



Wahler Associates

Geotechnical, Environmental and Water Resources Engineering

June 12, 1992

CDT-105L

California Department of Transportation
District 4, Engineering Services
P.O. Box 7310
San Francisco, California 94120

Attention: James W. Ross, P.E.

Subject: Report Transmittal - Barbary Coast Steel Corporation Property

Dear Mr. Ross:

Wahler Associates (Wahler) is pleased to present this report which describes the results of our recent investigations at the subject property, as well as discusses various alternatives available for remediation. At your request, Wahler has provided an opinion of probable cost for site remediation in a separate document.

If you have any comments or questions regarding this report or the project, please contact us.

Very truly yours,

WAHLER ASSOCIATES

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RNK/lml
Enclosures

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**HAZARDOUS WASTE INVESTIGATIONS
AND REMEDIAL ALTERNATIVES FOR
BARBARY COAST STEEL
CORPORATION PROPERTY**

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Wahler Associates

**HAZARDOUS WASTE INVESTIGATIONS AND
REMEDIAL ALTERNATIVES FOR
BARBARY COAST STEEL CORPORATION
PROPERTY**

Prepared for:

**California Department of Transportation
District 4, Engineering Services
P.O. Box 7310
San Francisco, California 94120**

**File No. 4 - Alameda - 80
Post Mile 2.4/3.8
EA 4-180901**

**In Oakland from East of West Grand to Powell Street
in Emeryville
Contract No. 04D655-PC
Task Order 011**

JUNE 1992

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Wahler Associates

CDT-105L

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HAZARDOUS WASTE INVESTIGATIONS AND REMEDIAL ALTERNATIVES FOR BARBARY COAST STEEL CORPORATION PROPERTY

A. INTRODUCTION

California Department of Transportation (Caltrans) is planning to realign and modify Route I-80/580 Interchange. The work involves constructing a westbound high occupancy vehicle (HOV) fly-over, realigning westbound and eastbound I-80, and widening the I-80/I-580 westbound connector. The limits of this project are understood to be from West Grand Avenue (Post Mile 2.4) in the City of Oakland to the Powell Street undercrossing on Route I-80 (Post Mile 3.8) in the City of Emeryville (See Figure I).

Wahler Associates (Wahler) was retained by Caltrans to perform technical services for this project, which consist of conducting a limited hazardous waste and geotechnical investigation at the Shellmound Ventures property (Shellmound or Site), and at the Barbary Coast Steel Corporation property. Collectively, both properties were formally known as the Judson Steel property. This report presents the results of the environmental investigation at the Barbary Coast Steel Corporation property (Site) along with several possible remediation alternatives. The geotechnical investigation report is presented under separate cover. While the scope of the complete project involves both properties, Caltrans has requested that Wahler separate the work conducted at each property into individual reports for the hazardous waste investigations. As a result, only the pertinent data applicable to the Barbary Coast Steel Corporation property has been included with this report.



B. BACKGROUND

1. Location and History

The Site is located at 4200 Shellmound Street just south of the Shellmound property and is owned by Barbary Coast Steel Corporation. The property consists of parcel 47951. This Site was part of Judson Steel Corporation until it was purchased in 1987. Judson Steel Corporation, founded in 1882, processed reinforcing bars from scrap iron at the Site. Materials used for this process were stored on-site. Reportedly, portions of the area were located within the floodplain of the San Francisco Bay until the East Shore Highway (I-80) was constructed in 1954. By-products of the process (slag and mill scale) were reportedly used to fill low areas of the Site. Barbary Coast shut down in January of 1990. At present, machinery, equipment, and processed rebars are being shipped out of the plant, and materials are stockpiled on site.

Site investigations have been conducted in the past by Earth Metrics, Inc. (1987). The Earth Metrics report indicates that high levels of Lead, pH, Cadmium, PCB's, Zinc, and Petroleum Hydrocarbon may exist at the Site. At some point, this data should be completely integrated with current investigations. It is possible that a complete integration of the available information may reduce the scope of any additional investigations.

2. Scope of Work

The scope of work for the project was developed based upon direction and discussions with Caltrans, as well as site visits and Wahler's general understanding of the project needs. It consisted of the following: review of available previously prepared documents; utilization of Underground Service Alert (USA) and a private utility locator service to verify that boring locations were clear of utilities; preparation of a Site Safety Plan (SSP); advancement of eight borings and taking soil and groundwater samples; chemical testing of soil and groundwater samples; analysis of gathered data; evaluation of various treatment alternatives and preparation

of opinion of probable costs for various remedial alternatives; and preparation of a draft report for Caltrans review, and a final report which addresses concerns/comments of Caltrans staff. Appendix A contains an expanded version of the scope of services agreed to by Wahler and Caltrans.

C. METHODOLOGIES

1. Pollutants of Concern

The pollutants which were anticipated to be of concern at these properties were originally specified by Caltrans in Task Order No. O11. This was based upon previous site investigations conducted by other consultants (Earth Metrics 1987, Earth Metrics 1988, Kaldveer Associates 1988, and PES Environmental Inc. 1991, see references Appendix B). Subsequent discussions between Wahler staff and Caltrans staff led to slight modifications. Listed below are the pollutants of concern along with their appropriate Environmental Protection Agency (EPA) test methods.

<u>Chemical Compound</u>	<u>Test Method</u>
Oil and Grease	EPA 418.1
Total Petroleum Hydrocarbons as Gasoline (TPH-G)	Modified EPA 8015
Total Petroleum Hydrocarbon as Diesel (TPH-D)	Modified EPA 8015
Volatile Organic Compounds (VOCs)	EPA 8240/624
Semi-Volatile Organic Compounds (Semi-Volatiles)	EPA 8270/625



Chemical Compound

Test Method

Polychlorinated Biphenyls (PCBs)

EPA 8080/608

Heavy Metals

EPA 6010

Selected soil and grab groundwater samples were analyzed for these compounds. In addition, other soil samples were chosen to have leaching tests performed using the California Waste Extraction Test (WET) and/or the Toxicity Characteristic Leaching Procedure (TCLP).

2. Analytical Laboratory

For this project, Wahler utilized the services of Chromalab, Inc., in San Ramon, California. Chromalab, an environmental laboratory, is certified by the State of California for hazardous waste testing (certification number E694). In order to meet the time restraints of Caltrans, both soil and grab groundwater samples were analyzed on a five day turnaround time.

3. Selection of Sample Locations

For both soil and grab groundwater samples, the selection of a sample location was specified by Caltrans. The goal was to obtain representative pollutant concentrations in the portion of the property which Caltrans anticipates acquiring. The sampling protocol and methodology was based on guidance from the following:

- Test Methods for Evaluating Solid Waste, SW-846; Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency;
- Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites, California Regional Water Quality Control Board, San Francisco Bay Region, August 10, 1990;



- Drilling, Sealing, and Sampling Protocol, Wahler Associates.

On April 6, 1992 Wahler staff, along with staff, from Caltrans and representatives of the property owners, visited the property and marked the location of each proposed boring. Some boring locations were modified at the time of drilling due to drilling conditions and/or a re-evaluation of site conditions. Generalized boring locations are shown on Figure 2, and scaled boring locations are shown on Plate 1.

D. FIELD INVESTIGATIONS

1. Soil Borings

Wahler completed eight soil borings on April 9 and 10, 1992 (see Figure 2 and/or Plate 1). Prior to drilling activities, all utilities were located using the services of a private locator, California Utilities of Oakland, California, as well as "Underground Services Alert." Also, prior to drilling activities, an SSP was completed and discussed with all field personnel (see Appendix C).

The soil borings were advanced with a truck mounted drill rig, a mobile B-61 supplied by Gregg Drilling and Testing, Inc. of Concord, California, using 6.5. inch diameter hollow stem augers. During drilling operations, soil samples were collected at intervals of 2, 5, 10, 15, and 20 feet or other appropriate intervals (see boring logs in Appendix D). The samples were obtained with a 2.5 inch I.D. split-barrel, ring-lined sampler. Most of the samples were obtained in stainless steel liners. However, samples from boring HW-6B, were obtained in brass liners, as the stainless steel liner stock was depleted because of sample splitting with ENSR Consulting and Engineering. The sampler was advanced into the subsurface at the target depths with a 140 pound pneumatic hammer, dropping 30 inches. The number of blows required to advance the sampler 18 inches was recorded on the boring logs for the three, 6-inch driving intervals. This procedure provides an indication of the relative density or consistency of the subsurface material.



Numerous times in the fill material, refusal was encountered and the sampler could not be advanced further. If possible, the boring was advanced with the hollow stem augers a short distance and sampling was again attempted.

Soil cuttings and samples were logged in the field by an experienced geologist under supervision of a registered engineer. Selected soil samples were screened in the field with an organic vapor monitor (OVM) using head space analysis. For the head space analysis, the sample was placed in a zip-lock plastic bag and exposed to sunlight to enhance volatilization of any hydrocarbon pollutants in the soil samples. The head space in the zip-lock bag was then tested for hydrocarbon content using an OVM.

Soil samples (liners) selected for laboratory analysis were sealed and stored in an ice-filled cooler prior to transport under chain-of-custody to Chromalab, Inc. The samples were then analyzed for the pollutants of concern by the previously discussed appropriate EPA test methods. Appendix E contains the laboratory data sheets and the associated chain-of-custody forms.

The augers and other such equipment were steam-cleaned prior to use at each boring. Other sampling equipment was cold-cleaned between borings with inorganic detergent and clean tap water. All borings were tremied to the surface with a cement-grout mixture.

2. Grab Groundwater Samples

Grab groundwater samples were collected from each soil boring which encountered groundwater. To obtain these samples, the borings were advanced to the target depth and the hollow-stem augers were then pulled slightly to allow an adequate flow of groundwater into the boring. A steam-cleaned and/or cold cleaned (inorganic detergent and deionized water) teflon bailer was lowered into the boring to retrieve a water sample. Water was poured directly from the bailer into 40 ml VOAs, and several one-liter amber and plastic bottles. Due to the generally muddy consistency of the groundwater, as encountered in each boring, filtering the samples for metal



analysis was not completed at the time of sampling as normal practice dictates. Rather, to obtain the maximum number of data points in the field, the laboratory filtered each sample prior to analysis. This is more thoroughly discussed in the Quality Assurance/Quality Control section of this report. Filled containers were sealed, labelled, and stored in an ice filled cooler for transport under chain-of-custody to Chromalab, Inc. for analysis. The grab groundwater samples were analyzed for the same pollutants as the soil samples. Appendix E contains the laboratory data sheets and the associated chain-of-custody forms. It should be noted that chemical results from grab groundwater samples are considered only as gross indicators of groundwater conditions. Individual chemical isopleths are not routinely constructed using such results, unless used in conjunction with results obtained from adjacent monitoring wells sampled at the time the grab groundwater samples were obtained. Nevertheless, chemical results obtained from grab groundwater samples can indicate the existence of potential groundwater pollutants.

E. GEOLOGY AND HYDROGEOLOGY

The engineering geologic map for the area (Area 1 and Engineering Geology of the Oakland West Quadrangle, California, U.S. Geological Survey, Miscellaneous Geologic Investigations Map I-239) indicates that the properties occupy previously tidal flats and/or shoreline areas of the San Francisco Bay (based upon an 1856 U.S. Coast and Geodetic Survey). This map also indicates that in the area, the depth of the present fill ranges from seven to twelve feet and contains sand size to boulder size materials. Recent investigations by other consultants indicated that the fill material is composed of slag and other waste material from the steel making process. Soil borings which Wahler completed verified these findings. Beneath the fill material Bay Mud was generally found. Beneath the Bay Mud the Temescal Formation was encountered in several borings. Borings HW-11 through HW-13 were generally drilled to a depth of about 10 feet, and borings HW-6B through HW-10 were generally drilled to a depth of about 20 feet. However, not all of the borings were advanced to these depths as the fill material could not always be penetrated by the augers. Table 1 lists the total depth of each boring completed during the hazardous waste investigation as well as the approximate depth of fill material, and Appendix



D contains the soil boring logs. Groundwater was encountered in the borings at depths ranging from four to eight feet below ground surface. Because these properties occupy former tidal flats and shoreline areas, it is anticipated that the shallow groundwater is subject to tidal fluctuations. Therefore, the groundwater gradient and velocity is anticipated to vary on a daily basis.

F. CHEMICAL RESULTS

1. Soil Samples

On the Barbary Coast Steel Corporation property, eight soil borings were advanced and 34 soil samples were obtained and analyzed for pollutants of concern. Table 2 summarizes the chemical results of organic compounds and Table 3 summarizes the results of inorganic compounds tested for at the property. While concentrations of Oil and Grease were found in every boring, sample HW-7-1 contained the highest concentration of 3,680 ppm at a depth of 4.5 to 5.0 feet. TPH-G was only found in three samples, the highest concentration being 2.2 ppm in sample HW-8-2 and HW-11-2 and at depths of 7.0 to 7.5 feet and 6.0 to 6.5 feet, respectively. TPH-D was found in several borings with the highest concentrations in sample HW-11-3 at 460 ppm at a depth of 11.0 to 11.5 feet. Three borings contained VOCs at various concentrations, however, the highest single analyte concentration was found in sample HW-7-1 at 4.5 to 5.0 feet. In this sample PCE was found at a concentration of 610 ppb. This sample also contained TCE and Toluene at concentrations of 7.5 and 7.0 ppb, respectively. Sample HW-8-6 contained the only detectable concentrations of Benzene, Ethylbenzene, Toluene, and Xylene. These concentrations were 210, 37, 570, and 43 ppb respectively and were found at a depth of 4.5 to 5.0 feet. Two borings contained concentrations of semi-volatiles above the method detection limits. Sample HW-7-2 contained Pyrene at 0.39 ppm, and sample HW-13-1 contained Di-N-Butylphthalate, Fluoranthene, and Pyrene at concentrations of 0.10 ppm, 0.15 ppm, and 0.13 ppm, respectively. Sample HW-7-2 was taken at a depth of 9.5 to 10.0 feet and sample HW-13-1 was obtained at a depth of 5.5 to 6.0 feet. PCBs were not found at concentrations above the method detection limits in any of the borings. Generally, elevated metal concentrations were found in each



boring. Cadmium, Chromium, Lead, Zinc, Nickel, and Arsenic were all found at their highest concentrations in sample HW-11-1 at a depth of 2.5 to 3.0 feet. In this sample, Cadmium was found at concentrations of 105 ppm, Chromium at 330 ppm, Lead at 16,000 ppm, Zinc at 9,800 ppm, and Nickel and Arsenic each at a concentration of 86 ppm.

For each boring, the sample which contained the highest concentration of pollutants was generally selected for WET and/or TCLP. Samples HW-7-1 and HW-12-2 were selected for the TCLP for VOCs. The results indicate that TCE, Toluene, and PCE were at concentrations of 0.5 ppb, 0.72 ppb, and 8.5 ppb, respectively. PCE was also found at a concentration of 1.4 ppb in sample HW-12-2. For the WET all selected samples contained detectable concentrations of Cadmium, Chromium, Lead, Zinc, Nickel, and Arsenic. The highest concentrations of these compounds were found to be 18 ppm, 1.6 ppm, 640 ppm, 320 ppm, 1.1 ppm, and 4.1 ppm respectively. Sample HW-11-1 contained the highest concentrations of Cadmium, Lead, and Zinc, while sample HW-13-1 contained the highest concentrations of Chromium. The highest concentration of Nickel was in sample HW-10-1. Arsenic was not detected above the method detection limits, in most of the borings. However, two samples, HW-11-1 and HW-12-1 contained Arsenic at concentrations of 1 ppm and 0.5 ppm respectively. Table 4 presents the summary of the WET and TCLP results.

2. Grab Groundwater Samples

On the Barbary Coast Steel Corporation property, all borings were sampled for groundwater, although not all analyses were done on water received due to insufficient quantities available during sampling. The highest concentrations of Oil and Grease, TPH-G, and TPH-D, were found in groundwater from boring HW-11 at concentrations of 58 ppm, 160 ppb, and 63,000 ppb, respectively. PCB's were not detected in the groundwater samples. Groundwater from HW-11 also contained the only detectable concentrations of VOCs, and semi-volatiles. Chloroform was detected at a concentration of 4.9 ppb and Naphthalene was detected at a concentration of 0.049 ppm. For metals, only Chromium, Zinc, and Nickel were found.



Groundwater from boring HW-10 contained 0.01 ppm of Chromium, 0.03 ppm of Zinc, and 0.03 ppm of Nickel. Groundwater from boring HW-11 contained Zinc at a concentration of 0.05 ppm. Arsenic was not tested for in the groundwater. Table 5 presents the chemical summary of groundwater samples obtained from the borings.

G. QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) REVIEW

QA/QC procedures for the collection and chemical analysis of soil and groundwater samples have been promulgated by the EPA in document SW-846. These procedures are designed to confirm the reliability of the test results. This section offers a review of the QA/QC procedures that were followed in the field, and the QA/QC data supplied by the testing laboratory, Chromalab, Inc.

1. Field Sampling

The soil and groundwater samples were collected in accordance with Wahler's internal sampling protocol. To prevent contamination between discrete sampling points, the hollow stem augers used to drill the soil borings were steam cleaned prior to use. Between each sampling episode, the California modified split-spoon samplers were cold-cleaned with non-hazardous inorganic detergent. The integrity of the soil samples was maintained by properly sealing, labelling, and storing the samples until receipt by the testing laboratory.

Grab groundwater samples were collected from each soil boring location using clean teflon bailers, and the water samples were carefully poured into approved containers, sealed, labelled and stored on ice pending receipt by Chromalab. On each day of sampling, equipment blanks were collected in the field. The equipment blank is a QA/QC measure that is used to check the cleanliness of the sampling equipment. To prepare an equipment blank, de-ionized water supplied by Chromalab was poured into the teflon bailer. The water was then poured into 40

ml VOA containers, labelled, and submitted blind to the laboratory. A trip blank (travel blank) was carried with the sample containers throughout the field day. The trip blank was prepared by Chromalab using de-ionized water. The trip blank is a QA/QC measure that is used to evaluate whether contamination of samples has occurred in the container (cooler) that is used to transport the samples, or in the laboratory prior to analysis of the samples. The equipment blanks and the trip blank were analyzed in the laboratory for the presence of volatile organic compounds (VOC's) by EPA Method 8240.

The chain-of-custody of both the soil samples and the grab groundwater samples were duly recorded. The chain-of-custody (COD) forms are attached with the laboratory data sheets in Appendix E. The chemical analyses requested for each sample were indicated on the chain-of-custody forms. Additional tests such as TCLP and STLC (WET) were requested by verbal communication as these tests were dependent on the outcome of the initial tests as listed on the COD forms.

2. Laboratory Analysis

To evaluate the validity of the test results, the following QA/QC parameters were reviewed:

- sample holding times
- equipment blank and trip blank analytical data
- surrogated spike recovery data
- matrix spike/matrix spike duplicate (MS/MSD) recovery data

The laboratory reports indicate that for all the samples, the analytical procedures including extraction and analysis were performed within the sample holding times specified by the EPA for the various analyses.

Surrogate spike recovery data was supplied by Chromalab for the EPA 8240 and EPA 8270 analysis of the soil and water samples. The SW-846 manual requires that each sample be spiked with a known quantity of surrogate compounds. These compounds are similar to, but distinct from the compounds being tested for in the sample. The percentage of the surrogate recovered by the analysis is a measure of the accuracy of the concentration of contaminants reported by the lab for a particular sample. For volatile organic analysis (EPA 8240/624) the surrogate compounds specified are D4-1, 2-Dichloroethane, D8-Toluene, and Bromofluorobenzene. The recovery percentages for compound D4-1, 2-Dichloroethane exceeded the specified upper limit of 114% for water samples HW-8, HW-9A, and HW-11; and also exceeded the specified upper limit of 121% for soil samples HW-8-1, HW-9A-1, HW-9A-3, HW-12-1, and HW-12-2. In our discussions, Chromalab indicated that the cause of the high recoveries may be due to matrix effects in the samples; recoveries for all samples in that batch were consistently high with some samples exceeding the upper limit. The effect of the excessive recoveries may be that the reported concentrations would be slightly higher than actual concentrations. It should be noted that the reported sample concentrations are not adjusted based on the surrogate recoveries, but are reported as raw data.

For semi-volatile organic analysis (EPA 8270/625), the surrogate compounds that are specified by SW-846 manual are Nitrobenzene D5, 2-Fluorobiphenyl, Terphenyl D14, Phenol D5, 2-Fluorophenol, and 2,4,6-Tribromophenol. Water samples HW-7, HW-11, and HW-13, and soil samples HW-11-3, HW-13-1, and HW-7-2 were analyzed for semi-volatile organic compounds. The surrogate recoveries for all surrogate compounds in both the water samples and the soil samples fell within the specified limits, and are considered acceptable.

A trip blank and an equipment blank were collected during sampling at the Barbary Coast property. Both blanks, along with the grab groundwater sample from boring HW-11 were analyzed for the presence of volatile organic compounds by EPA method 8240. Chloroform was detected in the trip blank at 4.3 ppb. Chloroform was also detected in water sample HW-11 at 4.9 ppb. However, Chloroform was not detected in the equipment blank BS-1. This unusual



situation was discussed with Chromalab. The lab indicated that it does not use the chemical Chloroform in any of its analytical procedures. However, the de-ionized water that is used by the lab for analytical procedures comes from the same source as the de-ionized water that was used to prepare both the trip blank and the equipment blank. The lab indicates that the trip blank was run twice to confirm the existence of chloroform and that the water samples were run in the same period of time. At present, there is insufficient evidence to assume laboratory error. Thus, the presence of chloroform may not necessarily be a false positive result.

Matrix spike/matrix spike duplicate (MS/MSD) data was supplied by Chromalab for all the chemical analyses requested. The SW-846 manual specifies that MS/MSD analyses be performed on a subset of the samples being analyzed. In the MS/MSD procedure, the selected sample is spiked with a compound that is identical to the compound being analyzed for. The selected sample is then split, to create a duplicate, and both parts are analyzed. The recovery percentages of both spikes should fall within limits specified either by SW-846 or the laboratory, as allowed by SW-846. The relative percent difference (RPD) of the recoveries of the spike and duplicate are calculated and are used to assess the precision of the analytical procedure. The MS/MSD data was reported as percentage recovery of spike and duplicate. The RPD's were calculated in each case and were compared with the RPD limits set by SW-846 or the limits set by the lab for spike recoveries from water and soil matrices. The RPD's for Metals analysis, PCB's, EPA 8240/625, EPA 8270/625, TPH-G, TPH-D, and Oil and Grease were reviewed for all soil and water samples from borings HW-6, through HW-11. All RPD's fell within the allowable limits, and are considered acceptable.

In addition to a review of the above QA/QC procedures, Wahler did confirm with Chromalab that all water samples were filtered in the lab prior to digestion for heavy metal analysis. The samples were reportedly filtered through 0.45 micron filter paper.

Based on the results of the QA/QC review, the soil and water sample results appear to be acceptable for the purposes of this investigation.



H. BENEFICIAL USES/CLEANUP GOALS FOR SITE RESOURCES

1. Soil/Groundwater

Cleanup of soil and groundwater at the Site is driven by the (current or potential) beneficial use of the resource. The goal is to return usable groundwaters to beneficial uses within a reasonable time-frame. The Regional Water Quality Control Board (RWQCB), as required by the California Porter-Cologne Water Quality Control Act, has defined the beneficial uses of various water bodies in the greater San Francisco Bay Area. The beneficial uses of the water bodies are presented in the Water Quality Control Plan for the San Francisco Basin (Basin Plan). The Basin Plan was adopted on December 16, 1986 by the RWQCB, and was approved on May 21, 1987 by the State Water Resources Control Board (SWRCB). The Basin Plan classifies the groundwater in the area of the Site as "part of the Santa Clara Valley Groundwater Basin," and states that "present and potential uses applicable to the main groundwater basins in the Region are municipal supply, industrial process water supply, industrial service supply, and agricultural supply." In addition, the Basin Plan states that the "use of waters in the vicinity represent the best information on beneficial uses." The Site is located near the San Francisco Bay in an area which has been filled with industrial wastes derived from the steel manufacturing process. The area which was filled was formerly tidal lands. Previous studies completed for the Barbary Coast property (Earth Metrics, Inc. 1987) have indicated that there are no aquifers in the vicinity of Emeryville that supply drinking water to anyone in the San Francisco Bay area. In addition, the Earth Metrics, Inc. report suggests that the danger of hazardous materials impacting drinking water is "virtually nil."

In addition to the Basin Plan, the SWRCB has established the "Sources of Drinking Water" policy to provide guidance for municipal and domestic designation for State Waters. According to the SWRCB Policy, all groundwaters are considered suitable or potentially suitable for municipal or domestic supply with two exceptions. The first exception states that if total dissolved solids (TDS) in the groundwater exceed 3000 mg/l then the groundwater will not be



considered for municipal or domestic use. The second exception states that if a single well does not provide sufficient water to produce a sustained average yield of 200 gallons per day, then the groundwater will not be considered for municipal or domestic use. Given the location of the Site, Wahler anticipates that either of these two exceptions may apply for the shallow groundwater. Wahler, upon considering the goals of the Basin Plan, the "Sources of Drinking Water Policy," and past investigations by other consultants, as well as interaction with RWQCB staff, anticipates that State drinking water standards will not be enforced unless at some future date it is found that the Site is impacting aquifers used for domestic or municipal purposes. As such, it may be prudent to conduct an independent well survey to verify and document that water supply wells have not been utilized at the property, or if they were utilized, that they were properly destroyed. This is a prudent action for a site which has been in use for so long.

Another source of regulatory oversight for the Site is found in the California Code of Regulations, Title 22, Article 2 through 5. According to Title 22, Cal EPA Department of Health Services (DHS) sets forth criteria for identifying hazardous waste defined as Resource Conservation and Recovery Act (RCRA) hazardous waste. Title 22 classifies a material as RCRA waste if it has been discarded at an unauthorized facility and is either toxic (based on the Total Threshold Limit Concentration, and/or the Toxicity Characteristic Leaching Procedure, or the Solubility Threshold Limit Concentration) ignitable, reactive, or corrosive. These classifications are pertinent to the wastes found on-site, and Wahler anticipates that they may not be strictly enforced. Rather, they may be enforced on a site specific and/or waste specific basis.

2. Cleanup Goals

a. Site Remediation

Chemicals found in the soil and groundwater at the Site are considered subject to Federal and State of California standards. For soils containing elevated levels of TPH, current RWQCB guidance generally allows soils with TPH to remain in place if concentrations are below 100



ppm and the potential for groundwater impact is shown to be minimal. Soils with TPH concentrations above 100 ppm and below 1000 ppm are classified as designated waste. Soils with TPH concentrations above 1000 ppm are classified as hazardous waste. Soils classified as designated or hazardous waste usually require disposal at a Class I or Class II landfill or treatment to reduce concentrations to less than 100 ppm and then disposed of at a Class II or Class III landfill. In some cases, and on a site specific basis, the RWQCB has allowed soils treated to below 100 ppm to be left and/or contained on-site.

For soils containing elevated levels of metals, the concern of the DHS is the potential for leaching of the heavy metal pollutants, e.g. lead, zinc, mercury, and cadmium, into the groundwater. Where heavy metal concentrations are below their respective STLC, the soil containing the pollutants is classified as non-hazardous. Soils containing metals that exceed their TTLC are classified as hazardous waste. Where EPA drinking water standards exceed the STLC values, cleanup of such waste is required.

The highest concentrations of chemical compounds found in the soils and groundwater at the Site are presented in Table 6 and Table 7. For comparative purposes, Federal and State cleanup standards for drinking water are also listed. It is apparent that while most of the chemical compounds found at the Site during Wahler's investigation exceed the state standards for drinking water, the metals Cadmium, Zinc, and Lead were found to exceed Title 22 standards at the Site. As stated earlier, Wahler does not believe that these standards will be enforced, rather, cleanup standards will need to be developed based on the risk appraisal process. An Environmental Risk Assessment (Earth Metrics, Inc., 1987) has already been completed for property by the developer and/or owner. It should be noted that Wahler did not see any documentation indicating that the risk assessment has been accepted by the regulatory agencies. As a result, and because the risk appraisal process may have changed since the subject risk assessment has been completed, an updated risk assessment may be required for the Site. However, in lieu of this and for the purposes of this investigation, Wahler has applied prevailing and normally accepted cleanup goals for similar situations.

b. Construction Activities

Materials which are removed from the Site due to construction may be subject to more stringent cleanup standards than if those same materials were left in place at the Site. This is due in part to the strict requirements regulating the transportation and disposal of hazardous materials. In addition, construction workers at the Site may be at increased risk for short periods of time during excavation of soils and other material. Worker exposure during construction activities would be addressed during the risk assessment anticipated for the property.

In addition, if dewatering is implemented for construction activities, then the water obtained from that process may need to be properly disposed by treatment prior to discharge via an NPDES permit or to the sanitary sewer. Obtaining an NPDES permit and/or a permit to discharge to the local sewer may take as long as six months.

I. IDENTIFICATION OF REMEDIAL TECHNOLOGIES

1. Introduction

Various remedial options are available to remediate soil and groundwater. A number of relevant remediation technologies are considered below, each with its own benefits and limitations. On a general basis, these technologies can be broadly categorized as destructive, separation and physical/chemical containment.

Destructive remediation processes generally are most effective when used to destroy a broad range of organic compounds including TPH-D and Oil and Grease pollutants. Destructive technologies include incineration, bioremediation, and a wide variety of chemical destruct technologies. Destructive technologies are generally not applicable to inorganic (heavy metal) pollutants.



Separation technologies are available for both hydrocarbon and metal pollutants, and a wide variety of separation and treatment technologies are currently employed in the industry. Commonly used separation and treatment technologies include soil washing, air and steam stripping, soil venting, steam injection, liquid and vapor phase granular activated carbon, and many varieties of pump-and-treat technologies. Most separation technologies are only effective with organic wastes; however, leaching, flushing, and washing techniques tend to be effective for both organic and inorganic wastes.

Physical or chemical containment of hazardous waste can be achieved through several methods. Stabilization/Solidification, provide a highly cost efficient method of bringing organic, inorganic, and mixed wastes into compliance. While applicable over a wide range of waste combinations, the effectiveness of this process can be limited where there is a predominance of organics in the waste. Other containment techniques currently employed include: container storage, vitrification, entombment, slurry walls, grout curtains, and other barrier techniques.

2. Options for Soil and Groundwater Remediation

Based on the results of limited subsurface investigations performed by Wahler and existing site information, the following remedial options are currently available for treatment of hydrocarbon and metal pollutants at this Site:

a. Excavation (treatment and removal)

- Removal to a disposal facility

Off-site disposal of excavated soil to a Class I landfill will require the services of a hazardous waste hauler to transport the impacted soils. As this method of disposal usually just transfers the pollutant problem to another location, current regulatory policy does not usually favor this type of action unless the soil can first be treated to reduce the



TPH concentrations to below 100 ppm. "Land-ban" regulations also require that soil containing heavy metal pollutants be first treated to minimize the leaching potential of the pollutants prior to disposal at a Class I landfill. Thus, pre-treatment regulations have increased the cost of disposal at Class I landfills.

- Incineration

Incineration achieves destruction of pollutants through thermal destruction. Several different incineration methods are currently available. Specific application requirements may prescribe the use of catalytic or thermal oxidizers, rotary kiln, fluidized bed, or infrared technologies. While incineration is effective for use with organic waste, it is not suitable for use with metals. Incineration of waste containing even a low level of metal contaminants may require further processing and may further create toxic emissions problems. The use of incineration is generally limited to low volume waste applications, based on production rates and comparative processing costs.

- Bioremediation

Bioremediation is another process designed for use with predominantly organic wastes. Two methods are typically used: biodegradation and enhanced biodegradation. The process of biodegradation encourages bacteria, indigenous to the soil, to metabolize pollutants while the process of enhanced biodegradation involves the destruction of pollutants by the introduction of specific microbes and nutrients to enhance natural bacterial metabolism. While bioremediation tends to be a relatively inexpensive process, it can also be an extremely slow process, thus reducing its appeal where the time-reuse factor is dominant. Since bioremediation tends to be contaminant specific, it has a limited application with mixed wastes.



b. **In-situ Treatments (treatment and replacement)**

• Stabilization

The stabilization process involves combining specially formulated reagents with the waste so that the pollutants are chemically maintained in their most immobile, or least toxic form. The goal in the stabilization state is to reduce the solubility or chemical reactivity of a waste. This change is brought about by altering the chemical state of the waste through the addition of a specific reagent mix.

In the stabilization process, a choice of reagents is available for a broad range of wastes, both organic and inorganic. Different reagents may include oxidation/reduction agents, complexing agents or various chemical adsorbents such as ion exchange resins, activated carbon and organophillic clays.

• Solidification

Solidification is a physical process designed to convert the waste into an easily handled solid, significantly reducing the potential for leaching. The beneficial results of this treatment are obtained primarily through the production of a solid, impermeable matrix with relatively high structural integrity.

Various techniques are used when solidifying the waste product. The first of these, chemical sorption, results in the elimination of all free liquid by adding a reagent such as Quicklime (CaO) to hydrate the liquid present in the waste. The second solidification process uses lime and flyash to form a low-strength cement. The finely divided, non-crystalline silica in the flyash combines with the calcium in the lime to produce a concrete matrix which effectively entraps the waste. The third technique combines Portland cement, flyash or other pozzolan materials to produce a stronger waste/concrete



composite. In this process, containment is realized by microencapsulation of the waste within the concrete matrix. For specific application requirements, soluble silicates may be added to accelerate hardening and containment of metals.

- Soil washing

This process involves the use of detergents or surfactants to wash pollutants from the soil. The detergent or surfactant formulas are usually pollutant specific. In addition, the soil will usually require preparation prior to washing. The wash solution must either be disposed of or further treated.

- c. **Barrier Walls**

- Slurry Walls

A slurry wall is one of several types of subsurface cut-off walls that prevent leachate penetration by redirecting upgradient groundwater away from a contaminated area, and/or controlling horizontal leachate movement away from the site. A slurry wall is constructed by filling a trench with a slurry such as bentonite or bentonite-soil-cement during excavation. The backfilled trench has a much lower coefficient of permeability than the surrounding soil and thus creates a barrier to flow of groundwater.

- Sheet Piling

Sheet piling can be used to form a continuous groundwater barrier. Although sheet piles can also be made of wood or precast concrete, steel is generally the most effective in terms of cutting off groundwater and ease of installation. The construction of a steel sheet piling cut-off wall involves driving interlocking piles into the ground using a



pneumatic or steam-driven hammer. In some cases, the piles are pushed into pre-dug trenches. Piles are commonly 4 to 40 feet long and 15 to 20 inches wide.

- Grout Curtains

Generally, grouting is the injection under pressure of one of a variety of special fluids into a rock or soil body. Once this fluid sets in the rock or soil voids, it greatly reduces the permeability, and increases the mechanical strength of the grouted mass. When carried out in the proper pattern and sequence, this process can result in a curtain or wall that can be a very effective groundwater barrier. The injection process itself involves drilling holes to the desired depth and injecting the grout with the use of special equipment. A line of holes is drilled in single, double, or sometimes triple staggered rows (depending on the site characteristics) and fluid is injected in either descending stages with increasing pressure, or ascending stages with decreasing pressure. The spacing of the injection holes is site-specific and is determined by the penetration radius of the grout out from the holes. Ideally, the grout injected in adjacent holes should fuse between them. This process ultimately results in a continuous, impervious barrier or curtain.

d. **Infiltration Barriers**

Infiltration barriers involve surface sealing (capping) a site with any of a variety of materials, including clay and low permeability soils, asphalt, concrete, or geomembranes to prevent water infiltration and to mitigate the effects of hazardous waste. Since Caltrans plans to develop the site by construction of a roadway, the asphaltic concrete pavement of the roadway can be designed to act as an effective barrier to infiltration of surface water. The pavement capping would also tend to mitigate the effects of the soil pollutants by inhibiting direct contact with the potential users of the site.

e. **Extraction Wells/Interceptor Trenches**

- Extraction Well Systems

Extraction wells are usually well points, which are driven into the ground, or they are occasionally deep wells, which are drilled and cased. Groundwater is collected in the extraction wells and pumped by submersible pumps or above ground air-lift pumps directly out of the wells, into the treatment system.

- Extraction Well/Interceptor Trench Systems

Typically an underground, gravel-filled trench with perforated pipe or tile laid at the bottom, acts as a subsurface drain to intercept leachate, infiltrating water or groundwater. The water or leachate is subsequently pumped out through extraction well points, into the treatment system.

- Interceptor Trench Systems

The interceptor trench is used to transport leachate or infiltrating water away from the waste site, typically to a collection sump or tank. The sides and bottom of the trench may be lined with plastic or clay before the trench is backfilled with gravel.

J. **CONCLUSIONS/RECOMMENDATIONS**

It is apparent that from past investigations a significant amount of work has been completed on the Barbary Coast property. This information should be used in conjunction with current investigations to determine statistically, the concentrations of soil pollutants on the Site. This information would be used, if needed, in the development of the next phase of field investigations. Wahler anticipates that the next phase of field investigations will consist of

verifying soil pollutant concentrations in known areas of high pollutant concentrations if needed, as well as evaluating the horizontal and vertical extent of groundwater pollutants. During drilling by the Wahler geotechnical team, hydrocarbon odors were reported in other locations on the site. It is possible that hydrocarbon plumes have migrated beneath the existing roadway and beyond, in a direction towards the San Francisco Bay. Wahler has been informed by Caltrans geotechnical personnel that during the construction of the existing roadway, fill/native material was removed and replaced with dredged sand to a depth of 15 feet and across the width of the existing highway, approximately 150 feet. Sand is a permeable material and would act as a preferential pathway for off-site migration of any hydrocarbon groundwater plumes that originate on the properties that are adjacent to the highway. It may also be prudent to conduct a well survey to identify if past water sources for the property included on-site water-producing wells for domestic or industrial use.

K. LIMITATIONS

The data, information, interpretations, and recommendations contained in this technical report are presented solely as preliminary bases and guides to the existing environmental conditions of the Barbary Coast Steel Corporation property. The conclusions and professional opinions presented herein were developed by Wahler in accordance with generally accepted engineering principles and practices. As with all geotechnical and environmental reports, the opinions expressed here are subject to revisions in light of new information, new governmental regulations or new interpretations of existing regulations, which may be developed in the future, and no warranties are expressed or implied.

This report has not been prepared for use by parties other than Caltrans. It may not contain sufficient information for the purposes of other parties or other uses. If any changes are made in the project as described in this report, the conclusions and recommendations contained herein should not be considered valid, unless the changes are reviewed by Wahler, and the conclusions and recommendations are modified or approved in writing.



Soil deposits may vary in type, strength, permeability, and many other important properties between points of observation and exploration. Additionally, changes can occur in groundwater and soil moisture conditions due to seasonal variations, or for other reasons. Furthermore, the distribution of chemical concentrations in the soil and groundwater can vary spatially and over time. The chemical analysis results presented herein are illustrative of only the sampling locations at the time of sampling. Therefore, it must be recognized that Wahler does not and cannot have complete knowledge of the subsurface conditions underlying the subject site. The opinions presented are based upon the findings at the points of exploration and upon interpretative data, including interpolation and extrapolation of information obtained at points of observation.

L. ACKNOWLEDGEMENTS

This report was prepared under general supervision of F. Nick Homayounfar, PhD, P.E., Manager of Wahler's Environmental Services. The project was directed by Fred A. Seirafi, Manger, East Bay Office. Ray N. Kahler, Senior Geologist, acted as Project Manager. Field work was conducted by Ray Kahler and Todd Murray. Bruce Gaviglio, G.E. provided geotechnical review of the field data. Data analyses and remediation studies were performed by Robert C. Serafin, Environmental Scientist, Lynford Edwards, Civil/Environmental Engineer, and Xinggang Tong, Environmental Engineer. Support services were provided by Lisa Larsen and Maria Tarczy. John J. Heneghan, Senior Vice President and Jose Landazuri, Manager, Geotechnical Services provided overall review and quality assurance/quality control.



TABLE 1
BORING/FILL DEPTHS - HAZARDOUS WASTE INVESTIGATION
BARBARY COAST STEEL CORPORATION PROPERTY

BORING NUMBER	TOTAL DEPTH (FEET)	APPROXIMATE DEPTH OF FILL (FEET)
HW-6B	20.0	~10
HW-7	21.5	~11
HW-8	22.0	~8
HW-9A	21.5	~9
HW-10	21.5	~6
HW-11	11.5	→ 11.5 *
HW-12	13.0	~8
HW-13	11.5	~9

NOTES:

* Fill at least as deep as total depth of boring. Fill/native contact not encountered.

TABLE 2
SOIL SAMPLES
CHEMICAL SUMMARY SHEET - ORGANIC COMPOUNDS
BARBARY COAST STEEL CORPORATION

Boring Number	Date Sampled	Sample Number	Depth (feet)	Oil & Grease mg/kg	TPH-G mg/kg	TPH-D mg/kg	VOC's ug/kg	Semivolatiles mg/kg	PCB's mg/kg
HW-6B	4/10/92	HW-6B-1	4.5- 5.0	N.D.	N.D.	N.D.	N.D.	N.T.	N.D.
		HW-6B-2	8.0- 8.5	200	N.D.	N.D.	N.D.	N.T.	N.D.
		HW-6B-3	11.0-11.5	N.D.	N.D.	N.D.	N.D.	N.T.	N.D.
		HW-6B-4	16.0-16.5	N.D.	N.D.	N.D.	N.D.	N.T.	N.D.
		HW-6B-5	19.5-20.0	N.D.	N.D.	N.D.	N.D.	N.T.	N.D.
HW-7	4/10/92	HW-7-1*	4.5- 5.0	3.68 0	N.D.	210	7.5 TCE 610 PCE 7.8 Toluene	N.T.	N.D.
		HW-7-2	9.5-10.0	38	N.D.	52	11 PCE	0.39 PYRENE	N.D.
		HW-7-3	13.0-13.5	N.D.	N.D.	N.D.	N.D.	N.T.	N.D.
		HW-7-4	16.0-16.5	35	N.D.	N.D.	N.D.	N.T.	N.D.
		HW-7-5	21.0-21.5	N.D.	N.D.	N.D.	N.D.	N.T.	N.D.
HW-8	4/10/92	HW-8-1*	2.5- 3.0	N.D.	N.D.	N.D.	N.D.	N.T.	N.D.
		HW-8-6	4.5- 5.0	39	1 P	N.D.	B-210 E-37 T-570 X-43	N.T.	N.D.
		HW-8-2	7.0- 7.5	N.D.	2.2	N.D.	N.D.	N.T.	N.D.
		HW-8-3	10.0-10.5	N.D.	N.D.	N.D.	N.D.	N.T.	N.D.
		HW-8-4	16.0-16.5	N.D.	N.D.	N.D.	N.D.	N.T.	N.D.
		HW-8-5	21.5-22.0	N.D.	N.D.	N.D.	N.D.	N.T.	N.D.

TABLE 2 (CONT'D)

Boring Number	Date Sampled	Sample Number	Depth (feet)	Oil & Grease mg/kg	TPH-G mg/kg	TPI-D mg/kg	VOC's ug/kg	Semivolatiles mg/kg	PCB's mg/kg	
HW-9A	4/10/92	HW-9A-1	3.0- 3.5	42	N.D.	N.D.	N.D.	N.T.	N.D.	
		HW-9A-2	6.0- 6.5	140	N.D.	3.7	N.D.	N.T.	N.D.	
		HW-9A-3	10.0-10.5	25	N.D.	N.D.	N.D.	N.T.	N.D.	
		HW-9A-4	15.0-15.5	21	N.D.	N.D.	N.D.	N.T.	N.D.	
		HW-9A-5	21.0-21.5	33	N.D.	N.D.	N.D.	N.T.	N.D.	
HW-10	4/10/92	HW-10-1	4.5- 5.0	92	N.D.	N.D.	N.D.	N.T.	N.D.	
		HW-10-2	7.5- 8.0	70	N.D.	N.D.	N.D.	N.T.	N.D.	
		HW-10-3	11.0-11.5	41	N.D.	N.D.	N.D.	N.T.	N.D.	
		HW-10-4	16.0-16.5	35	N.D.	N.D.	N.D.	N.T.	N.D.	
		HW-10-5	21.0-21.5	N.D.	N.D.	N.D.	N.D.	N.T.	N.D.	
HW-11	4/09/92	HW-11-1*	2.5- 3.0	80	N.D.	N.D.	N.D.	N.T.	N.D.	
		HW-11-2	6.0- 6.5	58	2.2	6.7	N.D.	N.T.	N.D.	
		HW-11-3	11.0-11.5	690	N.D.	460	N.D.	0.72 ACB 0.55 Fluorene	N.D.	
HW-12	4/09/92	HW-12-1*	3.0- 3.5	89	N.D.	6.5	N.D.	N.T.	N.D.	
		HW-12-2	5.5- 6.0	33	N.D.	N.D.	17 PCB	N.T.	N.D.	
		HW-12-3	9.5-10.0	N.D.	N.D.	N.D.	N.D.	N.T.	N.D.	
HW-13	4/09/92	HW-13-1*	5.5- 6.0	88	N.D.	N.D.	N.D.	0.1 DBP 0.15 BFL 0.13 PYRENE	N.D.	
		HW-13-2	11.0-11.5	47	N.D.	N.D.	N.D.	N.T.	N.D.	
				MDL	1.0 mg/kg	1.0 mg/kg	1.0 mg/kg	5.0 ug/kg	0.5 mg/kg	0.5 mg/kg

TABLE 2 (CONT'D)

NOTES:

N.D. Not Detected
N.T. Not Tested
MDL Method Detection Limits
Mg/Kg Milligrams per kilogram
ACP Acenaphthylene

FLE Fluoranthene
DBP Di-N-Butyl-Phthalate
B Benzene
E Ethylbenzene
T Toluene
X Xylenes

TABLE 3
SOIL SAMPLES
CHEMICAL SUMMARY SHEET - INORGANIC COMPOUNDS
BARBARY COAST STEEL CORPORATION

Boring Number	Date Sampled	Sample Number	Depth (feet)	Cadmium mg/kg	Chromium mg/kg	Lead mg/kg	Zinc mg/kg	Nickel mg/kg	Arsenic mg/kg
HW-6B	4/10/92	HW-6B-1*	4.5- 5.0	13	5.4	35	62	11	N.D.
		HW-6B-2	8.0- 8.5	7.4	7.0	40	64	9.6	N.T.
		HW-6B-3	11.0-11.5	1.8	19	4.5	22	13	N.T.
		HW-6B-4	16.0-16.5	1.5	12	2.7	13	12	N.T.
		HW-6B-5	19.5-20.0	1.5	14	3.5	19	17	N.T.
HW-7	4/10/92	HW-7-1*	4.5- 5.0	9.8	3.4	120	230	6.6	N.D.
		HW-7-2	9.5-10.0	8.2	4.0	51	12	13	N.T.
		HW-7-3	13.0-13.5	1.7	14	4.0	19	20	N.T.
		HW-7-4	16.0-16.5	1.5	14	3.9	18	16	N.T.
		HW-7-5	21.0-21.5	1.8	15	3.3	22	22	N.T.
HW-8	4/10/92	HW-8-1*	2.5- 3.0	1.9	37	69	160	8.2	N.D.
		HW-8-6	4.5- 5.0	6.8	14	51	73	14	N.T.
		HW-8-2	7.0- 7.5	7.4	6.0	22	26	14	N.T.
		HW-8-3	10.0-10.5	1.5	27	4.3	25	19	N.T.
		HW-8-4	16.0-16.5	1.1	17	4.0	18	37	N.T.

TABLE 3 (CONT'D)

Boring Number	Date Sampled	Sample Number	Depth (feet)	Cadmium mg/kg	Chromium mg/kg	Lead mg/kg	Zinc mg/kg	Nickel mg/kg	Arsenic mg/kg
		HW-8-5	21.5-22.0	1.0	13	3.2	15	26	N.T.
HW-9A	4/10/92	HW-9A-1	3.0-3.5	5.6	13	49	59	51	N.T.
		HW-9A-2*	6.0-6.5	8.5	5.6	64	130	13	N.D.
		HW-9A-3	10.0-10.5	1.6	21	3.5	23	20	N.T.
		HW-9A-4	15.0-15.5	1.5	21	3.7	16	15	N.T.
		HW-9A-5	21.0-21.5	1.3	20	4.4	21	23	N.T.
HW-10	4/10/92	HW-10-1	4.5-5.0	7.3	6.1	73	1100	21	N.D.
		HW-10-2	7.5-8.0	1.59	19	12.9	32	20	N.T.
		HW-10-3	11.0-11.5	0.9	12	3.4	15	13	N.T.
		HW-10-4	16.0-16.5	1.4	15	4.2	21	21	N.T.
		HW-10-5	21.0-21.5	1.2	15	2.8	19	20	N.T.
HW-11	4/09/92	HW-11-1*	2.5-3.0	105	330	16,000	9.80 0	86	86
		HW-11-2	6.0-6.5	14	35	11	190	52	N.T.
		HW-11-3	11.0-11.5	2.4	161	8.9	16	4.1	N.T.
HW-12	4/09/92	HW-12-1*	3.0-3.5	5.7	28	330	490	15	22
		HW-12-2	5.5-6.0	1.8	32	16	43	8.4	N.T.
		HW-12-3	9.5-10.0	0.62	9.2	3.1	11	9.5	N.T.

TABLE 3 (CONT'D)

Boring Number	Date Sampled	Sample Number	Depth (feet)	Cadmium mg/kg	Chromium mg/kg	Lead mg/kg	Zinc mg/kg	Nickel mg/kg	Arsenic mg/kg
HW-13	4/09/92	HW-13-1*	5.5- 6.0	12		12	16	15	N.D.
		HW-13-2	11.0-11.5	1.5	17	2.9	23	18	N.T.
MDL				0.05	0.5	0.5	0.25	0.5	0.25

NOTES:

- N.D. Not Detected at Method Detection Limits
- N.T. Not Tested
- MDL Method Detection Limits
- Mg/Kg Milligrams per kilogram
- * Sample selected for Waste Extraction Test

TABLE 4
SOIL SAMPLES
CHEMICAL SUMMARY SHEET - TCLP/STLC
BARBARY COAST STEEL CORPORATION PROPERTY

ORGANIC COMPOUNDS									
Boring Number	Date Sampled	Sample Number	Analyte/Compound Concentrations (TCLP)						
			Toluene ug/l	TCE ug/l	PCE ug/l				
HW-7	4/10/92	HW-7-1	0.72	8.5	0.50				
HW-12	4/09/92	HW-12-2	N.D.	1.4	N.D.				
INORGANIC COMPOUNDS									
Boring Number	Date Sampled	Sample Number	Analyte/Compound Concentrations (STLC)						
			Cadmium mg/l	Chromium mg/l	Lead mg/l	Zinc mg/l	Nickel mg/l		
HW-6B	4/10/92	HW-6B-1	0.24	0.26	3.4	7.5	0.89	N.D.	
HW-7	4/10/92	HW-7-1	0.28	0.1	11	18	0.35	N.D.	
HW-8	4/10/92	HW-8-1	N.D.	0.35	0.58	0.62	N.D.	N.D.	
HW-9A	4/10/92	HW-9-2	0.08	N.D.	8.3	13	0.76	N.D.	
HW-10	4/10/92	HW-10-1	0.1	N.D.	3.4	140	1.1	N.D.	
HW-11	4/09/92	HW-11-1	18	0.67	640	320	0.6	4.1	
HW-12	4/09/92	HW-12-1	0.5	0.99	71	76	0.87	0.5	
HW-13	4/09/92	HW-13-1	0.08	1.6	0.11	N.D.	0.27	N.D.	

NOTES:

ug/l Micrograms per liter
 mg/l Milligrams per liter
 N.D. Not Detected at Method Detection Limits

TCE Trichloroethene
 PCE Tetrachloroethene

TABLE 5
GRAB GROUNDWATER SAMPLES
CHEMICAL SUMMARY SHEET - ORGANIC AND INORGANIC COMPOUNDS
BARBARY COAST STEEL CORPORATION

EPA Analysis	Analyte/Compound	MDL	HW-6B	HW-7 ^a	HW-8	HW-9A	HW-10	HW-11 ^a	HW-12	HW-13
418.1	Oil & Grease	0.5 mg/l	N.D.	26	1.7	1.8	3.5	58	20	1.7
8015	TPH-G	50 ug/l	N.D.	55	N.D.	N.D.	N.D.	160	N.T.	1.7
8015	TPH-D	50 ug/l	N.D.	1.5	N.D.	N.D.	N.D.	63,000	^b	N.D.
8080	PCBs	10 ug/l	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.T.	N.D.
8240/624	Chloroform	2 ug/l	N.D.	N.D.	N.D.	N.D.	N.D.	4.9	N.T.	N.D.
8270/625	Naphthalene	0.002 mg/l	N.T.	N.D.	N.T.	N.T.	N.T.	0.04 9	N.T.	N.D.
6010	Cadmium	0.001 mg/l	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.T.	N.D.
	Chromium	0.01 mg/l	N.D.	N.D.	N.D.	N.D.	0.01	N.D.	N.T.	N.D.
	Lead	0.01 mg/l	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.T.	N.D.
	Zinc	0.005 mg/l	N.D.	N.D.	N.D.	N.D.	0.03	0.05	N.T.	N.D.
	Nickel	0.01 mg/l	N.D.	N.D.	N.D.	N.D.	0.03	N.D.	N.T.	N.D.
Date Sampled			4/10/92	4/10/92	4/10/92	4/10/92	4/10/92	4/09/92	4/09/92	4/09/92

NOTES:

N.D. Not Detected at Method Detection Limits TPH-G Total Petroleum Hydrocarbons as Gasoline
N.T. Not Tested TPH-D Total Petroleum Hydrocarbons as Diesel
MDL Method Detection Limits PCBs Polychlorinated Biphenyls

^a Black oily sheen observed on water retrieve for sample analysis
^b Due to insufficient water, sludge in container was analyzed. 170 mg/kg of Diesel.

TABLE 6
 ANTICIPATED CLEANUP STANDARDS FOR
 CHEMICALS FOUND IN SOIL SAMPLES
 BARBARY COAST PROPERTY

CHEMICAL	CONCENTRATION		SAMPLE NUMBER	STANDARD	BASIS
	TOTAL	TCLP/STLC			
ORGANIC COMPOUNDS					
TCE*	7.5 mg/kg	0.5 ug/l	HW-7-1	5 ug/l, 0.5 ug/l, 204 mg/l	1, 2, 3
Pyrene*	0.39 mg/kg	N.A.	HW-7-2	100 ug/l, 0.0028 ug/l	8, 9
Toluene	570 ug/kg	N.A.	HW-8-6	100 ug/l	7
Benzene*	210 ug/l	N.A.	HW-8-6	1 ug/l, 0.5 mg/l	1, 2
PCE	610 ug/l	8.5 ug/l	HW-7-1	0.7 mg/l	2
Acenaphthylene	0.72 mg/kg	N.A.	HW-13-3	0.0028 ug/l	10
	0.55 mg/kg	N.A.	HW-13-3	0.0028 ug/l	10
Fluoranthene	0.15 mg/kg	N.A.	HW-13-1	90 ug/l	8
Di-n-Butylphthalate	0.10 mg/kg	N.A.	HW-13-1	No Standard	
TOTAL PETROLEUM HYDROCARBONS					
Oil and Grease	3,680 mg/kg		HW-7-1	10 mg/kg - 100 mg/kg	6
Gasoline	2.2 mg/kg		HW-8-2	0 mg/kg - 10 mg/kg	6
Diesel	460 mg/kg		HW-11-3	10 mg/kg - 100 mg/kg	6
METALS					
Cadmium	105 mg/kg	18 mg/l	HW-11-1	10 ug/l, 1.0 mg/l, 1.0 mg/l, 100 mg/kg	1, 2, 4, 5
Chromium	170 mg/kg	1.6 mg/l	HW-13-1	50 ug/l, 5.0 mg/l, 5.0 mg/l, 500 mg/l	1, 2, 4, 5
Lead	16,000 mg/kg	40 mg/l	HW-11-1	50 ug/l, 5.0 mg/l, 5.0 mg/l, 1000 mg/l	1, 2, 4, 5

TABLE 6 (CONT'D)

CHEMICAL	CONCENTRATION		SAMPLE NUMBER	STANDARD	BASIS
	TOTAL	TCLP/STLC			
Zinc	9,800 mg/kg	320 mg/l	HW-11-1	5000 ug/l, 250 mg/l, 5000 mg/kg	1, 4, 5
Nickel	21 mg/kg	1.1 mg/l	HW-10-1	100 ug/l, 20 mg/l, 2000 mg/kg	1, 4, 5
Arsenic	86 mg/kg	4.1 mg/l	HW-11-1	50 ug/l, 5.0 mg/l, 5.0 mg/l, 500 mg/kg	1, 2, 4, 5

NOTES:

- * Known possible carcinogen
- ug/l Micrograms per liter
- mg/l Milligrams per liter = ppm
- mg/kg Milligrams per kilogram = ppm
- N.A. Not Analyzed
- TCLP Toxicity Characteristic Leaching Procedure
- STLC Soluble Threshold Limit Concentration
- 1 California State Primary and/or Secondary Maximum Contamination Level for Drinking Water (proposed or adopted).
- 2 TCLP, Article 3 - Characteristics of Hazardous Waste Title 22.
- 3 STLC - Organic Substances, Article 3 - Characteristics of Hazardous Waste, Title 22.
- 4 STLC - Inorganic Substances, Article 3 - Characteristics of hazardous Waste, Title 22.
- 5 TTLC - Inorganic Substances, Article 3 - Characteristics of Hazardous Waste, Title 22.
- 6 Current Acceptable Practice, RWQCB - Tri Regional Recommendations
- 7 California State Action Levels, Department of Health Services (Toxicity)
- 8 EPA Health Advisories or Suggested No-Adverse-Response Levels (SNARLs)
- 9 California Inland Surface Waters Plan Numerical Water Quality Objective, Sources of Drinking Water
- 10 USEPA National Ambient Water Quality Criteria (One-in-a Million Incremental Cancer Risk Estimates)

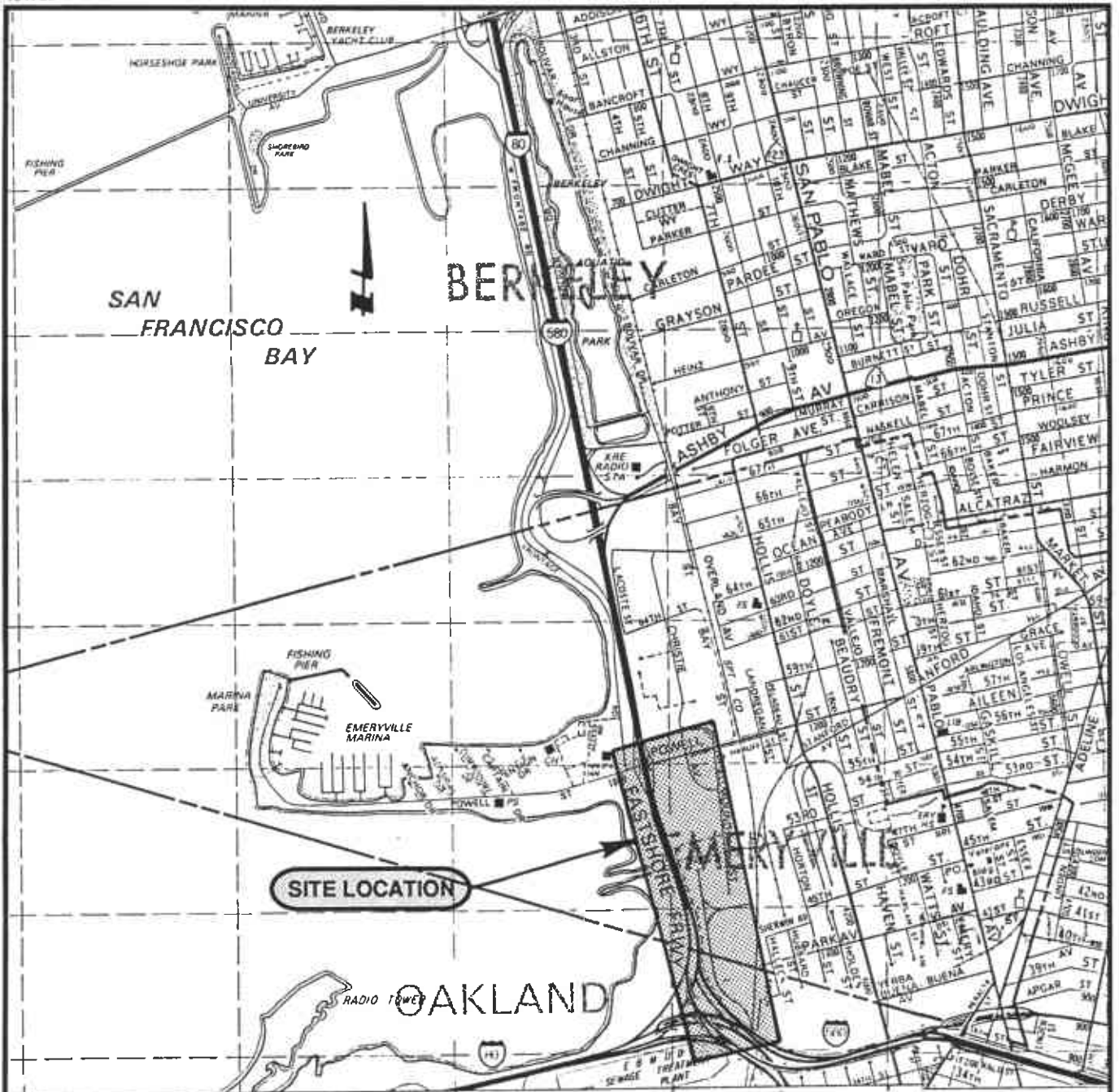
TABLE 7
 ANTICIPATED CLEANUP STANDARDS FOR CHEMICALS
 FOUND IN GRAB GROUNDWATER SAMPLES
 BARBARY COAST STEEL CORPORATION PROPERTY

CHEMICALS	CONCENTRATION	LOCATION	STANDARD	BASIS
ORGANIC COMPOUNDS				
Chloroform*	4.9 ug/l	HW-11	100 ug/l	1
Napthalene	0.049 mg/l	HW-11	20 mg/l	3
TOTAL PETROLEUM HYDROCARBONS				
Oil and Grease	58 mg/l	HW-11	50 ug/l	2
	26 mg/l	HW-7		
	20 mg/l	HW-12		
Gasoline	160 ug/l	HW-11	50 ug/l	2
	55 ug/l	HW-7		
	1.7 ug/l	HW-13		
Diesel	63,000 ug/l	HW-11	50 ug/l	2
	1.5 ug/l	HW-7		
	170 mg/kg (sludge)	HW-12		
METALS				
Chromium	0.01 mg/l	HW-10	50 ug/l	1
Zinc	0.05 mg/l	HW-11	5,000 ug/l	1
Nickel	0.03 mg/l	HW-10	100 ug/l	1

TABLE 7 (CONT'D)

NOTES:

- * Known or possible carcinogen
- 1 California State Primary and/or Secondary Maximum Contamination Level for Drinking Water (proposed or adopted).
- 2 Representative NPDES Permits
- 3 EPA Health Advisories or Suggested No-Adverse-Response Levels (SNARLs)



BASE FROM THOMAS BROS MAP

SCALE



**FREWAY I-80 WIDENING AND REALIGNMENT
HAZARDOUS WASTE INVESTIGATIONS AND
REMEDIAL ALTERNATIVES
EMERYVILLE, CALIFORNIA**

PALO ALTO • CALIFORNIA

LOCATION MAP

PROJECT NO.

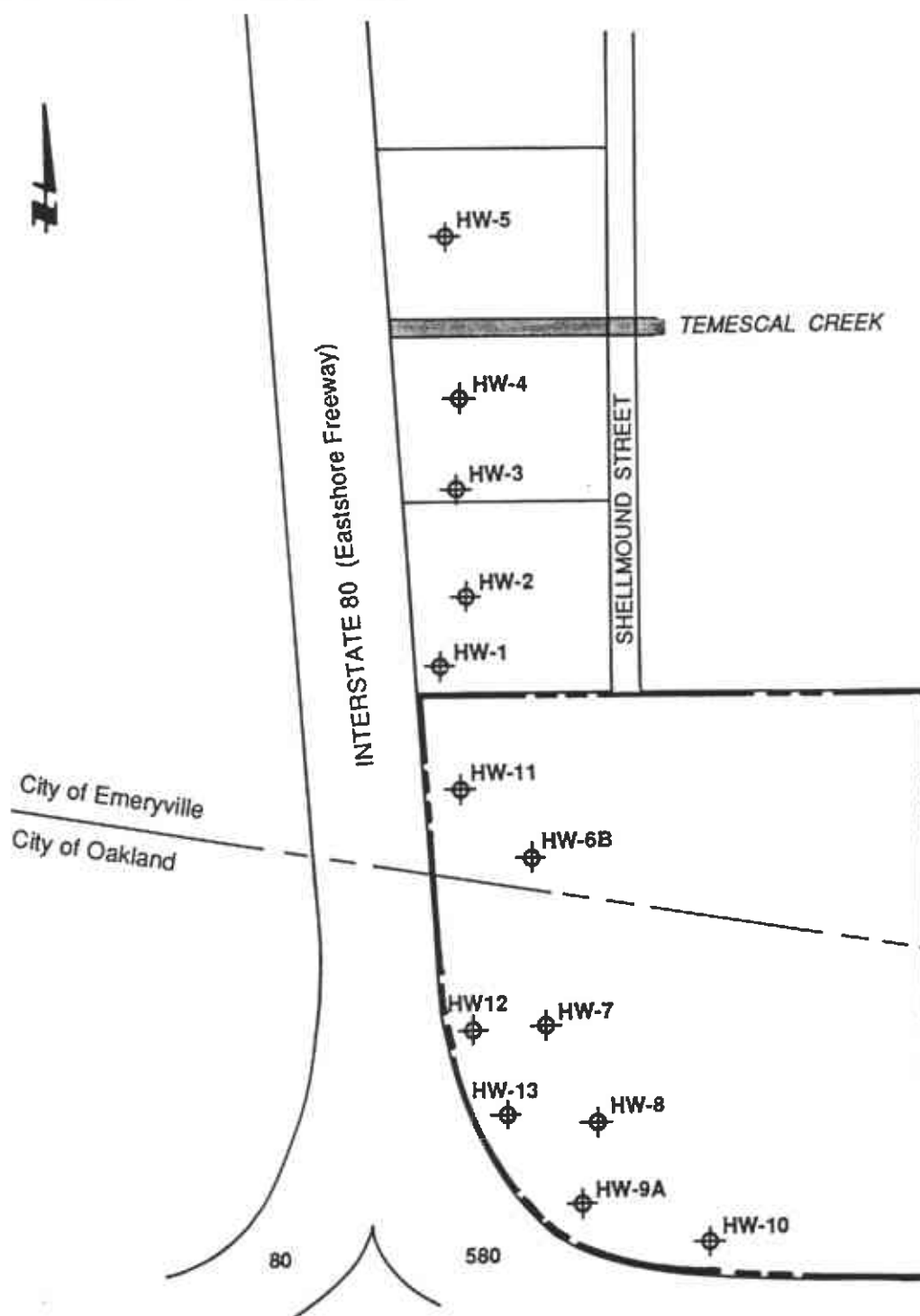
CDT-105L

DATE

JUNE 1992

FIGURE NO.

1



NOT TO SCALE



HAZARDOUS WASTE INVESTIGATIONS AND
 REMEDIAL ALTERNATIVES
 BARBARY STEEL CORPORATION
 EMERYVILLE, CALIFORNIA

PALO ALTO • CALIFORNIA

SITE SKETCH

PROJECT NO.	DATE	FIGURE NO.
CDT-105L	JUNE 1992	2

SCOPE OF WORK

The proposed scope of work was developed based upon a letter from Mr. E. R. Sowko dated March 15, 1992, our discussion with Messrs. E. R. Sowko, Hooshmand Nikoui, and Ms. Zenaida Villamor on March 17, 1992, our discussion with Mr. Nikoui on March 19, 1992, and our understanding of the project. Our proposed scopes of work for both deliverables are presented in the following paragraphs:

1. Deliverable 1 - Hazardous Waste Investigation and Report

Task 110 - Project preparation include the review of previously prepared reports, data and maps in the vicinity of the project site, and interactions with regulatory agencies. Wahler will interact with the Regional Water Quality Control board as needed to confirm that their interests will be addressed.

Task 120 - We will visit the site to assess the current conditions and to coordinate the investigation in order to minimize disturbance to traffic. The location of underground utilities will be coordinated with Underground Services Alert (USA), Caltrans, and a private utility locator prior to drilling. The private utility locator will verify that the boring locations are clear of utilities prior to drillings.

Task 130 - Wahler will prepare a Site Safety Plan (SSP) in accordance with Section 29 of the Code of Federal Regulations (CFR) 190.20. The SSP will be made available to all parties involved in the drilling of exploratory borings and will be available on-site during the drilling operations. Immediately prior to the start of work, a safety meeting will be held at the Site.

Task 140 - Eight exploratory borings will be drilled to approximately 10-foot depths, and five borings will be drilled to approximately 20-foot depths using a truck-mounted drill rig with hollow-stem augers. The borings will be drilled by Gregg Drilling Company of Concord. Bulk groundwater samples will be collected from each boring. Four of the borings are anticipated to be drilled in conjunction with the deeper borings for the geotechnical investigation. Soil

samples will be collected from each boring at 2, 5, and 10 feet below the ground surface, or at a groundwater level, whichever comes first. In addition, soil samples will be collected at the 15 and 20-foot depths.

Cuttings will be logged by an experienced geologist or engineer under the supervision of a registered engineer or geologist. Soil samples and cuttings will be screened in the field using a Photoionization Detector (PID) or other appropriate screening equipment. Wahler's standard Drilling, Well Construction, and Sampling and Sealing Protocol, which is based on accepted practice, will be adhered to during all drilling operations as appropriate. Once the borings have been completed, locations will be surveyed, and the information used during data analysis.

Task 150 - As requested, all soil samples will be analyzed by the following methods: EPA Method 418.1 for Oil and Grease; EPA Method 8015 modified for gasoline and diesel; EPA Method 6010 for heavy metals; EPA Method 8240 for volatile organic compounds; and EPA Method 8080 for polychlorinated biphenyls (PCBs). In addition, and as appropriate, one sample from each boring (containing the highest pollutant concentrations) will have leaching tests performed using the California Waste Extraction Test (WET) and the Toxicity Characteristic Leaching Procedure (TCLP).

For groundwater samples, the analyses will be the same as for soil samples, with the exception of the WET test and the TCLP test, which will not be conducted, because these procedures are for leaching contaminants from a soil sample.

In addition, based upon conversations with Ms. Villamor, five groundwater samples and five soil samples will be analyzed by EPA Method 8270 for semi-volatile compounds.

The Quality Assurance/Quality Control (QA/QC) program will consist of collection and analyses of the following: preparation and preservation of a travel blank for each container of samples transported to the laboratory; an instrument blank and a duplicate groundwater sample for the groundwater samples (for each day or every 10 samples); Wahler will perform a Quality Control

(QC) review of the chemical analyses results to assess the accuracy and precision of analytical data, using data provided by the analytical laboratories.

Task 160 - Data will be tabulated and soil survey sheets completed. The data obtained from the investigation will be evaluated in light of current state and federal regulations governing pollutants, and conditions at and in the vicinity of the Site.

Task 170 - Wahler will evaluate the various treatment alternatives available to remediate any contaminants which are found during the investigation. The results of this evaluation will be used to prepare an opinion of probable cost for remediation of properties subject to acquisition by Caltrans. The selection of the remedial treatment technology will be based upon the concentrations of pollutants at the Site and regulatory clean-up standards for these compounds, as well as a cost vs. benefit analysis.

Task 180 - Weekly status reports for the project will be completed as needed and discussed with, or submitted to Caltrans for review. These reports will be brief and will outline the progress of the work during the previous week and the proposed activities scheduled for the following week.

After completion of the tasks described above, Wahler will prepare a draft report which will detail the investigative efforts and discuss the rationale for selecting the treatment alternative. As appropriate, other recommendations may be included. Comments by Caltrans' staff concerning the draft report will be addressed in a final report for the project. Two copies of the draft report and five copies of the final report are included in our cost estimate.

Task 190 - Wahler staff will be available to meet with Caltrans staff and discuss the progress of the project or to present the findings of the investigation. Three meetings are included in our estimate.

REFERENCES

- A Compilation of Water Quality Goals, Staff Report of the California Regional Water Quality Control Board, Central Valley Region, prepared by Jon Marshack, September 1991.
- California Code of Regulations, Title 22, Division 4, Environmental Health, Register 91, No. 22, Division 4, Environmental Health, Register 91, No. 22, 5/31/91, published by Barclays Law Publishers.
- Earth Metrics, Incorporated; (1987-1988), "Environmental Risk Assessment for the Judson Steel Site, Parcels 1 and 2," prepared for the Martin Company, September 1987 - updated January 1988.
- Earth Metrics, Incorporated; (1987), "Final Environmental Risk Assessment for the Judson Steel Site, prepared for the Birmingham Steel Corporation, March 1987.
- Interim Guidance for Preparation of a Preliminary Endangerment Assessment Report; California Department of Health Services, June 1990.
- Kaldveer Associates: (1988), "Foundation Investigation for Chiron Research Park," July 1988.
- PES Environmental, Incorporated; (1991), "Preliminary Endangerment Assessment, Shellmound III Site, prepared for the Martin Group, September 1992.
- Radbruch, Dorothy H., 1957, Area and Engineering Geology of the Oakland West Quadrangle, California: U.S. Geological Survey - Miscellaneous Geologic Investigations Map I-239, Scale 1:24,000.
- Test Methods for Evaluating Solid Waste, SW-846, Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency.

Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of
Underground Tank Sites, California Regional Water Quality Control Board, San
Francisco Bay Region, August 10, 1990.

SITE SAFETY EVALUATION FORM

A. SITE DESCRIPTION

Project Name and No. CDT-105 Date April 8, 1992

Location 4300 Eastshore Hwy Emeryville CA Project Manager _____
(attached site map)

Site Condition Former site of Judson steel, some building and vacant land

Scope of Work Drill soil borings and take samples - soil and grab Hz

B. PERSONNEL AND PERSONAL PROTECTIVE EQUIPMENT

Name	Firm	Job. Descr.	Level of Protection	Monitoring Equip.	PPE
<u>Ray Kahler</u>	<u>Wahler</u>	<u>Geologist</u>	<u>D</u>	<u>HNU-PID</u>	
<u>Todd Murray</u>	<u>Wahler</u>	<u>Eng. Asslt</u>	<u>D</u>		
<u>Chris St. Pierre</u>	<u>Gregg</u>	<u>Driller</u>	<u>D</u>		
<u>Andy Doig</u>	<u>Gregg</u>	<u>Driller</u>	<u>D</u>		

Level C Standby

Decont. Procedures Steam clean, wash with D.I. & detergent

C. EMERGENCY CONTACTS

All sites working with hazardous waste require a portable telephone.

Nearest public telephone (within 2-5 min. of site) @ Powell & Christie

Mileage from site to nearest public telephone ~ 1/4 mile

If over 5 miles, name of person working on-site trained in CPR/First Aid:

Agency	Contact	City	Telephone No.
Site Contact	<u>Bob Curlette</u> <u>Leanne Mark (ENSR)</u>	<u>Barbary Coast</u>	<u>(415) 397-6000</u>
Fire Department			<u>911</u>
Police Department			<u>911</u>
Poison Cntl. Ctr.			<u>911</u>
Wahler's Health & Safety Officer	<u>Vick Homayounfar</u>	<u>Palo Alto</u>	<u>(415) 968-6250</u>
Hospital Name and Address	<u>Merritt</u>	<u>350 Hawthorne Oakland</u>	<u>655-4000</u>
Route to Hospital	<u>see attached</u>	<u>map</u>	
Route Map Attached	<u>yes</u>		
Caltrans FormB/ENVIR	<u>Zenaida Villamor</u>		<u>(415) 904-9759</u>

HAZARDS IDENTIFICATION

Chemical Name	PEL/TLV	IDLH	UNIT	LEL(%)	HIGHEST CONCENTRATION (PPM)			INSTRUMENT RESPONSE FACTORS			
					AIR	WATER	SOIL	SYMPTOMS OF ACUTE EXPOSURE	PID	FID	OTHER
Benzene	0.1-8hr	Ca	ppm	1.3	?	0.1	<0.05	Irrit eyes, nau, Ftg			
Toluene	100-10hr	2000	ppm	1.3		0.0031	0.028	Ftg, Dizz, dil pup			
Ethyle benzene	100	2000	ppm	1.0		0.0004	<0.10	Irrit eyes, muc memb			
Xylene	100-10hr	1000	ppm	1.1		0.0089	0.084	Dizz, drow			
- Lead	<0.1-10hr	N/A	mg/m ³	N/A		0.038	20,000	Insom, pal			
- Zinc	5-10hr	N/A	mg/m ³	N/A		0.06	12,300	nau, vomit, sweet metal taste			
Arsenic	2	Ca	ug/m ³	N/A		0.064	38	ulceration of nas sep			
- Chromium	1-8hr	250	mg/m ³	N/A		0.16	1500				
- Nickel	15-10hr	Ca	ug/m ³	N/A		0.04	210	Sens derm			
Copper	1	N/A	mg/m ³	N/A		0.08	910	Irrit muc memb			
Barium	0.5	250	mg/m ³	N/A	↓	5.2	950	upper resp irrit			

OTHER POTENTIAL HAZARDS

Radioactive Materials

Pathogens

Cold

Oxygen Deficiency

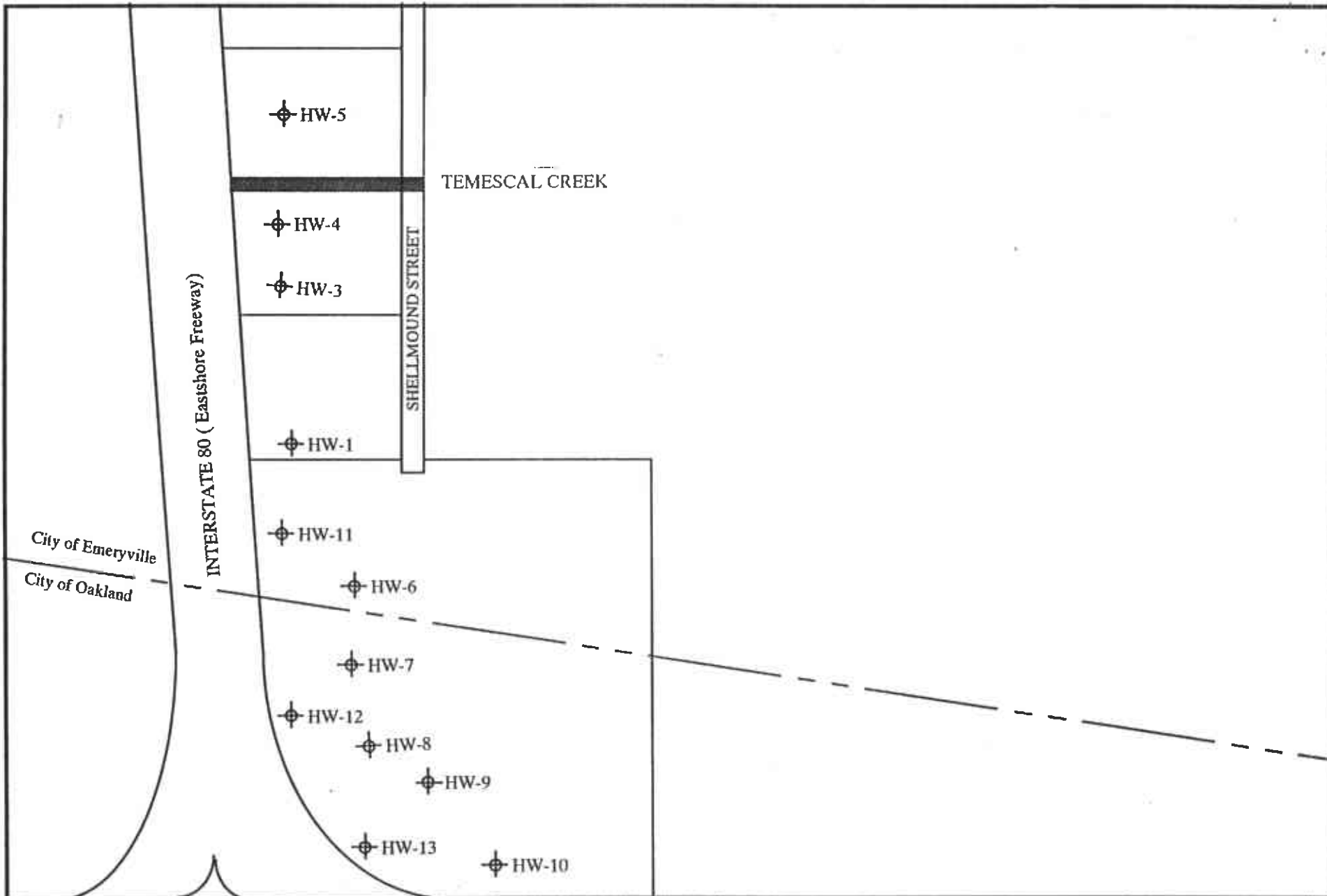
Poisonous Animals

Heat

Underground Utilities

Aboveground Utilities

Other Heavy equipment @
Barbary Coast



Wahler
Associates

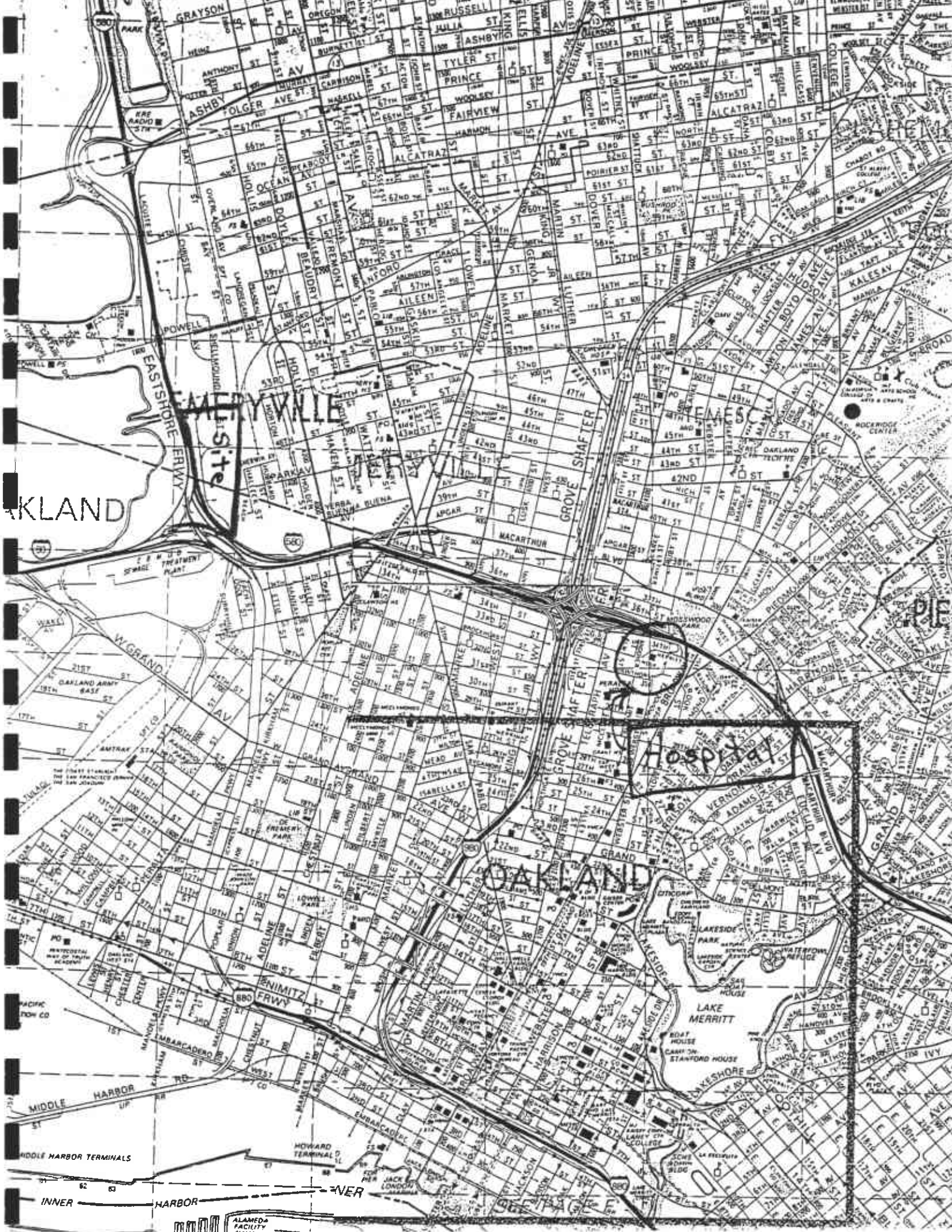
SITE SKETCH

Date: APRIL 1992

Drawing not to scale

Figure No.

1



OAKLAND

INNER HARBOR

ALAMEDA FACILITY

HOSPITAL

OAKLAND

LAKE MERRITT

PIE

BORING LOCATION: Barbary Coast Steel Corporation		APPROVED BY: BG		GROUND EL: 8.24'				
DEPTH/ELEV.WATER: ~4'		DRILL CONTRACTOR: Gregg Drilling		TOTAL DEPTH: 21.5'				
DRILL RIG: Mobile B-61		BORING DIA.: 6.5"		DATE DRILLED: 4-10-92				
LOGGED BY: RNK								
SOIL CLASS	DESCRIPTION	DEPTH	SAMPLE NO.	PR ROD	REC.	MODE	REMARKS	
SC	<p style="text-align: center;"><u>FILL</u></p> 0'-0.2': ASPHALT 0.2'-11': CLAYEY SAND, slag and refractory material; grey to brown to white; moist; poorly compacted.	0					Advance boring with 8" O.D. hollow stem auger (HA). Samples obtained by driving (DR) a 2" I.D. California Split-spoon sampler (CS). PID = 2 ppm Grab water sample obtained HW-7. PID = 2 ppm	
		2		11 13 7	0.0 1.5	DR CS		
		4	HW-7	11 29	0.5 1.5	DR CS		
			HW-7-1	27				
		6						HA
		8						
		10		5 6 6	0.5 1.5	DR CS		
			HW-7-2					
								HA
		CH	<p style="text-align: center;"><u>BAY MUD</u></p> 11'-18': CLAY: Dark greenish grey; wet; soft to stiff; medium to high plasticity; <5% occasional gravel to 1/2" angular to subangular occasional plant matter (roots?/grasses?).	12		2 2		1.4 1.5
	HW-7-3			3				
14							HA	
16				3 4 6	1.0 1.5	DR CS		
	HW-7-4							
CH	<p style="text-align: center;"><u>TEMESCAL FM.</u></p> 18'-21.4': CLAY: Yellowish brown; moist; slight stiff medium to high plasticity 15% to 20% fine sand; carbon flakes.	18					HA	
		20						




FREEWAY I-80 WIDENING AND REALIGNMENT
EMERYVILLE, CALIFORNIA


EXPLORATION BORING LOG
 PROJECT NO. CDT-105L
 SHEET: 1 of 2

BORING NO.
HW-7

BORING LOCATION:		APPROVED BY:	GROUND EL:
DEPTH/ELEV. WATER:		DRILL CONTRACTOR:	TOTAL DEPTH:
DRILL RIG:	BORING DIA.:	DATE DRILLED:	LOGGED BY:

SOIL CLASS	DESCRIPTION	DEPTH	SAMPLE NO.	PR ROD	REC.	MODE	REMARKS
CL	SILTY CLAY cont.	20		6	1.3	DR	
			HW-7-5	7	1.5	CS	
			BCS	7			
GC ↑	TOTAL DEPTH 21.5'	22					Boring Terminated at 21.5'
	<p>DATA ON THIS LOG ARE AN APPROXIMATION OF THE GEOLOGIC AND SUBSURFACE CONDITIONS BECAUSE THE INFORMATION WAS OBTAINED FROM INDIRECT, DISCONTINUOUS, AND POSSIBLY DISTURBED SAMPLING NECESSITATED BY USE OF SMALL- DIAMETER HOLES. ROTARY AND WASH BORING HOLES HAVE FURTHER COMPLICATIONS IN THIS REGARD BECAUSE OF THE NEED TO USE DRILLING FLUID AND/OR CASING IN ADVANCING HOLES.</p> <p>THIS LOG INDICATES CONDITIONS IN THIS HOLE ONLY ON THE DATE INDICATED AND MAY NOT REPRESENT CONDITIONS AT OTHER LOCATIONS AND ON OTHER DATES. ANY WATER LEVELS SHOWN ARE SUBJECT TO VARIATION.</p> <p>THIS HOLE WAS LOGGED IN SUCH A WAY AS TO PROVIDE DATA PRIMARILY FOR DESIGN PURPOSES AND NOT NECESSARILY FOR THE PURPOSES OF SPECIFIC CONTRACTORS.</p> <p>THE STRATIFICATION LINES OR DEPTH INTERVALS REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES, AND THE TRANSITIONS MAY BE GRADUAL.</p> <p>SOIL CLASSIFICATIONS SHOWN ON LOGS ARE FIELD CLASSIFICATIONS BASED ON THE UNIFIED SOILS CLASSIFICATION SYSTEM.</p>	24					
		26					
		28					
		30					
		32					
		34					
		36					
		38					
		40					

	FREEWAY I-80 WIDENING AND REALIGNMENT EMERYVILLE, CALIFORNIA	EXPLORATION BORING LOG		BORING NO. HW-7
		PROJECT NO.	SHEET:	
		CDT-105L	2 of 2	

BORING LOCATION: Barbary Coast Steel Corporation		APPROVED BY: BG		GROUND EL: 7.75'			
DEPTH/ELEV. WATER: -8'		DRILL CONTRACTOR: Gregg Drilling		TOTAL DEPTH: 22.0'			
DRILL RIG: Mobile B-61		BORING DIA.: 6.5"		DATE DRILLED: 4-10-92			
LOGGED BY: RNK							
SOIL CLASS	DESCRIPTION	DEPTH	SAMPLE NO.	PR RQD	REC.	MODE	REMARKS
SC	<p align="center"><u>FILL</u></p> 0'-0.5': ASPHALT 0.5'-8': CLAYEY SAND, slag and refractory material; grey to brown to white; moist; poorly compacted. ~3': Color change, yellow to red (brick") ~5': 1/2" x 4" chunk of steel slag and 2" x 2" chunk of brass	0				HA	Advance boring with 8" O.D. hollow stem auger (HA). Samples obtained by driving (DR) a 2" I.D. California Split-spoon sampler (CS).
		2		35	0.6	DR	
			HW-8-1	50	1.0	CS	
		4				HA	
			21	0.3	DR		
			HW-8-6	37	1.0	CS	
		6				HA	
			12	0.9	DR		
			HW-8-2	28	1.5	CS	
			10			HA	
ML	<p align="center"><u>BAY MUD</u> </p> 8'-14': SANDY SILT, dark charcoal grey; wet; very soft; low plasticity; slow to rapid dialatancy 15% to 20% fine sand; occasional small clam shells and pieces.	8	HW-8			HA	Grab water sample obtained HW-8.
		10		1	1.5	DR	
			HW-8-3	1	1.5	CS	
			2			HA	
CL	14'-16.5': LEAN CLAY: Dark olive greenish grey; wet; soft; low to medium plasticity; mica flakes. <p align="center"><u>TEMESCAL FM.</u></p> 16.5'-18': CLAY: Light greenish grey mottled with yellowish green; wet; stiff; high plasticity; 10%-20% fine sand.	14				HA	
		16		3	1.5	DR	
CH	16.5'-18': CLAY: Light greenish grey mottled with yellowish green; wet; stiff; high plasticity; 10%-20% fine sand. ~18.0': Drilling firmer	16		5	1.5	CS	
			HW-8-4	10			
CL	18'-21.8': SANDY CLAY: Medium yellowish brown; very moist; stiff; medium to high plasticity; 25% to 35% fine to coarse sand subangular to subangular; <15% gravel to 1/2".	18				HA	
		20					




FREWAY I-80 WIDENING AND REALIGNMENT
EMERYVILLE, CALIFORNIA

EXPLORATION BORING LOG
 PROJECT NO. CDT-105L
 SHEET: 1 of 2

BORING NO.
HW-8

BORING LOCATION:			APPROVED BY:			GROUND EL:		
DEPTH/ELEV. WATER:			DRILL CONTRACTOR:			TOTAL DEPTH:		
DRILL RIG:		BORING DIA.:		DATE DRILLED:		LOGGED BY:		
SOIL CLASS	DESCRIPTION	DEPTH	SAMPLE NO.	PR RQD	REC.	MODE	REMARKS	
CL	21.8'-22': CLAYEY SAND: Medium yellowish brown; moist; meddium dense; 50% to 70% fine to coarse sand subrounded to subangular; <10% gravel to 1/2".	20						
				7	1.4	DR		
				9	1.5	CS		
			HW-8-5	12				
↑ SC	TOTAL DEPTH 22'	22					Boring Terminated at 22'	
	<p>DATA ON THIS LOG ARE AN APPROXIMATION OF THE GEOLOGIC AND SUBSURFACE CONDITIONS BECAUSE THE INFORMATION WAS OBTAINED FROM INDIRECT, DISCONTINUOUS, AND POSSIBLY DISTURBED SAMPLING NECESSITATED BY USE OF SMALL- DIAMETER HOLES. ROTARY AND WASH BORING HOLES HAVE FURTHER COMPLICATIONS IN THIS REGARD BECAUSE OF THE NEED TO USE DRILLING FLUID AND/OR CASING IN ADVANCING HOLES.</p> <p>THIS LOG INDICATES CONDITIONS IN THIS HOLE ONLY ON THE DATE INDICATED AND MAY NOT REPRESENT CONDITIONS AT OTHER LOCATIONS AND ON OTHER DATES. ANY WATER LEVELS SHOWN ARE SUBJECT TO VARIATION.</p> <p>THIS HOLE WAS LOGGED IN SUCH A WAY AS TO PROVIDE DATA PRIMARILY FOR DESIGN PURPOSES AND NOT NECESSARILY FOR THE PURPOSES OF SPECIFIC CONTRACTORS.</p> <p>THE STRATIFICATION LINES OR DEPTH INTERVALS REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES, AND THE TRANSITIONS MAY BE GRADUAL.</p> <p>SOIL CLASSIFICATIONS SHOWN ON LOGS ARE FIELD CLASSIFICATIONS BASED ON THE UNIFIED SOILS CLASSIFICATION SYSTEM.</p>	24						
		26						
		28						
		30						
		32						
		34						
		36						
		38						
		40						

	FREWAY I-80 WIDENING AND REALIGNMENT EMERYVILLE, CALIFORNIA	EXPLORATION BORING LOG		BORING NO. HW-8
		PROJECT NO.	SHEET:	
		CDT-105L	2 of 2	

BORING LOCATION: Barbary Coast Steel Corporation		APPROVED BY: BG		GROUND EL: 7.31'			
DEPTH/ELEV. WATER: ~5'		DRILL CONTRACTOR: Gregg Drilling		TOTAL DEPTH: 21.5'			
DRILL RIG: Mobile B-61		BORING DIA.: 6.5"		DATE DRILLED: 4-10-92			
LOGGED BY: RNK							
SOIL CLASS	DESCRIPTION	DEPTH	SAMPLE NO.	PR ROD	REC.	MODE	REMARKS
SC	<p align="center">FILL</p> <p>0'-0.2': ASPHALT</p> <p>0.2'-9': CLAYEY SAND, slag and refractory material; grey to brown to white; moist; poorly compacted.</p> <p align="center">~3': Slag has a metallic look</p> <p align="center">≡</p> <p align="center">~6.5': Slag has a metallic look. Finer material black and organic looking. Coke?</p> <p align="center">~9': Drilling easier</p> <p align="center">BAY MUD</p> <p>9'-14.1': SILTY CLAY: Dark grey; wet; very soft; non-plastic; slow to rapid dilatancy; 15% to 20% fine sand; occasional gravel to 1/2".</p>	0				HA	<p>Advance boring with 8" O.D. hollow stem auger (HA). Samples obtained by driving (DR) a 2" I.D. California Split-spoon sampler (CS).</p> <p>Grab water sample obtained HW-9A.</p>
		2		20	0.8	DR	
			HW-9A-1	35	1.5	CS	
				22			
		4				HA	
			HW-9A	11	0.8	DR	
			HW-9A-2	28	1.5	CS	
				25			
		6				HA	
		8				HA	
CL	<p>9'-14.1': SILTY CLAY: Dark grey; wet; very soft; non-plastic; slow to rapid dilatancy; 15% to 20% fine sand; occasional gravel to 1/2".</p>	10		1	1.3	DR	
			HW-9A-3	1	1.5	CS	
				2			
		12				HA	
CH	<p>14.1'-18': CLAY: Medium olive greenish grey; wet; soft to stiff; medium to high plasticity; <10% fine sand; occasional organic matter (roots?).</p> <p align="center">TEMESCAL FM.</p> <p align="center">~18': Drilling firmer</p>	14		3	1.5	DR	
			HW-9A-2	5	1.5	CS	
				9			
16				HA			
CH	<p>18'-21.5': SANDY CLAY: Medium yellowish brown; wet; stiff to very stiff; high plasticity; 15% to 20% fine to coarse sand subrounded to subangular; carbon flakes.</p>	18				HA	
20							




FREWAY I-80 WIDENING AND REALIGNMENT
EMERYVILLE, CALIFORNIA

EXPLORATION BORING LOG

PROJECT NO.	SHEET:
CDT-105L	1 of 2

BORING NO.
HW-9A

BORING LOCATION:				APPROVED BY:			GROUND EL:	
DEPTH/ELEV. WATER :			DRILL CONTRACTOR:				TOTAL DEPTH:	
DRILL RIG:		BORING DIA.:		DATE DRILLED:			LOGGED BY:	
SOIL CLASS	DESCRIPTION	DEPTH	SAMPLE NO.	PR RQD	REC.	MODE	REMARKS	
CL	SILTY CLAY cont.	20						
			HW-9A-5	4	1.5	DR		
				8	1.5	CS		
	TOTAL DEPTH 21.5'	22					Boring Terminated at 21.5'	
	<p>DATA ON THIS LOG ARE AN APPROXIMATION OF THE GEOLOGIC AND SUBSURFACE CONDITIONS BECAUSE THE INFORMATION WAS OBTAINED FROM INDIRECT, DISCONTINUOUS, AND POSSIBLY DISTURBED SAMPLING NECESSITATED BY USE OF SMALL- DIAMETER HOLES. ROTARY AND WASH BORING HOLES HAVE FURTHER COMPLICATIONS IN THIS REGARD BECAUSE OF THE NEED TO USE DRILLING FLUID AND/OR CASING IN ADVANCING HOLES.</p> <p>THIS LOG INDICATES CONDITIONS IN THIS HOLE ONLY ON THE DATE INDICATED AND MAY NOT REPRESENT CONDITIONS AT OTHER LOCATIONS AND ON OTHER DATES. ANY WATER LEVELS SHOWN ARE SUBJECT TO VARIATION.</p> <p>THIS HOLE WAS LOGGED IN SUCH A WAY AS TO PROVIDE DATA PRIMARILY FOR DESIGN PURPOSES AND NOT NECESSARILY FOR THE PURPOSES OF SPECIFIC CONTRACTORS.</p> <p>THE STRATIFICATION LINES OR DEPTH INTERVALS REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES. AND THE TRANSITIONS MAY BE GRADUAL.</p> <p>SOIL CLASSIFICATIONS SHOWN ON LOGS ARE FIELD CLASSIFICATIONS BASED ON THE UNIFIED SOILS CLASSIFICATION SYSTEM.</p>	24						
		26						
		28						
		30						
		32						
		34						
		36						
		38						
		40						

BORING LOCATION: Barbary Coast Steel Corporation		APPROVED BY: BG		GROUND EL: 6.66'			
DEPTH/ELEV.WATER: ~6'		DRILL CONTRACTOR: Gregg Drilling		TOTAL DEPTH: 21.5'			
DRILL RIG: Mobile B-61		BORING DIA.: 6.5"		DATE DRILLED: 4-10-92			
LOGGED BY: RNK							
SOIL CLASS	DESCRIPTION	DEPTH	SAMPLE NO.	PR ROD	REC.	MODE	REMARKS
SC	<u>FILL</u> 0'-6": CLAYEY SAND, slag and refractory material; grey to brown to white; moist; poorly compacted.	0				HA	Advance boring with 8" O.D. hollow stem auger (HA). Samples obtained by driving (DR) a 2" I.D. California Split-spoon sampler (CS).
		2					
		4		12	0.4	DR	
		4	HW-10-1	12	1.5	CS	
CL	<u>BAY MUD</u>  6'-13": LEAN CLAY: Dark grey; wet; soft; low to medium plasticity; none to slow dilatancy. ~8": Mica flakes	6	HW-10	6 9 5	0.3 1.5	DR CS	Grab water sample obtained HW-10.
		6		4	1.5	DR	
		6	HW-10-2	2	1.5	CS	
		6		1	1.5	CS	
		8				HA	
		8					
CH	<u>TEMESCAL FM.</u> 13'-21.5": SILTY CLAY: Light yellowish brown mottled with grayish green; very moist; stiff; medium to high plasticity; 10% to 20% fine sand; carbon flakes.	10		1	1.3	DR	
		10	HW-10-3	2	1.5	CS	
		10		4			
		12				HA	
CH		14				HA	
		16		5	1.5	DR	
		16	HW-10-4	12	1.5	CS	
		16		8			
		18				HA	
		20				HA	



FREWAY I-80 WIDENING AND REALIGNMENT
EMERYVILLE, CALIFORNIA

EXPLORATION BORING LOG

PROJECT NO.

CDT-105L

SHEET:


1 of 2

BORING NO.

HW-10


BORING LOCATION:		APPROVED BY:	GROUND EL:
DEPTH/ELEV. WATER:		DRILL CONTRACTOR:	TOTAL DEPTH:
DRILL RIG:	BORING DIA.:	DATE DRILLED:	LOGGED BY:

SOIL CLASS	DESCRIPTION	DEPTH	SAMPLE NO.	PR RQD	REC.	MODE	REMARKS
CL	SILTY CLAY cont. -20': Occasional gravel to 1/2" subangular to angular	20					
			HW-10-5	12	1.5	DR	
			BCS	15	1.5	CS	
	TOTAL DEPTH 21.5'	22	HW-10-5	17			Boring Terminated at 21.5'
	<p>DATA ON THIS LOG ARE AN APPROXIMATION OF THE GEOLOGIC AND SUBSURFACE CONDITIONS BECAUSE THE INFORMATION WAS OBTAINED FROM INDIRECT, DISCONTINUOUS, AND POSSIBLY DISTURBED SAMPLING NECESSITATED BY USE OF SMALL- DIAMETER HOLES. ROTARY AND WASH BORING HOLES HAVE FURTHER COMPLICATIONS IN THIS REGARD BECAUSE OF THE NEED TO USE DRILLING FLUID AND/OR CASING IN ADVANCING HOLES.</p> <p>THIS LOG INDICATES CONDITIONS IN THIS HOLE ONLY ON THE DATE INDICATED AND MAY NOT REPRESENT CONDITIONS AT OTHER LOCATIONS AND ON OTHER DATES. ANY WATER LEVELS SHOWN ARE SUBJECT TO VARIATION.</p> <p>THIS HOLE WAS LOGGED IN SUCH A WAY AS TO PROVIDE DATA PRIMARILY FOR DESIGN PURPOSES AND NOT NECESSARILY FOR THE PURPOSES OF SPECIFIC CONTRACTORS.</p> <p>THE STRATIFICATION LINES OR DEPTH INTERVALS REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES, AND THE TRANSITIONS MAY BE GRADUAL.</p> <p>SOIL CLASSIFICATIONS SHOWN ON LOGS ARE FIELD CLASSIFICATIONS BASED ON THE UNIFIED SOILS CLASSIFICATION SYSTEM.</p>	24					
		26					
		28					
		30					
		32					
		34					
		36					
		38					
		40					


	FREWAY I-80 WIDENING AND REALIGNMENT EMERYVILLE, CALIFORNIA	EXPLORATION BORING LOG		BORING NO. HW-10
		PROJECT NO.	SHEET:	
		CDT-105L	2 of 2	

BORING LOCATION: Barbary Coast Steel Corporation APPROVED BY: BG GROUND EL: 9.28'
 DEPTH/ELEV.WATER: -8' DRILL CONTRACTOR: Gregg Drilling TOTAL DEPTH: 11.5'
 DRILL RIG: Mobile B-61 BORING DIA.: 6.5" DATE DRILLED: 4-9-92 LOGGED BY: RNK

SOIL CLASS	DESCRIPTION	DEPTH	SAMPLE NO.	PR ROD	REC.	MODE	REMARKS	
SW	FILL 0'-11.5': GRAVELLY SAND, slag and refractory material; grey to brown to white; moist; poorly compacted.	0				HA	Advanced boring with 8" O.D. hollow stem augers (HA). Samples obtained by driving (DR) a 2" I.D. California split-spoon sampler (CS).	
		2						
			HW-11-1	14 25	0.6 1.0	DR CS		
		4				HA		
				17 29	1.0 1.5	DR CS		
			HW-11-2	32				
		-6.5': Decrease in gravel size fragments.	8	HW-11				HA
			10					
				14 18	0.3 1.5	DR CS		
				HW-11-3	10			
	TOTAL DEPTH 11.5'	12					Boring Terminated at 11.5'	
	<p>DATA ON THIS LOG ARE AN APPROXIMATION OF THE GEOLOGIC AND SUBSURFACE CONDITIONS BECAUSE THE INFORMATION WAS OBTAINED FROM INDIRECT, DISCONTINUOUS, AND POSSIBLY DISTURBED SAMPLING NECESSITATED BY USE OF SMALL DIAMETER HOLES. ROTARY AND WASH BORING HOLES HAVE FURTHER COMPLICATIONS IN THIS REGARD BECAUSE OF THE NEED TO USE DRILLING FLUID AND/OR CASING IN ADVANCING HOLES.</p> <p>THIS LOG INDICATES CONDITIONS IN THIS HOLE ONLY ON THE DATE INDICATED AND MAY NOT REPRESENT CONDITIONS AT OTHER LOCATIONS AND ON OTHER DATES. ANY WATER LEVELS SHOWN ARE SUBJECT TO VARIATION.</p> <p>THIS HOLE WAS LOGGED IN SUCH A WAY AS TO PROVIDE DATA PRIMARILY FOR DESIGN PURPOSES AND NOT NECESSARILY FOR THE PURPOSES OF SPECIFIC CONTRACTORS.</p> <p>THE STRATIFICATION LINES OR DEPTH INTERVALS REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES, AND THE TRANSITIONS MAY BE GRADUAL.</p> <p>SOIL CLASSIFICATIONS SHOWN ON LOGS ARE FIELD CLASSIFICATIONS BASED ON THE UNIFIED SOILS CLASSIFICATION SYSTEM.</p>	14					Grab water samples obtained HW-11.	
		16						
		18						
		20						

 Wahler Associates	FREWAY I-80 WIDENING AND REALIGNMENT EMERYVILLE, CALIFORNIA	EXPLORATION BORING LOG		BORING NO. HW-11
		PROJECT NO.	SHEET:	
		CDT-105L	1 of 1	

BORING LOCATION: Barbary Coast Steel Corporation		APPROVED BY: BG	GROUND EL: 5.59'
DEPTH/ELEV. WATER: -5'		DRILL CONTRACTOR: Gregg Drilling	TOTAL DEPTH: 11.5'
DRILL RIG: Mobile B-61	BORING DIA.: 6.5"	DATE DRILLED: 4-9-92	LOGGED BY: RNK

SOIL CLASS	DESCRIPTION	DEPTH	SAMPLE NO.	PR ROD	REC.	MODE	REMARKS
	FILL 0'-0.3': ASPHALT 0.3'-9': CLAYEY SAND, slag and refractory material; grey to brown to white; moist; poorly compacted.	0				HA	Advanced boring with 8" O.D. hollow stem augers (HA). Samples obtained by driving (DR) a 2" I.D. California split-spoon sampler (CS).
		2		7	0.4 0.5	DR CS	
		4				HA	
	~4.5': 1" x 4" formerly melted steel chunk retrieved from boring. 		HW-13				
				14	0.3	DR	
		6	HW-13-1	15	1.5	CS	
	BAY MUD	8				HA	
CL	9'-11.5': LEAN CLAY: Medium greyish olive green; wet; very soft; low to medium plasticity; mica flakes.	10					
				1	1.5	DR	
			HW-13-2	BCS	1	1.5	CS
			HW-13-2	1			
	TOTAL DEPTH 11.5'	12					Boring Terminated at 11.5'
	DATA ON THIS LOG ARE AN APPROXIMATION OF THE GEOLOGIC AND SUBSURFACE CONDITIONS BECAUSE THE INFORMATION WAS OBTAINED FROM INDIRECT, DISCONTINUOUS, AND POSSIBLY DISTURBED SAMPLING NECESSITATED BY USE OF SMALL- DIAMETER HOLES. ROTARY AND WASH BORING HOLES HAVE FURTHER COMPLICATIONS IN THIS REGARD BECAUSE OF THE NEED TO USE DRILLING FLUID AND/OR CASING IN ADVANCING HOLES.	14					Grab water sample obtained HW-13.
	THIS LOG INDICATES CONDITIONS IN THIS HOLE ONLY ON THE DATE INDICATED AND MAY NOT REPRESENT CONDITIONS AT OTHER LOCATIONS AND ON OTHER DATES. ANY WATER LEVELS SHOWN ARE SUBJECT TO VARIATION.	16					
	THIS HOLE WAS LOGGED IN SUCH A WAY AS TO PROVIDE DATA PRIMARILY FOR DESIGN PURPOSES AND NOT NECESSARILY FOR THE PURPOSES OF SPECIFIC CONTRACTORS.	18					
	THE STRATIFICATION LINES OR DEPTH INTERVALS REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES, AND THE TRANSITIONS MAY BE GRADUAL.	20					
	SOIL CLASSIFICATIONS SHOWN ON LOGS ARE FIELD CLASSIFICATIONS BASED ON THE UNIFIED SOILS CLASSIFICATION SYSTEM.						

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 16, 1992

ChromaLab File # 0492117 AD

Wahler Associates

Attn: Ray Kahler

Date Sampled: Apr. 10, 1992

Date Submitted: Apr. 10, 1992

Date of Analysis: Apr. 16, 1992

Project Name: CAL TRANS

Job No.: CDT-105

Sample I.D.: HW-6B-1

Method of Analysis: EPA 8240

Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	90.0% 96.1%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	96.4% 105%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	97.7% 101%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	90.9% 117%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.



Yiu Tam
Analytical Chemist



Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)
April 16, 1992

ChromaLab File # 0492117 AE

Wahler Associates
Date Sampled: Apr. 10, 1992
Date of Analysis: Apr. 16, 1992

Attn: Ray Kahler
Date Submitted: Apr. 10, 1992

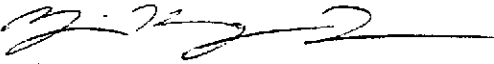
Project Name: CAL TRANS
Sample I.D.: HW-6B-2
Method of Analysis: EPA 8240


Job No.: CDT-105

Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	90.0% 96.1%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	96.4% 105%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYL VINYLETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	97.7% 101%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	90.9% 117%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)
April 16, 1992

ChromaLab File # 0492117 AF

Wahler Associates
Date Sampled: Apr. 10, 1992
Date of Analysis: Apr. 16, 1992

Attn: Ray Kahler
Date Submitted: Apr. 10, 1992

Project Name: CAL TRANS
Sample I.D.: HW-6B-3
Method of Analysis: EPA 8240

Job No.: CDT-105

Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	90.0% 96.1%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	96.4% 105%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	97.7% 101%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	90.9% 117%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 18, 1992

ChromaLab File # 0492117 AG

Wahler Associates

Attn: Ray Kahler

Date Sampled: Apr. 10, 1992

Date Submitted: Apr. 10, 1992

Date of Analysis: Apr. 17, 1992

Project Name: CAL TRANS

Job No.: CDT-105

Sample I.D.: HW-6B-4

Method of Analysis: EPA 8240

Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	105% 94.9%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	102% 108%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYL VINYLETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	101% 88.9%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	99.4% 95.5%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.



Yiu Tam
Analytical Chemist



Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)
April 18, 1992

ChromaLab File # 0492117 AH

Wahler Associates
Date Sampled: Apr. 10, 1992
Date of Analysis: Apr. 17, 1992


Attn: Ray Kahler
Date Submitted: Apr. 10, 1992


Project Name: CAL TRANS
Sample I.D.: HW-6B-5
Method of Analysis: EPA 8240

Job No.: CDT-105
Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	105% 94.9%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	102% 108%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	101% 88.9%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	99.4% 95.5%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 16, 1992

ChromaLab File # 0492117 X

Wahler Associates

Date Sampled: Apr. 10, 1992

Date of Analysis: Apr. 16, 1992

Attn: Ray Kahler

Date Submitted: Apr. 10, 1992

Project Name: CAL TRANS

Sample I.D.: HW-7-1

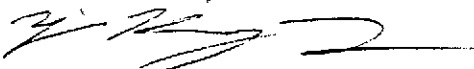
Method of Analysis: EPA 8240

Job No.: CDT-105

Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	90.0% 96.1%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	7.5	96.4% 105%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	7.0	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	610	97.7% 101%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	90.9% 117%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.



Yiu Tam
Analytical Chemist



Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 16, 1992

ChromaLab File # 0492117 Y

Wahler Associates

Attn: Ray Kahler

Date Sampled: Apr. 10, 1992

Date Submitted: Apr. 10, 1992

Date of Analysis: Apr. 16, 1992

Project Name: CAL TRANS

Job No.: CDT-105


Sample I.D.: HW-7-2


Method of Analysis: EPA 8240

Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	90.0% 96.1%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	96.4% 105%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	11	97.7% 101%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	90.9% 117%
1,3-DICHLOROENZENE	N.D.	---
1,4-DICHLOROENZENE	N.D.	---
1,2-DICHLOROENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
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Eric Tam
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CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 16, 1992

ChromaLab File # 0492117 Z

Wahler Associates

Attn: Ray Kahler

Date Sampled: Apr. 10, 1992

Date Submitted: Apr. 10, 1992

Date of Analysis: Apr. 16, 1992

Project Name: CAL TRANS

Job No.: CDT-105

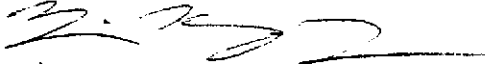
Sample I.D.: HW-7-3


Method of Analysis: EPA 8240

Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	90.0% 96.1%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	96.4% 105%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	97.7% 101%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	90.9% 117%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 16, 1992

ChromaLab File # 0492117 AA

Wahler Associates

Attn: Ray Kahler

Date Sampled: Apr. 10, 1992

Date Submitted: Apr. 10, 1992

Date of Analysis: Apr. 16, 1992

Project Name: CAL TRANS

Job No.: CDT-105

Sample I.D.: HW-7-4


Method of Analysis: EPA 8240

Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	90.0% 96.1%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	96.4% 105%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	97.7% 101%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	90.9% 117%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


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CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)
April 16, 1992

ChromaLab File # 0492117 AB

Wahler Associates
Date Sampled: Apr. 10, 1992
Date of Analysis: Apr. 16, 1992

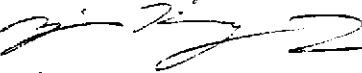
Attn: Ray Kahler
Date Submitted: Apr. 10, 1992

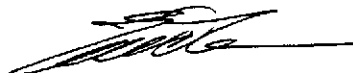
Project Name: CAL TRANS
Sample I.D.: HW-7-5
Method of Analysis: EPA 8240

Job No.: CDT-105
Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	90.0% 96.1%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	96.4% 105%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	97.7% 101%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	90.9% 117%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 16, 1992

ChromaLab File # 0492117 L

Wahler Associates

Attn: Ray Kahler

Date Sampled: Apr. 10, 1992

Date Submitted: Apr. 10, 1992

Date of Analysis: Apr. 15, 1992

Project Name: CAL TRANS

Job No.: CDT-105

Sample I.D.: HW-8-1

Method of Analysis: EPA 8240

Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	97.1% 104%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	86.2% 95.1%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYL VINYLETHYL ETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	110% 98.7%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	101% 92.7%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)
April 16, 1992

ChromaLab File # 0492117 M

Wahler Associates
Date Sampled: Apr. 10, 1992
Date of Analysis: Apr. 16, 1992

Attn: Ray Kahler
Date Submitted: Apr. 10, 1992

Project Name: CAL TRANS
Sample I.D.: HW-8-2
Method of Analysis: EPA 8240

Job No.: CDT-105
Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	90.0% 96.1%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	96.4% 105%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	97.7% 101%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	90.9% 117%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)
April 16, 1992

ChromaLab File # 0492117 N

Wahler Associates
Date Sampled: Apr. 10, 1992
Date of Analysis: Apr. 16, 1992

Attn: Ray Kahler
Date Submitted: Apr. 10, 1992


Project Name: CAL TRANS
Sample I.D.: HW-8-3
Method of Analysis: EPA 8240

Job No.: CDT-105
Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	90.0% 96.1%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	96.4% 105%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	97.7% 101%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	90.9% 117%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
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Eric Tam
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5 DAYS TURNAROUND

Analytical Laboratory (E694)
April 16, 1992

ChromaLab File # 0492117 0

Wahler Associates
Date Sampled: Apr. 10, 1992
Date of Analysis: Apr. 16, 1992

Attn: Ray Kahler
Date Submitted: Apr. 10, 1992

Project Name: CAL TRANS
Sample I.D.: HW-8-4
Method of Analysis: EPA 8240

Job No.: CDT-105

Detection Limit: 5.0 µg/kg

<u>COMPOUND NAME</u>	<u>µg/kg</u>	<u>Spike Recovery</u>
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	90.0% 96.1%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	96.4% 105%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYL VINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	97.7% 101%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	90.9% 117%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)
April 21, 1992

ChromaLab File # 0492134

Wahler Associates
Date Sampled: Apr. 10, 1992
Date of Analysis: Apr. 17, 1992

Attn: Ray Kahler
Date Submitted: Apr. 14, 1992

Project Name: CAL TRANS
Sample I.D.: HW-8-6
Method of Analysis: EPA 8240

Job No.: CDT-105
Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	105% 94.9%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	210	---
TRICHLOROETHENE	N.D.	102% 108%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	570	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	101% 88.9%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	37	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	99.4% 95.5%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	43	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 16, 1992

ChromaLab File # 0492117 R

Wahler Associates

Attn: Ray Kahler

Date Sampled: Apr. 10, 1992

Date Submitted: Apr. 10, 1992

Date of Analysis: Apr. 16, 1992

Project Name: CAL TRANS

Job No.: CDT-105

Sample I.D.: HW-9A-1A

Method of Analysis: EPA 8240

Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	90.0% 96.1%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	96.4% 105%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYL VINYLETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	97.7% 101%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	90.9% 117%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.



Yiu Tam
Analytical Chemist



Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 16, 1992

ChromaLab File # 0492117 S

Wahler Associates

Attn: Ray Kahler

Date Sampled: Apr. 10, 1992

Date Submitted: Apr. 10, 1992

Date of Analysis: Apr. 16, 1992

Project Name: CAL TRANS

Job No.: CDT-105

Sample I.D.: HW-9A-2

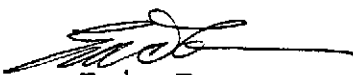
Method of Analysis: EPA 8240

Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	90.0% 96.1%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	96.4% 105%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	97.7% 101%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	90.9% 117%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)
April 16, 1992

ChromaLab File # 0492117 T

Wahler Associates
Date Sampled: Apr. 10, 1992
Date of Analysis: Apr. 16, 1992

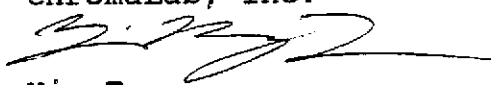
Attn: Ray Kahler
Date Submitted: Apr. 10, 1992

Project Name: CAL TRANS
Sample I.D.: HW-9A-3
Method of Analysis: EPA 8240

Job No.: CDT-105
Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	90.0% 96.1%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROPFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	96.4% 105%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	97.7% 101%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	90.9% 117%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)
April 16, 1992

ChromaLab File # 0492117 U

Wahler Associates
Date Sampled: Apr. 10, 1992
Date of Analysis: Apr. 16, 1992

Attn: Ray Kahler
Date Submitted: Apr. 10, 1992

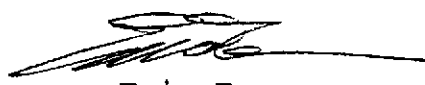
Project Name: CAL TRANS
Sample I.D.: HW-9A-4
Method of Analysis: EPA 8240

Job No.: CDT-105
Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	90.0% 96.1%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	96.4% 105%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYL VINYLETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	97.7% 101%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	90.9% 117%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)
April 16, 1992

ChromaLab File # 0492117 V

Wahler Associates
Date Sampled: Apr. 10, 1992
Date of Analysis: Apr. 16, 1992

Attn: Ray Kahler
Date Submitted: Apr. 10, 1992


Project Name: CAL TRANS
Sample I.D.: HW-9A-5
Method of Analysis: EPA 8240

Job No.: CDT-105
Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	90.0% 96.1%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	96.4% 105%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	97.7% 101%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	90.9% 117%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 16, 1992

ChromaLab File # 0492117 E

Wahler Associates

Attn: Ray Kahler

Date Sampled: Apr. 10, 1992

Date Submitted: Apr. 10, 1992

Date of Analysis: Apr. 16, 1992

Project Name: CAL TRANS

Job No.: CDT-105

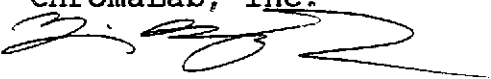
Sample I.D.: HW-10-1

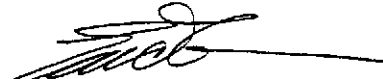
Method of Analysis: EPA 8240

Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	90.0% 96.1%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	96.4% 105%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYL VINYLETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	97.7% 101%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	90.9% 117%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)
April 16, 1992

ChromaLab File # 0492117 G

Wahler Associates
Date Sampled: Apr. 10, 1992
Date of Analysis: Apr. 15, 1992

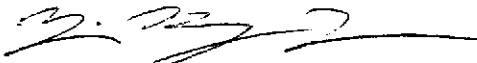
Attn: Ray Kahler
Date Submitted: Apr. 10, 1992

Project Name: CAL TRANS
Sample I.D.: HW-10-2
Method of Analysis: EPA 8240

Job No.: CDT-105
Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	97.1% 104%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	86.2% 95.1%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	110% 98.7%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	101% 92.7%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)
April 16, 1992

ChromaLab File # 0492117 H

Wahler Associates
Date Sampled: Apr. 10, 1992
Date of Analysis: Apr. 15, 1992

Attn: Ray Kahler
Date Submitted: Apr. 10, 1992

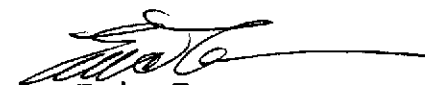
Project Name: CAL TRANS
Sample I.D.: HW-10-3
Method of Analysis: EPA 8240

Job No.: CDT-105
Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	97.1% 104%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	86.2% 95.1%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	110% 98.7%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	101% 92.7%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)
April 16, 1992

ChromaLab File # 0492117 I

Wahler Associates
Date Sampled: Apr. 10, 1992
Date of Analysis: Apr. 15, 1992

Attn: Ray Kahler
Date Submitted: Apr. 10, 1992

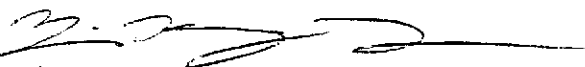
Project Name: CAL TRANS
Sample I.D.: HW-10-4
Method of Analysis: EPA 8240

Job No.: CDT-105

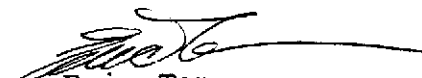
Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	97.1% 104%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	86.2% 95.1%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	110% 98.7%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	101% 92.7%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.



Yiu Tam
Analytical Chemist



Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 16, 1992

ChromaLab File # 0492117 J

Wahler Associates

Attn: Ray Kahler

Date Sampled: Apr. 10, 1992

Date Submitted: Apr. 10, 1992

Date of Analysis: Apr. 15, 1992

Project Name: CAL TRANS

Job No.: CDT-105

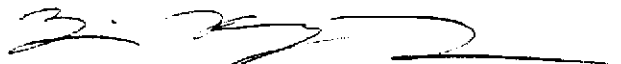
Sample I.D.: HW-10-5


Method of Analysis: EPA 8240

Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	97.1% 104%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	86.2% 95.1%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	110% 98.7%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	101% 92.7%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 16, 1992

ChromaLab File # 0492096 P

Wahler Associates

Date Sampled: Apr. 09, 1992

Date of Analysis: Apr. 14, 1992

Attn: Ray Kahler

Date Submitted: Apr. 09, 1992

Project Name: CAL TRANS

Sample I.D.: HW-11-1


Method of Analysis: EPA 8240


Job No.: CDT-105

Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	116% 98.4%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	95.0% 89.9%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	107% 102%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	105% 97.8%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)
April 16, 1992

ChromaLab File # 0492096 Q

Wahler Associates
Date Sampled: Apr. 09, 1992
Date of Analysis: Apr. 14, 1992

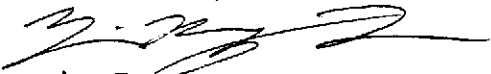
Attn: Ray Kahler
Date Submitted: Apr. 09, 1992


Project Name: CAL TRANS
Sample I.D.: HW-11-2
Method of Analysis: EPA 8240

Job No.: CDT-105
Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	116% 98.4%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	95.0% 89.9%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	107% 102%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	105% 97.8%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 16, 1992

ChromaLab File # 0492096 S

Wahler Associates

Date Sampled: Apr. 09, 1992

Date of Analysis: Apr. 14, 1992

Attn: Ray Kahler

Date Submitted: Apr. 09, 1992

Project Name: CAL TRANS

Sample I.D.: HW-11-3

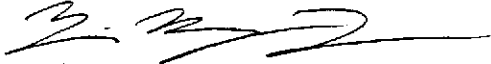
Method of Analysis: EPA 8240


Job No.: CDT-105

Detection Limit: 5.0 µg/kg

COMPOUND NAME	µc/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	116% 98.4%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	95.0% 89.9%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	107% 102%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	105% 97.8%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 16, 1992

ChromaLab File # 0492096 T

Wahler Associates

Date Sampled: Apr. 09, 1992

Date of Analysis: Apr. 14, 1992

Attn: Ray Kahler

Date Submitted: Apr. 09, 1992

Project Name: CAL TRANS

Sample I.D.: HW-12-1

Method of Analysis: EPA 8240

Job No.: CDT-105

Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	116% 98.4%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	95.0% 89.9%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	107% 102%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	105% 97.8%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)
April 16, 1992

ChromaLab File # 0492096 U

Wahler Associates
Date Sampled: Apr. 09, 1992
Date of Analysis: Apr. 14, 1992

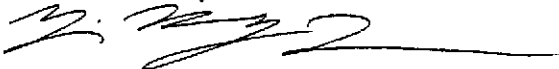
Attn: Ray Kahler
Date Submitted: Apr. 09, 1992

Project Name: CAL TRANS
Sample I.D.: HW-12-2
Method of Analysis: EPA 8240

Job No.: CDT-105
Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	116% 98.4%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	95.0% 89.9%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYL VINYLETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	17	107% 102%
DIBROMOCHLOROMETHANE	N.D.	---
CHLORO BENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	105% 97.8%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)
April 16, 1992

ChromaLab File # 0492096 V

Wahler Associates
Date Sampled: Apr. 09, 1992
Date of Analysis: Apr. 14, 1992

Attn: Ray Kahler
Date Submitted: Apr. 09, 1992


Project Name: CAL TRANS
Sample I.D.: HW-12-3
Method of Analysis: EPA 8240

Job No.: CDT-105
Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	116% 98.4%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	95.0% 89.9%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYL VINYLETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	107% 102%
DIBROMOCHLOROMETHANE	N.D.	---
CHLORO BENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	105% 97.8%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 16, 1992

ChromaLab File # 0492117 A

Wahler Associates

Attn: Ray Kahler

Date Sampled: Apr. 09, 1992

Date Submitted: Apr. 10, 1992

Date of Analysis: Apr. 15, 1992

Project Name: CAL TRANS

Job No.: CDT-105

Sample I.D.: HW-13-1

Method of Analysis: EPA 8240

Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	97.1% 104%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	86.2% 95.1%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	110% 98.7%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	101% 92.7%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)
April 16, 1992

ChromaLab File # 0492117 C

Wahler Associates
Date Sampled: Apr. 09, 1992
Date of Analysis: Apr. 15, 1992

Attn: Ray Kahler
Date Submitted: Apr. 10, 1992


Project Name: CAL TRANS
Sample I.D.: HW-13-2
Method of Analysis: EPA 8240

Job No.: CDT-105

Detection Limit: 5.0 µg/kg

COMPOUND NAME	µg/kg	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	97.1% 104%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	86.2% 95.1%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYL VINYLETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	110% 98.7%
DIBROMOCHLOROMETHANE	N.D.	---
CHLORO BENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	101% 92.7%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 20, 1992

ChromaLab File No.: 0492117

WAHLER ASSOCIATES

Attn: Ray Kahler

RE: Twenty-Six soil samples for Gasoline, Diesel, and Oil & Grease analyses

Project Name: Cal Trans

Project Number: CDT-105

Date Sampled: April 9-10, 1992

Date Submitted: April 10, 1992

Date Extracted: April 14-15, 1992 Date Analyzed: April 16-17, 1992

RESULTS:

Sample I.D.	Gasoline (mg/Kg)	Diesel (mg/Kg)	Oil & Grease (mg/Kg)
HW-13-1	N.D.	N.D.	88
HW-13-2	N.D.	N.D.	47
HW-10-1	N.D.	N.D.	92
HW-10-2	N.D.	N.D.	70
HW-10-3	N.D.	N.D.	41
HW-10-4	N.D.	N.D.	35
HW-10-5	N.D.	N.D.	N.D.
HW-9A-1A	N.D.	N.D.	42
HW-9A-2	N.D.	3.7	140
HW-9A-3	N.D.	N.D.	25
HW-9A-4	N.D.	N.D.	21
HW-9A-5	N.D.	N.D.	33
HW-8-1	N.D.	N.D.	N.D.
HW-8-2	2.2	N.D.	N.D.
HW-8-3	N.D.	N.D.	N.D.
HW-8-4	N.D.	N.D.	N.D.
HW-7-1	N.D.	210	3680
HW-7-2	N.D.	52	38
HW-7-3	N.D.	N.D.	N.D.
HW-7-4	N.D.	N.D.	35
HW-7-5	N.D.	N.D.	N.D.
HW-6B-1	N.D.	N.D.	N.D.
HW-6B-2	N.D.	N.D.	200
HW-6B-3	N.D.	N.D.	N.D.
HW-6B-4	N.D.	N.D.	N.D.
HW-6B-5	N.D.	N.D.	N.D.
BLANK	N.D.	N.D.	N.D.
SPIKE RECOVERY	87%	97%	103%
DUP SPIKE RECOVERY	98%	99%	97%
DETECTION LIMIT	1.0	1.0	10
METHOD OF ANALYSIS	5030/8015	3550/8015	5520 E/F

ChromaLab, Inc.



Yiu Tam
Analytical Chemist



Eric Tam
Laboratory Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)
April 20, 1992

ChromaLab File No.: 0492117

WAHLER ASSOCIATES

Attn: Ray Kahler


RE: Six water samples for Gasoline, Diesel, and Oil & Grease analyses

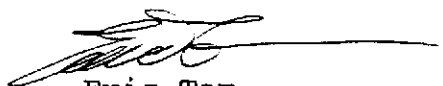
Project Name: Cal Trans Project Number: CDT-105
Date Sampled: April 9-10, 1992 Date Submitted: April 10, 1992
Date Extracted: April 14-15, 1992 Date Analyzed: April 16-17, 1992

RESULTS:

Sample I.D.	Gasoline ($\mu\text{g/L}$)	Diesel ($\mu\text{g/L}$)	Oil & Grease (mg/L)
HW-6B	N.D.	N.D.	N.D.
HW-7	55	1.5	26
HW-8	N.D.	N.D.	1.7
HW-9	N.D.	N.D.	1.8
HW-10	N.D.	N.D.	3.5
HW-13	N.D.	N.D.	1.7
BLANK	N.D.	N.D.	N.D.
SPIKED RECOVERY	95%	92%	95%
DUPLICATE SPIKED REC	93%	94%	92%
DETECTION LIMIT	50	50	0.5
METHOD OF ANALYSIS	5030/8015	3510/8015	5520 B/F

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Laboratory Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Environmental Laboratory (1094)

April 21, 1992

ChromaLab File No.: 0492134

WAHLER ASSOCIATES

Attn: Ray Kahler

RE: One soil sample for Gasoline, Diesel and Oil & Grease analyses

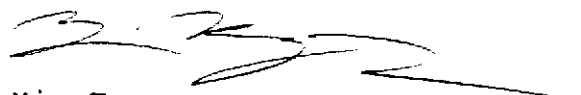
Date Sampled: April 10, 1992
Date Extracted: April 20, 1992

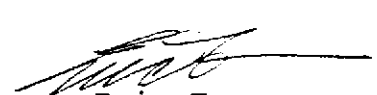
Date Submitted: April 14, 1992
Date Analyzed: April 20, 1992

RESULTS:

Sample I.D.	Gasoline (mg/Kg)	Diesel (mg/Kg)	Oil & Grease (mg/Kg)
HW-8-6	1.8	N.D.	39
BLANK	N.D.	N.D.	N.D.
SPIKED RECOVERY	99%	87%	92%
DUPLICATE SPIKE RECOVERY	103%	94%	96%
DETECTION LIMIT	1.0	1.0	10
METHOD OF ANALYSIS	5030/8015	3550/8015	5520 E/F

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Laboratory Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 17, 1992

ChromaLab File No.: 0492096

WAHLER ASSOCIATES

Attn: Ray Kahler

RE: Sixteen soil samples for Gasoline, Diesel and Oil & Grease analyses

Project Name: CAL TRANS

Project Number: CDT-105

Date Sampled: April 9, 1992

Date Submitted: April 9, 1992

Date Extracted: Apr. 13-14, 1992

Date Analyzed: Apr.13-14, 1992

RESULTS:

Sample I.D.	Gasoline (mg/Kg)	Diesel (mg/Kg)	Oil & Grease (mg/Kg)
----------------	---------------------	-------------------	-------------------------

HW-11-1	N.D.	N.D.	80
HW-11-2	2.2	6.7	58
HW-11-3	N.D.	460	690
HW-12-1	N.D.	6.5	89
HW-12-2	N.D.	N.D.	33
HW-12-3	N.D.	N.D.	N.D.
BLANK	N.D.	N.D.	N.D.
SPIKED RECOVERY	100%	111%	92%
DUPLICATE SPIKED RECOVERY	104%	105%	90%
DETECTION LIMIT	1.0	1.0	10
METHOD OF ANALYSIS	5030/8015	3550/8015	5520 E/F

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Laboratory Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 17, 1992

ChromaLab File No.: 0492096

WAHLER ASSOCIATES

Attn: Ray Kahler

RE: Five water samples for Gasoline, Diesel and Oil & Grease analyses

Project Name: CAL TRANS

Project Number: CDT-105

Date Sampled: April 9, 1992

Date Submitted: April 9, 1992

Date Extracted: Apr. 13-14, 1992

Date Analyzed: Apr.13-14, 1992

RESULTS:

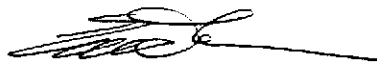
Sample I.D.	Gasoline ($\mu\text{g/L}$)	Diesel ($\mu\text{g/L}$)	Oil & Grease (mg/L)
HW-11	160	63000	58
HW-12	----	*	20
BLANK	N.D.	N.D.	N.D.
SPIKED RECOVERY	94%	92%	93%
DUPLICATE SPIKED RECOVERY	99%	104%	90%
DETECTION LIMIT	50	50	0.5
METHOD OF ANALYSIS	5030/8015	3510/8015	5520 B/F

*Due to insufficient water, sludge in container was analyzed. 170 mg/Kg of Diesel was found.

ChromaLab, Inc.



Yiu Tam
Analytical Chemist



Eric Tam
Laboratory Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 17, 1992

ChromaLab File No.: 0492117

WAHLER ASSOCIATES

Attn: Ray Kahler

RE: Twenty-six soil and six water samples for Cadmium, Chromium, Lead, Zinc and Nickel analysis

Project Name: CAL TRANS

Project Number: CDT-105

Date Sampled: Apr. 9-10, 1992

Date Submitted: Apr. 10, 1992

Date Extracted: Apr. 15, 1992

Date Analyzed: Apr. 16, 1992

RESULTS:

Sample I.D.	Cadmium (mg/L)	Chromium (mg/L)	Lead (mg/L)	Zinc (mg/L)	Nickel (mg/L)
HW-13	N.D.	N.D.	N.D.	N.D.	N.D.
HW-10	N.D.	0.02	N.D.	0.03	0.03
HW-8	N.D.	N.D.	N.D.	N.D.	N.D.
HW-9	N.D.	N.D.	N.D.	N.D.	N.D.
HW-7	N.D.	N.D.	N.D.	N.D.	N.D.
HW-6B	N.D.	N.D.	N.D.	N.D.	N.D.
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE RECOVERY	80%	108%	98%	101%	96%
DUPLICATE SPIKE REC.	80%	96%	98%	90%	98%
DETECTION LIMIT	0.001	0.01	0.01	0.005	0.01
METHOD OF ANALYSIS	3010/6010				

ChromaLab, Inc.

Refaat A. Mankarious
Refaat A. Mankarious
Inorganics Supervisor


Eric Tam
Laboratory Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 17, 1992

Page 2

ChromaLab File No.: 0492117

WAHLER ASSOCIATES

Attn: Ray Kahler

RE: Twenty-six soil and six water samples for Cadmium, Chromium, Lead, Zinc and Nickel analysis

Project Name: CAL TRANS

Project Number: CDT-105

Date Sampled: Apr. 9-10, 1992

Date Submitted: Apr. 10, 1992


Date Extracted: Apr. 15, 1992

Date Analyzed: Apr. 16, 1992

RESULTS:

Sample I.D.	Cadmium (mg/Kg)	Chromium (mg/Kg)	Lead (mg/Kg)	Zinc (mg/Kg)	Nickel (mg/Kg)
HW-7-1	9.8	3.4	120	230	6.6
HW-7-2	8.2	4.0	51	120	13
HW-7-3	1.7	14	4.0	19	20
HW-7-4	1.5	14	3.9	18	16
HW-7-5	1.8	15	3.3	22	22
HW-6B-1	13	5.4	35	62	11
HW-6B-2	7.4	7.0	40	64	9.6
HW-6B-3	1.8	19	4.5	22	13
HW-6B-4	1.5	12	2.7	13	12
HW-6B-5	1.5	14	3.5	19	17
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE RECOVERY	86%	105%	104%	117%	98%
DUPLICATE SPIKE REC.	81%	96%	103%	112%	105%
DETECTION LIMIT	0.05	0.5	0.5	0.25	0.5
METHOD OF ANALYSIS	3050/6010				

ChromaLab, Inc.


Refaat A. Mankarious
Inorganics Supervisor


Eric Tam
Laboratory Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 17, 1992

ChromaLab File No.: 0492117

WAHLER ASSOCIATES

Attn: Ray Kahler

RE: Twenty-six soil and six water samples for Cadmium, Chromium, Lead, Zinc and Nickel analysis

Project Name: CAL TRANS

Project Number: CDT-105

Date Sampled: Apr. 9-10, 1992

Date Extracted: Apr. 15, 1992

Date Submitted: Apr. 10, 1992

Date Analyzed: Apr. 16, 1992

RESULTS:

Sample I.D.	Cadmium (mg/Kg)	Chromium (mg/Kg)	Lead (mg/Kg)	Zinc (mg/Kg)	Nickel (mg/Kg)
HW-13-1	12	170	12	16	15
HW-13-2	1.5	17	2.9	23	18
HW-10-1	7.3	6.1	73	1100	21
HW-10-2	1.59	19	12.9	32	20
HW-10-3	0.9	12	3.4	15	13
HW-10-4	1.4	15	4.2	21	21
HW-10-5	1.2	15	2.8	19	20
HW-8-1	1.9	37	69	160	8.2
HW-8-2	7.4	6.0	22	26	14
HW-8-3	1.5	27	4.3	25	19
HW-8-4	1.1	17	4.0	18	37
HW-8-5	1.0	13	3.2	15	26
HW-9-1A	5.6	13	49	59	51
HW-9-2	8.5	5.6	64	130	13
HW-9-3	1.6	21	3.5	23	20
HW-9-4	1.5	21	3.7	16	15
HW-9-5	1.3	20	4.4	21	23

(Continued on next page)

ChromaLab, Inc.

Refaat A. Mankarious
Refaat A. Mankarious
Inorganics Supervisor


Eric Tam
Laboratory Director

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

April 21, 1992

ChromaLab File No.: 0492134

WAHLER ASSOCIATES

Attn: Ray Kahler

RE: One soil sample for Cadmium, Chromium, Lead, Zinc and Nickel analyses

Date Sampled: April 10, 1992

Date Submitted: April 14, 1992

Date Extracted: April 17, 1992

Date Analyzed: April 20, 1992

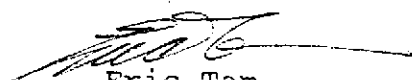
RESULTS:

Sample I.D.	Cadmium (mg/Kg)	Chromium (mg/Kg)	Lead (mg/Kg)	Zinc (mg/Kg)	Nickel (mg/Kg)
HW-8-6	6.8	14	51	73	14
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE RECOVERY	70%	87%	70%	78%	80%
DUP SPIKE RECOVERY	70%	83%	70%	78%	73%
DETECTION LIMIT	0.05	0.5	0.5	0.25	0.5
METHOD OF ANALYSIS	3050/ 6010	3050/ 6010	3050/ 6010	3050/ 6010	3050/ 6010

ChromaLab, Inc.

Refaat A. Mankarious

Refaat A. Mankarious
Inorganics Supervisor



Eric Tam
Laboratory Director

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

April 23, 1992

ChromaLab File No.: 0492117

WAHLER ASSOCIATES

Attn: Ray Kahler

RE: Six soil samples for STLC (WET) Cadmium, Chromium, Lead, Zinc, Nickel and Arsenic and total Arsenic analyses

Project Name: CAL TRANS

Project Number: CDT-105

Date Sampled: Apr. 10, 1992

Date Extracted: Apr. 20, 1992

Date Submitted: Apr. 10, 1992

Date Analyzed: Apr. 23, 1992

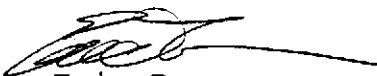
RESULTS:

Sample I.D.	Cadmium (mg/L)	Chromium (mg/L)	Lead (mg/L)	Zinc (mg/L)	Nickel (mg/L)	Arsenic (mg/L)	Arsenic (mg/Kg)
HW-13-1	0.08	1.6	0.11	N.D.	0.27	N.D.	N.D.
HW-10-1	0.1	N.D.	3.4	140	1.1	N.D.	N.D.
HW-8-1	N.D.	0.35	0.58	0.62	N.D.	N.D.	N.D.
HW-9-2	0.08	N.D.	8.3	13	0.76	N.D.	N.D.
HW-7-1	0.28	0.1	11	18	0.35	N.D.	N.D.
HW-6B-1	0.24	0.26	3.4	7.5	0.89	N.D.	N.D.
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE RECOVERY	60%	65%	*	*	102%	60%	60%
DUP SPIKE REC	60%	68%	*	*	93%	60%	60%
DET. LIMIT	0.01	0.1	0.1	0.05	0.1	0.05	.25
METHOD OF ANALYSIS	3010/ 6010						3050/ 6010

*Lead and Zinc concentration in sample more than 4 times spiked amount.

ChromaLab, Inc.

Refaat A. Mankarious
Refaat A. Mankarious
Inorganics Supervisor


Eric Tam
Laboratory Director

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

April 23, 1992

ChromaLab File No.: 0492096

WAHLER ASSOCIATES

Attn: Ray Kahler

RE: Six soil samples for STLC (WET) Cadmium, Chromium, Lead, Zinc, Nickel and Arsenic analyses

Project Name: CAL TRANS

Project Number: CDT-105

Date Sampled: Apr. 9, 1992

Date Submitted: Apr. 9, 1992

Date Extracted: Apr. 20, 1992

Date Analyzed: Apr. 23, 1992

RESULTS:

Sample I.D.	Cadmium (mg/L)	Chromium (mg/L)	Lead (mg/L)	Zinc (mg/L)	Nickel (mg/L)	Arsenic (mg/L)
HW-11-1	18	0.67	640	320	0.6	4.1
HW-12-1	0.5	0.99	71	76	0.87	0.5
SPIKE REC.	60%	65%	*	*	102%	60%
DUP SPIKE REC	60%	68%	*	*	93%	60%
DET. LIMIT	0.010	0.10	0.10	0.05	0.1	0.05
METHOD OF ANALYSIS	3010/ 6010					

*Lead and Zinc concentration in sample more than 4 times spiked amount.

ChromaLab, Inc.

Refaat A. Mankarious

Refaat A. Mankarious
Inorganics Supervisor



Eric Tam
Laboratory Director

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

April 16, 1992

ChromaLab File No.: 0492096

WAHLER ASSOCIATES

Attn: Ray Kahler

RE: Sixteen soil and four water samples for Cadmium, Chromium, Lead, Zinc and Nickel analysis

Project Name: CAL TRANS

Project Number: CDT-105

Date Sampled: Apr. 9, 1992

Date Submitted: Apr. 9, 1992

Date Extracted: Apr. 14, 1992

Date Analyzed: Apr. 15, 1992

RESULTS:


Sample I.D.	Cadmium (mg/Kg)	Chromium (mg/Kg)	Lead (mg/Kg)	Zinc (mg/Kg)	Nickel (mg/Kg)
----------------	--------------------	---------------------	-----------------	-----------------	-------------------

HW-11-1	105	330	16000	9800	86
HW-11-2	14	35	11	190	52
HW-11-3	2.4	161	8.9	16	4.1
HW-12-1	5.7	28	330	490	15
HW-12-2	1.8	32	16	43	8.4
HW-12-3	0.62	9.2	3.1	11	9.5

(Continued on next page)

ChromaLab, Inc.

Refaat A. Mankarious
Refaat A. Mankarious
Inorganics Supervisor


Eric Tam
Laboratory Director

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

April 16, 1992

Page 2

ChromaLab File No.: 0492096

WAHLER ASSOCIATES

Attn: Ray Kahler

RE: Sixteen soil and four water samples for Cadmium, Chromium, Lead, Zinc and Nickel analysis

Project Name: CAL TRANS

Project Number: CDT-105

Date Sampled: Apr. 9, 1992

Date Submitted: Apr. 9, 1992

Date Extracted: Apr. 14, 1992

Date Analyzed: Apr. 15, 1992

RESULTS:

Sample I.D.	Cadmium (mg/L)	Chromium (mg/L)	Lead (mg/L)	Zinc (mg/L)	Nickel (mg/L)
HW-11	N.D.	N.D.	N.D.	0.05	N.D.
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE RECOVERY	70%	100%	70%	80%	70%
DUPLICATE SPIKE REC.	70%	90%	70%	80%	70%
DETECTION LIMIT	0.001	0.01	0.01	0.005	0.01
METHOD OF ANALYSIS	6010	6010	6010	6010	6010

ChromaLab, Inc.

Refaat A. Mankarious
Refaat A. Mankarious
Inorganics Supervisor


Eric Tam
Laboratory Director

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

April 24, 1992

ChromaLab File No.: 0492096

WAHLER ASSOCIATES

Attn: Ray Kahler

RE: Six soil samples for Arsenic analyses

Project Name: CAL-TRANS

Project Number: CDT-105

Date Sampled: Apr. 9, 1992

Date Submitted: Apr. 9, 1992

Date Extracted: Apr. 14, 1992

Date Analyzed: Apr. 23, 1992

RESULTS:

Sample I.D.	Arsenic (mc/Kg)
----------------	--------------------


HW-11-1	86
HW-12-1	22

BLANK	N.D.
SPIKE RECOVERY	75%
DUPLICATE SPIKE RECOVERY	76%
DETECTION LIMIT	0.25
METHOD OF ANALYSIS	3050/6010

ChromaLab, Inc.

Refaat A. Mankarious

Refaat A. Mankarious
Inorganics Supervisor



Eric Tam
Laboratory Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 20, 1992

ChromaLab File No.: 0492117E

Wahler Associates

Attn: Ray Kahler

RE: Soil samples for PCB analysis

Project Name: Cal Trans
Date Sampled: Apr. 10, 1992
Date Submitted: Apr. 10, 1992
Date Analyzed: Apr. 16, 1992

Project Number: CDT-105

RESULTS:

<u>SAMPLE I.D.</u>	<u>PCB (mg/Kg)</u>
HW 8-1	N.D.
HW 8-2	N.D.
HW 8-3	N.D.
HW 8-4	N.D.
HW 8-5	N.D.
HW 9A-1A	N.D.
HW 9A-2	N.D.
HW 9A-3	N.D.
HW 9A-4	N.D.
HW 9A-5	N.D.

BLANK	N.D.
SPIKE RECOVERY	91%
DUPLICATE SPIKE RECOVERY	92%
DETECTION LIMIT	0.5
METHOD OF ANALYSIS	8080

ChromaLab, Inc.

Mary Cappelli
Mary Cappelli
Analytical Chemist

Eric Tam
Eric Tam
Laboratory Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 20, 1992

ChromaLab File No.: 0492134

Wahler Associates

Attn: Ray Kahler

RE: One soil sample for PCB analysis

Project Name:

Project Number:

Date Sampled: Apr. 10, 1992

Date Submitted: Apr. 14, 1992

Date Analyzed: Apr. 17, 1992

RESULTS:

<u>SAMPLE I.D.</u>	<u>PCB (mg/kg)</u>
HW-8-6	N.D.

BLANK	N.D.
SPIKE RECOVERY	101%
DUPLICATE SPIKE RECOVERY	86%
DETECTION LIMIT	0.05
METHOD OF ANALYSIS	8080

ChromaLab, Inc.

Mary Cappelli
Mary Cappelli
Analytical Chemist


Eric Tam
Laboratory Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 20, 1992

ChromaLab File No.: 0492117D

Wahler Associates

Attn: Ray Kahler

RE: Soil samples for PCB analysis

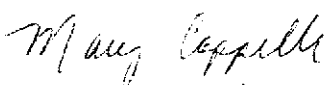
Project Name: Cal Trans
Date Sampled: Apr. 10, 1992
Date Submitted: Apr. 10, 1992
Date Analyzed: Apr. 16, 1992


Project Number: CDT-105

RESULTS:

<u>SAMPLE I.D.</u>	<u>PCB (mg/Kg)</u>
HW 10-1	N.D.
HW 10-2	N.D.
HW 10-3	N.D.
HW 10-4	N.D.
HW 10-5	N.D.
HW 6B-1	N.D.
HW 6B-2	N.D.
HW 6B-3	N.D.
HW 6B-4	N.D.
HW 6B-5	N.D.
HW 7-1	N.D.
HW 7-2	N.D.
HW 7-3	N.D.
HW 7-4	N.D.
HW 7-5	N.D.
BLANK	N.D.
SPIKE RECOVERY	91%
DUPLICATE SPIKE RECOVERY	92%
DETECTION LIMIT	0.5
METHOD OF ANALYSIS	8080

ChromaLab, Inc.


Mary Cappelli
Analytical Chemist


Eric Tam
Laboratory Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 20, 1992

ChromaLab File No.: 0492117C

Wahler Associates

Attn: Ray Kahler

RE: Water samples for PCB analysis

Project Name: Cal Trans
Date Sampled: Apr. 10, 1992
Date Submitted: Apr. 10, 1992
Date Analyzed: Apr. 16, 1992

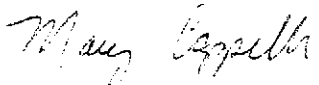
Project Number: CDT-105


RESULTS:

<u>SAMPLE I.D.</u>	<u>PCB ($\mu\text{g/L}$)</u>
HW 10	N.D.
HW 8	N.D.
HW 9	N.D.
HW 7	N.D.
HW-6B	N.D.

BLANK	N.D.
SPIKE RECOVERY	91%
DUPLICATE SPIKE RECOVERY	92%
DETECTION LIMIT	10
METHOD OF ANALYSIS	608

ChromaLab, Inc.


Mary Cappelli
Analytical Chemist


Eric Tam
Laboratory Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 16, 1992

ChromaLab File No.: 0492096A

Wahler Associates

Attn: Ray Kahler

RE: Sixteen soil samples for PCB analysis

Project Name: Cal Trans
Date Sampled: Apr. 09, 1992
Date Submitted: Apr. 09, 1992
Date Analyzed: Apr. 15, 1992

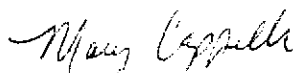
Project Number: CDT-105

RESULTS:

<u>SAMPLE I.D.</u>	<u>PCB (mq/kg)</u>
--------------------	--------------------

HW 11-1	N.D.
HW 11-2	N.D.
HW 11-3	N.D.
HW 12-1	N.D.
HW 12-2	N.D.
HW 12-3	N.D.
BLANK	N.D.
SPIKE RECOVERY	91%
DUPLICATE SPIKE RECOVERY	89%
DETECTION LIMIT	0.5
METHOD OF ANALYSIS	8080

ChromaLab, Inc.



Mary Cappelli
Analytical Chemist



Eric Tam
Laboratory Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

March 15, 1992

ChromaLab File No.: 0492096

Wahler Associates

Attn: Ray Kahler

RE: Four water samples for PCB analysis

Project Name: Cal Trans

Project Number: CDT-105

Date Sampled: Apr. 09, 1992

Date Submitted: Apr. 09, 1992

Date Analyzed: Mar. 15, 1992

RESULTS:

SAMPLE I.D.

PCB ($\mu\text{g/L}$)

HW-11

N.D.

BLANK

N.D.

SPIKE RECOVERY

90%

DUPLICATE SPIKE RECOVERY

89%

DETECTION LIMIT

10

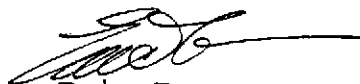
METHOD OF ANALYSIS

608

ChromaLab, Inc.

Mary Cappelli

Mary Cappelli
Analytical Chemist



Eric Tam
Laboratory Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 16, 1992

ChromaLab File No.: 0492096A

Wahler Associates

Attn: Ray Kahler

RE: Sixteen soil samples for PCB analysis

Project Name: Cal Trans
Date Sampled: Apr. 09, 1992
Date Submitted: Apr. 09, 1992
Date Analyzed: Apr. 15, 1992

Project Number: CDT-105

RESULTS:

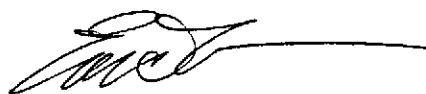
<u>SAMPLE I.D.</u>	<u>PCB (mg/kg)</u>
--------------------	--------------------

HW 11-1	
HW 11-2	N.D.
HW 11-3	N.D.
HW 12-1	N.D.
HW 12-2	N.D.
HW 12-3	N.D.
BLANK	N.D.
SPIKE RECOVERY	91%
DUPLICATE SPIKE RECOVERY	89%
DETECTION LIMIT	0.5
METHOD OF ANALYSIS	8080

ChromaLab, Inc.

Mary Cappelli

Mary Cappelli
Analytical Chemist



Eric Tam
Laboratory Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 20, 1992

ChromaLab File No.: 0492117A

Wahler Associates

Attn: Ray Kahler

RE: Water samples for PCB analysis

Project Name: Cal Trans
Date Sampled: Apr. 09, 1992
Date Submitted: Apr. 10, 1992
Date Analyzed: Apr. 16, 1992

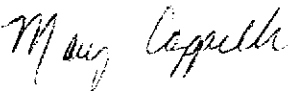
Project Number: CDT-105

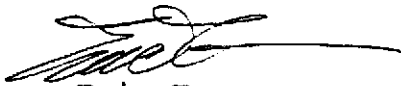
RESULTS:

<u>SAMPLE I.D.</u>	<u>PCB ($\mu\text{g/L}$)</u>
HW 13	N.D.

BLANK	N.D.
SPIKE RECOVERY	91%
DUPLICATE SPIKE RECOVERY	92%
DETECTION LIMIT	10
METHOD OF ANALYSIS	608

ChromaLab, Inc.


Mary Cappelli
Analytical Chemist


Eric Tam
Laboratory Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 20, 1992

ChromaLab File No.: 0492117B

Wahler Associates

Attn: Ray Kahler

RE: Soil samples for PCB analysis

Project Name: Cal Trans
Date Sampled: Apr. 09, 1992
Date Submitted: Apr. 10, 1992
Date Analyzed: Apr. 16, 1992

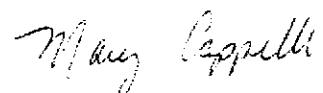
Project Number: CDT-105

RESULTS:

<u>SAMPLE I.D.</u>	<u>PCB (mg/Kg)</u>
HW 13-1	N.D.
HW 13-2	N.D.

BLANK	N.D.
SPIKE RECOVERY	91%
DUPLICATE SPIKE RECOVERY	92%
DETECTION LIMIT	0.5
METHOD OF ANALYSIS	8080

ChromaLab, Inc.


Mary Cappelli
Analytical Chemist


Eric Tam
Laboratory Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Environmental Laboratory (1094)

April 20, 1992

ChromaLab File # 0492117 Y

Client: Wahler Associates
Attn: Ray Kahler
Date Sampled: Apr. 10, 1992
Date Extracted: Apr. 17, 1992

Date Submitted: Apr. 10, 1992
Date Analyzed: Apr. 17, 1992

Project Number: CDT-105
Sample I.D.: HW-7-2
Method of Analysis: EPA 8270

Project Name: CAL TRANS
Matrix: soil

COMPOUND NAME	Sample mg/kg	MDL* mg/kg	Spike Recovery	
PHENOL	N.D.	0.5	-----	
BIS(2-CHLOROETHYL) ETHER	N.D.	0.5	97%	92%
2-CHLOROPHENOL	N.D.	0.5	-----	
1,3-DICHLOROBENZENE	N.D.	0.5	-----	
1,4-DICHLOROBENZENE	N.D.	0.5	-----	
BENZYL ALCOHOL	N.D.	1.0	-----	
1,2-DICHLOROBENZENE	N.D.	0.5	-----	
2-METHYLPHENOL	N.D.	0.5	-----	
BIS(2-CHLOROISOPROPYL) ETHER	N.D.	0.5	-----	
4-METHYLPHENOL	N.D.	0.5	-----	
N-NITROSO-DI-N-PROPYLAMINE	N.D.	0.5	-----	
HEXACHLOROETHANE	N.D.	0.5	-----	
NITROBENZENE	N.D.	0.5	-----	
ISOPHORONE	N.D.	0.5	-----	
2-NITROPHENOL	N.D.	0.5	-----	
2,4-DIMETHYLPHENOL	N.D.	0.5	-----	
BENZOIC ACID	N.D.	2.5	-----	
BIS(2-CHLOROETHOXY) METHANE	N.D.	0.5	100%	96%
2,4-DICHLOROPHENOL	N.D.	0.5	-----	
1,2,4-TRICHLOROBENZENE	N.D.	0.5	-----	
NAPHTHALENE	N.D.	0.5	-----	
4-CHLOROANILINE	N.D.	1.0	-----	
HEXACHLOROBUTADIENE	N.D.	0.5	-----	
4-CHLORO-3-METHYLPHENOL	N.D.	1.0	-----	
2-METHYLNAPHTHALENE	N.D.	0.5	-----	
HEXACHLOROCYCLOPENTADIENE	N.D.	0.5	-----	
2,4,6-TRICHLOROPHENOL	N.D.	0.5	-----	
2,4,5-TRICHLOROPHENOL	N.D.	0.5	-----	
2-CHLORONAPHTHALENE	N.D.	0.5	-----	
2-NITROANILINE	N.D.	2.5	-----	
DIMETHYL PHTHALATE	N.D.	0.5	-----	
ACENAPHTHYLENE	N.D.	0.5	-----	
3-NITROANILINE	N.D.	2.5	-----	
ACENAPHTHENE	N.D.	0.5	101%	105%
2,4-DINITROPHENOL	N.D.	2.5	-----	
4-NITROPHENOL	N.D.	2.5	-----	
DIBENZOFURAN	N.D.	0.5	-----	

(continued on next page)

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

Page 2

ChromaLab File # 0492117 Y

Project Number: CDT-105
Sample I.D.: HW-7-2
Method of Analysis: EPA 8270

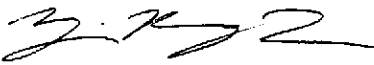
Project Name: CAL TRANS
Matrix: soil

COMPOUND NAME	Sample mg/kg	MDL mg/kg	Spike Recovery	
2,4-DINITROTOLUENE	N.D.	0.5	-----	-----
2,6-DINITROTOLUENE	N.D.	0.5	86%	91%
DIETHYL PHTHALATE	N.D.	0.5	-----	-----
4-CHLORO-PHENYL PHENYL ETHER	N.D.	0.5	-----	-----
FLUORENE	N.D.	0.5	-----	-----
4-NITROANILINE	N.D.	2.5	-----	-----
4,6-DINITRO-2-METHYL PHENOL	N.D.	2.5	-----	-----
N-NITROSODIPHENYLAMINE	N.D.	0.5	-----	-----
4-BROMOPHENYL PHENYL ETHER	N.D.	0.5	-----	-----
HEXACHLOROBENZENE	N.D.	0.5	-----	-----
PENTACHLOROPHENOL	N.D.	2.5	-----	-----
PHENANTHRENE	N.D.	0.5	-----	-----
ANTHRACENE	N.D.	0.5	-----	-----
DI-N-BUTYL PHTHALATE	N.D.	0.5	-----	-----
FLUORANTHENE	N.D.	0.5	-----	-----
PYRENE	N.D.**	0.5	-----	-----
BUTYLBENZYLPHTHALATE	N.D.	0.5	-----	-----
3,3'-DICHLOROBENZIDINE	N.D.	1.0	-----	-----
BENZO(A)ANTHRACENE	N.D.	0.5	-----	-----
BIS(2-ETHYLHEXYL)PHTHALATE	N.D.	0.5	-----	-----
CHRYSENE	N.D.	0.5	85%	94%
DI-N-OCTYLPHTHALATE	N.D.	0.5	-----	-----
BENZO(B)FLUORANTHENE	N.D.	0.5	-----	-----
BENZO(K)FLUORANTHENE	N.D.	0.5	-----	-----
BENZO(A)PYRENE	N.D.	0.5	-----	-----
INDENO(1,2,3 C,D)PYRENE	N.D.	0.5	-----	-----
DIBENZO(A,H)ANTHRACENE	N.D.	0.5	-----	-----
BENZO(G,H,I)PERYLENE	N.D.	0.5	-----	-----

*Higher detection limits due to dilutions necessary.

**Trace amount of PYRENE (0.39mg/kg) was found and it is below method detection limit.

ChromaLab Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)
April 21, 1992

ChromaLab File # 0492096 S

Client: Wahler Associates
Attn: Ray Kahler
Date Sampled: Apr. 10, 1992
Date Extracted: Apr. 20, 1992

Date Submitted: Apr. 10, 1992
Date Analyzed: Apr. 20, 1992

Project Number: CDT-105
Sample I.D.: HW-11-3
Method of Analysis: EPA 8270

Project Name: CAL TRANS
Matrix: soil

COMPOUND NAME	Sample mg/kg	MDL* mg/kg	Spike Recovery	
PHENOL	N.D.	0.5	-----	-----
BIS(2-CHLOROETHYL) ETHER	N.D.	0.5	85%	87%
2-CHLOROPHENOL	N.D.	0.5	-----	-----
1,3-DICHLOROBENZENE	N.D.	0.5	-----	-----
1,4-DICHLOROBENZENE	N.D.	0.5	-----	-----
BENZYL ALCOHOL	N.D.	1.0	-----	-----
1,2-DICHLOROBENZENE	N.D.	0.5	-----	-----
2-METHYLPHENOL	N.D.	0.5	-----	-----
BIS(2-CHLOROISOPROPYL) ETHER	N.D.	0.5	-----	-----
4-METHYLPHENOL	N.D.	0.5	-----	-----
N-NITROSO-DI-N-PROPYLAMINE	N.D.	0.5	-----	-----
HEXACHLOROETHANE	N.D.	0.5	-----	-----
NITROBENZENE	N.D.	0.5	-----	-----
ISOPHORONE	N.D.	0.5	-----	-----
2-NITROPHENOL	N.D.	0.5	-----	-----
2,4-DIMETHYLPHENOL	N.D.	0.5	-----	-----
BENZOIC ACID	N.D.	2.5	-----	-----
BIS(2-CHLOROETHOXY) METHANE	N.D.	0.5	94%	90%
2,4-DICHLOROPHENOL	N.D.	0.5	-----	-----
1,2,4-TRICHLOROBENZENE	N.D.	0.5	-----	-----
NAPHTHALENE	N.D.	0.5	-----	-----
4-CHLOROANILINE	N.D.	1.0	-----	-----
HEXACHLOROBUTADIENE	N.D.	0.5	-----	-----
4-CHLORO-3-METHYLPHENOL	N.D.	1.0	-----	-----
2-METHYLNAPHTHALENE	N.D.	0.5	-----	-----
HEXACHLOROCYCLOPENTADIENE	N.D.	0.5	-----	-----
2,4,6-TRICHLOROPHENOL	N.D.	0.5	-----	-----
2,4,5-TRICHLOROPHENOL	N.D.	0.5	-----	-----
2-CHLORONAPHTHALENE	N.D.	0.5	-----	-----
2-NITROANILINE	N.D.	2.5	-----	-----
DIMETHYL PHTHALATE	N.D.	0.5	-----	-----
ACENAPHTHYLENE	0.72	0.5	-----	-----
3-NITROANILINE	N.D.	2.5	-----	-----
ACENAPHTHENE	N.D.	0.5	98%	95%
2,4-DINITROPHENOL	N.D.	2.5	-----	-----
4-NITROPHENOL	N.D.	2.5	-----	-----
DIBENZOFURAN	N.D.	0.5	-----	-----

(continued on next page)

CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

Page 2

ChromaLab File # 0492096 S

Project Number: CDT-105
Sample I.D.: HW-11-3
Method of Analysis: EPA 8270

Project Name: CAL TRANS
Matrix: soil

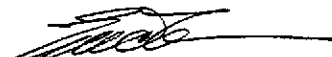
COMPOUND NAME	Sample mg/kg	MDL mg/kg	Spike Recovery	
2,4-DINITROTOLUENE	N.D.	0.5	-----	
2,6-DINITROTOLUENE	N.D.	0.5	91%	88%
DIETHYL PHTHALATE	N.D.	0.5	-----	
4-CHLORO-PHENYL PHENYL ETHER	N.D.	0.5	-----	
FLUORENE	0.55	0.5	-----	
4-NITROANILINE	N.D.	2.5	-----	
4,6-DINITRO-2-METHYL PHENOL	N.D.	2.5	-----	
N-NITROSODIPHENYLAMINE	N.D.	0.5	-----	
4-BROMOPHENYL PHENYL ETHER	N.D.	0.5	-----	
HEXACHLOROBENZENE	N.D.	0.5	-----	
PENTACHLOROPHENOL	N.D.	2.5	-----	
PHENANTHRENE	N.D.	0.5	-----	
ANTHRACENE	N.D.	0.5	-----	
DI-N-BUTYL PHTHALATE	N.D.	0.5	-----	
FLUORANTHENE	N.D.	0.5	-----	
PYRENE	N.D.	0.5	-----	
BUTYLBENZYLPHTHALATE	N.D.	0.5	-----	
3,3'-DICHLOROBENZIDINE	N.D.	1.0	-----	
BENZO (A) ANTHRACENE	N.D.	0.5	-----	
BIS (2-ETHYLHEXYL) PHTHALATE	N.D.	0.5	-----	
CHRYSENE	N.D.	0.5	87%	82%
DI-N-OCTYLPHTHALATE	N.D.	0.5	-----	
BENZO (B) FLUORANTHENE	N.D.	0.5	-----	
BENZO (K) FLUORANTHENE	N.D.	0.5	-----	
BENZO (A) PYRENE	N.D.	0.5	-----	
INDENO (1,2,3 C,D) PYRENE	N.D.	0.5	-----	
DIBENZO (A,H) ANTHRACENE	N.D.	0.5	-----	
BENZO (G,H,I) PERYLENE	N.D.	0.5	-----	

*Higher detecton limits due to dilutions necessary.

ChromaLab, Inc.



Yiu Tam
Analytical Chemist



Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)
April 20, 1992

ChromaLab File # 0492117 A

Client: Wahler Associates
Attn: Ray Kahler
Date Sampled: Apr. 09, 1992
Date Extracted: Apr. 17, 1992

Date Submitted: Apr. 10, 1992
Date Analyzed: Apr. 17, 1992

Project Number: CDT-105
Sample I.D.: HW-13-1
Method of Analysis: EPA 8270

Project Name: CAL TRANS
Matrix: soil

COMPOUND NAME	Sample mg/kg	MDL mg/kg	Spike Recovery	
PHENOL	N.D.	0.05	-----	
BIS(2-CHLOROETHYL) ETHER	N.D.	0.05	97%	92%
2-CHLOROPHENOL	N.D.	0.05	-----	
1,3-DICHLOROBENZENE	N.D.	0.05	-----	
1,4-DICHLOROBENZENE	N.D.	0.05	-----	
BENZYL ALCOHOL	N.D.	0.10	-----	
1,2-DICHLOROBENZENE	N.D.	0.05	-----	
2-METHYLPHENOL	N.D.	0.05	-----	
BIS(2-CHLOROISOPROPYL) ETHER	N.D.	0.05	-----	
4-METHYLPHENOL	N.D.	0.05	-----	
N-NITROSO-DI-N-PROPYLAMINE	N.D.	0.05	-----	
HEXACHLOROETHANE	N.D.	0.05	-----	
NITROBENZENE	N.D.	0.05	-----	
ISOPHORONE	N.D.	0.05	-----	
2-NITROPHENOL	N.D.	0.05	-----	
2,4-DIMETHYLPHENOL	N.D.	0.05	-----	
BENZOIC ACID	N.D.	0.25	-----	
BIS(2-CHLOROETHOXY) METHANE	N.D.	0.05	100%	96%
2,4-DICHLOROPHENOL	N.D.	0.05	-----	
1,2,4-TRICHLOROBENZENE	N.D.	0.05	-----	
NAPHTHALENE	N.D.	0.05	-----	
4-CHLOROANILINE	N.D.	0.10	-----	
HEXACHLOROBUTADIENE	N.D.	0.05	-----	
4-CHLORO-3-METHYLPHENOL	N.D.	0.10	-----	
2-METHYLNAPHTHALENE	N.D.	0.05	-----	
HEXACHLOROCYCLOPENTADIENE	N.D.	0.05	-----	
2,4,6-TRICHLOROPHENOL	N.D.	0.05	-----	
2,4,5-TRICHLOROPHENOL	N.D.	0.05	-----	
2-CHLORONAPHTHALENE	N.D.	0.05	-----	
2-NITROANILINE	N.D.	0.25	-----	
DIMETHYL PHTHALATE	N.D.	0.05	-----	
ACENAPHTHYLENE	N.D.	0.05	-----	
3-NITROANILINE	N.D.	0.25	-----	
ACENAPHTHENE	N.D.	0.05	101%	105%
2,4-DINITROPHENOL	N.D.	0.25	-----	
4-NITROPHENOL	N.D.	0.25	-----	
DIBENZOFURAN	N.D.	0.05	-----	

(continued on next page)

CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

Page 2


ChromaLab File # 0492117 A

Project Number: CDT-105
Sample I.D.: HW-13-1
Method of Analysis: EPA 8270

Project Name: CAL TRANS
Matrix: soil

COMPOUND NAME	Sample mg/kg	MDL mg/kg	Spike Recovery	
2,4-DINITROTOLUENE	N.D.	0.05	-----	
2,6-DINITROTOLUENE	N.D.	0.05	86%	91%
DIETHYL PHTHALATE	N.D.	0.05	-----	
4-CHLORO-PHENYL PHENYL ETHER	N.D.	0.05	-----	
FLUORENE	N.D.	0.05	-----	
4-NITROANILINE	N.D.	0.25	-----	
4,6-DINITRO-2-METHYL PHENOL	N.D.	0.25	-----	
N-NITROSODIPHENYLAMINE	N.D.	0.05	-----	
4-BROMOPHENYL PHENYL ETHER	N.D.	0.05	-----	
HEXACHLOROBENZENE	N.D.	0.05	-----	
PENTACHLOROPHENOL	N.D.	0.25	-----	
PHENANTHRENE	N.D.	0.05	-----	
ANTHRACENE	N.D.	0.05	-----	
DI-N-BUTYL PHTHALATE	0.10	0.05	-----	
FLUORANTHENE	0.15	0.05	-----	
PYRENE	0.13	0.05	-----	
BUTYLBENZYLPHthalate	N.D.	0.05	-----	
3,3'-DICHLOROBENZIDINE	N.D.	0.10	-----	
BENZO (A) ANTHRACENE	N.D.	0.05	-----	
BIS (2-ETHYLHEXYL) PHTHALATE	N.D.	0.05	-----	
CHRYSENE	N.D.	0.05	85%	94%
DI-N-OCTYLPHthalate	N.D.	0.05	-----	
BENZO (B) FLUORANTHENE	N.D.	0.05	-----	
BENZO (K) FLUORANTHENE	N.D.	0.05	-----	
BENZO (A) PYRENE	N.D.	0.05	-----	
INDENO (1,2,3 C,D) PYRENE	N.D.	0.05	-----	
DIBENZO (A,H) ANTHRACENE	N.D.	0.05	-----	
BENZO (G,H,I) PERYLENE	N.D.	0.05	-----	

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)
April 18, 1992

ChromaLab File # 0492117 AI

Wahler Associates
Date Sampled: Apr. 10, 1992
Date of Analysis: Apr. 17, 1992


Attn: Ray Kahler
Date Submitted: Apr. 10, 1992

Project Name: CAL TRANS
Sample I.D.: HW-6B
Method of Analysis: EPA 624

Job No.: CDT-105
Detection Limit: 2.0 µg/l

COMPOUND NAME	µg/l	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	105% 94.9%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	102% 108%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYL VINYLETHYR	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	101% 88.9%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	99.4% 95.5%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Environmental Laboratory (1094)

April 16, 1992

ChromaLab File # 0492117 AC

Wahler Associates

Attn: Ray Kahler

Date Sampled: Apr. 10, 1992

Date Submitted: Apr. 10, 1992

Date of Analysis: Apr. 16, 1992

Project Name: CAL TRANS

Job No.: CDT-105

Sample I.D.: HW-7

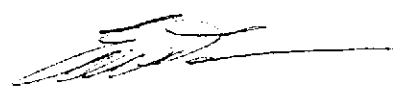
Method of Analysis: EPA 624

Detection Limit: 2.0 µg/l

COMPOUND NAME	µg/l	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	89.2% 92.6%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	92.6% 98.6%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	91.4% 89.7%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	93.6% 88.1%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)
April 23, 1992

ChromaLab File # 0492117 X

Wahler Associates
Date Sampled: Apr. 10, 1992
Date Extracted: Apr. 17-18, 1992

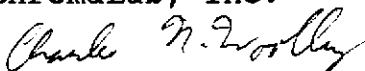
Attn: Ray Kahler
Date Submitted: Apr. 10, 1992
Date Analyzed: Apr. 21, 1992

Project Name: CAL TRANS
Sample I.D.: HW-7-1
Method of Analysis: TCLP- 624

Job No.: CDT-105
Detection Limit: 2.0 µg/l

COMPOUND NAME	µg/l	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	94.8% 103%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	0.50	98.4% 102%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	0.72	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	8.5	119% 112%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	106% 100%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Charles Woolley
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Environmental Laboratory (1094)

April 16, 1992

ChromaLab File # 0492117 Q

Wahler Associates

Attn: Ray Kahler

Date Sampled: Apr. 10, 1992

Date Submitted: Apr. 10, 1992

Date of Analysis: Apr. 16, 1992

Project Name: CAL TRANS

Job No.: CDT-105

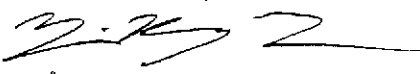
Sample I.D.: HW-8


Method of Analysis: EPA 624

Detection Limit: 2.0 µg/l

COMPOUND NAME	µg/l	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	89.3% 92.6%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	92.6% 98.6%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	91.4% 89.7%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	93.6% 88.1%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Environmental Laboratory (1094)

April 16, 1992

ChromaLab File # 0492117 W

Wahler Associates

Date Sampled: Apr. 10, 1992

Date of Analysis: Apr. 16, 1992

Attn: Ray Kahler

Date Submitted: Apr. 10, 1992

Project Name: CAL TRANS

Sample I.D.: HW-9A

Method of Analysis: EPA 624

Job No.: CDT-105

Detection Limit: 2.0 µg/l

COMPOUND NAME	µg/l	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	89.3% 92.6%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	92.6% 98.6%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	91.4% 89.7%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	93.6% 88.1%
1,3-DICHLOROENZENE	N.D.	---
1,4-DICHLOROENZENE	N.D.	---
1,2-DICHLOROENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Environmental Laboratory (1094)

April 16, 1992

ChromaLab File # 0492117 K

Wahler Associates

Attn: Ray Kahler

Date Sampled: Apr. 10, 1992

Date Submitted: Apr. 10, 1992

Date of Analysis: Apr. 15, 1992

Project Name: CAL TRANS

Job No.: CDT-105


Sample I.D.: HW-10

Method of Analysis: EPA 624

Detection Limit: 2.0 µg/l

COMPOUND NAME	µg/l	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	89.3% 92.6%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	92.6% 98.6%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYL VINYLETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	91.4% 89.7%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	93.6% 88.1%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Environmental Laboratory (1094)

April 16, 1992

ChromaLab File # 0492096 R

Wahler Associates

Attn: Ray Kahler

Date Sampled: Apr. 09, 1992

Date Submitted: Apr. 09, 1992

Date of Analysis: Apr. 14, 1992

Project Name: CAL TRANS

Job No.: CDT-105


Sample I.D.: HW-11

Method of Analysis: EPA 624

Detection Limit: 2.0 µg/l

COMPOUND NAME	µg/l	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	91.5% 94.2%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	4.9	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	98.7% 95.0%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	102% 96.7%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	105% 96.8%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)
April 23, 1992

ChromaLab File # 0492096 U

Wahler Associates

Attn: Ray Kahler

Date Sampled: Apr. 09, 1992

Date Submitted: Apr. 09, 1992

Date Extracted: Apr. 17-18, 1992

Date Analyzed: Apr. 21, 1992

Project Name: CAL TRANS

Job No.: CDT-105

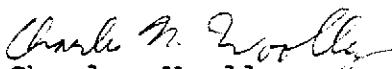
Sample I.D.: HW-12-2

Method of Analysis: TCLP- 624

Detection Limit: 2.0 µg/l

COMPOUND NAME	µg/l	Spike Recovery	
CHLOROMETHANE	N.D.	---	---
VINYL CHLORIDE	N.D.	---	---
BROMOMETHANE	N.D.	---	---
CHLOROETHANE	N.D.	---	---
TRICHLOROFLUOROMETHANE	N.D.	---	---
1,1-DICHLOROETHENE	N.D.	94.8%	103%
METHYLENE CHLORIDE	N.D.	---	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---	---
1,1-DICHLOROETHANE	N.D.	---	---
CHLOROFORM	N.D.	---	---
1,1,1-TRICHLOROETHANE	N.D.	---	---
CARBON TETRACHLORIDE	N.D.	---	---
1,2-DICHLOROETHANE	N.D.	---	---
BENZENE	N.D.	---	---
TRICHLOROETHENE	N.D.	98.4%	102%
1,2-DICHLOROPROPANE	N.D.	---	---
BROMODICHLOROMETHANE	N.D.	---	---
2-CHLOROETHYL VINYLETHER	N.D.	---	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---	---
TOLUENE	N.D.	---	---
CIS-1,3-DICHLOROPROPENE	N.D.	---	---
1,1,2-TRICHLOROETHANE	N.D.	---	---
TETRACHLOROETHENE	1.4	119%	112%
DIBROMOCHLOROMETHANE	N.D.	---	---
CHLOROBENZENE	N.D.	---	---
ETHYL BENZENE	N.D.	---	---
BROMOFORM	N.D.	---	---
1,1,2,2-TETRACHLOROETHANE	N.D.	106%	100%
1,3-DICHLOROBENZENE	N.D.	---	---
1,4-DICHLOROBENZENE	N.D.	---	---
1,2-DICHLOROBENZENE	N.D.	---	---
TOTAL XYLENES	N.D.	---	---
ACETONE	N.D.	---	---
METHYL ETHYL KETONE	N.D.	---	---
METHYL ISOBUTYL KETONE	N.D.	---	---

ChromaLab, Inc.


Charles Woolley
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)
April 16, 1992

ChromaLab File # 0492117 D

Wahler Associates
Date Sampled: Apr. 09, 1992
Date of Analysis: Apr. 15, 1992

Attn: Ray Kahler
Date Submitted: Apr. 10, 1992


Project Name: CAL TRANS
Sample I.D.: HW-13
Method of Analysis: EPA 624


Job No.: CDT-105

Detection Limit: 2.0 µg/l

COMPOUND NAME	µg/l	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	97.1% 104%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	86.2% 95.1%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	110% 98.7%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	101% 92.7%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 20, 1992

ChromaLab File # 0492117 AC

Wahler Associates

Attn: Ray Kahler

Date Sampled: Apr. 10, 1992

Date Submitted: Apr. 10, 1992

Date Extracted: Apr. 17, 1992

Date Analyzed: Apr. 17, 1992

Project Number: CDT-105

Project Name: CAL TRANS

Sample I.D.: HW-7

Method of Analysis: 625

Matrix: water

COMPOUND NAME	Sample mg/L	MDL* mg/L	Spike Recovery
PHENOL	N.D.	0.02	-----
BIS(2-CHLOROETHYL) ETHER	N.D.	0.02	88% 110%
2-CHLOROPHENOL	N.D.	0.02	-----
1,3-DICHLOROBENZENE	N.D.	0.02	-----
1,4-DICHLOROBENZENE	N.D.	0.02	-----
BENZYL ALCOHOL	N.D.	0.04	-----
1,2-DICHLOROBENZENE	N.D.	0.02	-----
2-METHYLPHENOL	N.D.	0.02	92% 96%
BIS(2-CHLOROISOPROPYL) ETHER	N.D.	0.02	-----
4-METHYLPHENOL	N.D.	0.02	-----
N-NITROSO-DI-N-PROPYLAMINE	N.D.	0.02	-----
HEXACHLOROETHANE	N.D.	0.02	-----
NITROBENZENE	N.D.	0.02	-----
ISOPHORONE	N.D.	0.02	-----
2-NITROPHENOL	N.D.	0.02	-----
2,4-DIMETHYLPHENOL	N.D.	0.02	-----
BENZOIC ACID	N.D.	0.10	-----
BIS(2-CHLOROETHOXY) METHANE	N.D.	0.02	102% 105%
2,4-DICHLOROPHENOL	N.D.	0.02	-----
1,2,4-TRICHLOROBENZENE	N.D.	0.02	-----
NAPHTHALENE	N.D.	0.02	-----
4-CHLOROANILINE	N.D.	0.04	-----
HEXACHLOROBUTADIENE	N.D.	0.02	-----
4-CHLORO-3-METHYLPHENOL	N.D.	0.04	-----
2-METHYLNAPHTHALENE	N.D.	0.02	96% 106%
HEXACHLOROCYCLOPENTADIENE	N.D.	0.02	-----
2,4,6-TRICHLOROPHENOL	N.D.	0.02	-----
2,4,5-TRICHLOROPHENOL	N.D.	0.02	-----
2-CHLORONAPHTHALENE	N.D.	0.02	-----
2-NITROANILINE	N.D.	0.10	-----
DIMETHYL PHTHALATE	N.D.	0.02	-----
ACENAPHTHYLENE	N.D.	0.02	-----
3-NITROANILINE	N.D.	0.10	-----
ACENAPHTHENE	N.D.	0.02	101% 89%
2,4-DINITROPHENOL	N.D.	0.10	-----
4-NITROPHENOL	N.D.	0.10	-----
DIBENZOFURAN	N.D.	0.02	-----

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CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

Page 2

ChromaLab File # 0492117 AC

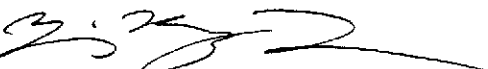
Project Number: CDT-105
Sample I.D.: HW-7
Method of Analysis: 625

Project Name: CAL TRANS
Matrix: water


COMPOUND NAME	Sample mg/L	MDL mg/L	Spike Recovery	
2,4-DINITROTOLUENE	N.D.	0.02	-----	-----
2,6-DINITROTOLUENE	N.D.	0.02	110%	96%
DIETHYL PHTHALATE	N.D.	0.02	-----	-----
4-CHLORO-PHENYL PHENYL ETHER	N.D.	0.02	-----	-----
FLUORENE	N.D.	0.02	-----	-----
4-NITROANILINE	N.D.	0.10	-----	-----
4,6-DINITRO-2-METHYL PHENOL	N.D.	0.10	-----	-----
N-NITROSODIPHENYLAMINE	N.D.	0.02	-----	-----
4-BROMOPHENYL PHENYL ETHER	N.D.	0.02	-----	-----
HEXACHLOROBENZENE	N.D.	0.02	-----	-----
PENTACHLOROPHENOL	N.D.	0.10	99%	85%
PHENANTHRENE	N.D.	0.02	-----	-----
ANTHRACENE	N.D.	0.02	-----	-----
DI-N-BUTYL PHTHALATE	N.D.	0.02	-----	-----
FLUORANTHENE	N.D.	0.02	-----	-----
PYRENE	N.D.	0.02	-----	-----
BUTYLBENZYLPHthalate	N.D.	0.02	-----	-----
3,3'-DICHLOROBENZIDINE	N.D.	0.04	-----	-----
BENZO (A) ANTHRACENE	N.D.	0.02	-----	-----
BIS (2-ETHYLHEXYL) PHTHALATE	N.D.	0.02	-----	-----
CHRYSENE	N.D.	0.02	93%	96%
DI-N-OCTYLPHthalate	N.D.	0.02	-----	-----
BENZO (B) FLUORANTHENE	N.D.	0.02	-----	-----
BENZO (K) FLUORANTHENE	N.D.	0.02	-----	-----
BENZO (A) PYRENE	N.D.	0.02	-----	-----
INDENO (1,2,3 C,D) PYRENE	N.D.	0.02	-----	-----
DIBENZO (A,H) ANTHRACENE	N.D.	0.02	-----	-----
BENZO (G,H,I) PERYLENE	N.D.	0.02	-----	-----

*Higher detection limits due to dilutions necessary.

ChromaLab, Inc.



Yiu Tam
Analytical Chemist



Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E694)

April 16, 1992

ChromaLab File # 0492096 R

Wahler Associates

Attn: Ray Kahler

Date Sampled: Apr. 09, 1992

Date Submitted: Apr. 09, 1992

Date Extracted: Apr. 15, 1992

Date Analyzed: Apr. 15, 1992

Project Number: CDT-105

Project Name: CAL TRANS

Sample I.D.: HW-11

Method of Analysis: 625

Matrix: water

COMPOUND NAME	Sample mg/L	MDL mg/L	Spike Recovery
PHENOL	N.D.	0.002	-----
BIS(2-CHLOROETHYL) ETHER	N.D.	0.002	98% 101%
2-CHLOROPHENOL	N.D.	0.002	-----
1,3-DICHLOROBENZENE	N.D.	0.002	-----
1,4-DICHLOROBENZENE	N.D.	0.002	-----
BENZYL ALCOHOL	N.D.	0.004	-----
1,2-DICHLOROBENZENE	N.D.	0.002	-----
2-METHYLPHENOL	N.D.	0.002	88% 91%
BIS(2-CHLOROISOPROPYL) ETHER	N.D.	0.002	-----
4-METHYLPHENOL	N.D.	0.002	-----
N-NITROSO-DI-N-PROPYLAMINE	N.D.	0.002	-----
HEXACHLOROETHANE	N.D.	0.002	-----
NITROBENZENE	N.D.	0.002	-----
ISOPHORONE	N.D.	0.002	-----
2-NITROPHENOL	N.D.	0.002	-----
2,4-DIMETHYLPHENOL	N.D.	0.002	-----
BENZOIC ACID	N.D.	0.010	-----
BIS(2-CHLOROETHOXY) METHANE	N.D.	0.002	99% 86%
2,4-DICHLOROPHENOL	N.D.	0.002	-----
1,2,4-TRICHLOROBENZENE	N.D.	0.002	-----
NAPHTHALENE	0.049	0.002	-----
4-CHLOROANILINE	N.D.	0.004	-----
HEXACHLOROBUTADIENE	N.D.	0.002	-----
4-CHLORO-3-METHYLPHENOL	N.D.	0.004	-----
2-METHYLNAPHTHALENE	N.D.	0.002	100% 89%
HEXACHLOROCYCLOPENTADIENE	N.D.	0.002	-----
2,4,6-TRICHLOROPHENOL	N.D.	0.002	-----
2,4,5-TRICHLOROPHENOL	N.D.	0.002	-----
2-CHLORONAPHTHALENE	N.D.	0.002	-----
2-NITROANILINE	N.D.	0.010	-----
DIMETHYL PHTHALATE	N.D.	0.002	-----
ACENAPHTHYLENE	N.D.	0.002	-----
3-NITROANILINE	N.D.	0.010	-----
ACENAPHTHENE	N.D.	0.002	92% 106%
2,4-DINITROPHENOL	N.D.	0.010	-----
4-NITROPHENOL	N.D.	0.010	-----
DIBENZOFURAN	N.D.	0.002	-----

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CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

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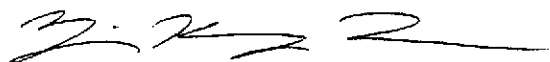
ChromaLab File # 0492096 R

Project Number: CDT-105
Sample I.D.: HW-11
Method of Analysis: 625

Project Name: CAL TRANS
Matrix: water

COMPOUND NAME	Sample mg/L	MDL mg/L	Spike Recovery	
2,4-DINITROTOLUENE	N.D.	0.002	-----	
2,6-DINITROTOLUENE	N.D.	0.002	83%	92%
DIETHYL PHTHALATE	N.D.	0.002	-----	
4-CHLORO-PHENYL PHENYL ETHER	N.D.	0.002	-----	
FLUORENE	N.D.	0.002	-----	
4-NITROANILINE	N.D.	0.010	-----	
4,6-DINITRO-2-METHYL PHENOL	N.D.	0.010	-----	
N-NITROSODIPHENYLAMINE	N.D.	0.002	-----	
4-BROMOPHENYL PHENYL ETHER	N.D.	0.002	-----	
HEXACHLOROBENZENE	N.D.	0.002	-----	
PENTACHLOROPHENOL	N.D.	0.010	89%	98%
PHENANTHRENE	N.D.	0.002	-----	
ANTHRACENE	N.D.	0.002	-----	
DI-N-BUTYL PHTHALATE	N.D.	0.002	-----	
FLUORANTHENE	N.D.	0.002	-----	
PYRENE	N.D.	0.002	-----	
BUTYLBENZYLPHTHALATE	N.D.	0.002	-----	
3,3'-DICHLOROBENZIDINE	N.D.	0.004	-----	
BENZO (A) ANTHRACENE	N.D.	0.002	-----	
BIS (2-ETHYLHEXYL) PHTHALATE	N.D.	0.002	-----	
CHRYSENE	N.D.	0.002	95%	94%
DI-N-OCTYLPHTHALATE	N.D.	0.002	-----	
BENZO (B) FLUORANTHENE	N.D.	0.002	-----	
BENZO (K) FLUORANTHENE	N.D.	0.002	-----	
BENZO (A) PYRENE	N.D.	0.002	-----	
INDENO (1,2,3 C,D) PYRENE	N.D.	0.002	-----	
DIBENZO (A,H) ANTHRACENE	N.D.	0.002	-----	
BENZO (G,H,I) PERYLENE	N.D.	0.002	-----	

ChromaLab, Inc.



Yiu Tam
Analytical Chemist



Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Analytical Laboratory (E604)

April 20, 1992

ChromaLab File # 0492117 D

Wahler Associates

Attn: Ray Kahler

Date Sampled: Apr. 09, 1992

Date Submitted: Apr. 10, 1992

Date Extracted: Apr. 17, 1992

Date Analyzed: Apr. 17, 1992

Project Number: CDT-105

Project Name: CAI TRANS

Sample I.D.: HW-13

Method of Analysis: 625

Matrix: water

COMPOUND NAME	Sample mg/L	MDL mg/L	Spike Recovery
PHENOL	N.D.	0.002	-----
BIS(2-CHLOROETHYL) ETHER	N.D.	0.002	88% 110%
2-CHLOROPHENOL	N.D.	0.002	-----
1,3-DICHLOROBENZENE	N.D.	0.002	-----
1,4-DICHLOROBENZENE	N.D.	0.002	-----
BENZYL ALCOHOL	N.D.	0.004	-----
1,2-DICHLOROBENZENE	N.D.	0.002	-----
2-METHYLPHENOL	N.D.	0.002	92% 96%
BIS(2-CHLOROISOPROPYL) ETHER	N.D.	0.002	-----
4-METHYLPHENOL	N.D.	0.002	-----
N-NITROSO-DI-N-PROPYLAMINE	N.D.	0.002	-----
HEXACHLOROETHANE	N.D.	0.002	-----
NITROBENZENE	N.D.	0.002	-----
ISOPHORONE	N.D.	0.002	-----
2-NITROPHENOL	N.D.	0.002	-----
2,4-DIMETHYLPHENOL	N.D.	0.002	-----
BENZOIC ACID	N.D.	0.010	-----
BIS(2-CHLOROETHOXY) METHANE	N.D.	0.002	102% 105%
2,4-DICHLOROPHENOL	N.D.	0.002	-----
1,2,4-TRICHLOROBENZENE	N.D.	0.002	-----
NAPHTHALENE	N.D.	0.002	-----
4-CHLOROANILINE	N.D.	0.004	-----
HEXACHLOROBUTADIENE	N.D.	0.002	-----
4-CHLORO-3-METHYLPHENOL	N.D.	0.004	-----
2-METHYLNAPHTHALENE	N.D.	0.002	96% 106%
HEXACHLOROCYCLOPENTADIENE	N.D.	0.002	-----
2,4,6-TRICHLOROPHENOL	N.D.	0.002	-----
2,4,5-TRICHLOROPHENOL	N.D.	0.002	-----
2-CHLORONAPHTHALENE	N.D.	0.002	-----
2-NITROANILINE	N.D.	0.010	-----
DIMETHYL PHTHALATE	N.D.	0.002	-----
ACENAPHTHYLENE	N.D.	0.002	-----
3-NITROANILINE	N.D.	0.010	-----
ACENAPHTHENE	N.D.	0.002	101% 89%
2,4-DINITROPHENOL	N.D.	0.010	-----
4-NITROPHENOL	N.D.	0.010	-----
DIBENZOFURAN	N.D.	0.002	-----

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CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

Page 2

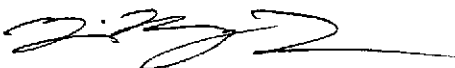
ChromaLab File # 0492117 D

Project Number: CDT-105
Sample I.D.: HW-13
Method of Analysis: 625

Project Name: CAL TRANS
Matrix: water

COMPOUND NAME	Sample mg/L	MDL mg/L	Spike Recovery	
2,4-DINITROTOLUENE	N.D.	0.002	-----	
2,6-DINITROTOLUENE	N.D.	0.002	110%	96%
DIETHYL PHTHALATE	N.D.	0.002	-----	
4-CHLORO-PHENYL PHENYL ETHER	N.D.	0.002	-----	
FLUORENE	N.D.	0.002	-----	
4-NITROANILINE	N.D.	0.010	-----	
4,6-DINITRO-2-METHYL PHENOL	N.D.	0.010	-----	
N-NITROSODIPHENYLAMINE	N.D.	0.002	-----	
4-BROMOPHENYL PHENYL ETHER	N.D.	0.002	-----	
HEXACHLOROBENZENE	N.D.	0.002	-----	
PENTACHLOROPHENOL	N.D.	0.010	99%	85%
PHENANTHRENE	N.D.	0.002	-----	
ANTHRACENE	N.D.	0.002	-----	
DI-N-BUTYL PHTHALATE	N.D.	0.002	-----	
FLUORANTHENE	N.D.	0.002	-----	
PYRENE	N.D.	0.002	-----	
BUTYLBENZYLPHTHALATE	N.D.	0.002	-----	
3,3'-DICHLOROBENZIDINE	N.D.	0.004	-----	
BENZO(A) ANTHRACENE	N.D.	0.002	-----	
BIS(2-ETHYLHEXYL) PHTHALATE	N.D.	0.002	-----	
CHRYSENE	N.D.	0.002	93%	96%
DI-N-OCTYLPHTHALATE	N.D.	0.002	-----	
BENZO(B) FLUORANTHENE	N.D.	0.002	-----	
BENZO(K) FLUORANTHENE	N.D.	0.002	-----	
BENZO(A) PYRENE	N.D.	0.002	-----	
INDENO(1,2,3 C,D) PYRENE	N.D.	0.002	-----	
DIBENZO(A,H) ANTHRACENE	N.D.	0.002	-----	
BENZO(G,H,I) PERYLENE	N.D.	0.002	-----	

ChromaLab, Inc.



Yiu Tam
Analytical Chemist



Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Environmental Laboratory (1094)

April 16, 1992

ChromaLab File # 0492096 L

Wahler Associates

Attn: Ray Kahler

Date Sampled: Apr. 09, 1992

Date Submitted: Apr. 09, 1992

Date of Analysis: Apr. 14, 1992

Project Name: CAL TRANS

Job No.: CDT-105


Sample I.D.: TRIP BLANK

Method of Analysis: EPA 624

Detection Limit: 2.0 µg/l

COMPOUND NAME	µg/l	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	91.5% 94.2%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	4.3	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	98.7% 95.0%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	102% 96.7%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	105% 96.8%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Environmental Laboratory (1094)

April 16, 1992

ChromaLab File # 0492096 K

Wahler Associates

Attn: Ray Kahler

Date Sampled: Apr. 09, 1992

Date Submitted: Apr. 09, 1992

Date of Analysis: Apr. 14, 1992

Project Name: CAL TRANS

Job No.: CDT-105

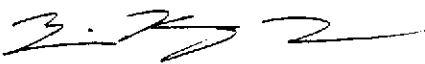
Sample I.D.: BS-1

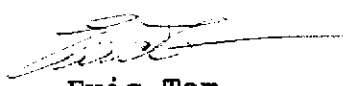
Method of Analysis: EPA 624

Detection Limit: 2.0 µg/l

COMPOUND NAME	µg/l	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	91.5% 94.2%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	98.7% 95.0%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYL VINYLETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	102% 96.7%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	105% 96.8%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Environmental Laboratory (1094)

April 16, 1992

ChromaLab File # 0492117 B

Wahler Associates

Attn: Ray Kahler

Date Sampled: Apr. 09, 1992

Date Submitted: Apr. 10, 1992

Date of Analysis: Apr. 15, 1992

Project Name: CAL TRANS

Job No.: CDT-105


Sample I.D.: BS-2

Method of Analysis: EPA 624

Detection Limit: 2.0 µg/l

COMPOUND NAME	µg/l	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	89.3% 92.6%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	92.6% 98.6%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYL VINYLETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	91.4% 89.7%
DIBROMOCHLOROMETHANE	N.D.	---
CHLORO BENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	93.6% 88.1%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

CHROMALAB, INC.

5 DAYS TURNAROUND

Environmental Laboratory (1094)

April 16, 1992

ChromaLab File # 0492117 F

Wahler Associates

Attn: Ray Kahler

Date Sampled: Apr. 10, 1992

Date Submitted: Apr. 10, 1992

Date of Analysis: Apr. 15, 1992

Project Name: CAL TRANS

Job No.: CDT-105

Sample I.D.: BS-3

Method of Analysis: EPA 624

Detection Limit: 2.0 µg/l

COMPOUND NAME	µg/l	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	89.3% 92.6%
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
BENZENE	N.D.	---
TRICHLOROETHENE	N.D.	92.6% 98.6%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLEETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	91.4% 89.7%
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	93.6% 88.1%
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---
ACETONE	N.D.	---
METHYL ETHYL KETONE	N.D.	---
METHYL ISOBUTYL KETONE	N.D.	---

ChromaLab, Inc.


Yiu Tam
Analytical Chemist


Eric Tam
Lab Director

2239 Omega Road, #1 • San Ramon, California 94583

510/831-1788 • Facsimile 510/831-8798

Federal ID #68-0140157

CHROMALAB, INC.

Environmental Laboratory (1094)

April 28, 1992

Wahler Associates/Walnut Creek

Attn: Ray Kahler

Re: Surrogate standard recoveries for 8240 and 8270 analyses

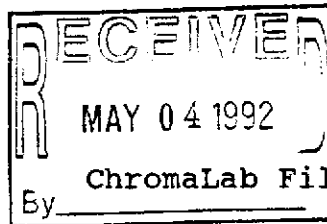
Project Name: Cal Trans

Project Number: CDT-105

I) 8240 Surrogate Standards

Sample I.D.	D4-1,2-Dichloroethane (%)	D8-Toluene (%)	Bromofluorobenzene (%)
HW-11-1	117.2%	100.6%	99.8%
HW-11-2	117.2%	109.0%	107.2%
HW-11-3	120.0%	107.8%	106.4%
HW-11	121.8%	106.6%	94.6%
HW-12-1	123.8%	110.0%	97.8%
HW-12-2	122.6%	108.2%	96.8%
HW-12-3	120.6%	111.4%	96.0%
HW-13-1	104.2%	105.3%	93.5%
HW-13-2	110.8%	96.8%	110.2%
HW-13	96.7%	103.5%	96.7%
HW-10-1	103.4%	110.2%	105.7%
HW-10-2	110.2%	103.6%	98.7%
HW-10-3	104.2%	101.6%	95.7%
HW-10-4	109.4%	93.6%	96.5%
HW-10-5	101.4%	98.9%	92.6%
HW-10	104.8%	100.5%	93.7%
BS-2	105.6%	103.4%	96.8%
BS-3	112.6%	101.5%	94.2%
HW-8-1	121.8%	107.8%	95.0%
HW-8-2	118.6%	114.0%	105.0%
HW-8-3	119.4%	118.6%	108.4%
HW-8-4	119.4%	106.6%	106.4%
HW-8-5	118.6%	107.6%	101.6%
HW-8	122.4%	110.8%	105.8%

(Continued on next page)



5 DAYS TURNAROUND

CHROMALAB, INC.

5 DAYS TURNAROUND

Environmental Laboratory (1094)

page 2.

April 28, 1992

ChromaLab File # 0492096

Wahler Associates/Walnut Creek

0492117

0492122

0492134

Attn: Ray Kahler

Re: Surrogate standard recoveries for 8240 and 8270 analyses

Project Name: Cal Trans

Project Number: CDT-105

I) 8240 Surrogate Standards (from page 1.)

Sample I.D.	D4-1,2-Dichloro- ethane (%)	D8-Toluene (%)	Bromofluoro- benzene (%)
HW-9A-1A	121.2%	106.6%	93.0%
HW-9A-2	118.2%	110.2%	106.8%
HW-9A-3	122.6%	108.0%	105.6%
HW-9A-4	120.8%	108.0%	92.6%
HW-9A-5	120.6%	108.6%	98.8%
HW-9A	122.8%	110.8%	104.2%
HW-7-1	120.6%	115.6%	104.2%
HW-7-2	120.4%	115.0%	101.2%
HW-7-3	118.5%	110.3%	102.3%
HW-7-4	116.2%	112.4%	104.3%
HW-7-5	104.3%	108.0%	95.7%
HW-7	103.6%	95.7%	88.4%
HW-6-1	104.5%	93.4%	90.5%
HW-6B-1	101.7%	96.4%	89.5%
HW-6B-2	98.6%	95.4%	93.7%
HW-6B-3	104.7%	98.5%	95.4%
HW-6B-4	103.8%	98.8%	95.8%
HW-6B-5	117.6%	96.5%	92.4%
HW-6B	103.8%	98.1%	91.4%
HW-8-6	112.4%	96.2%	96.8%
HW-9-5 SPIKE	110.5%	101.5%	94.7%
HW-9-5 DUP. SPIKE	106.4%	98.4%	95.3%

(continued on next page)

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

page 3.

April 28, 1992

ChromaLab File # 0492096

Wahler Associates/Walnut Creek

0492117

0492122

0492134

Attn: Ray Kahler

Re: Surrogate standard recoveries for 8240 and 8270 analyses

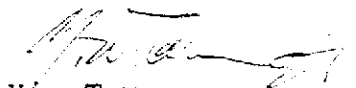
Project Name: Cal Trans

Project Number: CDT-105

II) 8270 Surrogate Standards

Sample I.D.	Nitro-Benzene D5	2-Fluoro Biphenyl	Terphenyl D14	Phenol D5	2-Fluoro-Phenol	246-Tri-bromophenol
HW-11	84.2%	83.8%	83.6%	80.2%	81.5%	78.6%
HW-11-3	86.0%	84.7%	81.8%	77.0%	85.2%	83.2%
HW-13-1	84.0%	82.6%	83.7%	82.5%	84.0%	81.0%
HW-13	82.0%	86.1%	82.3%	82.1%	82.6%	77.0%
HW-7-2	88.3%	91.2%	75.0%	84.0%	78.7%	75.2%
HW-7	84.2%	92.5%	85.7%	79.6%	81.7%	76.7%
HW-11-3 SPIKE	83.7%	83.1%	76.2%	85.2%	82.1%	83.0%
HW-11-3 D.SPIKE	84.2%	84.7%	82.0%	82.5%	81.9%	79.2%

ChromaLab, Inc.



Yiu Tam
Analytical Chemist



Eric Tam
Laboratory Director



Wahler Associates

1023 Corporation Way
P.O. Box 10023
Palo Alto, CA 94303
EAX: (415) 968-5365
(415) 968-6250

*Julian
Cook
Office*

CHAIN OF CUSTODY FORM

Serial Number: _____

WA Authorization: _____

Laboratory: *Wahler*

Sheet 1 of 2

Turnaround Time: *1 day*

Sampler: *Todd Murray*

Results To: *Roy Kahler*

Recorder: *Todd Murray*
Signature required

Project: *Cal Trans*

Job Number: *CDI-105*

Project Manager: *Roy Kahler*

Date: *4/9/92*

ITEM NO.	SAMPLE NUMBER	DATE AND TIME SAMPLED		MATRIX	# CONTAINERS & PRESERVATIVES			ANALYSIS REQUESTS						COMMENTS	
		Date	Time		UNPRESERVED	H ₂ SO ₄	HNO ₃	TCI	As	Pb	Cd	Mn	TPH-G		324D
1	HW-5-1	<i>4/9/92</i>	<i>8:15</i>	<i>Soil</i>	1			X	X	X	X	X	X		
2	HW-5-2		<i>8:30</i>	<i>Soil</i>	1			X	X	X	X	X			
3	HW-5-3		<i>8:35</i>	<i>Soil</i>	1			X	X	X	X	X			
4	HW-5		<i>9:00</i>	<i>H₂O</i>	3	1	5	X	X	X	X	X	X	<i>Sheets on water</i>	
5	HW-4-1		<i>9:40</i>	<i>Soil</i>	1			X	X	X	X	X			
6	HW-4-2		<i>9:45</i>	<i>Soil</i>	1			X	X	X	X	X			
7	HW-4-3		<i>9:50</i>	<i>Soil</i>	1			X	X	X	X	X			
8	HW-4		<i>10:00</i>	<i>Water</i>	1	1	4	X	X	X	X	X		<i>Sheets on water</i>	
9	HW-3-1		<i>10:50</i>	<i>Soil</i>	1			X	X	X	X	X			
10	HW-2-1		<i>11:55</i>	<i>Soil</i>	1			X	X	X	X	X			
11	BS-1		<i>8:40</i>	<i>H₂O</i>											
12	Trip Blank		<i>-</i>	<i>H₂O</i>											

CHROMALAB FILE # 492095
ORDER # 6048

MISCELLANEOUS

Number of Coolers: 2

Type of Coolant: ICE

COMMENTS:

LABORATORY COPY WHITE PROJECT COPY YELLOW FIELD or OFFICE COPY PINK

CHAIN OF CUSTODY RECORD

Relinquished by: (signature & affiliation)	Received by: (signature & affiliation)	Date/Time
Relinquished by: (signature & affiliation)	Received by: (signature & affiliation)	Date/Time
Relinquished by: (signature & affiliation)	Received by: (signature & affiliation)	Date/Time
Relinquished by: (signature & affiliation)	Received by: (signature & affiliation)	Date/Time
Dispatched by: (signature & affiliation)	Received for lab by: (signature & affiliation)	Date/Time

4/9/92 11:40

Wahler Associates

1023 Corporation Way
P.O. Box 10023
Palo Alto, CA 94303
FAX: (415) 968-5365
(415) 968-6250

CHAIN OF CUSTODY FORM

Serial Number: _____
WA Authorization: _____
Sheet 1 of 4
Samplers: Todd Murray
Recorder: Todd Murray
signature required

Laboratory: Chromalab
Turnaround Time: Normal 5 day
Results To: Ray Kahler

Project: CAL TRANS
Job Number: CDT-105
Project Manager: Ray Kahler
Date: 4/10/1992

CHROMALAB FILE # 492117
ORDER # 6072

ITEM NO.	SAMPLE NUMBER	DATE AND TIME SAMPLED		MATRIX	# CONTAINERS & PRESERVATIVES			ANALYSIS REQUESTED /							COMMENTS	
		Date	Time		UNPRESERVED	H ₂ SO ₄	HNO ₃	HCl	Base	Oil/Grease	GC/PC	Heavy Metals	TAH-G	8270		TAH-D
1	HW-13-1	4/9/92	4:50	Soil	1				X	X	X	X	X	X	X	Please split sample
2	BS-2		5:00	H ₂ O			2		NON							
3	HW-13-2		5:15	Soil	1				X	X	X			X		
4	HW-13		5:30	H ₂ O					X	X	X	X		X		
5	HW-10-1	4/10/92	8:10	Soil	1				X	X	X			X		Head space / split
6	BS-3		8:25	H ₂ O			2		NON							
7	HW-10-2		8:30	Soil	1				X	X	X			X		
8	HW-10-3		8:35	Soil	1				X	X	X			X		
9	HW-10-4		8:40	Soil	1				X	X	X			X		
10	HW-10-5		8:55	Soil	1				X	X	X			X		
11	HW-10		9:15	H ₂ O	3	1	1		X	X	X			X		
12	HW-9-1		10:00	Soil	1											Glass jar off flight (HOLD)

MISCELLANEOUS

Number of Coolers: 3
Type of Coolant: ICE

COMMENTS:
Normal 5 day T.A.T.
Metals samples are unfiltered, please filter.
(X) PER RAY KAHLER (H₂O) 4/13

LABORATORY COPY WHITE PROJECT COPY YELLOW FIELD or OFFICE COPY PINK

CHAIN OF CUSTODY RECORD

Relinquished by: (signature & affiliation)	Received by: (signature & affiliation)	Date/Time
Relinquished by: (signature & affiliation)	Received by: (signature & affiliation)	Date/Time
Relinquished by: (signature & affiliation)	Received by: (signature & affiliation)	Date/Time
Relinquished by: (signature & affiliation) <u>Todd Murray (WA) 4/10/92 6:10pm</u>	Received by: (signature & affiliation)	Date/Time
Dispatched by: (signature & affiliation)	Received for lab by: <u>Worwick</u>	Date/Time: <u>4/10/92 6:10pm</u>



Wahler Associates

1023 Corporation Way
P.O. Box 10023
Palo Alto, CA 94303
FAX: (415) 968-5365
(415) 968-6250

CHAIN OF CUSTODY FORM

Laboratory: Chignole
Turnaround Time: 5 Day
Results To: Ray Kahler

Serial Number: _____
WA Authorization: _____
Sheet 3 of 4
Samplers: Todd Murray
Recorder: Todd Murray
signature required

Project: Cal Trans
Job Number: CDT-105
Project Manager: Ray Kahler
Date: 4/10/92

ITEM NO.	SAMPLE NUMBER	DATE AND TIME SAMPLED		MATRIX	# CONTAINERS & PRESERVATIVES			ANALYSIS REQUESTED / TYPE OF CONTAINER							COMMENTS	
		Date	Time		UNPRESERVED	H ₂ SO ₄	HNO ₃	HCl	Trace Metals	Trace Metals	Trace Metals	Trace Metals	Trace Metals	Trace Metals		Trace Metals
1	HW-7-1	4/10/92	2:15	Soil	1				X	X	X	X	X	X	X	half full
2	HW-7-2	}	2:30	Soil	1				X	X	X	X	X	X	X	missed jar/shen
3	HW-7-3		2:45	Soil	1				X	X	X	X	X	X	X	
4	HW-7-4		2:50	Soil	1				X	X	X	X	X	X	X	
5	HW-7-5		3:00	Soil	1				X	X	X	X	X	X	X	
6	HW-7 (7)		3:15	H ₂ O	2	1	1		X	X	X	X	X	X	X	Shen on water
7	HW-6-1		4:20	Soil	1											missed jar (Hold)
8	HW-6 ^A -X ^m -1		4:40	Soil	1											missed jar (Hold)
9	HW-6 ^B -X ^m -1		5:05	Soil	1				X	X	X	X	X	X	X	please split
10	HW-6 ^B -X ^m -2		5:10	Soil	1				X	X	X	X	X	X	X	please split
11	HW-6 ^B -X ^m -3		5:15	Soil	1				X	X	X	X	X	X	X	
12	HW-6B-4		5:20	Soil	1				X	X	X	X	X	X	X	

MISCELLANEOUS

Number of Coolers: 3
Type of Coolant: ICE

COMMENTS:
Normal 5 Day T.A.T.
Metals samples (H₂O) are unfiltered, please filter.

LABORATORY COPY WHITE PROJECT COPY YELLOW FIELD or OFFICE COPY PINK

CHAIN OF CUSTODY RECORD

Relinquished by: (signature & affiliation)	Received by: (signature & affiliation)	Date/Time
Relinquished by: (signature & affiliation)	Received by: (signature & affiliation)	Date/Time
Relinquished by: (signature & affiliation)	Received by: (signature & affiliation)	Date/Time
Relinquished by: (signature & affiliation) <u>Todd Murray (WA)</u>	Received by: (signature & affiliation)	Date/Time
Dispatched by: (signature & affiliation) <u>Todd Murray</u>	Received for lab by: (signature & affiliation) <u>Gary Cook</u>	Date/Time <u>4/10/92 6:10 pm</u>



Wahler Associates
 1023 Corporation Way
 P.O. Box 10023
 Palo Alto, CA 94303
 FAX: (415) 968-5365
 (415) 968-6250

CHAIN OF CUSTODY FORM

Serial Number: _____
 WA Authorization: _____
 Sheet 4 of 4
 Samplers: Todd Murray
 Recorder: Todd Murray
Signature required

Laboratory: Chem Lab
 Turnaround Time: 5 DAY
 Results To: Ray Kahler

Project: CAL TRANS
 Job Number: CDT-105
 Project Manager: Ray Kahler
 Date: 4/10/92

ITEM NO.	SAMPLE NUMBER	DATE AND TIME SAMPLED		MATRIX	# CONTAINERS & PRESERVATIVES				ANALYSIS REQUESTED / TYPE OF CONTAINER							COMMENTS	
		Date	Time		UNPRESERVED	H ₂ O ₂	HNO ₃	TCU	Trace Metals	Trace Metals	Trace Metals	Trace Metals	Trace Metals	Trace Metals	Trace Metals		
1	HW-6B.5	4/10/92	5:30	Soil	1				X	X	X	X	X	X	X	X	
2	HW-6B	"	5:45	H ₂ O	2	1	1		X	X	X	X	X	X	X	X	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	

MISCELLANEOUS		CHAIN OF CUSTODY RECORD	
Number of Coolers <u>3</u>	Type of Coolant <u>KE</u>	Relinquished by: (signature & affiliation)	Received by: (signature & affiliation) _____ Date/Time _____
COMMENTS: <u>5 DAY T.A.T.</u> <u>Water sample unfiltered for metals.</u> <u>Please filter</u>		Relinquished by: (signature & affiliation)	Received by: (signature & affiliation) _____ Date/Time _____
		Relinquished by: (signature & affiliation)	Received by: (signature & affiliation) _____ Date/Time _____
		Relinquished by: (signature & affiliation)	Received by: (signature & affiliation) _____ Date/Time _____
		Relinquished by: (signature & affiliation)	Received by: (signature & affiliation) _____ Date/Time _____
LABORATORY COPY WHITE PROJECT COPY YELLOW FIELD or OFFICE COPY PINK		Dispatched by: <u>Todd Murray</u> (Signature) <u>4/10/92 6:10 pm</u> (Date/Time)	Received for lab by: <u>Ray Kahler</u> (Signature) <u>4/10/92 6:10 pm</u> (Date/Time)

CHAIN OF CUSTODY RECORD

BCA Log Number _____

Client name: BC Analytical for ENSR				Project or PO#			
Address				Phase #			
City, State, Zip			Report attention				
Lab Sample number	Date sampled	Time sampled	Type* See key below	Sampled by	Number of containers	Analyses required	Remarks
				Sample description			
	4/10		SO	HW-8-6	1	PHE PPH PCB CDCEP / MBUNN TPH-G TPH-D Hazardous sample Special handling required	split sample CALL Rich Bauer Regarding TAT Due 4/20 BILL WAHLER W.C. RAY KAHLER

Signature	Print Name	Company	Date	Time
<i>[Signature]</i>	R. Bauer	BCA	4/14	1010
<i>[Signature]</i>	Bill Lyons	B.C.A.	4-14-92	1015
<i>[Signature]</i>	Bill Lyons	B.C.A.	4-14-92	3:45
<i>[Signature]</i>	Ronald Halsue	Chronolab	4/14/92	3:45
Relinquished by				
Received by Laboratory				

BC ANALYTICAL
 1255 Powell Street, Emeryville, CA 94608 (510) 428-2300
 801 Western Avenue, Glendale, CA 91201 (818) 247-5737
 1200 Gene Autry Way, Anaheim, CA 92805 (714) 978-0113

Note: Samples are discarded 90 days after results are reported unless other arrangements are made.
 Hazardous samples will be returned to client or disposed of at client's expense.
 Disposal arrangements: _____

*KEY WW—Wastewater SU—Surface Water SO—Soil
 SL—Sludge PE—Petroleum OT—Other
 NA—Nonaqueous GW—Groundwater AQ—Aqueous