FINAL REPORT
HAZARDOUS WASTE PRELIMINARY SITE INVESTIGATION
TASK ORDER NUMBER 04-952137-ES
CONTRACT NUMBER 43A0012

SIXTH AND CASTRO STREETS
OAKLAND, CALIFORNIA

10/14/99

prepared for

CALIFORNIA DEPARTMENT OF TRANSPORTATION
District 4
P.O. Box 23660
Oakland, California

prepared by

Professional Service Industries, Inc.
1320 West Winton Avenue
Hayward, California 94545
(510) 785-1111

October 14, 1999
575-9G034

TABLE OF CONTENTS

STATEMENT OF LIMITATIONS AND PROFESSIONAL CERTIFICATION III

1 INTRODUCTION 1

1.1 PROJECT OBJECTIVE 1

1.2 SITE DESCRIPTION AND HISTORY 1

2 PRE-FIELD ACTIVITIES 3

3 SUBSURFACE INVESTIGATION 4

3.1 SOIL BORINGS 4

3.2 MONITORING WELL INSTALLATION 5

3.3 WELL DEVELOPMENT 5

3.4 GROUNDWATER SAMPLING 6

4 LABORATORY ANALYSIS PROGRAM 8

5 LABORATORY RESULTS 9

5.1 LABORATORY ANALYTICAL RESULTS - SOIL 9

5.1.1 Oil and Grease 9

5.1.2 Total Petroleum Hydrocarbons – Diesel 9

5.1.3 Total Petroleum Hydrocarbons – Gasoline 10

5.1.4 Benzene, Toluene, Ethylbenzene, and Xylenes 10

5.1.5 Methyl Tert Butyl Ether and Volatile Organic Compounds 11

5.1.6 Lead 11

5.2 LABORATORY ANALYTICAL RESULTS - GROUNDWATER 12

5.2.1 Oil and Grease 12

5.2.2 Total Petroleum Hydrocarbons – Diesel 12

5.2.3 Total Petroleum Hydrocarbons – Gasoline 13

5.2.4 Benzene, Toluene, Ethylbenzene, and Xylenes 13

5.2.5 Methyl Tert Butyl Ether and Volatile Organic Compounds 13

5.2.6 Lead 14

6 CONCLUSIONS 15

7 RECOMMENDATIONS 18

REFERENCES 19

TABLE OF CONTENTS
(continued)

TABLES

Table 1	Summary of Soil Analytical Data
Table 2	Summary of Groundwater Analytical Data
Table 3	Summary of Groundwater Elevation Data
Table 4	Summary of Physical Properties
Table 5	Statistical Analysis of Soil Analytical Data
Table 6	Statistical Analysis of Groundwater Analytical Data

FIGURES

Figure 1	Site Map
Figure 2	Cross Section Location Map
Figure 3	Cross Section A-A'
Figure 4	Cross Section B-B'
Figure 5	Groundwater Elevation Map 7/2/99
Figure 6	Summary of Soil Analytical Data
Figure 7	Summary of Groundwater Analytical Data
Figure 8	Historical Site Plan

APPENDICES

Appendix A	IT Analytical Data Tables and Figures
Appendix B	Drilling Permit, Soil Boring Logs, Well Construction Details
Appendix C	Land Surveyor Report
Appendix D	Laboratory Report

STATEMENT OF LIMITATIONS AND PROFESSIONAL CERTIFICATION

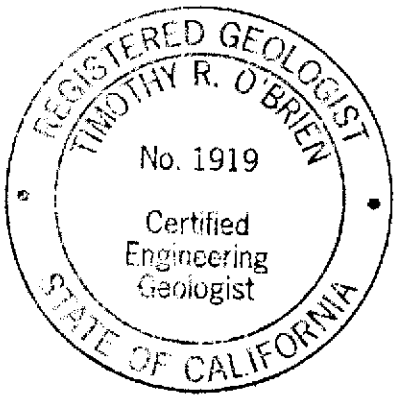
Information provided in this report, prepared by Professional Service Industries, Inc. (PSI), is intended exclusively for the use of Caltrans for the evaluation of subsurface conditions as it pertains to the subject site. The professional services provided have been performed in accordance with practices 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 identified any or all sources or locations of contamination.

This report 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 Workplan has been reviewed by a geologist who is registered in the State of California and whose signature and license number appear below.

Chris Merritt for

Frank R. Poss, R.E.A.
Senior Hydrogeologist

Timothy R. O'Brien RG/CEG/CHG
Senior Geologist



1 INTRODUCTION

Professional Service Industries, Inc. (PSI) was retained by the California Department of Transportation (Caltrans), under Task Order Number 04-952137-ES and Contract Number 43A0012, to conduct a hazardous waste site assessment of current soil and groundwater conditions at the property located at the intersection of 6th and Castro Streets in Oakland, California. The subject site location is presented on Figure 1.

The scope of work for this investigation included:

- Drill 11 soil borings to collect soil and groundwater samples.
- Based on the results of samples collected in the 11 soil borings, drill three more borings to construct three groundwater monitoring wells.
- Develop, survey, and sample the installed groundwater monitoring wells.
- Perform chemical analyses on soil and groundwater samples.
- Prepare a technical report describing the investigation and interpretation of the data generated.

1.1 PROJECT OBJECTIVE

The object of the project is to determine the concentrations of selected potentially hazardous constituents in soil and groundwater. Analytical results from the soil and groundwater investigation will be examined with respect to regulatory criteria and published guidelines. The purpose of this workplan is to define the scope of work and to describe the methodology to be utilized to complete the scope of work.

1.2 SITE DESCRIPTION AND HISTORY

The site is currently a vacant lot that is surrounded by Brush Street to the west, 7th Street to the north, Castro Street to the east, and 6th Street to the south. In 1987, ERM-West Consultants (ERM) conducted an environmental site assessment to identify any environmental concerns at the above site resulting from past uses of the site. Historical records searches determined that the site had formerly been occupied by a number of businesses, most notably a gas station, an auto repair garage, Durham Farm Creamery, a machine shop, and a laundry facility. At least four underground storage tanks (USTs) were associated with the former gas station and dairy (IT, 1996). A service station was located at the intersection of 6th Street and Brush Street (Geocon, 1995).

ERM drilled seven soil borings at the site to collect soil samples for analyses. Analyses of the soil samples identified up to 1.3 parts per million (ppm) ethylbenzene, 1.5 ppm toluene, and 7.9 ppm xylenes. Groundwater samples collected drilling had concentrations up to 0.5 ppb ethylbenzene, 0.3 ppb toluene, and 5 ppb total xylenes (ACHCSA, 1998).

In a 1995 investigation conducted by Geocon Environmental Consultants (Geocon), soil and groundwater samples were collected from seven locations. Analyses of the soil samples identified up to 410 ppm lead and 8,000 ppm oil and grease. The two groundwater samples analyzed did not contain detectable concentrations of Total Petroleum Hydrocarbons as Gasoline (TPH-G); TPH as Diesel (TPH-D); and Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) (IT,1996).

In a 1996 investigation conducted by International Technology Corporation (IT), soil and groundwater samples were collected from 11 borings. The analytical data tables and figures which post the data prepared by IT are included in Appendix A. The maximum concentration in the soil samples analyzed are presented below:

Total Petroleum Hydrocarbons as Gasoline (TPH-G)	1,100 ppm
Benzene	2.6 ppm
Toluene	34 ppm
Ethylbenzene	25 ppm
Total Xylenes	140 ppm
Total Lead	397 ppm

The maximum concentration in the four groundwater samples analyzed were the following:

Total Petroleum Hydrocarbons as Gasoline (TPH-G)	1,700 ppb
Benzene	51 ppb
Toluene	200 ppb
Ethylbenzene	59 ppb
Total Xylenes	290 ppb
1,2 Dichloroethane	5.4 ppb

2 PRE-FIELD ACTIVITIES

A Task Order Meeting was completed on May 3, 1999, with Mr. Frank Poss and Ms. Chris Zdunkiewicz of Caltrans in attendance. The primary purpose of the meeting was to familiarize PSI with site conditions that may impact field operations.

Prior to initiation of field activities, PSI marked the drilling locations with white paint and contacted Underground Service Alert a minimum of 48-hours prior to beginning work to locate any potential buried utilities.

A site-specific Health and Safety Plan (HSP) was developed in compliance with 29 CFR 1910.120, under the supervision of a Certified Industrial Hygienist. The HSP was designed to address the potential hazardous materials that may be encountered during field activities at the site and to minimize the exposure to potentially hazardous materials and unsafe working conditions to on-site personnel (PSI, 1999).

3 SUBSURFACE INVESTIGATION

3.1 SOIL BORINGS

On May 19 and May 20, 1999, Borings OAK-1 through OAK-11 were drilled at the site using a Geoprobe direct push drill rig. On June 17, 1999, three soil borings were drilled to install groundwater monitoring wells MW-1 through MW-3 using a hollow stem auger drilling rig. V&W Drilling of Rio Vista, California provided drilling and well construction services.

The direct push borings were advanced using a 0.038 meter (1.5-inch) diameter core sampler fitted with a retractable tip and lined with acetate sleeves. Soil samples were collected from each boring at depths of 0.15, 0.30, 0.90, 1.5, 3.0, and 4.5 meters (0.5, 1, 3, 10, and 15 feet) below ground surface (bgs). Boring OAK-1 was drilled to a depth of 5.9 meters (19.5 feet) bgs; Borings OAK-2, OAK-3, OAK-4, OAK-7, OAK-8, OAK-9, and OAK-11 were drilled to 6.1 meters (20.0 feet) bgs; and Boring OAK-5 was drilled to 6.8 meters (22.5 feet) bgs.

Three monitoring wells were installed in locations based on interpretation of the data collected in PSI's investigation and previously collected data (IT, 1996). The well locations were selected to provide information on the groundwater quality across the site and in locations which allow adequate characterization of the groundwater flow direction. At the time of the well installation, the groundwater flow was anticipated to be to the south, therefore Wells MW-2 and MW-3 were installed near the southern property boundary. Well MW-1 was installed in the anticipated upgradient direction of Well MW-2 where groundwater contaminants were detected in grab groundwater samples from the direct push soil borings. Soil and groundwater contaminants are discussed in Section 5.

The hollow stem auger borings were advanced using an eight-inch outside diameter hollow stem auger. Samples were collected in a split spoon sampler lined with stainless steel sleeves. The sampler was driven with a 140-pound hammer repeatedly dropped 30-inches. The blow count required to drive the sampler 18-inches is recorded on the boring logs. Soil samples were collected from each boring at depths of 0.15, 0.30, 0.90, 1.5, 3.0, and 4.5 meters (0.5, 1, 3, 10, and 15 feet) below ground surface (bgs). Boring MW-1 was drilled to a depth of 6.1 meters (20 feet), Boring MW-2 was drilled to a depth of 6.5 meters (21.5 feet) bgs, Boring MW-3 was drilled to a depth of 6.4 meters (21 feet) bgs.

Soils were logged according to the "Soil and Rock Logging Classification Manual" of the State of California, Department of Transportation. The Caltrans soil classification manual is consistent with the Unified Soil Classification System. Boring logs are presented in Appendix B. Soils observed during drilling activities consisted primarily of silty and

clayey sands. Groundwater was encountered approximately 4.3 meters (14 feet) below ground surface (bgs).

Lithologic cross section locations are presented on Figure 2. Cross sections are presented on Figures 3 and 4.

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. The samples were maintained in a cooler with ice, or a refrigerator until transported to the analytical laboratory. The analytical results are described in Section 4.

3.2 MONITORING WELL INSTALLATION

On June 17, 1999, three groundwater monitoring wells were constructed in the soil borings drilled with the hollow stem auger drilling rig. Well construction details are presented in Appendix B. Well installation was performed by V&W Drilling of Rio Vista, California, with oversight by PSI. The wells were permitted through the Alameda County Department of Public Works. A copy of the permit is included in Appendix B.

The wells were constructed of 0.051 meter (2-inch) inside diameter, Schedule 40 Polyvinyl Chloride (PVC) casing with 0.00051 meter (0.020-inch) machine-slotted screen from 2 to 5 meters (5 to 15 feet) bgs. Number three washed sand was used for the filter pack. Hydrated bentonite pellets were placed above the sand pack and neat cement was placed above the bentonite, to grade level.

The top of the well casings were completed above the ground surface. Tamper resistant, monument style, wellhead covers were set in concrete above surface grade because the property is not paved. The well casing and the surface elevations are presented in Table 3.

3.3 WELL DEVELOPMENT

Well development was performed after the grout had cured for at least 24 hours. Well development occurred on date July 2, 1999. Wells were developed by surging and bailing. Water was removed until the groundwater was relatively clear.

Development water was collected in 55-gallon drums for proper disposal. Following completion of the well installation, the newly installed well casings and boring locations were surveyed by a professional Land Surveyor. The surveyor's report is presented in Appendix C. Elevation and location were surveyed to accuracy of at least 0.003 m (0.01 foot) vertically and 0.003 m (0.01 foot) horizontally.

3.4 GROUNDWATER SAMPLING

3.4.1 Groundwater Elevation and Hydraulic Gradient

On July 2, 1999 depth to groundwater measurements were collected from the three site groundwater monitoring wells. The groundwater depths were measured using a groundwater probe. Based on a lack of product sheen or measurable thickness of product in sampling bailers, floating product was not encountered in any of the wells. The groundwater measurements were converted to groundwater elevation data. The data is presented in Table 3 and Figure 5. The calculated groundwater flow direction is to the east with a hydraulic gradient of 0.0057 meter per meter (foot per foot). Calculation of the hydraulic gradient is presented below:

$$0.8\ feet \Big/ 140\ feet = 0.0057$$

The calculated groundwater flow direction is not consistent with the anticipated groundwater flow direction interpreted from the United States Geological Survey's topographic map titled, Oakland West. Interpretation of the topographic map indicates groundwater would be expected to flow to the south, towards the Alameda Channel. The deviation from the expected direction may be due to operation of groundwater extraction well(s) for industrial use, dewatering of underground structures, or localized hydrogeology.

3.4.2 Groundwater Sampling

Groundwater samples were collected from soil borings and the monitoring wells. Grab groundwater samples collected from the soil borings drilled May 19 and 20, 1999 were collected without purging. Groundwater samples collected from the monitoring wells were collected after developing and purging the monitoring wells. Groundwater samples collected from groundwater monitoring wells are considered a better indicator of groundwater quality.

Prior to the collection of groundwater samples, the monitoring wells were purged of a minimum of three well volumes of water until pH, conductivity, and temperature stabilized. The wells were allowed to recover to at least 80 percent of their original static groundwater levels prior to sampling.

The following procedures for well monitoring, well purging, and water sampling were implemented while sampling the wells:

- All equipment was washed prior to entering the well with an Alconox solution, followed by one tap water rinse and a deionized water rinse.

- Prior to purging the wells, depth-to-water was measured using a groundwater interface probe to an accuracy of 0.003 meters (0.01 foot). The measurements were made to the top of the well casing.

- Water samples were collected with a single-use Teflon bailer after the well had been purged and water in the well had equilibrated to approximately 80 percent of the static water level. The water collected was immediately decanted into laboratory supplied vials and bottles. The containers were overfilled, capped, labeled, and placed in a chilled cooler prior to delivery to the laboratory for analysis.

- Chain-of-custody procedures, including chain-of-custody forms, were used to document water sample handling and transport from collection to delivery to the laboratory for analyses.

- Groundwater samples were delivered to the State-certified hazardous waste laboratory in good condition and in accordance with the analytical methods employed.

- Purged water was contained in a DOT approved 55-gallon drum. The drum was labeled with the contents, date, well number, client name, and project number.

4 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.

Soil and groundwater samples collected were analyzed for the following:

- EPA Method 8015 modified - TPH-G;
- EPA Method 8015 modified - TPH-D;
- EPA Method 1664 – Oil & Grease;
- EPA Method 8260 – Volatile Organic Compounds (VOCs), including fuel oxygenates, ethylene dibromide, and ethylene dichloride
- EPA Method 6010 – Lead
- CAC Title 22 Method 66700 – Waste Extraction Test
- SW-846 Method 1311 – Toxicity Characteristic Leaching Procedure

Additionally, one soil sample from each boring scheduled to be a monitoring well was analyzed for the following constituents:

- Total Organic Carbon according to EPA Method 9060
- Soil Porosity
- Moisture Content in accordance with ASTM-2216

During monitoring well sampling, the following parameters were measured:

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

5 LABORATORY RESULTS

A summary of the analytical results are presented in Tables 1, 2, and 4. A copy of the laboratory reports and chain-of-custody records are included in Appendix D.

5.1 LABORATORY ANALYTICAL RESULTS - SOIL

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

5.1.1 Oil and Grease

The soil oil and grease analytical results are presented in Table 1 and Figure 6. Oil and grease was detected from samples collected in every soil boring. In general, the concentrations of oil and grease decreased below a depth of 0.9 meter (3 feet). Measurable concentrations of oil and grease extend to the depth of the water table.

The source of the oil and grease cannot be determined from the information that is available to date. Review of the Historical Site Plan presented on Figure 8 reveals a number of businesses which typically handle or store petroleum products. It is likely that the contaminants observed at the site are the result of numerous spills at several locations at the site.

The IT investigation identified oil and grease in some of the deepest samples analyzed which were collected at a depth of 1.98 meters (78 inches)(IT, 1996). Five of the eleven samples collected at a depth of 1.98 meters and chemically analyzed, contained measurable oil and grease. The oil and grease concentrations ranged from 60 to 80 mg/kg. The average concentration was 64.

In the PSI investigation, the average concentration was 197.6 mg/kg; the concentrations ranged from 3,000 mg/kg to 10.0 mg/kg.

5.1.2 Total Petroleum Hydrocarbons – Diesel

The TPH-D analytical results are presented in Table 1 and Figure 6. TPH-D was detected in all of the soil borings except OAK9 and OAK11. The concentrations of TPH-D are generally below 100 mg/kg. Two samples (OAK-1-4.5 [120 mg/kg] and OAK-8-0.90 [120 mg/kg]) contained TPH-D at concentrations above 100 mg/kg.

TPH-D occurs near the surface in most soil borings and decreases with depth except in Borings OAK1 and OAK2, where the only concentration of TPH-D was reported in the

deepest soil samples collected. This may indicate limited contamination of the capillary fringe in the area of Borings OAK1 and OAK2. IT did not report detectable concentrations of TPH-D in soil samples collected in the unsaturated zone (IT, 1996). It is observed that the samples collected by IT at a depth of 4.4 meters (174 inches) bgs, which is close to the water table in PSI's investigation did not contain TPH-D. It is unknown why the IT investigation did not detect TPH-D in their samples.

The average concentration was 29.8 mg/kg; the concentrations ranged from 120 mg/kg to 11 mg/kg.

5.1.3 Total Petroleum Hydrocarbons – Gasoline

The TPH-G analytical results are presented in Table 1 and Figure 6. TPH-G was detected in three soil borings (OAK1, OAK2, and OAK3).

In Boring OAK1, the sample containing TPH-G was collected at the surface, and the concentration was low (2.0 mg/kg). TPH-G was not detected in Borings OAK2 or OAK3 in near surface samples. The TPH-G detected in Borings OAK2 and OAK3 was reported in samples collected from the capillary fringe zone. TPH-G was reported in Sample OAK-1-4.5 (600 mg/kg) and OAK-2-4.5 (99 mg/kg). The distribution of TPH-G in soil samples is similar to the distribution of TPH-D in soil samples. The IT investigation reported analytical results and distribution of contaminants consistent wit the PSI investigation, although TPH-G at slightly higher concentrations (IT, 1996).

The average concentration was 233.7 mg/kg; the concentrations ranged from 600 mg/kg to 2.0 mg/kg.

5.1.4 Benzene, Toluene, Ethylbenzene, and Xylenes

The BTEX analytical results are presented in Table 1 and Figure 6. BTEX compounds were detected in four soil borings. The distribution and depth of the BTEX compounds is consistent with the distribution of TPH-G. Ethylbenzene and xylenes were detected in Boring OAK6; no TPH-G was detected in Boring OAK6.

Benzene was detected in Samples OAK-2-4.5 (0.21 mg/kg) and OAK-1-3.0 (0.002 mg/kg). The benzene concentrations are below the U.S. Environmental Protection Agency's Preliminary Remediation Goal (PRG) for industrial soil of 1.4 mg/kg. Toluene, ethylbenzene, and/or xylenes were detected in samples from Borings OAK1, OAK2, OAK3, and OAK6. None of the BTEX compounds were detected at concentrations above the PRG for industrial soil. The PRGs for industrial soil for toluene (520 mg/kg), ethylbenzene (230 mg/kg) and xylenes (210 mg/kg) are substantially higher than observed concentrations. The IT investigation reported analytical results and distribution of contamination consistent with the PSI investigation. Soil concentrations of benzene were slightly higher in the IT investigation (IT, 1996).

The average benzene concentration was 0.106 mg/kg; the concentrations ranged from 0.21 mg/kg to 0.002 mg/kg.

5.1.5 Methyl Tert Butyl Ether and Volatile Organic Compounds

The MTBE and VOC analytical results are presented in Table 1 and Figure 6. No MTBE was detected in any soil sample collected at the site. IT did not report analytical results for MTBE (IT, 1996).

Fuel related VOCs were detected in 9 of 11 soil borings. The fuel related hydrocarbons consisted of isopropylbenzene, napthalene, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene. The highest concentrations of VOCs were detected in samples collected from the southwest portion of the site. None of the compound concentrations exceeded U.S. EPA Region 9 PRGs for industrial soil. No chlorinated compounds were reported in the soil samples collected from PSI's soil borings. No VOC was measured at detectable concentrations in the IT investigation (IT, 1996).

The average concentration was not applicable, no MTBE was detected.

5.1.6 Lead

The lead analytical results are presented in Table 1 and Figure 6. Lead was detected in all the soil borings. Total lead concentrations in soil samples ranged from below the laboratory detection limit to 1,700 mg/kg. Seventeen samples contained lead at concentrations above ten times the Soluble Threshold Limit Concentration (STLC) criterion (50 mg/l). The elevated lead concentrations were generally collected within 0.9 meters (3 feet) of the surface. The IT investigation reported analytical results and distribution of lead consistent with the PSI investigation (IT, 1996).

The average concentration was 18.17 mg/kg; the concentrations ranged from 90 mg/kg to 8.6 mg/kg.

The source of the lead cannot be determined from the information that is available to date. The lead may have been aerially deposited by the combustion of lead containing fuels. The lead may also have been derived from business activities at the site. Review of the Historical Site Plan presented on Figure 8 reveals a number of businesses which typically handle or store products which contain lead. It is likely that the contaminants observed at the site are the result of numerous spills at several locations at the site, aerial deposition of the lead, or a combination of the potential source areas.

Samples that contained concentrations of lead above ten times the STLC were chemically analyzed for soluble lead. The analytical results are presented on Table 1 and Figure 6. Seven of the samples analyzed contained concentrations exceeding the

STLC criterion. One Toxic Characteristic Leachate Procedure (TCLP) was performed on Sample OAK-3-0.30 to further characterize the soil. Sample OAK-3-0.30 contained 12 mg/l of lead; the analytical result exceeded the TCLP criterion of 5 mg/l. If excavated and classified for disposal, the soil characterized by the analysis would be considered Federal hazardous waste.

5.2 LABORATORY ANALYTICAL RESULTS - GROUNDWATER

Groundwater samples were collected from soil borings and the monitoring wells. Grab groundwater samples collected from the soil borings drilled May 19 and 20, 1999 were collected without purging. Groundwater samples collected from the monitoring wells were collected after developing and purging the monitoring wells. Wells were purged until pH, temperature, and conductivity stabilized. Average measurements were pH (6.8), temperature (19.7 C), and conductivity (1745 microSiemens).

No floating product or product sheen was observed in any groundwater sample collected at the site. Floating product was not reported in the IT investigation (IT, 1996).

Table 6 presents a statistical analysis 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, and concentration standard deviation is provided.

5.2.1 Oil and Grease

The groundwater oil and grease analytical results are presented in Table 2 and Figure 7. Oil and grease was detected from samples collected from five borings and one monitoring well (MW-2).

Oil and grease was only detected in one monitoring well (MW-2). The highest concentrations of oil and grease in groundwater samples were reported in samples collected from Borings WOAK-1, WOAK-2, and Well MW-2. IT did not analyze samples for oil and grease in groundwater (IT, 1996).

The average concentration was 8.0 mg/l; the concentrations ranged from 19 mg/l to 3.0 mg/l.

5.2.2 Total Petroleum Hydrocarbons – Diesel

The TPH-D analytical results are presented in Table 2 and Figure 7. TPH-D was detected only in Sample WOAK-5 (0.46 mg/l). It is noted that TPH-D was not detected in samples collected from Borings OAK1 or OAK2, were TPH-D was detected in soil samples collected near the water table. IT did not report detectable concentrations of TPH-D in groundwater samples.

The average concentration was 0.46 mg/l; the concentrations ranged from 0.46 mg/l to 0.46 mg/l.

5.2.3 Total Petroleum Hydrocarbons – Gasoline

The TPH-G analytical results are presented in Table 2 and Figure 7. TPH-G was detected in four groundwater samples (OAK1, OAK2, OAK3, and Well MW-2). The TPH-G detected is consistent with the distribution of TPH-G reported in soil samples. Concentrations of TPH-G were reported in Samples WOAK-1 (39 mg/l), WOAK-2 (58 mg/l), WOAK-3 (0.90 mg/l), and MW-1 (26 mg/kg).

IT reported TPH-G in the area consistent with PSI's investigation, but at significantly lower concentrations (IT, 1996).

The average concentration was 31 mg/l; the concentrations ranged from 58 mg/l to 0.9 mg/l.

5.2.4 Benzene, Toluene, Ethylbenzene, and Xylenes

The BTEX analytical results are presented in Table 2 and Figure 7. BTEX compounds were detected in five groundwater samples. The distribution of the BTEX compounds is consistent with the distribution of TPH-G and BTEX compounds in soil samples.

Benzene was detected in Samples WOAK-1 (3.7 mg/l), WOAK-2 (3.9 mg/l), and WOAK-3 (0.003 mg/l), and MW-2 (0.78 mg/l). All of the reported concentrations exceed the Maximum Contaminant Level for benzene in drinking water (0.001 mg/l). Toluene, ethylbenzene, and/or xylenes were detected in samples from Borings OAK1, OAK2, OAK3, OAK5, and Well MW-2.

The IT investigation reported analytical results and distribution of BTEX consistent with the PSI investigation (IT, 1996).

The average benzene concentration was 2.1 mg/l; the concentrations ranged from 3.9 mg/l to 0.0025 mg/l.

5.2.5 Methyl Tert Butyl Ether and Volatile Organic Compounds

The MTBE and VOC analytical results are presented in Table 2 and Figure 7. No MTBE was detected in any groundwater sample collected at the site. IT did not report analytical results for MTBE (IT, 1996).

Fuel related VOCs were detected in five groundwater samples. The fuel related hydrocarbons consisted of isopropylbenzene, napthalene, n-propylbenzene, 1,2,4-

trimethylbenzene, and 1,3,5-trimethylbenzene. IT reported the fuel related hydrocarbon 1,2-dichlorpropane in the area contaminated by gasoline (IT, 1996).

The chlorinated compound 1,2-dichloroethane (1,2-DCA) was reported in the groundwater sample MW-1 (0.16 mg/l). The 1,2-DCA concentration exceeds the Maximum Contaminant Level for 1,2-DCA in drinking water (0.005 mg/l). IT also reported 1,2-DCA in their investigation although at a lower concentration (0.0054 mg/l) [IT, 1996].

The average concentration was not applicable, no MTBE was detected.

5.2.6 Lead

The lead analytical results are presented in Table 2 and Figure 7. It is noted that the lead concentrations reported in the grab groundwater samples were not filtered and represent the total lead concentration. Groundwater samples collected from the monitoring wells were filtered prior to digestion and analysis. Lead was not detected in any of the samples collected from the groundwater monitoring wells.

IT did not report analytical results for lead in groundwater (IT, 1996).

The average concentration was 0.27 mg/l; the concentrations ranged from 0.53 mg/l to 0.12 mg/l.

6 CONCLUSIONS

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

- The groundwater flow direction measured at the site is east with a hydraulic gradient of 0.0057 meter per meter (foot per foot). The measured groundwater flow direction is not consistent with the anticipated flow direction interpreted from a topographic map. This anomaly may be due to nearby groundwater extraction or local hydrogeology.

- Oil and grease was detected from samples collected in every soil boring. In general, the concentrations of oil and grease decreased below a depth of 0.9 meter (3 feet). Measurable concentrations of oil and grease extend to the depth of the water table. The source of the oil and grease is unknown. It may be related to using oil for dust control, or fill material reported in previous investigations (Geocon, 1995).

- TPH-D was detected in all of the soil borings except OAK9 and OAK11. The concentrations of TPH-D are generally below 100 mg/kg. TPH-D occurs near the surface in most soil borings and decreases with depth except in Borings OAK1 and OAK2, where the only concentration of TPH-D was reported in the deepest soil samples collected. This may indicate limited contamination of the capillary fringe in the area of Borings OAK1 and OAK2. The source of the TPH-D is unknown. Similar to the oil and grease, it may be related to using diesel fuel for dust control, or fill material reported in previous investigations (Geocon, 1995). In the southwest portion of the property, where the former service station was located, the TPH-D exists in the capillary fringe zone and is likely related to storage of diesel fuel in Underground Storage Tanks (USTs).

- TPH-G was detected in three soil borings (OAK1, OAK2, and OAK3). The TPH-G detected in Borings OAK2 and OAK3 was reported in samples collected from the capillary fringe zone. TPH-G was reported in Sample OAK-1-4.5 (600 mg/kg) and OAK-2-4.5 (99 mg/kg). In the southwest portion of the property, where the former service station was located, the TPH-G exists in the capillary fringe zone and is likely related to storage of gasoline in Underground Storage Tanks (USTs).

- BTEX compounds were detected in four soil borings. The distribution and depth of the BTEX compounds is consistent with the distribution of TPH-G. Benzene was detected in Samples OAK-2-4.5 (0.21 mg/kg) and OAK-1-3.0 (0.002 mg/kg). Toluene, ethylbenzene, and/or xylenes were detected in samples from Borings OAK1, OAK2, OAK3, and OAK6. Benzene was only detected in the southwest portion of the property. The benzene concentrations observed are likely related to the storage of gasoline in USTs.

- No MTBE was detected in any soil sample collected at the site. The USTs at the service station were reported have been removed in the 1970's (IT, 1996). Because MTBE was first blended in gasoline in 1979, the absence of MTBE in the soil samples indicates a historic on-site or nearby source area (API, 1998).

- Fuel related VOCs were detected in 9 of 11 soil borings. The fuel related hydrocarbons consisted of isopropylbenzene, napthalene, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene. None of the compound concentrations exceeded U.S. EPA Region 9 PRGs for industrial soil. No chlorinated compounds were reported in the soil samples collected from PSI's soil borings. The distribution of fuel related VOCs is consistent with the distribution of TPH-G.

- Lead was detected in all the soil borings. Total lead concentrations in soil samples ranged from below the laboratory detection limit to 1,700 mg/kg. Seventeen samples contained lead at concentrations above ten times the Soluble Threshold Limit Concentration (STLC) criterion (50 mg/l). The elevated lead concentrations were generally collected within 0.9 meters (3 feet) of the surface. Samples that contained concentrations of lead above the STLC were chemically analyzed for soluble lead. Seven of the samples analyzed contained concentrations exceeding the STLC criterion. One TCLP was performed on Sample OAK-3-0.30 to further characterize the soil. The analytical result exceeded the TCLP criterion. If excavated and classified for disposal, the soil characterized by the analysis would be considered Federal hazardous waste.

  The concentration of lead detected in Sample OAK-3-0.30 exceeds the EPA Preliminary Remediation Goal (PRG) for Industrial Soils (1,000 mg/kg). All other lead concentrations were below the PRG criterion.

- No floating product or product sheen was observed in any groundwater sample collected at the site.

- Oil and grease was detected in samples collected from six of the monitoring wells or soil borings. Oil and grease was only detected in one monitoring well (MW-2). The highest concentrations of oil and grease in groundwater samples were reported in samples collected from Borings WOAK-1, WOAK-2, and Well MW-2.

- TPH-D was detected only in Sample WOAK-5 (0.46 mg/l). TPH-D was not detected in samples collected from Borings OAK1 or OAK2, where TPH-D was detected in soil samples collected near the water table.

- TPH-G was detected in four groundwater samples. The TPH-G detected is consistent with the distribution of TPH-G reported in soil samples. The groundwater samples that contained TPH-G were located at the southwest portion of the property, consistent with the former location of the service station.

- BTEX compounds were detected in five groundwater samples. The distribution of the BTEX compounds is consistent with the distribution of TPH-G and BTEX compounds in soil samples. The groundwater samples that contained BTEX compounds were located at the southwest portion of the property, consistent with the former location of the service station. None of the soil samples contained BTEX compounds above U.S. EPA Region 9 Preliminary Remediation Goals.

- Benzene was detected in Samples WOAK-1 (3.7 mg/l), WOAK-2 (3.9 mg/l), WOAK-3 (0.003 mg/l), and MW-2 (0.78 mg/l). All of the reported concentrations exceed the Maximum Contaminant Level for benzene in drinking water (0.001 mg/l). Toluene, ethylbenzene, and/or xylenes were detected in samples from Borings OAK1, OAK2, OAK3, OAK5, and Well MW-2.

- No MTBE was detected in any groundwater sample collected at the site. Because MTBE was first blended in gasoline in 1979, the absence of MTBE in groundwater samples indicates a historic on-site or nearby source area (API, 1998).

- Fuel related VOCs were detected in five groundwater samples. The fuel related hydrocarbons consisted of isopropylbenzene, napthalene, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene. The distribution of the fuel related VOCs is consistent with the location of the former service station.

- The chlorinated compound 1,2-dichlooethane (1,2-DCA) was reported in the groundwater sample MW-1 (0.16 mg/l). The 1,2-DCA concentration exceeds the Maximum Contaminant Level for 1,2-DCA in drinking water (0.005 mg/l). The source of the 1,2-DCA is unknown.

- Lead was not detected in any of the samples collected from the groundwater monitoring wells.

7 RECOMMENDATIONS

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

- Additional investigation of the cause of the groundwater flow direction deviation is warranted.

- Elevated concentrations of TPH-G and benzene exists in soil samples collected from the southwest portion of the site. Because of the wide spacing of soil borings the contaminated soil extent is not well defined. Additional delineation of soil contamination is recommended.

- Elevated concentrations of oil and grease exist in soil samples collected across the site. Additional monitoring of the groundwater for oil and grease is warranted.

- Elevated concentrations of TPH-G and benzene exists in groundwater samples collected from the southwest portion of the site. Benzene concentrations are up to 3,700 times higher than MCL for benzene (0.001 mg/l). Additional delineation of the groundwater contamination is recommended.

- The chlorinated compound 1,2-dichlooethane (1,2-DCA) was reported in the groundwater sample MW-1 (0.16 mg/l). The 1,2-DCA concentration is 32 times higher than the MCL for 1,2-DCA in drinking water (0.005 mg/l). The source of the 1,2-DCA is unknown. Additional delineation of the groundwater contamination is recommended.

- The lack of MTBE in groundwater samples may indicate an on-site or nearby site source of the petroleum that was detected. The potential for an on-site source of TPH-G and benzene in the southwest portion of the site exists.

- An elevated concentrations of lead were detected in soil samples collected from across the site. Several of the samples exceeded the STLC criterion, one sample exceeded the after sample preparation by the TCLP. Additional monitoring of the groundwater for soluble lead is warranted.

- Once site characterization is completed, a Risk Based Corrective Action (RBCA) evaluation of the property is warranted.

REFERENCES

ACHES, 1998, Correspondence from Juliet Shin to Ms. Chris Zdunkiewicz of Caltrans, regarding investigations at the Caltrans vacant lot to, November 16, 1998.

Caltrans, 1999, Task Order # 04-52137-ES, Hazardous Waste Preliminary Site Investigation, prepared for Caltrans, March 31,1999.

Caltrans, 1999, Contract NO. 43A0012.

Caltrans, 1996, Soil and Rock Logging Classification Manual (Field Guide), prepared for Office of Structural Foundations, August.

Geocon, 1995, Site Investigation Report, 6th Street and Castro Street Parcel, prepared for Caltrans, October.

IT, 1996, Site Investigation Report, 6th Street and Castro Street, prepared for Caltrans, December 4.

PSI, 1999, Health and Safety Plan, prepared for Caltrans, May.

PSI, 1999, Hazardous Waste Preliminary Site Investigation Workplan, prepared for Caltrans, May 14.

US EPA, 1999, Preliminary Remediation Goals for Industrial Soil.

TABLE 1
SUMMARY OF SOIL ANALYTICAL DATA
CALTRANS MAINTENANCE STATION
6TH AND CASTRO STREETS, OAKLAND, CA

All Concentrations in mg/kg (PPM).											
SAMPLE NUMBER	DEPTH (meters)	OIL & GREASE	TPH-G	TPH-D	MTBE	BENZENE	TOLUENE	E-BENZENE	XYLENES	VOCs*	LEAD
OAK-1	0.15	53	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	0.002	NA
	0.30	23	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	0.005	NA
	0.90	21	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	NA
	1.5	22	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	15
	3.0	16	ND (0.5)	ND (10)	ND (0.005)	0.002	ND (0.001)	0.13	0.096	0.433	19
	4.5	53	600	120	ND (6.0)	ND (1.3)	3.7	17	67	112	18
OAK-2	0.15	33	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	0.003	ND*	8.6
	0.30	29	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	NA
	0.90	11	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	NA
	1.5	ND (10)	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	NA
	3.0	ND (10)	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	NA
	4.5	63	99	48	ND (0.025)	0.21	4.8	8.2	29	38.87	NA
OAK-3	0.15	22	2.0	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	0.006	0.025	0.001	56 (ND)
	0.30	280	ND (0.5)	18	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	1700 {12}
	0.90	49	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	11
	1.5	16	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	9.8
	3.0	12	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	13
	4.5	22	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	15
OAK-4	0.15	270	ND (0.5)	13	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	110 (4.8)
	0.30	120	ND (0.5)	15	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	51 (3.7)
	0.90	430	ND (0.5)	18	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	77 (3.0)
	1.5	81	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	0.001	48
	3.0	13	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	18
	4.5	ND (10)	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	16
OAK-5	0.15	430	ND (0.5)	13	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	100 (4.0)
	0.30	200	ND (0.5)	13	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	200 (20)
	0.90	76	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	18
	1.5	16	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	0.002	8.8
	3.0	13	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	17
	4.5	120	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	34

TABLE 1
SUMMARY OF SOIL ANALYTICAL DATA
CALTRANS MAINTENANCE STATION
6TH AND CASTRO STREETS, OAKLAND, CA

All Concentrations in mg/kg (PPM).

SAMPLE NUMBER	DEPTH (meters)	OIL & GREASE	TPH-G	TPH-D	MTBE	BENZENE	TOLUENE	E-BENZENE	XYLENES	VOCs*	LEAD
OAK-6	0.15	440	ND (0.5)	15	ND (0.005)	ND (0.001)	ND (0.001)	0.002	0.010	ND*	98 (7.1)
	0.30	180	ND (0.5)	22	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	21
	0.90	47	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	14
	1.5	46	ND (0.5)	12	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	0.001	11
	3.0	17	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	16
	4.5	46	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	17
OAK-7	0.15	130	ND (0.5)	13	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	98 (5.0)
	0.30	3,000	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	0.17	79 (4.9)
	0.90	240	ND (0.5)	12	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	11
	1.5	20	ND (0.5)	11	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	8.8
	3.0	20	ND (0.5)	11	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	16
	4.5	ND (10)	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	0.002	14
OAK-8	0.15	260	ND (0.5)	20	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	36
	0.30	340	ND (0.5)	30	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	77 (8.0)
	0.90	2,600	ND (0.5)	120	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	300 (22)
	1.5	ND (10)	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	9.4
	3.0	13	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	15
	4.5	10	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	14
OAK-9	0.15	82	ND (0.5)	24	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	0.006	83 (4.6)
	0.30	580	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	150 (16)
	0.90	140	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	10
	1.5	46	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	11
	3.0	11	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	15
	4.5	10	ND (0.5)	20	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	14
OAK-10	0.15	380	ND (0.5)	58	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	90
	0.30	150	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	56
	0.90	46	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	9.1
	1.5	11	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	16
	3.0	ND (10)	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	9.0
	4.5	13	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	12

TABLE 1
SUMMARY OF SOIL ANALYTICAL DATA
CALTRANS MAINTENANCE STATION
6TH AND CASTRO STREETS, OAKLAND, CA

All Concentrations in mg/kg (PPM).											
SAMPLE NUMBER	**DEPTH (meters)**	**OIL & GREASE**	**TPH-G**	**TPH-D**	**MTBE**	**BENZENE**	**TOLUENE**	**E-BENZENE**	**XYLENES**	**VOCs***	**LEAD**
OAK-11	0.15	27	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	240 (38)
	0.30	18	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	0.002	10
	0.90	27	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	11
	1.5	14	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	18
	3.0	ND (10)	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	16
	4.5	ND (10)	ND (0.5)	ND (10)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.003)	ND*	12

NOTES
Sample concentrations reported in mg/kg (milligram per kilogram).
TPH-G denotes Total Petroleum Hydrocarbons as Gasoline, TPH-D denotes Total Petroleum Hydrocarbons as Diesel.
MTBE denotes Methyl Tert Butyl Ether, E-Benzene denotes Ethylbenzene, VOCs* denotes Volatile Organic Compounds analyzed by EPA Method 8260.
Sample depth reported as meters below ground surface.
ND denotes Not Detected, detection limit presented in parentheses. NA denotes Not Analyzed.
ND* denotes all anaytes included in EPA Method 8260 analyte list not presented on this table, Not Detected.
(3.3) = Soluble Concentration after a Waste Extraction Test (WET)
{3.3} = Soluble Concentration after a Toxic Characteristic Leachate Procedure (TCLP).

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL DATA
CALTRANS MAINTENANCE STATION
6TH CASTRO STREETS, OAKLAND, CA

All concentrations in mg/l (PPM).

SAMPLE NUMBER	OIL & GREASE	TPH-G	TPH-D	MTBE	Benzene	E-Benzene	Toluene	Xylenes	VOCs*	LEAD
WOAK-1	12	39	ND	ND (0.10)	3.7	3.2	1.1	5.1	4.48	0.53
WOAK-2	19	58	ND	ND (0.10)	3.9	3.7	14	12	4.764	0.26
WOAK-3	4.1	0.90	ND	ND (0.10)	0.0025	0.040	0.011	0.1	0.1078	ND (0.10)
WAOK-5	ND (2.3)	ND (0.5)	0.46	ND (0.001)	ND (0.0005)	ND (0.0005)	0.0006	ND (0.0015)	0.0006	0.33
WOAK-6	ND (2.6)	ND (0.5)	ND	ND (0.001)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0015)	ND*	ND (0.10)
WOAK-7	ND (2.7)	ND (0.5)	ND	ND (0.001)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0015)	ND*	ND (0.10)
WAOK-8	ND (3.0)	ND (0.5)	ND	ND (0.001)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0015)	ND*	0.12
WOAK-9	ND (2.7)	ND (0.5)	ND	ND (0.001)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0015)	ND*	0.26
WOAK-10	3.0	ND (0.5)	ND	ND (0.001)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0015)	ND*	ND (0.10)
WOAK-11	3.7	ND (0.5)	ND	ND (0.001)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0015)	ND*	0.12
MW-1	ND (2.4)	ND (0.5)	ND (0.4)	ND (0.001)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0015)	ND*	ND (0.10)
MW-2	6.3	26	ND (4.0)	ND (0.001)	0.78	1.3	4.2	5.0	2.83	ND (0.10)
MW-3	ND (2.3)	ND (0.5)	ND (0.4)	ND (0.001)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0015)	ND*	ND (0.10)

NOTES

Sample concentrations reported in mg/kg (milligram per kilogram).

TPH-G denotes Total Petroleum Hydrocarbons as Gasoline, TPH-D denotes Total Petroleum Hydrocarbons as Diesel.

MTBE denotes Methyl Tert Butyl Ether, E-Benzene denotes Ethylbenzene, VOCs* denotes Volatile Organic Compounds analyzed by EPA Method 8260.

ND denotes Not Detected, detection limit presented in parentheses.

ND* denotes all anaytes included in EPA Method 8260 analyte list not presented on this table, Not Detected.

TABLE 3
SUMMARY OF GROUNDWATER ELEVATIONS
CALTRANS MAINTENANCE STATION
6TH AND CASTRO STREETS, OAKLAND, CA

SAMPLE NUMBER	DATE	GROUND SURFACE ELEVATION	WELL CASING ELEVATION	DEPTH TO GROUNDWATER	GROUNDWATER ELEVATION
MW-1	7/2/99	23.74	26.85	19.89	6.96
MW-2	7/2/99	18.67	21.56	14.21	7.35
MW-3	7/2/99	19.60	21.04	14.57	6.47

NOTES:
All elevation and depth data presented in feet.

TABLE 4
SUMMARY OF PHYSICAL PROPERTIES
CALTRANS MAINTENANCE STATION
6TH AND CASTRO STREETS, OAKLAND, CA

SAMPLE NUMBER	SAMPLE DEPTH	MOISTURE CONTENT %	TOTAL POROSITY %	TOC mg/kg
OAK-1	1.5	13.4	29.6	9,280
OAK-3	1.5	11.1	32.7	1,920
OAK-11	1.5	22.7	37.6	2,250

NOTES:
Sample depth presented in meters below ground surface.
TOC denotes Total Organic Carbon by SM 5310.
Moisture Content by ASTM Method D-2216.
Porosity by API RP-40.
mg/kg denotes milligram per kilogram.

TABLE 5
STATISTICAL ANALYSIS OF SOIL ANALYTICAL DATA
CALTRANS MAINTENANCE STATION
6TH AND CASTRO STREETS, OAKLAND, CA

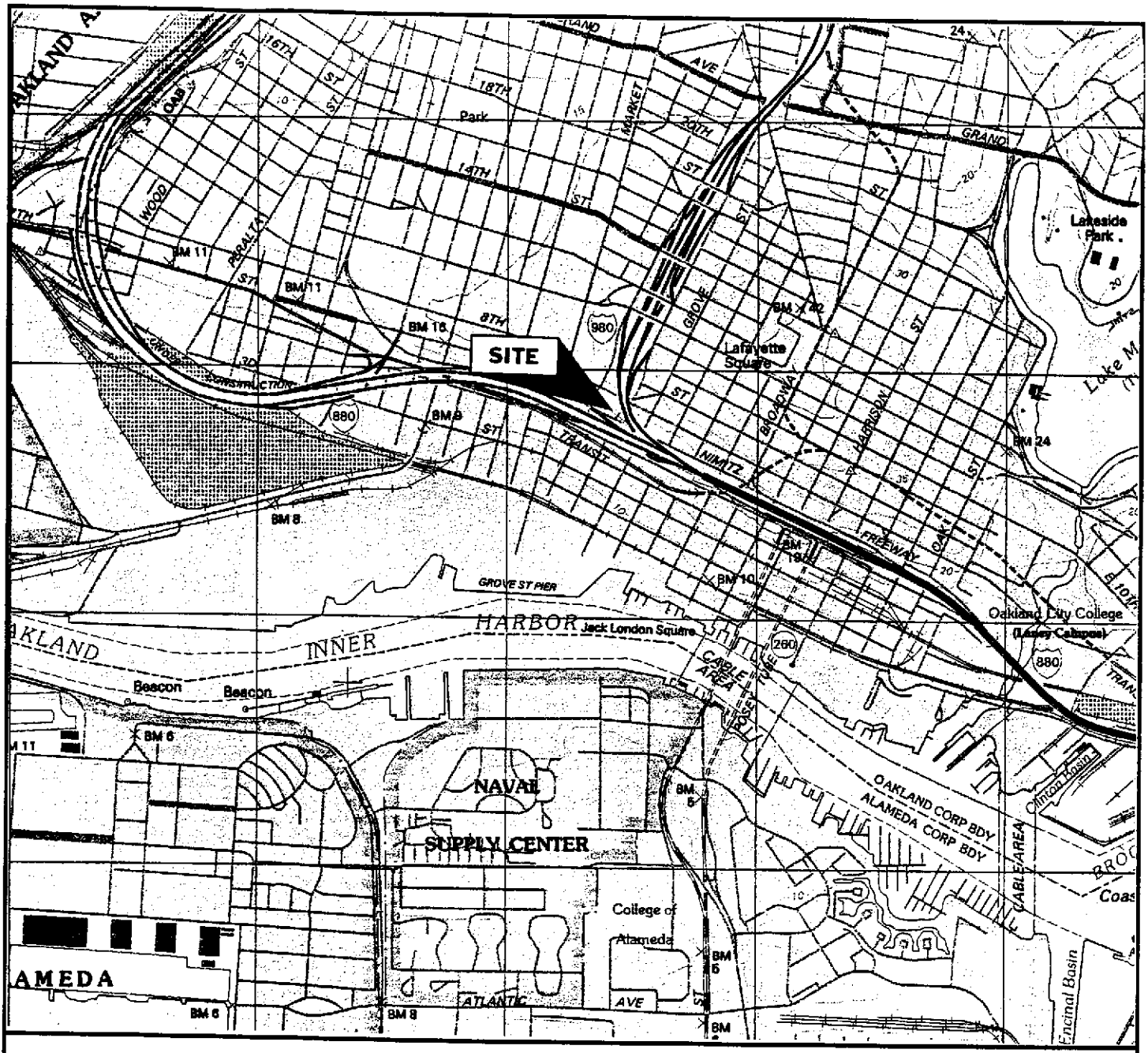
STATISTICAL FUNCTION	OIL & GREASE	TPH-G	TPH-D	MTBE	BENZENE	TOLUENE	E-BENZENE	XYLENES	VOCs*	LEAD
count	58	3	21	0	2	2	5	6	13	43
max	3,000	600	120	0.000	0.21	4.8	17.0	67.0	112.0	90.0
min	10.0	2.0	11.0	0.000	0.002	3.7	0.002	0.003	0.001	8.6
average	197.6	233.7	29.8	NA	0.106	4.25	5.07	16.02	11.65	18.17
std. dev.	515.4	320.9	32.3	NA	0.15	0.78	7.55	27.53	32.00	14.85

NOTES
Sample concentrations reported in mg/kg (milligram per kilogram).
NA denotes Not Analyzed.
TPH-G denotes Total Petroleum Hydrocarbons as Gasoline, TPH-D denotes Total Petroleum Hydrocarbons as Diesel.
MTBE denotes Methyl Tert Butyl Ether, E-Benzene denotes Ethylbenzene, VOCs* denotes Volatile Organic Compounds analyzed by EPA Method 8260.

TABLE 6
STATISTICAL ANALYSIS OF GROUNDWATER ANALYTICAL DATA
CALTRANS MAINTENANCE STATION
6TH CASTRO STREETS, OAKLAND, CA

STATISTICAL FUNCTION	OIL & GREASE	TPH-G	TPH-D	MTBE	Benzene	E-Benzene	Toluene	Xylenes	VOCs*	LEAD
count	6	4	1	0	4	4	5	4	5	6
max	19.0	58.0	0	0	3.9	3.7	14.0	12.0	4.76	0.53
min	3.0	0.9	0.46	0.000	0.0025	0.040	0.0006	0.10	0.0006	0.12
average	8.0	31.0	0	NA	2.1	2.1	3.9	5.6	2.44	0.27
std. dev.	6.30	23.97	NA	NA	2.00	1.70	5.92	4.89	2.30	0.15

NOTES
Sample concentrations reported in mg/l (milligram per liter).
TPH-G denotes Total Petroleum Hydrocarbons as Gasoline, TPH-D denotes Total Petroleum Hydrocarbons as Diesel.
MTBE denotes Methyl Tert Butyl Ether, E-Benzene denotes Ethylbenzene, VOCs* denotes Volatile Organic Compounds analyzed by EPA Method 8260.
NA denotes Not Applicable.



NORTH

0 1/2 1 MILE

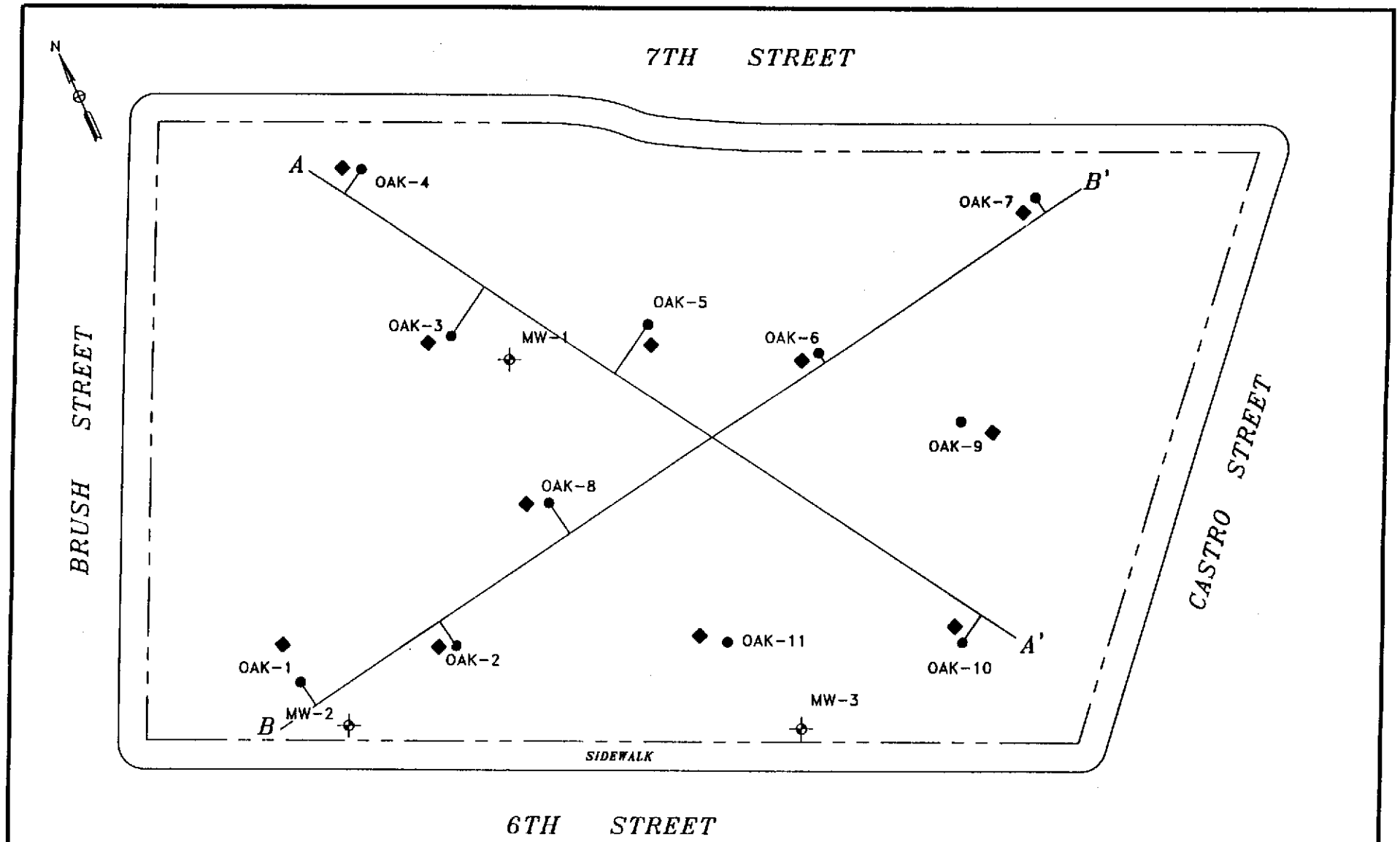
SCALE

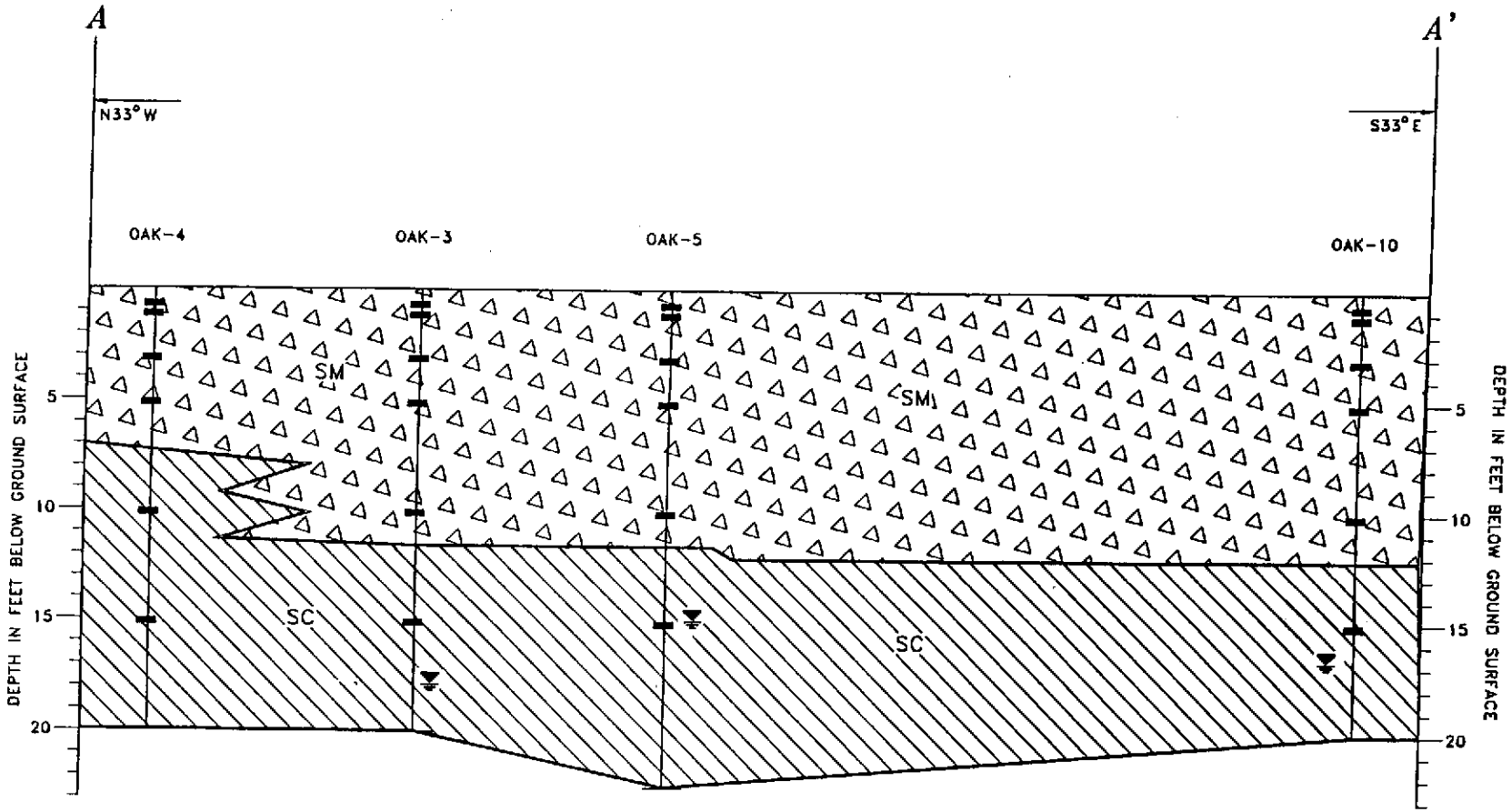
REFERENCE:
U.S.G.S. OAKLAND WEST, CALIFORNIA, 1993

PSI ENVIRONMENTAL GEOTECHNICAL CONSTRUCTION
CONSULTING • ENGINEERING • TESTING

SITE LOCATION
STATE RIGHT-OF-WAY
SIXTH AND CASTRO STREETS
OAKLAND, CALIFORNIA
PROJECT NUMBER: 575-9G034

DATE: 5/05/99	CK'D BY:	FIGURE NO.: 1
FILE NO.: 9G034-1		DRAWN BY: S. BOWERS


7TH STREET
BRUSH STREET
CASTRO STREET
6TH STREET
SIDEWALK
A
A'
B
B'
OAK-1
OAK-2
OAK-3
OAK-4
OAK-5
OAK-6
OAK-7
OAK-8
OAK-9
OAK-10
OAK-11
MW-1
MW-2
MW-3
LEGEND
SOIL BORING LOCATION
GROUNDWATER MONITORING WELL LOCATION
FENCE
IT Soil Boring Location
0
50
100
SCALE IN FEET
SOURCE: NORCAL, 1999
psi ENVIRONMENTAL GEOTECHNICAL CONSTRUCTION
CONSULTING·ENGINEERING·TESTING
CROSS SECTION LOCATION MAP
STATE RIGHT-OF-WAY
SIXTH AND BRUSH STREETS
OAKLAND, CALIFORNIA
PROJECT NUMBER: 575-9G034
DATE: 8/25/99
CKD BY:
FIGURE NO.: 2
FILE NO: 9G034-3
DRAWN BY: S.BOWERS



LEGEND

SM — SILTY SAND

SC — CLAYEY SAND

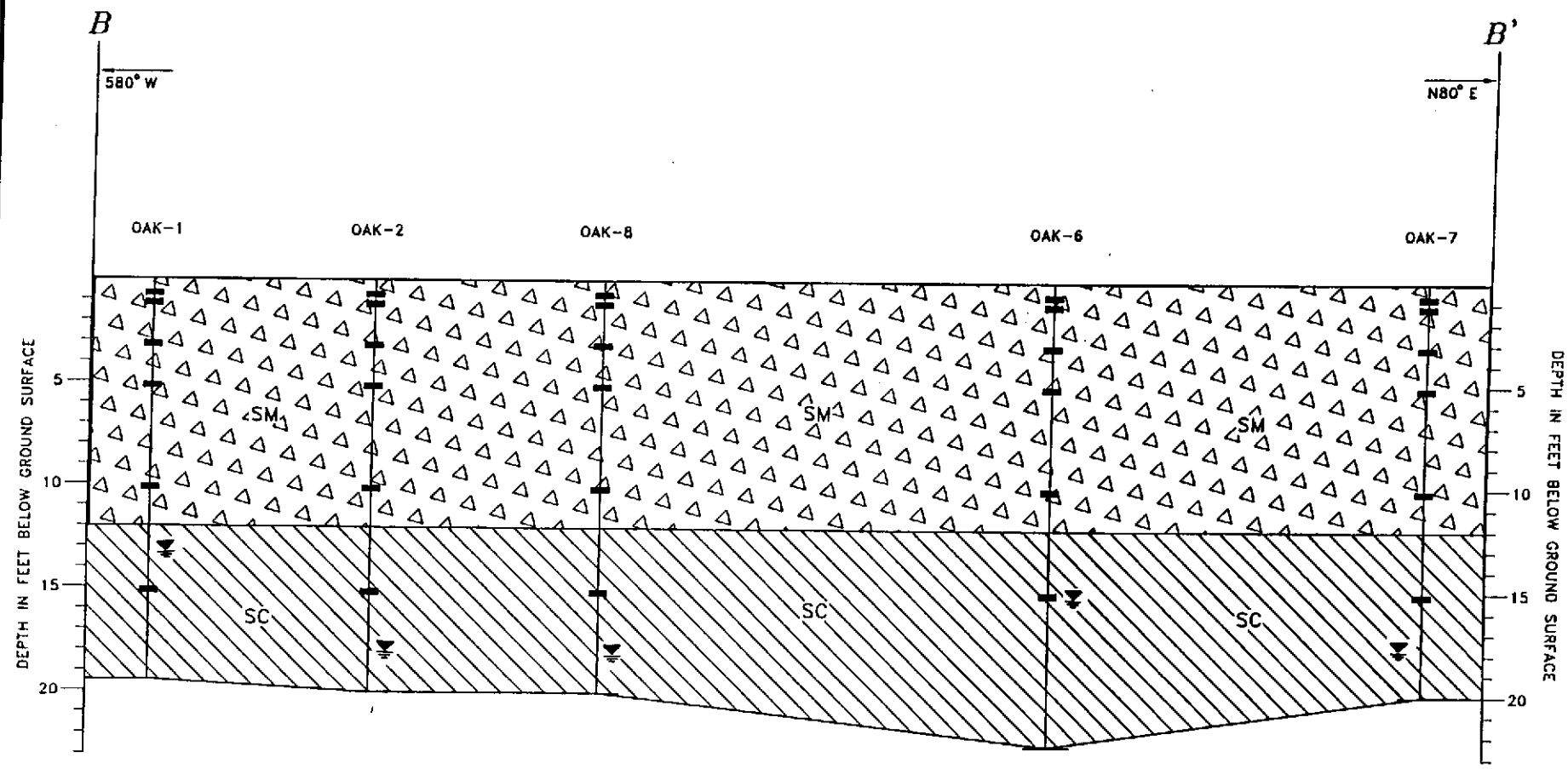
▼ Approximate Groundwater Elevation

NOTES: CROSS SECTION LOCATION PRESENTED ON FIGURE 2.

psi ENVIRONMENTAL GEOTECHNICAL CONSTRUCTION
CONSULTING • ENGINEERING • TESTING

GEOLOGIC CROSS SECTION: A -A'
STATE RIGHT-OF-WAY
SIXTH AND BRUSH STREETS
OAKLAND, CALIFORNIA
PROJECT NUMBER: 575-9G034

DATE: 8/31/99	CKD BY:	FIGURE NO.: 3
FILE NO: ACROSEC		DRAWN BY: S.BOWERS



LEGEND

SM — SILTY SAND

SC — CLAYEY SAND

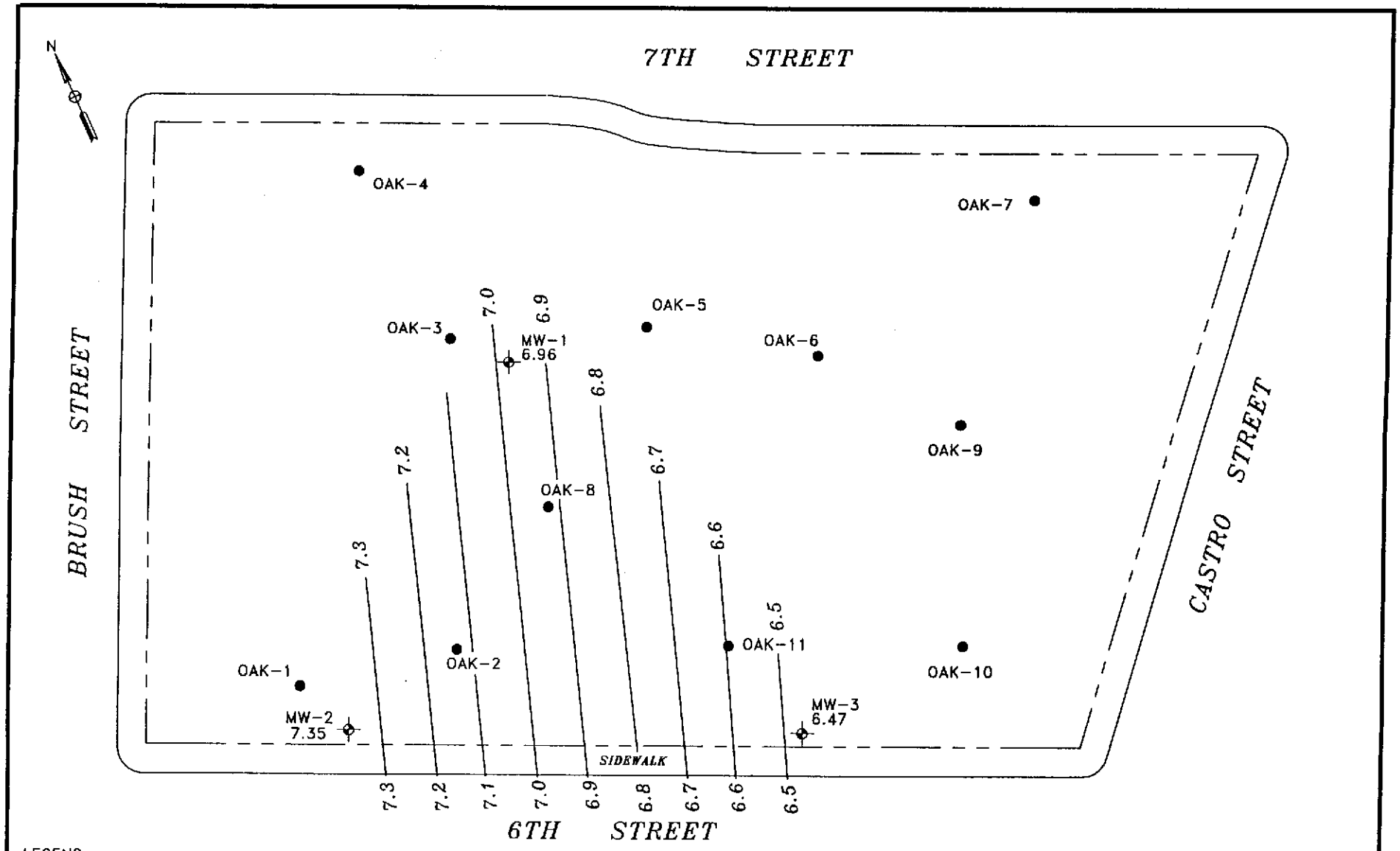
▼ Approximate Groundwater Elevation

NOTES: CROSS SECTION LOCATION PRESENTED ON FIGURE 2.

psi ENVIRONMENTAL GEOTECHNICAL CONSTRUCTION
CONSULTING • ENGINEERING • TESTING

GEOLOGIC CROSS SECTION: B - B'
STATE RIGHT-OF-WAY
SIXTH ANDN CASTRO STREETS
OAKLAND, CALIFORNIA
PROJECT NUMBER: 575-9G034

DATE: 8/31/99	CKD BY:	FIGURE NO.: 4
FILE NO: BCROSEC		DRAWN BY: S.BOWERS



psi ENVIRONMENTAL GEOTECHNICAL CONSTRUCTION
CONSULTING • ENGINEERING • TESTING

GROUNDWATER ELEVATION MAP: 7/02/99
STATE RIGHT-OF-WAY
SIXTH AND CASTRO STREETS
OAKLAND, CALIFORNIA
PROJECT NUMBER: 575-9G034

DATE: 8/25/99	CKD BY:	FIGURE NO.: 5
FILE NO: 9G034-3		DRAWN BY: S.BOWERS

N

SAMPLE NO.	O&G	TPH-G	TPH-D	MTBE	B	T	E	X	VOCs*	LEAD
OAK-4- 0.15	270	ND	13	ND	ND	ND	ND	ND	ND*	110 (4.8)
OAK-4- 0.30	120	ND	15	ND	ND	ND	ND	ND	ND*	51 (3.7)
OAK-4- 0.90	430	ND	18	ND	ND	ND	ND	ND	ND*	77 (3.0)
OAK-4- 1.5	81	ND	ND	ND	ND	ND	ND	ND	0.001	46
OAK-4- 3.0	13	ND	ND	ND	ND	ND	ND	ND	ND*	18
OAK-4- 4.5	ND	ND	ND	ND	ND	ND	ND	ND	ND*	18

OAK-4

SAMPLE NO.	O&G	TPH-G	TPH-D	MTBE	B	T	E	X	VOCs*	LEAD
OAK-5- 0.15	430	ND	13	ND	ND	ND	ND	ND	ND*	100 (4.0)
OAK-5- 0.30	200	ND	13	ND	ND	ND	ND	ND	ND*	200 (20)
OAK-5- 0.90	76	ND	ND	ND	ND	ND	ND	ND	ND*	18
OAK-5- 1.5	16	ND	ND	ND	ND	ND	ND	ND	0.002	8.8
OAK-5- 3.0	13	ND	ND	ND	ND	ND	ND	ND	ND*	17
OAK-5- 4.5	120	ND	ND	ND	ND	ND	ND	ND	ND*	34

OAK-5

SAMPLE NO.	O&G	TPH-G	TPH-D	MTBE	B	T	E	X	VOCs*	LEAD
OAK-7- 0.15	130	ND	13	ND	ND	ND	ND	ND	ND*	98 (5.0)
OAK-7- 0.30	3,000	ND	ND	ND	ND	ND	ND	ND	0.17	79 (4.9)
OAK-7- 0.90	240	ND	12	ND	ND	ND	ND	ND	ND*	11
OAK-7- 1.5	20	ND	11	ND	ND	ND	ND	ND	ND*	8.8
OAK-7- 3.0	20	ND	11	ND	ND	ND	ND	ND	ND*	16
OAK-7- 4.5	ND	ND	ND	ND	ND	ND	ND	ND	0.002	14

OAK-7

SAMPLE NO.	O&G	TPH-G	TPH-D	MTBE	B	T	E	X	VOCs*	LEAD
OAK-6- 0.15	440	ND	15	ND	ND	ND	0.002	0.010	ND*	98 (7.1)
OAK-6- 0.30	180	ND	22	ND	ND	ND	ND	ND	ND*	21
OAK-6- 0.90	47	ND	ND	ND	ND	ND	ND	ND	ND*	14
OAK-6- 1.5	46	ND	12	ND	ND	ND	ND	ND	0.001	11
OAK-6- 3.0	17	ND	ND	ND	ND	ND	ND	ND	ND*	16
OAK-6- 4.5	46	ND	ND	ND	ND	ND	ND	ND	ND*	17

WET TEST

OAK-6

SAMPLE NO.	O&G	TPH-G	TPH-D	MTBE	B	T	E	X	VOCs*	LEAD
OAK-3- 0.15	22	2.0	ND	ND	ND	ND	0.006	0.025	0.001	56 (ND)
OAK-3- 0.30	280	ND	18	ND	ND	ND	ND	ND	ND*	1700 (12)
OAK-3- 0.90	49	ND	ND	ND	ND	ND	ND	ND	ND*	11
OAK-3- 1.5	16	ND	ND	ND	ND	ND	ND	ND	ND*	9.8
OAK-3- 3.0	12	ND	ND	ND	ND	ND	ND	ND	ND*	13
OAK-3- 4.5	22	ND	ND	ND	ND	ND	ND	ND	ND*	15

OAK-3

MW-1

OAK-9

SAMPLE NO.	O&G	TPH-G	TPH-D	MTBE	B	T	E	X	VOCs*	LEAD
OAK-9- 0.15	82	ND	24	ND	ND	ND	ND	ND	0.006	83 (4.6)
OAK-9- 0.30	580	ND	ND	ND	ND	ND	ND	ND	ND*	150 (18)
OAK-9- 0.90	140	ND	ND	ND	ND	ND	ND	ND	ND*	10
OAK-9- 1.5	46	ND	ND	ND	ND	ND	ND	ND	ND*	11
OAK-9- 3.0	11	ND	ND	ND	ND	ND	ND	ND	ND*	15
OAK-9- 4.5	10	ND	20	ND	ND	ND	ND	ND	ND*	14

OAK-9

CASTRO STREET

OAK-8

SAMPLE NO.	O&G	TPH-G	TPH-D	MTBE	B	T	E	X	VOCs*	LEAD
OAK-2- 0.15	33	ND	ND	ND	ND	ND	ND	0.003	ND*	8.6
OAK-2- 0.30	29	ND	ND	ND	ND	ND	ND	ND	ND*	NA
OAK-2- 0.90	11	ND	ND	ND	ND	ND	ND	ND	ND*	NA
OAK-2- 1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND*	NA
OAK-2- 3.0	ND	ND	ND	ND	ND	ND	ND	ND	ND*	NA
OAK-2- 4.5	63	99	48	ND	0.21	4.8	8.2	29	38.87	NA

OAK-2

OAK-11

SAMPLE NO.	O&G	TPH-G	TPH-D	MTBE	B	T	E	X	VOCs*	LEAD
OAK-10- 0.15	380	ND	58	ND	ND	ND	ND	ND	ND*	90
OAK-10- 0.30	150	ND	ND	ND	ND	ND	ND	ND	ND*	56
OAK-10- 0.90	46	ND	ND	ND	ND	ND	ND	ND	ND*	9.1
OAK-10- 1.5	11	ND	ND	ND	ND	ND	ND	ND	ND*	16
OAK-10- 3.0	ND	ND	ND	ND	ND	ND	ND	ND	ND*	9.0
OAK-10- 4.5	13	ND	ND	ND	ND	ND	ND	ND	ND*	12

OAK-10

OAK-1

SAMPLE NO.	O&G	TPH-G	TPH-D	MTBE	B	T	E	X	VOCs*	LEAD
OAK-1- 0.15	53	ND	ND	ND	ND	ND	ND	ND	0.002	NA
OAK-1- 0.30	23	ND	ND	ND	ND	ND	ND	ND	0.005	NA
OAK-1- 0.90	21	ND	ND	ND	ND	ND	ND	ND	ND*	NA
OAK-1- 1.5	22	ND	ND	ND	ND	ND	ND	ND	ND*	15
OAK-1- 3.0	16	ND	ND	ND	0.002	ND	0.13	0.096	0.433	19
OAK-1- 4.5	53	600	120	ND	ND	3.7	17	67	112	18

MW-2

MW-3

SIDEWALK

6TH STREET

SAMPLE NO.	O&G	TPH-G	TPH-D	MTBE	B	T	E	X	VOCs*	LEAD
OAK-8- 0.15	260	ND	20	ND	ND	ND	ND	ND	ND*	36
OAK-8- 0.30	340	ND	30	ND	ND	ND	ND	ND	ND*	77 (8.0)
OAK-8- 0.90	2,600	ND	120	ND	ND	ND	ND	ND	ND*	300 (22)
OAK-8- 1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND*	9.4
OAK-8- 3.0	13	ND	ND	ND	ND	ND	ND	ND	ND*	15
OAK-8- 4.5	10	ND	ND	ND	ND	ND	ND	ND	ND*	14

SAMPLE NO.	O&G	TPH-G	TPH-D	MTBE	B	T	E	X	VOCs*	LEAD
OAK-11- 0.15	27	ND	ND	ND	ND	ND	ND	ND	ND*	240 (38)
OAK-11- 0.30	18	ND	ND	ND	ND	ND	ND	ND	0.002	10
OAK-11- 0.90	27	ND	ND	ND	ND	ND	ND	ND	ND*	11
OAK-11- 1.5	14	ND	ND	ND	ND	ND	ND	ND	ND*	18
OAK-11- 3.0	ND	ND	ND	ND	ND	ND	ND	ND	ND*	16
OAK-11- 4.5	ND	ND	ND	ND	ND	ND	ND	ND	ND*	12

LEGEND

- SOIL BORING LOCATION
- GROUNDWATER MONITORING WELL LOCATION
- GROUNDWATER ELEVATION CONTOUR
- FENCE

0 50 100

SCALE IN FEET

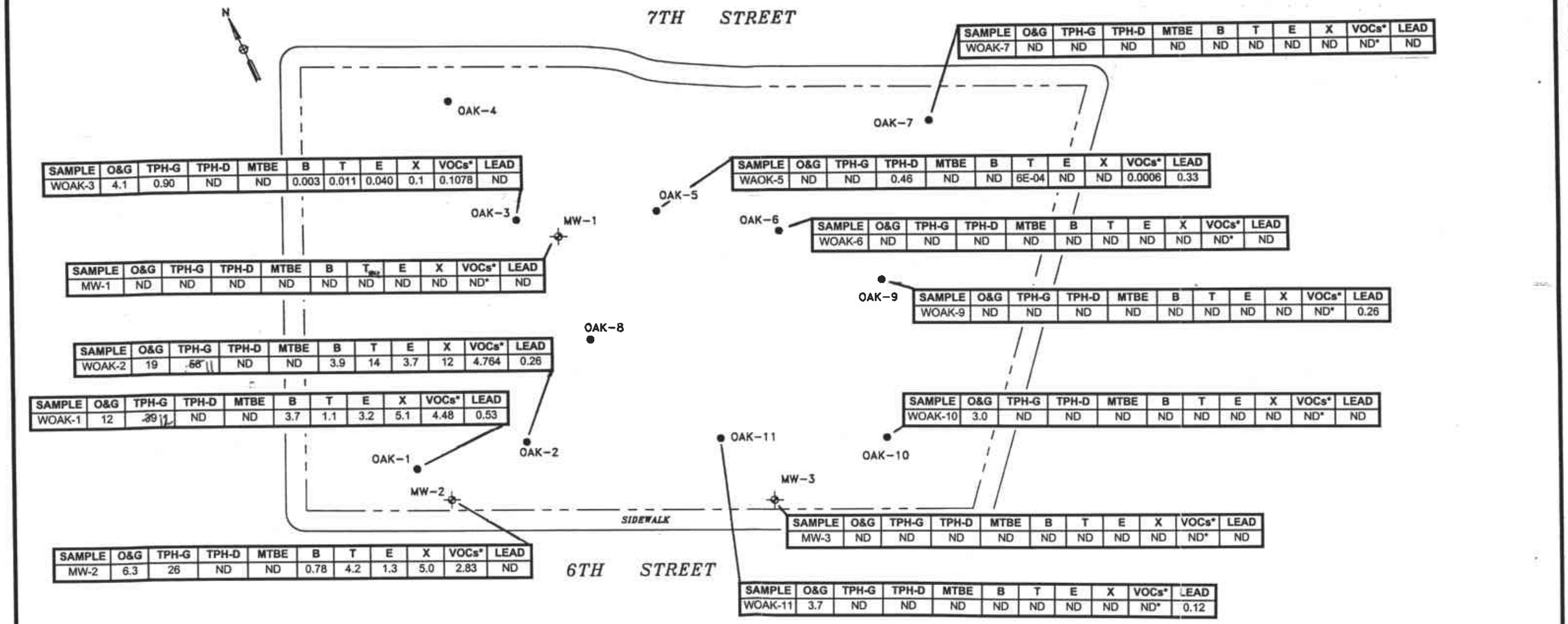
Notes:

All concentrations presented in mg/kg (PPM).
Refer to Table 1 for abbreviation descriptions.
Basemap from Norcal Geophysical Consultants.

psi ENVIRONMENTAL GEOTECHNICAL CONSTRUCTION
CONSULTING • ENGINEERING • TESTING

SUMMARY OF SOIL ANALYTICAL DATA
STATE RIGHT-OF-WAY
SIXTH AND CASTRO STREETS
OAKLAND, CALIFORNIA
PROJECT NUMBER: 575-9G034

DATE: 8/26/99	CKD BY:	FIGURE NO: 6
FILE NO: BLOWUP		DRAWN BY: S.BOWERS



SAMPLE	O&G	TPH-G	TPH-D	MTBE	B	T	E	X	VOCs*	LEAD
WOAK-3	4.1	0.90	ND	ND	0.003	0.011	0.040	0.1	0.1078	ND

SAMPLE	O&G	TPH-G	TPH-D	MTBE	B	T	E	X	VOCs*	LEAD
MW-1	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND

SAMPLE	O&G	TPH-G	TPH-D	MTBE	B	T	E	X	VOCs*	LEAD
WOAK-2	19	66	ND	ND	3.9	14	3.7	12	4.764	0.26

SAMPLE	O&G	TPH-G	TPH-D	MTBE	B	T	E	X	VOCs*	LEAD
WOAK-1	12	39	ND	ND	3.7	1.1	3.2	5.1	4.48	0.53

SAMPLE	O&G	TPH-G	TPH-D	MTBE	B	T	E	X	VOCs*	LEAD
MW-2	6.3	26	ND	ND	0.78	4.2	1.3	5.0	2.83	ND

SAMPLE	O&G	TPH-G	TPH-D	MTBE	B	T	E	X	VOCs*	LEAD
WOAK-7	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND

SAMPLE	O&G	TPH-G	TPH-D	MTBE	B	T	E	X	VOCs*	LEAD
WAOK-5	ND	ND	0.46	ND	ND	6E-04	ND	ND	0.0006	0.33

SAMPLE	O&G	TPH-G	TPH-D	MTBE	B	T	E	X	VOCs*	LEAD
WOAK-6	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND

SAMPLE	O&G	TPH-G	TPH-D	MTBE	B	T	E	X	VOCs*	LEAD
WOAK-9	ND	ND	ND	ND	ND	ND	ND	ND	ND*	0.26

SAMPLE	O&G	TPH-G	TPH-D	MTBE	B	T	E	X	VOCs*	LEAD
WOAK-10	3.0	ND	ND	ND	ND	ND	ND	ND	ND*	ND

SAMPLE	O&G	TPH-G	TPH-D	MTBE	B	T	E	X	VOCs*	LEAD
MW-3	ND	ND	ND	ND	ND	ND	ND	ND	ND*	ND

SAMPLE	O&G	TPH-G	TPH-D	MTBE	B	T	E	X	VOCs*	LEAD
WOAK-11	3.7	ND	ND	ND	ND	ND	ND	ND	ND*	0.12

LEGEND

- SOIL BORING LOCATION
- GROUNDWATER MONITORING WELL LOCATION
- GROUNDWATER ELEVATION CONTOUR
- FENCE

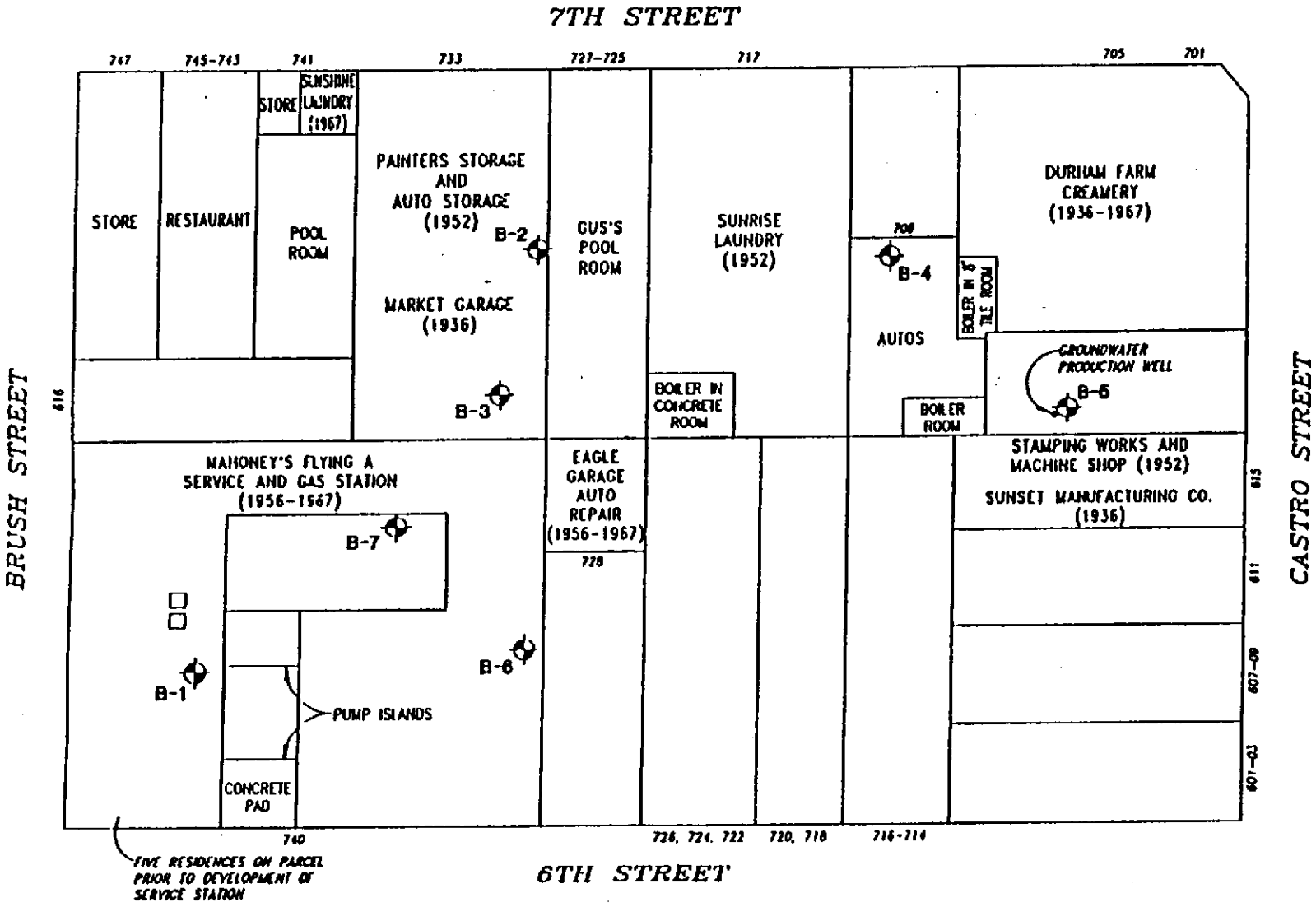
0 50 100
SCALE IN FEET

Notes:
Sample concentrations reported in mg/kg (milligram per kilogram).
Refer to Table 2 for abbreviation descriptions.
Basemap from Norcal Geophysical Consultants.

psi ENVIRONMENTAL GEOTECHNICAL CONSTRUCTION
CONSULTING • ENGINEERING • TESTING

SUMMARY OF GROUNDWATER ANALYTICAL DATA
STATE RIGHT-OF-WAY
SIXTH AND CASTRO STREETS
OAKLAND, CALIFORNIA
PROJECT NUMBER: 575-9G034

DATE: 8/26/99	CKD BY:	FIGURE NO: 7
FILE NO: BLOWUP		DRAWN BY: S.BOWERS



Note: Adapted from Engeo, Inc. "Site Plan-7th and Brush Street-Oakland, California", dated January 1993

FIGURE 8
HISTORICAL SITE PLAN

PROJECT NAME:
Sixth and Castro
Oakland, California

PROJECT NO: 575-9G034

PSI Environmental Geotechnical Construction
Consulting • Engineering • Testing

1320 W. Winton Avenue
Hayward, CA 94545

APPENDIX A

IT ANALYTICAL DATA TABLES AND FIGURES

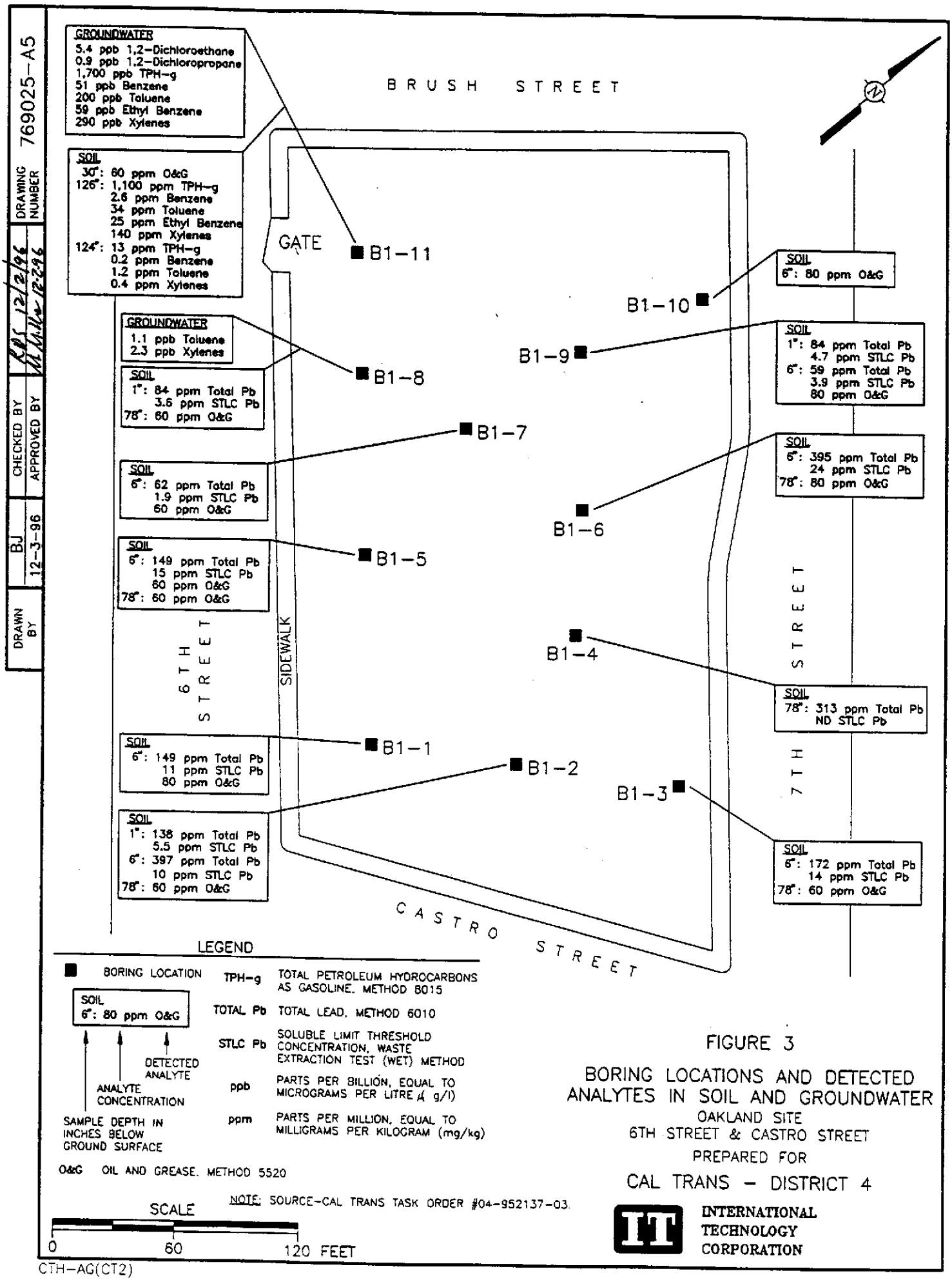


FIGURE 3

BORING LOCATIONS AND DETECTED ANALYTES IN SOIL AND GROUNDWATER

OAKLAND SITE

6TH STREET & CASTRO STREET

PREPARED FOR

CAL TRANS - DISTRICT 4

INTERNATIONAL TECHNOLOGY CORPORATION

CTH-AG(CT2)

TABLE 1
RESULTS OF SOIL AND GROUNDWATER ANALYSIS
PETROLEUM HYDROCARBONS
CAL TRANS - OAKLAND SITE

SAMPLE	DATE	SOIL DEPTH	TPH-G	TPH-D	OIL & GREASE	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES
		inches	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
B1-1-6	10/16/96	6			80				
B1-1-30	10/16/96	30			ND				
B1-1-78	10/16/96	78	ND	ND	ND	ND	ND	ND	ND
B1-1-126	10/16/96	126	ND	ND		ND	ND	ND	ND
B1-1-174	10/16/96	174	ND	ND		ND	ND	ND	ND
B1-2-6	10/16/96	6			ND				
B1-2-30	10/16/96	30			ND				
B1-2-78	10/16/96	78	ND	ND	60	ND	ND	ND	ND
B1-2-126	10/16/96	126	ND	ND		ND	ND	ND	ND
B1-2-174	10/16/96	174	ND	ND		ND	ND	ND	ND
B1-3-6	10/16/96	6			ND				
B1-3-30	10/16/96	30			ND				
B1-3-78	10/16/96	78	ND	ND	60	ND	ND	ND	ND
B1-3-126	10/16/96	126	ND	ND		ND	ND	ND	ND
B1-3-174	10/16/96	174	ND	ND		ND	ND	ND	ND
B1-4-6	10/16/96	6			ND				
B1-4-30	10/16/96	30			ND				
B1-4-78	10/16/96	78	ND	ND	ND	ND	ND	ND	ND
B1-4-126	10/16/96	126	ND	ND		ND	ND	ND	ND
B1-4-174	10/16/96	174	ND	ND		ND	ND	ND	ND
B1-5-6	10/16/96	6			60				
B1-5-30	10/16/96	30			ND				
B1-5-78	10/16/96	78	ND	ND	60	ND	ND	ND	ND
B1-5-126	10/16/96	126	ND	ND		ND	ND	ND	ND
B1-5-174	10/16/96	174	ND	ND		ND	ND	ND	ND
B1-6-6	10/16/96	6			ND				
B1-6-30	10/16/96	30			ND				
B1-6-78	10/16/96	78	ND	ND	80	ND	ND	ND	ND
B1-6-126	10/16/96	126	ND	ND		ND	ND	ND	ND
B1-6-174	10/16/96	174	ND	ND		ND	ND	ND	ND
B1-7-6	10/16/96	6			60				
B1-7-30	10/16/96	30			ND				
B1-7-78	10/16/96	78	ND	ND	ND	ND	ND	ND	ND
B1-7-126	10/16/96	126	ND	ND		ND	ND	ND	ND
B1-7-174	10/16/96	174	ND	ND		ND	ND	ND	ND
B1-8-6	10/16/96	6			ND				
B1-8-30	10/16/96	30			ND				
B1-8-78	10/16/96	78	ND	ND	60	ND	ND	ND	ND
B1-8-126	10/16/96	126	ND	ND		ND	ND	ND	ND
B1-8-174	10/16/96	174	ND	ND		ND	ND	ND	ND
B1-9-6	10/16/96	6			80				
B1-9-30	10/16/96	30			ND				
B1-9-78	10/16/96	78	ND	ND	ND	ND	ND	ND	ND
B1-9-126	10/16/96	126	ND	ND		ND	ND	ND	ND
B1-9-174	10/16/96	174	ND	ND		ND	ND	ND	ND
B1-10-6	10/16/96	6			80				
B1-10-30	10/16/96	30			ND				
B1-10-78	10/16/96	78	ND	ND	ND	ND	ND	ND	ND
B1-10-126	10/16/96	126	ND	ND		ND	ND	ND	ND
B1-10-174	10/16/96	174	ND	ND		ND	ND	ND	ND
B1-11-6	10/16/96	6			ND				
B1-11-30	10/16/96	30			60				
B1-11-78	10/16/96	78	ND	ND	ND	ND	ND	ND	ND
B1-11-126	10/16/96	126	1100	ND *		2.6	34	25	140
B1-11-174	10/16/96	174	13	ND		0.2	1.2	ND	0.42

continued on next page

TABLE 1
RESULTS OF SOIL AND GROUNDWATER ANALYSIS
PETROLEUM HYDROCARBONS
CAL TRANS - OAKLAND SITE

CONTINUED

SAMPLE	DATE	MATRIX	TPH-G	TPH-D	OIL & GREASE	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES
			ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
B1-4-GW	10/16/96	WATER	ND	ND		ND	ND	ND	ND
B1-4-GW(DUP)	10/16/96	WATER	ND			ND	ND	ND	ND
B1-6-GW	10/16/96	WATER	ND	ND		ND	ND	ND	ND
B1-8-GW	10/16/96	WATER	ND	ND		ND	1.1	ND	2.3
B1-11-GW	10/16/96	WATER	1700	ND **		51	200	59	290
B1-11-GW(DUP)	10/16/96	WATER		ND ***					

NOTES:

mg/kg = miligams per kilogram (approximately equivalent to parts per million, ppm)
ug/L = micrograms per liter (approximately equivalent to parts per billion)
* hydrocarbon nontypical for diesel present at 58 ppm
** hydrocarbon nontypical for diesel present at 1100 ppb
*** hydrocarbon nontypical for diesel present at 970 ppb

TABLE 3
RESULTS OF SOIL AND GROUNDWATER ANALYSIS
HALOGENATED VOLATILE ORGANICS
CAL TRANS - OAKLAND SITE

SAMPLE	DATE	DEPTH	8010	1,2 -Dichloroethane	1,2 -Dichloropropane
		feet		ug/L	ug/L
B1-3-6	10/16/96	6	ND		
B1-3-30	10/16/96	30	ND		
B1-3-78	10/16/96	78	ND		
B1-3-126	10/16/96	126	ND		
B1-3-174	10/16/96	174	ND		
B1-4-6	10/16/96	6	ND		
B1-4-30	10/16/96	30	ND		
B1-4-78	10/16/96	78	ND		
B1-4-126	10/16/96	126	ND		
B1-4-174	10/16/96	174	ND		
B1-6-6	10/16/96	6	ND		
B1-6-30	10/16/96	30	ND		
B1-6-78	10/16/96	78	ND		
B1-6-126	10/16/96	126	ND		
B1-6-174	10/16/96	174	ND		
B1-10-6	10/16/96	6	ND		
B1-10-30	10/16/96	30	ND		
B1-10-78	10/16/96	78	ND		
B1-10-126	10/16/96	126	ND		
B1-10-174	10/16/96	174	ND		
B1-4-GW	10/16/96	WATER	ND		
B1-6-GW	10/16/96	WATER	ND		
B1-8-GW	10/16/96	WATER	ND		
B1-8-GW(DUP)	10/16/96	WATER	ND		
B1-11-GW	10/16/96	WATER		5.4	0.9
CALTOAK-ER	10/16/96	WATER	ND		
10-16-96-TB	10/16/96	WATER	ND		
CALTHAY-ER	10/15/96	WATER	ND		
10-15-96-TB	10/15/96	WATER	ND		
NOTES:					
ug/L = Microgram per liter (approximately equivalent to parts per billion, ppb)					
ND = 8010 compounds not detected at or above reporting limits.					
ER = Equipment rinsate sample					
TB = Trip blank sample					
DUP = Duplicate sample					

TABLE 4
RESULTS OF SOIL ANALYSIS
LEAD AND pH
CAL TRANS - OAKLAND AND HAYWARD SITES

SAMPLE	DATE	SOIL DEPTH	EPA METHOD 6010 TTLC LEAD mg/kg	EPA METHOD 6010 STLC LEAD mg/L	EPA METHOD 6010 TCLP LEAD mg/L	pH
B1-1-6	10/16/96	6	149	11	0.55	
B1-1-30	10/16/96	30	2.9			7.4
B1-1-78	10/16/96	78	2.9			
B1-2-1	10/16/96	1	138	5.5	0.22	
B1-2-6	10/16/96	6	397	10	0.23	
B1-2-30	10/16/96	30	ND			
B1-2-78	10/16/96	78	ND			
B1-3-6	10/16/96	6	172	14	0.34	
B1-3-30	10/16/96	30	2.3			
B1-3-78	10/16/96	78	3.4			
B1-4-6	10/16/96	6	44			
B1-4-30	10/16/96	30	2.5			
B1-4-78	10/16/96	78	313	ND		
B1-5-1	10/16/96	1	23			
B1-5-6	10/16/96	6	149	15	0.32	
B1-5-30	10/16/96	30	2.7			
B1-5-78	10/16/96	78	3.1			
B1-6-6	10/16/96	6	395	24	ND	
B1-6-30	10/16/96	30	3.3			
B1-6-78	10/16/96	78	2.4			
B1-7-6	10/16/96	6	62	1.9		
B1-7-30	10/16/96	30	2.5			6.3
B1-7-78	10/16/96	78	4			
B1-8-1	10/16/96	1	84	3.6		
B1-8-6	10/16/96	6	ND			
B1-8-30	10/16/96	30	ND			
B1-9-1	10/16/96	1	84	4.7		
B1-9-6	10/16/96	6	59	3.9		
B1-9-30	10/16/96	30	2.6			
B1-9-78	10/16/96	78	ND			
B1-10-6	10/16/96	6	23			
B1-10-30	10/16/96	30	4.1			7.9
B1-10-78	10/16/96	78	ND			
B1-11-6	10/16/96	6	2			
B1-11-30	10/16/96	30	2.6			6.8
B1-11-78	10/16/96	78	3			
			continued on next page			

APPENDIX B

DRILLING PERMIT
BORING LOGS
WELL CONSTRUCTION DIAGRAMS

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) 670-5262
(510) 670-5248 ALVIN KAN

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT Caltrans LoE
6th and Castro Street
Oakland, Ca

California Coordinates Source _____ ft. Accuracy ± ___ ft.
_____ ft. CCE _____ ft.
_____

CLIENT
Name Caltrans Chris Zdunkiewicz
Address P.O. Box 23660 Phone 286-4914
City Oakland Zip 94623

APPLICANT
Name BSI - Frank Poss
Fax 510-785-1192
Address 1320 W. Winton Ave Phone 510-785-4111
Hayward Zip 94545

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	☐	General	☐
Water Supply	☐	Contamination	☐
Monitoring 3	☒	Well Destruction	☐

8 Environmental Borings

PROPOSED WATER SUPPLY WELL USE

Domestic	☐	Replacement Domestic	☐
Municipal	☐	Irrigation	☐
Industrial	☐	Other None	☐

DRILLING METHOD:

Mud Rotary	☐	Air Rotary	☐
Cable	☐	Auger	☒
		Other ☒ Geoprobe	

DRILLER'S LICENSE NO. C57-710678

WELL PROJECTS
Drill Hole Diameter 8 in. Maximum
Casing Diameter 2 in. Depth 25 ft.
Surface Seal Depth 4 ft. Number 3
ENVIRONMENTAL
~~GEOTECHNICAL~~ PROJECTS
Number of Borings _____ Maximum
Hole Diameter 2 in. Depth 25 ft.

ESTIMATED STARTING DATE 5/19/99
ESTIMATED COMPLETION DATE 5/29/99

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE _____ DATE 5/12/99

FOR OFFICE USE

PERMIT NUMBER _____
WELL NUMBER _____
APN _____

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 Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

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 _____ DATE _____

SOIL BORING LOG

BORING NO:	OAK-1
SHEET 1	OF 1

PROJECT NAME:	Caltrans: 6th and Castro
PROJECT NUMBER: 575-9G034	DATE: 5/19/99
NORTHINGS:	EASTINGS:
DRILLING COMPANY:	V & W Drilling, Rio Vista, California
DRILLING METHOD:	Direct Push (macro-core)
BORING DIAMETER: 2 inch	DEPTH: 19.5 feet

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS
5/19/99	initial	19 feet
5/19/99	stabilized	13

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1	OAK1-0.15	48			Silty Sand with gravel, fine-grained sand, coarse gravel, brown, damp, no odor.	0	SM	Unpaved surface.
	OAK1-0.30					0		
3	OAK1-0.50					0		moisture increase to very moist.
5	OAK1-1.5					0		
8		48						
10	OAK1-3.0					0		
11								color change to brown-green.
12		48			Clayey Sand, fine to medium sand, mottled brown and gray, very moist, odor detected.		SC	
13								
14								Groundwater encountered.
15	OAK1-4.5					312		
16		48						
17								Boring advanced to allow collection of a groundwater sample.
18								
19								Total depth = 19.5 feet bgs.
								Refusal at 19.5 feet bgs.
								Groundwater encountered at 13 feet bgs.
20								Boring grouted with neat cement.

REVIEWED BY: TIM O'BRIEN

LOGGED BY: Scott Bowers

SOIL BORING LOG

BORING NO:	OAK-2
SHEET 1	OF 1

PROJECT NAME:	Caltrans: 6th and Castro
PROJECT NUMBER: 575-9G034	DATE: 5/19/99
NORTHINGS:	EASTINGS:
DRILLING COMPANY:	V & W Drilling, Rio Vista, California
DRILLING METHOD:	Direct Push (macro-core)
BORING DIAMETER: 2 inch	DEPTH: 20 feet

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS
5/19/99	initial	not encountered
5/19/99	stabilized	18

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
0					Silty Sand with gravel, fine-grained sand, coarse gravel, brown,		SM	Unpaved surface.
1	OAK2-0.15				damp, no odor.	0		
	OAK2-0.30					0		
2								
3								
	OAK2-0.90					0		moisture increase to very moist.
4		48						
5								
	OAK2-1.5					0		
6								
7								
8		48						
9								
10								
	OAK2-3.0					0		
11								
12		48						
					Clayey Sand, fine to medium sand, mottled brown and gray, very		SC	
13					moist, odor detected.			
14								
15								
	OAK2-4.5					236		
16		48						
17								Boring advanced to allow collection of a groundwater sample.
18								
19								Total depth = 20 feet bgs.
								Boring drilled to sufficient depth for investigation
20								Groundwater encountered at 18 feet bgs.
								Boring grouted with neat cement.

REVIEWED BY: TIM O'BRIEN

LOGGED BY: Scott Bowers

SOIL BORING LOG

BORING NO:	OAK-3
SHEET 1	OF 1

PROJECT NAME:	Caltrans: 6th and Castro
PROJECT NUMBER: 575-9G034	DATE: 6/17/99
NORTHINGS:	EASTINGS:
DRILLING COMPANY:	V & W Drilling, Rio Vista, California
DRILLING METHOD:	Direct Push (macro-core)
BORING DIAMETER: 2 inch	DEPTH: 20 feet

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS
5/19/99	initial	not encountered
5/19/99	stabilized	18

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1	OAK3-0.15	48	■		Silty Sand with gravel, fine-grained sand, coarse gravel, brown, damp, no odor.	0	SM	Unpaved surface.
	OAK3-0.30		■			0		
2								
3								Brick debris
	OAK3-0.90		■			0		
4								
5	OAK3-1.5		■			0		
6								
7								
8		48						
9								
10	OAK3-3.0		■			0		
11								
12		48						
13					Clayey Sand, fine to medium sand, mottled brown and gray, very moist, odor detected.		SC	
14								
15	OAK3-4.5		■			0		Groundwater encountered.
16		48						Boring advanced to allow collection of a groundwater sample.
17								
18								
19								Total depth = 20 feet bgs.
20								Refusal at 20 feet bgs.
								Groundwater encountered at 18 feet bgs.
								Boring grouted with neat cement.

REVIEWED BY: TIM O'BRIEN

LOGGED BY: Scott Bowers

SOIL BORING LOG

BORING NO:	OAK-4
SHEET 1	OF 1

PROJECT NAME:	Caltrans: 6th and Castro
PROJECT NUMBER: 575-9G034	DATE: 5/19/99
NORTHINGS:	EASTINGS:
DRILLING COMPANY:	V & W Drilling, Rio Vista, California
DRILLING METHOD:	Direct Push (macro-core)
BORING DIAMETER: 2 inch	DEPTH: 20 feet

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS
5/19/99	initial	not encountered
5/19/99	stabilized	not encountered

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1	OAK4-0.15				Silty Sand with gravel, fine-grained sand, coarse gravel, brown,		SM	Unpaved surface.
	OAK4-0.30				damp, no odor.	0		
2						0		
3	OAK4-0.90							
4		48				0		moisture increase to very moist.
5	OAK4-1.5							
6						0		
7					Clayey Sand, fine to medium sand, mottled brown and gray, very		SC	
8		48			moist, odor detected.			
9								
10	OAK4-3.0					0		
11								
12		48						
13								
14								
15	OAK4-4.5					0		
16		48						
								Boring advanced in attempt to allow collection
								of a groundwater sample.
18								
								Total depth = 20 feet bgs.
								Refusal at 20 feet bgs.
20								No groundwater encountered.
								Boring grouted with neat cement.

REVIEWED BY: TIM O'BRIEN

LOGGED BY: Scott Bowers

SOIL BORING LOG

BORING NO	OAK-5
SHEET 1	OF 1

PROJECT NAME:	Caltrans: 6th and Castro
PROJECT NUMBER: 575-9G034	DATE: 5/19/99
NORTHINGS:	EASTINGS:
DRILLING COMPANY:	V & W Drilling, Rio Vista, California
DRILLING METHOD:	Direct Push (macro-core)
BORING DIAMETER: 2 inch	DEPTH: 22.5 feet

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS
5/19/99	initial	not encountered
5/19/99	stabilized	15 feet

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1	OAK5-0.15	48			Silty Sand with gravel, fine-grained sand, coarse gravel, brown, damp, no odor.	0	SM	Unpaved surface.
	OAK5-0.30					0		
3	OAK5-0.90					0		
4								Brick debris
5	OAK5-1.5					0		
8		48						
10	OAK5-3.0					0		
12		48			Clayey Sand, fine to medium sand, mottled brown and gray, very moist, odor detected.		SC	
15	OAK5-4.5	48				0		Groundwater encountered.
20								Boring advanced to allow collection of a groundwater sample.
21								Total depth = 22.5 feet bgs.
								Refusal at 22.5 feet bgs
								Groundwater encountered at 15 feet bgs.
								Boring grouted with neat cement.

REVIEWED BY: TIM O'BRIEN

LOGGED BY: Scott Bowers

SOIL BORING LOG

BORING NO:	OAK-6
SHEET 1 OF 1	

PROJECT NAME:	Caltrans: 6th and Castro
PROJECT NUMBER: 575-9G034	DATE: 5/19/99
NORTHINGS:	EASTINGS:
DRILLING COMPANY:	V & W Drilling, Rio Vista, California
DRILLING METHOD:	Direct Push (macro-core)
BORING DIAMETER: 2 inch	DEPTH: 22.5 feet

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS
5/19/99	initial	not encountered
5/19/99	stabilized	15 feet

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1	OAK6-0.15	48			Silty Sand with gravel, fine-grained sand, coarse gravel, brown, damp, low plasticity fines, no odor.	0	SM	Unpaved surface.
	OAK6-0.30					0		
3	OAK6-0.90					0		
5	OAK6-1.5					0		Brick debris observed.
10	OAK6-3.0					0		
12		48			Clayey Sand, fine to medium sand, mottled brown and gray, very moist, low plasticity fines.		SC	
15	OAK6-4.5	48				0		Groundwater encountered.
20								Boring advanced to allow collection of a groundwater sample.
21								Total depth = 22.5 feet bgs.
								Refusal at 22.5 feet bgs
								Groundwater encountered at 15 feet bgs.
22								Boring grouted with neat cement.

REVIEWED BY: TIM O'BRIEN

LOGGED BY: Scott Bowers

SOIL BORING LOG

BORING NO:	OAK-7
SHEET 1	OF 1

PROJECT NAME:	Caltrans: 6th and Castro
PROJECT NUMBER: 575-9G034	DATE: 5/19/99
NORTHINGS:	EASTINGS:
DRILLING COMPANY:	V & W Drilling, Rio Vista, California
DRILLING METHOD:	Direct Push (macro-core)
BORING DIAMETER: 2 inch	DEPTH: 20 feet

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS
5/19/99	initial	not encountered
5/19/99	stabilized	18 feet

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1	OAK7-0.15	48			Silty Sand with gravel, fine-grained sand, coarse gravel, brown, damp, low plasticity fines.	0	SM	Unpaved surface.
	OAK7-0.30					0		
3	OAK7-0.98					0		moisture increase to very moist.
5	OAK7-1.5					0		
9								color change to dark brown
10	OAK7-3.0					0		
12		48			Clayey Sand, fine to medium sand, mottled brown and gray, very moist, low plasticity fines.		SC	
15	OAK7-4.5					0		
16		48						Boring advanced to allow collection of a groundwater sample.
19								Total depth = 20 feet.
								Boring drilled to sufficient depth for investigation
20								Groundwater encountered at 18 feet bgs.
								Boring grouted with neat cement.

REVIEWED BY: TIM O'BRIEN	LOGGED BY: Scott Bowers

SOIL BORING LOG

BORING NO:	OAK-8
SHEET 1	OF 1

PROJECT NAME:	Caltrans: 6th and Castro
PROJECT NUMBER: 575-9G034	DATE: 5/19/99
NORTHINGS:	EASTINGS:
DRILLING COMPANY:	V & W Drilling, Rio Vista, California
DRILLING METHOD:	Direct Push (macro-core)
BORING DIAMETER: 2 inch	DEPTH: 20 feet

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS
5/19/99	initial	not encountered
5/19/99	stabilized	18 feet

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1	OAK8-0.15	48			Silty Sand with gravel, fine-grained sand, coarse gravel, brown, damp, no odor.	0	SM	Unpaved surface.
	OAK8-0.30					0		
3	OAK8-0.90					0		moisture increase to very moist.
5	OAK8-1.5					0		
8		48						
10	OAK8-3.0					0		
12		48			Clayey Sand, fine to medium sand, mottled brown and gray, very moist, odor detected.		SC	
15	OAK8-4.5	48				0		
								Boring advanced to allow collection of a groundwater sample.
								Refusal at 20 feet bgs.
								Boring drilled to sufficient depth for investigation.
								Groundwater encountered at 18 feet bgs.
								Boring grouted with neat cement.

REVIEWED BY: TIM O'BRIEN

LOGGED BY: Scott Bowers

SOIL BORING LOG

BORING NO:	OAK-9
SHEET 1	OF 1

PROJECT NAME:	Caltrans: 6th and Castro
PROJECT NUMBER: 575-9G034	DATE: 5/20/99
NORTHINGS:	EASTINGS:
DRILLING COMPANY:	V & W Drilling, Rio Vista, California
DRILLING METHOD:	Direct Push (macro-core)
BORING DIAMETER: 2 inch	DEPTH: 20 feet

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS
5/20/99	initial	not encountered
5/20/99	stabilized	18 feet

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1	OAK9-0.15	48			Silty Sand with gravel, fine-grained sand, coarse gravel, brown, damp, no odor.	0	SM	Unpaved surface.
	OAK9-0.30					0		
3	OAK9-0.90					0		moisture increase to very moist.
5	OAK9-1.5					0		
8		48						
10	OAK9-3.0					0		
12		48			Clayey Sand, fine to medium sand, mottled brown and gray, very moist, low plasticity fines.		SC	
15	OAK9-4.5					0		
16		48						
18								Boring advanced to allow collection of a groundwater sample.
19								Total depth = 20 feet bgs.
20								Refusal at 20 feet bgs.
								Groundwater encountered at 18 feet bgs.
								Boring grouted with neat cement.

REVIEWED BY: TIM O'BRIEN

LOGGED BY: Scott Bowers

SOIL BORING LOG

BORING NO:	OAK-10
SHEET 1	OF 1

PROJECT NAME:	Caltrans: 6th and Castro
PROJECT NUMBER: 575-9G034	DATE: 5/20/99
NORTHINGS:	EASTINGS:
DRILLING COMPANY:	V & W Drilling, Rio Vista, California
DRILLING METHOD:	Direct Push (macro-core)
BORING DIAMETER: 2 inch	DEPTH: 19 feet

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS
5/20/99	initial	not encountered
5/20/99	stabilized	17 feet

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1	OAK10-0.15	48			Silty Sand with gravel, fine-grained sand, coarse gravel, brown, damp, no odor.	0	SM	Unpaved surface.
	OAK10-0.30					0		
3	OAK10-0.90					0		
5	OAK10-1.5					0		
8		48						
10	OAK10-3.0					0		
12		48			Clayey Sand, fine to medium sand, mottled brown and gray, very moist, odor detected.		SC	
15	OAK10-4.5	48				0		
18								Boring advanced to allow collection of a groundwater sample.
19								Total depth = 19 feet bgs.
								Refusal at 19 feet bgs.
								Groundwater encountered at 17 feet bgs.
20								Boring grouted with neat cement.

REVIEWED BY: TIM O'BRIEN

LOGGED BY: Scott Bowers

SOIL BORING LOG

BORING NO:	OAK-11
SHEET 1	OF 1

PROJECT NAME:	Caltrans: 6th and Castro
PROJECT NUMBER: 575-9G034	DATE: 5/20/99
NORTHINGS:	EASTINGS:
DRILLING COMPANY:	V & W Drilling, Rio Vista, California
DRILLING METHOD:	Direct Push (macro-core)
BORING DIAMETER: 2 inch	DEPTH: 20 feet

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS
5/20/99	initial	not encountered
5/20/99	stabilized	18 feet

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1	OAK11-0.15	48			Silty Sand with gravel, fine-grained sand, coarse gravel, brown, damp, low plasticity fines, no odor.	0	SM	Unpaved surface.
	OAK11-0.30					0		
3	OAK11-0.90					0		moisture increase to very moist.
5	OAK11-1.5					0		
8		48						
10	OAK11-3.0					0		
12		48			Clayey Sand, fine to medium sand, mottled brown and gray, very moist, odor detected.		SC	
15	OAK11-4.5	48				0		
18								Boring advanced to allow collection of a groundwater sample.
19								Total depth = 20 feet bgs.
								Refusal at 20 feet bgs.
								Groundwater encountered at 18 feet bgs.
								Boring grouted with neat cement.

REVIEWED BY: TIM O'BRIEN

LOGGED BY: Scott Bowers

SOIL BORING LOG

BORING NO:	MW-1
SHEET 1 OF 1	

PROJECT NAME:	Caltrans: 6th and Castro		
PROJECT NUMBER:	9G034	DATE:	6/17/99
NORTHINGS:		EASTINGS:	
DRILLING COMPANY:		V&W DRILLING	
DRILLING METHOD:	HOLLOW STEM AUGER		
BORING DIAMETER:	8 INCHES	DEPTH:	20 FEET

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS
6/17/99	INITIAL GROUNDWATER	14.5 FEET

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1					Sand with gravel, fine to coarse sand, tan to brown, damp.		SP	
5								Some wood encountered.
6		18		7 9 20	Sand, medium grained, brown, damp.		SP	
11		18		30 35 40	Sand, as above.			
15								Groundwater encountered.
16		18		11 17 20	Sand, as above.			
17								Total depth 20 feet.
18								Boring terminated at depth sufficient for well installation.

LOGGED BY: CHRIS MERRITT

SOIL BORING LOG

BORING NO:	MW-2
SHEE 1 OF 2	

PROJECT NAME:	Caltrans: 6th and Castro		
PROJECT NUMBER:	9G034	DATE:	6/17/99
NORTHINGS:		EASTINGS:	
DRILLING COMPANY:		V&W DRILLING	
DRILLING METHOD:	HOLLOW STEM AUGER		
BORING DIAMETER:	8 INCHES	DEPTH:	21.5 FEET

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS
6/17/99	INITIAL GROUNDWATER	10 FEET

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1					Silty Sand, fine to medium sand, brown, dry, low plasticity.		SM	Shale fragments in surface material.
6		18		11 16 24	Sand, brown, medium grained, damp.		SP	
8								Color change to mottled green. Hydrocarbon odor.
11		18		11 17 23	Sand, mottled green, otherwise as above.			Groundwater encountered. Strong hydrocarbon odor.
16		18		13 16 31	Sand, dark green, otherwise as above.			
20					Log continues downward.			

LOGGED BY: CHRIS MERRITT

SOIL BORING LOG

BORING NO:	MW-2
SHEE 2 OF 2	

PROJECT NAME:	Caltrans: 6th and Castro
PROJECT NUMBER:	9G034
DATE:	6/17/99
NORTHINGS:	
EASTINGS:	
DRILLING COMPANY:	V&W DRILLING
DRILLING METHOD:	
BORING DIAMETER:	
DEPTH:	21.5 FEET

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1		18		16 17 24	Sand, green, wet, medium grained.		SP	
2								Total depth 21.5 feet.
3								Boring terminated at depth sufficient for well installation.
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

LOGGED BY: CHRIS MERRITT

SOIL BORING LOG

BORING NO:	MW-3
SHEET 1	OF 2

PROJECT NAME:	Caltrans: 6th and Castro		
PROJECT NUMBER:	9G034	DATE:	6/17/99
NORTHINGS:		EASTINGS:	
DRILLING COMPANY:		V&W DRILLING	
DRILLING METHOD:	HOLLOW STEM AUGER		
BORING DIAMETER:	8 INCHES	DEPTH:	21 FEET

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS
6/17/99	INITIAL GROUNDWATER	9.5 FEET

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1					Silty Sand, fine to medium sand, brown, dry, low plasticity.		SM	
6		18		15 17 24	Sand, medium grained, brown, damp.		SP	
11		18		19 22 28	Sand, as above.			
15		18		5 5 9	Sand, as above.			Groundwater encountered.

LOGGED BY:

SOIL BORING LOG

BORING NO:	MW-3
SHEE 2 OF 2	

PROJECT NAME:	Caltrans: 6th and Castro
PROJECT NUMBER:	9G034
DATE:	6/17/99
NORTHINGS:	
EASTINGS:	
DRILLING COMPANY:	V&W DRILLING
DRILLING METHOD:	
BORING DIAMETER:	
DEPTH:	

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1		12		39 50/6	Sand, brown, medium, damp.		SC	
2								Total depth 21 feet. Boring terminated at depth sufficient for well installation.
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

LOGGED BY: CHRIS MERRITT

MONITORING WELL CONSTRUCTION DATA

WELL/BORING NO: MW-1

PERMIT NO:

DATE: 6/17/99 | PROJECT NAME: CALTRANS 6TH AND CASTRO | PROJECT NO: 9G034

WELL SITE LOCATION PLAN:

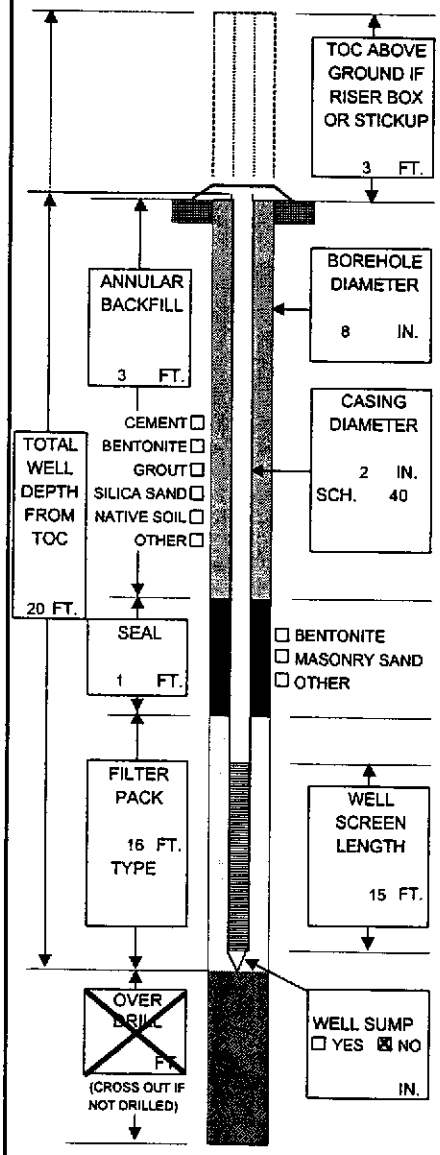
SEC: TWN: RGE: LAT: LONG:

DRILLING CO: V&W DRILLING

DRILL CREW:

WELL TYPE: ■ SHALLOW ☐ SINGLE CASED ■ MONITORING
☐ PERMANENT ☐ INTERMEDIATE ☐ DOUBLE CASED ☐ RECOVERY
☐ TEMPORARY ☐ DEEP ☐ OTHER ☐ 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 1 ☐ 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 1 ☐ SPREAD ☐ TREATED ☐ POTW ☐ OTHER

WATER LEVEL: INITIAL 14.5 FT ☐ BTOC ☐ BGS

DATE: ____ ____ FT BELOW TOC

DATE: ____ ____ FT BELOW TOC

NOTES: (DESCRIBE ALL NON-STANDARD METHODS & MATERIALS)

PREPARED BY: CHRIS MERRITT

MONITORING WELL CONSTRUCTION DATA

WELL/BORING NO: MW 2

PERMIT NO:

DATE: 6/17/99 | PROJECT NAME: CALTRANS 6TH AND CASTRO | PROJECT NO: 9G034

WELL SITE LOCATION PLAN:

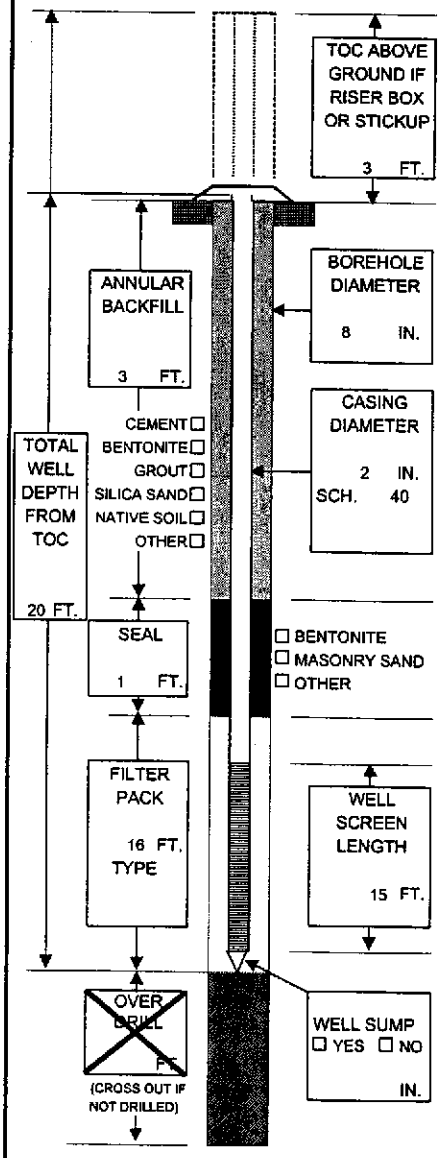
SEC: TWN: RGE: LAT: LONG:

DRILLING CO: V&W DRILLING

DRILL CREW:

WELL TYPE: ■ SHALLOW ☐ SINGLE CASED ■ MONITORING
☐ PERMANENT ☐ INTERMEDIATE ☐ DOUBLE CASED ☐ RECOVERY
☐ TEMPORARY ☐ DEEP ☐ OTHER ☐ 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 HYDROCARBON

DEVELOPMENT WATER: ■ DRUMMED NUMBER OF DRUMS 1 ☐ SPREAD ☐ TREATED ☐ POTW ☐ OTHER

WATER LEVEL: INITIAL 10 FT ☐ BTOC ☐ BGS

DATE: ____ ____ FT BELOW TOC

DATE: ____ ____ FT BELOW TOC

NOTES: (DESCRIBE ALL NON-STANDARD METHODS & MATERIALS)

PREPARED BY: CHRIS MERRITT

MONITORING WELL CONSTRUCTION DATA

WELL/BORING NO:	MW 3
PERMIT NO:	
PROJECT NO:	9G034

DATE: 6/17/99 PROJECT NAME: CALTRANS 6TH AND CASTRO

WELL SITE LOCATION PLAN:

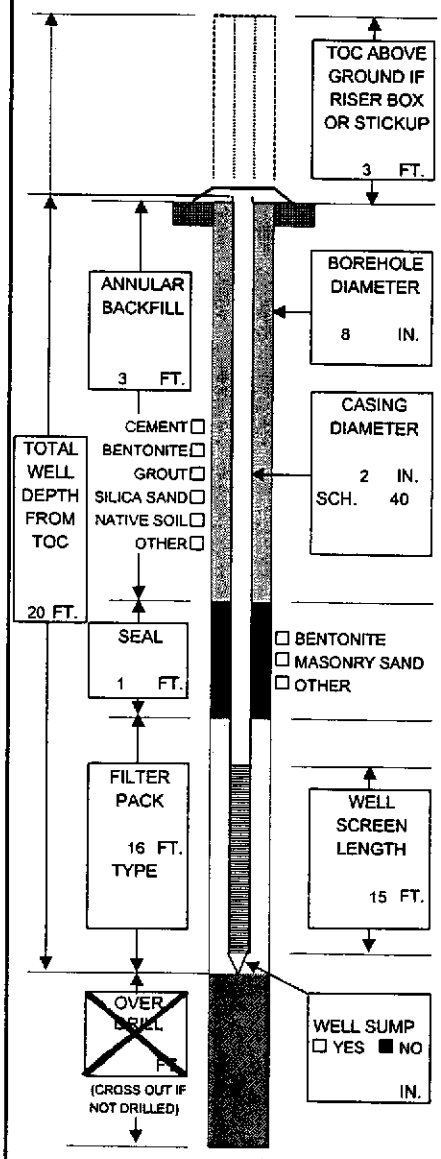
SEC: TWN: RGE: LAT: LONG:

DRILLING CO: V&W DRILLING

DRILL CREW:

WELL TYPE: ■ SHALLOW ☐ SINGLE CASED ■ MONITORING
☐ PERMANENT ☐ INTERMEDIATE ☐ DOUBLE CASED ☐ RECOVERY
☐ TEMPORARY ☐ DEEP ☐ OTHER ☐ 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 1 ☐ 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 1 ☐ SPREAD ☐ TREATED ☐ POTW ☐ OTHER

WATER LEVEL: INITIAL 9.5 FT ☐ BTOC ☐ BGS

DATE: ____ ____ FT BELOW TOC

DATE: ____ ____ FT BELOW TOC

NOTES: (DESCRIBE ALL NON-STANDARD METHODS & MATERIALS)

PREPARED BY: CHRIS MERRITT

WELL PURGING AND SAMPLING DATA

WELL NO: MW 1

DATE: 7/2/99 | PROJECT NAME: CALTRANS 6TH+CASTRO | PROJECT NO:

WEATHER CONDITIONS: SUNNY, WARM

WELL DIAMETER (IN.) ☐ 1 ■ 2 ☐ 4 ☐ 6 ☐ OTHER _____

SAMPLE TYPE: ■ GROUNDWATER ☐ WASTEWATER ☐ SURFACE WATER ☐ OTHER

WELL DEPTH (TOC) 23.28 FT. | DEPTH TO WATER BEFORE PURGING (TOC) 19.89 FT.

LENGTH OF WATER 3.39 FT. | CALCULATED ONE WELL VOLUME[1]: .57 x 3 = 1.72 GAL.

PURGING DEVICE: ☐ DEDICATED ☐ DISPOSABLE ■ DECONTAMINATED

SAMPLING DEVICE: ☐ DEDICATED ☐ DISPOSABLE ■ DECONTAMINATED

EQUIP. DECON. ☐ TAP WATER WASH ☐ ISOPROPANOL ☐ ANALYTE FREE FINAL RINSE
☐ ALCONOX WASH ☐ DIST/DEION 1 RINSE ☐ OTHER SOLVENT ☐ DIST/DEION FINAL RINSE
☐ LIQUINOX WASH ☐ DIST/DEION 2 RINSE ☐ TAP WATER FINAL RINSE ☐ AIR DRY

CONTAINER PRESERVATION: ☐ LAB PRESERVED ☐ FIELD PRESERVED

WATER ANALYZER MODEL & SERIAL NO: MYRON L ULTRAMETER 602155

ACTUAL TIME (MIN)	CUMUL. VOLUME PURGED (GAL)	TEMP ☐ °F ☐ °C	SPECIFIC CONDUCT.	pH	~~DISS. OXYGEN~~ ORP	TURBIDITY (NTUs) TDS	WATER APPEAR CL=CLEAR CO=CLOUDY TU=TURBID	REMARKS (EVIDENT ODOR, COLOR, PID)
10:55	INITIAL	20.0	1597	6.95	177	1152	TU	
11:02	1	19.2	1700	6.90	166	1223	TU	
11:05	1.25	18.5	1726	6.87	164	1250	TU	
11:07	1.75	18.2	1774	6.87	161	1285	TU	

DEPTH TO WATER AFTER PURGING (TOC) FT. | SAMPLE FILTERED ☐ YES ☐ NO SIZE _____

NOTES:

SAMPLE TIME: 1110 ID#

DUPLICATE ☐ TIME: ID#:

EQUIP. BLANK: ☐ TIME: ID#:

PREPARED BY:

PSI Rev. 12/95

[1] A 1 FOOT LENGTH OF WATER = 0.05 GAL IN 1" DIA. PIPE 0.17 GAL IN 2" DIA PIPE 0.65 GAL IN 4" DIA PIPE 1.5 GAL IN 6" DIA PIP

WELL PURGING AND SAMPLING DATA

WELL NO: MW2

DATE: 7/2/99 | PROJECT NAME: CALTRANS 6th + CASTRO | PROJECT NO:

WEATHER CONDITIONS: SUNNY, WARM

WELL DIAMETER (IN.) ☐ 1 ■ 2 ☐ 4 ☐ 6 ☐ OTHER _____

SAMPLE TYPE: ■ GROUNDWATER ☐ WASTEWATER ☐ SURFACE WATER ☐ OTHER

WELL DEPTH (TOC) 22.74 FT. | DEPTH TO WATER BEFORE PURGING (TOC) 14.21 FT.

LENGTH OF WATER 8.53 FT. | CALCULATED ONE WELL VOLUME[1]: 1.45 x 3 = 4.35 GAL.

PURGING DEVICE: ☐ DEDICATED ☐ DISPOSABLE ■ DECONTAMINATED

SAMPLING DEVICE: ☐ DEDICATED ☐ DISPOSABLE ■ DECONTAMINATED

EQUIP. DECON. ☐ TAP WATER WASH ☐ ISOPROPANOL ☐ ANALYTE FREE FINAL RINSE
☐ ALCONOX WASH ☐ DIST/DEION 1 RINSE ☐ OTHER SOLVENT ☐ DIST/DEION FINAL RINSE
☐ LIQUINOX WASH ☐ DIST/DEION 2 RINSE ☐ TAP WATER FINAL RINSE ☐ AIR DRY

CONTAINER PRESERVATION: ☐ LAB PRESERVED ☐ FIELD PRESERVED

WATER ANALYZER MODEL & SERIAL NO: MYRON L ULTRAMETER 602155

ACTUAL TIME (MIN)	CUMUL. VOLUME PURGED (GAL)	TEMP ☐ °F ☐ °C	SPECIFIC CONDUCT.	pH	~~DISS. OXYGEN~~ ORP	~~TURBIDITY (NTUs)~~ TDS	WATER APPEAR CL=CLEAR CO=CLOUDY TU=TURBID	REMARKS (EVIDENT ODOR, COLOR, PID)
1130	INITIAL	20.1	2211	6.78	93	1622	CO	hydrocarbon odor
1135	1.0	20.6	2053	6.71	16	1506	TU	"
1141	3.0	19.8	1658	6.53	-3	1195	TU	"
1147	4.35	19.5	1495	6.47	-19	1068	TU	"

DEPTH TO WATER AFTER PURGING (TOC) FT. | SAMPLE FILTERED ☐ YES ■ NO SIZE _____

NOTES:

SAMPLE TIME: 1150 ID#

DUPLICATE ☐ TIME: ID#:

EQUIP. BLANK: ☐ TIME: ID#:

PREPARED BY:

[1] A 1 FOOT LENGTH OF WATER = 0.05 GAL IN 1" DIA. PIPE 0.17 GAL IN 2" DIA PIPE 0.65 GAL IN 4" DIA PIPE 1.5 GAL IN 6" DIA PIP

PSI Rev. 12/95

WELL PURGING AND SAMPLING DATA

WELL NO: MW 3

DATE: 7/2/99 | PROJECT NAME: CALTRANS 6th + CASTRO | PROJECT NO:

WEATHER CONDITIONS: ~~SUNNY~~ SUNNY, WARM

WELL DIAMETER (IN.) ☐ 1 ■ 2 ☐ 4 ☐ 6 ☐ OTHER _____

SAMPLE TYPE: ■ GROUNDWATER ☐ WASTEWATER ☐ SURFACE WATER ☐ OTHER

WELL DEPTH (TOC) 22.54 FT. | DEPTH TO WATER BEFORE PURGING (TOC) 14.57 FT.

LENGTH OF WATER 7.97 FT. | CALCULATED ONE WELL VOLUME[1]: 1.35 x 5 = 6.75 ~~GAL~~ 4.05

PURGING DEVICE: ☐ DEDICATED ☐ DISPOSABLE ■ DECONTAMINATED

SAMPLING DEVICE: ☐ DEDICATED ☐ DISPOSABLE ■ DECONTAMINATED

EQUIP. DECON. ☐ TAP WATER WASH ☐ ISOPROPANOL ☐ ANALYTE FREE FINAL RINSE
☐ ALCONOX WASH ☐ DIST/DEION 1 RINSE ☐ OTHER SOLVENT ☐ DIST/DEION FINAL RINSE
☐ LIQUINOX WASH ☐ DIST/DEION 2 RINSE ☐ TAP WATER FINAL RINSE ☐ AIR DRY

CONTAINER PRESERVATION: ☐ LAB PRESERVED ☐ FIELD PRESERVED

WATER ANALYZER MODEL & SERIAL NO: MYRON L ULTRAMETER 602155

ACTUAL TIME (MIN)	CUMUL. VOLUME PURGED (GAL)	TEMP ☐ °F ☐ °C	SPECIFIC CONDUCT.	pH	~~DISS. OXYGEN~~ ORP	~~TURBIDITY (NTUs)~~ TDS	WATER APPEAR CL=CLEAR CO=CLOUDY TU=TURBID	REMARKS (EVIDENT ODOR, COLOR, PID)
~~TDS~~ 1537								
9:55	INITIAL	21.9	2105	6.86	160	1537	TU	(slightly turbid)
10:02	1.35	20.1	1790	6.86	83	1293	TU	
10:07	2.70	19.7	1504	6.88	105	1068	TU	
10:14	4.05	19.3	1327	6.64	114	935	TU	

DEPTH TO WATER AFTER PURGING (TOC) FT. | SAMPLE FILTERED ☐ YES ☒ NO SIZE _____

NOTES:

SAMPLE TIME: 1020 ID#

DUPLICATE ☐ TIME: ID#:

EQUIP. BLANK: ☐ TIME: ID#:

PREPARED BY:

PSI Rev. 12/95

[1] A 1 FOOT LENGTH OF WATER = 0.05 GAL IN 1" DIA. PIPE 0.17 GAL IN 2" DIA PIPE 0.65 GAL IN 4" DIA PIPE 1.5 GAL IN 6" DIA PIP

APPENDIX C

LAND SURVEYOR REPORT

MERIDIAN SURVEYING ENGINEERING, INC.

PSI Environmental, Inc.
1320 West Winton Avenue
Hayward, CA 94545
Ph: (510) 785-1111
Fax: (510) 785-1192

July 19, 1999

Attn: Chris Merritt

Re: Vacant Lot @ the NW corner of 6th & Castro Streets.
Monitoring Well Locations & Elevations MSE Project #: 99103

Dear Mr. Bowers,

According to your request, on July 2, 1999 our surveyors established the location and elevation of three (3) monitoring wells MW-1 through MW-3 in a vacant lot at the NW corner of 6th & Castro Streets, Oakland.

Basis of elevation: Found "[ ]" cut. Mid point return of the SE corner 6th & M.L. King Jr. El.= 20.23'. NGVD 29 datum

Co-ordinates & Elevations are given in tenths and hundredths of feet.

Well elevations are taken from marked points at the Northerly edge of the PVC pipes unless noted otherwise.

Northing	Easting	Elevation	Description
6136.92	2813.82	26.85	MW-1
6007.92	2759.21	21.56	MW-2
6009.08	2917.48	21.04	MW-3

Sincerely,
MSE, INC.

Donna De Souza, LSIT
Project Manager

PROFESSIONAL LAND SURVEYOR
STANLEY T. GRAY
EXP. 9/30/2000
PLS 6784
STATE OF CALIFORNIA

Stanley T. Gray, RLS
Principal

Cc: File

812 Union Street San Francisco, CA 94123
(415) 440-4131 FAX 440-4132
meridian@sirius.com
100 Drakes Landing Road, Suite 164, Greenbrae, CA 94904
(415) 461-1241 FAX 461-1242

APPENDIX D

LABORATORY RESULTS AND CHAIN-OF-CUSTODY RECORDS

96034

Centrum Analytical Laboratories, Inc.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

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

Date Sampled: 05/19/99
Date Received: 05/20/99
Job Number: 14919

Project: Caltrans: 6th/Castro

CASE NARRATIVE

The following information applies to samples which were received on 05/20/99 :

No sample containers for sample WOAK-3 were received. The remaining samples were received at the laboratory chilled and samle 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.

Centrum
(800) 798-9336

Lead By ICP

Client:	PSI	Date Sampled:	05/19/99
Project:	Caltrans: 6th/Castro	Date Received:	05/20/99
Job No.:	14919	Date Digested:	05/21/99
Matrix:	Soil	Date Analyzed:	05/24/99
Analyst:	RVJ/RLB	Batch Number:	6010S1216
		Method Number:	6010

	Detection Limit	Lead
Sample ID	mg/kg	mg/kg
Method Blank	5.0	ND
OAK2-0.15	5.0	**8.6**
OAK1-1.50	5.0	**15**
OAK1-3.0	5.0	**19**
OAK1-4.5	5.0	**18**
OAK3-0.15	5.0	**56**
OAK3-0.30	5.0	**1,700**
OAK3-0.90	5.0	**11**
OAK3-1.50	5.0	**9.8**
OAK3-3.0	5.0	**13**

Centrum
(800) 798-9336

Lead By ICP

Client:	PSI	Date Sampled:	05/19/99
Project:	Caltrans: 6th/Castro	Date Received:	05/20/99
Job No.:	14919	Date Digested:	05/24/99
Matrix:	Soil	Date Analyzed:	05/24-26/99
Analyst:	RVJ/RLB	Batch Number:	6010S1217
		Method Number:	6010

	Detection Limit	Lead
Sample ID	mg/kg	mg/kg
Method Blank	5.0	ND
OAK3-4.5	5.0	**15**
OAK4-0.15	5.0	**110**
OAK4-0.30	5.0	**51**
OAK4-0.90	5.0	**77**
OAK4-1.5	10	**48**
OAK4-3.0	5.0	**18**
OAK4-4.5	5.0	**16**
OAK5-0.15	5.0	**100**
OAK5-0.30	5.0	**200**
OAK5-0.90	5.0	**18**
OAK5-1.50	5.0	**8.8**
OAK5-3.0	5.0	**17**
OAK5-4.5	5.0	**34**
OAK6-0.15	5.0	**98**

Centrum
(800) 798-9336

Lead By ICP

Client:	PSI	Date Sampled:	05/19/99
Project:	Caltrans: 6th/Castro	Date Received:	05/20/99
Job No.:	14919	Date Digested:	05/25/99
Matrix:	Soil	Date Analyzed:	05/26/99
Analyst:	RVJ	Batch Number:	6010S1219
		Method Number:	6010

	Detection Limit	Lead
Sample ID	mg/kg	mg/kg
Method Blank	5.0	ND
OAK6-0.30	5.0	**21**
OAK6-0.90	5.0	**14**
OAK6-1.5	5.0	**11**
OAK6-3.0	5.0	**16**
OAK6-4.5	5.0	**17**

QC Sample Report - Metals

Matrix: Soil
Batch #: 6010S1216

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Compound	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lead	50	104.3	75 - 125	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: 14927-8

Compound	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lead	72.0	68.7	5%	20%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
(800) 798-9336

QC Sample Report - Metals

Matrix: Soil
Batch #: 6010S1217

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Compound	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lead	50	105.7	75 - 125	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: 14936-4

Compound	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lead	67.3	67.6	0%	20%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
(800) 798-9336

QC Sample Report - Metals

Matrix: Soil
Batch #: 6010S1219

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Compound	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lead	50	107	75 - 125	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: 14928-17

Compound	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lead	58.7	60.8	4%	20%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
(800) 798-9336

Lead By ICP

Client:	PSI	Date Sampled:	05/19/99
Project:	Caltrans: 6th/Castro	Date Received:	05/20/99
Job No.:	14919	Date Digested:	05/25/99
Matrix:	Water	Date Analyzed:	05/26/99
Analyst:	RVJ/RLB	Batch Number:	6010W1218
		Method Number:	6010

	Detection Limit	Lead
Sample ID	mg/L	mg/L
Method Blank	0.10	ND
WOAK-2	0.10	**0.26**
WOAK-1	0.10	**0.53**
WOAK-5	0.10	**0.33**
WOAK-6	0.10	ND

Centrum
(800) 798-9336

QC Sample Report - Metals

Matrix: Water
Batch #: 6010W1218

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Compound	Spike Concentration mg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lead	1.0	106.3	75 - 125	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: 14928-36

Compound	Spike Sample Recovery mg/L	Spike Duplicate Recovery mg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lead	1.096	1.101	0%	20%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

EPA 413.2 - Oil & Grease

Client:	PSI	Date Sampled:	05/19/99
Project:	Caltrans: 6th/Castro	Date Received:	05/20/99
Job No.:	14919	Date Extracted:	05/24/99
Matrix:	Soil	Date Analyzed:	05/24/99
Analyst:	CP/JL	Batch Number:	4132S1032

	Detection Limit	Total Oil & Grease
Sample ID	mg/kg	mg/kg
Method Blank	10	ND
OAK2-0.15	10	**33**
OAK2-0.30	10	**29**
OAK2-0.90	10	**11**
OAK2-1.50	10	ND
OAK2-3.0	10	ND
OAK2-4.5	10	**63**
OAK1-0.15	10	**53**
OAK1-0.30	10	**23**
OAK1-0.90	10	**21**
OAK1-1.50	10	**22**
OAK1-3.0	10	**16**
OAK1-4.5	10	**53**
OAK3-0.15	10	**22**
OAK3-0.30	10	**280**
OAK3-0.90	10	**49**
OAK3-1.50	10	**16**
OAK3-3.0	10	**12**
OAK3-4.5	10	**22**
OAK4-0.15	10	**270**
OAK4-0.30	10	**120**

EPA 413.2 - Oil & Grease

Client:	PSI	Date Sampled:	05/19/99
Project:	Caltrans: 6th/Castro	Date Received:	05/20/99
Job No.:	14919	Date Extracted:	05/24/99
Matrix:	Soil	Date Analyzed:	05/25/99
Analyst:	CP/JL	Batch Number:	4132S1033

	Detection Limit	Total Oil & Grease
Sample ID	mg/kg	mg/kg
Method Blank	10	ND
OAK4-0.90	10	**430**
OAK4-1.5	10	**81**
OAK4-3.0	10	**13**
OAK4-4.5	10	ND
OAK5-0.15	10	**430**
OAK5-0.30	10	**200**
OAK5-0.90	10	**76**
OAK5-1.50	10	**16**
OAK5-3.0	10	**13**
OAK5-4.5	10	**120**
OAK6-0.15	10	**440**
OAK6-0.30	10	**180**
OAK6-0.90	10	**47**
OAK6-1.5	10	**46**
OAK6-3.0	10	**17**
OAK6-4.5	10	**46**

QC Report - EPA 413.2 Oil & Grease

Matrix: Soil
Batch #: 4132S1032

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Reference Oil	40	116	72 - 131	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: OAK3-4.5

Analyte	Sample Recovery mg/Kg	Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Reference Oil	56.36	56.74	1%	22%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
(800) 798-9336

QC Report - EPA 413.2 Oil & Grease

Matrix: Soil
Batch #: 4132S1033

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Reference Oil	40	124	72 - 131	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: OAK5-1.50

Analyte	Sample Recovery mg/Kg	Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Reference Oil	64.76	64.28	1%	22%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
(800) 798-9336

EPA 413.2 - Oil & Grease

Client:	PSI	Date Sampled:	05/19/99
Project:	Caltrans: 6th/Castro	Date Received:	05/20/99
Job No.:	14919	Date Extracted:	05/20/99
Matrix:	Water	Date Analyzed:	05/20/99
Analyst:	CP/JL	Batch Number:	4132W1030

	Detection Limit	Total Oil & Grease
Sample ID	mg/L	mg/L
Method Blank	2.0	ND
WOAK-2	3.1	**19**
WOAK-1	3.6	**12**
WOAK-5	2.3	ND
WOAK-6	2.6	ND

Centrum
(800) 798-9336

QC Report - EPA 413.2 Oil & Grease

Matrix: Water
Batch #: 4132W1030

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Reference Oil	10	113	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
Reference Oil	11.27	10.95	3%	25%	Pass

Analytical Notes:
Insufficient amount of sample available for MS/MSD analysis. An LCS/LCSD pair were analyzed to provide precision data for this batch.

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
(800) 798-9336

Modified 8015 - Fuel Screen

Client:	PSI	Date Sampled:	05/19/99
Project:	Caltrans: 6th/Castro	Date Received:	05/20/99
Job No.:	14919	Date Extracted:	05/24-25/99
Matrix:	Soil	Date Analyzed:	05/24-25/99
Analyst:	NBP	Batch Number:	8015DS1637

Fuel Identified:	Gasoline	Motor Oil	Extractable Hydrocarbons	Detection Limits
Units:	mg/kg	mg/kg	mg/kg	mg/kg
Blank	ND	ND	ND	10
OAK2-0.15	ND	ND	ND	10
OAK2-0.30	ND	ND	ND	10
OAK2-0.90	ND	ND	ND	10
OAK2-1.50	ND	ND	ND	10
OAK2-3.0	ND	ND	ND	10
OAK2-4.5	**48***	ND	ND	10
OAK1-0.15	ND	ND	ND	10
OAK1-0.30	ND	ND	ND	10
OAK1-0.90	ND	ND	ND	10
OAK1-1.50	ND	ND	ND	10
OAK1-3.0	ND	ND	ND	10
OAK1-4.5	**120***	ND	ND	10
OAK3-0.15	ND	ND	ND	10
OAK3-0.30	ND	**18***	ND	10
OAK3-0.90	ND	ND	ND	10
OAK3-1.50	ND	ND	ND	10
OAK3-3.0	ND	ND	ND	10
OAK3-4.5	ND	ND	ND	10
OAK4-0.15	ND	ND	**13***	10
OAK4-0.30	ND	**15***	ND	10

*The concentration of petroleum hydrocarbons has been quantitated against diesel and reported as indicated.

Centrum
(800) 798-9336

Modified 8015 - Fuel Screen

Client:	PSI	Date Sampled:	05/19/99
Project:	Caltrans: 6th/Castro	Date Received:	05/20/99
Job No.:	14919	Date Extracted:	05/24-25/99
Matrix:	Soil	Date Analyzed:	05/24-25/99
Analyst:	NBP	Batch Number:	8015DS1638

Fuel Identified:	Gasoline	Motor Oil	Extractable Hydrocarbons	Detection Limits
Units:	mg/kg	mg/kg	mg/kg	mg/kg
Blank	ND	ND	ND	10
OAK4-0.90	ND	18*	18*	10
OAK4-1.5	ND	ND	ND	10
OAK4-3.0	ND	ND	ND	10
OAK4-4.5	ND	ND	ND	10
OAK5-0.15	ND	13*	ND	10
OAK5-0.30	ND	13*	ND	10
OAK5-0.90	ND	ND	ND	10
OAK5-1.50	ND	ND	ND	10
OAK5-3.0	ND	ND	ND	10
OAK5-4.5	ND	ND	ND	10
OAK6-0.15	ND	ND	15*	10
OAK6-0.30	ND	ND	22*	10
OAK6-0.90	ND	ND	ND	10
OAK6-1.5	ND	ND	12*	10
OAK6-3.0	ND	ND	ND	10
OAK6-4.5	ND	ND	ND	10

*The concentration of petroleum hydrocarbons has been quantitated against diesel and reported as indicated.

Centrum
(800) 798-9336

QC Sample Report - EPA 8015M Diesel

Matrix: Soil
Batch #: 8015DS1637

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Diesel	100	101	70 - 130	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: OAK1-0.90

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Diesel	109	112	3%	29%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
(800) 798-9336

QC Sample Report - EPA 8015M Diesel

Matrix: Soil
Batch #: 8015DS1638

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Diesel	100	100	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	100	99	1%	29%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
(800) 798-9336

Modified 8015 - Fuel Screen

Client:	PSI	Date Sampled:	05/19/99
Project:	Caltrans: 6th/Castro	Date Received:	05/20/99
Job No.:	14919	Date Extracted:	05/25/99
Matrix:	Water	Date Analyzed:	05/26/99
Analyst:	NBP	Batch Number:	8015DW1639

Fuel Identified:	Gasoline	Extractable Hydrocarbons	Detection Limits
Units:	mg/L	mg/L	mg/L
Blank	ND	ND	0.40
WOAK-2	**11***	ND	0.71
WOAK-1	**12***	ND	1.67
WOAK-5	ND	**0.46***	0.43
WOAK-6	ND	ND	0.53

*The concentration of petroleum hydrocarbons has been quantitated against diesel and reported as indicated.

Centrum
(800) 798-9336

QC Sample Report - EPA 8015M Diesel

Matrix: Water
Batch #: 8015DW1639

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Diesel	0.8	98	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	0.79	0.72	9%	25%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Modified 8015 - Total Volatile Hydrocarbons as Gasoline

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14919
Matrix: Soil
Analyst: GR

Date Sampled: 05/19/99
Date Received: 05/20/99
Date Analyzed: 05/20/99
Batch Number: 8015GS2226

	Detection Limit	Petroleum Hydrocarbons as Gasoline
Sample ID	mg/kg	mg/kg
Method Blank	0.50	ND
OAK2-0.15	0.50	ND
OAK2-0.30	0.50	ND
OAK2-0.90	0.50	ND
OAK2-1.50	0.50	ND
OAK2-3.0	0.50	ND
OAK2-4.5	12.5	**99**
OAK1-0.15	0.50	ND
OAK1-0.30	0.50	ND
OAK1-0.90	0.50	ND
OAK1-1.50	0.50	ND
OAK1-3.0	0.50	ND
OAK1-4.5	25	**600**
OAK3-0.15	0.50	**2.0**
OAK3-0.30	0.50	ND
OAK3-0.90	0.50	ND
OAK3-1.50	0.50	ND

Modified 8015 - Total Volatile Hydrocarbons as Gasoline

Client:	PSI	Date Sampled:	05/19/99
Project:	Caltrans: 6th/Castro	Date Received:	05/20/99
Job No.:	14919	Date Analyzed:	05/25/99
Matrix:	Soil	Batch Number:	8015GS2231
Analyst:	GR		

	Detection Limit	**Petroleum Hydrocarbons as Gasoline**
Sample ID	mg/kg	mg/kg
Method Blank	0.50	ND
OAK3-3.0	0.50	ND
OAK3-4.5	0.50	ND
OAK4-0.15	0.50	ND
OAK4-0.30	0.50	ND
OAK4-0.90	0.50	ND
OAK4-1.5	0.50	ND
OAK4-3.0	0.50	ND
OAK4-4.5	0.50	ND
OAK5-0.15	0.50	ND
OAK5-0.30	0.50	ND
OAK5-0.90	0.50	ND
OAK5-1.50	0.50	ND
OAK5-3.0	0.50	ND
OAK5-4.5	0.50	ND
OAK6-0.15	0.50	ND
OAK6-0.30	0.50	ND
OAK6-0.90	0.50	ND
OAK6-1.5	0.50	ND
OAK6-3.0	0.50	ND
OAK6-4.5	0.50	ND

Centrum
(800) 798-9336

QC Sample Report - EPA 8015M Gasoline

Matrix: Soil
Batch #: 8015GS2226

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Gasoline	10.0	95	70 - 130	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: 14917-1

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Gasoline	9.89	9.29	6%	25%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

QC Sample Report - EPA 8015M Gasoline

Matrix: Soil
Batch #: 8015GS2231

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Gasoline	10.0	99	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
Gasoline	9.92	10.05	1%	25%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
(800) 798-9336

Modified 8015 - Total Volatile Hydrocarbons as Gasoline

Client:	PSI	Date Sampled:	05/19/99
Project:	Caltrans: 6th/Castro	Date Received:	05/20/99
Job No.:	14919	Date Analyzed:	05/21/99
Matrix:	Water	Batch Number:	8015GW2228
Analyst:	GR		

	Detection Limit	Petroleum Hydrocarbons as Gasoline
Sample ID	mg/L	mg/L
Method Blank	0.5	ND
WOAK-2	5.0	**58**
WOAK-1	5.0	**39**
WOAK-5	0.5	ND
WOAK-6	0.5	ND

Centrum
(800) 798-9336

QC Sample Report - EPA 8015M Gasoline

Matrix: Water
Batch #: 8015GW2228

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Gasoline	10.0	98	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	9.75	9.07	7%	25%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14919
Matrix: Soil
Analyst: JMR

Date Sampled: 05/19/99
Date Received: 05/20/99
Date Analyzed: 05/23-26/99
Batch Number: 8260S1695, 8260S1696
8260S1697, 8260S1698

	Sample ID:	Blank	OAK2-0.15	OAK2-0.30	OAK2-0.90	OAK2-1.50	OAK2-3.0
Compounds	**DL**	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Acetone	0.05	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	0.005	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
cis-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND	ND

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14919
Matrix: Soil
Analyst: JMR

Date Sampled: 05/19/99
Date Received: 05/20/99
Date Analyzed: 05/23-26/99
Batch Number: 8260S1695, 8260S1696 8260S1697, 8260S1698

	Sample ID:	Blank	OAK2-0.15	OAK2-0.30	OAK2-0.90	OAK2-1.50	OAK2-3.0
Compounds	**DL**	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Ethylbenzene	0.001	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	0.05	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	ND	ND	ND	ND	ND
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
Tetrachloroethene	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	0.05	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	**0.003**	ND	ND	ND	ND

Surrogates (% recovery) Limits: 80 - 130

Sample ID:	Blank	OAK2-0.15	OAK2-0.30	OAK2-0.90	OAK2-1.50	OAK2-3.0
Dibromofluoromethane	103	105	112	103	103	102
Toluene-d8	105	103	108	103	100	102
Bromofluorobenzene	108	104	104	103	112	103

EPA 8260 - Volatile Organics

Client:	PSI	Date Sampled:	05/19/99
Project:	Caltrans: 6th/Castro	Date Received:	05/20/99
Job No.:	14919	Date Analyzed:	05/23-26/99
Matrix:	Soil	Batch Number:	8260S1695, 8260S1696
Analyst:	JMR		8260S1697, 8260S1698

	Sample ID:	Blank	OAK2-0.15	OAK2-0.30	OAK2-0.90	OAK2-1.50	OAK2-3.0
Compounds	**DL**	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
t-Butyl alcohol	0.050	ND	ND	ND	ND	ND	ND
Diisopropyl ether	0.005	ND	ND	ND	ND	ND	ND
Ethyl-t-butyl ether	0.005	ND	ND	ND	ND	ND	ND
t-Amyl-methyl ether	0.005	ND	ND	ND	ND	ND	ND

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14919
Matrix: Soil
Analyst: JMR

Date Sampled: 05/19/99
Date Received: 05/20/99
Date Analyzed: 05/23-26/99
Batch Number: 8260S1695, 8260S1696
8260S1697, 8260S1698

	Sample ID:	OAK1-0.15	OAK1-0.30	OAK1-0.90	OAK1-1.50	OAK1-3.0	OAK3-0.15
Compounds	**DL**	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Acetone	0.05	ND	ND	ND	ND	ND	ND
Benzene	0.001	ND	ND	ND	ND	**0.002**	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	0.005	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
cis-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND	ND

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14919
Matrix: Soil
Analyst: JMR

Date Sampled: 05/19/99
Date Received: 05/20/99
Date Analyzed: 05/23-26/99
Batch Number: 8260S1695, 8260S1696
8260S1697, 8260S1698

	Sample ID:	OAK1-0.15	OAK1-0.30	OAK1-0.90	OAK1-1.50	OAK1-3.0	OAK3-0.15
Compounds	**DL**	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Ethylbenzene	0.001	ND	ND	ND	ND	**0.13**	**0.006**
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	**0.035**	ND
p-Isopropyltoluene	0.002	ND	ND	ND	ND	ND	ND
Methylene chloride	0.05	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	**0.003**	ND	ND	**0.030**	ND
n-Propylbenzene	0.001	ND	ND	ND	ND	**0.20**	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
Tetrachloroethene	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	0.05	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	0.001	**0.002**	**0.002**	ND	ND	**0.12**	**0.001**
1,3,5-Trimethylbenzene	0.001	ND	ND	ND	ND	**0.048**	ND
Vinyl chloride	0.002	ND	ND	ND	ND	ND	ND
Xylenes (total)	0.003	ND	ND	ND	ND	**0.096**	**0.025**

Surrogates (% recovery) Limits: 80 - 130

Sample ID:	OAK1-0.15	OAK1-0.30	OAK1-0.90	OAK1-1.50	OAK1-3.0	OAK3-0.15
Dibromofluoromethane	99	105	106	106	99	104
Toluene-d8	99	104	109	105	95	95
Bromofluorobenzene	93	112	104	111	95	88

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14919
Matrix: Soil
Analyst: JMR

Date Sampled: 05/19/99
Date Received: 05/20/99
Date Analyzed: 05/23-26/99
Batch Number: 8260S1695, 8260S1696, 8260S1697, 8260S1698

	Sample ID:	OAK1-0.15	OAK1-0.30	OAK1-0.90	OAK1-1.50	OAK1-3.0	OAK3-0.15
Compounds	**DL**	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
t-Butyl alcohol	0.050	ND	ND	ND	ND	ND	ND
Diisopropyl ether	0.005	ND	ND	ND	ND	ND	ND
Ethyl-t-butyl ether	0.005	ND	ND	ND	ND	ND	ND
t-Amyl-methyl ether	0.005	ND	ND	ND	ND	ND	ND

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14919
Matrix: Soil
Analyst: JMR

Date Sampled: 05/19/99
Date Received: 05/20/99
Date Analyzed: 05/23-26/99
Batch Number: 8260S1695, 8260S1696
8260S1697, 8260S1698

	Sample ID:	OAK3-0.30	OAK3-0.90	OAK3-1.50	OAK3-3.0	OAK3-4.5	OAK4-0.15
Compounds	**DL**	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Acetone	0.05	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	0.005	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
cis-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND	ND

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14919
Matrix: Soil
Analyst: JMR

Date Sampled: 05/19/99
Date Received: 05/20/99
Date Analyzed: 05/23-26/99
Batch Number: 8260S1695, 8260S1696
8260S1697, 8260S1698

	Sample ID:	OAK3-0.30	OAK3-0.90	OAK3-1.50	OAK3-3.0	OAK3-4.5	OAK4-0.15
Compounds	**DL**	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Ethylbenzene	0.001	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	0.05	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	ND	ND	ND	ND	ND
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
Tetrachloroethene	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	0.05	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:	OAK3-0.30	OAK3-0.90	OAK3-1.50	OAK3-3.0	OAK3-4.5	OAK4-0.15
Dibromofluoromethane	110	101	105	103	103	107
Toluene-d8	99	97	99	102	103	101
Bromofluorobenzene	101	106	103	106	102	96

EPA 8260 - Volatile Organics

Client:	PSI	Date Sampled:	05/19/99
Project:	Caltrans: 6th/Castro	Date Received:	05/20/99
Job No.:	14919	Date Analyzed:	05/23-26/99
Matrix:	Soil	Batch Number:	8260S1695, 8260S1696
Analyst:	JMR		8260S1697, 8260S1698

	Sample ID:	OAK3-0.30	OAK3-0.90	OAK3-1.50	OAK3-3.0	OAK3-4.5	OAK4-0.15
Compounds	**DL**	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
t-Butyl alcohol	0.050	ND	ND	ND	ND	ND	ND
Diisopropyl ether	0.005	ND	ND	ND	ND	ND	ND
Ethyl-t-butyl ether	0.005	ND	ND	ND	ND	ND	ND
t-Amyl-methyl ether	0.005	ND	ND	ND	ND	ND	ND

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14919
Matrix: Soil
Analyst: JMR

Date Sampled: 05/19/99
Date Received: 05/20/99
Date Analyzed: 05/23-26/99
Batch Number: 8260S1695, 8260S1696
8260S1697, 8260S1698

	Sample ID:	OAK4-0.30	OAK4-0.90	OAK4-1.50	OAK4-3.0	OAK4-4.5	OAK5-0.15
Compounds	**DL**	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Acetone	0.05	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	0.005	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
cis-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND	ND

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14919
Matrix: Soil
Analyst: JMR

Date Sampled: 05/19/99
Date Received: 05/20/99
Date Analyzed: 05/23-26/99
Batch Number: 8260S1695, 8260S1696 8260S1697, 8260S1698

	Sample ID:	OAK4-0.30	OAK4-0.90	OAK4-1.50	OAK4-3.0	OAK4-4.5	OAK5-0.15
Compounds	**DL**	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Ethylbenzene	0.001	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	0.05	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	ND	ND	ND	ND	ND
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
Tetrachloroethene	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	0.05	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	0.001	ND	ND	0.001	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:	OAK4-0.30	OAK4-0.90	OAK4-1.50	OAK4-3.0	OAK4-4.5	OAK5-0.15
Dibromofluoromethane	105	106	110	107	104	107
Toluene-d8	97	100	101	104	104	100
Bromofluorobenzene	94	99	92	100	105	100

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14919
Matrix: Soil
Analyst: JMR

Date Sampled: 05/19/99
Date Received: 05/20/99
Date Analyzed: 05/23-26/99
Batch Number: 8260S1695, 8260S1696
8260S1697, 8260S1698

	Sample ID:	OAK4-0.30	OAK4-0.90	OAK4-1.50	OAK4-3.0	OAK4-4.5	OAK5-0.15
Compounds	**DL**	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
t-Butyl alcohol	0.050	ND	ND	ND	ND	ND	ND
Diisopropyl ether	0.005	ND	ND	ND	ND	ND	ND
Ethyl-t-butyl ether	0.005	ND	ND	ND	ND	ND	ND
t-Amyl-methyl ether	0.005	ND	ND	ND	ND	ND	ND

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14919
Matrix: Soil
Analyst: JMR

Date Sampled: 05/19/99
Date Received: 05/20/99
Date Analyzed: 05/23-26/99
Batch Number: 8260S1695, 8260S1696
8260S1697, 8260S1698

	Sample ID:	OAK5-0.30	OAK5-0.90	OAK5-1.50	OAK5-3.0	OAK5-4.5	OAK6-0.15
Compounds	**DL**	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Acetone	0.05	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	0.005	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
cis-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND	ND

EPA 8260 - Volatile Organics

Client:	PSI	Date Sampled:	05/19/99
Project:	Caltrans: 6th/Castro	Date Received:	05/20/99
Job No.:	14919	Date Analyzed:	05/23-26/99
Matrix:	Soil	Batch Number:	8260S1695, 8260S1696
Analyst:	JMR		8260S1697, 8260S1698

	Sample ID:	OAK5-0.30	OAK5-0.90	OAK5-1.50	OAK5-3.0	OAK5-4.5	OAK6-0.15
Compounds	**DL**	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Ethylbenzene	0.001	ND	ND	ND	ND	ND	**0.002**
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	0.05	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	ND	ND	ND	ND	ND
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
Tetrachloroethene	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	0.05	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	0.001	ND	ND	**0.002**	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	**0.010**

Surrogates (% recovery) Limits: 80 - 130

Sample ID:	OAK5-0.30	OAK5-0.90	OAK5-1.50	OAK5-3.0	OAK5-4.5	OAK6-0.15
Dibromofluoromethane	102	106	108	105	108	105
Toluene-d8	100	105	103	104	102	97
Bromofluorobenzene	99	100	107	106	108	91

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client:	PSI	Date Sampled:	05/19/99
Project:	Caltrans: 6th/Castro	Date Received:	05/20/99
Job No.:	14919	Date Analyzed:	05/23-26/99
Matrix:	Soil	Batch Number:	8260S1695, 8260S1696
Analyst:	JMR		8260S1697, 8260S1698

	Sample ID:	OAK5-0.30	OAK5-0.90	OAK5-1.50	OAK5-3.0	OAK5-4.5	OAK6-0.15
Compounds	**DL**	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
t-Butyl alcohol	0.050	ND	ND	ND	ND	ND	ND
Diisopropyl ether	0.005	ND	ND	ND	ND	ND	ND
Ethyl-t-butyl ether	0.005	ND	ND	ND	ND	ND	ND
t-Amyl-methyl ether	0.005	ND	ND	ND	ND	ND	ND

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14919
Matrix: Soil
Analyst: JMR

Date Sampled: 05/19/99
Date Received: 05/20/99
Date Analyzed: 05/23-26/99
Batch Number: 8260S1695, 8260S1696
8260S1697, 8260S1698

	Sample ID:	OAK6-0.30	OAK6-0.90	OAK6-1.50	OAK6-3.0	OAK6-4.5
Compounds	DL	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Acetone	0.05	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	0.005	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	ND	ND	ND	ND
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
cis-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14919
Matrix: Soil
Analyst: JMR

Date Sampled: 05/19/99
Date Received: 05/20/99
Date Analyzed: 05/23-26/99
Batch Number: 8260S1695, 8260S1696 8260S1697, 8260S1698

	Sample ID:	OAK6-0.30	OAK6-0.90	OAK6-1.50	OAK6-3.0	OAK6-4.5
Compounds	**DL**	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Ethylbenzene	0.001	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	0.05	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	ND	ND
n-Propylbenzene	0.001	ND	ND	ND	ND	ND
Styrene	0.001	ND	ND	ND	ND	ND
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	ND	ND	ND	ND
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	0.05	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	0.001	ND	ND	0.001	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:	OAK6-0.30	OAK6-0.90	OAK6-1.50	OAK6-3.0	OAK6-4.5
Dibromofluoromethane	105	112	106	105	103
Toluene-d8	97	100	101	102	99
Bromofluorobenzene	103	96	102	102	108

EPA 8260 - Volatile Organics

Client:	PSI	Date Sampled:	05/19/99
Project:	Caltrans: 6th/Castro	Date Received:	05/20/99
Job No.:	14919	Date Analyzed:	05/23-26/99
Matrix:	Soil	Batch Number:	8260S1695, 8260S1696
Analyst:	JMR		8260S1697, 8260S1698

	Sample ID:	OAK6-0.30	OAK6-0.90	OAK6-1.50	OAK6-3.0	OAK6-4.5
Compounds	**DL**	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
t-Butyl alcohol	0.050	ND	ND	ND	ND	ND
Diisopropyl ether	0.005	ND	ND	ND	ND	ND
Ethyl-t-butyl ether	0.005	ND	ND	ND	ND	ND
t-Amyl-methyl ether	0.005	ND	ND	ND	ND	ND

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14919
Matrix: Soil
Analyst: JMR

Date Sampled: 05/19/99
Date Received: 05/20/99
Date Analyzed: 05/23-26/99
Batch Number: 8260S1695, 8260S1696 8260S1697, 8260S1698

Sample ID: OAK2-4.5		
Compounds	**DL**	mg/Kg
Acetone	0.25	ND
Benzene	0.005	**0.21**
Bromobenzene	0.025	ND
Bromochloromethane	0.025	ND
Bromodichloromethane	0.005	ND
Bromoform	0.025	ND
Bromomethane	0.025	ND
2-Butanone (MEK)	0.05	ND
n-Butylbenzene	0.01	ND
sec-Butylbenzene	0.01	ND
tert-Butylbenzene	0.01	ND
Carbon disulfide	0.05	ND
Carbon tetrachloride	0.005	ND
Chlorobenzene	0.005	ND
Chloroethane	0.025	ND
Chloroform	0.01	ND
Chloromethane	0.005	ND
2-Chlorotoluene	0.01	ND
4-Chlorotoluene	0.01	ND
Dibromochloromethane	0.01	ND
1,2-Dibromoethane	0.01	ND
1,2-Dibromo-3-chloropropane	0.05	ND
Dibromomethane	0.005	ND
1,2-Dichlorobenzene	0.005	ND
1,3-Dichlorobenzene	0.01	ND
1,4-Dichlorobenzene	0.01	ND
Dichlorodifluoromethane	0.025	ND
1,1-Dichloroethane	0.005	ND
1,2-Dichloroethane	0.005	ND
1,1-Dichloroethene	0.025	ND
cis-1,2-Dichloroethene	0.01	ND
trans-1,2-Dichloroethene	0.01	ND
1,2-Dichloropropane	0.005	ND
1,3-Dichloropropane	0.005	ND
2,2-Dichloropropane	0.005	ND
1,1-Dichloropropene	0.005	ND
cis-1,3-Dichloropropene	0.005	ND
trans-1,3-Dichloropropene	0.005	ND

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client:	PSI	Date Sampled:	05/19/99
Project:	Caltrans: 6th/Castro	Date Received:	05/20/99
Job No.:	14919	Date Analyzed:	05/23-26/99
Matrix:	Soil	Batch Number:	8260S1695, 8260S1696
Analyst:	JMR		8260S1697, 8260S1698

Sample ID: OAK2-4.5		
Compounds	**DL**	mg/Kg
Ethylbenzene	0.005	**8.2**
Hexachlorobutadiene	0.005	ND
2-Hexanone	0.05	ND
Isopropylbenzene	0.005	**0.17**
p-Isopropyltoluene	0.01	ND
Methylene chloride	0.25	ND
4-Methyl-2-pentanone	0.05	ND
Methyl-tert-butyl ether (MtBE)	0.025	ND
Napthalene	0.01	**5.2**
n-Propylbenzene	0.005	**4.1**
Styrene	0.005	ND
1,1,1,2-Tetrachloroethane	0.005	ND
1,1,2,2-Tetrachloroethane	0.01	ND
Tetrachloroethene	0.005	ND
Toluene	0.005	**4.8**
1,2,3-Trichlorobenzene	0.01	ND
1,2,4-Trichlorobenzene	0.01	ND
1,1,1-Trichloroethane	0.005	ND
1,1,2-Trichloroethane	0.015	ND
Trichloroethene	0.005	ND
1,2,3-Trichloropropane	0.015	ND
Trichlorofluoromethane	0.005	ND
Trichlorotrifluoroethane	0.25	ND
1,2,4-Trimethylbenzene	0.005	**22**
1,3,5-Trimethylbenzene	0.005	**7.4**
Vinyl chloride	0.01	ND
Xylenes (total)	0.015	**29**

Surrogates (% recovery) Limits: 80 - 130

Sample ID: OAK2-4.5	
Dibromofluoromethane	100
Toluene-d8	95
Bromofluorobenzene	93

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client:	PSI	Date Sampled:	05/19/99
Project:	Caltrans: 6th/Castro	Date Received:	05/20/99
Job No.:	14919	Date Analyzed:	05/23-26/99
Matrix:	Soil	Batch Number:	8260S1695, 8260S1696
Analyst:	JMR		8260S1697, 8260S1698

	Sample ID:	OAK2-4.5
Compounds	**DL**	mg/Kg
t-Butyl alcohol	0.250	ND
Diisopropyl ether	0.025	ND
Ethyl-t-butyl ether	0.025	ND
t-Amyl-methyl ether	0.025	ND

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14919
Matrix: Soil
Analyst: JMR

Date Sampled: 05/19/99
Date Received: 05/20/99
Date Analyzed: 05/23-26/99
Batch Number: 8260S1695, 8260S1696 8260S1697, 8260S1698

Sample ID: OAK1-4.5		
Compounds	**DL**	mg/Kg
Acetone	63	ND
Benzene	1.3	ND
Bromobenzene	6.3	ND
Bromochloromethane	6.3	ND
Bromodichloromethane	1.3	ND
Bromoform	6.3	ND
Bromomethane	6.3	ND
2-Butanone (MEK)	13	ND
n-Butylbenzene	2.5	ND
sec-Butylbenzene	2.5	ND
tert-Butylbenzene	2.5	ND
Carbon disulfide	12.5	ND
Carbon tetrachloride	1.3	ND
Chlorobenzene	1.3	ND
Chloroethane	6.3	ND
Chloroform	2.5	ND
Chloromethane	1.3	ND
2-Chlorotoluene	2.5	ND
4-Chlorotoluene	2.5	ND
Dibromochloromethane	2.5	ND
1,2-Dibromoethane	2.5	ND
1,2-Dibromo-3-chloropropane	13	ND
Dibromomethane	1.3	ND
1,2-Dichlorobenzene	1.3	ND
1,3-Dichlorobenzene	2.5	ND
1,4-Dichlorobenzene	2.5	ND
Dichlorodifluoromethane	6.3	ND
1,1-Dichloroethane	1.3	ND
1,2-Dichloroethane	1.3	ND
1,1-Dichloroethene	6.3	ND
cis-1,2-Dichloroethene	2.5	ND
trans-1,2-Dichloroethene	2.5	ND
1,2-Dichloropropane	1.3	ND
1,3-Dichloropropane	1.3	ND
2,2-Dichloropropane	1.3	ND
1,1-Dichloropropene	1.3	ND
cis-1,3-Dichloropropene	1.3	ND
trans-1,3-Dichloropropene	1.3	ND

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client:	PSI	Date Sampled:	05/19/99
Project:	Caltrans: 6th/Castro	Date Received:	05/20/99
Job No.:	14919	Date Analyzed:	05/23-26/99
Matrix:	Soil	Batch Number:	8260S1695, 8260S1696
Analyst:	JMR		8260S1697, 8260S1698

Sample ID:	OAK1-4.5	
Compounds	**DL**	**mg/Kg**
Ethylbenzene	1.3	**17**
Hexachlorobutadiene	1.3	ND
2-Hexanone	13	ND
Isopropylbenzene	1.3	**2.0**
p-Isopropyltoluene	2.5	ND
Methylene chloride	63	ND
4-Methyl-2-pentanone	13	ND
Methyl-tert-butyl ether (MtBE)	6	ND
Napthalene	2.5	**16**
n-Propylbenzene	1.3	**12**
Styrene	1.3	ND
1,1,1,2-Tetrachloroethane	1.3	ND
1,1,2,2-Tetrachloroethane	2.5	ND
Tetrachloroethene	1.25	ND
Toluene	1.3	**3.7**
1,2,3-Trichlorobenzene	2.5	ND
1,2,4-Trichlorobenzene	2.5	ND
1,1,1-Trichloroethane	1.3	ND
1,1,2-Trichloroethane	3.8	ND
Trichloroethene	1.3	ND
1,2,3-Trichloropropane	3.8	ND
Trichlorofluoromethane	1.3	ND
Trichlorotrifluoroethane	63	ND
1,2,4-Trimethylbenzene	1.3	**61**
1,3,5-Trimethylbenzene	1.3	**21**
Vinyl chloride	2.5	ND
Xylenes (total)	3.8	**67**

Surrogates (% recovery) Limits: 80 - 130

Sample ID:	OAK1-4.5
Dibromofluoromethane	104
Toluene-d8	100
Bromofluorobenzene	105

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14919
Matrix: Soil
Analyst: JMR

Date Sampled: 05/19/99
Date Received: 05/20/99
Date Analyzed: 05/23-26/99
Batch Number: 8260S1695, 8260S1696 8260S1697, 8260S1698

Sample ID: OAK1-4.5		
Compounds	**DL**	mg/Kg
t-Butyl alcohol	63	ND
Diisopropyl ether	6.3	ND
Ethyl-t-butyl ether	6.3	ND
t-Amyl-methyl ether	6.3	ND

Centrum
(800) 798-9336

QC Sample Report - EPA Method 8260

Matrix: Soil
Batch #: 8260S1695

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	**99**	59 - 172	**Pass**
Benzene	0.020	**99**	66 - 142	**Pass**
Trichloroethene	0.020	**100**	71 - 137	**Pass**
Toluene	0.020	**97**	59 - 139	**Pass**
Chlorobenzene	0.020	**104**	60 - 133	**Pass**

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: OAK2 -0.15

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
1,1-Dichloroethene	0.0224	0.0230	**3%**	22%	**Pass**
Benzene	0.0200	0.0194	**3%**	21%	**Pass**
Trichloroethene	0.0197	0.0206	**4%**	24%	**Pass**
Toluene	0.0197	0.0194	**2%**	21%	**Pass**
Chlorobenzene	0.0202	0.0209	**3%**	21%	**Pass**

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

QC Sample Report - EPA Method 8260

Matrix: Soil
Batch #: 8260S1696

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	**110**	59 - 172	**Pass**
Benzene	0.020	**103**	66 - 142	**Pass**
Trichloroethene	0.020	**108**	71 - 137	**Pass**
Toluene	0.020	**111**	59 - 139	**Pass**
Chlorobenzene	0.020	**107**	60 - 133	**Pass**

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: 14937-1

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
1,1-Dichloroethene	0.0228	0.0214	**6%**	22%	**Pass**
Benzene	0.0220	0.0193	**13%**	21%	**Pass**
Trichloroethene	0.0235	0.0205	**14%**	24%	**Pass**
Toluene	0.0208	0.0191	**9%**	21%	**Pass**
Chlorobenzene	0.0207	0.0176	**16%**	21%	**Pass**

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
(800) 798-9336

QC Sample Report - EPA Method 8260

Matrix: Soil
Batch #: 8260S1697

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	**116**	59 - 172	**Pass**
Benzene	0.020	**110**	66 - 142	**Pass**
Trichloroethene	0.020	**108**	71 - 137	**Pass**
Toluene	0.020	**111**	59 - 139	**Pass**
Chlorobenzene	0.020	**111**	60 - 133	**Pass**

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: 14916-1

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
1,1-Dichloroethene	0.0208	0.0227	**9%**	22%	**Pass**
Benzene	0.0202	0.0204	**1%**	21%	**Pass**
Trichloroethene	0.0183	0.0195	**6%**	24%	**Pass**
Toluene	0.0192	0.0193	**1%**	21%	**Pass**
Chlorobenzene	0.0190	0.0202	**6%**	21%	**Pass**

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
(800) 798-9336

QC Sample Report - EPA Method 8260

Matrix: Soil
Batch #: 8260S1698

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	**105**	59 - 172	**Pass**
Benzene	0.020	**102**	66 - 142	**Pass**
Trichloroethene	0.020	**103**	71 - 137	**Pass**
Toluene	0.020	**103**	59 - 139	**Pass**
Chlorobenzene	0.020	**101**	60 - 133	**Pass**

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: OAK6-4.5

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
1,1-Dichloroethene	0.0198	0.0213	**7%**	22%	**Pass**
Benzene	0.0197	0.0211	**7%**	21%	**Pass**
Trichloroethene	0.0203	0.0210	**3%**	24%	**Pass**
Toluene	0.0202	0.0204	**1%**	21%	**Pass**
Chlorobenzene	0.0197	0.0199	**1%**	21%	**Pass**

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14919
Matrix: Water
Analyst: JMR

Date Sampled: 05/19/99
Date Received: 05/20/99
Date Analyzed: 05/26/99
Batch Number: 8260W1699

Sample ID:		Blank	WOAK-5	WOAK-6
Compounds	DL	µg/L	µg/L	µg/L
Acetone	50	ND	ND	ND
Benzene	0.5	ND	ND	ND
Bromobenzene	1.0	ND	ND	ND
Bromochloromethane	1.0	ND	ND	ND
Bromodichloromethane	0.5	ND	ND	ND
Bromoform	0.5	ND	ND	ND
Bromomethane	0.5	ND	ND	ND
2-Butanone (MEK)	10	ND	ND	ND
n-Butylbenzene	0.5	ND	ND	ND
sec-Butylbenzene	0.5	ND	ND	ND
tert-Butylbenzene	0.5	ND	ND	ND
Carbon disulfide	10	ND	ND	ND
Carbon tetrachloride	0.5	ND	ND	ND
Chlorobenzene	0.5	ND	ND	ND
Chloroethane	0.5	ND	ND	ND
Chloroform	0.5	ND	ND	ND
Chloromethane	0.5	ND	ND	ND
2-Chlorotoluene	0.5	ND	ND	ND
4-Chlorotoluene	0.5	ND	ND	ND
Dibromochloromethane	0.5	ND	ND	ND
1,2-Dibromoethane	0.5	ND	ND	ND
1,2-Dibromo-3-chloropropane	10	ND	ND	ND
Dibromomethane	0.5	ND	ND	ND
1,2-Dichlorobenzene	0.5	ND	ND	ND
1,3-Dichlorobenzene	0.5	ND	ND	ND
1,4-Dichlorobenzene	0.5	ND	ND	ND
Dichlorodifluoromethane	0.5	ND	ND	ND
1,1-Dichloroethane	0.5	ND	ND	ND
1,2-Dichloroethane	0.5	ND	ND	ND
1,1-Dichloroethene	0.5	ND	ND	ND
cis-1,2-Dichloroethene	0.5	ND	ND	ND
trans-1,2-Dichloroethene	0.5	ND	ND	ND
1,2-Dichloropropane	0.5	ND	ND	ND
1,3-Dichloropropane	0.5	ND	ND	ND
2,2-Dichloropropane	0.5	ND	ND	ND
1,1-Dichloropropene	0.5	ND	ND	ND
cis-1,3-Dichloropropene	0.5	ND	ND	ND
trans-1,3-Dichloropropene	0.5	ND	ND	ND

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14919
Matrix: Water
Analyst: JMR

Date Sampled: 05/19/99
Date Received: 05/20/99
Date Analyzed: 05/26/99
Batch Number: 8260W1699

Sample ID:		Blank	WOAK-5	WOAK-6
Compounds	**DL**	µg/L	µg/L	µg/L
Ethylbenzene	0.5	ND	ND	ND
Hexachlorobutadiene	0.5	ND	ND	ND
2-Hexanone	10	ND	ND	ND
Isopropylbenzene	0.5	ND	ND	ND
p-Isopropyltoluene	0.5	ND	ND	ND
Methylene chloride	50	ND	ND	ND
4-Methyl-2-pentanone	5.0	ND	ND	ND
Methyl-tert-butyl ether (MtBE)	1.0	ND	ND	ND
Napthalene	0.5	ND	ND	ND
n-Propylbenzene	0.5	ND	ND	ND
Styrene	0.5	ND	ND	ND
1,1,1,2-Tetrachloroethane	0.5	ND	ND	ND
1,1,2,2-Tetrachloroethane	1.0	ND	ND	ND
Tetrachloroethene	0.5	ND	ND	ND
Toluene	0.5	ND	**0.6**	ND
1,2,3-Trichlorobenzene	0.5	ND	ND	ND
1,2,4-Trichlorobenzene	0.5	ND	ND	ND
1,1,1-Trichloroethane	0.5	ND	ND	ND
1,1,2-Trichloroethane	0.5	ND	ND	ND
Trichloroethene	0.5	ND	ND	ND
1,2,3-Trichloropropane	0.5	ND	ND	ND
Trichlorofluoromethane	0.5	ND	ND	ND
Trichlorotrifluoroethane	5.0	ND	ND	ND
1,2,4-Trimethylbenzene	0.5	ND	**0.6**	ND
1,3,5-Trimethylbenzene	0.5	ND	ND	ND
Vinyl chloride	0.5	ND	ND	ND
Xylenes (total)	1.5	ND	ND	ND

Surrogates (% recovery) Limits: 80 - 130

Sample ID:	Blank	WOAK-5	WOAK-6
Dibromofluoromethane	103	94	101
Toluene-d8	101	97	100
Bromofluorobenzene	107	99	102

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14919
Matrix: Water
Analyst: JMR

Date Sampled: 05/19/99
Date Received: 05/20/99
Date Analyzed: 05/26/99
Batch Number: 8260W1699

	Sample ID:	Blank	WOAK-5	WOAK-6
Compounds	**DL**	µg/L	µg/L	µg/L
t-Butyl alcohol	50	ND	ND	ND
Diisopropyl ether	5.0	ND	ND	ND
Ethyl-t-butyl ether	5.0	ND	ND	ND
t-Amyl-methyl ether	5.0	ND	ND	ND

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14919
Matrix: Water
Analyst: JMR

Date Sampled: 05/19/99
Date Received: 05/20/99
Date Analyzed: 05/26/99
Batch Number: 8260W1699

	Sample ID:	WOAK-2	WOAK-1
Compounds	**DL**	µg/L	µg/L
Acetone	5000	ND	ND
Benzene	50	3,900	3,700
Bromobenzene	100	ND	ND
Bromochloromethane	100	ND	ND
Bromodichloromethane	50	ND	ND
Bromoform	50	ND	ND
Bromomethane	50	ND	ND
2-Butanone (MEK)	1000	ND	ND
n-Butylbenzene	50	ND	ND
sec-Butylbenzene	50	ND	ND
tert-Butylbenzene	50	ND	ND
Carbon disulfide	1000	ND	ND
Carbon tetrachloride	50	ND	ND
Chlorobenzene	50	ND	ND
Chloroethane	50	ND	ND
Chloroform	50	ND	ND
Chloromethane	50	ND	ND
2-Chlorotoluene	50	ND	ND
4-Chlorotoluene	50	ND	ND
Dibromochloromethane	50	ND	ND
1,2-Dibromoethane	50	ND	ND
1,2-Dibromo-3-chloropropane	1000	ND	ND
Dibromomethane	50	ND	ND
1,2-Dichlorobenzene	50	ND	ND
1,3-Dichlorobenzene	50	ND	ND
1,4-Dichlorobenzene	50	ND	ND
Dichlorodifluoromethane	50	ND	ND
1,1-Dichloroethane	50	ND	ND
1,2-Dichloroethane	50	ND	ND
1,1-Dichloroethene	50	ND	ND
cis-1,2-Dichloroethene	50	ND	ND
trans-1,2-Dichloroethene	50	ND	ND
1,2-Dichloropropane	50	ND	ND
1,3-Dichloropropane	50	ND	ND
2,2-Dichloropropane	50	ND	ND
1,1-Dichloropropene	50	ND	ND
cis-1,3-Dichloropropene	50	ND	ND
trans-1,3-Dichloropropene	50	ND	ND

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client:	PSI	Date Sampled:	05/19/99
Project:	Caltrans: 6th/Castro	Date Received:	05/20/99
Job No.:	14919	Date Analyzed:	05/26/99
Matrix:	Water	Batch Number:	8260W1699
Analyst:	JMR		

	Sample ID:	WOAK-2	WOAK-1
Compounds	**DL**	µg/L	µg/L
Ethylbenzene	50	**3,700**	**3,200**
Hexachlorobutadiene	50	ND	ND
2-Hexanone	1000	ND	ND
Isopropylbenzene	50	**94**	**110**
p-Isopropyltoluene	50	ND	ND
Methylene chloride	5000	ND	ND
4-Methyl-2-pentanone	500	ND	ND
Methyl-tert-butyl ether (MtBE)	100	ND	ND
Napthalene	50	**950**	**920**
n-Propylbenzene	50	**410**	**450**
Styrene	50	ND	ND
1,1,1,2-Tetrachloroethane	50	ND	ND
1,1,2,2-Tetrachloroethane	100	ND	ND
Tetrachloroethene	50	ND	ND
Toluene	50	**14,000**	**1,100**
1,2,3-Trichlorobenzene	50	ND	ND
1,2,4-Trichlorobenzene	50	ND	ND
1,1,1-Trichloroethane	50	ND	ND
1,1,2-Trichloroethane	50	ND	ND
Trichloroethene	50	ND	ND
1,2,3-Trichloropropane	50	ND	ND
Trichlorofluoromethane	50	ND	ND
Trichlorotrifluoroethane	500	ND	ND
1,2,4-Trimethylbenzene	50	**2,600**	**2,200**
1,3,5-Trimethylbenzene	50	**710**	**800**
Vinyl chloride	50	ND	ND
Xylenes (total)	150	**12,000**	**5,100**

Surrogates (% recovery) Limits: 80 - 130

Sample ID:	WOAK-2	WOAK-1
Dibromofluoromethane	99	104
Toluene-d8	100	103
Bromofluorobenzene	104	104

EPA 8260 - Volatile Organics

Client:	PSI	Date Sampled:	05/19/99
Project:	Caltrans: 6th/Castro	Date Received:	05/20/99
Job No.:	14919	Date Analyzed:	05/26/99
Matrix:	Water	Batch Number:	8260W1699
Analyst:	JMR		

	Sample ID:	WOAK-2	WOAK-1
Compounds	**DL**	µg/L	µg/L
t-Butyl alcohol	5000	ND	ND
Diisopropyl ether	500	ND	ND
Ethyl-t-butyl ether	500	ND	ND
t-Amyl-methyl ether	500	ND	ND

Centrum
(800) 798-9336

QC Sample Report - EPA Method 8260

Matrix: Water
Batch #: 8260W1699

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration µg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
1,1-Dichloroethene	20.0	**105**	59 - 172	**Pass**
Benzene	20.0	**102**	66 - 142	**Pass**
Trichloroethene	20.0	**103**	71 - 137	**Pass**
Toluene	20.0	**103**	59 - 139	**Pass**
Chlorobenzene	20.0	**101**	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	21.0	23.1	**10%**	22%	**Pass**
Benzene	20.5	22.0	**7%**	21%	**Pass**
Trichloroethene	20.6	21.6	**5%**	24%	**Pass**
Toluene	20.7	22.4	**8%**	21%	**Pass**
Chlorobenzene	20.1	22.2	**10%**	21%	**Pass**

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Analytical Notes:

Centrum Analytical Laboratories, Inc.

290 TENNESSEE STREET
REDLANDS, CA 92373

(909) 798-9336 • (800) 798-9336
FAX (909) 793-1559

Centrum Job # 14919

Chain of Custody Record

Page 1 of 5

Project No.:	Project Name:
575-96034	Caltrans: 6th / Castro
Project Manager:	**Phone:** / **Fax:**
Frank Ross	510 785-1111 / (510) 785-1192
Client Name: (Company) PSI	**Address:**

Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	GCMS: 8260	8080: Pesticides PCBs Pest/PCB	8015M: Diesel	8015M: Gasoline BTEX	Soil Porosity	Semivolatiles: 8270 625	Metals: TTLC(CAM) PP. RCRA	TOC (9060)	pH TDS TSS Conductivity COD	Flashpoint Fluoride Hex Chrome	EPA 1664 (O&G)	6010 (Total Lead)	Moisture Content	Remarks/ Special Instructions
1	OAK1-0.15	5/19/99	9:30	S			X		X	X							X	X		
2	-0.30		9:35																	
3	-0.90		9:40																	
4	-1.50		9:45																	
5	-3.0		9:50								X		X						X	NO
6	-4.5		10:00	↓							NO								NO	
7	WOAK-2		10:30	W																
8	OAK1-0.15		1040	S																
9	-0.30		1045																	
10	-0.90	↓	1050	↓			↓		↓	↓							↓			

Turn-around time
- ☐ 24 Hr. RUSH*
- ☐ 48 Hr. RUSH*
- ☒ Normal TAT

* Requires prior approval, additional charges apply

Relinquished by: (Sampler's Signature)	Date	Time	Relinquished by:	Date	Time
	5/19/99	1700			
Received by:	**Date**	**Time**	**Received by:**	**Date**	**Time**
			Relinquished 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.			**Received for Laboratory by:**	**Date**	**Time**
				5/20/99	900

To be completed by laboratory personnel:
- Samples chilled? ☒ Yes ☐ No
- Custody seals? ☐ Yes ☐ No
- All sample containers intact? ☐ Yes ☐ No
- ☐ Courier ☐ UPS/Fed Ex ☐ Hand carried
- Xairborne

Sample Disposal
- ☐ Client will pick up
- ☐ Return to client
- ☐ Lab disposal fee $5

Laboratory Notes: Include oxygenates for 8260 " " EDB, EDC

Thanks

Sample Locator No.

White Copy - Original (Accompanies Samples) | Yellow Copy - Centrum Files | Pink Copy - Client Copy

Centrum Analytical Laboratories, Inc.

Centrum Job # 14919

290 TENNESSEE STREET
REDLANDS, CA 92373

(909) 798-9336 • (800) 798-9336
FAX (909) 793-1559

Chain of Custody Record

Project No.: 575-90034

Project Name: Caltrans: 6th/Castro

Project Manager:

Phone:

Fax:

Client Name: (Company) PSI

Address:

Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	GCMS: 8260 8240 8010 524.2	8080: Pesticides PCBs Pest/PCB	8015M: Diesel Fuel Screen	8015M: Gasoline 8020 Gas/BTEX	[illegible] Soil Porosity	Semivolatiles: 8270 625	Metals: TTLC(CAM) PP RCRA	[illegible] TOC (9060)	pH TDS TSS Conductivity COD	Flashpoint Fluoride Hex Chrome	EPA 1664 (O&G)	6010 (Total Lead)	Moisture Content	Remarks/ Special Instructions
11	OAK1-1.50	5/19/99	1055	S			X		X	X							X	X		
12	-3.0		1100									NO								NO
13	-4.5		1105																	
14	WOAK-1		1115	W																
15	OAK3-0.15		1200	S																
16	-0.30		1205																	
17	-0.90		1210																	
18	-1.50		1220																	
19	-3.0		1225																	
20	-4.5		1230																	

Turn-around time
- ☐ 24 Hr. RUSH*
- ☐ 48 Hr. RUSH*
- ☒ Normal TAT

Requires prior approval, additional charges apply

	Date	Time
Relinquished by: (Sampler's Signature)	5/19/99	1700
Received by:		
Relinquished by:		
Received by:		
Relinquished by:		
Received for Laboratory by:	5/20/99	900

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.

To be completed by laboratory personnel:

Samples chilled? ☒ Yes ☐ No

Custody seals? ☐ Yes ☐ No

All sample containers intact? ☐ Yes ☐ No

☐ Courier ☐ UPS/Fed Ex ☐ Hand carried

x Airborne

Sample Disposal
- ☐ Client will pick up
- ☐ Return to client
- ☐ Lab disposal fee $5

Laboratory Notes:

Sample Locator No.

White Copy - Original (Accompanies Samples)

Yellow Copy - Centrum Files

Pink Copy - Client Copy

Centrum Analytical Laboratories, Inc.

290 TENNESSEE STREET
REDLANDS, CA 92373

(909) 798-9336 • (800) 798-9336
FAX (909) 793-1559

Centrum Job #

Chain of Custody Record

Project No.: 575-90034

Project Name: Caltrans: 6th/Castro

Project Manager:

Phone:

Fax:

Client Name: (Company) PSI

Address:

Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	GCMS: 8260	8080: Pesticides PCBs Pest/PCB	8015M: Diesel Fuel Screen	8015M: Gasoline 8020 Gas/BTEX	Soil Porosity	Semivolatiles: 8270 625	Metals: TTLC(CAM) PP RCRA	TOC (9060)	pH TDS TSS Conductivity COD	Flashpoint Fluoride Hex Chrome	EPA 1664 (O&G)	6010 (Total Lead)	Moisture Content	Remarks/ Special Instructions
21	WOAK-3	5/19/99	1250	W			X		X	X							X	X		Sample not received, SB -
22	OAK4 -0.15		1255	S																
23	-0.30		1300																	
24	-0.90		1305																	
25	-1.5		1310																	
26	-3.0		1315																	
27	-4.5		1320																	
28	OAK5-0.15		1400	S																
29	-0.30		1405	S																
30	-0.90		1410	S																

Turn-around time
- ☐ 24 Hr. RUSH*
- ☐ 48 Hr. RUSH*
- ☒ Normal TAT

*Requires prior approval, additional charges apply

Relinquished by: (Sampler's Signature)	Date	Time	Relinquished by:	Date	Time
	5/19/99	1700			
Received by:	Date	Time	Received by:	Date	Time
			Relinquished 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.			Received for Laboratory by:	Date	Time
				5/20/99	9:00

To be completed by laboratory personnel:

Samples chilled? ☒ Yes ☐ No

Custody seals? ☐ Yes ☐ No

All sample containers intact? ☐ Yes ☐ No

☐ Courier ☐ UPS/Fed Ex ☐ Hand carried

Airborne

Sample Disposal
- ☐ Client will pick up
- ☐ Return to client
- ☐ Lab disposal fee $5

Laboratory Notes:

Sample Locator No.

White Copy - Original (Accompanies Samples)

Yellow Copy - Centrum Files

Pink Copy - Client Copy

Centrum Analytical Laboratories, Inc.

290 TENNESSEE STREET
REDLANDS, CA 92373

(909) 798-9336 • (800) 798-9336
FAX (909) 793-1559

Centrum Job #

Chain of Custody Record

Project No.: 575-9G034
Project Name: Caltrans: 6th/Castro
Project Manager:
Phone:
Fax:
Client Name: (Company) PSI
Address:

Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	GCMS: 8260 ~~8240 8260 624~~	8080: Pesticides PCBs Pest/PCB	8015M: Diesel ~~Fuel Oil~~	8015M: Gasoline ~~8020 GasBTEX~~	418.1 (TRPH)	Semivolatiles: 8270 625	Metals: TTLC(CAM) PP RCRA	Lead Only	pH TDS TSS Conductivity COD	Flashpoint Fluoride Hex Chrome	EPA 1664(O&G)	6010C(Total Lead)	Remarks/ Special Instructions
31	OAK5-1.50	5/19/99	1415	S			X		X	X							X	X	
32	-3.0		1420	↓			↓		↓	↓							↓	↓	
33	-4.5		1425	↓			↓		↓	↓							↓	↓	
34	WOAK-5		1455	W			↓		↓	↓							↓	↓	
35	OAK6-0.15		1500	S			↓		↓	↓							↓	↓	
36	-0.30		1505	↓			↓		↓	↓							↓	↓	
37	-0.96		1510	↓			↓		↓	↓							↓	↓	
38	-1.5		1515	↓			↓		↓	↓							↓	↓	
39	-3.0		1520	↓			↓		↓	↓							↓	↓	
40	-4.5		1525	↓			↓		↓	↓							↓	↓	

Turn-around time
- ☐ 24 Hr. RUSH*
- ☐ 48 Hr. RUSH*
- ☒ Normal TAT

* Requires prior approval, additional charges apply

	Date	Time
Relinquished by: (Sampler's Signature)	5/19/99	1700
Received by:		
Relinquished by:		
Received by:		
Relinquished by:		
Received for Laboratory by:	5/20/99	9a

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.

To be completed by laboratory personnel:
- Samples chilled? ☒ Yes ☐ No
- Custody seals? ☐ Yes ☐ No
- All sample containers intact? ☐ Yes ☐ No
- ☐ Courier ☐ UPS/Fed Ex ☐ Hand carried

Xanbourne

Sample Disposal
- ☐ Client will pick up
- ☐ Return to client
- ☐ Lab disposal fee $5

Laboratory Notes:

Sample Locator No.

White Copy - Original (Accompanies Samples) | Yellow Copy - Centrum Files | Pink Copy - Client Copy

Centrum Analytical Laboratories, Inc.
290 TENNESSEE STREET
REDLANDS, CA 92373
(909) 798-9336 • (800) 798-9336
FAX (909) 793-1559

Centrum Job #

Chain of Custody Record

Project No.: 575 - 96034
Project Name: Caltrans: 6th / Castro
Project Manager:
Phone:
Fax:
Client Name: (Company)
Address:

Analyses Requested

Turn-around time
- ☐ 24 Hr. RUSH*
- ☐ 48 Hr. RUSH*
- ☒ Normal TAT

* Requires prior approval, additional charges apply

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	GCMS: 8260 8240 8010 8021	8080: Pesticides PCBs Pest/PCB	8015M: Diesel	8015M: Gasoline	418.1 (TRPH)	Semivolatiles: 8270 625	Metals: TTLC(CAM) PP RCRA	Lead Only	pH TDS TSS Conductivity COD	Flashpoint Fluoride Hex Chrome	Total Lead		Remarks/ Special Instructions
41	NOAK-6	5/19/99	1600	W			X		X	X							X	X	

Relinquished by: (Sampler's Signature) — Date: 5/19/99 — Time: 1700
Received by: — Date: — Time:
Relinquished by: — Date: — Time:
Received by: — Date: — Time:
Relinquished by: — Date: — Time:
Received for Laboratory by: — Date: 5/20/99 — Time: 900

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.

To be completed by laboratory personnel:
- Samples chilled? ☒ Yes ☐ No
- Custody seals? ☐ Yes ☐ No
- All sample containers intact? ☐ Yes ☐ No
- ☐ Courier ☐ UPS/Fed Ex ☐ Hand carried
- X airborne

Sample Disposal
- ☐ Client will pick up
- ☐ Return to client
- ☐ Lab disposal fee $5

Laboratory Notes:

Sample Locator No.

White Copy - Original (Accompanies Samples) | Yellow Copy - Centrum Files | Pink Copy - Client Copy

Centrum Analytical Laboratories, Inc.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

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

Date Sampled: 05/20/99
Date Received: 05/21/99
Job Number: 14928

Project: Caltrans: 6th/Castro

CASE NARRATIVE

The following information applies to samples which were received on 05/21/99 :

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.

Centrum
(800) 798-9336

Lead By ICP

Client:	PSI	Date Sampled:	05/20/99
Project:	Caltrans: 6th/Castro	Date Received:	05/21/99
Job No.:	14928	Date Digested:	05/25/99
Matrix:	Soil	Date Analyzed:	05/26/99
Analyst:	RVJ/RLB	Batch Number:	6010S1219
		Method Number:	6010

	Detection Limit	Lead
Sample ID	mg/kg	mg/kg
Method Blank	5.0	ND
OAK7-0.15	5.0	**98**
OAK7-0.30	5.0	**79**
OAK7-0.90	5.0	**11**
OAK7-1.50	5.0	**8.8**
OAK7-3.0	5.0	**16**
OAK7-4.5	5.0	**14**
OAK9-0.15	5.0	**83**
OAK9-0.30	5.0	**150**
OAK9-0.90	5.0	**10**
OAK9-1.50	5.0	**11**
OAK9-3.0	5.0	**15**
OAK9-4.5	5.0	**14**
OAK10-0.15	5.0	**90**
OAK10-0.30	5.0	**56**
OAK10-0.90	5.0	**9.1**

Centrum
(800) 798-9336

Lead By ICP

Client:	PSI	Date Sampled:	05/20/99
Project:	Caltrans: 6th/Castro	Date Received:	05/21/99
Job No.:	14928	Date Digested:	05/26/99
Matrix:	Soil	Date Analyzed:	05/26/99
Analyst:	RVJ/RLB	Batch Number:	6010S1220
		Method Number:	6010

	Detection Limit	Lead
Sample ID	mg/kg	mg/kg
Method Blank	5.0	ND
OAK10-1.50	5.0	**16**
OAK10-3.0	5.0	**9.0**
OAK10-4.5	5.0	**12**
OAK11-0.15	5.0	**240**
OAK11-0.30	5.0	**10**
OAK11-0.90	5.0	**11**
OAK11-1.50	5.0	**18**
OAK11-3.0	5.0	**16**
OAK11-4.5	5.0	**12**
OAK8-0.15	5.0	**36**
OAK8-0.30	5.0	**77**
OAK8-0.90	5.0	**300**
OAK8-1.50	5.0	**9.4**
OAK8-3.0	5.0	**15**
OAK8-4.5	5.0	**14**

Centrum
(800) 798-9336

QC Sample Report - Metals

Matrix: Soil
Batch #: 6010S1219

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Compound	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lead	50	107	75 - 125	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: OAK10-0.90

Compound	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lead	58.7	60.8	4%	20%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
(800) 798-9336

QC Sample Report - Metals

Matrix: Soil
Batch #: 6010S1220

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Compound	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lead	50	98.82	75 - 125	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: 14939-2

Compound	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lead	54.8	51.8	6%	20%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Lead By ICP

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14928
Matrix: Water
Analyst: RVJ/RLB

Date Sampled: 05/20/99
Date Received: 05/21/99
Date Digested: 05/25/99
Date Analyzed: 05/26/99
Batch Number: 6010W1218
Method Number: 6010

	Detection Limit	Lead
Sample ID	mg/L	mg/L
Method Blank	0.10	ND
WOAK-7	0.10	ND
WOAK-9	0.10	**0.26**
WOAK-10	0.10	ND
WOAK-11	0.10	**0.12**
WOAK-8	0.10	**0.12**
WOAK-3	0.10	ND

QC Sample Report - Metals

Matrix: Water
Batch #: 6010W1218

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Compound	Spike Concentration mg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lead	1.0	106.3	75 - 125	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: WOAK-3

Compound	Spike Sample Recovery mg/L	Spike Duplicate Recovery mg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lead	1.096	1.101	0%	20%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

EPA 413.2 - Oil & Grease

Client:	PSI	Date Sampled:	05/20/99
Project:	Caltrans: 6th/Castro	Date Received:	05/21/99
Job No.:	14928	Date Extracted:	05/27/99
Matrix:	Soil	Date Analyzed:	05/27/99
Analyst:	CP/JL	Batch Number:	4181S1036

	Detection Limit	Total Oil & Grease
Sample ID	mg/kg	mg/kg
Method Blank	10	ND
OAK7-0.15	10	130
OAK7-0.30	1,000	3,000
OAK7-0.90	10	240
OAK7-1.50	10	20
OAK7-3.0	10	20
OAK7-4.5	10	ND
OAK9-0.15	10	82
OAK9-0.30	10	580
OAK9-0.90	10	140
OAK9-1.50	10	46
OAK9-3.0	10	11
OAK9-4.5	10	10
OAK10-0.15	10	380
OAK10-0.30	10	150
OAK10-0.90	10	46
OAK10-1.50	10	11
OAK10-3.0	10	ND
OAK10-4.5	10	13
OAK11-0.15	10	27
OAK11-0.30	10	18

Centrum
(800) 798-9336

EPA 413.2 - Oil & Grease

Client:	PSI	Date Sampled:	05/20/99
Project:	Caltrans: 6th/Castro	Date Received:	05/21/99
Job No.:	14928	Date Extracted:	05/27/99
Matrix:	Soil	Date Analyzed:	05/28/99
Analyst:	CP/JL	Batch Number:	4181S1037

	Detection Limit	Total Oil & Grease
Sample ID	mg/kg	mg/kg
Method Blank	10	ND
OAK11-0.90	10	**27**
OAK11-1.50	10	**14**
OAK11-3.0	10	ND
OAK11-4.5	10	ND
OAK8-0.15	10	**260**
OAK8-0.30	10	**340**
OAK8-0.90	10	**2,600**
OAK8-1.50	10	ND
OAK8-3.0	10	**13**
OAK8-4.5	10	**10**

Centrum
(800) 798-9336

QC Report - EPA 413.2 Oil & Grease

Matrix: Soil
Batch #: 4132S1036

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Reference Oil	40	123	72 - 131	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: OAK7-0.90

Analyte	Sample Recovery mg/Kg	Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Reference Oil	57.60	58.72	2%	22%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
(800) 798-9336

QC Report - EPA 413.2 Oil & Grease

Matrix: Soil
Batch #: 4132S1037

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Reference Oil	40	125	72 - 131	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: OAK11-3.0

Analyte	Sample Recovery mg/Kg	Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Reference Oil	59.94	59.08	1%	22%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
(800) 798-9336

EPA 413.2 - Oil & Grease

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14928
Matrix: Water
Analyst: CP/JL

Date Sampled: 05/20/99
Date Received: 05/21/99
Date Extracted: 05/26/99
Date Analyzed: 05/28/99
Batch Number: 4132W1034

Sample ID	Detection Limit mg/L	Total Oil & Grease mg/L
Method Blank	2.0	ND
WOAK-7	2.7	ND
WOAK-9	2.7	ND
WOAK-10	2.9	**3.0**
WOAK-11	3.6	**3.7**
WOAK-8	3.0	ND
WOAK-3	2.6	**4.1**

Centrum
(800) 798-9336

QC Report - EPA 413.2 Oil & Grease

Matrix: Water
Batch #: 4132W1034

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Reference Oil	10	104	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
Reference Oil	10.43	10.63	2%	25%	Pass

Analytical Notes:
Insufficient amount of sample available for MS/MSD analysis. An LCS/LCSD pair were analyzed to provide precision data for this batch.

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
(800) 798-9336

Modified 8015 - Fuel Screen

Client:	PSI	Date Sampled:	05/20/99
Project:	Caltrans: 6th/Castro	Date Received:	05/21/99
Job No.:	14928	Date Extracted:	05/26/99
Matrix:	Soil	Date Analyzed:	05/26-27/99
Analyst:	NBP	Batch Number:	8015DS1640

Fuel Identified:	Motor Oil	Extractable Hydrocarbons	Detection Limits
Units:	mg/kg	mg/kg	mg/kg
Blank	ND	ND	10
OAK7-0.15	ND	13*	10
OAK7-0.30	ND	ND	10
OAK7-0.90	ND	12*	10
OAK7-1.50	ND	11*	10
OAK7-3.0	ND	11*	10
OAK7-4.5	ND	ND	10
OAK9-0.15	ND	24*	10
OAK9-0.30	69*	ND	10
OAK9-0.90	ND	ND	10
OAK9-1.50	ND	ND	10
OAK9-3.0	ND	ND	10
OAK9-4.5	ND	20*	10
OAK10-0.15	58*	ND	10
OAK10-0.30	ND	ND	10
OAK10-0.90	ND	ND	10
OAK10-1.50	ND	ND	10

*The concentration of petroleum hydrocarbons has been quantitated against diesel and reported as indicated.

Modified 8015 - Fuel Screen

Client:	PSI	Date Sampled:	05/20/99
Project:	Caltrans: 6th/Castro	Date Received:	05/21/99
Job No.:	14928	Date Extracted:	05/26/99
Matrix:	Soil	Date Analyzed:	05/26-27/99
Analyst:	NBP	Batch Number:	8015DS1641

Fuel Identified:	Motor Oil	Extractable Hydrocarbons	Detection Limits
Units:	mg/kg	mg/kg	mg/kg
Blank	ND	ND	10
OAK10-3.0	ND	ND	10
OAK10-4.5	ND	ND	10
OAK11-0.15	ND	ND	10
OAK11-0.30	ND	ND	10
OAK11-0.90	ND	ND	10
OAK11-1.50	ND	ND	10
OAK11-3.0	ND	ND	10
OAK11-4.5	ND	ND	10
OAK8-0.15	ND	**20***	10
OAK8-0.30	**30***	ND	10
OAK8-0.90	ND	**120***	100
OAK8-1.50	ND	ND	10
OAK8-3.0	ND	ND	10
OAK8-4.5	ND	ND	10

*The concentration of petroleum hydrocarbons has been quantitated against diesel and reported as indicated.

Centrum
(800) 798-9336

QC Sample Report - EPA 8015M Diesel

Matrix: Soil
Batch #: 8015DS1640

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Diesel	100	111	70 - 130	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: OAK10-0.90

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Diesel	103	104	1%	29%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
(800) 798-9336

QC Sample Report - EPA 8015M Diesel

Matrix: Soil
Batch #: 8015DS1641

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

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Diesel	104	103	1%	29%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
(800) 798-9336

Modified 8015 - Fuel Screen

Client:	PSI	Date Sampled:	05/20/99
Project:	Caltrans: 6th/Castro	Date Received:	05/21/99
Job No.:	14928	Date Extracted:	05/25/99
Matrix:	Water	Date Analyzed:	05/26/99
Analyst:	NBP	Batch Number:	8015DW1639

Fuel Identified:	Gasoline	Extractable Hydrocarbons	Detection Limits
Units:	mg/L	mg/L	mg/L
Blank	ND	ND	0.40
WOAK-7	ND	ND	0.53
WOAK-9	ND	ND	0.53
WOAK-10	ND	ND	0.59
WOAK-11	ND	ND	0.71
WOAK-8	ND	ND	0.71
WOAK-3	0.64*	ND	0.43

*The concentration of petroleum hydrocarbons has been quantitated against diesel and reported as Gasoline.

QC Sample Report - EPA 8015M Diesel

Matrix: Water
Batch #: 8015DW1639

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Diesel	0.8	98	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	0.79	0.72	9%	25%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
(800) 798-9336

Modified 8015 - Total Volatile Hydrocarbons as Gasoline

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14928
Matrix: Soil
Analyst: GR

Date Sampled: 05/20/99
Date Received: 05/21/99
Date Analyzed: 05/26/99
Batch Number: 8015GS2232

	Detection Limit	Petroleum Hydrocarbons as Gasoline
Sample ID	mg/kg	mg/kg
Method Blank	0.50	ND
OAK7-0.15	0.50	ND
OAK7-0.30	0.50	ND
OAK7-0.90	0.50	ND
OAK7-1.50	0.50	ND
OAK7-3.0	0.50	ND
OAK7-4.5	0.50	ND
OAK9-0.15	0.50	ND
OAK9-0.30	0.50	ND
OAK9-0.90	0.50	ND
OAK9-1.50	0.50	ND

Centrum
(800) 798-9336

Modified 8015 - Total Volatile Hydrocarbons as Gasoline

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14928
Matrix: Soil
Analyst: GR

Date Sampled: 05/20/99
Date Received: 05/21/99
Date Analyzed: 05/30-31/99
Batch Number: 8015GS2239

Sample ID	Detection Limit mg/kg	Petroleum Hydrocarbons as Gasoline mg/kg
Method Blank	0.50	ND
OAK9-3.0	0.50	ND
OAK9-4.5	0.50	ND
OAK10-0.15	0.50	ND
OAK10-0.30	0.50	ND
OAK10-0.90	0.50	ND
OAK10-1.50	0.50	ND
OAK10-3.0	0.50	ND
OAK10-4.5	0.50	ND
OAK11-0.15	0.50	ND
OAK11-0.30	0.50	ND

Centrum
(800) 798-9336

Modified 8015 - Total Volatile Hydrocarbons as Gasoline

Client:	PSI	Date Sampled:	05/20/99
Project:	Caltrans: 6th/Castro	Date Received:	05/21/99
Job No.:	14928	Date Analyzed:	06/01/99
Matrix:	Soil	Batch Number:	8015GS2240
Analyst:	GR		

	Detection Limit	Petroleum Hydrocarbons as Gasoline
Sample ID	mg/kg	mg/kg
Method Blank	0.50	ND
OAK11-0.90	0.50	ND
OAK11-1.50	0.50	ND
OAK11-3.0	0.50	ND
OAK11-4.5	0.50	ND
OAK 8-0.15	0.50	ND
OAK 8-0.30	0.50	ND
OAK 8-0.90	0.50	ND
OAK 8-1.50	0.50	ND
OAK 8-3.0	0.50	ND
OAK 8-4.5	0.50	ND

Centrum
(800) 798-9336

QC Sample Report - EPA 8015M Gasoline

Matrix: Soil
Batch #: 8015GS2232

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Gasoline	10.0	106	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
Gasoline	10.58	10.06	5%	25%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
(800) 798-9336

QC Sample Report - EPA 8015M Gasoline

Matrix: Soil
Batch #: 8015GS2239

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Gasoline	10.0	99	70 - 130	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: 14966-1

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Gasoline	9.55	9.29	3%	25%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

QC Sample Report - EPA 8015M Gasoline

Matrix: Soil
Batch #: 8015GS2240

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Gasoline	10.0	94	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
Gasoline	9.40	10.05	7%	25%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Modified 8015 - Total Volatile Hydrocarbons as Gasoline

Client:	PSI	Date Sampled:	05/20/99
Project:	Caltrans: 6th/Castro	Date Received:	05/21/99
Job No.:	14928	Date Analyzed:	05/21/99
Matrix:	Water	Batch Number:	8015GW2228
Analyst:	GR		

	Detection Limit	Petroleum Hydrocarbons as Gasoline
Sample ID	mg/L	mg/L
Method Blank	0.5	ND
WOAK-7	0.5	ND
WOAK-9	0.5	ND
WOAK-10	0.5	ND
WOAK-11	0.5	ND
WOAK-8	0.5	ND
WOAK-3	0.5	**0.90**

QC Sample Report - EPA 8015M Gasoline

Matrix: Water
Batch #: 8015GW2228

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Gasoline	10.0	98	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	9.75	9.07	7%	25%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14928
Matrix: Soil
Analyst: JMR

Date Sampled: 05/20/99
Date Received: 05/21/99
Date Analyzed: 05/25-30/99
Batch Number: 8260S1700,8260S1703 8260S1704,8260S1706

	Sample ID:	Blank	OAK7-0.15	OAK7-0.30	OAK7-0.90	OAK7-1.5	OAK7-3.0
Compounds	**DL**	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Acetone	0.05	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	0.005	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
cis-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND	ND

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client:	PSI	Date Sampled:	05/20/99
Project:	Caltrans: 6th/Castro	Date Received:	05/21/99
Job No.:	14928	Date Analyzed:	05/25-30/99
Matrix:	Soil	Batch Number:	8260S1700,8260S1703
Analyst:	JMR		8260S1704,8260S1706

	Sample ID:	Blank	OAK7-0.15	OAK7-0.30	OAK7-0.90	OAK7-1.5	OAK7-3.0
Compounds	**DL**	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Ethylbenzene	0.001	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	0.05	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	ND	**0.17**	ND	ND	ND
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
Tetrachloroethene	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	0.05	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	OAK7-0.15	OAK7-0.30	OAK7-0.90	OAK7-1.5	OAK7-3.0
Dibromofluoromethane	103	105	107	103	109	93
Toluene-d8	101	99	93	104	102	101
Bromofluorobenzene	107	98	92	102	106	95

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14928
Matrix: Soil
Analyst: JMR

Date Sampled: 05/20/99
Date Received: 05/21/99
Date Analyzed: 05/25-30/99
Batch Number: 8260S1700,8260S1703 8260S1704,8260S1706

	Sample ID:	Blank	OAK7-0.15	OAK7-0.30	OAK7-0.90	OAK7-1.5	OAK7-3.0
Compounds	DL	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
t-Butyl alcohol	0.050	ND	ND	ND	ND	ND	ND
Diisopropyl ether	0.005	ND	ND	ND	ND	ND	ND
Ethyl-t-butyl ether	0.005	ND	ND	ND	ND	ND	ND
t-Amyl-methyl ether	0.005	ND	ND	ND	ND	ND	ND

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14928
Matrix: Soil
Analyst: JMR

Date Sampled: 05/20/99
Date Received: 05/21/99
Date Analyzed: 05/25-30/99
Batch Number: 8260S1700,8260S1703 8260S1704,8260S1706

	Sample ID:	OAK7-4.5	OAK9-0.15	OAK9-0.30	OAK9-0.90	OAK9-1.5	OAK9-3.0
Compounds	**DL**	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Acetone	0.05	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	0.005	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
cis-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND	ND

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14928
Matrix: Soil
Analyst: JMR

Date Sampled: 05/20/99
Date Received: 05/21/99
Date Analyzed: 05/25-30/99
Batch Number: 8260S1700,8260S1703 8260S1704,8260S1706

	Sample ID:	OAK7-4.5	OAK9-0.15	OAK9-0.30	OAK9-0.90	OAK9-1.5	OAK9-3.0
Compounds	DL	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Ethylbenzene	0.001	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	0.05	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	**0.006**	ND	ND	ND	ND
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
Tetrachloroethene	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	0.05	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	0.001	**0.002**	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:	OAK7-4.5	OAK9-0.15	OAK9-0.30	OAK9-0.90	OAK9-1.5	OAK9-3.0
Dibromofluoromethane	106	104	100	106	104	100
Toluene-d8	102	101	100	100	99	98
Bromofluorobenzene	108	103	86	98	106	106

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14928
Matrix: Soil
Analyst: JMR

Date Sampled: 05/20/99
Date Received: 05/21/99
Date Analyzed: 05/25-30/99
Batch Number: 8260S1700,8260S1703 8260S1704,8260S1706

	Sample ID:	OAK7-4.5	OAK9-0.15	OAK9-0.30	OAK9-0.90	OAK9-1.5	OAK9-3.0
Compounds	DL	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
t-Butyl alcohol	0.050	ND	ND	ND	ND	ND	ND
Diisopropyl ether	0.005	ND	ND	ND	ND	ND	ND
Ethyl-t-butyl ether	0.005	ND	ND	ND	ND	ND	ND
t-Amyl-methyl ether	0.005	ND	ND	ND	ND	ND	ND

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14928
Matrix: Soil
Analyst: JMR

Date Sampled: 05/20/99
Date Received: 05/21/99
Date Analyzed: 05/25-30/99
Batch Number: 8260S1700,8260S1703 8260S1704,8260S1706

	Sample ID:	OAK9-4.5	OAK10-0.15	OAK10-0.30	OAK10-0.90	OAK10-1.5	OAK10-3.0
Compounds	**DL**	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Acetone	0.05	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	0.005	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
cis-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND	ND

EPA 8260 - Volatile Organics

Client:	PSI	Date Sampled:	05/20/99
Project:	Caltrans: 6th/Castro	Date Received:	05/21/99
Job No.:	14928	Date Analyzed:	05/25-30/99
Matrix:	Soil	Batch Number:	8260S1700,8260S1703
Analyst:	JMR		8260S1704,8260S1706

	Sample ID:	OAK9-4.5	OAK10-0.15	OAK10-0.30	OAK10-0.90	OAK10-1.5	OAK10-3.0
Compounds	DL	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Ethylbenzene	0.001	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	0.05	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	ND	ND	ND	ND	ND
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
Tetrachloroethene	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	0.05	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:	OAK9-4.5	OAK10-0.15	OAK10-0.30	OAK10-0.90	OAK10-1.5	OAK10-3.0
Dibromofluoromethane	104	104	105	106	102	104
Toluene-d8	102	103	100	100	101	99
Bromofluorobenzene	103	100	105	106	100	103

EPA 8260 - Volatile Organics

Client:	PSI	Date Sampled:	05/20/99
Project:	Caltrans: 6th/Castro	Date Received:	05/21/99
Job No.:	14928	Date Analyzed:	05/25-30/99
Matrix:	Soil	Batch Number:	8260S1700,8260S1703
Analyst:	JMR		8260S1704,8260S1706

	Sample ID:	OAK9-4.5	OAK10-0.15	OAK10-0.30	OAK10-0.90	OAK10-1.5	OAK10-3.0
Compounds	**DL**	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
t-Butyl alcohol	0.050	ND	ND	ND	ND	ND	ND
Diisopropyl ether	0.005	ND	ND	ND	ND	ND	ND
Ethyl-t-butyl ether	0.005	ND	ND	ND	ND	ND	ND
t-Amyl-methyl ether	0.005	ND	ND	ND	ND	ND	ND

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14928
Matrix: Soil
Analyst: JMR

Date Sampled: 05/20/99
Date Received: 05/21/99
Date Analyzed: 05/25-30/99
Batch Number: 8260S1700,8260S1703
8260S1704,8260S1706

	Sample ID:	OAK10-4.5	OAK11-0.15	OAK11-0.30	OAK11-0.90	OAK11-1.5	OAK11-3.0
Compounds	**DL**	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Acetone	0.05	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	0.005	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
cis-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND	ND

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client:	PSI	Date Sampled:	05/20/99
Project:	Caltrans: 6th/Castro	Date Received:	05/21/99
Job No.:	14928	Date Analyzed:	05/25-30/99
Matrix:	Soil	Batch Number:	8260S1700,8260S1703
Analyst:	JMR		8260S1704,8260S1706

	Sample ID:	OAK10-4.5	OAK11-0.15	OAK11-0.30	OAK11-0.90	OAK11-1.5	OAK11-3.0
Compounds	**DL**	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Ethylbenzene	0.001	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	0.05	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	ND	**0.002**	ND	ND	ND
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
Tetrachloroethene	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	0.05	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:	OAK10-4.5	OAK11-0.15	OAK11-0.30	OAK11-0.90	OAK11-1.5	OAK11-3.0
Dibromofluoromethane	97	107	106	107	103	104
Toluene-d8	100	97	99	102	101	101
Bromofluorobenzene	100	91	15	105	102	105

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client:	PSI	Date Sampled:	05/20/99
Project:	Caltrans: 6th/Castro	Date Received:	05/21/99
Job No.:	14928	Date Analyzed:	05/25-30/99
Matrix:	Soil	Batch Number:	8260S1700,8260S1703
Analyst:	JMR		8260S1704,8260S1706

	Sample ID:	OAK10-4.5	OAK11-0.15	OAK11-0.30	OAK11-0.90	OAK11-1.5	OAK11-3.0
Compounds	**DL**	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
t-Butyl alcohol	0.050	ND	ND	ND	ND	ND	ND
Diisopropyl ether	0.005	ND	ND	ND	ND	ND	ND
Ethyl-t-butyl ether	0.005	ND	ND	ND	ND	ND	ND
t-Amyl-methyl ether	0.005	ND	ND	ND	ND	ND	ND

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14928
Matrix: Soil
Analyst: JMR

Date Sampled: 05/20/99
Date Received: 05/21/99
Date Analyzed: 05/25-30/99
Batch Number: 8260S1700,8260S1703 8260S1704,8260S1706

	Sample ID:	OAK11-4.5	OAK8-0.15	OAK8-0.30	OAK8-0.90	OAK8-1.5	OAK8-3.0
Compounds	**DL**	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Acetone	0.05	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	0.005	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
cis-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.001	ND	ND	ND	ND	ND	ND

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14928
Matrix: Soil
Analyst: JMR

Date Sampled: 05/20/99
Date Received: 05/21/99
Date Analyzed: 05/25-30/99
Batch Number: 8260S1700,8260S1703 8260S1704,8260S1706

	Sample ID:	OAK11-4.5	OAK8-0.15	OAK8-0.30	OAK8-0.90	OAK8-1.5	OAK8-3.0
Compounds	DL	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Ethylbenzene	0.001	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	0.05	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	ND	ND	ND	ND	ND
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
Tetrachloroethene	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	0.05	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:	OAK11-4.5	OAK8-0.15	OAK8-0.30	OAK8-0.90	OAK8-1.5	OAK8-3.0
Dibromofluoromethane	105	106	103	102	105	107
Toluene-d8	100	101	98	97	105	102
Bromofluorobenzene	108	96	103	107	104	108

EPA 8260 - Volatile Organics

Client:	PSI	Date Sampled:	05/20/99
Project:	Caltrans: 6th/Castro	Date Received:	05/21/99
Job No.:	14928	Date Analyzed:	05/25-30/99
Matrix:	Soil	Batch Number:	8260S1700,8260S1703
Analyst:	JMR		8260S1704,8260S1706

	Sample ID:	OAK11-4.5	OAK8-0.15	OAK8-0.30	OAK8-0.90	OAK8-1.5	OAK8-3.0
Compounds	DL	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
t-Butyl alcohol	0.050	ND	ND	ND	ND	ND	ND
Diisopropyl ether	0.005	ND	ND	ND	ND	ND	ND
Ethyl-t-butyl ether	0.005	ND	ND	ND	ND	ND	ND
t-Amyl-methyl ether	0.005	ND	ND	ND	ND	ND	ND

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14928
Matrix: Soil
Analyst: JMR

Date Sampled: 05/20/99
Date Received: 05/21/99
Date Analyzed: 05/25-30/99
Batch Number: 8260S1700,8260S1703 8260S1704,8260S1706

	Sample ID:	OAK8-4.5
Compounds	**DL**	**mg/Kg**
Acetone	0.05	ND
Benzene	0.001	ND
Bromobenzene	0.005	ND
Bromochloromethane	0.005	ND
Bromodichloromethane	0.001	ND
Bromoform	0.005	ND
Bromomethane	0.005	ND
2-Butanone (MEK)	0.01	ND
n-Butylbenzene	0.002	ND
sec-Butylbenzene	0.002	ND
tert-Butylbenzene	0.002	ND
Carbon disulfide	0.01	ND
Carbon tetrachloride	0.001	ND
Chlorobenzene	0.001	ND
Chloroethane	0.005	ND
Chloroform	0.002	ND
Chloromethane	0.001	ND
2-Chlorotoluene	0.002	ND
4-Chlorotoluene	0.002	ND
Dibromochloromethane	0.002	ND
1,2-Dibromoethane	0.002	ND
1,2-Dibromo-3-chloropropane	0.01	ND
Dibromomethane	0.001	ND
1,2-Dichlorobenzene	0.001	ND
1,3-Dichlorobenzene	0.002	ND
1,4-Dichlorobenzene	0.002	ND
Dichlorodifluoromethane	0.005	ND
1,1-Dichloroethane	0.001	ND
1,2-Dichloroethane	0.001	ND
1,1-Dichloroethene	0.005	ND
cis-1,2-Dichloroethene	0.002	ND
trans-1,2-Dichloroethene	0.002	ND
1,2-Dichloropropane	0.001	ND
1,3-Dichloropropane	0.001	ND
2,2-Dichloropropane	0.001	ND
1,1-Dichloropropene	0.001	ND
cis-1,3-Dichloropropene	0.001	ND
trans-1,3-Dichloropropene	0.001	ND

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client:	PSI	Date Sampled:	05/20/99
Project:	Caltrans: 6th/Castro	Date Received:	05/21/99
Job No.:	14928	Date Analyzed:	05/25-30/99
Matrix:	Soil	Batch Number:	8260S1700,8260S1703
Analyst:	JMR		8260S1704,8260S1706

	Sample ID:	OAK8-4.5
Compounds	**DL**	mg/Kg
Ethylbenzene	0.001	ND
Hexachlorobutadiene	0.001	ND
2-Hexanone	0.01	ND
Isopropylbenzene	0.001	ND
p-Isopropyltoluene	0.002	ND
Methylene chloride	0.05	ND
4-Methyl-2-pentanone	0.01	ND
Methyl-tert-butyl ether (MtBE)	0.005	ND
Napthalene	0.002	ND
n-Propylbenzene	0.001	ND
Styrene	0.001	ND
1,1,1,2-Tetrachloroethane	0.001	ND
1,1,2,2-Tetrachloroethane	0.002	ND
Tetrachloroethene	0.001	ND
Toluene	0.001	ND
1,2,3-Trichlorobenzene	0.002	ND
1,2,4-Trichlorobenzene	0.002	ND
1,1,1-Trichloroethane	0.001	ND
1,1,2-Trichloroethane	0.003	ND
Trichloroethene	0.001	ND
1,2,3-Trichloropropane	0.003	ND
Trichlorofluoromethane	0.001	ND
Trichlorotrifluoroethane	0.05	ND
1,2,4-Trimethylbenzene	0.001	ND
1,3,5-Trimethylbenzene	0.001	ND
Vinyl chloride	0.002	ND
Xylenes (total)	0.003	ND

Surrogates (% recovery) Limits: 80 - 130

Sample ID:	OAK8-4.5
Dibromofluoromethane	103
Toluene-d8	100
Bromofluorobenzene	98

EPA 8260 - Volatile Organics

Client:	PSI	Date Sampled:	05/20/99
Project:	Caltrans: 6th/Castro	Date Received:	05/21/99
Job No.:	14928	Date Analyzed:	05/25-30/99
Matrix:	Soil	Batch Number:	8260S1700,8260S1703
Analyst:	JMR		8260S1704,8260S1706

	Sample ID:	OAK8-4.5
Compounds	**DL**	mg/Kg
t-Butyl alcohol	0.050	ND
Diisopropyl ether	0.005	ND
Ethyl-t-butyl ether	0.005	ND
t-Amyl-methyl ether	0.005	ND

QC Sample Report - EPA Method 8260

Matrix: Soil
Batch #: 8260S1700

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	**118**	59 - 172	**Pass**
Benzene	0.020	**109**	66 - 142	**Pass**
Trichloroethene	0.020	**107**	71 - 137	**Pass**
Toluene	0.020	**107**	59 - 139	**Pass**
Chlorobenzene	0.020	**106**	60 - 133	**Pass**

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: OAK9-3.0

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
1,1-Dichloroethene	0.0218	0.0253	**15%**	22%	**Pass**
Benzene	0.0199	0.0217	**9%**	21%	**Pass**
Trichloroethene	0.0194	0.0221	**13%**	24%	**Pass**
Toluene	0.0201	0.0217	**8%**	21%	**Pass**
Chlorobenzene	0.0202	0.0228	**12%**	21%	**Pass**

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

QC Sample Report - EPA Method 8260

Matrix: Soil
Batch #: 8260S1703

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	**118**	59 - 172	**Pass**
Benzene	0.020	**114**	66 - 142	**Pass**
Trichloroethene	0.020	**106**	71 - 137	**Pass**
Toluene	0.020	**112**	59 - 139	**Pass**
Chlorobenzene	0.020	**112**	60 - 133	**Pass**

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: OAK10-0.30

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
1,1-Dichloroethene	0.0210	0.0248	**17%**	22%	**Pass**
Benzene	0.0202	0.0222	**9%**	21%	**Pass**
Trichloroethene	0.0204	0.0211	**4%**	24%	**Pass**
Toluene	0.0201	0.0224	**11%**	21%	**Pass**
Chlorobenzene	0.0202	0.0223	**10%**	21%	**Pass**

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
(800) 798-9336

QC Sample Report - EPA Method 8260

Matrix: Soil
Batch #: 8260S1704

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	**124**	59 - 172	**Pass**
Benzene	0.020	**112**	66 - 142	**Pass**
Trichloroethene	0.020	**109**	71 - 137	**Pass**
Toluene	0.020	**108**	59 - 139	**Pass**
Chlorobenzene	0.020	**110**	60 - 133	**Pass**

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: OAK8-0.90

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
1,1-Dichloroethene	0.0206	0.0195	**6%**	22%	**Pass**
Benzene	0.0184	0.0175	**5%**	21%	**Pass**
Trichloroethene	0.0179	0.0183	**2%**	24%	**Pass**
Toluene	0.0189	0.0173	**9%**	21%	**Pass**
Chlorobenzene	0.0186	0.0180	**3%**	21%	**Pass**

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

QC Sample Report - EPA Method 8260

Matrix: Soil
Batch #: 8260S1706

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	**125**	59 - 172	**Pass**
Benzene	0.020	**119**	66 - 142	**Pass**
Trichloroethene	0.020	**117**	71 - 137	**Pass**
Toluene	0.020	**117**	59 - 139	**Pass**
Chlorobenzene	0.020	**119**	60 - 133	**Pass**

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: 14926-10

Analyte	Spike Sample Recovery mg/Kg	Spike Duplicate Recovery mg/Kg	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
1,1-Dichloroethene	0.0241	0.0260	**8%**	22%	**Pass**
Benzene	0.0221	0.0246	**10%**	21%	**Pass**
Trichloroethene	0.0208	0.0238	**13%**	24%	**Pass**
Toluene	0.0215	0.0249	**15%**	21%	**Pass**
Chlorobenzene	0.0224	0.0249	**11%**	21%	**Pass**

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14928
Matrix: Water
Analyst: JMR

Date Sampled: 05/20/99
Date Received: 05/21/99
Date Analyzed: 05/26-29/99
Batch Number: 8260W1699
8260W1702
8260W1705

	Sample ID:	Blank	WOAK-7	WOAK-9	WOAK-10	WOAK-11	WOAK-8
Compounds	**DL**	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Acetone	50	ND	ND	ND	ND	ND	ND
Benzene	0.5	ND	ND	ND	ND	ND	ND
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
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	ND
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	ND	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	ND	ND
1,2-Dichloroethane	0.5	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	0.5	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	0.5	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	0.5	ND	ND	ND	ND	ND	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
cis-1,3-Dichloropropene	0.5	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.5	ND	ND	ND	ND	ND	ND

EPA 8260 - Volatile Organics

Client:	PSI	Date Sampled:	05/20/99
Project:	Caltrans: 6th/Castro	Date Received:	05/21/99
Job No.:	14928	Date Analyzed:	05/26-29/99
Matrix:	Water	Batch Number:	8260W1699
Analyst:	JMR		8260W1702
			8260W1705

	Sample ID:	Blank	WOAK-7	WOAK-9	WOAK-10	WOAK-11	WOAK-8
Compounds	**DL**	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Ethylbenzene	0.5	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	50	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	ND	ND	ND	ND	ND
n-Propylbenzene	0.5	ND	ND	ND	ND	ND	ND
Styrene	0.5	ND	ND	ND	ND	ND	ND
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	ND	ND
Toluene	0.5	ND	ND	ND	ND	ND	ND
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	ND	ND
1,1,2-Trichloroethane	0.5	ND	ND	ND	ND	ND	ND
Trichloroethene	0.5	ND	ND	ND	ND	ND	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	ND	ND
1,2,4-Trimethylbenzene	0.5	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	0.5	ND	ND	ND	ND	ND	ND
Vinyl chloride	0.5	ND	ND	ND	ND	ND	ND
Xylenes (total)	1.5	ND	ND	ND	ND	ND	ND

Surrogates (% recovery) Limits: 80 - 130

Sample ID:	Blank	WOAK-7	WOAK-9	WOAK-10	WOAK-11	WOAK-8
Dibromofluoromethane	101	102	103	105	101	106
Toluene-d8	99	100	100	101	99	102
Bromofluorobenzene	108	106	106	102	104	105

EPA 8260 - Volatile Organics

Client:	PSI	Date Sampled:	05/20/99
Project:	Caltrans: 6th/Castro	Date Received:	05/21/99
Job No.:	14928	Date Analyzed:	5/26,28,29/99
Matrix:	Water	Batch Number:	8260W1699,1702,5
Analyst:	JMR		

	Sample ID:	Blank	WOAK-7	WOAK-9	WOAK-10	WOAK-11	WOAK-8
Compounds	**DL**	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
t-Butyl alcohol	50	ND	ND	ND	ND	ND	ND
Diisopropyl ether	5.0	ND	ND	ND	ND	ND	ND
Ethyl-t-butyl ether	5.0	ND	ND	ND	ND	ND	ND
t-Amyl-methyl ether	5.0	ND	ND	ND	ND	ND	ND

EPA 8260 - Volatile Organics

Client:	PSI	Date Sampled:	05/20/99
Project:	Caltrans: 6th/Castro	Date Received:	05/21/99
Job No.:	14928	Date Analyzed:	05/26-29/99
Matrix:	Water	Batch Number:	8260W1699
Analyst:	JMR		8260W1702
			8260W1705

Sample ID:		WOAK-3
Compounds	**DL**	**µg/L**
Acetone	50	ND
Benzene	0.5	**2.5**
Bromobenzene	1.0	ND
Bromochloromethane	1.0	ND
Bromodichloromethane	0.5	ND
Bromoform	0.5	ND
Bromomethane	0.5	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
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND

EPA 8260 - Volatile Organics

Client:	PSI	Date Sampled:	05/20/99
Project:	Caltrans: 6th/Castro	Date Received:	05/21/99
Job No.:	14928	Date Analyzed:	05/26-29/99
Matrix:	Water	Batch Number:	8260W1699
Analyst:	JMR		8260W1702
			8260W1705

Sample ID:		WOAK-3
Compounds	**DL**	µg/L
Ethylbenzene	0.5	**40**
Hexachlorobutadiene	0.5	ND
2-Hexanone	10	ND
Isopropylbenzene	0.5	**2.8**
p-Isopropyltoluene	0.5	ND
Methylene chloride	50	ND
4-Methyl-2-pentanone	5.0	ND
Methyl-tert-butyl ether (MtBE)	1.0	ND
Napthalene	0.5	**35**
n-Propylbenzene	0.5	**13**
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	**11**
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	**38**
1,3,5-Trimethylbenzene	0.5	**19**
Vinyl chloride	0.5	ND
Xylenes (total)	1.5	**100**

Surrogates (% recovery) Limits: 80 - 130

Sample ID:	WOAK-3
Dibromofluoromethane	104
Toluene-d8	101
Bromofluorobenzene	103

EPA 8260 - Volatile Organics

Client: PSI
Project: Caltrans: 6th/Castro
Job No.: 14928
Matrix: Water
Analyst: JMR

Date Sampled: 05/20/99
Date Received: 05/21/99
Date Analyzed: 5/26,28,29/99
Batch Number: 8260W1699,1702,5

	Sample ID:	WOAK-3
Compounds	**DL**	µg/L
t-Butyl alcohol	50	ND
Diisopropyl ether	5.0	ND
Ethyl-t-butyl ether	5.0	ND
t-Amyl-methyl ether	5.0	ND

QC Sample Report - EPA Method 8260

Matrix: Water
Batch #: 8260W1699

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration µg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
1,1-Dichloroethene	20.0	**118**	59 - 172	**Pass**
Benzene	20.0	**109**	66 - 142	**Pass**
Trichloroethene	20.0	**107**	71 - 137	**Pass**
Toluene	20.0	**107**	59 - 139	**Pass**
Chlorobenzene	20.0	**106**	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	23.7	24.7	**4%**	22%	**Pass**
Benzene	21.9	23.2	**6%**	21%	**Pass**
Trichloroethene	21.5	22.0	**2%**	24%	**Pass**
Toluene	21.6	22.9	**6%**	21%	**Pass**
Chlorobenzene	21.2	23.6	**10%**	21%	**Pass**

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Analytical Notes:

Centrum
(800) 798-9336

QC Sample Report - EPA Method 8260

Matrix: Water
Batch #: 8260W1702

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration µg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
1,1-Dichloroethene	20.0	**118**	59 - 172	**Pass**
Benzene	20.0	**114**	66 - 142	**Pass**
Trichloroethene	20.0	**106**	71 - 137	**Pass**
Toluene	20.0	**112**	59 - 139	**Pass**
Chlorobenzene	20.0	**112**	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	23.7	25.6	**8%**	22%	**Pass**
Benzene	22.8	23.6	**4%**	21%	**Pass**
Trichloroethene	21.3	23.7	**11%**	24%	**Pass**
Toluene	22.5	23.1	**2%**	21%	**Pass**
Chlorobenzene	22.5	24.3	**8%**	21%	**Pass**

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Analytical Notes:

Centrum
(800) 798-9336

QC Sample Report - EPA Method 8260

Matrix: Water
Batch #: 8260W1704

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration µg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
1,1-Dichloroethene	20.0	**124**	59 - 172	**Pass**
Benzene	20.0	**112**	66 - 142	**Pass**
Trichloroethene	20.0	**109**	71 - 137	**Pass**
Toluene	20.0	**108**	59 - 139	**Pass**
Chlorobenzene	20.0	**110**	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	24.8	24.1	**3%**	22%	**Pass**
Benzene	22.4	22.4	**0%**	21%	**Pass**
Trichloroethene	21.8	22.1	**1%**	24%	**Pass**
Toluene	21.7	23.0	**6%**	21%	**Pass**
Chlorobenzene	22.0	22.4	**2%**	21%	**Pass**

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Analytical Notes:

Centrum Analytical Laboratories, Inc.

Centrum Job # 14428

290 TENNESSEE STREET
REDLANDS, CA 92373

(909) 798-9336 • (800) 798-9336
FAX (909) 793-1559

Chain of Custody Record

Project No.: 575-9G034	Project Name: Caltrans: 6th / Castro
Project Manager: Frank Ross	Phone: (510) 785-1111 Fax: (510) 785-1192
Client Name: (Company) PSI	Address: 1320 W. Winton Ave, Hayward

Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	GCMS: 8260	8080: Pesticides PCBs Pest/PCB	8015M: Diesel	8015M: Gasoline	418.1 (TRPH)	Semivolatiles: 8270 625	Metals: TTLC(CAM) PP RCRA	Lead Only	pH TDS TSS Conductivity COD	Flashpoint Fluoride Hex Chrome	Total Lead (6010)	EDA 1664 (O&G)	Remarks/ Special Instructions
1	OAK7-0.15	5/20/94	730	S			X		X	X							X	X	
2	-0.30		735																
3	-0.90		740																
4	-1.50		745																
5	-3.0		750																
6	-4.5		755																
7	WOAK-7		810	W															
8	OAK9-0.15		830	S															
9	-0.30		835																
10	-0.90		840																

Turn-around time
- ☐ 24 Hr. RUSH*
- ☐ 48 Hr. RUSH*
- ☐ Normal TAT

* Requires prior approval, additional charges apply

Relinquished by: (Sampler's Signature)	Date 5/20/94	Time 1700	Relinquished by:	Date	Time
Received by:	Date	Time	Received by:	Date	Time
			Relinquished 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.			Received for Laboratory by:	Date 5/21/94	Time 9:00

To be completed by laboratory personnel:
- Samples chilled? ☐ Yes ☐ No
- Custody seals? ☐ Yes ☐ No
- All sample containers intact? ☐ Yes ☐ No
- ☐ Courier ☐ UPS/Fed Ex ☐ Hand carried

Sample Disposal
- ☐ Client will pick up
- ☐ Return to client
- ☐ Lab disposal fee $5

Laboratory Notes: Include oxygenates and EDB, EDC, in 8260.
Thanks

Sample Locator No.: E4

White Copy - Original (Accompanies Samples) Yellow Copy - Centrum Files Pink Copy - Client Copy

Centrum Analytical Laboratories, Inc.
290 TENNESSEE STREET
REDLANDS, CA 92373
(909) 798-9336 • (800) 798-9336
FAX (909) 793-1559

Centrum Job # 14928

Chain of Custody Record

Project No.: 575-96034
Project Name: Caltrans: 6th/Castro
Project Manager: Frank Poss
Phone: Fax:
Client Name: (Company) PSI
Address:

Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	GCMS: 8260	8080: Pesticides PCBs Pest/PCB	8015M: Diesel	8015M: Gasoline	418.1 (TRPH)	Semivolatiles: 8270 625	Metals: TTLC(CAM) PP RCRA	Lead Only	pH TDS TSS Conductivity COD	Flashpoint Fluoride Hex Chrome	Total Lead (6010)	EPA 1664 (O+G)	Remarks/ Special Instructions
11	OAK9 - 1.50	5/20/99	845	S			X		X	X							X	X	
12	- 3.0	↓	850	↓			↓		↓	↓							↓	↓	
13	- 4.5		855																
14	WOAK-9		905	W															
15	OAK10-0.15		1000	S															
16	- 0.30		1005																
17	- 0.90		1010																
18	- 1.50		1015																
19	- 3.0		1020																
26	- 4.5	↓	1025	↓			↓		↓	↓							↓	↓	

Turn-around time
- ☐ 24 Hr. RUSH*
- ☐ 48 Hr. RUSH*
- ☐ Normal TAT

* Requires prior approval, additional charges apply

Relinquished by: (Sampler's Signature)	Date 5/20/99	Time 1700	Relinquished by:	Date	Time
Received by:	Date	Time	Received by:	Date	Time
			Relinquished 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.			Received for Laboratory by:	Date 5/20/99	Time 9:00

To be completed by laboratory personnel:
Samples chilled? ☐ Yes ☐ No
Custody seals? ☐ Yes ☐ No
All sample containers intact? ☐ Yes ☐ No
☐ Courier ☐ UPS/Fed Ex ☐ Hand carried

Sample Disposal
- ☐ Client will pick up
- ☐ Return to client
- ☐ Lab disposal fee $5

Laboratory Notes:

Sample Locator No.
E-4

White Copy - Original (Accompanies Samples) Yellow Copy - Centrum Files Pink Copy - Client Copy

Centrum Analytical Laboratories, Inc.

290 TENNESSEE STREET
REDLANDS, CA 92373

(909) 798-9336 • (800) 798-9336
FAX (909) 793-1559

Centrum Job # 14928

Chain of Custody Record

Project No.: 575-96034
Project Name: Caltrans: 6th / Castro
Project Manager:
Phone:
Fax:
Client Name: (Company) PSI
Address:

Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	GCMS: 8260	8080: Pesticides PCBs Pest/PCB	8015M: Diesel	8015M: Gasoline	418.1 (TRPH)	Semivolatiles: 8270 625	Metals: TTLC(CAM) PP RCRA	Lead Only	pH TDS TSS Conductivity COD	Flashpoint Fluoride Hex Chrome	Total Lead (6010)	EPA 1664 (O+G)	Remarks/ Special Instructions
21	WOAK-10	5/20/99	1035	W			X		X	X							X	X	
22	OAK11-0.15		1100	S															
23	-0.30		1105																
24	-0.90		1110																
25	-1.50		1115																
26	-3.0		1120																
27	-4.5		1125	↓															
28	WOAK-11		1150	W															
29	OAK8-0.15		1205																
30	-0.30	↓	1210				↓		↓	↓							↓	↓	

Turn-around time
- ☐ 24 Hr. RUSH*
- ☐ 48 Hr. RUSH*
- ☐ Normal TAT

* Requires prior approval, additional charges apply

	Date	Time
Relinquished by: (Sampler's Signature)	5/20/99	1700
Received by:		
Relinquished by:		
Received by:		
Relinquished by:		
Received for Laboratory by:	5/20/99	9:00

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.

To be completed by laboratory personnel:
- Samples chilled? ☐ Yes ☐ No
- Custody seals? ☐ Yes ☐ No
- All sample containers intact? ☐ Yes ☐ No
- ☐ Courier ☐ UPS/Fed Ex ☐ Hand carried

Sample Disposal
- ☐ Client will pick up
- ☐ Return to client
- ☐ Lab disposal fee $5

Laboratory Notes:

Sample Locator No. 2-4

White Copy - Original (Accompanies Samples) | Yellow Copy - Centrum Files | Pink Copy - Client Copy

Centrum Analytical Laboratories, Inc.

290 TENNESSEE STREET
REDLANDS, CA 92373

(909) 798-9336 • (800) 798-9336
FAX (909) 793-1559

Chain of Custody Record

Centrum Job # 14928

Page 4 of 4

Project No.:	Project Name:	Project Manager:	Phone:	Fax:	Client Name: (Company)	Address:
575-96034	Caltrans: 6th/Castro				PSI	

Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	GCMS: 8260	8080: Pesticides PCBs Pest/PCB	8015M: Diesel	8015M: Gasoline	418.1 (TRPH)	Semivolatiles: 8270 625	Metals: TTLC(CAM) PP RCRA	Lead Only	pH TDS TSS Conductivity COD	Flashpoint Fluoride Hex Chrome	Total Lead (6010)	EPA 1664 (O+G)	Remarks/ Special Instructions
31	OAK 8-0.90	5/20/99	1215				X		X	X							X	X	
32	-1.50		1220																
33	-3.0		1225																
34	-4.5		1230																
35	WOAK-8		1250																
36	WOAK-3	5/19/99	1250				X		X	X							X	X	

Turn-around time
- ☐ 24 Hr. RUSH*
- ☐ 48 Hr. RUSH*
- ☐ Normal TAT

* Requires prior approval; additional charges apply

Relinquished by: (Sampler's Signature)	Date	Time	Relinquished by:	Date	Time
	5/20/99	1700			
Received by:	Date	Time	Received by:	Date	Time
			Relinquished 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.			Received for Laboratory by:	Date	Time
				5/20/99	9:00

To be completed by laboratory personnel:

Samples chilled? ☐ Yes ☐ No

Custody seals? ☐ Yes ☐ No

All sample containers intact? ☐ Yes ☐ No

☐ Courier ☐ UPS/Fed Ex ☐ Hand carried

Sample Disposal
- ☐ Client will pick up
- ☐ Return to client
- ☐ Lab disposal fee $5

Laboratory Notes:

Sample Locator No.
E-4

White Copy - Original (Accompanies Samples)

Yellow Copy - Centrum Files

Pink Copy - Client Copy

Centrum Analytical Laboratories, Inc.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

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

Date Sampled: 07/02/99
Date Received: 07/07/99
Job Number: 15151

Project: Caltrans: 6th & Castro

CASE NARRATIVE

The following information applies to samples which were received on 07/07/99 :

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.

Centrum
(800) 798-9336

Lead By ICP

Client:	PSI	Date Sampled:	07/02/99
Project:	Caltrans: 6th & Castro	Date Received:	07/07/99
Job No.:	15151	Date Digested:	07/07/99
Matrix:	Water	Date Analyzed:	07/08/99
Analyst:	RLB	Batch Number:	6010W1258
		Method Number:	6010

	Detection Limit	Lead
Sample ID	mg/L	mg/L
Method Blank	0.1	ND
MW-1	0.1	ND
MW-2	0.1	ND
MW-3	0.1	ND

Centrum
(800) 798-9336

QC Sample Report - Metals

Matrix: Water
Batch #: 6010W1258

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Compound	Spike Concentration mg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lead	1.0	**98.86**	75 - 125	**Pass**

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: 15148-2

Compound	Spike Sample Recovery mg/L	Spike Duplicate Recovery mg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lead	1.054	1.048	**1%**	20%	**Pass**

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
(800) 798-9336

EPA 413.2 - Oil & Grease

Client:	PSI	Date Sampled:	07/02/99
Project:	Caltrans: 6th & Castro	Date Received:	07/07/99
Job No.:	15151	Date Extracted:	07/07/99
Matrix:	Water	Date Analyzed:	07/07/99
Analyst:	JL/NG	Batch Number:	4132W1066

	Detection Limit	Total Oil & Grease
Sample ID	mg/L	mg/L
Method Blank	2.0	ND
MW-1	2.4	ND
MW-2	2.2	**6.3**
MW-3	2.3	ND

Centrum
(800) 798-9336

QC Report - EPA 413.2 Oil & Grease

Matrix: Water
Batch #: 4132W1066

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/Kg	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Reference Oil	10	110	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
Reference Oil	10.95	10.33	6%	25%	Pass

Analytical Notes:
Insufficient amount of sample available for MS/MSD analysis. An LCS/LCSD pair were analyzed to provide precision data for this batch.

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
(800) 798-9336

Modified 8015 - Total Extractable Petroleum Hydrocarbons as Diesel

Client:	PSI	Date Sampled:	07/02/99
Project:	Caltrans: 6th & Castro	Date Received:	07/07/99
Job No.:	15151	Date Extracted:	07/08/99
Matrix:	Water	Date Analyzed:	07/08/99
Analyst:	CP	Batch Number:	8015DW1680

	Detection Limit	Diesel	Surrogate (OTP)
Sample ID	mg/L	mg/L	Limit: 50 - 150%
Method Blank	0.40	ND	89 %
MW-1	0.40	ND	90 %
MW-2	4.00	ND	94 %
MW-3	0.40	ND	94 %

Centrum
(800) 798-9336

QC Sample Report - EPA 8015M Diesel

Matrix: Water
Batch #: 8015DW1680

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Diesel	0.8	**81**	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	0.65	0.66	**2%**	25%	**Pass**

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
(800) 798-9336

Modified 8015 - Total Volatile Hydrocarbons as Gasoline

Client:	PSI	Date Sampled:	07/02/99
Project:	Caltrans: 6th & Castro	Date Received:	07/07/99
Job No.:	15151	Date Analyzed:	07/08/99
Matrix:	Water	Batch Number:	8015GW2295
Analyst:	NBP		

	Detection Limit	Petroleum Hydrocarbons as Gasoline
Sample ID	mg/L	mg/L
Method Blank	0.5	ND
MW-1	0.5	ND
MW-2	0.5	**26**
MW-3	0.5	ND

Centrum
(800) 798-9336

QC Sample Report - EPA 8015M Gasoline

Matrix: Water
Batch #: 8015GW2295

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration mg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Gasoline	10.0	**93**	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	9.26	9.72	**5%**	25%	**Pass**

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics with Oxygenates

Client: PSI
Project: Caltrans: 6th & Castro
Job No.: 15151
Matrix: Water
Analyst: JMR

Date Sampled: 07/02/99
Date Received: 07/07/99
Date Analyzed: 07/09/99
Batch Number: 8260W1770

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

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics with Oxygenates

Client:	PSI	Date Sampled:	07/02/99
Project:	Caltrans: 6th & Castro	Date Received:	07/07/99
Job No.:	15151	Date Analyzed:	07/09/99
Matrix:	Water	Batch Number:	8260W1770
Analyst:	JMR		

	Sample ID:	Blank	MW-1	MW-3
Compounds	**DL**	µg/L	µg/L	µg/L
cis-1,3-Dichloropropene	0.5	ND	ND	ND
trans-1,3-Dichloropropene	0.5	ND	ND	ND
Diisopropyl Ether (DIPE)	5.0	ND	ND	ND
Ethylbenzene	0.5	ND	ND	ND
Ethyl tert-Butyl Ether (EtBE)	5.0	ND	ND	ND
Hexachlorobutadiene	0.5	ND	ND	ND
2-Hexanone	10	ND	ND	ND
Isopropylbenzene	0.5	ND	ND	ND
p-Isopropyltoluene	0.5	ND	ND	ND
Methylene chloride	50	ND	ND	ND
4-Methyl-2-pentanone	5.0	ND	ND	ND
Methyl-tert-butyl ether (MtBE)	1.0	ND	ND	ND
Napthalene	0.5	ND	ND	ND
n-Propylbenzene	0.5	ND	ND	ND
Styrene	0.5	ND	ND	ND
1,1,1,2-Tetrachloroethane	0.5	ND	ND	ND
1,1,2,2-Tetrachloroethane	1.0	ND	ND	ND
Tetrachloroethene	0.5	ND	ND	ND
Toluene	0.5	ND	ND	ND
1,2,3-Trichlorobenzene	0.5	ND	ND	ND
1,2,4-Trichlorobenzene	0.5	ND	ND	ND
1,1,1-Trichloroethane	0.5	ND	ND	ND
1,1,2-Trichloroethane	0.5	ND	ND	ND
Trichloroethene	0.5	ND	ND	ND
1,2,3-Trichloropropane	0.5	ND	ND	ND
Trichlorofluoromethane	0.5	ND	ND	ND
Trichlorotrifluoroethane	5.0	ND	ND	ND
1,2,4-Trimethylbenzene	0.5	ND	ND	ND
1,3,5-Trimethylbenzene	0.5	ND	ND	ND
Vinyl chloride	0.5	ND	ND	ND
Xylenes (total)	1.5	ND	ND	ND

Surrogates (% recovery) Limits: 80 - 130

	Sample ID:	Blank	MW-1	MW-3
Dibromofluoromethane		107	109	103
Toluene-d8		100	100	97
Bromofluorobenzene		94	97	96

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics with Oxygenates

Client: PSI
Project: Caltrans: 6th & Castro
Job No.: 15151
Matrix: Water
Analyst: JMR

Date Sampled: 07/02/99
Date Received: 07/07/99
Date Analyzed: 07/09/99
Batch Number: 8260W1770

	Sample ID:	MW-2
Compounds	**DL**	µg/L
Acetone	2500	ND
tert-Amyl Methyl Ether (TAME)	250	ND
Benzene	25	**780**
Bromobenzene	50	ND
Bromochloromethane	50	ND
Bromodichloromethane	25	ND
Bromoform	25	ND
Bromomethane	25	ND
tert-Butanol (TBA)	2500	ND
2-Butanone (MEK)	500	ND
n-Butylbenzene	25	ND
sec-Butylbenzene	25	ND
tert-Butylbenzene	25	ND
Carbon disulfide	500	ND
Carbon tetrachloride	25	ND
Chlorobenzene	25	ND
Chloroethane	25	ND
Chloroform	25	ND
Chloromethane	25	ND
2-Chlorotoluene	25	ND
4-Chlorotoluene	25	ND
Dibromochloromethane	25	ND
1,2-Dibromoethane	25	ND
1,2-Dibromo-3-chloropropane	500	ND
Dibromomethane	25	ND
1,2-Dichlorobenzene	25	ND
1,3-Dichlorobenzene	25	ND
1,4-Dichlorobenzene	25	ND
Dichlorodifluoromethane	25	ND
1,1-Dichloroethane	25	ND
1,2-Dichloroethane	25	**160**
1,1-Dichloroethene	25	ND
cis-1,2-Dichloroethene	25	ND
trans-1,2-Dichloroethene	25	ND
1,2-Dichloropropane	25	ND
1,3-Dichloropropane	25	ND
2,2-Dichloropropane	25	ND
1,1-Dichloropropene	25	ND

EPA 8260 - Volatile Organics with Oxygenates

Client:	PSI	Date Sampled:	07/02/99
Project:	Caltrans: 6th & Castro	Date Received:	07/07/99
Job No.:	15151	Date Analyzed:	07/09/99
Matrix:	Water	Batch Number:	8260W1770
Analyst:	JMR		

Sample ID:		MW-2
Compounds	**DL**	**µg/L**
cis-1,3-Dichloropropene	25	ND
trans-1,3-Dichloropropene	25	ND
Diisopropyl Ether (DIPE)	250	ND
Ethylbenzene	25	**1,300**
Ethyl tert-Butyl Ether (EtBE)	250	ND
Hexachlorobutadiene	25	ND
2-Hexanone	500	ND
Isopropylbenzene	25	**60**
p-Isopropyltoluene	25	ND
Methylene chloride	500	ND
4-Methyl-2-pentanone	250	ND
Methyl-tert-butyl ether (MtBE)	50	ND
Napthalene	25	**590**
n-Propylbenzene	25	**200**
Styrene	25	ND
1,1,1,2-Tetrachloroethane	25	ND
1,1,2,2-Tetrachloroethane	50	ND
Tetrachloroethene	25	ND
Toluene	25	**4,200**
1,2,3-Trichlorobenzene	25	ND
1,2,4-Trichlorobenzene	25	ND
1,1,1-Trichloroethane	25	ND
1,1,2-Trichloroethane	25	ND
Trichloroethene	25	ND
1,2,3-Trichloropropane	25	ND
Trichlorofluoromethane	25	ND
Trichlorotrifluoroethane	250	ND
1,2,4-Trimethylbenzene	25	**1,400**
1,3,5-Trimethylbenzene	25	**420**
Vinyl chloride	25	ND
Xylenes (total)	75	**5,000**

Surrogates (% recovery) Limits: 80 - 130

Sample ID:	MW-2
Dibromofluoromethane	103
Toluene-d8	95
Bromofluorobenzene	95

Centrum
(800) 798-9336

QC Sample Report - EPA Method 8260

Matrix: Water
Batch #: 8260W1770

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration µg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
1,1-Dichloroethene	20	**107**	59 - 172	**Pass**
Benzene	20	**113**	66 - 142	**Pass**
Trichloroethene	20	**112**	71 - 137	**Pass**
Toluene	20	**107**	59 - 139	**Pass**
Chlorobenzene	20	**115**	60 - 133	**Pass**

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: Laborotory 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	21.4	21.9	**2%**	22%	**Pass**
Benzene	22.7	22.4	**1%**	21%	**Pass**
Trichloroethene	22.3	22.4	**0%**	24%	**Pass**
Toluene	21.7	21.8	**0%**	21%	**Pass**
Chlorobenzene	23.1	22.1	**4%**	21%	**Pass**

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum Analytical Laboratories, Inc.
290 TENNESSEE STREET
REDLANDS, CA 92373
(909) 798-9336 • (800) 798-9336
FAX (909) 793-1559

Centrum Job # 15151

Chain of Custody Record

Page 1 of 1

Project No.: 96034	Project Name: Caltrans 6th & Castro		
Project Manager: FRANK POSS	Phone: 510 785-1111	Fax: 510 785-1192	
Client Name: (Company) PSI	Address: 1320 W. WINTON AVE HAYWARD, CA 94545		

Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	GCMS 8260 8240 8010 524.2 (circled)	8080: Pesticides PCBs Pest/PCB	8015M: Diesel Fuel Screen	8015M Gasoline 8020 Gas/BTEX	418.1 (TRPH)	Semivolatiles: 8270 625	Metals: TTLC(CAM) PP RCRA	Lead Only	pH TDS TSS Conductivity COD	Flashpoint Fluoride Hex Chrome	EPA 1664 OIL+GREASE			Remarks/ Special Instructions
1	MW-1	7/2/99	1110	H_2O	6TH + CASTRO	9	X		X	X				X			X			
2	MW-2	↓	1150	↓	↓	↓	X		X	X				X			X			
3	MW-3	↓	1020	↓	↓	↓	X		X	X				X			X			

Turn-around time
- ☐ 24 Hr. RUSH*
- ☐ 48 Hr. RUSH*
- ● Normal TAT

* Requires prior approval, additional charges apply

Relinquished by: (Sampler's Signature)	Date	Time	Relinquished by:	Date	Time
CHRIS MERRITT	7/6/99	1700			
Received by:	Date	Time	Received by:	Date	Time
			Relinquished 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.			Received for Laboratory by: Ann Bart	Date 7/7/99	Time 9:30

To be completed by laboratory personnel:
- Samples chilled? ☐ Yes ☐ No
- Custody seals? ☐ Yes ☐ No
- All sample containers intact? ☐ Yes ☐ No
- ☐ Courier ☐ UPS/Fed Ex ☒ Hand carried Airborne Express

Sample Disposal
- ☐ Client will pick up
- ☐ Return to client
- ☐ Lab disposal fee $5

Laboratory Notes: REPORT NON DETECT AT ANALYTICAL METHOD DETECTION LIMIT.
FILTER LEAD PRIOR TO ANALYSIS

Sample Locator No. D-2

White Copy - Original (Accompanies Samples) | Yellow Copy - Centrum Files | Pink Copy - Client Copy

Centrum Analytical Laboratories, Inc.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

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

Date Sampled: 05/20/99
Date Received: 05/21/99
Job Number: 14928A

Project: Caltrans: 6th/Castro

CASE NARRATIVE

The following information applies to samples which were received on 05/21/99 :

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

The Moisture Content, Soil Porosity, and Total Organic Carbon analyses were subcontracted to Core Laboratories, Bakersfield, CA. The original report is attached to, but is not part of, this report.

This report is an addendum to Centrum Job #14928 and contains data not included in the original report. The results reported previously have not been changed. The date of issue for this addendum is 07/15/99.

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.

Centrum
(800) 798-9336

STLC Lead By ICP

Client:	PSI	Date Sampled:	05/20/99
Project:	Caltrans: 6th/Castro	Date Received:	05/21/99
Job No.:	14928A	Date Extracted:	07/07/99
Matrix:	STLC Leachate*	Date Analyzed:	07/09-12/99
Analyst:	RLB	Batch Number:	6010W1260
		Method Number:	6010

	Detection Limit	Lead
Sample ID	mg/L	mg/L
Method Blank	2.5	ND
OAK7-0.15	2.5	5.0
OAK7-0.30	2.5	4.9
OAK9-0.15	2.5	4.6
OAK9-0.30	2.5	16
OAK11-0.15	2.5	38
OAK8-0.30	2.5	8.0
OAK8-0.90	2.5	22

* Sample was prepared by CAC Title 22 Method 66700 (STLC).

Centrum
(800) 798-9336

QC Sample Report - Metals

Matrix: Water
Batch #: 6010W1260

Batch Accuracy Results

Sample ID: Initial Calibration Verification Standard

Compound	Spike Concentration mg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lead	1.0	101.9	75 - 125	Pass

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: Initial Calibration Verification Standard

Compound	Spike Sample Recovery mg/L	Spike Duplicate Recovery mg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lead	1.019	1.052	3%	20%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

CORE LAB

PETROLEUM SERVICES

Marilu Escher
Centrum Analytical Laboratories, Inc.
290 Tennessee Street
Redlands, CA 92373

July 12, 1999

Subject: Transmittal of Geotechnical Analysis Results
Project No. : 14928
Core Lab File No.: 57111-99134

Dear Ms Escher:

Soil samples were submitted to our Bakersfield laboratory for geotechnical and chemical testing. Moisture content and total porosity were the requested geotechnical analyses. Chemical tests included total organic carbon content. Accompanying this letter, please find the results of this study.

Moisture content was determined using standard ASTM methods, D-2216. Total porosities were measured and calculated as described in API RP-40, API Recommended Practice for Core-Analysis Procedure, 1960. Total organic carbon contents were determined by our Anaheim ACD Lab using EPA 9060 (SM 5310 B).

We appreciate this opportunity to be of service to you. Should you have any questions, or if we may be of further help in the future, please do not hesitate to contact us.

Very truly yours,

Jeff Smith NW

Jeffry L. Smith
Laboratory Supervisor - Rock Properties

JLS:nw
1 original report: Addressee

CORELAB

Centrum Analytical Labs, Inc.

CalTrans : 6th / Castro

Project No. : 14928

C.L. File No. : 57111-99134

Sample ID	Sample Date	Sample Time	Site Location	Moisture Content %	Total Porosity %	TOC ppm	Description
OAK11-1.5	5/20/99	--	14928-25	22.7	37.6	2250	Gray vfgr v silty v clayey sand

7/12/99

CORE LABORATORIES

ANALYTICAL REPORT

JOB NUMBER: 991226

Prepared For:

Core Laboratories
3430 Unicorn Road
Bakersfield, CA 93308

Attention: Jeff Smith

Date: 07/08/1999

Signature

Name: Tim Scott

Title: Laboratory Manager

7/8/99
Date

1250 E. Gene Autry Way
Anaheim, CA 92805

PHONE: (714) 937-1094
FAX..: (714) 937-1170

CA. E. L. A. P. 1174
L. A. C. S. D. 10146

CORE LABORATORIES

SAMPLE INFORMATION
Date: 07/08/1999

Job Number.: 991226
Customer...: Core Laboratories
Attn.....: Jeff Smith

Project Number.....: 97000255
Customer Project ID....: 14928
Project Description....: Refer to Customer Project I.D.

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
991226-1	OAK11-1.5	Soil	05/20/1999	00:00	07/02/1999	10:30

CORE LABORATORIES

LABORATORY TEST RESULTS

Job Number: 991226

Date: 07/08/1999

CUSTOMER: Core Laboratories | PROJECT: 14928 | ATTN: Jeff Smith

Customer Sample ID: OAK11-1.5
Date Sampled.....: 05/20/1999
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 991226-1
Date Received.....: 07/02/1999
Time Received.....: 10:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
SM 5310 B	Organic Carbon, Total (TOC), Solid	2250	100.0	mg/Kg	07/06/99	gwd

CORE LABORATORIES

QUALITY CONTROL RESULTS

Job Number.: 991226

Report Date.: 07/08/1999

CUSTOMER: Core Laboratories

PROJECT: Refer to Customer Project I.D. ATTN: Jeff Smith

Test Method.....: SM 5310 B
Method Description.: Total Organic Carbon
Parameter.....: Organic Carbon, Total (TOC)

Batch.....: 7081
Units.....: mg/L

Analyst...: gwd
Test Code.: TOC

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result *	Limits	F	Date	Time
LCS		E80379	1083		1000		108	90-110		07/06/1999	0000
LCS		E80379	1019	1083	1000		102	90-110		07/06/1999	0000
MB			5.01							07/06/1999	0000

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

CORE LABORATORIES

ANALYTICAL SUMMARY REPORT

Job Number: 991226

Report Date: 07/08/19

CUSTOMER: Core Laboratories | PROJECT: 14928 | ATTN: Jeff Smith

BATCH	7081	ANALYTICAL METHOD	SM 5310 B	DESCRIPTION	Total Organic Carbon	ANALYST	gwd

Lab Sample ID	Client Sample Identification	Sample Matrix	Test Matrix	Sample Date	Sample Time	Analysis Date	Analysis Time	Dil/Corr. Factor
991226-1	OAK11-1.5	Soil	Solid	05/20/99	0000	07/06/99	0000	1

CORE LABORATORIES

QUALITY ASSURANCE FOOTER

METHOD REFERENCES

(1) EPA SW-846, Test Methods for Evaluating Solid Waste, Third Edition, September 1986, and Updates I, II, IIA, IIB, and III
(2) Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1995
(3) EPA 600/4-79-020, Methods of Chemical Analysis for Waters and Wastes, March 1983
(4) Federal Register, Friday, October 26, 1984 (40 CFR Part 136) and amendments
(5) American Society for Testing and Materials, Volumes 5.01, 5.02, 5.03, 1992
(6) EPA 600/4-89-001, Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Fresh Water Organisms
(7) EPA 600/4-90-027, Methods for Measuring the Acute Toxicity of Effluent and Receiving Waters to Fresh Water and Marine Organisms, Fourth Edition

COMMENTS

All methods of chemical analysis have a statistical uncertainty associated with the results. Unless otherwise indicated, the data in this report are within the limits of uncertainty as specified in the referenced method. Quality control acceptance criteria are based either on limits specified in the referenced method or on actual laboratory performance. The date and time of analysis indicated on the report may not reflect the actual time of analysis for QC samples. Data reported in the QC report may be lower than sample data due to dilution of samples into the calibration range of the analysis. Sample concentrations for solid samples are calculated on an as received (wet) basis unless otherwise indicated. Unless otherwise indicated, volatiles by gas chromatography (GC) are reported from a single column. Volatiles analyses by GC on low level soils are conducted at room temperature. TCLP extractions are performed at sample amounts, approved by the State of California.

FLAGS, FOOTNOTES, AND ABBREVIATIONS (as needed)

NA = Not analyzed
N/A = Not applicable
ug/L = Micrograms per liter
mg/L = Milligrams per liter
ND = Not detected at a value greater than the reporting limit
NC = Not calculable due to values lower than the detection limit
N.I. = Not Ignitable
S.I. = Sustains Ignition
I(NS) = Ignites, but does not Sustain Ignition
RPD = Relative Percent Difference
(a) = Surrogate recoveries were outside QC limits to due matrix effects.
(b) = Surrogate recoveries were not calculated due to dilution of the sample below the detectable range for the surrogate.
(c) = Matrix spike recoveries were outside QC limits due to matrix effects.
(d) = Relative Percent Difference (RPD) for duplicate analysis outside QC limits due to actual differences in the sample matrix.
(e) = The limit listed for flammability indicates the upper limit for the test. Samples are not tested at temperatures above 140 Fahrenheit since only samples which will sustain ignition at temperatures below 140 are considered flammable.
(f) = Results for this hydrocarbon range did not match a typical hydrocarbon pattern. Results were quantified using a diesel standard, however, the hydrocarbon pattern did not match a diesel pattern.
(g) = Results for this hydrocarbon range did not match a typical hydrocarbon pattern. Results were quantified using a gasoline standard, however, the hydrocarbon pattern did not match a gasoline pattern.
(h) = High dilution due to matrix effects

QC SAMPLE IDENTIFICATIONS

MB = Method Blank
RB = Reagent Blank
ICB = Initial Calibration Blank
CCB = Continuing Calibration Blank
CS = Calibration Standard
ICV = Initial Calibration Verification
CCV = Continuing Calibration Verification
SB = Storage Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate
MD = Matrix Duplicate
BS = Blank Spike
SS = Surrogate Spike
LCS = Laboratory Control Standard
RS = Reference Standard

SUBCONTRACTED LABORATORY LOCATIONS

Core Laboratories:	Aurora, Colorado	*AU
	Casper, Wyoming	*CA
	Carson, California	*CP
	Corpus Christi, Texas	*CC
	Edison, New Jersey	*ED
	Houston, Texas (Env)	*HE
	Houston, Texas (Pet)	*HP
	Indianapolis, Indiana	*IN
	Lake Charles, Louisiana	*LC
	Valparaiso, Indiana	*VP
	Bakersfield, California	*BK

1250 Gene Autry Way Autry Way
Anaheim, CA 92805
(714) 937-1094 /u/matt/logs_n_forms/footer.form

CORE LABORATORIES

rpjsckl — Job Sample Receipt Checklist Report — V2
07/02/1999

Job Number.....: 991226 Location.: 57218 Customer Job ID.....: Job Check List Date.: 07/02/1999
Project Number.: 97000255 Project Description.: Refer to Customer Project I.D. Project Manager.....: tas
Customer.....: Core Laboratories Contact.: Jeff Smith

Questions ?	(Y/N) Comments
Chain-of-Custody Present?	Y
...If "yes", completed properly?	Y
Custody seal on shipping container?	N
...If "yes", custody seal intact?	
Custody seals on sample containers?	N
...If "yes", custody seal intact?	
Samples chilled?	Y
Temperature of cooler acceptable? (4 deg C +/- 2).	Y
Temperature measured from temperature blank?	
Samples received intact (good condition)?	Y
Volatile samples acceptable? (no headspace)	
Correct containers used?	
Adequate sample volume provided?	Y
Samples preserved correctly?	Y
Samples received within holding-time?	Y
Agreement between COC and sample labels?	Y
Open cooler radioactive screen at or below bkgrd?.	
Additional	
Comments	
Sample Custodian Signature/Date	

Centrum Analytical Laboratories, Inc.

290 TENNESSEE STREET
REDLANDS, CA 92373

(909) 798-9336 • (800) 798-9336
FAX (909) 793-1559

Centrum Job # 14928

Chain of Custody Record

Project No.:	Project Name:		
375-96034	Caltrans: 6th / Castro		
Project Manager:	**Phone:**	**Fax:**	
Frank Ross	(510) 785-1111	(510) 785-1192	
Client Name: (Company)	**Address:**		
PSI	1320 W. Winton Ave, Hayward		

Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	GCMS: 8260 ~~8240 8260 5242~~	8080: Pesticides PCBs Pest/PCB	8015M: Diesel ~~Fuel Oxygenates~~	8015M: Gasoline ~~8021~~	418.1 (TRPH)	Semivolatiles: 8270 625	Metals: TTLC(CAM) PP RCRA	Lead Only	pH TDS TSS Conductivity COD	Flashpoint Fluoride Hex Chrome	Total Lead (6010)	EPA 1664 (O+G)	SEE REMARKS	Remarks/ Special Instructions
1	OAK7-0.15	5/20/99	730	S			X		X	X							X	X	⊗	STLC Pb
2	-0.30		735																⊗	
3	-0.90		740																	
4	-1.50		745																	
5	-3.0		750																	
6	-4.5		755																	
7	WOAK-7		810	W																
8	OAK9-0.15		830	S															⊗	STLC Pb
9	-0.30		835																⊗	
10	-0.90		840																	

Relinquished by: (Sampler's Signature)	Date	Time	Relinquished by:	Date	Time
	5/20/99	1700			
Received by:	**Date**	**Time**	**Received by:**	**Date**	**Time**
			Relinquished 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.			**Received for Laboratory by:**	**Date**	**Time**
				5/21/99	9:00

To be completed by laboratory personnel:

Samples chilled? ☐ Yes ☐ No

Custody seals? ☐ Yes ☐ No

All sample containers intact? ☐ Yes ☐ No

☐ Courier ☐ UPS/Fed Ex ☐ Hand carried

Turn-around time

- ☐ 24 Hr. RUSH*
- ☐ 48 Hr. RUSH*
- ☐ Normal TAT

* Requires prior approval, additional charges apply

Sample Disposal

- ☐ Client will pick up
- ☐ Return to client
- ☐ Lab disposal fee $5

Laboratory Notes: Include oxygenates and EDB, EDC, in 8260.

Thanks

Sample Locator No. E-4

White Copy - Original (Accompanies Samples) | Yellow Copy - Centrum Files | Pink Copy - Client Copy

Centrum Analytical Laboratories, Inc.

290 TENNESSEE STREET
REDLANDS, CA 92373

(909) 798-9336 • (800) 798-9336
FAX (909) 793-1559

Centrum Job # 14928

Chain of Custody Record

Project No.:	Project Name:	Project Manager:	Phone:	Fax:	Client Name: (Company)	Address:
575-90034	Caltrans: 6th/Castro.	Frank Poss			PST	

Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	GCMS: 8260	8080: Pesticides PCBs Pest/PCB	8015M: Diesel	8015M: Gasoline	418.1 (TRPH)	Semivolatiles: 8270 625	Metals: TTLC(CAM) PP RCRA	Lead Only	pH TDS TSS Conductivity COD	Flashpoint Fluoride Hex Chrome	Total Lead (6010)	EPA 1664 (O+G)	Sec. Remarks
11	OAK9 - 1.50	5/20/99	845	S			X		X	X							X	X	
12	- 3.0		850																
13	- 4.5		855																
14	WOAK-9		905	W															
15	OAK10-0.15		1000	S															⊗ STLC Pb
16	- 0.30		1005																⊗
17	- 0.90		1010																
18	- 1.50		1015																
19	- 3.0		1020																
20	- 4.5		1025																

Turn-around time
- ☐ 24 Hr. RUSH*
- ☐ 48 Hr. RUSH*
- ☐ Normal TAT

* Requires prior approval, additional charges apply

Remarks/ Special Instructions

Relinquished by: (Sampler's Signature)	Date	Time	Relinquished by:	Date	Time
	5/20/99	1700			
Received by:	**Date**	**Time**	**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.			**Relinquished by:**	**Date**	**Time**
			Received for Laboratory by:	Date 5/20/99	Time 9:00

To be completed by laboratory personnel:
- Samples chilled? ☐ Yes ☐ No
- Custody seals? ☐ Yes ☐ No
- All sample containers intact? ☐ Yes ☐ No
- ☐ Courier ☐ UPS/Fed Ex ☐ Hand carried

Sample Disposal
- ☐ Client will pick up
- ☐ Return to client
- ☐ Lab disposal fee $5

Laboratory Notes:

Sample Locator No.
E-4

White Copy - Original (Accompanies Samples) | Yellow Copy - Centrum Files | Pink Copy - Client Copy

Centrum Analytical Laboratories, Inc
290 TENNESSEE STREET
REDLANDS, CA 92373
(909) 798-9336 • (800) 798-9336
FAX (909) 793-1559

Centrum Job # 14928

Chain of Custody Record

Project No.: 575-96034	Project Name: Caltrans: 6th/Easton
Project Manager:	Phone: Fax:
Client Name: (Company) PSI	Address:

Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	GCMS: 8260	8080: Pesticides PCBs Pest/PCB	8015M: Diesel	8015M: Gasoline	418.1 (TRPH)	Semivolatiles: 8270 625	Metals: TTLC(CAM) PP RCRA	Lead Only	pH TDS TSS Conductivity COD	Flashpoint Fluoride Hex Chrome	Total Lead (6010)	EPA 1664 (O&G)	See remarks	Remarks/ Special Instructions
21	WOAK-10	5/20/99	1035	W			X		X	X							X	X		
22	OAK11-0.15		1100	S															⊗	STLC Pb
23	-0.30		1105																	
24	-0.90		1110																	
25	-1.50		1115																⊗	TOC ; Porosity ; Moisture Content
26	-3.0		1120																	
27	-4.5		1125																	
28	WOAK-11		1150	W																
29	OAK8-0.15		1205																	
30	-0.30		1210																⊗	STLC Pb

Relinquished by: (Sampler's Signature)	Date 5/20/99	Time 1700	Relinquished by:	Date	Time
Received by:	Date	Time	Received by:	Date	Time
			Relinquished 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.			Received for Laboratory by:	Date 5/20/99	Time 9:00

To be completed by laboratory personnel:

Samples chilled? ☐ Yes ☐ No

Custody seals? ☐ Yes ☐ No

All sample containers intact? ☐ Yes ☐ No

☐ Courier ☐ UPS/Fed Ex ☐ Hand carried

Turn-around time

- ☐ 24 Hr. RUSH*
- ☐ 48 Hr. RUSH*
- ☐ Normal TAT

* Requires prior approval, additional charges apply

Sample Disposal

- ☐ Client will pick up
- ☐ Return to client
- ☐ Lab disposal fee $5

Laboratory Notes:

Sample Locator No. 4-4

White Copy - Original (Accompanies Samples) Yellow Copy - Centrum Files Pink Copy - Client Copy

Centrum Analytical Laboratories, Inc.
290 TENNESSEE STREET
REDLANDS, CA 92373
(909) 798-9336 • (800) 798-9336
FAX (909) 793-1559

Centrum Job # 14928

Chain of Custody Record

Project No.: 575-960341 | Project Name: Caltrans: 6th / Castro

Project Manager: | Phone: | Fax:

Client Name: (Company) PSI | Address:

Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	GCMS: 8260	8080: Pesticides PCBs Pest/PCB	8015M: Diesel	8015M: Gasoline	418.1 (TRPH)	Semivolatiles: 8270 625	Metals: TTLC(CAM) PP RCRA	Lead Only	pH TDS TSS Conductivity COD	Flashpoint Fluoride Hex Chrome	Total Lead (6010)	EPA 1664 (O+G)	See remarks
31	OAK 8-0.90	5/20/94	1215				X		X	X							X	X	X
32	-1.50		1220				↓		↓	↓							↓	↓	
33	-3.0		1225																
34	-4.5		1230																
35	WOAK-8	↓	1250																
36	WOAK-3	5/19/94	1250				X		X	X							X	X	

Turn-around time
- ☐ 24 Hr. RUSH*
- ☐ 48 Hr. RUSH*
- ☐ Normal TAT

* Requires prior approval additional charges apply

Remarks/ Special Instructions: STLC Pb

Relinquished by: (Sampler's Signature)	Date	Time	Relinquished by:	Date	Time
	5/20/94	1700			
Received by:	Date	Time	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.			Relinquished by:	Date	Time
			Received for Laboratory by:	Date 5/20/94	Time 9:00

To be completed by laboratory personnel:
- Samples chilled? ☐ Yes ☐ No
- Custody seals? ☐ Yes ☐ No
- All sample containers intact? ☐ Yes ☐ No
- ☐ Courier ☐ UPS/Fed Ex ☐ Hand carried

Sample Disposal
- ☐ Client will pick up
- ☐ Return to client
- ☐ Lab disposal fee $5

Laboratory Notes:

Sample Locator No. E--44

White Copy - Original (Accompanies Samples) | Yellow Copy - Centrum Files | Pink Copy - Client Copy

Western Atlas International
A Litton/Dresser Company

CORE LABORATORIES

3430 Unicorn Rd.
Bakersfield, CA 93308
(805) 392-8600 Fax (805) 392-0824

Analysis Request and Chain of Custody Record

Lab Job No: [redacted]
Page 1 of 2

REQUIRED TAT:

CUSTOMER INFORMATION	PROJECT INFORMATION
COMPANY: Cantrum	PROJECT NAME/NUMBER: 14928
SEND REPORT TO: Jeff Smith	BILLING INFORMATION
ADDRESS: Core Lab - Bakersfield	BILL TO:
	ADDRESS:
PHONE: 661 - 392-8600	PHONE:
FAX:	FAX: PO #

SAMPLE #	SAMPLE ID	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER TYPE	PRES.	NUMBER OF CONTAINERS	ANALYSIS/METHOD REQUEST: TOC	REMARKS/PRECAUTIONS
1	OAK11-1.5						1	X	CLF # 57111 - 9934

SAMPLER: PRINT NAME & INITIAL: SHIPMENT METHOD:

1. RELINQUISHED BY:	DATE	2. RELINQUISHED BY:	DATE	3. RELINQUISHED BY:	DATE
SIGNATURE: Jeff Casabon	7/01	SIGNATURE:		SIGNATURE:	
PRINTED NAME:	TIME	PRINTED NAME:	TIME	PRINTED NAME:	TIME
COMPANY: Core Lab - Bakersfield	2PM	COMPANY:		COMPANY:	
1. RECEIVED BY:	DATE	2. RECEIVED BY:	DATE	3. RECEIVED FOR LAB BY:	DATE
SIGNATURE: Maria Puga	7/2/99	SIGNATURE:		SIGNATURE:	
PRINTED NAME:	TIME	PRINTED NAME:	TIME	PRINTED NAME:	TIME
COMPANY: CORE	10:30	COMPANY:		COMPANY:	

See reverse side for sampling inst

2 of 2

Centrum Analytical Laboratories, Inc.

290 TENNESSEE STREET
REDLANDS, CA 92373
www.centrum-labs.com

(909) 798-9336 • (800) 798-9336
FAX (909) 793-1559
lab@centrum-labs.com

Centrum Job #

Chain of Custody Record

Page 1 of 1

Project No:	Project Name:
14928	Caltrans: 6th/Castro
Project Manager:	**Phone:** / **Fax:**
Marilu Eschen	909 798-9336 / 909 793-1559
Client Name: (Report and Billing)	**Address:** (Report and Billing)
Centrum Analytical Laboratories	290 tennessee street Redlands, CA 92373

Please Circle Analyses Requested

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/MtBE ONLY	418.1 (TRPH), 413.2	X Moisture Content	GCMS: 8260B, 8021B, 624, 524.2	GCMS: MtBE Conf. Only	GCMS: 8270C, 625	8080: Pesticides, PCBs: Pest/PCB		Metals: Title 22 (CAM), RCRA, PP	pH, TDS, TSS, Conductivity	Flashpoint, Hex Cr	X Porosity	X TOC
	OAK11-1.5	5/20		Soil	14928-25	1 TUBE					X									X	X

Turn-Around Time

- ☐ 24 Hr. RUSH*
- ☐ 48 Hr. RUSH*
- ☒ Normal TAT

*Requires PRIOR approval, additional charges apply

Requested due date: _____

Remarks/Special Instructions

CLF# 99134

1) Relinquished by: (Sampler's Signature)	Date:	Time:	3) Relinquished by:	Date:	Time:
	6/29/09	11:30			
2) Received by:	Date:	Time:	4) Received by: Gil Casabar - Core Lab	Date: 7-01	Time: 1PM
			5) Relinquished by:	Date:	Time:
			6) Received for Laboratory by: Maria Puga	Date: 7/2/09	Time: 10:30

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.

To be completed by Laboratory personnel:

Samples chilled? ☐ Yes ☐ No ☐ From Field

Custody seals? ☐ Yes ☐ No

All sample containers intact? ☐ Yes ☐ No

☐ Courier ☐ UPS/Fed Ex ☐ Hand carried

Sample Disposal

- ☐ Client will pick up
- ☒ Return to client
- ☐ Lab disposal

Laboratory Notes:

Sample Locator No.

White Copy - Original (Accompanies Samples) | Yellow Copy - Centrum Files | Pink Copy - Centrum duplicate | Gold Copy - Client Copy

Centrum Analytical Laboratories, Inc.

290 TENNESSEE STREET
REDLANDS, CA 92373

(909) 798-9336 • (800) 798-9336
FAX (909) 793-1559

Chain of Custody Record

Centrum Job # 14911

Project No.:	Project Name:
575-9G034	Caltrans: 6th/Castro
Project Manager: Frank Poss	**Phone:** 510 785-1111 **Fax:** (510) 785-1692
Client Name: (Company) PSI	**Address:**

Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	GCMS: 8260	8080: Pesticides PCBs Pest/PCB	8015M: Diesel	8015M: Gasoline	Soil Porosity	Semivolatiles: 8270 625	Metals: TTLC(CAM) PP RCRA	TOC (9060)	pH TDS TSS Conductivity COD	Flashpoint Fluoride Hex Chrome	EPA 1664 (O&G)	6010 (Total Lead)	Moisture Content	Remarks/ Special Instructions
1	OAK1-0.15	5/19/99	9:30	S			X		X	X							X	X		
2	-0.30		9:35																	
3	-0.90		9:40																	
4	-1.50		9:45																	
5	-3.0		9:50								X	NO	X						X	NO
6	-4.5		10:00																	
7	WOAK-2		10:30	W																
8	OAK1-0.15		1040	S																
9	-0.30		1045																	
10	-0.90		1050																	

Turn-around time
- ☐ 24 Hr. RUSH*
- ☐ 48 Hr. RUSH*
- ☒ Normal TAT

* Requires prior approval, additional charges apply

Relinquished by: (Sampler's Signature)	Date	Time	Relinquished by:	Date	Time
	5/19/99	1700			
Received by:	**Date**	**Time**	**Received by:**	**Date**	**Time**
			Relinquished 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.			**Received for Laboratory by:**	Date 5/20	Time 9:45

To be completed by laboratory personnel:
- Samples chilled? ☒ Yes ☐ No
- Custody seals? ☐ Yes ☐ No
- All sample containers intact? ☐ Yes ☐ No
- ☐ Courier ☐ UPS/Fed Ex ☐ Hand carried

Sample Disposal
- ☐ Client will pick up
- ☐ Return to client
- ☐ Lab disposal fee $5

Laboratory Notes: Include oxygenates in 8260
" " EDB, EDC
Thanks

Sample Locator No.

White Copy - Original (Accompanies Samples) | Yellow Copy - Centrum Files | Pink Copy - Client Copy

Centrum Analytical Laboratories, Inc.

290 TENNESSEE STREET
REDLANDS, CA 92373

(909) 798-9336 • (800) 798-9336
FAX (909) 793-1559

Chain of Custody Record

Centrum Job # 14111

Project No.: 575-90034

Project Name: Caltrans: 6th/Castro

Project Manager:

Phone:

Fax:

Client Name: (Company) PSI

Address:

Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	GCMS: 8260 8240 8010 524.2	8080: Pesticides PCBs Pest/PCB	8015M: Diesel Fuel Screen	8015M: Gasoline 8020 Gas/BTEX	Soil Porosity	Semivolatiles: 8270 625	Metals: TTLC(CAM) PP RCRA	STLC 7OL (9060)	pH TDS TSS Conductivity COD	Flashpoint Fluoride Hex Chrome	EPA 1664 (O+G)	6010 (Total Lead)	Moisture Content	Remarks/ Special Instructions
11	OAK1-1.50	5/19/99	1055	S			X	X	X	X							X	X		TBC: Moisture content, Porosity
1A	-3.0		1100								X	NO		X					X	NO
1'	-4.5		1105	↓																
1C'	WOAK-1		1115	W																
1'	OAK3-0.15		1200	S				X												STLC Pb
1'	-0.30		1205					X												TTLC Pb
1'	-0.90		1210																	
1'	-1.50		1220					X												TBC: Moisture content, Porosity
1'	-3.0		1225																	
1'	-4.5	↓	1230	↓			↓		↓	↓							↓	↓		

Turn-around time
- ☐ 24 Hr. RUSH*
- ☐ 48 Hr. RUSH*
- ☒ Normal TAT

* Requires prior approval, additional charges apply

Relinquished by: (Sampler's Signature)	Date	Time	Relinquished by:	Date	Time
	5/19/99	1700			
Received by:	Date	Time	Received by:	Date	Time
			Relinquished by:	Date	Time
			Received for Laboratory by:	5/20/99	9:00

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.

To be completed by laboratory personnel:
- Samples chilled? ☒ Yes ☐ No
- Custody seals? ☐ Yes ☐ No
- All sample containers intact? ☐ Yes ☐ No
- ☐ Courier ☐ UPS/Fed Ex ☐ Hand carried

Sample Disposal
- ☐ Client will pick up
- ☐ Return to client
- ☐ Lab disposal fee $5

Laboratory Notes:

Sample Locator No.

White Copy - Original (Accompanies Samples)

Yellow Copy - Centrum Files

Pink Copy - Client Copy

Centrum Analytical Laboratories, Inc.

290 TENNESSEE STREET
REDLANDS, CA 92373

(909) 798-9336 • (800) 798-9336
FAX (909) 793-1559

Chain of Custody Record

Centrum Job #

Page 3 of 5

Project No.: 575 - 90034

Project Name: Caltrans: 6th / Castro

Project Manager:

Phone:

Fax:

Client Name: (Company) PSI

Address:

Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	GCMS: 8260	8080: Pesticides PCBs Pest/PCB	8015M: Diesel Fuel Screen	8015M: Gasoline 8020 Gas/BTEX	Soil Polarity	Semivolatiles: 8270 625	Metals: TTLC(CAM) PP RCRA	TOC (9060)	pH TDS TSS Conductivity COD	Flashpoint Fluoride Hex Chrome	EPA 1664 (O+G)	6010 (Total Lead)	Moisture Content	Remarks/ Special Instructions
1	WOAK-3	5/19/99	1250	W			X		X	X							X	X		
2	OAK4 -0.15		1255	S				X												TTLC Pb
3	- 0.30		1300					X												
4	- 0.90		1305					X												
5	- 1.5		1310																	
6	- 3.0		1315																	
7	- 4.5		1320																	
8	OAK5-0.15		1400	S				X												TTLC Pb
9	- 0.30		1405	S				X												
10	- 0.90		1410	S																

Turn-around time
- ☐ 24 Hr. RUSH*
- ☐ 48 Hr. RUSH*
- ☒ Normal TAT

*Requires prior approval, additional charges apply

Remarks/ Special Instructions

Relinquished by: (Sampler's Signature)	Date	Time	Relinquished by:	Date	Time
	5/19/99	1700			
Received by:	Date	Time	Received by:	Date	Time
			Relinquished by:	Date	Time
			Received for Laboratory by:	Date	Time
				5/19	9:

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.

To be completed by laboratory personnel:

Samples chilled? ☒ Yes ☐ No

Custody seals? ☐ Yes ☐ No

All sample containers intact? ☐ Yes ☐ No

☐ Courier ☐ UPS/Fed Ex ☐ Hand carried

Sample Disposal
- ☐ Client will pick up
- ☐ Return to client
- ☐ Lab disposal fee $5

Laboratory Notes:

Sample Locator No.

White Copy - Original (Accompanies Samples)

Yellow Copy - Centrum Files

Pink Copy - Client Copy

Centrum Analytical Laboratories, Inc.

290 TENNESSEE STREET
REDLANDS, CA 92373

(909) 798-9336 • (800) 798-9336
FAX (909) 793-1559

Chain of Custody Record

Centrum Job #

Page 4 of 5

SEE REMARKS

Project No.: 575-96034

Project Name: Caltrans: 6th/Castro

Project Manager:

Phone:

Fax:

Client Name: (Company) PSI

Address:

Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	GCMS: 8260 8240-8260-5242	8080 Pesticides PCBs Pest/PCB	8015M: Diesel Fuel Tagging	8015M: Gasoline 8020 BTEX	418.1 (TRPH)	Semivolatiles: 8270 625	Metals: TTLC(CAM) PP RCRA	Lead Only	pH TDS TSS Conductivity COD	Flashpoint Fluoride Hex Chrome	EPA 1664(O&G)	6010C(Total Lead)	
01	OAK5-1.50	5/19/99	1415	S			X		X	X							X	X	
02	-3.0		1420																
	-4.5		1425																
04	WOAK-5		1455	W				X											STLC Pb
05	OAK6-0.15		1500	S															
06	-0.30		1505																
07	-0.96		1510																
08	-1.5		1515																
09	-3.0		1520																
10	-4.5		1525																

Turn-around time

- ☐ 24 Hr. RUSH*
- ☐ 48 Hr. RUSH*
- ☒ Normal TAT

* Requires prior approval additional charges apply

Remarks/ Special Instructions

Relinquished by: (Sampler's Signature)	Date	Time	Relinquished by:	Date	Time
	5/19/99	1700			
Received by:	Date	Time	Received by:	Date	Time
			Relinquished 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.			Received for Laboratory by:	Date 5/19/99	Time 5:-

To be completed by laboratory personnel:

Samples chilled? ☒ Yes ☐ No

Custody seals? ☐ Yes ☐ No

All sample containers intact? ☐ Yes ☐ No

☐ Courier ☐ UPS/Fed Ex ☐ Hand carried

Sample Disposal

- ☐ Client will pick up
- ☐ Return to client
- ☐ Lab disposal fee $5

Laboratory Notes:

Sample Locator No.

White Copy - Original (Accompanies Samples)

Yellow Copy - Centrum Files

Pink Copy - Client Copy

Centrum Analytical Laboratories, Inc.

290 TENNESSEE STREET
REDLANDS, CA 92373

(909) 798-9336 • (800) 798-9336
FAX (909) 793-1559

Chain of Custody Record

Centrum Job #

Project No.: 575 · 96034	Project Name: Caltrans: 6th/Castro		
Project Manager:	Phone:	Fax:	
Client Name: (Company)	Address:		

Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	GCMS: 8260 8240 8010 8021	8080: Pesticides PCBs Pest/PCB	8015M: D	8015M: Gasoline 8	418.1 (TRPH)	Semivolatiles: 8270 625	Metals: TTLC(CAM) PP RCRA	Lead Only	pH TDS TSS Conductivity COD	Flashpoint Fluoride Hex Chrome			
111	WOAK-16	5/19/99	1600	W			X		X	X							7040 Lead	8260	

Turn-around time

- ☐ 24 Hr. RUSH*
- ☐ 48 Hr. RUSH*
- ☒ Normal TAT

* Requires prior approval, additional charges apply

Remarks/ Special Instructions

Relinquished by: (Sampler's Signature)	Date 5/19/99	Time 1700	Relinquished by:	Date	Time
Received by:	Date	Time	Received by:	Date	Time
			Relinquished 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.			Received for Laboratory by:	Date 5/20/99	Time 7:45

To be completed by laboratory personnel:

Samples chilled? ☒ Yes ☐ No

Custody seals? ☐ Yes ☐ No

All sample containers intact? ☐ Yes ☐ No

☐ Courier ☐ UPS/Fed Ex ☐ Hand carried

Sample Disposal

- ☐ Client will pick up
- ☐ Return to client
- ☐ Lab disposal fee $5

Laboratory Notes:

Sample Locator No.

White Copy - Original (Accompanies Samples)

Yellow Copy - Centrum Files

Pink Copy - Client Copy

Centrum Analytical Laboratories, Inc.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

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

Date Sampled: 05/19/99
Date Received: 05/20/99
Job Number: 14919A

Project: Caltrans: 6th/Castro

CASE NARRATIVE

The following information applies to samples which were received on 05/20/99 :

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

The Moisture Content, Soil Porosity, and Total Organic Carbon analyses were subcontracted to Core Laboratories, Bakersfield, CA. The original report is attached to, but is not part of, this report.

This report is an addendum to Centrum Job #14919 and contains data not included in the original report. The results reported previously have not been changed. The date of issue for this addendum is 07/15/99.

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.

Centrum
(800) 798-9336

STLC Lead By ICP

Client:	PSI	Date Sampled:	05/19/99
Project:	Caltrans: 6th/Castro	Date Received:	05/20/99
Job No.:	14919A	Date Extracted:	07/07/99
Matrix:	STLC Leachate*	Date Analyzed:	07/09/99
Analyst:	RLB	Batch Number:	6010W1260
		Method Number:	6010

	Detection Limit	Lead
Sample ID	mg/L	mg/L
Method Blank	2.5	ND
OAK3-0.15	2.5	ND
OAK4-0.15	2.5	**4.8**
OAK4-0.30	2.5	**3.7**
OAK4-0.90	2.5	**3.0**
OAK5-0.15	2.5	**4.0**
OAK5-0.30	2.5	**20**
OAK6-0.15	2.5	**7.1**

* Sample was prepared by CAC Title 22 Method 66700 (STLC).

Centrum
(800) 798-9336

QC Sample Report - Metals

Matrix: Water
Batch #: 6010W1260

Batch Accuracy Results

Sample ID: Initial Calibration Verification Standard

Compound	Spike Concentration mg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lead	1.0	**101.9**	75 - 125	**Pass**

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: Initial Calibration Verification Standard

Compound	Spike Sample Recovery mg/L	Spike Duplicate Recovery mg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lead	1.019	1.052	**3%**	20%	**Pass**

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Centrum
(800) 798-9336

TCLP Lead By ICP

Client:	PSI	Date Sampled:	05/19/99
Project:	Caltrans: 6th/Castro	Date Received:	05/20/99
Job No.:	14919A	Date Extracted:	07/08/99
Matrix:	TCLP Leachate*	Date Analyzed:	07/09/99
Analyst:	RLB	Batch Number:	6010W1259
		Method Number:	6010

	Detection Limit	Lead
Sample ID	mg/L	mg/L
Method Blank	0.1	ND
OAK3-0.30	0.1	**12**

* Sample was prepared by SW-846 Method 1311 (TCLP).

Centrum
(800) 798-9336

QC Sample Report - Metals

Matrix: Water
Batch #: 6010W1259

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Compound	Spike Concentration mg/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
Lead	1.0	**99.84**	75 - 125	**Pass**

Analytical Notes:

Batch Precision Results

MS/MSD Sample ID: 15150-11

Compound	Spike Sample Recovery mg/L	Spike Duplicate Recovery mg/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
Lead	1.063	1.084	**2%**	20%	**Pass**

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

CORELAB

PETROLEUM SERVICES

Marilu Escher
Centrum Analytical Laboratories, Inc.
290 Tennessee Street
Redlands, CA 92373

July 12, 1999

Subject: Transmittal of Geotechnical Analysis Results
Project No. : 14919
Core Lab File No.: 57111-99133

Dear Ms Escher:

Soil samples were submitted to our Bakersfield laboratory for geotechnical and chemical testing. Moisture content and total porosity were the requested geotechnical analyses. Chemical tests included total organic carbon content. Accompanying this letter, please find the results of this study.

Moisture content was determined using standard ASTM methods, D-2216. Total porosities were measured and calculated as described in API RP-40, API Recommended Practice for Core-Analysis Procedure, 1960. Total organic carbon contents were determined by our Anaheim ACD Lab using EPA 9060 (SM 5310 B).

We appreciate this opportunity to be of service to you. Should you have any questions, or if we may be of further help in the future, please do not hesitate to contact us.

Very truly yours,

Jeff Smith NW

Jeffry L. Smith
Laboratory Supervisor - Rock Properties

JLS:nw
1 original report: Addressee

CORELAB

Centrum Analytical Labs, Inc.

CalTrans : 6th / Castro

Project No. : 14919

C.L. File No. : 57111-99133

Sample ID	Sample Date	Sample Time	Site Location	Moisture Content %	Total Porosity %	TOC ppm	Description
OAK1-1.5	5/19/99	1055	14919-11	13.4	29.6	9280	Gray vf-mgr silty sand
OAK3-1.5	5/19/99	1220	14919-18	11.1	32.7	1920	Gray vf-fgr silty sand

CORE LABORATORIES

ANALYTICAL REPORT

JOB NUMBER: 991225

Prepared For:

Core Laboratories
3430 Unicorn Road
Bakersfield, CA 93308

Attention: Jeff Smith

Date: 07/08/1999

Signature

Name: Tim Scott

Title: Laboratory Manager

7/8/99
Date

1250 E. Gene Autry Way
Anaheim, CA 92805

PHONE: (714) 937-1094
FAX..: (714) 937-1170

CA.E.L.A.P. 1174
L.A.C.S.D. 10146

CORE LABORATORIES

SAMPLE INFORMATION
Date: 07/08/1999

Job Number.: 991225
Customer...: Core Laboratories
Attn.....: Jeff Smith

Project Number.....: 97000255
Customer Project ID....: 14919
Project Description....: Refer to Customer Project I.D.

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
991225-1	OAK1-1.50	Soil	05/19/1999	10:55	07/02/1999	10:30
991225-2	OAK3-1.50	Soil	05/19/1999	12:20	07/02/1999	10:30

CORE LABORATORIES

LABORATORY TEST RESULTS

Job Number: 991225 Date: 07/08/1999

CUSTOMER: Core Laboratories PROJECT: 14919 ATTN: Jeff Smith

Customer Sample ID: OAK1-1.50
Date Sampled.....: 05/19/1999
Time Sampled.....: 10:55
Sample Matrix.....: Soil

Laboratory Sample ID: 991225-1
Date Received.....: 07/02/1999
Time Received.....: 10:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
SM 5310 B	Organic Carbon, Total (TOC), Solid	9280	100.0	mg/Kg	07/06/99	gwd

CORE LABORATORIES

LABORATORY TEST RESULTS

Job Number: 991225

Date: 07/08/1999

CUSTOMER: Core Laboratories PROJECT: 14919 ATTN: Jeff Smith

Customer Sample ID: OAK3-1.50
Date Sampled.....: 05/19/1999
Time Sampled.....: 12:20
Sample Matrix.....: Soil

Laboratory Sample ID: 991225-2
Date Received.....: 07/02/1999
Time Received.....: 10:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
SM 5310 B	Organic Carbon, Total (TOC), Solid	1920	100.0	mg/Kg	07/06/99	gwd

CORE LABORATORIES

QUALITY CONTROL RESULTS

Job Number.: 991225

Report Date.: 07/08/1999

CUSTOMER: Core Laboratories

PROJECT: Refer to Customer Project I.D.

ATTN: Jeff Smith

Test Method.....: SM 5310 B
Method Description.: Total Organic Carbon
Parameter.....: Organic Carbon, Total (TOC)

Batch.....: 7081
Units.....: mg/L

Analyst...: gwd
Test Code.: TOC

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result *	Limits	F	Date	Time
CCS		E80379	1083		1000		108	90-110		07/06/1999	0000
LCS		E80379	1019	1083	1000		102	90-110		07/06/1999	0000
MB			5.01							07/06/1999	0000

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

CORE LABORATORIES

ANALYTICAL SUMMARY REPORT

Job Number: 991225

Report Date: 07/08/19

CUSTOMER: Core Laboratories | PROJECT: 14919 | ATTN: Jeff Smith

BATCH	7081	ANALYTICAL METHOD	SM 5310 B	DESCRIPTION	Total Organic Carbon	ANALYST	gwd

Lab Sample ID	Client Sample Identification	Sample Matrix	Test Matrix	Sample Date	Sample Time	Analysis Date	Analysis Time	Dil/Corr. Factor
991225-1	OAK1-1.50	Soil	Solid	05/19/99	1055	07/06/99	0000	1
991225-2	OAK3-1.50	Soil	Solid	05/19/99	1220	07/06/99	0000	1

CORE LABORATORIES

QUALITY ASSURANCE FOOTER

METHOD REFERENCES

(1) EPA SW-846, Test Methods for Evaluating Solid Waste, Third Edition, September 1986, and Updates I, II, IIA, IIB, and III
(2) Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992
(3) EPA 600/4-79-020, Methods of Chemical Analysis for Waters and Wastes, March 1983
(4) Federal Register, Friday, October 26, 1984 (40 CFR Part 136)
(5) American Society for Testing and Materials, Volumes 5.01, 5.02, 5.03, 1992
(6) EPA 600/4-89-001, Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Fresh Water Organisms
(7) EPA 600/4-90-027, Methods for Measuring the Acute Toxicity of Effluent and Receiving Waters to Fresh Water and Marine Organisms, Fourth Edition

COMMENTS

All methods of chemical analysis have a statistical uncertainty associated with the results. Unless otherwise indicated, the data in this report are within the limits of uncertainty as specified in the referenced method. Quality control acceptance criteria are based either on limits specified in the referenced method or on actual laboratory performance. The date and time of analysis indicated on the QC report may not reflect the actual time of analysis for QC samples. Data reported in the QA report may be lower than sample data due to dilution of samples into the calibration range of the analysis. Sample concentrations for solid samples are calculated on an as received (wet) basis unless otherwise indicated. Unless otherwise indicated, volatiles by gas chromatography (GC) are reported from a single column. Volatiles analyses by GC on low level soils are conducted at room temperature. TCLP extractions are performed at sample amounts, approved by the State of California.

FLAGS, FOOTNOTES, AND ABBREVIATIONS (as needed)

NA = Not analyzed
N/A = Not applicable
ug/L = Micrograms per liter
mg/L = Milligrams per liter
ND = Not detected at a value greater than the reporting limit
NC = Not calculable due to values lower than the detection limit
N.I. = Not Ignitable
S.I. = Sustains Ignition
I(NS) = Ignites, but does not Sustain Ignition
RPD = Relative Percent Difference
(a) = Surrogate recoveries were outside acceptable ranges due to matrix effects.
(b) = Surrogate recoveries were not calculated due to dilution of the sample below the detectable range for the surrogate.
(c) = Matrix spike recoveries were outside acceptable ranges due to matrix effects.
(d) = Relative Percent Difference (RPD) for duplicate analysis outside acceptance limits due to actual differences in the sample matrix.
(e) = The limit listed for flammability indicates the upper limit for the test. Samples are not tested at temperatures above 140 Fahrenheit since only samples which will sustain ignition at temperatures below 140 are considered flammable.
(f) = Results for this hydrocarbon range did not match a typical hydrocarbon pattern. Results were quantified using a diesel standard, however, the hydrocarbon pattern did not match a diesel pattern.
(g) = Results for this hydrocarbon range did not match a typical hydrocarbon pattern. Results were quantified using a gasoline standard, however, the hydrocarbon pattern did not match a gasoline pattern.
(h) = High dilution due to matrix effects

QC SAMPLE IDENTIFICATIONS

MB = Method Blank
RB = Reagent Blank
ICB = Initial Calibration Blank
CCB = Continuing Calibration Blank
CS = Calibration Standard
ICV = Initial Calibration Verification
CCV = Continuing Calibration Verification
SB = Storage Blank
MS = Matrix Spike
MSD = Matrix Spike Duplicate
MD = Matrix Duplicate
BS = Blank Spike
SS = Surrogate Spike
LCS = Laboratory Control Standard
RS = Reference Standard

Subcontracted Laboratories

Asbestos TEM	*01
Aquatic Testing Laboratory	*02
E.S. Babcock & Sons, Inc.	*03
Westcoast Analytical Services	*04
Silliker Laboratories Group	*05
Weck Laboratories	*06

SUBCONTRACTED LABORATORY LOCATIONS

Core Laboratories:

Aurora, Colorado	*AU
Casper, Wyoming	*CA
Corpus Christi, Texas	*CC
Edison, New Jersey	*ED
Houston, Texas (Env)	*HE
Houston, Texas (Pet)	*HP
Indianapolis, Indiana	*IN
Lake Charles, Louisiana	*LC
Long Beach, California	*LB
Valparaiso, Indiana	*VP
Bakersfield, California	*BK

1250 Gene Autry Way Autry Way
Anaheim, CA 92805
(714) 937-1094 /u/matt/logs_n_forms/footer.form

CORELAB

CORE LABORATORIES

rpjsckl — Job Sample Receipt Checklist Report — V2

07/02/1999

Job Number.....: 991225 Location.: 57218 Customer Job ID.....: Job Check List Date.: 07/02/1999
Project Number.: 97000255 Project Description.: Refer to Customer Project I.D. Project Manager.....: tas
Customer.......: Centrum Analytical Laboratories, Inc. Contact.: Marilou Escher

Questions ?	(Y/N)	Comments
Chain-of-Custody Present?.........................	Y	
...If "yes", completed properly?..................	Y	
Custody seal on shipping container?...............	N	
...If "yes", custody seal intact?.................		
Custody seals on sample containers?...............	N	
...If "yes", custody seal intact?.................		
Samples chilled?..................................	Y	
Temperature of cooler acceptable? (4 deg C +/- 2).	Y	
Temperature measured from temperature blank?......		
Samples received intact (good condition)?.........	Y	
Volatile samples acceptable? (no headspace).......		
Correct containers used?..........................		
Adequate sample volume provided?..................	Y	
Samples preserved correctly?......................		
Samples received within holding-time?.............	Y	
Agreement between COC and sample labels?..........	Y	
Open cooler radioactive screen at or below bkgrd?.		
Additional..		
Comments..		
Sample Custodian Signature/Date...................		