND	ND	ND
Thallium	6010B	0.20	ND	ND	ND	ND
Vanadium	6010B	0.20	ND	ND	ND	ND
Zinc	6010B	2.0	ND	ND	ND	ND

\*See Case Narrative regarding raised reporting limits.

### QC Sample Report - Metals

Matrix: Water  
 Batch #: 6010W1555  
 MS/MSD Sample ID: JA-1

Metal	Batch Precision Results:					Batch Accuracy Results:				
	Spike Sample Recovery mg/L	Spike Duplicate Recovery mg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass / Fail	Spike Concentration mg/L	% Recovery LCS	Acceptance Limits Percent Recovery	Pass / Fail	
Antimony	1.01	1.07	6%	20%	Pass	1.0	101	75 - 125	Pass	
Arsenic	0.99	1.05	5%	20%	Pass	1.0	97	75 - 125	Pass	
Barium	1.21	1.21	1%	20%	Pass	1.0	102	75 - 125	Pass	
Beryllium	0.95	1.01	6%	20%	Pass	1.0	98	75 - 125	Pass	
Cadmium	1.02	1.02	0%	20%	Pass	1.0	103	75 - 125	Pass	
Chromium	1.00	1.02	2%	20%	Pass	1.0	101	75 - 125	Pass	
Cobalt	1.01	1.02	1%	20%	Pass	1.0	103	75 - 125	Pass	
Copper	1.05	1.06	1%	20%	Pass	1.0	103	75 - 125	Pass	
Lead	0.97	1.03	6%	20%	Pass	1.0	100	75 - 125	Pass	
Mercury	2.51	2.59	3%	20%	Pass	0.005	110	75 - 125	Pass	
Molybdenum	1.01	1.07	6%	20%	Pass	1.0	101	75 - 125	Pass	
Nickel	1.02	1.06	4%	20%	Pass	1.0	101	75 - 125	Pass	
Selenium	0.97	1.03	6%	20%	Pass	1.0	98	75 - 125	Pass	
Silver**	1.03	1.06	3%	20%	Pass	1.0	103	75 - 125	Pass	
Thallium	0.96	1.00	4%	20%	Pass	1.0	98	75 - 125	Pass	
Vanadium	1.05	1.06	0%	20%	Pass	1.0	104	75 - 125	Pass	
Zinc	1.13	1.13	0%	20%	Pass	1.0	113	75 - 125	Pass	

#### Analytical Notes

\*\*The MS/MSD for this analyte did not meet the acceptance criteria due to a sample matrix effect. The LCS / LCSD pair was used to provide precision data for this batch.

LCS: Laboratory Control Sample

LCSD: Laboratory Control Sample Duplicate

MS: Matrix Spike

MSD: Matrix Spike Duplicate

RPD: Relative Percent Difference

**Modified 8015 - Fuel Screen**

 Client: PSI  
 Project: CT J&A Truck/Container Freight  
 Job No.: 16393  
 Matrix: Water  
 Analyst: JL

 Date Sampled: 05/02/00  
 Date Received: 05/03/00  
 Date Extracted: 05/08/00  
 Date Analyzed: 05/09/00  
 Batch Number: 8015DW1914

Fuel Identified:	Diesel	Motor Oil	Detection Limits
Units:	mg/L	mg/L	mg/L
Blank	ND	ND	0.40
JA-1	ND	ND	0.40
JA-2	0.8	ND	0.40
JA-3	ND	ND	0.40
JA-4	ND	ND	0.40
CF-1	21	ND	4.0
CF-2	2.8	ND	0.40
CF-3	ND	ND	0.40
CF-10	1.8	ND	0.40

**QC Sample Report - EPA 8015M Diesel**

Matrix: Water  
Batch #: 8015DW1914

**Batch Accuracy Results**

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Diesel	0.8	77	70 - 130	Pass

Analytical Notes:

**Batch Precision Results**

MS/MSD Sample ID: Laboratory Control Sample

Analyte	Spike Sample Recovery mg/L	Spike Duplicate Recovery mg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Diesel	0.62	0.64	3%	25%	Pass

Analytical Notes:

MS: Matrix Spike Sample  
MSD: Matrix Spike Duplicate

**Modified 8015 - Total Volatile Hydrocarbons as Gasoline**

Client: PSI  
 Project: CT J&A Truck/Container Freight  
 Job No.: 16393  
 Matrix: Water  
 Analyst: CP

Date Sampled: 05/02/00  
 Date Received: 05/03/00  
 Date Analyzed: 05/04/00  
 Batch Number: 8015GW2593

Sample ID	Detection Limit mg/L	Petroleum Hydrocarbons as Gasoline mg/L
Method Blank	0.5	ND
JA-1	0.5	ND
JA-2	0.5	0.77
JA-3	0.5	ND
JA-4	0.5	ND
CF-1	50.0	94
CF-2	50.0	54
CF-3	0.5	0.50
CF-10	5.0	7.7

**QC Sample Report - EPA 8015M Gasoline**

Matrix: Water  
Batch #: 8015GW2593

**Batch Accuracy Results**

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Gasoline	10.0	100	70 - 130	Pass

Analytical Notes:

**Batch Precision Results**

MS/MSD Sample ID: Laboratory Control Sample

Analyte	Spike Sample Recovery mg/L	Spike Duplicate Recovery mg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Gasoline	10.05	9.25	8%	25%	Pass

Analytical Notes:

MS: Matrix Spike Sample  
MSD: Matrix Spike Duplicate

**EPA 8080 - Organochlorine Pesticides & PCBs**

Client: PSI  
 Project: CT J&A Truck/Container Freight  
 Job No.: 16393  
 Matrix: Water  
 Analyst: TPW

Date Sampled: 05/02/00  
 Date Received: 05/03/00  
 Date Extracted: 05/06/00  
 Date Analyzed: 05/08/00  
 Batch Number: PESTW0251

Pesticides	Sample ID:	Blank	JA-1	JA-2	JA-3	JA-4	CF-1
	DL	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aldrin	0.0001	ND	ND	ND	ND	ND	ND
Alpha-BHC	0.0001	ND	ND	ND	ND	ND	ND
Beta-BHC	0.0001	ND	ND	ND	ND	ND	ND
Delta-BHC	0.0001	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)	0.0001	ND	ND	ND	ND	ND	ND
Chlordane	0.0001	ND	ND	ND	ND	ND	ND
4,4'-DDD	0.0002	ND	ND	ND	ND	ND	ND
4,4'-DDE	0.0002	ND	ND	ND	ND	ND	ND
4,4'-DDT	0.0002	ND	ND	ND	ND	ND	ND
Dieldrin	0.0002	ND	ND	ND	ND	ND	ND
Endosulfan I	0.0001	ND	ND	ND	ND	ND	ND
Endosulfan II	0.0002	ND	ND	ND	ND	ND	ND
Endosulfan sulfate	0.0002	ND	ND	ND	ND	ND	ND
Endrin	0.0002	ND	ND	ND	ND	ND	ND
Endrin Aldehyde	0.0002	ND	ND	ND	ND	ND	ND
Endrin Ketone	0.001	ND	ND	ND	ND	ND	ND
Heptachlor	0.00005	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	0.00005	ND	ND	ND	ND	ND	ND
Methoxychlor	0.0005	ND	ND	ND	ND	ND	ND
Toxaphene	0.001	ND	ND	ND	ND	ND	ND
<b>PCBs</b>							
Aroclor-1016	0.001	ND	ND	ND	ND	ND	ND
Aroclor-1221	0.001	ND	ND	ND	ND	ND	ND
Aroclor-1232	0.001	ND	ND	ND	ND	ND	ND
Aroclor-1242	0.001	ND	ND	ND	ND	ND	ND
Aroclor-1248	0.001	ND	ND	ND	ND	ND	ND
Aroclor-1254	0.001	ND	ND	ND	ND	ND	ND
Aroclor-1260	0.001	ND	ND	ND	ND	ND	ND

**Surrogates (% recovery) Limits: 50 - 150**

Sample ID:	Blank	JA-1	JA-2	JA-3	JA-4	CF-1
Tetrachloro-m-xylene	126	117	93	102	105	121

**QC Sample Report - EPA 8080 Pesticides**

Matrix: Soil  
Batch #: PESTW0251

**Batch Accuracy Results**

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration µg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lindane	0.1	87	32 - 127	Pass
Heptachlor	0.1	108	34 - 111	Pass
Aldrin	0.1	103	42 - 122	Pass
Dieldrin	0.4	76	36 - 146	Pass
Endrin	0.4	86	30 - 147	Pass
DDT	0.4	73	25 - 160	Pass
Aroclor 1242	2.0	93	75 - 127	Pass

Analytical Notes:

**Batch Precision Results**

MS/MSD Sample ID: Laboratory Control Sample

Analyte	Spike Sample Recovery mg/L	Spike Duplicate Recovery mg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lindane	0.087	0.085	2%	25%	Pass
Heptachlor	0.108	0.107	1%	25%	Pass
Aldrin	0.103	0.102	1%	25%	Pass
Dieldrin	0.300	0.290	3%	25%	Pass
Endrin	0.340	0.330	3%	25%	Pass
DDT	0.290	0.290	0%	25%	Pass

Analytical Notes:

MS: Matrix Spike Sample  
MSD: Matrix Spike Duplicate





### EPA 8260 - Volatile Organics with Oxygenates

Client: PSI  
 Project: CT J&A Truck/Container Freight  
 Job No.: 16393  
 Matrix: Water  
 Analyst: JMR

Date Sampled: 05/02/00  
 Date Received: 05/03/00  
 Date Analyzed: 05/04-12/00  
 Batch Number: M4S8260W2096

Compounds	Sample ID:	Blank	JA-1	JA-2	JA-3	JA-4	CF-2
	DL	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Acetone	50	ND	ND	ND	ND	ND	ND
tert-Amyl Methyl Ether (TAME)	5.0	ND	ND	ND	ND	ND	ND
Benzene	0.5	ND	ND	ND	ND	0.7	330
Bromobenzene	1.0	ND	ND	ND	ND	ND	ND
Bromochloromethane	1.0	ND	ND	ND	ND	ND	ND
Bromodichloromethane	0.5	ND	ND	ND	ND	ND	ND
Bromoform	0.5	ND	ND	ND	ND	ND	ND
Bromomethane	0.5	ND	ND	ND	ND	ND	ND
tert-Butanol (TBA)	50	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	10	ND	ND	ND	ND	ND	ND
n-Butylbenzene	0.5	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	0.5	ND	ND	ND	ND	ND	ND
tert-Butylbenzene	0.5	ND	ND	ND	ND	ND	ND
Carbon disulfide	10	ND	ND	ND	ND	ND	68
Carbon tetrachloride	0.5	ND	ND	ND	ND	ND	ND
Chlorobenzene	0.5	ND	ND	ND	ND	ND	ND
Chloroethane	0.5	ND	ND	ND	ND	ND	ND
Chloroform	0.5	ND	ND	ND	ND	1.7	ND
Chloromethane	0.5	ND	ND	ND	ND	ND	ND
2-Chlorotoluene	0.5	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	0.5	ND	ND	ND	ND	ND	ND
Dibromochloromethane	0.5	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	0.5	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	10	ND	ND	ND	ND	ND	ND
Dibromomethane	0.5	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	0.5	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	0.5	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	0.5	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	0.5	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	0.5	ND	ND	ND	ND	8.2	ND
1,2-Dichloroethane	0.5	ND	ND	8.8	ND	ND	ND
1,1-Dichloroethene	0.5	ND	ND	ND	ND	6.2	ND
cis-1,2-Dichloroethene	0.5	ND	ND	ND	ND	57	ND
trans-1,2-Dichloroethene	0.5	ND	ND	ND	ND	0.8	ND
1,2-Dichloropropane	0.5	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	0.5	ND	ND	ND	ND	ND	ND
2,2-Dichloropropane	0.5	ND	ND	ND	ND	ND	ND
1,1-Dichloropropene	0.5	ND	ND	ND	ND	ND	ND



EPA 8260 - Volatile Organics with Oxygenates

Client: PSI
Project: CT J&A Truck/Container Freight
Job No.: 16393
Matrix: Water
Analyst: JMR

Date Sampled: 05/02/00
Date Received: 05/03/00
Date Analyzed: 05/04-12/00
Batch Number: M4S8260W2096

Table with 8 columns: Compounds, Sample ID: DL, Blank, JA-1, JA-2, JA-3, JA-4, CF-2. Lists various compounds like cis-1,3-Dichloropropene, Ethylbenzene, and Napthalene with their respective concentrations in µg/L.

Surrogates (% recovery) Limits: 80 - 130

Table with 8 columns: Sample ID, Blank, JA-1, JA-2, JA-3, JA-4, CF-2. Lists surrogate compounds like Dibromofluoromethane, Toluene-d8, and Bromofluorobenzene with their recovery percentages.

**EPA 8260 - Volatile Organics with Oxygenates**

 Client: PSI  
 Project: CT J&A Truck/Container Freight  
 Job No.: 16393  
 Matrix: Water  
 Analyst: JMR

 Date Sampled: 05/02/00  
 Date Received: 05/03/00  
 Date Analyzed: 05/04-12/00  
 Batch Number: M4S8260W2096

Compounds	Sample ID: CF-3	
	DL	µg/L
Acetone	50	ND
tert-Amyl Methyl Ether (TAME)	5.0	ND
Benzene	0.5	0.9
Bromobenzene	1.0	ND
Bromochloromethane	1.0	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
tert-Butanol (TBA)	50	ND
2-Butanone (MEK)	10	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon disulfide	10	ND
Carbon tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
Dibromochloromethane	0.5	ND
1,2-Dibromoethane	0.5	ND
1,2-Dibromo-3-chloropropane	10	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane	0.5	ND
1,1-Dichloroethene	0.5	ND
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND

**EPA 8260 - Volatile Organics with Oxygenates**

Client: PSI  
 Project: CT J&A Truck/Container Freight  
 Job No.: 16393  
 Matrix: Water  
 Analyst: JMR

Date Sampled: 05/02/00  
 Date Received: 05/03/00  
 Date Analyzed: 05/04-12/00  
 Batch Number: M4S8260W2096

Compounds	Sample ID: CF-3	
	DL	µg/L
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Diisopropyl Ether (DIPE)	5.0	ND
Ethylbenzene	0.5	ND
Ethyl tert-Butyl Ether (EtBE)	5.0	ND
Hexachlorobutadiene	0.5	ND
2-Hexanone	10	ND
Isopropylbenzene	0.5	ND
p-isopropyltoluene	0.5	ND
Methylene chloride	20	ND
4-Methyl-2-pentanone	5.0	ND
Methyl-tert-butyl ether (MtBE)	1.0	ND
Napthalene	0.5	1.7
n-Propylbenzene	0.5	ND
Styrene	0.5	ND
1,1,1,2-Tetrachloroethane	0.5	ND
1,1,2,2-Tetrachloroethane	1.0	ND
Tetrachloroethene	0.5	ND
Toluene	0.5	ND
1,2,3-Trichlorobenzene	0.5	ND
1,2,4-Trichlorobenzene	0.5	ND
1,1,1-Trichloroethane	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene	0.5	ND
1,2,3-Trichloropropane	0.5	ND
Trichlorofluoromethane	0.5	ND
Trichlorotrifluoroethane	5.0	ND
1,2,4-Trimethylbenzene	0.5	ND
1,3,5-Trimethylbenzene	0.5	ND
Vinyl chloride	0.5	ND
Xylenes (total)	1.5	ND

**Surrogates (% recovery) Limits: 80 - 130**

Sample ID: CF-3	
Dibromofluoromethane	107
Toluene-d8	109
Bromofluorobenzene	98

**EPA 8260 - Volatile Organics with Oxygenates**

Client: PSI  
 Project: CT J&A Truck/Container Freight  
 Job No.: 16393  
 Matrix: Water  
 Analyst: JMR

Date Sampled: 05/02/00  
 Date Received: 05/03/00  
 Date Analyzed: 05/04-12/00  
 Batch Number: M4S8260W2096

Sample ID: CF-10		
Compounds	DL	µg/L
Acetone	1250	ND
tert-Amyl Methyl Ether (TAME)	125	ND
Benzene	13	270
Bromobenzene	25	ND
Bromochloromethane	25	ND
Bromodichloromethane	13	ND
Bromoform	13	ND
Bromomethane	13	ND
tert-Butanol (TBA)	1250	ND
2-Butanone (MEK)	250	ND
n-Butylbenzene	13	ND
sec-Butylbenzene	13	ND
tert-Butylbenzene	13	ND
Carbon disulfide	250	ND
Carbon tetrachloride	13	ND
Chlorobenzene	13	ND
Chloroethane	13	ND
Chloroform	13	ND
Chloromethane	13	ND
2-Chlorotoluene	13	ND
4-Chlorotoluene	13	ND
Dibromochloromethane	13	ND
1,2-Dibromoethane	13	ND
1,2-Dibromo-3-chloropropane	250	ND
Dibromomethane	13	ND
1,2-Dichlorobenzene	13	ND
1,3-Dichlorobenzene	13	ND
1,4-Dichlorobenzene	13	ND
Dichlorodifluoromethane	13	ND
1,1-Dichloroethane	13	ND
1,2-Dichloroethane	13	ND
1,1-Dichloroethene	13	ND
cis-1,2-Dichloroethene	13	ND
trans-1,2-Dichloroethene	13	ND
1,2-Dichloropropane	13	ND
1,3-Dichloropropane	13	ND
2,2-Dichloropropane	13	ND
1,1-Dichloropropene	13	ND



EPA 8260 - Volatile Organics with Oxygenates

Client: PSI
Project: CT J&A Truck/Container Freight
Job No.: 16393
Matrix: Water
Analyst: JMR

Date Sampled: 05/02/00
Date Received: 05/03/00
Date Analyzed: 05/04-12/00
Batch Number: M4S8260W2096

Table with columns: Compounds, DL, and ug/L. Sample ID: CF-10. Lists various compounds like cis-1,3-Dichloropropene, Diisopropyl Ether (DIPE), Ethylbenzene, etc., with their respective detection limits and concentrations.

Surrogates (% recovery) Limits: 80 - 130

Table with columns: Surrogate Name and Concentration. Sample ID: CF-10. Lists Dibromofluoromethane, Toluene-d8, and Bromofluorobenzene with values 111, 109, and 101 respectively.



EPA 8260 - Volatile Organics with Oxygenates

Client: PSI
Project: CT J&A Truck/Container Freight
Job No.: 16393
Matrix: Water
Analyst: JMR

Date Sampled: 05/02/00
Date Received: 05/03/00
Date Analyzed: 05/04-12/00
Batch Number: M4S8260W2096

Table with 3 columns: Compounds, Sample ID: DL, and CF-1 µg/L. Lists various chemical compounds and their corresponding detection limits and concentrations.

**EPA 8260 - Volatile Organics with Oxygenates**

Client: PSI  
 Project: CT J&A Truck/Container Freight  
 Job No.: 16393  
 Matrix: Water  
 Analyst: JMR

Date Sampled: 05/02/00  
 Date Received: 05/03/00  
 Date Analyzed: 05/04-12/00  
 Batch Number: M4S8260W2096

Sample ID: CF-1	
Compounds	DL $\mu\text{g/L}$
cis-1,3-Dichloropropene	50 ND
trans-1,3-Dichloropropene	50 ND
Diisopropyl Ether (DIPE)	500 ND
Ethylbenzene	50 340
Ethyl tert-Butyl Ether (EtBE)	500 ND
Hexachlorobutadiene	50 ND
2-Hexanone	1000 ND
Isopropylbenzene	50 ND
p-Isopropyltoluene	50 ND
Methylene chloride	2000 ND
4-Methyl-2-pentanone	500 ND
Methyl-tert-butyl ether (MtBE)	100 ND
Napthalene	50 19,000
n-Propylbenzene	50 ND
Styrene	50 590
1,1,1,2-Tetrachloroethane	50 ND
1,1,2,2-Tetrachloroethane	100 ND
Tetrachloroethene	50 ND
Toluene	50 1,600
1,2,3-Trichlorobenzene	50 ND
1,2,4-Trichlorobenzene	50 ND
1,1,1-Trichloroethane	50 ND
1,1,2-Trichloroethane	50 ND
Trichloroethene	50 190
1,2,3-Trichloropropane	50 ND
Trichlorofluoromethane	50 ND
Trichlorotrifluoroethane	500 ND
1,2,4-Trimethylbenzene	50 ND
1,3,5-Trimethylbenzene	50 ND
Vinyl chloride	50 ND
Xylenes (total)	150 ND

**Surrogates (% recovery) Limits: 80 - 130**

Sample ID: CF-1	
Dibromofluoromethane	110
Toluene-d8	115
Bromofluorobenzene	98



**QC Sample Report - EPA Method 8260**

Matrix: Water  
Batch #: MS48260W2096

**Batch Accuracy Results**

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration µg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
1,1-Dichloroethene	20	113	59 - 172	Pass
Benzene	20	122	66 - 142	Pass
Trichloroethene	20	120	71 - 137	Pass
Toluene	20	113	59 - 139	Pass
Chlorobenzene	20	96	60 - 133	Pass

Analytical Notes:

**Batch Precision Results**

MS/MSD Sample ID: Laboratory Control Sample

Analyte	Spike Sample Recovery µg/L	Spike Duplicate Recovery µg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
1,1-Dichloroethene	22.7	24.5	8%	22%	Pass
Benzene	24.4	26.4	8%	21%	Pass
Trichloroethene	23.9	25.0	4%	24%	Pass
Toluene	22.8	24.6	8%	21%	Pass
Chlorobenzene	19.2	21.2	10%	21%	Pass

Analytical Notes:

MS: Matrix Spike Sample  
MSD: Matrix Spike Duplicate

**EPA 8270 Semivolatile Organics**

Client: PSI  
 Project: CT J&A Truck/Container Freight  
 Job No.: 16393  
 Matrix: Water  
 Analyst: TPW

Date Sampled: 05/02/00  
 Date Received: 05/03/00  
 Date Extracted: 05/05/00  
 Dates Analyzed: 05/06-08/00  
 Batch Number: 8270W0622

Compound	Sample ID:	Blank	JA-1	JA-2	JA-3	JA-4
	DL	mg/L	mg/L	mg/L	mg/L	mg/L
Acenaphthene	0.0011	ND	ND	ND	ND	ND
Acenaphthylene	0.0011	ND	ND	ND	ND	ND
Anthracene	0.0011	ND	ND	ND	ND	ND
Benzo[a]anthracene	0.0022	ND	ND	ND	ND	ND
Benzo[a]pyrene	0.0022	ND	ND	ND	ND	ND
Benzo[b]fluoranthene	0.0011	ND	ND	ND	ND	ND
Benzo[g,h,i]perylene	0.0033	ND	ND	ND	ND	ND
Benzo[k]fluoranthene	0.0011	ND	ND	ND	ND	ND
Benzyl alcohol	0.0044	ND	ND	ND	ND	ND
bis(2-Chloroethoxy)methane	0.0022	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	0.0022	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	0.0033	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	0.011	ND	ND	ND	ND	ND
4-Bromophenylphenylether	0.0011	ND	ND	ND	ND	ND
Butylbenzylphthalate	0.0011	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	0.0055	ND	ND	ND	ND	ND
4-Chloroaniline	0.0055	ND	ND	ND	ND	ND
2-Chloronaphthalene	0.0011	ND	ND	ND	ND	ND
2-Chlorophenol	0.0044	ND	ND	ND	ND	ND
4-Chlorophenylphenylether	0.0011	ND	ND	ND	ND	ND
Chrysene	0.0011	ND	ND	ND	ND	ND
Di-n-butylphthalate	0.011	ND	ND	ND	ND	ND
Di-n-octylphthalate	0.0011	ND	ND	ND	ND	ND
Dibenzo[a,h]anthracene	0.0033	ND	ND	ND	ND	ND
Dibenzofuran	0.0011	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	0.0011	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	0.0011	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	0.0011	ND	ND	ND	ND	ND
3,3-Dichlorobenzidine	0.0044	ND	ND	ND	ND	ND
2,4-Dichlorophenol	0.0055	ND	ND	ND	ND	ND
Diethylphthalate	0.011	ND	ND	ND	ND	ND
2,4-Dimethylphenol	0.0033	ND	ND	ND	ND	ND
Dimethylphthalate	0.0011	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	0.011	ND	ND	ND	ND	ND
2,4-Dinitrophenol	0.055	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	0.0011	ND	ND	ND	ND	ND

**EPA 8270 Semivolatile Organics**

Client:	PSI	Date Sampled:	05/02/00
Project:	CT J&A Truck/Container Freight	Date Received:	05/03/00
Job No.:	16393	Date Extracted:	05/05/00
Matrix:	Water	Dates Analyzed:	05/06-08/00
Analyst:	TPW	Batch Number:	8270W0622

Compound	Sample ID: DL	Blank mg/L	JA-1 mg/L	JA-2 mg/L	JA-3 mg/L	JA-4 mg/L
2,6-Dinitrotoluene	0.0033	ND	ND	ND	ND	ND
Fluoranthene	0.0011	ND	ND	ND	ND	ND
Fluorene	0.0011	ND	ND	ND	ND	ND
Hexachlorobenzene	0.0011	ND	ND	ND	ND	ND
Hexachlorobutadiene	0.0011	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	0.055	ND	ND	ND	ND	ND
Hexachloroethane	0.0011	ND	ND	ND	ND	ND
Indeno[1,2,3-cd]pyrene	0.0044	ND	ND	ND	ND	ND
Isophorone	0.0011	ND	ND	ND	ND	ND
2-Methylnaphthalene	0.0011	ND	ND	ND	ND	ND
2-Methylphenol	0.0055	ND	ND	ND	ND	ND
4-Methylphenol	0.0055	ND	ND	ND	ND	ND
N-Nitroso-di-n-propylamine	0.0011	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	0.0011	ND	ND	ND	ND	ND
Naphthalene	0.0011	ND	0.002	ND	ND	ND
2-Nitroaniline	0.0033	ND	ND	ND	ND	ND
3-Nitroaniline	0.0033	ND	ND	ND	ND	ND
4-Nitroaniline	0.011	ND	ND	ND	ND	ND
Nitrobenzene	0.0033	ND	ND	ND	ND	ND
2-Nitrophenol	0.0044	ND	ND	ND	ND	ND
4-Nitrophenol	0.011	ND	ND	ND	ND	ND
Pentachlorophenol	0.055	ND	ND	ND	ND	ND
Phenanthrene	0.0022	ND	ND	ND	ND	ND
Phenol	0.0044	ND	ND	ND	ND	ND
Pyrene	0.0011	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	0.0011	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	0.0066	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	0.011	ND	ND	ND	ND	ND

**Surrogates (Limits) in Percent Recovery**

Sample ID:	Blank	JA-1	JA-2	JA-3	JA-4
2-Fluorophenol (21 - 100%)	104	52	59	59	52
Phenol-D5 (10 - 94%)	82	34	38	39	34
Nitrobenzene-D5 (35 - 114%)	108	62	60	60	59
2-Fluorobiphenyl (43 - 116%)	90	72	75	71	69
2,4,6-Tribromophenol (10 - 123%)	97	82	103	96	89
p-Terphenyl-D14 (33 - 141%)	108	85	90	88	85

**EPA 8270 Semivolatile Organics**

Client: PSI  
 Project: CT J&A Truck/Container Freight  
 Job No.: 16393  
 Matrix: Water  
 Analyst: TPW

Date Sampled: 05/02/00  
 Date Received: 05/03/00  
 Date Extracted: 05/05/00  
 Dates Analyzed: 05/06-08/00  
 Batch Number: 8270W0622

Compound	Sample ID: DL	Blank mg/L	CF-1 mg/L	CF-2 mg/L	CF-3 mg/L	CF-10 mg/L
Acenaphthene	0.001	ND	0.008	0.004	ND	0.004
Acenaphthylene	0.001	ND	ND	0.069	ND	0.031
Anthracene	0.001	ND	0.006	0.007	0.001	0.006
Benzo[a]anthracene	0.002	ND	ND	ND	0.004	ND
Benzo[a]pyrene	0.002	ND	ND	0.003	0.008	0.002
Benzo[b]fluoranthene	0.001	ND	ND	0.003	0.010	0.003
Benzo[g,h,i]perylene	0.003	ND	ND	ND	0.009	ND
Benzo[k]fluoranthene	0.001	ND	ND	0.003	0.010	0.003
Benzyl alcohol	0.004	ND	ND	ND	ND	ND
bis(2-Chloroethoxy)methane	0.002	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	0.002	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	0.003	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	0.01	ND	ND	ND	ND	ND
4-Bromophenylphenylether	0.001	ND	ND	ND	ND	ND
Butylbenzylphthalate	0.001	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	0.005	ND	ND	ND	ND	ND
4-Chloroaniline	0.005	ND	ND	ND	ND	ND
2-Chloronaphthalene	0.001	ND	ND	ND	ND	ND
2-Chlorophenol	0.004	ND	ND	ND	ND	ND
4-Chlorophenylphenylether	0.001	ND	ND	ND	ND	ND
Chrysene	0.001	ND	ND	0.003	0.006	0.002
Di-n-butylphthalate	0.01	ND	ND	ND	ND	ND
Di-n-octylphthalate	0.001	ND	ND	ND	ND	ND
Dibenzo[a,h]anthracene	0.003	ND	ND	ND	ND	ND
Dibenzofuran	0.001	ND	0.003	0.003	ND	0.003
1,2-Dichlorobenzene	0.001	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	0.001	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	0.001	ND	ND	ND	ND	ND
3,3-Dichlorobenzidine	0.004	ND	ND	ND	ND	ND
2,4-Dichlorophenol	0.005	ND	ND	ND	ND	ND
Diethylphthalate	0.01	ND	ND	ND	ND	ND
2,4-Dimethylphenol	0.003	ND	ND	ND	ND	ND
Dimethylphthalate	0.001	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	0.01	ND	ND	ND	ND	ND
2,4-Dinitrophenol	0.05	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	0.001	ND	ND	ND	ND	ND

**EPA 8270 Semivolatile Organics**

Client:	PSI	Date Sampled:	05/02/00
Project:	CT J&A Truck/Container Freight	Date Received:	05/03/00
Job No.:	16393	Date Extracted:	05/05/00
Matrix:	Water	Dates Analyzed:	05/06-08/00
Analyst:	TPW	Batch Number:	8270W0622

Compound	Sample ID: DL	Blank mg/L	CF-1 mg/L	CF-2 mg/L	CF-3 mg/L	CF-10 mg/L
2,6-Dinitrotoluene	0.003	ND	ND	ND	ND	ND
Fluoranthene	0.001	ND	0.007	0.014	0.012	0.011
Fluorene	0.001	ND	0.013	0.016	ND	0.014
Hexachlorobenzene	0.001	ND	ND	ND	ND	ND
Hexachlorobutadiene	0.001	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	0.05	ND	ND	ND	ND	ND
Hexachloroethane	0.001	ND	ND	ND	ND	ND
Indeno[1,2,3-cd]pyrene	0.004	ND	ND	ND	0.006	ND
Isophorone	0.001	ND	ND	ND	ND	ND
2-Methylnaphthalene	0.001	ND	0.067	0.022	ND	0.008
2-Methylphenol	0.005	ND	ND	ND	ND	ND
4-Methylphenol	0.005	ND	ND	0.17	ND	0.041
N-Nitroso-di-n-propylamine	0.001	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	0.001	ND	ND	ND	ND	ND
Naphthalene	0.001	ND	5.5	1.2	0.007	0.52
2-Nitroaniline	0.003	ND	ND	ND	ND	ND
3-Nitroaniline	0.003	ND	ND	ND	ND	ND
4-Nitroaniline	0.01	ND	ND	ND	ND	ND
Nitrobenzene	0.003	ND	ND	ND	ND	ND
2-Nitrophenol	0.004	ND	ND	ND	ND	ND
4-Nitrophenol	0.01	ND	ND	ND	ND	ND
Pentachlorophenol	0.05	ND	ND	ND	ND	ND
Phenanthrene	0.002	ND	0.055	0.048	0.004	0.033
Phenol	0.004	ND	0.024	0.046	ND	0.011
Pyrene	0.001	ND	0.011	0.018	0.016	0.013
1,2,4-Trichlorobenzene	0.001	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	0.006	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	0.01	ND	ND	ND	ND	ND

**Surrogates (Limits) in Percent Recovery**

Surrogate	Sample ID: Blank	CF-1	CF-2	CF-3	CF-10
2-Fluorophenol (21 - 100%)	104	30	59	37	49
Phenol-D5 (10 - 94%)	82	40	40	25	37
Nitrobenzene-D5 (35 - 114%)	108	38	65	39	51
2-Fluorobiphenyl (43 - 116%)	90	59	64	62	56
2,4,6-Tribromophenol (10 - 123%)	97	32	89	40	79
p-Terphenyl-D14 (33 - 141%)	108	44	83	67	72

**QC Sample Report - EPA 8270**

Batch #: 8270W0622

Matrix: Water

**Batch Accuracy Results**

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration µg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Phenol	80	43	5 - 112	Pass
2-Chlorophenol	80	106	23 - 134	Pass
1,4-Dichlorobenzene	40	94	20 - 124	Pass
N-Nitrosodi-n-propylamine	40	79	0 - 230	Pass
1,2,4-Trichlorobenzene	40	83	44 - 142	Pass
4-Chloro-3-Methylphenol	80	84	22 - 147	Pass
Acenaphthene	40	84	47 - 145	Pass
4-Nitrophenol	80	48	0 - 132	Pass
2,4-Dinitrotoluene	40	88	39 - 139	Pass
Pentachlorophenol	80	132	14 - 176	Pass
Pyrene	40	103	52 - 115	Pass

Analytical Notes:

**Batch Precision Results**

MS/MSD Sample ID: Laboratory Control Sample

Analyte	Spike Sample Recovery µg/L	Spike Duplicate Recovery µg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Phenol	34.7	31.8	9%	35%	Pass
2-Chlorophenol	85.2	75.5	12%	50%	Pass
1,4-Dichlorobenzene	37.4	34.3	9%	27%	Pass
N-Nitrosodi-n-propylamine	31.8	29.8	6%	38%	Pass
1,2,4-Trichlorobenzene	33.3	35.8	7%	28%	Pass
4-Chloro-3-Methylphenol	66.9	73.0	9%	33%	Pass
Acenaphthene	33.7	33.9	1%	23%	Pass
4-Nitrophenol	29.7	37.8	24%	50%	Pass
2,4-Dinitrotoluene	35.1	37.9	8%	47%	Pass
Pentachlorophenol	105.7	105.4	0%	47%	Pass
Pyrene	41.2	41.1	0%	36%	Pass

Analytical Notes:



# Centrum Analytical Laboratories, Inc.

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## Chain of Custody Record

Centrum Job # **16368**

Page 1 of     

Project No: <b>06011</b>		Project Name: <b>TRUCK CONTAINER FREIGHT</b>		<b>Please Circle Analyses Requested</b>										Turn-Around Time <input type="checkbox"/> 24 Hr. RUSH* <input type="checkbox"/> 48 Hr. RUSH* <input checked="" type="checkbox"/> Normal TAT  *Requires PRIOR approval, additional charges apply Requested due date: _____					
Project Manager: <b>FRANK POSS</b>		Phone: <b>510 785-1111</b>		Fax: <b>510 785-1192</b>		8015M: Diesel Fuel Screen, Carbon Chain 8015M: Gas only 8021B: BTEX/MIBE Only 418.1 (TRPH), 413.2 <b>TPH 00 - EPA 015 M</b> GCMS: <b>8260B</b> , 8021B, 624, 624.2 GCMS: MIBE Conf. Only GCMS: <b>8270C</b> , 625 8080: Pesticides, PCBs, Pest/PCB (8081) (8082) Metals: <b>Time 22 (CAM)</b> RCRA, PP PH, TDS, TSS, Conductivity Flashpoint, Hex Cr													
Client Name: (Report and Billing) <b>PSI</b>		Address: (Report and Billing) <b>1320 W. WINTON AVE HAYWARD CA. 94545</b>												Remarks/Special Instructions					
Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	8015M: Diesel Fuel Screen, Carbon Chain	8015M: Gas only	8021B: BTEX/MIBE Only	418.1 (TRPH), 413.2	<b>TPH 00 - EPA 015 M</b>	GCMS: <b>8260B</b> , 8021B, 624, 624.2	GCMS: MIBE Conf. Only	GCMS: <b>8270C</b> , 625	8080: Pesticides, PCBs, Pest/PCB (8081) (8082)	Metals: <b>Time 22 (CAM)</b> RCRA, PP	PH, TDS, TSS, Conductivity	Flashpoint, Hex Cr	Remarks/Special Instructions
1	CF3-0.5	4-25-00	0905	SOIL		1 brass tube	X	X			X	X	X			X			
2	CF3-1.0		0928	"			X	X			X	X	X			X			
3	CF3-2.0		0936	"			X	X			X	X	X			X			
4	CF2-0.5		1104				X	X			X	X	X			X			
5	CF2-1.0		1116				X	X			X	X	X			X			
6	CF2-2.0		1131				X	X			X	X	X			X			
7	CF2-3.0		1156								X								
8	CF1-0.5		1330				X	X			X	X	X	X		X			
9	CF1-1.0		1357				X	X			X	X	X	X		X			
10	CF1-2.0		1424				X	X			X	X	X	X		X			
1) Relinquished by: (Sampler's Signature) <b>CHRIS MERRETT</b>		Date: <b>4/26/00</b>	Time: <b>1700</b>	3) Relinquished by:		Date:	Time:	To be completed by Laboratory personnel: Samples chilled? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> From Field Custody seals? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No All sample containers intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Courier <input checked="" type="checkbox"/> UPS Fed Ex <input type="checkbox"/> Hand carried										Sample Disposal <input type="checkbox"/> Client will pick up <input type="checkbox"/> Return to client <input checked="" type="checkbox"/> Lab disposal	
2) Received by:		Date:	Time:	4) Received by:		Date:	Time:												
The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.		5) Relinquished by:		6) Received for Laboratory by: <b>Don Ortaquiery</b>		Date: <b>4/27</b>	Time: <b>11:00</b>											Sample Locator No. <b>E-5</b>	
Laboratory Notes:																			



# Centrum Analytical Laboratories, Inc.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

Client: PSI  
1320 W. Winton Ave.  
Hayward, CA 94545

Date Sampled: 04/25/00  
Date Received: 04/27/00  
Job Number: 16368

Project: J&A Truck/Container Freight

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## CASE NARRATIVE

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The following information applies to samples which were received on 04/27/00 :

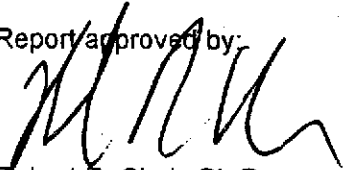
The samples were received at the laboratory chilled and sample containers were intact.

Unless otherwise noted below, the Quality Control acceptance criteria were met for all samples for every analysis requested.

**8260:** Some surrogate recoveries were outside the acceptance limits due to reproducible sample matrix effects.

**8270:** The samples were run at a dilution due to high levels of hydrocarbons in the sample; consequently, detection limits were raised.

Report approved by:

  
Robert R. Clark, Ph.D.  
Laboratory Director

ELAP # 1184

DL : Detection Limit -- The lowest level at which the compound can reliably be detected under normal laboratory conditions.  
ND : Not Detected -- The compound was analyzed for but was not found to be present at or above the detection limit.  
NA : Not Analyzed -- Per client request, this analyte was not on the list of compounds to be analyzed for.



**Metals**

Client: PSI  
 Project: J&A Truck/Container Freight  
 Job No: 16368  
 Matrix: Soil  
 Analyst: RLB/TLR

Date Sampled: 04/25/00  
 Date Received: 04/27/00  
 Date Digested: 05/01/00  
 Date Analyzed: 05/02-06/00  
 Batch Number: 6010S1551

Element	Method #	Sample ID:						
		DL	Blank mg/Kg	CF3-0.5 mg/Kg	CF3-1.0 mg/Kg	CF3-2.0 mg/Kg	CF2-0.5 mg/Kg	CF2-1.0 mg/Kg
Antimony	6010B	2.5	ND	ND	ND	ND	ND	ND
Arsenic	6010B	0.50	ND	2.5	6.0	5.1	5.9	5.4
Barium	6010B	0.50	ND	77	18	50	71	99
Beryllium	6010B	0.50	ND	ND	ND	ND	ND	ND
Cadmium	6010B	0.50	ND	ND	ND	ND	ND	ND
Chromium	6010B	0.50	ND	22	2.9	32	20	29
Cobalt	6010B	0.50	ND	4.1	0.59	6.2	6.2	6.6
Copper	6010B	0.50	ND	14	71	34	41	38
Lead	6010B	0.50	ND	73	22	48	65	64
Mercury	7471	0.10	ND	0.18	ND	ND	0.24	0.26
Molybdenum	6010B	0.50	ND	ND	ND	0.67	ND	0.71
Nickel	6010B	1.0	ND	16	7.6	38	19	30
Selenium	6010B	2.5	ND	ND	ND	ND	ND	ND
Silver	6010B	1.0	ND	ND	ND	ND	ND	ND
Thallium	6010B	2.5	ND	ND	ND	ND	ND	ND
Vanadium	6010B	0.50	ND	19	25	28	28	31
Zinc	6010B	10	ND	50	30	180	76	87

**Metals**

Client: PSI  
 Project: J&A Truck/Container Freight  
 Job No: 16368  
 Matrix: Soil  
 Analyst: RLB/TLR

Date Sampled: 04/25/00  
 Date Received: 04/27/00  
 Date Digested: 05/01/00  
 Date Analyzed: 05/02-06/00  
 Batch Number: 6010S1551

Element	Method #	Sample ID:				
		DL	CF2-2.0 mg/Kg	CF1-0.5 mg/Kg	CF1-1.0 mg/Kg	CF1-2.0 mg/Kg
Antimony	6010B	2.5	ND	ND	ND	ND
Arsenic	6010B	0.50	12	4.7	8.8	5.8
Barium	6010B	0.50	55	130	120	130
Beryllium	6010B	0.50	ND	ND	ND	ND
Cadmium	6010B	0.50	0.62	ND	ND	0.82
Chromium	6010B	0.50	7.1	30	35	27
Cobalt	6010B	0.50	2.5	7.8	8.8	6.4
Copper	6010B	0.50	80	30	51	36
Lead	6010B	0.50	48	49	49	74
Mercury	7471	0.10	ND	ND	0.30	0.23
Molybdenum	6010B	0.50	ND	0.66	1.0	1.4
Nickel	6010B	1.0	12	33	41	25
Selenium	6010B	2.5	ND	ND	ND	ND
Silver	6010B	1.0	ND	ND	ND	ND
Thallium	6010B	2.5	ND	ND	ND	ND
Vanadium	6010B	0.50	13	32	37	26
Zinc	6010B	10	230	89	87	150

**QC Sample Report - Metals**

Matrix: Soil  
 Batch #: 6010S1551  
 MS/MSD Sample ID: 16373-1

Metal	Batch Precision Results:					Batch Accuracy Results:				
	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass / Fail	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits	Percent Recovery	Pass / Fail
Antimony	53.5	53.0	1%	20%	Pass	50	113	75 - 125		Pass
Arsenic	51.8	52.0	0%	20%	Pass	50	107	75 - 125		Pass
Barium	85.9	86.4	1%	20%	Pass	50	105	75 - 125		Pass
Beryllium	50.7	52.3	3%	20%	Pass	50	107	75 - 125		Pass
Cadmium	48.2	48.6	1%	20%	Pass	50	107	75 - 125		Pass
Chromium	79.1	81.5	3%	20%	Pass	50	108	75 - 125		Pass
Cobalt	53.0	53.9	2%	20%	Pass	50	108	75 - 125		Pass
Copper	57.4	58.2	1%	20%	Pass	50	108	75 - 125		Pass
Lead	50.7	50.6	0%	20%	Pass	50	107	75 - 125		Pass
Mercury	2.74	2.80	2%	20%	Pass	2.5	111	75 - 125		Pass
Molybdenum	52.2	52.2	0%	20%	Pass	50	113	75 - 125		Pass
Nickel	73.7	75.1	2%	20%	Pass	50	107	75 - 125		Pass
Selenium	48.1	48.9	2%	20%	Pass	50	103	75 - 125		Pass
Silver	49.1	50.1	2%	20%	Pass	50	104	75 - 125		Pass
Thallium	48.0	48.8	2%	20%	Pass	50	107	75 - 125		Pass
Vanadium	70.3	71.2	1%	20%	Pass	50	109	75 - 125		Pass
Zinc	69.0	70.1	2%	20%	Pass	50	115	75 - 125		Pass

**Analytical Notes**

LCS: Laboratory Control Sample

MS: Matrix Spike

RPD: Relative Percent Difference

LCS D: Laboratory Control Sample Duplicate

MSD: Matrix Spike Duplicate

**Modified 8015 - Fuel Screen**

Client: PSI  
 Project: J&A Truck/Container Freight  
 Job No.: 16368  
 Matrix: Soil  
 Analyst: JL

Date Sampled: 04/25/00  
 Date Received: 04/27/00  
 Date Extracted: 05/01/00  
 Date Analyzed: 05/01-02/00  
 Batch Number: 8015DS1909  
 8015DS1910

Fuel Identified:	Diesel	Motor Oil	Detection Limits
Units:	mg/kg	mg/kg	mg/kg
Blank	ND	ND	10
CF3-0.5	22	23	10
CF3-1.0	140	78	10
CF3-2.0	110	58	10
CF2-0.5	60	44	20
CF2-1.0	220	520	20
CF2-2.0	140	ND	100
CF1-0.5	370	630	100
CF1-1.0	70	100	20
CF1-2.0	19	35	10

**QC Sample Report - EPA 8015M Diesel**

Matrix: Soil  
Batch #: 8015DS1909

**Batch Accuracy Results**

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Diesel	100	82	70 - 130	Pass

Analytical Notes:

**Batch Precision Results**

MS/MSD Sample ID: Laboratory Control Sample

Control Sample	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Diesel	82	75	9%	29%	Pass

Analytical Notes:

MS: Matrix Spike Sample  
MSD: Matrix Spike Duplicate

**QC Sample Report - EPA 8015M Diesel**

Matrix: Soil  
Batch #: 8015DS1910

**Batch Accuracy Results**

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Diesel	100	104	70 - 130	Pass

Analytical Notes:

**Batch Precision Results**

MS/MSD Sample ID: Laboratory Control Sample

Control Sample	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Diesel	104	97	7%	29%	Pass

Analytical Notes:

MS: Matrix Spike Sample  
MSD: Matrix Spike Duplicate



### Modified 8015 - Total Volatile Hydrocarbons as Gasoline

Client: PSI  
Project: J&A Truck/Container Freight  
Job No.: 16368  
Matrix: Soil  
Analyst: CP

Date Sampled: 04/25/00  
Date Received: 04/27/00  
Date Analyzed: 05/01/00  
Batch Number: 8015GS2591

Sample ID	Detection Limit mg/kg	Petroleum Hydrocarbons as Gasoline mg/kg
Method Blank	0.50	ND
CF3-0.5	0.50	ND
CF3-1.0	0.50	ND
CF3-2.0	0.50	ND
CF2-0.5	0.50	ND
CF2-1.0	0.50	ND
CF2-2.0	0.50	0.69
CF1-0.5	0.50	ND
CF1-1.0	0.50	0.77
CF1-2.0	0.50	ND

**EPA 8080 - Organochlorine Pesticides & PCBs**

Client: PSI  
 Project: J&A Truck/Container Freight  
 Job No.: 16368  
 Matrix: Soil  
 Analyst: TPW

Date Sampled: 04/25/00  
 Date Received: 04/27/00  
 Date Extracted: 05/01/00  
 Date Analyzed: 05/05/00  
 Batch Number: PESTS0249

Pesticides	Sample ID: DL	Blank mg/Kg	CF1-0.5 mg/Kg	CF1-1.0 mg/Kg	CF1-2.0 mg/Kg
Aldrin	0.001	ND	ND	ND	ND
Alpha-BHC	0.001	ND	ND	ND	ND
Beta-BHC	0.001	ND	ND	ND	ND
Delta-BHC	0.001	ND	ND	ND	ND
Gamma-BHC (Lindane)	0.001	ND	ND	ND	ND
Chlordane	0.010	ND	ND	ND	ND
4,4'-DDD	0.002	ND	ND	0.003	ND
4,4'-DDE	0.002	ND	0.018	0.009	ND
4,4'-DDT	0.002	ND	ND	ND	ND
Dieldrin	0.002	ND	ND	0.002	ND
Endosulfan I	0.001	ND	0.006	ND	ND
Endosulfan II	0.002	ND	ND	ND	ND
Endosulfan sulfate	0.002	ND	ND	ND	ND
Endrin	0.002	ND	ND	ND	ND
Endrin Aldehyde	0.002	ND	ND	ND	ND
Endrin Ketone	0.010	ND	ND	ND	ND
Heptachlor	0.001	ND	ND	ND	ND
Heptachlor Epoxide	0.001	ND	ND	ND	ND
Methoxychlor	0.010	ND	ND	ND	ND
Toxaphene	0.020	ND	ND	ND	ND
<b>PCBs</b>					
Aroclor-1016	0.050	ND	ND	ND	ND
Aroclor-1221	0.050	ND	ND	ND	ND
Aroclor-1232	0.050	ND	ND	ND	ND
Aroclor-1242	0.050	ND	ND	ND	ND
Aroclor-1248	0.050	ND	ND	ND	ND
Aroclor-1254	0.050	ND	ND	ND	ND
Aroclor-1260	0.050	ND	0.082	ND	ND

**Surrogates (% recovery) Limits: 50 - 150**

Sample ID:	Blank	CF1-0.5	CF1-1.0	CF1-2.0
Tetrachloro-m-xylene	117	77	86	100



**EPA 8080 - Organochlorine Pesticides & PCBs**

Client: PSI  
 Project: J&A Truck/Container Freight  
 Job No.: 16368  
 Matrix: Soil  
 Analyst: TPW

Date Sampled: 04/25/00  
 Date Received: 04/27/00  
 Date Extracted: 05/01/00  
 Date Analyzed: 05/05/00  
 Batch Number: PESTS0249

Pesticides	Sample ID: DL	Blank mg/Kg	CF1-0.5 mg/Kg	CF1-1.0 mg/Kg	CF1-2.0 mg/Kg
Aldrin	0.001	ND	ND	ND	ND
Alpha-BHC	0.001	ND	ND	ND	ND
Beta-BHC	0.001	ND	ND	ND	ND
Delta-BHC	0.001	ND	ND	ND	ND
Gamma-BHC (Lindane)	0.001	ND	ND	ND	ND
Chlordane	0.010	ND	ND	ND	ND
4,4'-DDD	0.002	ND	ND	0.003	ND
4,4'-DDE	0.002	ND	0.018	0.009	ND
4,4'-DDT	0.002	ND	ND	ND	ND
Dieldrin	0.002	ND	ND	0.002	ND
Endosulfan I	0.001	ND	0.006	ND	ND
Endosulfan II	0.002	ND	ND	ND	ND
Endosulfan sulfate	0.002	ND	ND	ND	ND
Endrin	0.002	ND	ND	ND	ND
Endrin Aldehyde	0.002	ND	ND	ND	ND
Endrin Ketone	0.010	ND	ND	ND	ND
Heptachlor	0.001	ND	ND	ND	ND
Heptachlor Epoxide	0.001	ND	ND	ND	ND
Methoxychlor	0.010	ND	ND	ND	ND
Toxaphene	0.020	ND	ND	ND	ND
<b>PCBs</b>					
Aroclor-1016	0.050	ND	ND	ND	ND
Aroclor-1221	0.050	ND	ND	ND	ND
Aroclor-1232	0.050	ND	ND	ND	ND
Aroclor-1242	0.050	ND	ND	ND	ND
Aroclor-1248	0.050	ND	ND	ND	ND
Aroclor-1254	0.050	ND	ND	ND	ND
Aroclor-1260	0.050	ND	0.082	ND	ND

**Surrogates (% recovery) Limits: 50 - 150**

Sample ID:	Blank	CF1-0.5	CF1-1.0	CF1-2.0
Tetrachloro-m-xylene	117	77	86	100

**QC Sample Report - EPA 8080 Pesticides**

Matrix: Soil  
Batch #: PESTS0249

**Batch Accuracy Results**

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lindane	0.0066	90	32 - 127	Pass
Heptachlor	0.0066	98	34 - 111	Pass
Aldrin	0.0066	109	42 - 122	Pass
Dieldrin	0.026	88	36 - 146	Pass
Endrin	0.026	102	30 - 147	Pass
DDT	0.026	93	25 - 160	Pass
Aroclor 1242	0.0667	83	75 - 127	Pass

Analytical Notes:

**Batch Precision Results**

MS/MSD Sample ID: Laboratory Control Sample

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lindane	0.0030	0.0028	7%	25%	Pass
Heptachlor	0.0033	0.0036	9%	25%	Pass
Aldrin	0.0036	0.0035	3%	25%	Pass
Dieldrin	0.0117	0.0108	8%	25%	Pass
Endrin	0.0135	0.0117	14%	25%	Pass
DDT	0.0124	0.0112	10%	25%	Pass

Analytical Notes:

MS: Matrix Spike Sample  
MSD: Matrix Spike Duplicate

**EPA 8260 - Volatile Organics with Oxygenates**

 Client: PSI  
 Project: J&A Truck/Container Freight  
 Job No.: 16368  
 Matrix: Soil  
 Analyst: JMR

 Date Sampled: 04/25/00  
 Date Received: 04/27/00  
 Date Analyzed: 05/03-12/00  
 Batch Number: MS48260S2093

Compounds	Sample ID:	Blank	CF3-0.5	CF3-1.0	CF3-2.0	CF2-0.5	CF2-1.0
	DL	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Acetone	0.05	ND	ND	ND	ND	ND	ND
tert-Amyl Methyl Ether (TAME)	0.005	ND	ND	ND	ND	ND	ND
Benzene	0.001	ND	ND	ND	ND	ND	ND
Bromobenzene	0.005	ND	ND	ND	ND	ND	ND
Bromochloromethane	0.005	ND	ND	ND	ND	ND	ND
Bromodichloromethane	0.001	ND	ND	ND	ND	ND	ND
Bromoform	0.005	ND	ND	ND	ND	ND	ND
Bromomethane	0.01	ND	ND	ND	ND	ND	ND
tert-Butanol (TBA)	0.05	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	0.01	ND	ND	ND	ND	ND	ND
n-Butylbenzene	0.002	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	0.002	ND	ND	ND	ND	ND	ND
tert-Butylbenzene	0.002	ND	ND	ND	ND	ND	ND
Carbon disulfide	0.01	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	0.001	ND	ND	ND	ND	ND	ND
Chlorobenzene	0.001	ND	ND	ND	ND	ND	ND
Chloroethane	0.005	ND	ND	ND	ND	ND	ND
Chloroform	0.002	ND	ND	ND	ND	ND	ND
Chloromethane	0.001	ND	ND	ND	ND	ND	ND
2-Chlorotoluene	0.002	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	0.002	ND	ND	ND	ND	ND	ND
Dibromochloromethane	0.002	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	0.002	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	0.01	ND	ND	ND	ND	ND	ND
Dibromomethane	0.001	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	0.001	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	0.002	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	0.002	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	0.005	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	0.001	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.001	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	0.005	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	0.002	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	0.002	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	0.001	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	0.001	ND	ND	ND	ND	ND	ND
2,2-Dichloropropane	0.001	ND	ND	ND	ND	ND	ND
1,1-Dichloropropene	0.001	ND	ND	ND	ND	ND	ND

**EPA 8260 - Volatile Organics with Oxygenates**

Client: PSI  
 Project: J&A Truck/Container Freight  
 Job No.: 16368  
 Matrix: Soil  
 Analyst: JMR

Date Sampled: 04/25/00  
 Date Received: 04/27/00  
 Date Analyzed: 05/03-12/00  
 Batch Number: MS48260S2093

Compounds	Sample ID:	Blank	CF3-0.5	CF3-1.0	CF3-2.0	CF2-0.5	CF2-1.0
	DL	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
cis-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND	ND
Diisopropyl Ether (DIPE)	0.005	ND	ND	ND	ND	ND	ND
Ethylbenzene	0.001	ND	ND	ND	ND	ND	ND
Ethyl tert-Butyl Ether (EtBE)	0.005	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	0.001	ND	ND	ND	ND	ND	ND
2-Hexanone	0.01	ND	ND	ND	ND	ND	ND
Isopropylbenzene	0.001	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	0.002	ND	ND	ND	ND	ND	ND
Methylene chloride	0.02	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	0.01	ND	ND	ND	ND	ND	ND
Methyl tert-Butyl Ether (MtBE)	0.005	ND	ND	ND	ND	ND	ND
Napthalene	0.002	ND	0.008	0.009	ND	0.009	0.005
n-Propylbenzene	0.001	ND	ND	ND	ND	ND	ND
Styrene	0.001	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	0.001	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	0.002	ND	ND	ND	ND	ND	ND
Tetrachloroethane	0.001	ND	ND	ND	ND	ND	ND
Toluene	0.001	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	0.002	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	0.002	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.001	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	0.003	ND	ND	ND	ND	ND	ND
Trichloroethene	0.001	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	0.003	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	0.001	ND	ND	ND	ND	ND	ND
Trichlorotrifluoroethane	0.005	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	0.001	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	0.001	ND	ND	ND	ND	ND	ND
Vinyl chloride	0.002	ND	ND	ND	ND	ND	ND
Xylenes (total)	0.003	ND	ND	ND	ND	ND	ND

**Surrogates (% recovery) Limits: 80 - 130**

Sample ID:	Blank	CF3-0.5	CF3-1.0	CF3-2.0	CF2-0.5	CF2-1.0
Dibromofluoromethane	106	112	174*	111	112	115
Toluene-d8	104	103	99	103	103	104
Bromofluorobenzene	101	96	45*	90	98	96

\*See Case Narrative regarding surrogate recoveries outside the acceptance limits.



EPA 8260 - Volatile Organics with Oxygenates

Client: PSI
Project: J&A Truck/Container Freight
Job No.: 16368
Matrix: Soil
Analyst: JMR

Date Sampled: 04/25/00
Date Received: 04/27/00
Date Analyzed: 05/03-12/00
Batch Number: MS48260S2093

Table with 5 columns: Compounds, DL, mg/Kg (CF2-2.0), mg/Kg (CF1-0.5), mg/Kg (CF1-1.0). Lists various organic compounds and their detection levels across three sample IDs.



EPA 8260 - Volatile Organics with Oxygenates

Client: PSI
Project: J&A Truck/Container Freight
Job No.: 16368
Matrix: Soil
Analyst: JMR

Date Sampled: 04/25/00
Date Received: 04/27/00
Date Analyzed: 05/03-12/00
Batch Number: MS48260S2093

Table with 5 columns: Sample ID, DL, mg/Kg, mg/Kg, mg/Kg. Rows list various compounds like cis-1,3-Dichloropropene, trans-1,3-Dichloropropene, Diisopropyl Ether (DIPE), Ethylbenzene, Ethyl tert-Butyl Ether (EtBE), Hexachlorobutadiene, 2-Hexanone, Isopropylbenzene, p-Isopropyltoluene, Methylene chloride, 4-Methyl-2-pentanone, Methyl tert-Butyl Ether (MtBE), Napthalene, n-Propylbenzene, Styrene, 1,1,1,2-Tetrachloroethane, 1,1,2,2-Tetrachloroethane, Tetrachloroethene, Toluene, 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethene, 1,2,3-Trichloropropane, Trichlorofluoromethane, Trichlorotrifluoroethane, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Vinyl chloride, and Xylenes (total).

Surrogates (% recovery) Limits: 80 - 130

Table with 4 columns: Sample ID, CF2-2.0, CF1-0.5, CF1-1.0. Rows list DIBROMOFLUOROMETHANE, Toluene-d8, and Bromofluorobenzene with their respective recovery percentages.

**EPA 8260 - Volatile Organics with Oxygenates**

Client: PSI  
 Project: J&A Truck/Container Freight  
 Job No.: 16368  
 Matrix: Soil  
 Analyst: JMR

Date Sampled: 04/25/00  
 Date Received: 04/27/00  
 Date Analyzed: 05/03-12/00  
 Batch Number: MS48260S2093

Sample ID: CF1-2.0		
Compounds	DL	mg/Kg
Acetone	5.0	ND
tert-Amyl Methyl Ether (TAME)	0.5	ND
Benzene	0.1	ND
Bromobenzene	0.5	ND
Bromochloromethane	0.5	ND
Bromodichloromethane	0.1	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
tert-Butanol (TBA)	5.0	ND
2-Butanone (MEK)	1.0	ND
n-Butylbenzene	0.2	ND
sec-Butylbenzene	0.2	ND
tert-Butylbenzene	0.2	ND
Carbon disulfide	1.0	ND
Carbon tetrachloride	0.1	ND
Chlorobenzene	0.1	ND
Chloroethane	0.5	ND
Chloroform	0.2	ND
Chloromethane	0.1	ND
2-Chlorotoluene	0.2	ND
4-Chlorotoluene	0.2	ND
Dibromochloromethane	0.2	ND
1,2-Dibromoethane	0.2	ND
1,2-Dibromo-3-chloropropane	1.0	ND
Dibromomethane	0.1	ND
1,2-Dichlorobenzene	0.1	ND
1,3-Dichlorobenzene	0.2	ND
1,4-Dichlorobenzene	0.2	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.1	ND
1,2-Dichloroethane	0.1	ND
1,1-Dichloroethene	0.5	ND
cis-1,2-Dichloroethene	0.2	ND
trans-1,2-Dichloroethene	0.2	ND
1,2-Dichloropropane	0.1	ND
1,3-Dichloropropane	0.1	ND
2,2-Dichloropropane	0.1	ND
1,1-Dichloropropene	0.1	ND



EPA 8260 - Volatile Organics with Oxygenates

Client: PSI
Project: J&A Truck/Container Freight
Job No.: 16368
Matrix: Soil
Analyst: JMR

Date Sampled: 04/25/00
Date Received: 04/27/00
Date Analyzed: 05/03-12/00
Batch Number: MS48260S2093

Table with columns: Compounds, DL, mg/Kg. Sample ID: CF1-2.0. Lists various compounds like cis-1,3-Dichloropropene, Diisopropyl Ether (DIPE), Ethylbenzene, etc., with their respective detection limits and concentrations.

Surrogates (% recovery) Limits: 80 - 130

Table with columns: Surrogate, Recovery. Sample ID: CF1-2.0. Lists DIBROMOFLUOROMETHANE (109%), Toluene-d8 (105%), and Bromofluorobenzene (101%).





EPA 8260 - Volatile Organics with Oxygenates

Client: PSI
Project: J&A Truck/Container Freight
Job No.: 16368
Matrix: Soil
Analyst: JMR

Date Sampled: 04/25/00
Date Received: 04/27/00
Date Analyzed: 05/03-12/00
Batch Number: MS48260S2093

Table with 3 columns: Compounds, DL, mg/Kg. Header: Sample ID: CF2-3.0. Rows include Acetone, tert-Amyl Methyl Ether (TAME), Benzene, Bromobenzene, Bromochloromethane, Bromodichloromethane, Bromoform, Bromomethane, tert-Butanol (TBA), 2-Butanone (MEK), n-Butylbenzene, sec-Butylbenzene, tert-Butylbenzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroethane, Chloroform, Chloromethane, 2-Chlorotoluene, 4-Chlorotoluene, Dibromochloromethane, 1,2-Dibromoethane, 1,2-Dibromo-3-chloropropane, Dibromomethane, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Dichlorodifluoromethane, 1,1-Dichloroethane, 1,2-Dichloroethane, 1,1-Dichloroethene, cis-1,2-Dichloroethene, trans-1,2-Dichloroethene, 1,2-Dichloropropane, 1,3-Dichloropropane, 2,2-Dichloropropane, 1,1-Dichloropropene.

**EPA 8260 - Volatile Organics with Oxygenates**

Client: PSI  
 Project: J&A Truck/Container Freight  
 Job No.: 16368  
 Matrix: Soil  
 Analyst: JMR

Date Sampled: 04/25/00  
 Date Received: 04/27/00  
 Date Analyzed: 05/03-12/00  
 Batch Number: MS48260S2093

Sample ID: CF2-3.0		
Compounds	DL	mg/Kg
cis-1,3-Dichloropropene	0.3	ND
trans-1,3-Dichloropropene	0.3	ND
Diisopropyl Ether (DIPE)	1.3	ND
Ethylbenzene	0.3	ND
Ethyl tert-Butyl Ether (EtBE)	1.3	ND
Hexachlorobutadiene	0.3	ND
2-Hexanone	2.5	ND
Isopropylbenzene	0.3	ND
p-Isopropyltoluene	0.5	ND
Methylene chloride	5	ND
4-Methyl-2-pentanone	2.5	ND
Methyl tert-Butyl Ether (MtBE)	1.3	ND
Napthalene	0.5	390
n-Propylbenzene	0.3	ND
Styrene	0.3	ND
1,1,1,2-Tetrachloroethane	0.3	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene	0.3	ND
Toluene	0.3	ND
1,2,3-Trichlorobenzene	0.5	ND
1,2,4-Trichlorobenzene	0.5	ND
1,1,1-Trichloroethane	0.3	ND
1,1,2-Trichloroethane	0.8	ND
Trichloroethene	0.3	ND
1,2,3-Trichloropropane	0.8	ND
Trichlorofluoromethane	0.3	ND
Trichlorotrifluoroethane	1.3	ND
1,2,4-Trimethylbenzene	0.3	ND
1,3,5-Trimethylbenzene	0.3	ND
Vinyl chloride	0.5	ND
Xylenes (total)	0.8	ND

**Surrogates (% recovery) Limits: 80 - 130**

Sample ID: CF2-3.0	
Dibromofluoromethane	106
Toluene-d8	104
Bromofluorobenzene	102

**QC Sample Report - EPA Method 8260**

Matrix: Soil  
Batch #: MS48260S2093

**Batch Accuracy Results**

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
1,1-Dichloroethene	0.020	96	59 - 172	Pass
Benzene	0.020	103	66 - 142	Pass
Trichloroethene	0.020	100	71 - 137	Pass
Toluene	0.020	99	59 - 139	Pass
Chlorobenzene	0.020	86	60 - 133	Pass

Analytical Notes:

**Batch Precision Results**

MS/MSD Sample ID: 16379-1

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
1,1-Dichloroethene	0.0259	0.0255	2%	22%	Pass
Benzene	0.0243	0.0247	2%	21%	Pass
Trichloroethene	0.0225	0.0226	0%	24%	Pass
Toluene	0.0216	0.0214	1%	21%	Pass
Chlorobenzene	0.0197	0.0197	0%	21%	Pass

Analytical Notes:

MS: Matrix Spike Sample  
MSD: Matrix Spike Duplicate

**EPA 8270 Semivolatile Organics**

Client:	PSI	Date Sampled:	04/25/00
Project:	J&A Truck/Container Freight	Date Received:	04/27/00
Job No.:	16368	Date Extracted:	05/02/00
Matrix:	Soil	Dates Analyzed:	05/04-05/00
Analyst:	TPW	Batch Number:	8270S0620

Compound	Sample ID: DL*	Blank mg/Kg	CF3-0.5 mg/Kg	CF3-1.0 mg/Kg	CF3-2.0 mg/Kg	CF2-0.5 mg/Kg	CF2-1.0 mg/Kg
Acenaphthene	0.33	ND	ND	ND	ND	0.34	ND
Acenaphthylene	0.33	ND	ND	2.0	1.8	0.85	ND
Anthracene	0.33	ND	ND	4.6	2.0	1.5	ND
Benzo[a]anthracene	0.66	ND	ND	16	5.5	1.7	ND
Benzo[a]pyrene	0.66	ND	ND	40	9.4	3.2	1.2
Benzo[b]fluoranthene	0.33	ND	ND	47	12	4.0	1.8
Benzo[g,h,i]perylene	0.99	ND	ND	33	10	3.5	1.6
Benzo[k]fluoranthene	0.33	ND	ND	47	12	4.0	1.8
Benzyl alcohol	1.3	ND	ND	ND	ND	ND	ND
bis(2-Chloroethoxy)methane	0.66	ND	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	0.66	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	0.99	ND	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	3.3	ND	ND	ND	ND	ND	ND
4-Bromophenylphenylether	0.33	ND	ND	ND	ND	ND	ND
Butylbenzylphthalate	0.33	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	1.6	ND	ND	ND	ND	ND	ND
4-Chloroaniline	1.6	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	0.33	ND	ND	ND	ND	ND	ND
2-Chlorophenol	1.3	ND	ND	ND	ND	ND	ND
4-Chlorophenylphenylether	0.33	ND	ND	ND	ND	ND	ND
Chrysene	0.33	ND	ND	19	7.1	2.1	0.76
Di-n-butylphthalate	3.3	ND	ND	ND	ND	ND	ND
Di-n-octylphthalate	0.33	ND	ND	ND	ND	ND	ND
Dibenzo[a,h]anthracene	0.99	ND	ND	6.3	1.2	ND	ND
Dibenzofuran	0.33	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	0.33	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	0.33	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	0.33	ND	ND	ND	ND	ND	ND
3,3-Dichlorobenzidine	1.3	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	1.6	ND	ND	ND	ND	ND	ND
Diethylphthalate	3.3	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	0.99	ND	ND	ND	ND	ND	ND
Dimethylphthalate	0.33	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	3.3	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	16	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	0.33	ND	ND	ND	ND	ND	ND

**EPA 8270 Semivolatile Organics**

Client: PSI  
 Project: J&A Truck/Container Freight  
 Job No.: 16368  
 Matrix: Soil  
 Analyst: TPW

Date Sampled: 04/25/00  
 Date Received: 04/27/00  
 Date Extracted: 05/02/00  
 Dates Analyzed: 05/04-05/00  
 Batch Number: 8270S0620

Compound	Sample ID: DL*	Blank mg/Kg	CF3-0.5 mg/Kg	CF3-1.0 mg/Kg	CF3-2.0 mg/Kg	CF2-0.5 mg/Kg	CF2-1.0 mg/Kg
2,6-Dinitrotoluene	0.99	ND	ND	ND	ND	ND	ND
Fluoranthene	0.33	ND	ND	62	20	7.6	ND
Fluorene	0.33	ND	ND	0.53	0.74	0.65	ND
Hexachlorobenzene	0.33	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	0.33	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	16	ND	ND	ND	ND	ND	ND
Hexachloroethane	0.33	ND	ND	ND	ND	ND	ND
Indeno[1,2,3-c,d]pyrene	1.3	ND	ND	30	7.5	2.6	ND
Isophorone	0.33	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	0.33	ND	ND	ND	ND	ND	ND
2-Methylphenol	1.6	ND	ND	ND	ND	ND	ND
4-Methylphenol	1.6	ND	ND	ND	ND	ND	ND
N-Nitrosodi-n-propylamine	0.33	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	0.33	ND	ND	ND	ND	ND	ND
Naphthalene	0.33	ND	ND	0.85	1.3	0.37	ND
2-Nitroaniline	0.99	ND	ND	ND	ND	ND	ND
3-Nitroaniline	0.99	ND	ND	ND	ND	ND	ND
4-Nitroaniline	3.3	ND	ND	ND	ND	ND	ND
Nitrobenzene	0.99	ND	ND	ND	ND	ND	ND
2-Nitrophenol	1.3	ND	ND	ND	ND	ND	ND
4-Nitrophenol	3.3	ND	ND	ND	ND	ND	ND
Pentachlorophenol	16	ND	ND	ND	ND	ND	ND
Phenanthrene	0.66	ND	ND	26	14	7.6	0.81
Phenol	1.3	ND	ND	ND	ND	ND	ND
Pyrene	0.33	ND	ND	74	27	9.3	2.7
1,2,4-Trichlorobenzene	0.33	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	2	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	3.3	ND	ND	ND	ND	ND	ND

\* See Case Narrative regarding higher than usual detection limits.

**Surrogates (Limits) in Percent Recovery**

Sample ID:	Blank	CF3-0.5	CF3-1.0	CF3-2.0	CF2-0.5	CF2-1.0
2-Fluorophenol (25 - 121%)	98	101	106	101	100	92
Phenol-D5 (24 - 113%)	96	101	104	98	97	94
Nitrobenzene-D5 (23 - 120%)	79	81	87	79	80	75
2-Fluorobiphenyl (30 - 115%)	94	102	105	99	102	97
2,4,6-Tribromophenol (19 - 122%)	103	107	107	103	103	105
p-Terphenyl-D14 (18 - 137%)	107	100	90	110	102	97

**EPA 8270 Semivolatile Organics**

Client:	PSI	Date Sampled:	04/25/00
Project:	J&A Truck/Container Freight	Date Received:	04/27/00
Job No.:	16368	Date Extracted:	05/02/00
Matrix:	Soil	Dates Analyzed:	05/04-05/00
Analyst:	TPW	Batch Number:	8270S0620

Compound	Sample ID:	CF2-2.0	CF1-0.5	CF1-1.0	CF1-2.0
	DL*	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Acenaphthene	0.33	ND	ND	ND	ND
Acenaphthylene	0.33	0.69	ND	ND	0.67
Anthracene	0.33	1.4	ND	ND	0.50
Benzo[a]anthracene	0.66	5.7	ND	ND	0.91
Benzo[a]pyrene	0.66	12	ND	0.79	1.7
Benzo[b]fluoranthene	0.33	17	0.59	1.0	2.0
Benzo[g,h,i]perylene	0.99	17	ND	1.0	2.0
Benzo[k]fluoranthene	0.33	17	0.61	1.0	2.0
Benzyl alcohol	1.3	ND	ND	ND	ND
bis(2-Chloroethoxy)methane	0.66	ND	ND	ND	ND
bis(2-Chloroethyl)ether	0.66	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	0.99	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	3.3	ND	ND	ND	ND
4-Bromophenylphenylether	0.33	ND	ND	ND	ND
Butylbenzylphthalate	0.33	ND	ND	ND	ND
4-Chloro-3-methylphenol	1.6	ND	ND	ND	ND
4-Chloroaniline	1.6	ND	ND	ND	ND
2-Chloronaphthalene	0.33	ND	ND	ND	ND
2-Chlorophenol	1.3	ND	ND	ND	ND
4-Chlorophenylphenylether	0.33	ND	ND	ND	ND
Chrysene	0.33	8.7	ND	0.62	1.4
Di-n-butylphthalate	3.3	ND	ND	ND	ND
Di-n-octylphthalate	0.33	ND	ND	ND	ND
Dibenzo[a,h]anthracene	0.99	1.8	ND	ND	ND
Dibenzofuran	0.33	ND	ND	ND	ND
1,2-Dichlorobenzene	0.33	ND	ND	ND	ND
1,3-Dichlorobenzene	0.33	ND	ND	ND	ND
1,4-Dichlorobenzene	0.33	ND	ND	ND	ND
3,3-Dichlorobenzidine	1.3	ND	ND	ND	ND
2,4-Dichlorophenol	1.6	ND	ND	ND	ND
Diethylphthalate	3.3	ND	ND	ND	ND
2,4-Dimethylphenol	0.99	ND	ND	ND	ND
Dimethylphthalate	0.33	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	3.3	ND	ND	ND	ND
2,4-Dinitrophenol	16	ND	ND	ND	ND
2,4-Dinitrotoluene	0.33	ND	ND	ND	ND

**EPA 8270 Semivolatile Organics**

Client: PSI  
 Project: J&A Truck/Container Freight  
 Job No.: 16368  
 Matrix: Soil  
 Analyst: TPW

Date Sampled: 04/25/00  
 Date Received: 04/27/00  
 Date Extracted: 05/02/00  
 Dates Analyzed: 05/04-05/00  
 Batch Number: 8270S0620

Compound	Sample ID:	CF2-2.0	CF1-0.5	CF1-1.0	CF1-2.0
	DL*	mg/Kg	mg/Kg	mg/Kg	mg/Kg
2,6-Dinitrotoluene	0.99	ND	ND	ND	ND
Fluoranthene	0.33	22	0.59	1.5	3.3
Fluorene	0.33	1.6	ND	ND	ND
Hexachlorobenzene	0.33	ND	ND	ND	ND
Hexachlorobutadiene	0.33	ND	ND	ND	ND
Hexachlorocyclopentadiene	16	ND	ND	ND	ND
Hexachloroethane	0.33	ND	ND	ND	ND
Indeno[1,2,3-c,d]pyrene	1.3	14	ND	ND	1.3
Isophorone	0.33	ND	ND	ND	ND
2-Methylnaphthalene	0.33	ND	ND	ND	ND
2-Methylphenol	1.6	ND	ND	ND	ND
4-Methylphenol	1.6	ND	ND	ND	ND
N-Nitrosodi-n-propylamine	0.33	ND	ND	ND	ND
N-Nitrosodiphenylamine	0.33	ND	ND	ND	ND
Naphthalene	0.33	2.4	ND	0.83	2.2
2-Nitroaniline	0.99	ND	ND	ND	ND
3-Nitroaniline	0.99	ND	ND	ND	ND
4-Nitroaniline	3.3	ND	ND	ND	ND
Nitrobenzene	0.99	ND	ND	ND	ND
2-Nitrophenol	1.3	ND	ND	ND	ND
4-Nitrophenol	3.3	ND	ND	ND	ND
Pentachlorophenol	16	ND	ND	ND	ND
Phenanthrene	0.66	7.8	ND	1.0	2.6
Phenol	1.3	ND	ND	ND	ND
Pyrene	0.33	29	0.85	2.2	4.8
1,2,4-Trichlorobenzene	0.33	ND	ND	ND	ND
2,4,5-Trichlorophenol	2	ND	ND	ND	ND
2,4,6-Trichlorophenol	3.3	ND	ND	ND	ND

\* See Case Narrative regarding higher than usual detection limits.

**Surrogates (Limits) in Percent Recovery**

Sample ID:	CF2-2.0	CF1-0.5	CF1-1.0	CF1-2.0
2-Fluorophenol (25 - 121%)	82	71	89	89
Phenol-D5 (24 - 113%)	84	93	92	90
Nitrobenzene-D5 (23 - 120%)	70	78	75	73
2-Fluorobiphenyl (30 - 115%)	91	96	95	93
2,4,6-Tribromophenol (19 - 122%)	105	31	90	101
p-Terphenyl-D14 (18 - 137%)	96	104	110	107

**QC Sample Report - EPA 8270**

Batch #: 8270S0620

Matrix: Soil

Sample ID: Laboratory Control Sample

Analytical Notes:

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Phenol	2.66	91	5 - 112	Pass
2-Chlorophenol	2.66	102	23 - 134	Pass
1,4-Dichlorobenzene	1.33	100	20 - 124	Pass
N-Nitrosodi-n-propylamine	1.33	81	0 - 230	Pass
1,2,4-Trichlorobenzene	1.33	105	44 - 142	Pass
4-Chloro-3-Methylphenol	2.66	103	22 - 147	Pass
Acenaphthene	1.33	100	47 - 145	Pass
4-Nitrophenol	2.66	108	0 - 132	Pass
2,4-Dinitrotoluene	1.33	103	39 - 139	Pass
Pentachlorophenol	2.66	132	14 - 176	Pass
Pyrene	1.33	101	52 - 115	Pass

**Batch Precision Results**

MS/MSD Sample ID: Laboratory Control Sample

Analytical Notes:

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Phenol	2.42	2.38	1%	35%	Pass
2-Chlorophenol	2.71	2.70	0%	50%	Pass
1,4-Dichlorobenzene	1.34	1.06	23%	27%	Pass
N-Nitrosodi-n-propylamine	1.08	1.06	2%	38%	Pass
1,2,4-Trichlorobenzene	1.40	1.35	4%	23%	Pass
4-Chloro-3-Methylphenol	2.74	2.58	6%	33%	Pass
Acenaphthene	1.33	1.28	4%	23%	Pass
4-Nitrophenol	2.89	2.75	5%	50%	Pass
2,4-Dinitrotoluene	1.37	1.31	4%	47%	Pass
Pentachlorophenol	3.51	3.49	0%	47%	Pass
Pyrene	1.35	1.34	1%	36%	Pass





Metals

Client: PSI  
Project: CT J&A Truck/Container Freight  
Job No: 16393  
Matrix: Water  
Analyst: RLB/TLR

Date Sampled: 05/02/00  
Date Received: 05/03/00  
Date Digested: 05/04/00  
Date Analyzed: 05/04-15/00  
Batch Number: 6010W1555

Element	Method #	Sample ID:		Blank	JA-1	JA-2	JA-3	JA-4
		DL	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Antimony	6010B	0.015	ND	ND	ND	ND	ND	ND
Arsenic	6010B	0.010	ND	ND	ND	ND	ND	ND
Barium	6010B	0.010	ND	0.16	0.15	0.18	0.12	
Beryllium	6010B	0.010	ND	ND	ND	ND	ND	ND
Cadmium	6010B	0.010	ND	ND	ND	ND	ND	ND
Chromium	6010B	0.010	ND	ND	0.010	ND	ND	ND
Cobalt	6010B	0.010	ND	ND	ND	ND	ND	ND
Copper	6010B	0.010	ND	ND	ND	ND	ND	ND
Lead	6010B	0.010	ND	ND	ND	ND	ND	ND
Mercury	7470	0.0002	ND	ND	ND	ND	ND	ND
Molybdenum	6010B	0.010	ND	ND	ND	ND	ND	ND
Nickel	6010B	0.010	ND	0.045	0.035	0.030	0.027	
Selenium	6010B	0.015	ND	ND	ND	ND	ND	ND
Silver	6010B	0.010	ND	ND	ND	ND	ND	ND
Thallium	6010B	0.010	ND	ND	ND	ND	ND	ND
Vanadium	6010B	0.010	ND	ND	ND	ND	ND	ND
Zinc	6010B	0.10	ND	0.12	0.10	0.12	ND	



**Metals**

Client: PSI  
 Project: CT J&A Truck/Container Freight  
 Job No: 16393  
 Matrix: Water  
 Analyst: RLB/TLR

Date Sampled: 05/02/00  
 Date Received: 05/03/00  
 Date Digested: 05/04/00  
 Date Analyzed: 05/04-15/00  
 Batch Number: 6010W1555

Element	Method #	Sample ID:				
		DL*	CF-1	CF-2	CF-3	CF-10
			mg/L	mg/L	mg/L	mg/L
Antimony	6010B	0.30	ND	ND	ND	ND
Arsenic	6010B	0.20	ND	ND	ND	ND
Barium	6010B	0.20	0.28	ND	ND	ND
Beryllium	6010B	0.20	ND	ND	ND	ND
Cadmium	6010B	0.20	ND	ND	ND	ND
Chromium	6010B	0.20	ND	ND	ND	ND
Cobalt	6010B	0.20	ND	ND	ND	ND
Copper	6010B	0.20	ND	ND	ND	ND
Lead	6010B	0.20	ND	ND	ND	ND
Mercury	7470	0.0002	ND	ND	ND	ND
Molybdenum	6010B	0.20	ND	ND	ND	ND
Nickel	6010B	0.20	ND	ND	ND	ND
Selenium	6010B	0.30	ND	ND	ND	ND
Silver	6010B	0.20	ND	ND	ND	ND
Thallium	6010B	0.20	ND	ND	ND	ND
Vanadium	6010B	0.20	ND	ND	ND	ND
Zinc	6010B	2.0	ND	ND	ND	ND

\*See Case Narrative regarding raised reporting limits.

### QC Sample Report - Metals

Matrix: Water  
 Batch #: 6010W1555  
 MS/MSD Sample ID: JA-1

Metal	Batch Precision Results:					Batch Accuracy Results:				
	Spike Sample Recovery mg/L	Spike Duplicate Recovery mg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass / Fail	Spike Concentration mg/L	% Recovery LCS	Acceptance Limits Percent Recovery	Pass / Fail	
Antimony	1.01	1.07	6%	20%	Pass	1.0	101	75 - 125	Pass	
Arsenic	0.99	1.05	5%	20%	Pass	1.0	97	75 - 125	Pass	
Barium	1.21	1.21	1%	20%	Pass	1.0	102	75 - 125	Pass	
Beryllium	0.95	1.01	6%	20%	Pass	1.0	98	75 - 125	Pass	
Cadmium	1.02	1.02	0%	20%	Pass	1.0	103	75 - 125	Pass	
Chromium	1.00	1.02	2%	20%	Pass	1.0	101	75 - 125	Pass	
Cobalt	1.01	1.02	1%	20%	Pass	1.0	103	75 - 125	Pass	
Copper	1.05	1.06	1%	20%	Pass	1.0	103	75 - 125	Pass	
Lead	0.97	1.03	6%	20%	Pass	1.0	100	75 - 125	Pass	
Mercury	2.51	2.59	3%	20%	Pass	0.005	110	75 - 125	Pass	
Molybdenum	1.01	1.07	6%	20%	Pass	1.0	101	75 - 125	Pass	
Nickel	1.02	1.06	4%	20%	Pass	1.0	101	75 - 125	Pass	
Selenium	0.97	1.03	6%	20%	Pass	1.0	98	75 - 125	Pass	
Silver**	1.03	1.06	3%	20%	Pass	1.0	103	75 - 125	Pass	
Thallium	0.96	1.00	4%	20%	Pass	1.0	98	75 - 125	Pass	
Vanadium	1.05	1.06	0%	20%	Pass	1.0	104	75 - 125	Pass	
Zinc	1.13	1.13	0%	20%	Pass	1.0	113	75 - 125	Pass	

**Analytical Notes**

\*\*The MS/MSD for this analyte did not meet the acceptance criteria due to a sample matrix effect. The LCS / LCSD pair was used to provide precision data for this batch.

LCS: Laboratory Control Sample

MS: Matrix Spike

RPD: Relative Percent Difference

LCSD: Laboratory Control Sample Duplicate

MSD: Matrix Spike Duplicate

**Modified 8015 - Fuel Screen**

Client: PSI  
 Project: CT J&A Truck/Container Freight  
 Job No.: 16393  
 Matrix: Water  
 Analyst: JL

Date Sampled: 05/02/00  
 Date Received: 05/03/00  
 Date Extracted: 05/08/00  
 Date Analyzed: 05/09/00  
 Batch Number: 8015DW1914

Fuel Identified:	Diesel	Motor Oil	Detection Limits
Units:	mg/L	mg/L	mg/L
Blank	ND	ND	0.40
JA-1	ND	ND	0.40
JA-2	0.8	ND	0.40
JA-3	ND	ND	0.40
JA-4	ND	ND	0.40
CF-1	21	ND	4.0
CF-2	2.8	ND	0.40
CF-3	ND	ND	0.40
CF-10	1.8	ND	0.40

**QC Sample Report - EPA 8015M Diesel**

Matrix: Water  
Batch #: 8015DW1914

**Batch Accuracy Results**

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Diesel	0.8	77	70 - 130	Pass

Analytical Notes:

**Batch Precision Results**

MS/MSD Sample ID: Laboratory Control Sample

Analyte	Spike Sample Recovery mg/L	Spike Duplicate Recovery mg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Diesel	0.62	0.64	3%	25%	Pass

Analytical Notes:

MS: Matrix Spike Sample  
MSD: Matrix Spike Duplicate

**Modified 8015 - Total Volatile Hydrocarbons as Gasoline**

 Client: PSI  
 Project: CT J&A Truck/Container Freight  
 Job No.: 16393  
 Matrix: Water  
 Analyst: CP

 Date Sampled: 05/02/00  
 Date Received: 05/03/00  
 Date Analyzed: 05/04/00  
 Batch Number: 8015GW2593

Sample ID	Detection Limit mg/L	Petroleum Hydrocarbons as Gasoline mg/L
Method Blank	0.5	ND
JA-1	0.5	ND
JA-2	0.5	0.77
JA-3	0.5	ND
JA-4	0.5	ND
CF-1	50.0	94
CF-2	50.0	54
CF-3	0.5	0.50
CF-10	5.0	7.7

**QC Sample Report - EPA 8015M Gasoline**

Matrix: Water  
Batch #: 8015GW2593

**Batch Accuracy Results**

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Gasoline	10.0	100	70 - 130	Pass

Analytical Notes:

**Batch Precision Results**

MS/MSD Sample ID: Laboratory Control Sample

Analyte	Spike Sample Recovery mg/L	Spike Duplicate Recovery mg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Gasoline	10.05	9.25	8%	25%	Pass

Analytical Notes:

MS: Matrix Spike Sample  
MSD: Matrix Spike Duplicate

**EPA 8080 - Organochlorine Pesticides & PCBs**

Client: PSI  
 Project: CT J&A Truck/Container Freight  
 Job No.: 16393  
 Matrix: Water  
 Analyst: TPW

Date Sampled: 05/02/00  
 Date Received: 05/03/00  
 Date Extracted: 05/06/00  
 Date Analyzed: 05/08/00  
 Batch Number: PESTW0251

Pesticides	Sample ID:	Blank	JA-1	JA-2	JA-3	JA-4	CF-1
	DL	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aldrin	0.0001	ND	ND	ND	ND	ND	ND
Alpha-BHC	0.0001	ND	ND	ND	ND	ND	ND
Beta-BHC	0.0001	ND	ND	ND	ND	ND	ND
Delta-BHC	0.0001	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)	0.0001	ND	ND	ND	ND	ND	ND
Chlordane	0.0001	ND	ND	ND	ND	ND	ND
4,4'-DDD	0.0002	ND	ND	ND	ND	ND	ND
4,4'-DDE	0.0002	ND	ND	ND	ND	ND	ND
4,4'-DDT	0.0002	ND	ND	ND	ND	ND	ND
Dieldrin	0.0002	ND	ND	ND	ND	ND	ND
Endosulfan I	0.0001	ND	ND	ND	ND	ND	ND
Endosulfan II	0.0002	ND	ND	ND	ND	ND	ND
Endosulfan sulfate	0.0002	ND	ND	ND	ND	ND	ND
Endrin	0.0002	ND	ND	ND	ND	ND	ND
Endrin Aldehyde	0.0002	ND	ND	ND	ND	ND	ND
Endrin Ketone	0.001	ND	ND	ND	ND	ND	ND
Heptachlor	0.00005	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	0.00005	ND	ND	ND	ND	ND	ND
Methoxychlor	0.0005	ND	ND	ND	ND	ND	ND
Toxaphene	0.001	ND	ND	ND	ND	ND	ND
<b>PCBs</b>							
Aroclor-1016	0.001	ND	ND	ND	ND	ND	ND
Aroclor-1221	0.001	ND	ND	ND	ND	ND	ND
Aroclor-1232	0.001	ND	ND	ND	ND	ND	ND
Aroclor-1242	0.001	ND	ND	ND	ND	ND	ND
Aroclor-1248	0.001	ND	ND	ND	ND	ND	ND
Aroclor-1254	0.001	ND	ND	ND	ND	ND	ND
Aroclor-1260	0.001	ND	ND	ND	ND	ND	ND

**Surrogates (% recovery) Limits: 50 - 150**

Sample ID:	Blank	JA-1	JA-2	JA-3	JA-4	CF-1
Tetrachloro-m-xylene	126	117	93	102	105	121



**QC Sample Report - EPA 8080 Pesticides**

Matrix: Soil  
Batch #: PESTW0251

**Batch Accuracy Results**

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration µg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lindane	0.1	87	32 - 127	Pass
Heptachlor	0.1	108	34 - 111	Pass
Aldrin	0.1	103	42 - 122	Pass
Dieldrin	0.4	76	36 - 146	Pass
Endrin	0.4	86	30 - 147	Pass
DDT	0.4	73	25 - 160	Pass
Aroclor 1242	2.0	93	75 - 127	Pass

Analytical Notes:

**Batch Precision Results**

MS/MSD Sample ID: Laboratory Control Sample

Analyte	Spike Sample Recovery mg/L	Spike Duplicate Recovery mg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lindane	0.087	0.085	2%	25%	Pass
Heptachlor	0.108	0.107	1%	25%	Pass
Aldrin	0.103	0.102	1%	25%	Pass
Dieldrin	0.300	0.290	3%	25%	Pass
Endrin	0.340	0.330	3%	25%	Pass
DDT	0.290	0.290	0%	25%	Pass

Analytical Notes:

MS: Matrix Spike Sample  
MSD: Matrix Spike Duplicate



EPA 8260 - Volatile Organics with Oxygenates

Client: PSI
Project: CT J&A Truck/Container Freight
Job No.: 16393
Matrix: Water
Analyst: JMR

Date Sampled: 05/02/00
Date Received: 05/03/00
Date Analyzed: 05/04-12/00
Batch Number: M4S8260W2096

Table with 8 columns: Compounds, Sample ID: DL, Blank µg/L, JA-1 µg/L, JA-2 µg/L, JA-3 µg/L, JA-4 µg/L, CF-2 µg/L. Rows list various compounds like Acetone, Benzene, Chloroform, etc., with their respective concentrations.

**EPA 8260 - Volatile Organics with Oxygenates**

 Client: PSI  
 Project: CT J&A Truck/Container Freight  
 Job No.: 16393  
 Matrix: Water  
 Analyst: JMR

 Date Sampled: 05/02/00  
 Date Received: 05/03/00  
 Date Analyzed: 05/04-12/00  
 Batch Number: M4S8260W2096

Compounds	Sample ID:	Blank	JA-1	JA-2	JA-3	JA-4	CF-2
	DL	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
cis-1,3-Dichloropropene	0.5	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.5	ND	ND	ND	ND	ND	ND
Diisopropyl Ether (DIPE)	5.0	ND	ND	ND	ND	ND	ND
Ethylbenzene	0.5	ND	ND	ND	ND	ND	12
Ethyl tert-Butyl Ether (EtBE)	5.0	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	0.5	ND	ND	ND	ND	ND	ND
2-Hexanone	10	ND	ND	ND	ND	ND	ND
Isopropylbenzene	0.5	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	0.5	ND	ND	ND	ND	ND	ND
Methylene chloride	20	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	5.0	ND	ND	ND	ND	ND	ND
Methyl-tert-butyl ether (MtBE)	1.0	ND	ND	ND	ND	ND	ND
Napthalene	0.5	ND	8.3	8.3	2.4	1.3	2,900
n-Propylbenzene	0.5	ND	ND	ND	ND	ND	ND
Styrene	0.5	ND	ND	ND	ND	ND	0.8
1,1,1,2-Tetrachloroethane	0.5	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	1.0	ND	ND	ND	ND	ND	ND
Tetrachloroethene	0.5	ND	ND	ND	ND	130	ND
Toluene	0.5	ND	ND	ND	ND	ND	10
1,2,3-Trichlorobenzene	0.5	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	0.5	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.5	ND	ND	ND	ND	4.2	ND
1,1,2-Trichloroethane	0.5	ND	ND	ND	ND	0.6	ND
Trichloroethene	0.5	ND	ND	0.7	ND	630	ND
1,2,3-Trichloropropane	0.5	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	0.5	ND	ND	ND	ND	ND	ND
Trichlorotrifluoroethane	5.0	ND	ND	ND	ND	7.5	ND
1,2,4-Trimethylbenzene	0.5	ND	ND	ND	ND	ND	1.4
1,3,5-Trimethylbenzene	0.5	ND	ND	ND	ND	ND	ND
Vinyl chloride	0.5	ND	ND	ND	ND	1.1	ND
Xylenes (total)	1.5	ND	ND	ND	ND	ND	11

**Surrogates (% recovery) Limits: 80 - 130**

Sample ID:	Blank	JA-1	JA-2	JA-3	JA-4	CF-2
Dibromofluoromethane	106	107	108	107	104	112
Toluene-d8	104	106	107	105	105	112
Bromofluorobenzene	102	100	101	101	101	98

**EPA 8260 - Volatile Organics with Oxygenates**

Client: PSI  
 Project: CT J&A Truck/Container Freight  
 Job No.: 16393  
 Matrix: Water  
 Analyst: JMR

Date Sampled: 05/02/00  
 Date Received: 05/03/00  
 Date Analyzed: 05/04-12/00  
 Batch Number: M4S8260W2096

Compounds	Sample ID: CF-3	
	DL	µg/L
Acetone	50	ND
tert-Amyl Methyl Ether (TAME)	5.0	ND
Benzene	0.5	0.9
Bromobenzene	1.0	ND
Bromochloromethane	1.0	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	ND
tert-Butanol (TBA)	50	ND
2-Butanone (MEK)	10	ND
n-Butylbenzene	0.5	ND
sec-Butylbenzene	0.5	ND
tert-Butylbenzene	0.5	ND
Carbon disulfide	10	ND
Carbon tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
Chloroform	0.5	ND
Chloromethane	0.5	ND
2-Chlorotoluene	0.5	ND
4-Chlorotoluene	0.5	ND
Dibromochloromethane	0.5	ND
1,2-Dibromoethane	0.5	ND
1,2-Dibromo-3-chloropropane	10	ND
Dibromomethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane	0.5	ND
1,1-Dichloroethene	0.5	ND
cis-1,2-Dichloroethene	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
1,3-Dichloropropane	0.5	ND
2,2-Dichloropropane	0.5	ND
1,1-Dichloropropene	0.5	ND



EPA 8260 - Volatile Organics with Oxygenates

Client: PSI
Project: CT J&A Truck/Container Freight
Job No.: 16393
Matrix: Water
Analyst: JMR

Date Sampled: 05/02/00
Date Received: 05/03/00
Date Analyzed: 05/04-12/00
Batch Number: M4S8260W2096

Table with 3 columns: Compounds, DL, and µg/L. Lists various chemical compounds such as cis-1,3-Dichloropropene, Diisopropyl Ether (DIPE), Ethylbenzene, etc., with their respective detection limits and concentrations.

Surrogates (% recovery) Limits: 80 - 130

Table with 3 columns: Surrogate, Sample ID, and Recovery. Lists DIBROMOFLUOROMETHANE, Toluene-d8, and Bromofluorobenzene with their sample IDs and recovery percentages.

**EPA 8260 - Volatile Organics with Oxygenates**

Client: PSI  
 Project: CT J&A Truck/Container Freight  
 Job No.: 16393  
 Matrix: Water  
 Analyst: JMR

Date Sampled: 05/02/00  
 Date Received: 05/03/00  
 Date Analyzed: 05/04-12/00  
 Batch Number: M4S8260W2096

Sample ID: CF-10		
Compounds	DL	µg/L
Acetone	1250	ND
tert-Amyl Methyl Ether (TAME)	125	ND
Benzene	13	270
Bromobenzene	25	ND
Bromochloromethane	25	ND
Bromodichloromethane	13	ND
Bromoform	13	ND
Bromomethane	13	ND
tert-Butanol (TBA)	1250	ND
2-Butanone (MEK)	250	ND
n-Butylbenzene	13	ND
sec-Butylbenzene	13	ND
tert-Butylbenzene	13	ND
Carbon disulfide	250	ND
Carbon tetrachloride	13	ND
Chlorobenzene	13	ND
Chloroethane	13	ND
Chloroform	13	ND
Chloromethane	13	ND
2-Chlorotoluene	13	ND
4-Chlorotoluene	13	ND
Dibromochloromethane	13	ND
1,2-Dibromoethane	13	ND
1,2-Dibromo-3-chloropropane	250	ND
Dibromomethane	13	ND
1,2-Dichlorobenzene	13	ND
1,3-Dichlorobenzene	13	ND
1,4-Dichlorobenzene	13	ND
Dichlorodifluoromethane	13	ND
1,1-Dichloroethane	13	ND
1,2-Dichloroethane	13	ND
1,1-Dichloroethene	13	ND
cis-1,2-Dichloroethene	13	ND
trans-1,2-Dichloroethene	13	ND
1,2-Dichloropropane	13	ND
1,3-Dichloropropane	13	ND
2,2-Dichloropropane	13	ND
1,1-Dichloropropene	13	ND

**EPA 8260 - Volatile Organics with Oxygenates**

Client: PSI  
 Project: CT J&A Truck/Container Freight  
 Job No.: 16393  
 Matrix: Water  
 Analyst: JMR

Date Sampled: 05/02/00  
 Date Received: 05/03/00  
 Date Analyzed: 05/04-12/00  
 Batch Number: M4S8260W2096

Sample ID: CF-10		
Compounds	DL	µg/L
cis-1,3-Dichloropropene	13	ND
trans-1,3-Dichloropropene	13	ND
Diisopropyl Ether (DIPE)	125	ND
Ethylbenzene	13	13
Ethyl tert-Butyl Ether (EtBE)	125	ND
Hexachlorobutadiene	13	ND
2-Hexanone	250	ND
Isopropylbenzene	13	ND
p-Isopropyltoluene	13	ND
Methylene chloride	500	ND
4-Methyl-2-pentanone	125	ND
Methyl-tert-butyl ether (MtBE)	25	ND
Napthalene	13	1,600
n-Propylbenzene	13	ND
Styrene	13	ND
1,1,1,2-Tetrachloroethane	13	ND
1,1,2,2-Tetrachloroethane	25	ND
Tetrachloroethene	13	ND
Toluene	13	14
1,2,3-Trichlorobenzene	13	ND
1,2,4-Trichlorobenzene	13	ND
1,1,1-Trichloroethane	13	ND
1,1,2-Trichloroethane	13	ND
Trichloroethene	13	ND
1,2,3-Trichloropropane	13	ND
Trichlorofluoromethane	13	ND
Trichlorotrifluoroethane	125	ND
1,2,4-Trimethylbenzene	13	ND
1,3,5-Trimethylbenzene	13	ND
Vinyl chloride	13	ND
Xylenes (total)	38	ND

**Surrogates (% recovery) Limits: 80 - 130**

Sample ID: CF-10	
Dibromofluoromethane	111
Toluene-d8	109
Bromofluorobenzene	101



### EPA 8260 - Volatile Organics with Oxygenates

Client: PSI  
Project: CT J&A Truck/Container Freight  
Job No.: 16393  
Matrix: Water  
Analyst: JMR

Date Sampled: 05/02/00  
Date Received: 05/03/00  
Date Analyzed: 05/04-12/00  
Batch Number: M4S8260W2096

Compounds	Sample ID: CF-1	
	DL	µg/L
Acetone	5000	ND
tert-Amyl Methyl Ether (TAME)	500	ND
Benzene	50	34,000
Bromobenzene	100	ND
Bromochloromethane	100	ND
Bromodichloromethane	50	ND
Bromoform	50	ND
Bromomethane	50	ND
tert-Butanol (TBA)	5000	ND
2-Butanone (MEK)	1000	ND
n-Butylbenzene	50	ND
sec-Butylbenzene	50	ND
tert-Butylbenzene	50	ND
Carbon disulfide	1000	ND
Carbon tetrachloride	50	ND
Chlorobenzene	50	ND
Chloroethane	50	ND
Chloroform	50	ND
Chloromethane	50	ND
2-Chlorotoluene	50	ND
4-Chlorotoluene	50	ND
Dibromochloromethane	50	ND
1,2-Dibromoethane	50	ND
1,2-Dibromo-3-chloropropane	1000	ND
Dibromomethane	50	ND
1,2-Dichlorobenzene	50	ND
1,3-Dichlorobenzene	50	ND
1,4-Dichlorobenzene	50	ND
Dichlorodifluoromethane	50	ND
1,1-Dichloroethane	50	ND
1,2-Dichloroethane	50	ND
1,1-Dichloroethene	50	ND
cis-1,2-Dichloroethene	50	ND
trans-1,2-Dichloroethene	50	ND
1,2-Dichloropropane	50	ND
1,3-Dichloropropane	50	ND
2,2-Dichloropropane	50	ND
1,1-Dichloropropene	50	ND





EPA 8260 - Volatile Organics with Oxygenates

Client: PSI
Project: CT J&A Truck/Container Freight
Job No.: 16393
Matrix: Water
Analyst: JMR

Date Sampled: 05/02/00
Date Received: 05/03/00
Date Analyzed: 05/04-12/00
Batch Number: M4S8260W2096

Table with 3 columns: Compounds, DL, and ug/L. Lists various chemical compounds and their detection limits and concentrations for sample CF-1.

Surrogates (% recovery) Limits: 80 - 130

Table with 3 columns: Surrogate Name, Sample ID, and Recovery Value. Lists DIBROMOFLUOROMETHANE, Toluene-d8, and Bromofluorobenzene.

**QC Sample Report - EPA Method 8260**

Matrix: Water  
Batch #: MS48260W2096

**Batch Accuracy Results**

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration µg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
1,1-Dichloroethene	20	113	59 - 172	Pass
Benzene	20	122	66 - 142	Pass
Trichloroethene	20	120	71 - 137	Pass
Toluene	20	113	59 - 139	Pass
Chlorobenzene	20	96	60 - 133	Pass

Analytical Notes:

**Batch Precision Results**

MS/MSD Sample ID: Laboratory Control Sample

Analyte	Spike Sample Recovery µg/L	Spike Duplicate Recovery µg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
1,1-Dichloroethene	22.7	24.5	8%	22%	Pass
Benzene	24.4	26.4	8%	21%	Pass
Trichloroethene	23.9	25.0	4%	24%	Pass
Toluene	22.8	24.6	8%	21%	Pass
Chlorobenzene	19.2	21.2	10%	21%	Pass

Analytical Notes:

MS: Matrix Spike Sample  
MSD: Matrix Spike Duplicate

**EPA 8270 Semivolatile Organics**

Client: PSI  
 Project: CT J&A Truck/Container Freight  
 Job No.: 16393  
 Matrix: Water  
 Analyst: TPW

Date Sampled: 05/02/00  
 Date Received: 05/03/00  
 Date Extracted: 05/05/00  
 Dates Analyzed: 05/06-08/00  
 Batch Number: 8270W0622

Compound	Sample ID:	Blank	JA-1	JA-2	JA-3	JA-4
	DL	mg/L	mg/L	mg/L	mg/L	mg/L
Acenaphthene	0.0011	ND	ND	ND	ND	ND
Acenaphthylene	0.0011	ND	ND	ND	ND	ND
Anthracene	0.0011	ND	ND	ND	ND	ND
Benzo[a]anthracene	0.0022	ND	ND	ND	ND	ND
Benzo[a]pyrene	0.0022	ND	ND	ND	ND	ND
Benzo[b]fluoranthene	0.0011	ND	ND	ND	ND	ND
Benzo[g,h,i]perylene	0.0033	ND	ND	ND	ND	ND
Benzo[k]fluoranthene	0.0011	ND	ND	ND	ND	ND
Benzyl alcohol	0.0044	ND	ND	ND	ND	ND
bis(2-Chloroethoxy)methane	0.0022	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	0.0022	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	0.0033	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	0.011	ND	ND	ND	ND	ND
4-Bromophenylphenylether	0.0011	ND	ND	ND	ND	ND
Butylbenzylphthalate	0.0011	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	0.0055	ND	ND	ND	ND	ND
4-Chloroaniline	0.0055	ND	ND	ND	ND	ND
2-Chloronaphthalene	0.0011	ND	ND	ND	ND	ND
2-Chlorophenol	0.0044	ND	ND	ND	ND	ND
4-Chlorophenylphenylether	0.0011	ND	ND	ND	ND	ND
Chrysene	0.0011	ND	ND	ND	ND	ND
Di-n-butylphthalate	0.011	ND	ND	ND	ND	ND
Di-n-octylphthalate	0.0011	ND	ND	ND	ND	ND
Dibenzo[a,h]anthracene	0.0033	ND	ND	ND	ND	ND
Dibenzofuran	0.0011	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	0.0011	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	0.0011	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	0.0011	ND	ND	ND	ND	ND
3,3-Dichlorobenzidine	0.0044	ND	ND	ND	ND	ND
2,4-Dichlorophenol	0.0055	ND	ND	ND	ND	ND
Diethylphthalate	0.011	ND	ND	ND	ND	ND
2,4-Dimethylphenol	0.0033	ND	ND	ND	ND	ND
Dimethylphthalate	0.0011	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	0.011	ND	ND	ND	ND	ND
2,4-Dinitrophenol	0.055	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	0.0011	ND	ND	ND	ND	ND

**EPA 8270 Semivolatile Organics**

Client:	PSI	Date Sampled:	05/02/00
Project:	CT J&A Truck/Container Freight	Date Received:	05/03/00
Job No.:	16393	Date Extracted:	05/05/00
Matrix:	Water	Dates Analyzed:	05/06-08/00
Analyst:	TPW	Batch Number:	8270W0622

Compound	Sample ID:	Blank	JA-1	JA-2	JA-3	JA-4
	DL	mg/L	mg/L	mg/L	mg/L	mg/L
2,6-Dinitrotoluene	0.0033	ND	ND	ND	ND	ND
Fluoranthene	0.0011	ND	ND	ND	ND	ND
Fluorene	0.0011	ND	ND	ND	ND	ND
Hexachlorobenzene	0.0011	ND	ND	ND	ND	ND
Hexachlorobutadiene	0.0011	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	0.055	ND	ND	ND	ND	ND
Hexachloroethane	0.0011	ND	ND	ND	ND	ND
Indeno[1,2,3-cd]pyrene	0.0044	ND	ND	ND	ND	ND
Isophorone	0.0011	ND	ND	ND	ND	ND
2-Methylnaphthalene	0.0011	ND	ND	ND	ND	ND
2-Methylphenol	0.0055	ND	ND	ND	ND	ND
4-Methylphenol	0.0055	ND	ND	ND	ND	ND
N-Nitroso-di-n-propylamine	0.0011	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	0.0011	ND	ND	ND	ND	ND
Naphthalene	0.0011	ND	0.002	ND	ND	ND
2-Nitroaniline	0.0033	ND	ND	ND	ND	ND
3-Nitroaniline	0.0033	ND	ND	ND	ND	ND
4-Nitroaniline	0.011	ND	ND	ND	ND	ND
Nitrobenzene	0.0033	ND	ND	ND	ND	ND
2-Nitrophenol	0.0044	ND	ND	ND	ND	ND
4-Nitrophenol	0.011	ND	ND	ND	ND	ND
Pentachlorophenol	0.055	ND	ND	ND	ND	ND
Phenanthrene	0.0022	ND	ND	ND	ND	ND
Phenol	0.0044	ND	ND	ND	ND	ND
Pyrene	0.0011	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	0.0011	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	0.0066	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	0.011	ND	ND	ND	ND	ND

**Surrogates (Limits) in Percent Recovery**

	Sample ID:	Blank	JA-1	JA-2	JA-3	JA-4
2-Fluorophenol (21 - 100%)		104	52	59	59	52
Phenol-D5 (10 - 94%)		82	34	38	39	34
Nitrobenzene-D5 (35 - 114%)		108	62	60	60	59
2-Fluorobiphenyl (43 - 116%)		90	72	75	71	69
2,4,6-Tribromophenol (10 - 123%)		97	82	103	96	89
p-Terphenyl-D14 (33 - 141%)		108	85	90	88	85

### EPA 8270 Semivolatile Organics

Client: PSI  
 Project: CT J&A Truck/Container Freight  
 Job No.: 16393  
 Matrix: Water  
 Analyst: TPW

Date Sampled: 05/02/00  
 Date Received: 05/03/00  
 Date Extracted: 05/05/00  
 Dates Analyzed: 05/06-08/00  
 Batch Number: 8270W0622

Compound	Sample ID: DL	Blank mg/L	CF-1 mg/L	CF-2 mg/L	CF-3 mg/L	CF-10 mg/L
Acenaphthene	0.001	ND	0.008	0.004	ND	0.004
Acenaphthylene	0.001	ND	ND	0.069	ND	0.031
Anthracene	0.001	ND	0.006	0.007	0.001	0.006
Benzo[a]anthracene	0.002	ND	ND	ND	0.004	ND
Benzo[a]pyrene	0.002	ND	ND	0.003	0.008	0.002
Benzo[b]fluoranthene	0.001	ND	ND	0.003	0.010	0.003
Benzo[g,h,i]perylene	0.003	ND	ND	ND	0.009	ND
Benzo[k]fluoranthene	0.001	ND	ND	0.003	0.010	0.003
Benzyl alcohol	0.004	ND	ND	ND	ND	ND
bis(2-Chloroethoxy)methane	0.002	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	0.002	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	0.003	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	0.01	ND	ND	ND	ND	ND
4-Bromophenylphenylether	0.001	ND	ND	ND	ND	ND
Butylbenzylphthalate	0.001	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	0.005	ND	ND	ND	ND	ND
4-Chloroaniline	0.005	ND	ND	ND	ND	ND
2-Chloronaphthalene	0.001	ND	ND	ND	ND	ND
2-Chlorophenol	0.004	ND	ND	ND	ND	ND
4-Chlorophenylphenylether	0.001	ND	ND	ND	ND	ND
Chrysene	0.001	ND	ND	0.003	0.006	0.002
Di-n-butylphthalate	0.01	ND	ND	ND	ND	ND
Di-n-octylphthalate	0.001	ND	ND	ND	ND	ND
Dibenzo[a,h]anthracene	0.003	ND	ND	ND	ND	ND
Dibenzofuran	0.001	ND	0.003	0.003	ND	0.003
1,2-Dichlorobenzene	0.001	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	0.001	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	0.001	ND	ND	ND	ND	ND
3,3-Dichlorobenzidine	0.004	ND	ND	ND	ND	ND
2,4-Dichlorophenol	0.005	ND	ND	ND	ND	ND
Diethylphthalate	0.01	ND	ND	ND	ND	ND
2,4-Dimethylphenol	0.003	ND	ND	ND	ND	ND
Dimethylphthalate	0.001	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	0.01	ND	ND	ND	ND	ND
2,4-Dinitrophenol	0.05	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	0.001	ND	ND	ND	ND	ND

**EPA 8270 Semivolatile Organics**

 Client: PSI  
 Project: CT J&A Truck/Container Freight  
 Job No.: 16393  
 Matrix: Water  
 Analyst: TPW

 Date Sampled: 05/02/00  
 Date Received: 05/03/00  
 Date Extracted: 05/05/00  
 Dates Analyzed: 05/06-08/00  
 Batch Number: 8270W0622

Compound	Sample ID: DL	Blank mg/L	CF-1 mg/L	CF-2 mg/L	CF-3 mg/L	CF-10 mg/L
2,6-Dinitrotoluene	0.003	ND	ND	ND	ND	ND
Fluoranthene	0.001	ND	0.007	0.014	0.012	0.011
Fluorene	0.001	ND	0.013	0.016	ND	0.014
Hexachlorobenzene	0.001	ND	ND	ND	ND	ND
Hexachlorobutadiene	0.001	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	0.05	ND	ND	ND	ND	ND
Hexachloroethane	0.001	ND	ND	ND	ND	ND
Indeno[1,2,3-cd]pyrene	0.004	ND	ND	ND	0.006	ND
Isophorone	0.001	ND	ND	ND	ND	ND
2-Methylnaphthalene	0.001	ND	0.067	0.022	ND	0.008
2-Methylphenol	0.005	ND	ND	ND	ND	ND
4-Methylphenol	0.005	ND	ND	0.17	ND	0.041
N-Nitroso-di-n-propylamine	0.001	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	0.001	ND	ND	ND	ND	ND
Naphthalene	0.001	ND	5.5	1.2	0.007	0.52
2-Nitroaniline	0.003	ND	ND	ND	ND	ND
3-Nitroaniline	0.003	ND	ND	ND	ND	ND
4-Nitroaniline	0.01	ND	ND	ND	ND	ND
Nitrobenzene	0.003	ND	ND	ND	ND	ND
2-Nitrophenol	0.004	ND	ND	ND	ND	ND
4-Nitrophenol	0.01	ND	ND	ND	ND	ND
Pentachlorophenol	0.05	ND	ND	ND	ND	ND
Phenanthrene	0.002	ND	0.055	0.048	0.004	0.033
Phenol	0.004	ND	0.024	0.046	ND	0.011
Pyrene	0.001	ND	0.011	0.018	0.016	0.013
1,2,4-Trichlorobenzene	0.001	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	0.006	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	0.01	ND	ND	ND	ND	ND

**Surrogates (Limits) in Percent Recovery**

Sample ID:	Blank	CF-1	CF-2	CF-3	CF-10
2-Fluorophenol (21 - 100%)	104	30	59	37	49
Phenol-D5 (10 - 94%)	82	40	40	25	37
Nitrobenzene-D5 (35 - 114%)	108	38	65	39	51
2-Fluorobiphenyl (43 - 116%)	90	59	64	62	56
2,4,6-Tribromophenol (10 - 123%)	97	32	89	40	79
p-Terphenyl-D14 (33 - 141%)	108	44	83	67	72

**QC Sample Report - EPA 8270**

Batch #: 8270W0622 Matrix: Water

**Batch Accuracy Results**

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration µg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Phenol	80	43	5 - 112	Pass
2-Chlorophenol	80	106	23 - 134	Pass
1,4-Dichlorobenzene	40	94	20 - 124	Pass
N-Nitrosodi-n-propylamine	40	79	0 - 230	Pass
1,2,4-Trichlorobenzene	40	83	44 - 142	Pass
4-Chloro-3-Methylphenol	80	84	22 - 147	Pass
Acenaphthene	40	84	47 - 145	Pass
4-Nitrophenol	80	48	0 - 132	Pass
2,4-Dinitrotoluene	40	88	39 - 139	Pass
Pentachlorophenol	80	132	14 - 176	Pass
Pyrene	40	103	52 - 115	Pass

Analytical Notes:

**Batch Precision Results**

MS/MSD Sample ID: Laboratory Control Sample

Analyte	Spike Sample Recovery µg/L	Spike Duplicate Recovery µg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Phenol	34.7	31.8	9%	35%	Pass
2-Chlorophenol	85.2	75.5	12%	50%	Pass
1,4-Dichlorobenzene	37.4	34.3	9%	27%	Pass
N-Nitrosodi-n-propylamine	31.8	29.8	6%	38%	Pass
1,2,4-Trichlorobenzene	33.3	35.8	7%	28%	Pass
4-Chloro-3-Methylphenol	66.9	73.0	9%	33%	Pass
Acenaphthene	33.7	33.9	1%	23%	Pass
4-Nitrophenol	29.7	37.8	24%	50%	Pass
2,4-Dinitrotoluene	35.1	37.9	8%	47%	Pass
Pentachlorophenol	105.7	105.4	0%	47%	Pass
Pyrene	41.2	41.1	0%	36%	Pass

Analytical Notes:



# Centrum Analytical Laboratories, Inc.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

Client: PSI  
1320 W. Winton Ave.  
Hayward, CA 94545

Date Sampled: 04/26/00  
Date Received: 04/28/00  
Job Number: 16373

Project: Caltrans - J&A Trucking

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## CASE NARRATIVE

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The following information applies to samples which were received on 04/28/00 :

The samples were received at the laboratory chilled and sample containers were intact.

**This report is being re-issued at the request of our client. There have been no changes in the results as previously reported. The date of re-issue is 06/14/00.**

Unless otherwise noted below, the Quality Control acceptance criteria were met for all samples for every analysis requested:

Report approved by:

FOR  
Robert R. Clark, Ph.D.  
Laboratory Director

ELAP # 2419

DL : Detection Limit -- The lowest level at which the compound can reliably be detected under normal laboratory conditions.  
ND : Not Detected -- The compound was analyzed for but was not found to be present at or above the detection limit.  
NA : Not Analyzed -- Per client request, this analyte was not on the list of compounds to be analyzed for.





Metals

Client: PSI  
Project: Caltrans - J&A Trucking  
Job No: 16373  
Matrix: Soil  
Analyst: RLB/TLR

Date Sampled: 04/26/00  
Date Received: 04/28/00  
Date Digested: 05/01/00  
Date Analyzed: 05/02-06/00  
Batch Number: 6010S1551

Element	Method #	DL	Sample ID:	Blank	JA1-7.0	JA2-7.0	JA3-7.0	JA4-6.5
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Antimony	6010	2.5	ND	ND	ND	ND	ND	ND
Arsenic	6010	0.50	ND	2.1	2.5	3.0	2.4	2.4
Barium	6010	0.50	ND	37	47	47	56	56
Beryllium	6010	0.50	ND	ND	ND	ND	ND	ND
Cadmium	6010	0.50	ND	ND	ND	ND	ND	ND
Chromium	6010	0.50	ND	30	35	38	48	48
Cobalt	6010	0.50	ND	4.6	5.3	5.6	5.8	5.8
Copper	6010	0.50	ND	5.3	6.8	8.4	7.6	7.6
Lead	6010	0.50	ND	1.5	2.0	3.9	2.5	2.5
Mercury	7471	0.10	ND	ND	ND	ND	ND	ND
Molybdenum	6010	0.50	ND	ND	ND	ND	ND	ND
Nickel	6010	1.0	ND	26	32	32	35	35
Selenium	6010	2.5	ND	ND	ND	ND	ND	ND
Silver	6010	1.0	ND	ND	ND	ND	ND	ND
Thallium	6010	2.5	ND	ND	ND	ND	ND	ND
Vanadium	6010	0.5	ND	21	27	29	30	30
Zinc	6010	10	ND	19	23	25	26	26

**QC Sample Report - Metals**

Matrix: Soil  
 Batch #: 6010S1551  
 MS/MSD Sample ID: JA1-7.0

Metal	Batch Precision Results:					Batch Accuracy Results:			
	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass / Fail	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits Percent Recovery	Pass / Fail
Antimony	52.2	52.0	0%	20%	Pass	50	112	75 - 125	Pass
Arsenic	51.8	52.0	0%	20%	Pass	50	107	75 - 125	Pass
Barium	85.9	86.4	1%	20%	Pass	50	105	75 - 125	Pass
Beryllium	50.7	52.3	3%	20%	Pass	50	107	75 - 125	Pass
Cadmium	48.2	48.7	1%	20%	Pass	50	107	75 - 125	Pass
Chromium	79.1	81.5	3%	20%	Pass	50	108	75 - 125	Pass
Cobalt	53.0	53.9	2%	20%	Pass	50	108	75 - 125	Pass
Copper	57.4	58.2	1%	20%	Pass	50	108	75 - 125	Pass
Lead	50.7	50.6	0%	20%	Pass	50	107	75 - 125	Pass
Mercury	2.74	2.80	2%	20%	Pass	2.5	111	75 - 125	Pass
Molybdenum	52.2	52.2	0%	20%	Pass	50	113	75 - 125	Pass
Nickel	75.4	77.7	3%	20%	Pass	50	108	75 - 125	Pass
Selenium	48.1	48.9	2%	20%	Pass	50	103	75 - 125	Pass
Silver	49.1	50.1	2%	20%	Pass	50	104	75 - 125	Pass
Thallium	48.0	48.8	2%	20%	Pass	50	107	75 - 125	Pass
Vanadium	70.3	71.2	1%	20%	Pass	50	109	75 - 125	Pass
Zinc	69.0	70.1	2%	20%	Pass	50	115	75 - 125	Pass

**Analytical Notes**

LCS: Laboratory Control Sample

MS: Matrix Spike

RPD: Relative Percent Difference

LCSD: Laboratory Control Sample Duplicate

MSD: Matrix Spike Duplicate



**QC Sample Report - EPA 8015M Diesel**

Matrix: Soil  
Batch #: 8015DS1909

**Batch Accuracy Results**

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Diesel	100	82	70 - 130	Pass

Analytical Notes:

**Batch Precision Results**

MS/MSD Sample ID: Laboratory Control Sample

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Diesel	82	75	9%	29%	Pass

Analytical Notes:

MS: Matrix Spike Sample  
MSD: Matrix Spike Duplicate



**QC Sample Report - EPA 8015M Gasoline**

Matrix: Soil  
Batch #: 8015GS2591

**Batch Accuracy Results**

Sample ID: Laboratory Control Sample

Analytical Notes:

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Gasoline	10.0	100	70 - 130	Pass

**Batch Precision Results**

MS/MSD Sample ID: 16369-1

Analytical Notes:

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Gasoline	7.24	7.37	2%	30%	Pass

MS: Matrix Spike Sample  
MSD: Matrix Spike Duplicate

**EPA 8080 - Organochlorine Pesticides & PCBs**

 Client: PSI  
 Project: Caltrans - J&A Trucking  
 Job No.: 16373  
 Matrix: Soil  
 Analyst: TPW

 Date Sampled: 04/26/00  
 Date Received: 04/28/00  
 Date Extracted: 05/01/00  
 Date Analyzed: 05/05/00  
 Batch Number: PESTS0249

	Sample ID:	Blank	JA1-7.0	JA2-7.0	JA3-7.0	JA4-6.5
Pesticides	DL	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Aldrin	0.001	ND	ND	ND	ND	ND
Alpha-BHC	0.001	ND	ND	ND	ND	ND
Beta-BHC	0.001	ND	ND	ND	ND	ND
Delta-BHC	0.001	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)	0.001	ND	ND	ND	ND	ND
Chlordane	0.010	ND	ND	ND	ND	ND
4,4'-DDD	0.002	ND	ND	ND	ND	ND
4,4'-DDE	0.002	ND	ND	ND	ND	ND
4,4'-DDT	0.002	ND	ND	ND	ND	ND
Dieldrin	0.002	ND	ND	ND	ND	ND
Endosulfan I	0.001	ND	ND	ND	ND	ND
Endosulfan II	0.002	ND	ND	ND	ND	ND
Endosulfan sulfate	0.002	ND	ND	ND	ND	ND
Endrin	0.002	ND	ND	ND	ND	ND
Endrin Aldehyde	0.002	ND	ND	ND	ND	ND
Endrin Ketone	0.010	ND	ND	ND	ND	ND
Heptachlor	0.001	ND	ND	ND	ND	ND
Heptachlor Epoxide	0.001	ND	ND	ND	ND	ND
Methoxychlor	0.010	ND	ND	ND	ND	ND
Toxaphene	0.020	ND	ND	ND	ND	ND
<b>PCBs</b>						
Aroclor-1016	0.050	ND	ND	ND	ND	ND
Aroclor-1221	0.050	ND	ND	ND	ND	ND
Aroclor-1232	0.050	ND	ND	ND	ND	ND
Aroclor-1242	0.050	ND	ND	ND	ND	ND
Aroclor-1248	0.050	ND	ND	ND	ND	ND
Aroclor-1254	0.050	ND	ND	ND	ND	ND
Aroclor-1260	0.050	ND	ND	ND	ND	ND

**Surrogates (% recovery) Limits: 50 - 150**

	Sample ID:	Blank	JA1-7.0	JA2-7.0	JA3-7.0	JA4-6.5
Tetrachloro-m-xylene		117	135	118	118	131

QC Sample Report - EPA 8080 Pesticides



Matrix: Soil  
Batch #: PESTS0249

**Batch Accuracy Results**

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lindane	0.0066	90	32 - 127	Pass
Heptachlor	0.0066	98	34 - 111	Pass
Aldrin	0.0066	109	42 - 122	Pass
Dieldrin	0.026	88	36 - 146	Pass
Endrin	0.026	102	30 - 147	Pass
DDT	0.026	93	25 - 160	Pass
Aroclor 1242	0.0667	83	75 - 127	Pass

Analytical Notes:

**Batch Precision Results**

MS/MSD Sample ID: Laboratory Control Sample

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lindane	0.0030	0.0028	7%	25%	Pass
Heptachlor	0.0033	0.0036	9%	25%	Pass
Aldrin	0.0036	0.0035	3%	25%	Pass
Dieldrin	0.0117	0.0108	8%	25%	Pass
Endrin	0.0135	0.0117	14%	25%	Pass
DDT	0.0124	0.0112	10%	25%	Pass

Analytical Notes:

MS: Matrix Spike Sample  
MSD: Matrix Spike Duplicate



EPA 8260 - Volatile Organics with Oxygenates



Centrum

(800) 798-9336

Client: PSI  
 Project: Caltrans - J&A Trucking  
 Job No.: 16373  
 Matrix: Soil  
 Analyst: MBH

Date Sampled: 04/26/00  
 Date Received: 04/28/00  
 Date Analyzed: 05/01/00  
 Batch Number: M48260S182

Compounds	Sample ID: DL	Blank mg/Kg	JA1-7.0 mg/Kg	JA2-7.0 mg/Kg	JA3-7.0 mg/Kg	JA4-6.5 mg/Kg
Acetone	0.05	ND	ND	ND	ND	ND
tert-Amyl Methyl Ether (TAME)	0.005	ND	ND	ND	ND	ND
Benzene	0.001	ND	ND	ND	ND	ND
Bromobenzene	0.005	ND	ND	ND	ND	ND
Bromochloromethane	0.005	ND	ND	ND	ND	ND
Bromodichloromethane	0.001	ND	ND	ND	ND	ND
Bromoform	0.005	ND	ND	ND	ND	ND
Bromomethane	0.01	ND	ND	ND	ND	ND
tert-Butanol (TBA)	0.05	ND	ND	ND	ND	ND
2-Butanone (MEK)	0.01	ND	ND	ND	ND	ND
n-Butylbenzene	0.002	ND	ND	ND	ND	ND
sec-Butylbenzene	0.002	ND	ND	ND	ND	ND
tert-Butylbenzene	0.002	ND	ND	ND	ND	ND
Carbon disulfide	0.01	ND	ND	ND	ND	ND
Carbon tetrachloride	0.001	ND	ND	ND	ND	ND
Chlorobenzene	0.001	ND	ND	ND	ND	ND
Chloroethane	0.005	ND	ND	ND	ND	ND
Chloroform	0.002	ND	ND	ND	ND	ND
Chloromethane	0.001	ND	ND	ND	ND	ND
2-Chlorotoluene	0.002	ND	ND	ND	ND	ND
4-Chlorotoluene	0.002	ND	ND	ND	ND	ND
Dibromochloromethane	0.002	ND	ND	ND	ND	ND
1,2-Dibromoethane	0.002	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	0.01	ND	ND	ND	ND	ND
Dibromomethane	0.001	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	0.001	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	0.002	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	0.002	ND	ND	ND	ND	ND
Dichlorodifluoromethane	0.005	ND	ND	ND	ND	ND
1,1-Dichloroethane	0.001	ND	0.001	ND	0.001	0.001
1,2-Dichloroethane	0.001	ND	ND	ND	ND	ND
1,1-Dichloroethene	0.005	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	0.002	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	0.002	ND	ND	ND	ND	ND
1,2-Dichloropropane	0.001	ND	ND	ND	ND	ND
1,3-Dichloropropane	0.001	ND	ND	ND	ND	ND
2,2-Dichloropropane	0.001	ND	ND	ND	ND	ND
1,1-Dichloropropene	0.001	ND	ND	ND	ND	ND

EPA 8260 - Volatile Organics with Oxygenates



Client: PSI  
 Project: Caltrans - J&A Trucking  
 Job No.: 16373  
 Matrix: Soil  
 Analyst: MBH

Date Sampled: 04/26/00  
 Date Received: 04/28/00  
 Date Analyzed: 05/01/00  
 Batch Number: M48260S182  
 (800) 798-9336

Compounds	Sample ID: DL	Blank mg/Kg	JA1-7.0 mg/Kg	JA2-7.0 mg/Kg	JA3-7.0 mg/Kg	JA4-6.5 mg/Kg
cis-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND
Diisopropyl Ether (DIPE)	0.005	ND	ND	ND	ND	ND
Ethylbenzene	0.001	ND	ND	ND	ND	ND
Ethyl tert-Butyl Ether (EtBE)	0.005	ND	ND	ND	ND	ND
Hexachlorobutadiene	0.001	ND	ND	ND	ND	ND
2-Hexanone	0.01	ND	ND	ND	ND	ND
Isopropylbenzene	0.001	ND	ND	ND	ND	ND
p-Isopropyltoluene	0.002	ND	ND	ND	ND	ND
Methylene chloride	0.02	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	0.01	ND	ND	ND	ND	ND
Methyl tert-Butyl Ether (MtBE)	0.005	ND	ND	ND	ND	ND
Napthalene	0.002	ND	ND	ND	0.003	0.020
n-Propylbenzene	0.001	ND	ND	ND	ND	ND
Styrene	0.001	ND	0.001	0.001	ND	0.001
1,1,1,2-Tetrachloroethane	0.001	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	0.002	ND	ND	ND	ND	ND
Tetrachloroethene	0.001	ND	ND	ND	ND	ND
Toluene	0.001	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	0.002	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	0.002	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.001	ND	0.007	0.005	0.006	0.006
1,1,2-Trichloroethane	0.003	ND	ND	ND	ND	ND
Trichloroethene	0.001	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	0.003	ND	ND	ND	ND	ND
Trichlorofluoromethane	0.001	ND	ND	ND	ND	ND
Trichlorotrifluoroethane	0.005	ND	0.008	0.007	0.006	0.007
1,2,4-Trimethylbenzene	0.001	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	0.001	ND	ND	ND	ND	ND
Vinyl chloride	0.002	ND	ND	ND	ND	ND
Xylenes (total)	0.003	ND	ND	ND	ND	ND

Surrogates (% recovery) Limits: 80 - 130

Sample ID:	Blank	JA1-7.0	JA2-7.0	JA3-7.0	JA4-6.5
Dibromofluoromethane	102	105	98	101	104
Toluene-d8	102	94	110	101	100
Bromofluorobenzene	98	97	106	102	97

**QC Sample Report - EPA Method 8260**

Matrix: Soil  
Batch #: MS48260S182

**Batch Accuracy Results**

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
1,1-Dichloroethene	0.020	107	59 - 172	Pass
Benzene	0.020	93	66 - 142	Pass
Trichloroethene	0.020	90	71 - 137	Pass
Toluene	0.020	88	59 - 139	Pass
Chlorobenzene	0.020	94	60 - 133	Pass

Analytical Notes:

**Batch Precision Results**

MS/MSD Sample ID: 16350-1

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
1,1-Dichloroethene	0.0225	0.0235	4%	22%	Pass
Benzene	0.0196	0.0198	1%	21%	Pass
Trichloroethene	0.0202	0.0190	6%	24%	Pass
Toluene	0.0195	0.0176	10%	21%	Pass
Chlorobenzene	0.0201	0.0201	0%	21%	Pass

Analytical Notes:

MS: Matrix Spike Sample  
MSD: Matrix Spike Duplicate

**EPA 8270 Semivolatile Organics**

Client: PSI  
 Project: Caltrans - J&A Trucking  
 Job No.: 16373  
 Matrix: Soil  
 Analyst: TPW

Date Sampled: 04/26/00  
 Date Received: 04/28/00  
 Date Extracted: 05/03/00  
 Dates Analyzed: 05/05/00  
 Batch Number: 8270S0621

Compound	Sample ID: DL	Blank mg/Kg	JA1-7.0 mg/Kg	JA2-7.0 mg/Kg	JA3-7.0 mg/Kg	JA4-6.5 mg/Kg
Acenaphthene	0.033	ND	ND	ND	ND	ND
Acenaphthylene	0.033	ND	ND	ND	0.055	ND
Anthracene	0.033	ND	ND	ND	ND	ND
Benzo[a]anthracene	0.066	ND	ND	ND	ND	ND
Benzo[a]pyrene	0.066	ND	ND	ND	ND	ND
Benzo[b]fluoranthene	0.033	ND	ND	ND	ND	ND
Benzo[g,h,i]perylene	0.099	ND	ND	ND	ND	ND
Benzo[k]fluoranthene	0.099	ND	ND	ND	ND	ND
Benzyl alcohol	0.13	ND	ND	ND	ND	ND
bis(2-Chloroethoxy)methane	0.066	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	0.066	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	0.099	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	0.33	ND	ND	ND	ND	ND
4-Bromophenylphenylether	0.033	ND	ND	ND	ND	ND
Butylbenzylphthalate	0.033	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	0.16	ND	ND	ND	ND	ND
4-Chloroaniline	0.16	ND	ND	ND	ND	ND
2-Chloronaphthalene	0.033	ND	ND	ND	ND	ND
2-Chlorophenol	0.13	ND	ND	ND	ND	ND
4-Chlorophenylphenylether	0.033	ND	ND	ND	ND	ND
Chrysene	0.033	ND	ND	ND	ND	ND
Di-n-butylphthalate	0.33	ND	ND	ND	ND	ND
Di-n-octylphthalate	0.033	ND	ND	ND	ND	ND
Dibenzo[a,h]anthracene	0.099	ND	ND	ND	ND	ND
Dibenzofuran	0.033	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	0.033	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	0.033	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	0.033	ND	ND	ND	ND	ND
3,3-Dichlorobenzidine	0.13	ND	ND	ND	ND	ND
2,4-Dichlorophenol	0.16	ND	ND	ND	ND	ND
Diethylphthalate	0.33	ND	ND	ND	ND	ND
2,4-Dimethylphenol	0.099	ND	ND	ND	ND	ND
Dimethylphthalate	0.033	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	0.33	ND	ND	ND	ND	ND
2,4-Dinitrophenol	1.6	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	0.033	ND	ND	ND	ND	ND

**EPA 8270 Semivolatile Organics**

 Client: PSI  
 Project: Caltrans - J&A Trucking  
 Job No.: 16373  
 Matrix: Soil  
 Analyst: TPW

 Date Sampled: 04/26/00  
 Date Received: 04/28/00  
 Date Extracted: 05/03/00  
 Dates Analyzed: 05/05/00  
 Batch Number: 8270S0621

Compound	Sample ID: DL	Blank mg/Kg	JA1-7.0 mg/Kg	JA2-7.0 mg/Kg	JA3-7.0 mg/Kg	JA4-6.5 mg/Kg
2,6-Dinitrotoluene	0.099	ND	ND	ND	ND	ND
Fluoranthene	0.033	ND	ND	ND	0.072	ND
Fluorene	0.033	ND	ND	ND	ND	ND
Hexachlorobenzene	0.033	ND	ND	ND	ND	ND
Hexachlorobutadiene	0.033	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	1.6	ND	ND	ND	ND	ND
Hexachloroethane	0.033	ND	ND	ND	ND	ND
Indeno[1,2,3-c,d]pyrene	0.13	ND	ND	ND	ND	ND
Isophorone	0.033	ND	ND	ND	ND	ND
2-Methylnaphthalene	0.033	ND	ND	ND	ND	ND
2-Methylphenol	0.16	ND	ND	ND	ND	ND
4-Methylphenol	0.16	ND	ND	ND	ND	ND
N-Nitrosodi-n-propylamine	0.033	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	0.033	ND	ND	ND	ND	ND
Naphthalene	0.033	ND	ND	ND	0.28	ND
2-Nitroaniline	0.099	ND	ND	ND	ND	ND
3-Nitroaniline	0.099	ND	ND	ND	ND	ND
4-Nitroaniline	0.33	ND	ND	ND	ND	ND
Nitrobenzene	0.099	ND	ND	ND	ND	ND
2-Nitrophenol	0.13	ND	ND	ND	ND	ND
4-Nitrophenol	0.33	ND	ND	ND	ND	ND
Pentachlorophenol	1.6	ND	ND	ND	ND	ND
Phenanthrene	0.066	ND	ND	ND	0.10	ND
Phenol	0.13	ND	ND	ND	ND	ND
Pyrene	0.033	ND	ND	ND	0.14	ND
1,2,4-Trichlorobenzene	0.033	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	0.2	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	0.33	ND	ND	ND	ND	ND

**Surrogates (Limits) in Percent Recovery**

Surrogate	Sample ID: Blank	JA1-7.0	JA2-7.0	JA3-7.0	JA4-6.5
2-Fluorophenol (25 - 121%)	75	84	81	87	79
Phenol-D5 (24 - 113%)	73	82	80	87	77
Nitrobenzene-D5 (23 - 120%)	60	67	65	71	64
2-Fluorobiphenyl (30 - 115%)	77	83	84	87	80
2,4,6-Tribromophenol (19 - 122%)	90	92	94	95	87
p-Terphenyl-D14 (18 - 137%)	86	82	84	108	80

**QC Sample Report - EPA 8270**

Batch #: 8270S0621

Matrix: Soil

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Phenol	2.66	80	5 - 112	Pass
2-Chlorophenol	2.66	94	23 - 134	Pass
1,4-Dichlorobenzene	1.33	91	20 - 124	Pass
N-Nitrosodi-n-propylamine	1.33	71	0 - 230	Pass
1,2,4-Trichlorobenzene	1.33	96	44 - 142	Pass
4-Chloro-3-Methylphenol	2.66	90	22 - 147	Pass
Acenaphthene	1.33	89	47 - 145	Pass
4-Nitrophenol	2.66	104	0 - 132	Pass
2,4-Dinitrotoluene	1.33	92	39 - 139	Pass
Pentachlorophenol	2.66	126	14 - 176	Pass
Pyrene	1.33	90	52 - 115	Pass

Analytical Notes:

**Batch Precision Results**

MS/MSD Sample ID: Laboratory Control Sample

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Phenol	2.12	1.95	9%	35%	Pass
2-Chlorophenol	2.50	2.27	10%	50%	Pass
1,4-Dichlorobenzene	1.22	1.12	9%	27%	Pass
N-Nitrosodi-n-propylamine	0.95	0.88	7%	38%	Pass
1,2,4-Trichlorobenzene	1.28	1.16	10%	23%	Pass
4-Chloro-3-Methylphenol	2.39	2.23	7%	33%	Pass
Acenaphthene	1.18	1.09	8%	23%	Pass
4-Nitrophenol	2.77	2.60	6%	50%	Pass
2,4-Dinitrotoluene	1.23	1.15	6%	47%	Pass
Pentachlorophenol	3.36	3.11	8%	47%	Pass
Pyrene	1.20	1.11	8%	36%	Pass

Analytical Notes:

**QC Sample Report - EPA 8015M Gasoline**

Matrix: Soil  
Batch #: 8015GS2591

**Batch Accuracy Results**

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Gasoline	10.0	100	70 - 130	Pass

Analytical Notes:

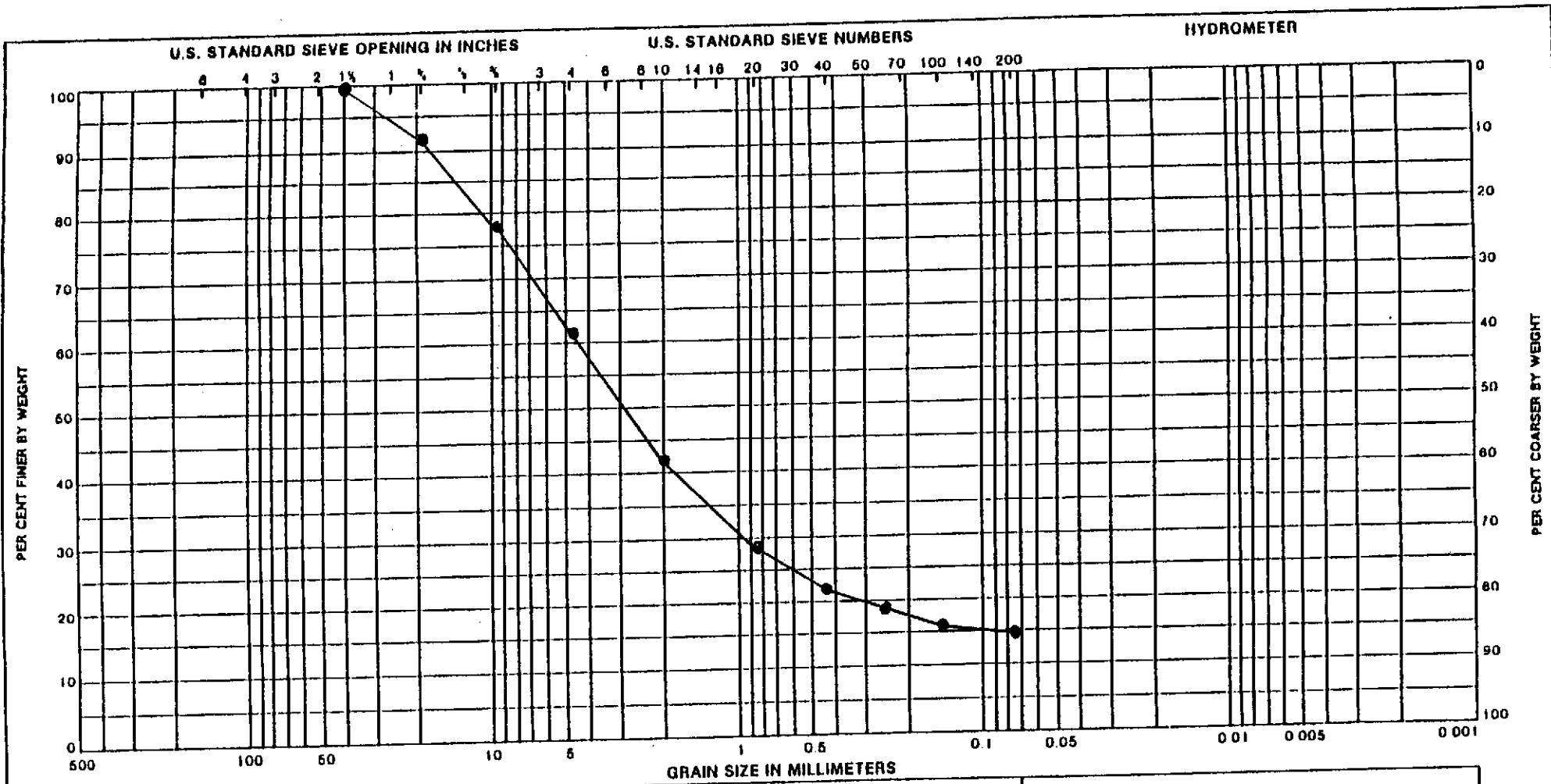
**Batch Precision Results**

MS/MSD Sample ID: 16369-1

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Gasoline	7.24	7.37	2%	30%	Pass

Analytical Notes:

MS: Matrix Spike Sample  
MSD: Matrix Spike Duplicate



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

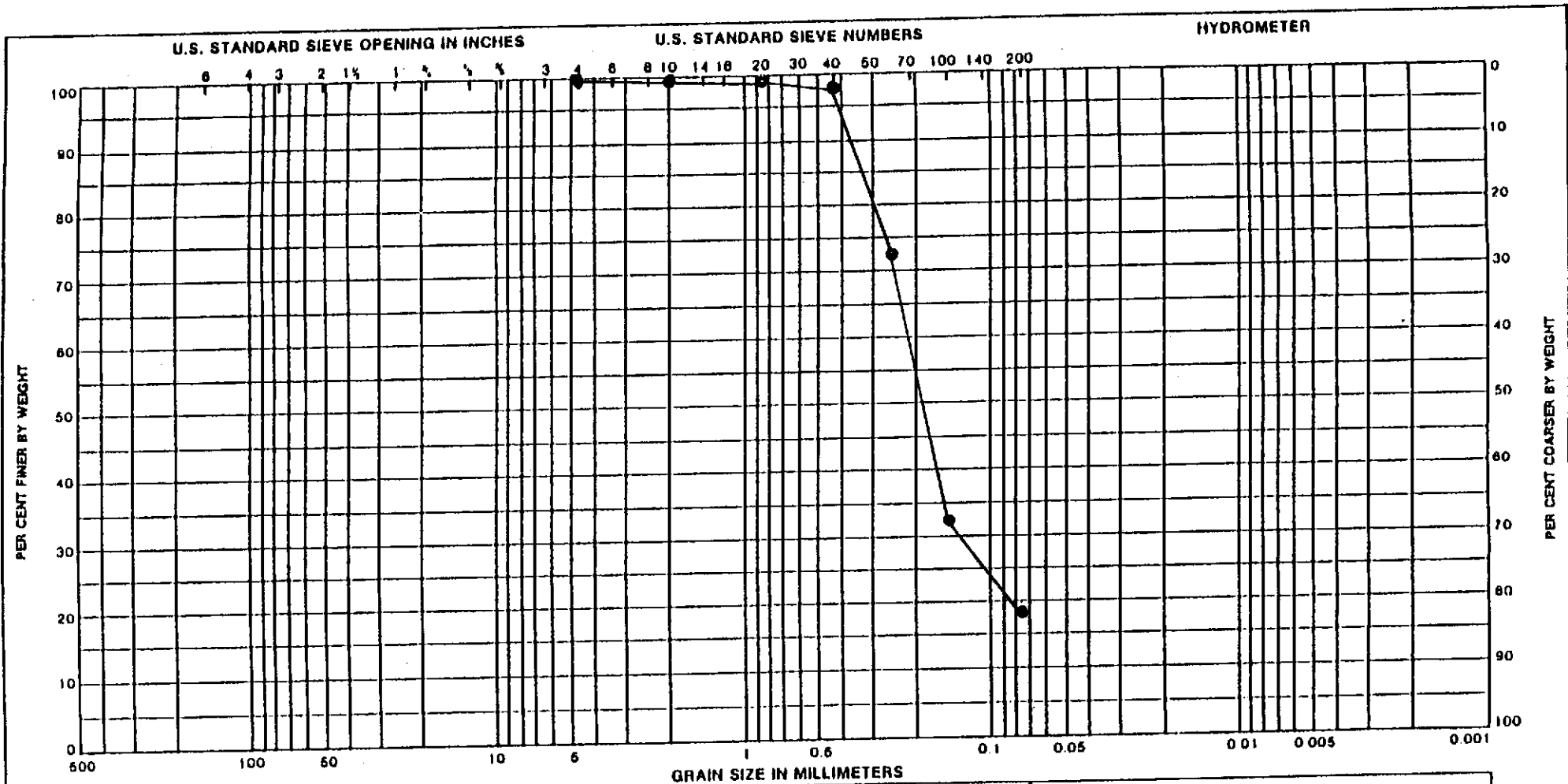
Boring No.	Sample No.	Elev. or Depth	Classification	Nat w %	LL	PL	PI	Project
	1505		1 1/2" BLACK GRAVELLY SAND SP-WITH BROWN CLAY SAND WITH GRAVEL SC					CALTRANS/J & A TRUCKING CONTAINER FREIGHT
			JA4-5.0					

**REPORT OF SOIL ANALYSIS**

File No. 575-0G011





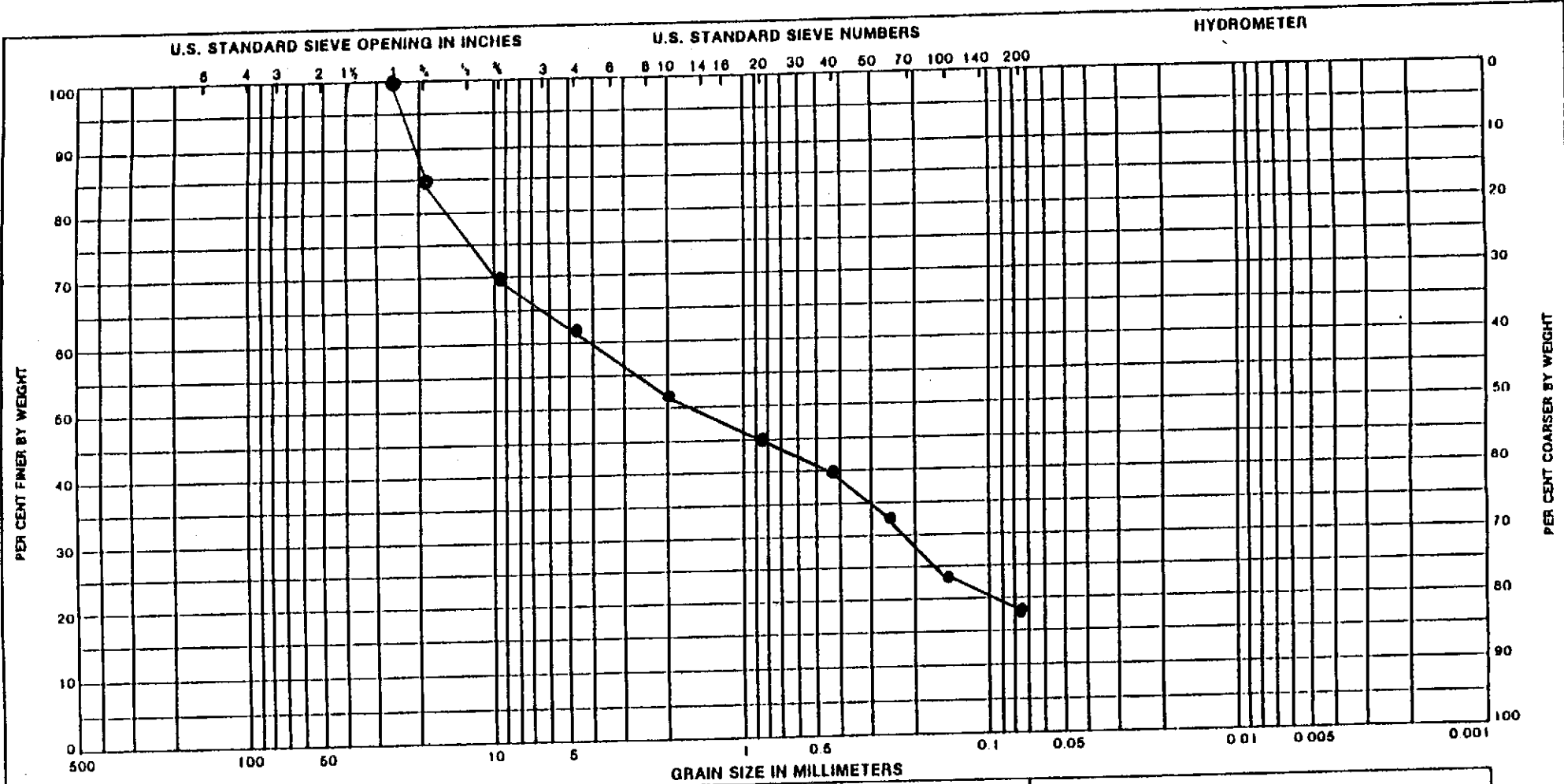


COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Boring No.	Sample No.	Elev. or Depth	Classification	Nat w %	LL	PL	PI	Project
	1050		ORANGE BROWN SILTY FINE AND MEDIUM SAND SM					CALTRANS/J & A TRUCKING CONTAINER FREIGHT
			JA2-7.5					

**REPORT OF SOIL ANALYSIS**

File No. 575-0G011



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Boxing No.	Sample No.	Elev. or Depth	Classification	Nat w %	LL	PL	PI	Project
	1105		BLACK GRAVELLY SAND					CALTRANS/J & A TRUCKING CONTAINER FREIGHT
			CF2-0.75					

**REPORT OF SOIL ANALYSIS**

File No. 575-0G011



**APPENDIX E**  
**PROJECT PERMITS**

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION  
**ENCROACHMENT PERMIT**

20

Compliance with (Check one):

Your application of March 13, 2000

Utility Notice No. \_\_\_\_\_ of \_\_\_\_\_

Agreement No. \_\_\_\_\_ of \_\_\_\_\_

R/W Contract No. \_\_\_\_\_ of \_\_\_\_\_

Permit No. <b>0400-NSV-0671</b>	
Dist/Co/Rte/PM <b>04-Ala-880-32.1</b>	
Date <b>March 20, 2000</b>	
Fee Paid \$ _____	Deposit \$ _____
Performance Bond Amount (1) \$ _____	Payment Bond Amount (2) \$ _____
Bond Company _____	
Bond Number (1) _____	Bond Number (2) _____

PSI  
 1320 W. Winton Avenue  
 Hayward, CA 94545

Attn: Frank Poss  
 Phone: (510) 785-1111

\_\_\_\_\_, PERMITTEE

subject to the following, PERMISSION IS HEREBY GRANTED to:

drill four holes and collect ground water samples for Environmental Investigation per Caltrans Project EA No. 92203 at Kirkham Street on State Highway 04-Ala-880, Post Mile 32.1 in Oakland.

Two days before work is started under this permit, notice shall be given to, and approval of construction details, operations, public safety, and traffic control shall be obtained from State Representative N. Freitag, 600 Covell Blvd., San Leandro, 94579, 510-614-5951, weekdays, between 8:00 AM and 4:30 PM.

Immediately following completion of the work permitted herein, the permittee shall fill out and mail the certificate of completion attached to this permit.

All personnel shall wear hard hats and orange vests, shirts, or jackets as appropriate during construction.

<p>The following attachments are also included as part of this permit (Check applicable):</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No General Provisions</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Utility Maintenance Provisions</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Special Provisions</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No A Cal-OSHA permit required prior to beginning work: # _____</p>	<p>In addition to fee, the permittee will be billed actual costs for:</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Review</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Inspection</p> <p><input checked="" type="checkbox"/> Yes _____ Field Work</p> <p>(If any Caltrans effort expended)</p>
---	--

Yes  No The information in the environmental documentation has been reviewed and considered prior to approval of this permit.

This permit is void unless the work is completed before December 31, 2000


This permit is to be strictly construed and no other work other than specifically mentioned is hereby authorized.

Project work shall be commenced until all other necessary permits and environmental clearances have been obtained.

APPROVED:

HARRY Y. YAHATA, District Director

BY:

  
 G. J. BATTAGLINI, District Permit Engineer

PSI

0400-NSV-0671

March 20, 2000

The site of the work shall be enclosed by suitable barricades, signs and lights, as approved by State's representative, to warn and protect traffic effectively.

No excavation shall be left open overnight without written permission from the Caltrans representative or unless otherwise specified herein.

Certain details of work authorized hereby are shown on permittee's plan submitted with request for permit in conjunction with Caltrans Contract No.43A0012.

The work authorized under this permit shall also be coordinated by Jill Pollock, at (510) 286-5638 Environmental Engineering.

Any collected survey data requested by Caltrans shall be furnished to Caltrans without charge.

Any required traffic control shall be performed in accordance with provision sp-14 of Caltrans Contract No.43A0012.

The resulting holes shall be backfilled as per Caltrans requirements and as directed by the State representative.

STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION  
ENCROACHMENT PERMIT GENERAL PROVISIONS  
R-0045 (REV. 8/98)

1. **AUTHORITY:** The Department's authority to issue encroachment permits is provided under Div. 1, Chpt. 3, Art. 1, Sect. 660 to 734 of the Streets and Highways Code.

**REVOCACTION:** Encroachment permits are revocable on five days notice unless otherwise stated on the permit and except as provided by law for public corporations, franchise holders, and utilities. These General Provisions and the Encroachment Permit Utility Provisions are subject to modification or abrogation at any time. Permittees' joint use agreements, franchise rights, reserved rights or any other agreements for operating purposes in State highway right of way are exceptions to this revocation.

**DENIAL FOR NONPAYMENT OF FEES:** Failure to pay permit fees when due can result in rejection of future applications and denial of permits.

**ASSIGNMENT:** No party other than the permittee or permittee's authorized agent is allowed to work under this permit.

5. **ACCEPTANCE OF PROVISIONS:** Permittee understands and agrees to accept these General Provisions and all attachments to this permit, for any work to be performed under this permit.

**BEGINNING OF WORK:** When traffic is not impacted (see Number 35), the permittee shall notify the Department's representative, two (2) days before the intent to start permitted work. Permittee shall notify the Department's Representative if the work is to be interrupted for a period of five (5) days or more, unless otherwise agreed upon. All work shall be performed on weekdays during regular work hours, excluding holidays, unless otherwise specified in this permit.

**STANDARDS OF CONSTRUCTION:** All work performed within highway right of way shall conform to recognized construction standards and current Department Standard Specifications, Department Standard Plans High and Low Risk Facility Specifications, and Utility Special Provisions. Where reference is made to "Contractor and Engineer," these are amended to be read as "Permittee and Department representative."

**PLAN CHANGES:** Changes to plans, specifications, and permit provisions are not allowed without prior approval from the State representative.

9. **INSPECTION AND APPROVAL:** All work is subject to monitoring and inspection. Upon completion of work, permittee shall request a final inspection for acceptance and approval by the Department. The local agency permittee shall not give final construction approval to its contractor until final acceptance and approval by the Department is obtained.

**PERMIT AT WORKSITE:** Permittee shall keep the permit package or a copy thereof, at the work site and show it upon request to any Department representative or law enforcement officer. If the permit package is not kept and made available at the work site, the work shall be suspended.

11. **CONFLICTING ENCROACHMENTS:** Permittee shall yield start of work to ongoing, prior authorized, work adjacent to or within the limits of the project site. When existing encroachments conflict with new work, the permittee shall bear all cost for rearrangements, (e.g., relocation, alteration, removal, etc.).

12. **PERMITS FROM OTHER AGENCIES:** This permit is invalidated if the permittee has not obtained all permits necessary and required by law, from the Public Utilities Commission of the State of California (PUC), California Occupational Safety and Health Administration (Cal-OSHA), or any other public agency having jurisdiction.

**PEDESTRIAN AND BICYCLIST SAFETY:** A safe minimum passageway of 1.21 meter (4') shall be maintained through the work area at existing pedestrian or bicycle facilities. At no time shall pedestrians be diverted onto a portion of the street used for vehicular traffic. At locations where safe alternate passageways cannot be provided, appropriate signs and barricades shall be installed at the limits of construction and in advance of the limits of construction at the nearest crosswalk or intersection to detour pedestrians to facilities across the street.

**PUBLIC TRAFFIC CONTROL:** As required by law, the permittee shall provide traffic control protection warning signs, lights, safety devices, etc., and take all other measures necessary for traveling public's safety. Day and night time lane closures shall comply with the Manuals of Traffic Controls, Standard Plans, and Standard

Specifications for traffic control systems. These General Provisions are not intended to impose upon the permittee, by third parties, any duty or standard of care, greater than or different from, as required by law.

15. **MINIMUM INTERFERENCE WITH TRAFFIC:** Permittee shall plan and conduct work so as to create the least possible inconvenience to the traveling public; traffic shall not be unreasonably delayed. On conventional highways, permittee shall place properly attired flagger(s) to stop or warn the traveling public in compliance with the Manual of Traffic Controls and Instructions to Flaggers Pamphlet.

16. **STORAGE OF EQUIPMENT AND MATERIALS:** Equipment and material storage in State right of way shall comply with Standard Specifications, Standard Plans, and Special Provisions. Whenever the permittee places an obstacle within 3.63 m (12') feet of the traveled way, the permittee shall place temporary railing (Type K).

17. **CARE OF DRAINAGE:** Permittee shall provide alternate drainage for any work interfering with an existing drainage facility in compliance with the Standard Specifications, Standard Plans and/or as directed by the Department's representative.

18. **RESTORATION AND REPAIRS IN RIGHT OF WAY:** Permittee is responsible for restoration and repair of State highway right of way resulting from permitted work (State Streets and Highways Code, Sections 670 et. seq.).

19. **RIGHT OF WAY CLEAN UP:** Upon completion of work, permittee shall remove and dispose of all scraps, brush, timber, materials, etc. off the right of way. The aesthetics of the highway shall be as it was before work started.

20. **COST OF WORK:** Unless stated in the permit, or a separate written agreement, the permittee shall bear all costs incurred for work within the State right of way and waives all claims for indemnification or contribution from the State.

21. **ACTUAL COST BILLING:** When specified in the permit, the Department will bill the permittee actual costs at the currently set hourly rate for encroachment permits.

22. **AS-BUILT PLANS:** When required, permittee shall submit one (1) set of as-built plans in compliance with Department's requirements. Plans shall be submitted within thirty (30) days after completion and approval of work.

As-Built plans or accompanying correspondence shall not include disclaimer statements of any kind. Such statements shall constitute non-compliance with these provisions. Failure to provide complete and signed As-Built plans shall be cause for bond or deposit retention by the Department.

23. **PERMITS FOR RECORD PURPOSES ONLY:** When work in the right of way is within an area under a Joint Use Agreement (JUA) or a Consent to Common Use Agreement (CCUA), a fee exempt permit is issued to the permittee for the purpose of providing a notice and record of work. The Permittee's prior rights shall be preserved without the intention of creating new or different rights or obligations. "Notice and Record Purposes Only" shall be stamped across the face of the permit.

24. **BONDING:** The permittee shall file bond(s), in advance, in the amount set by the Department. Failure to maintain bond(s) in full force and effect will result in the Department stopping of all work and revoking permit(s). Bonds are not required of public corporations or privately owned utilities, unless permittee failed to comply with the provision and conditions under a prior permit. The surety company is responsible for any latent defects as provided in California Code of Civil Procedures, Section 337.15. Local agency permittee shall comply with requirements established as follows: In recognition that project construction work done on State property will not be directly funded and paid by State, for the purpose of protecting stop notice claimants and the interests of State relative to successful project completion, the local agency permittee agrees to require the construction contractor furnish both a payment and performance bond in the local agency's name with both bonds complying with the requirements set forth in Section 3-1.02 of State's current Standard Specifications before performing any project construction work. The local agency permittee shall defend, indemnify, and hold harmless the State, its officers and employees from all project construction related claims by contractors and all stop notice or mechanic's lien claimants. The local agency also agrees to remedy, in a timely manner and to State's satisfaction, any latent defects occurring as a result of the project construction work.

25. **FUTURE MOVING OF INSTALLATIONS:** Permittee understands and agrees to rearrange a permitted installation upon request by the Department, for State construction, reconstruction, or maintenance

PERMIT NUMBER  
 0400-NSU0671

Dear Customer,

Our goal is to provide the best service possible to our customers. Please take a few minutes to complete this questionnaire. Your comments will enable us to see how we are doing overall and any areas which may need improvement.

**PLEASE TELL US HOW WE'RE DOING**

INSIDE THE OFFICE	EXCELLENT	VERY GOOD	GOOD	POOR
Staff courteous and helpful				
Staff quick and efficient				
Explanations and instructions clear				

TELEPHONE ANSWERING	EXCELLENT	VERY GOOD	GOOD	POOR
Timely response				
Receiving information or answers				

INSPECTION	EXCELLENT	VERY GOOD	GOOD	POOR
Inspector courteous and helpful				
Pre-construction meeting set and held in a timely manner				
Inspector at job site frequently				
Inspector able to answer questions and deal with problems				

OVERALL PERFORMANCE	EXCELLENT	VERY GOOD	GOOD	POOR
What would you say is our overall performance?				

Is there a staff person you would like to commend?	STAFF'S NAME
--	--------------

COMMENTS:

Signature (Optional)	BUSINESS PHONE NUMBER ( )	DATE
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STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION  
**ENCROACHMENT PERMIT**

20

Compliance with (Check one):

Your application of March 13, 2000

Utility Notice No. \_\_\_\_\_ of \_\_\_\_\_

Agreement No. \_\_\_\_\_ of \_\_\_\_\_

R/W Contract No. \_\_\_\_\_ of \_\_\_\_\_

PSI  
 1320 W. Winton Avenue  
 Hayward, CA 94545

Attn: Frank Poss  
 Phone: (510) 785-1111

\_\_\_\_\_, PERMITTEE

Permit No. <b>0400-NSV-0669</b>	
Dist/Co/Rte/PM <b>04-Ala-880-32.0</b>	
Date <b>March 20, 2000</b>	
Fee Paid \$ _____	Deposit \$ _____
Performance Bond Amount (1) \$ _____	Payment Bond Amount (2) \$ _____
Bond Company _____	
Bond Number (1) _____	Bond Number (2) _____

subject to the following, **PERMISSION IS HEREBY GRANTED** to:

Drill four holes and collect ground water samples for Environmental Investigation per Caltrans Project EA No. 92203 at Fifth Street on State Highway 04-Ala-880, Post Mile 32.0 in Oakland.

Two days before work is started under this permit, notice shall be given to, and approval of construction details, operations, public safety, and traffic control shall be obtained from State Representative N. Freitag, 600 Jewelling Blvd., San Leandro, 94579, 510-614-5951, weekdays, between 8:00 AM and 4:30 PM.

Immediately following completion of the work permitted herein, the permittee shall fill out and mail the Certificate of completion attached to this permit.

All personnel shall wear hard hats and orange vests, shirts, or jackets as appropriate during construction.

The following attachments are also included as part of this permit (Check applicable):		In addition to fee, the permittee will be billed actual costs for:	
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<input checked="" type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	-----
<input checked="" type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
General Provisions		Review	
Utility Maintenance Provisions		Inspection	
Special Provisions		Field Work	
A Cal-OSHA permit required prior to beginning work: # _____		(If any Caltrans effort expended)	

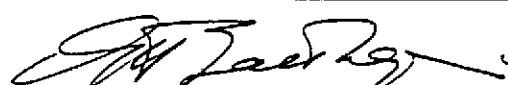
Yes  No The information in the environmental documentation has been reviewed and considered prior to approval of this permit.

This permit is void unless the work is completed before December 31, 2000

This permit is to be strictly construed and no other work other than specifically mentioned is hereby authorized.  
 Project work shall be commenced until all other necessary permits and environmental clearances have been obtained.

APPROVED:

**HARRY Y. YAHATA**, District Director

BY: 

**G. J. BATTAGLINI**, District Permit Engineer



PSI

400-NSV-0669

March 20, 2000

The site of the work shall be enclosed by suitable barricades, signs and lights, as approved by State's representative, to warn and protect traffic effectively.

No excavation shall be left open overnight without written permission from the Caltrans representative or unless otherwise specified herein.

Certain details of work authorized hereby are shown on permittee's plan submitted with request for permit in conjunction with Caltrans Contract No.43A0012.

The work authorized under this permit shall also be coordinated by Jill Pollock, at (510) 286-5638 Environmental Engineering.

Any collected survey data requested by Caltrans shall be furnished to Caltrans without charge.

Any required traffic control shall be performed in accordance with provision sp-14 of Caltrans Contract No.43A0012.

The resulting holes shall be backfilled as per Caltrans requirements and as directed by the State representative.

STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION  
ENCROACHMENT PERMIT GENERAL PROVISIONS  
R-0045 (REV. 8/98)

1. **AUTHORITY:** The Department's authority to issue encroachment permits is provided under, Div. 1, Chpt. 3, Art. 1, Sect. 660 to 734 of the Streets and Highways Code.

**REVOCACTION:** Encroachment permits are revocable on five days notice unless otherwise stated on the permit and except as provided by law for public corporations, franchise holders, and utilities. These General Provisions and the Encroachment Permit Utility Provisions are subject to modification or abrogation at any time. Permittees' joint use agreements, franchise rights, reserved rights or any other agreements for operating purposes in State highway right of way are exceptions to this revocation.

**DENIAL FOR NONPAYMENT OF FEES:** Failure to pay permit fees when due can result in rejection of future applications and denial of permits.

**ASSIGNMENT:** No party other than the permittee or permittee's authorized agent is allowed to work under this permit.

5. **ACCEPTANCE OF PROVISIONS:** Permittee understands and agrees to accept these General Provisions and all attachments to this permit, for any work to be performed under this permit.

6. **BEGINNING OF WORK:** When traffic is not impacted (see Number 35), the permittee shall notify the Department's representative, two (2) days before the intent to start permitted work. Permittee shall notify the Department's Representative if the work is to be interrupted for a period of five (5) days or more, unless otherwise agreed upon. All work shall be performed on weekdays during regular work hours, excluding holidays, unless otherwise specified in this permit.

**STANDARDS OF CONSTRUCTION:** All work performed within highway right of way shall conform to recognized construction standards and current Department Standard Specifications, Department Standard Plans High and Low Risk Facility Specifications, and Utility Special Provisions. Where reference is made to "Contractor and Engineer," these are amended to be read as "Permittee and Department representative."

**PLAN CHANGES:** Changes to plans, specifications, and permit provisions are not allowed without prior approval from the State representative.

9. **INSPECTION AND APPROVAL:** All work is subject to monitoring and inspection. Upon completion of work, permittee shall request a final inspection for acceptance and approval by the Department. The local agency permittee shall not give final construction approval to its contractor until final acceptance and approval by the Department is obtained.

**PERMIT AT WORKSITE:** Permittee shall keep the permit package or a copy thereof, at the work site and show it upon request to any Department representative or law enforcement officer. If the permit package is not kept and made available at the work site, the work shall be suspended.

11. **CONFLICTING ENCROACHMENTS:** Permittee shall yield start of work to ongoing, prior authorized, work adjacent to or within the limits of the project site. When existing encroachments conflict with new work, the permittee shall bear all cost for rearrangements, (e.g., relocation, alteration, removal, etc.).

12. **PERMITS FROM OTHER AGENCIES:** This permit is invalidated if the permittee has not obtained all permits necessary and required by law, from the Public Utilities Commission of the State of California (PUC), California Occupational Safety and Health Administration (Cal-OSHA), or any other public agency having jurisdiction.

**PEDESTRIAN AND BICYCLIST SAFETY:** A safe minimum passageway of 1.21 meter (4') shall be maintained through the work area at existing pedestrian or bicycle facilities. At no time shall pedestrians be diverted onto a portion of the street used for vehicular traffic. At locations where safe alternate passageways cannot be provided, appropriate signs and barricades shall be installed at the limits of construction and in advance of the limits of construction at the nearest crosswalk or intersection to detour pedestrians to facilities across the street.

**PUBLIC TRAFFIC CONTROL:** As required by law, the permittee shall provide traffic control protection warning signs, lights, safety devices, etc., and take all other measures necessary for traveling public's safety. Day and night time lane closures shall comply with the Manuals of Traffic Controls, Standard Plans, and Standard

Specifications for traffic control systems. These General Provisions are not intended to impose upon the permittee, by third parties, any duty or standard of care, greater than or different from, as required by law.

15. **MINIMUM INTERFERENCE WITH TRAFFIC:** Permittee shall plan and conduct work so as to create the least possible inconvenience to the traveling public; traffic shall not be unreasonably delayed. On conventional highways, permittee shall place properly attired flagger(s) to stop or warn the traveling public in compliance with the Manual of Traffic Controls and Instructions to Flaggers Pamphlet.

16. **STORAGE OF EQUIPMENT AND MATERIALS:** Equipment and material storage in State right of way shall comply with Standard Specifications, Standard Plans, and Special Provisions. Whenever the permittee places an obstacle within 3.63 m (12') feet of the traveled way, the permittee shall place temporary railing (Type K).

17. **CARE OF DRAINAGE:** Permittee shall provide alternate drainage for any work interfering with an existing drainage facility in compliance with the Standard Specifications, Standard Plans and/or as directed by the Department's representative.

18. **RESTORATION AND REPAIRS IN RIGHT OF WAY:** Permittee is responsible for restoration and repair of State highway right of way resulting from permitted work (State Streets and Highways Code, Sections 670 et. seq.).

19. **RIGHT OF WAY CLEAN UP:** Upon completion of work, permittee shall remove and dispose of all scraps, brush, timber, materials, etc. off the right of way. The aesthetics of the highway shall be as it was before work started.

20. **COST OF WORK:** Unless stated in the permit, or a separate written agreement, the permittee shall bear all costs incurred for work within the State right of way and waives all claims for indemnification or contribution from the State.

21. **ACTUAL COST BILLING:** When specified in the permit, the Department will bill the permittee actual costs at the currently set hourly rate for encroachment permits.

22. **AS-BUILT PLANS:** When required, permittee shall submit one (1) set of as-built plans in compliance with Department's requirements. Plans shall be submitted within thirty (30) days after completion and approval of work.

As-Built plans or accompanying correspondence shall not include disclaimer statements of any kind. Such statements shall constitute non-compliance with these provisions. Failure to provide complete and signed As-Built plans shall be cause for bond or deposit retention by the Department.

23. **PERMITS FOR RECORD PURPOSES ONLY:** When work in the right of way is within an area under a Joint Use Agreement (JUA) or a Consent to Common Use Agreement (CCUA), a fee exempt permit is issued to the permittee for the purpose of providing a notice and record of work. The Permittee's prior rights shall be preserved without the intention of creating new or different rights or obligations. "Notice and Record Purposes Only" shall be stamped across the face of the permit.

24. **BONDING:** The permittee shall file bond(s), in advance, in the amount set by the Department. Failure to maintain bond(s) in full force and effect will result in the Department stopping of all work and revoking permit(s). Bonds are not required of public corporations or privately owned utilities, unless permittee failed to comply with the provision and conditions under a prior permit. The surety company is responsible for any latent defects as provided in California Code of Civil Procedures, Section 337.15. Local agency permittee shall comply with requirements established as follows: In recognition that project construction work done on State property will not be directly funded and paid by State, for the purpose of protecting stop notice claimants and the interests of State relative to successful project completion, the local agency permittee agrees to require the construction contractor furnish both a payment and performance bond in the local agency's name with both bonds complying with the requirements set forth in Section 3-1.02 of State's current Standard Specifications before performing any project construction work. The local agency permittee shall defend, indemnify, and hold harmless the State, its officers and employees from all project construction related claims by contractors and all stop notice or mechanic's lien claimants. The local agency also agrees to remedy, in a timely manner and to State's satisfaction, any latent defects occurring as a result of the project construction work.

25. **FUTURE MOVING OF INSTALLATIONS:** Permittee understands and agrees to rearrange a permitted installation upon request by the Department, for State construction, reconstruction, or maintenance

PERMIT NUMBER  
 0400-NSU 0669

Dear Customer,

Our goal is to provide the best service possible to our customers. Please take a few minutes to complete this questionnaire. Your comments will enable us to see how we are doing overall and any areas which may need improvement.

**PLEASE TELL US HOW WE'RE DOING**

INSIDE THE OFFICE	EXCELLENT	VERY GOOD	GOOD	POOR
Staff courteous and helpful				
Staff quick and efficient				
Explanations and instructions clear				

TELEPHONE ANSWERING	EXCELLENT	VERY GOOD	GOOD	POOR
Timely response				
Receiving information or answers				

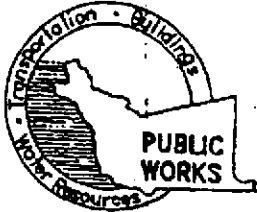
INSPECTION	EXCELLENT	VERY GOOD	GOOD	POOR
Inspector courteous and helpful				
Pre-construction meeting set and held in a timely manner				
Inspector at job site frequently				
Inspector able to answer questions and deal with problems				

OVERALL PERFORMANCE	EXCELLENT	VERY GOOD	GOOD	POOR
What would you say is our overall performance?				

Where a staff person you would like to commend?	STAFF'S NAME
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COMMENTS:

Address (Optional)	BUSINESS PHONE NUMBER ( )	DATE
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# ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION  
951 TURNER COURT, SUITE 300, HAYWARD, CA 94545-2651  
PHONE (510) 670-5575 ANDREAS GODFREY FAX (510) 670-5285  
(510) 670-5248 ALVIN KAN

782-1939

## DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT 500 KIRKHAM Street  
OAKLAND, ALAMEDA County  
CALIFORNIA

PERMIT NUMBER W00-109  
WELL NUMBER \_\_\_\_\_  
APN \_\_\_\_\_

California Coordinates Source 37/40/12.0 N. Accuracy ± 0.1  
Longitude 122/17/50.0  
APN 004-049-001

PERMIT CONDITIONS

Circled Permit Requirements Apply

CLIENT  
Name CALTRANS - DISTRICT 4  
Address 111 GRAND Ave Phone (510) 286-8638  
City OAKLAND, CA Zip 94612-3717

- A. GENERAL**
  1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
  2. Submit to ACPWA within 60 days after completion of permitted work the original Department of Water Resources Well Completion Report.
  3. Permit is void if project not begun within 90 days of approval date.

APPLICANT  
Name P.S.I. ADRIANA CONSTANTINESCU  
Address 1320 W. WINTON Ave Phone (510) 785-1111  
City HAYWARD, CA Zip 94545

- B. WATER SUPPLY WELLS**
  1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
  2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

TYPE OF PROJECT

Well Construction	<input type="checkbox"/>	Geotechnical Investigation	<input type="checkbox"/>
Cathodic Protection	<input type="checkbox"/>	General	<input type="checkbox"/>
Water Supply	<input type="checkbox"/>	Contamination	<input type="checkbox"/>
Monitoring	<input checked="" type="checkbox"/>	Well Destruction	<input type="checkbox"/>

- C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS**
  1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
  2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

PROPOSED WATER SUPPLY WELL USE

New Domestic	<input type="checkbox"/>	Replacement Domestic	<input type="checkbox"/>
Municipal	<input type="checkbox"/>	Irrigation	<input type="checkbox"/>
Industrial	<input type="checkbox"/>	Other	<input type="checkbox"/>

- D. GEOTECHNICAL**  
Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

DILLING METHOD:

Mud Rotary	<input type="checkbox"/>	Air Rotary	<input type="checkbox"/>	Auger	<input checked="" type="checkbox"/>
Cable	<input type="checkbox"/>	Other	<input type="checkbox"/>		

- E. CATHODIC**  
Fill hole above anode zone with concrete placed by tremie.
- F. WELL DESTRUCTION**  
See attached.
- G. SPECIAL CONDITIONS**

DRILLER'S LICENSE NO. C-57-720904

WELL PROJECTS

Drill Hole Diameter	<u>8</u> in.	Maximum	
Casing Diameter	<u>2</u> in.	Depth	<u>16.5</u> ft.
Surface Seal Depth	<u>2</u> ft.	Number	<u>4</u>

GEOTECHNICAL PROJECTS

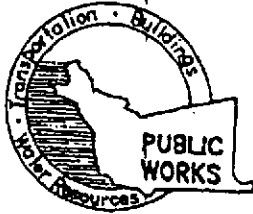
Number of Borings		Maximum	
Hole Diameter		Depth	

ESTIMATED STARTING DATE 3-27-2000  
ESTIMATED COMPLETION DATE 3-28-2000

APPROVED Frank L. Cudd DATE 03/14/00

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE A. Constantinescu DATE 3-14-2000



# ALAMEDA COUNTY PUBLIC WORKS AGENCY

## WATER RESOURCES SECTION

951 TURNER COURT, SUITE 300, HAYWARD, CA 94545-2651

PHONE (510) 670-3375 ANDREAS GODFREY

FAX (510) 670-5262

(510) 670-5248 ALVIN KAN

782-1939

### DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT 1285 FIFTH Street  
OAKLAND, CA

PERMIT NUMBER W00-110

WELL NUMBER \_\_\_\_\_

APN \_\_\_\_\_

California Coordinates Source \_\_\_\_\_ N. Accuracy = \_\_\_\_\_

APN 000-039-003

CLIENT Name CALTRANS - DISTRICT 4  
Address 111 GRAND Ave Phone (510) 286-6638  
City OAKLAND, CA Zip 94612-3717

APPLICANT Name P.S.I. - ADEANA CONSTANTINESCU  
Project Emp. Spec. Gen. Fax (510) 785-1192  
Address 1200 W LINTON Ave Phone (510) 785-1111  
City HAYWARD, CA Zip 94545

#### TYPE OF PROJECT

- Well Construction
  - Cathodic Protection
  - Water Supply
  - Monitoring
- Geotechnical Investigation
    - General
    - Contamination
    - Well Destruction

#### PROPOSED WATER SUPPLY WELL USE

- New Domestic
- Municipal
- Industrial
- Replacement Domestic
- Irrigation
- Other \_\_\_\_\_

#### DILLING METHOD

- Mud Rotary
- Cable
- Air Rotary
- Other
- Auger

DILLER'S LICENSE NO. C-57-720904

#### WELL PROJECTS

Drill Hole Diameter 8 in. Maximum  
 Casing Diameter 2 in. Depth 16.5 ft.  
 Surface Seal Depth 2 ft. Number 3

#### GEOTECHNICAL PROJECTS

Number of Borings \_\_\_\_\_ Maximum  
 Hole Diameter \_\_\_\_\_ in. Depth \_\_\_\_\_ ft.

ESTIMATED STARTING DATE 3-27-2000  
 ESTIMATED COMPLETION DATE 3-28-2000

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE A Constantinescu DATE 3-14-2000

#### PERMIT CONDITIONS

Circled Permit Requirements Apply

#### A. GENERAL

1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted work the original Department of Water Resources Well Completion Report.

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#### B. WATER SUPPLY WELLS

1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

#### C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS

1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

#### D. GEOTECHNICAL

Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

#### E. CATHODIC

Fill hole above anode zone with concrete placed by tremie.

#### F. WELL DESTRUCTION

See attached.

#### G. SPECIAL CONDITIONS

APPROVED Frank J. Codd DATE 03-14-00

**APPENDIX F**

**ON-SITE CALIBRATION AND  
AIR MONITORING DATA SHEET**



**APPENDIX G**

**CYPRESS PRELIMINARY REMEDIAL GOALS**



# Cypress Preliminary Remedial Goals

<u>Compound</u>		<u>PRG</u> (mg/kg soil)
Carcinogens:	benzo(a)anthracene *	0.3 - 30
	benzo(b)fluoranthene *	0.3 - 30
	benzo(k)fluoranthene *	0.3 - 30
	benzo(a)pyrene *	0.03 - 3
	chrysene *	3 - 300
	dibenzo(ah)anthracene *	0.03 - 3
	indeno(1,2,3-cd) pyrene *	0.3 - 30
	benzene	3.5 - 31
	tetrachloroethylene	10 - 92
	trichloroethylene	27 - 250
	vinyl chloride	0.1 - 0.94
	chloroform	12 - 110
	1,1-dichloroethylene	0.42 - 3.8
	1,4-chlorobenzene	13 - 120
Noncarcinogens:	fluoranthene	2300
	pyrene	1700
	ethylbenzene	74
	toluene	280
	xylene	99
	1,1-dichloroethane	380
	1,1,1-trichloroethane	470
	chlorobenzene	160
	1,2-dichlorobenzene	360
naphthalene	82	
Metals:	Antimony	67
	Arsenic **	19
	Barium	12,000
	Beryllium	1.8 - 0.2
	Cadmium	24 - 2.7
	Chromium (III)	170,000
	Chromium (VI)	0.68 - 0.076
	Copper	5,000
	Fluorine	10,000
	Lead	840
	Mercury	45
	Molybdenum	830
	Nickel	400 - 44
	Selenium	830
	Silver	830
	Thallium **	27
Vanadium	1,200	
Zinc	50,000	
Petroleum Hydrocarbons:	TRPH (C <sub>23</sub> - C <sub>n</sub> )?	1,000
	Diesel (C <sub>10</sub> - C <sub>22</sub> )?	100

\* The range for these compounds are recalculations of the original Cypress PRGs.

\*\* The Arsenic PRG is 4.6 ppm while the background level is 19 ppm.

The Thallium PRG is 14 ppm while the background level is 27 ppm.

(When there is no known human contamination at the site, the background levels are used. contamination at the site the PRG levels are used.)

06/24/99