SITE INVESTIGATION REPORT 12/4/96

Environmental Site Investigation
Oakland Site - 6th Street and Castro Street
Hayward Site - Foothill Boulevard and Mattox Road

Prepared For:

California Department of Transportation
Office of Environmental Engineering
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Oakland, California 94623-0660

Prepared By:

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Task Order No. 04-952137-03
Caltrans Contract No. 43Y097

December 4, 1996
769025

Sacramento Regional Office

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Project No. 769025
December 4, 1996

California Department of Transportation
District 4 - Environmental Engineering
P.O. Box 23660
Oakland, California 94623-0660

Attention: Mr. Michael Flake, Contract Manager

Subject: SITE INVESTIGATION REPORT
HAYWARD AND OAKLAND, CALIFORNIA EXCESS LAND
FOOTHILL BLVD AND MATTOX ROAD PARCEL
6TH AND CASTRO STREET PARCEL

Dear Mr. Flake:

IT Corporation (IT) has prepared this Site Investigation Report for Caltrans in accordance with Task Order No. 04-952137-03 and Caltrans Contract No. 43Y097. The report presents the results of environmental site investigation at the above-referenced properties located in Oakland and Hayward, California. The properties have been identified as excess land for sale. The purpose of the Task Order was to conduct soil and water sampling and analysis for contaminants of concern.

If there are any questions concerning the contents of this report, or if IT can be further service, please contact me at your convenience.

Respectfully,
IT CORPORATION

Michael D. Miller, RG
Project Manager

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Dave Smith
Project Geologist

Michael D. Miller, R.G.
Project Manager

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1.0 Introduction

IT Corporation (IT) has prepared this report to present the results of environmental site investigations at properties located in Oakland and Hayward, California. The project is being conducted at the request and authorization of Mr. Michael Flake of the California Department of Transportation (Caltrans) under Task Order No. 04-952137-03 (Contract No. 43Y097).

1.1 Site Description

The Oakland site is a fenced, unpaved, and vacant lot located at the north corner of 6th Street and Castro Street in the City of Oakland, California (Figure 1). The site formerly consisted of many parcels which were utilized by a variety of different businesses. Land use of the area surrounding the site is primarily residential and commercial. Route 880 (under construction) and Route 980 lie immediately to the west, south and east of the site.

The Hayward site is located at the south corner of Foothill Boulevard and Mattox Road in the City of Hayward, California (Figure 2). The site is a former gasoline service station that is currently fenced and vacant, and covered with gravel, asphalt, and concrete. The site is located in a residential/commercial area one block southeast of Interstate 580 and Highway 238.

Both properties are owned by Caltrans and have been identified as excess land for sale.

1.2 Project History

Based on the Site Investigation Report prepared by Geocon Environmental Consultants Inc. (Geocon) in October 1995, the Oakland site formerly consisted of several parcels which were occupied by a variety of different businesses including a service station, auto repair and machine shop, dairy and laundry facilities, materials warehouse, and retail stores. In general, the utilization of this property occurred prior to 1977. At least four underground storage tanks (USTs) were associated with the former service station, dairy, and warehouse. The USTs were removed during the 1970s.

The most recent site investigation was conducted in July 1995 by Geocon. This investigation revealed that oil and grease concentrations were present in the soil up to 8,000 ppm and total lead concentrations ranged from [redacted] ppm. Twelve total lead samples exceeded the Total

Threshold Limit Concentration (TTLC) of 1,000 mg/kg or 10 times the Soluble Threshold Limit Concentration (STLC) of 5.0 mg/l. TPH-gasoline, TPH-diesel, and BTEX were not present above laboratory detection limits.

The Hayward site was formerly an Exxon gasoline service station. The service station was demolished in the late 1970s and the USTs were removed from the site in 1979. No soil sampling was performed during the UST removals. In July 1995, Geocon conducted a site investigation which indicated that oil and grease concentrations were present up to 7,200 ppm. TPH-gasoline, TPH-diesel, and BTEX were not present above laboratory detection limits. In addition, the investigation revealed that two soil samples exceeded the TTLC or 10 times the STLC with concentrations of 100 mg/kg and 2,400 mg/kg. of what — lead?

1.3 Project Objectives

Based on the results of the site investigation conducted by Geocon in July 1995, Caltrans requested IT to collect soil and groundwater samples for petroleum and chlorinated hydrocarbon analyses in order to better determine the lateral and vertical extent of impacted soil and groundwater at the Oakland and Hayward sites.

2.0 Scope of Work

To achieve the project objectives, a scope of work consisting of the following five tasks has been prepared. A discussion of these tasks and component subtasks follows.

2.1 Planning and Permitting

The planning and permitting task includes the pre-work site visit, preparation of a health and safety plan, the acquisition of the required permits, and clearance of all underground utilities.

2.1.1 Pre-work Site Visit

A pre-work site visit at the Oakland and Hayward sites was conducted on October 2, 1996. The visit was attended by Mr. Michael Flake and Mayur Barbhaiya of Caltrans, and Michael Miller of IT. The drilling locations were marked at each site. At the pre-work site visit, the task order was reviewed and the site visit check list, completion schedule, and notice to proceed with investigative work were executed by Caltrans and IT's project manager.

2.1.2 Health and Safety Plan

A site-specific health and safety plan was prepared for the Oakland and Hayward sites in accordance with 29 CFR 1910.120. The health and safety plan includes safety procedures for work to be performed at each site, chemical hazard information, site safety officers, and preferred medical emergency locations.

2.1.3 Permits and Utility Clearances

Prior to performing work at the Oakland and Hayward sites, drilling and encroachment permits were obtained (Appendix A). For the each site, a drilling permit was obtained from the Zone 7 Water Agency and an encroachment permit from Caltrans. IT notified Underground Service Alert (USA) to perform a routine utility clearance inspection 48 hours prior to drilling.

2.2 Field Investigation

The field investigation consisted of a soil boring program with the collection of five soil samples per boring. At the Oakland site, the investigation also included the collection of groundwater samples from four of the borings. The soil boring locations for the Oakland and Hayward sites are presented on Figures 3 and 4, respectively.

At the Oakland site, a total of eleven soil borings were drilled. Seven of the soil borings were advanced to 15 feet below ground surface (bgs), one soil boring was advanced to 20 feet bgs, and three were advanced to 23 feet bgs. The soil borings were drilled using a Mobile B-61 drill rig equipped with 6-inch diameter hollow-stem augers. From each of the soil borings, soil samples were collected at approximately 0.5, 2.5, 6.5, 10.5, 14.5 feet bgs using a California modified split spoon sampler.

A total of four groundwater grab samples were collected from the Oakland site. To facilitate this, the soil borings were drilled approximately two feet below first encountered groundwater. Scrape samples were collected from the top 1-inch of material at every fourth boring location to establish exposure levels for health and safety purposes.

At the Hayward site, eight soil borings (B2-2 to B2-9) were advanced to 15 feet bgs using a Mobile B-61 drill rig equipped with 6-inch diameter hollow-stem augers. One soil boring (B2-1)

was only advanced to 6 feet bgs due to drilling refusal. From all borings except B2-1, soil samples were collected at 0.5, 2.5, 6.5, 10.5, 14.5 feet bgs using a California modified split spoon sampler. Scrape samples will be collected from the top 1-inch of material at every fourth boring location to establish exposure levels.

Detailed logs were prepared for each boring under the direction of a California registered geologist and are presented in Appendix B. The Unified Soil Classification System was used to compile the logs. Soil samples were screened in the field using a portable organic vapor meter (OVM) for the presence of volatile organic compounds. The 18-inch California-modified soil sampler held three, 6-inch by 2-inch sample tubes and was driven using standard penetration test procedures. Upon removal from the sampler, soil samples were capped with plastic end caps, labeled, and immediately placed in a pre-cooled ice chest. The samples were transported to a California-certified hazardous waste laboratory following chain-of-custody procedures.

Sampling equipment was cleaned between each soil boring by washing the equipment with an Alconox solution followed by a double rinse with deionized water. The rinsate was contained in a new Department of Transportation (DOT) approved 55-gallon drum. The soil borings were backfilled with a 20:1 cement/bentonite grout to ground surface.

2.3 Laboratory Analyses

Laboratory analyses of soil and groundwater samples collected during the field investigation included combinations of the following test methods:

EPA Method 6010 ICAP Single Element (Lead)
22 CCR 66700 Waste Extraction Test (WET)
EPA Method 7000 (Lead)
EPA Method 1311 Toxicity Characteristic Leaching Procedure (TCLP)
EPA Method 9045 Soil pH
Std Method 5520 for Oil and Grease
EPA Method 8015 Mod-TPH as gasoline
EPA Method 8015 Mod-TPH as Diesel
EPA Method 8020 for aromatic volatile organic compounds (BTEX)
EPA Method 8010 for Halogenated Volatile Organics (VOCs)

The following guidelines were used in selecting the analyses appropriate for each sample:

Soil samples collected from depths up to 6.5 feet bgs were tested for total lead. Ten percent of these soil samples from each site, chosen at random, were tested for soil pH.

When total lead concentrations exceeded more than 10 times the Soluble Total Lead Concentration (STLC), the contract manager was contacted for authorization to proceed with the Waste Extraction Test (WET). When soluble concentrations exceeded the STLC, the WET was performed using citrate as the extraction solution (as requested by the Contract Manager). The need for TCLP analysis shall be evaluated by the Contract Manager after review of STLC results.

Soil samples collected at 6.5, 10.5, 14.5 feet bgs and groundwater samples were tested for TPH-gasoline, TPH-diesel, and BTEX. All soil samples except surface samples, taken up to a depth of 6.5 feet bgs were tested for oil and grease.

Samples, except the surface samples, collected from borings B1-3, B1-4, B1-6, and B1-10 and the groundwater samples were tested for volatile organic compounds (TCE, PCE, TCA, and vinyl chloride) by EPA Method 8010.

Two QA/QC samples from each site were analyzed for VOCs. Each site had an equipment rinse blank and a trip blank was analyzed for VOCs. All samples were analyzed at standard turnaround time.

2.4 Disposition of Investigation Derived Waste

Soil cuttings and equipment rinsate generated during drilling were placed in new DOT approved 55-gallon drums for temporary storage at each of the sites. All drums were fitted with a gasket lid, and then closed with a bolted sealing ring. The rings were tightened so that the contents of the drums are secure from spillage. Each drum was labeled with its contents, origin of contents and date generated. Waste soil will be profiled using the analytical results from the soil sampling and if possible, disposed of as non-hazardous waste at a sanitary landfill. Waste water will be profiled as non-hazardous waste, removed from the site, and recycled.

3.0 Investigation Results

3.1 Site Geology

3.1.1 Oakland Site

Subsurface materials encountered during drilling at the Oakland site generally consisted of 1 to 2-feet of fill materials overlying alluvial deposits. The fill material was typically asphalt and road base. Alluvial deposits generally consisting of poorly graded (90 to 100 % fine-grained), medium dense sand, were encountered to the maximum depth drilled of 23 feet. Groundwater was initially encountered at depths ranging from 15 feet (numerous borings) to 22 feet (B1-4 and B1-6). Borings logs for the field investigation are presented in Appendix B.

3.1.2 Hayward Site

Subsurface materials encountered during drilling at the Hayward site generally consisted of alluvial soils overlying serpentine bedrock. Alluvial deposits generally consisted of silty sands to sand with silt overlying a clay deposit which often exceeded 10-feet thick. The bottom of the clay unit is in contact with the serpentine bedrock. The upper portion of the bedrock is often weathered and soft, but in at least one boring became fresh and very dense within four feet.

3.2 Analytical Results

The results of laboratory analysis of soil and groundwater samples are summarized on Table 1 through 4. Boring locations and detected analytes for each site are posted on Figures 3 and 4. Laboratory reports and chain-of-custody records are presented in Appendix C.

3.2.1 Oakland Site

Laboratory analysis of soil and groundwater samples at the Oakland site revealed the following:

Petroleum Hydrocarbons

TPH-Gasoline:
- -Soil samples collected from 78, 126, and 174-inches from all 11 borings;
- -Groundwater samples collected from B1-4, B1-6, B1-8, and B1-11;
- -Soil samples from borings B1-1 through B1-10 were ND (not detected);
- *-Boring B11 revealed 1,100 ppm at 126-inches and 13 ppm at 174-inches;*

-*Groundwater sample collected from B1-11 revealed 1,700 ppb gasoline and 51 ppb benzene.*

TPH-Diesel:
-Soil samples collected from 78, 126, and 174-inches from all 11 borings;
-Groundwater samples were collected from B1-4, B1-6, B1-8, and B1-11;
-Soil samples collected from borings B1-1 through B1-11 were ND;
-Groundwater samples were ND.

Oil & Grease:
-Soil samples collected from 6, 30, and 78-inches from all 11 borings; 0.5' 2.5' 6.5'
-Samples from borings B1-1 through B1-11 were ND. ← Not True according to Fig. 3.

Halogenated Volatile Organics

EPA Method 8010:
-Soil samples were collected from 6, 30, 78, 126, and 174-inches from borings B1-3, B1-4, B1-6, and B1-10;
-Groundwater samples were collected from B1-4, B1-6, B1-8, and B1-11;
-Soil samples were ND;
-Groundwater samples from borings B1-4, B1-6, and B1-8 were ND;
-*Groundwater sample from boring B1-11 revealed 5.4 ppb of 1,2-Dichloroethane and 0.9 ppb 1,2-Dichloropropane.*

Total Lead, STLC Lead, and pH

Total Lead:
-Soil samples collected from 1, 6, 30, and 78-inches from all borings;
-Lead concentrations did not exceed the TTLC value; but
-12 samples collected from 1 and 6-inches revealed a concentration greater than 10 times the STLC value of 5 mg/L (ranging from 59 to 397 ppm).

STLC Lead
-*The results of the WET revealed that six samples (ranging from 5.5 to 24 mg/L) exceeded the STLC limit of 5 mg/L.*

pH
- Soil samples collected from borings B1-1, B1-7, B1-10, and B1-11; and
- pH ranged from 6.3 to 7.9.

3.2.2 Hayward Site

Laboratory analysis of soil samples at the Hayward site revealed the following:

Petroleum Hydrocarbons

TPH-Gasoline:
-Soil samples collected from 78, 126, and 174-inches from borings B2-2 through B2-9 (B2-1 hit refusal at 72-inches);
-No groundwater samples were collected;
-Soil samples from all borings were ND for gasoline and BTEX.

TPH-Diesel:
-Soil samples collected from 78, 126, and 174-inches from borings B2-2 through B2-9 (B2-1 hit refusal at 72-inches);
-Soil samples from all borings were ND.

Oil Greasese:
-Soil samples typically collected from 6, 30, and 78-inches from all borings;
-Soil samples from borings B2-2 were ND;
-Soil samples from borings B2-1, and B2-3 through B2-9 revealed concentrations ranging from 60 to 480 ppm.

Total Lead and STLC Lead

Total Lead:
-Soil samples were collected from 1, 6, 30, and 78-inches from all borings;
-Lead concentrations did not exceed the TTLC value; but,
-1 surface soil sample collected from 1-inch at B2-4 revealed a concentration greater than 10 times the STLC value (92 ppm).

STLC Lead
-The results of the WET revealed that the soluble concentration (3.5 mg/L) did not exceed the STLC (5 mg/L).

4.0 Data Evaluation

At the Oakland site, TPH-gasoline was detected at boring location B1-11 in both soil and groundwater. Analysis of soil sample, B1-11-126, detected 1,100 mg/kg of gasoline. This sample was collected approximately 1 meter from the shallow groundwater surface. Typical clean-up levels for gasoline impacted soil in close proximity to groundwater range from ND to 100 ppm.

Analysis of the groundwater sample, B1-11-GW, detected 1,700 ppb gasoline and 51 ppb benzene. The California Department of Health Services provides Primary MCLs (maximum contaminant levels) for Drinking Water Standards and lists benzene at 1 ppb. MCLs are not listed for gasoline. The sample, B1-11-GW, also contained 5.4 ppb of 1,2-Dichloroethane (1,2-DCA) and 0.9 ppb 1,2-Dichloropropane. The Primary MCLs for 1,2-DCA and 1,2-Dichloropropane are listed as 0.5 ppb and 5.0 ppb, respectively in the Water Quality Goals by the RWQCB (1993).

Potentially hazardous lead concentrations were encountered within the top six-inches at (6) soil boring locations at the Oakland site. Excavated soil with lead concentrations above the STLC value of 5 mg/L is considered a hazardous waste by the California Environmental Protection Agency (Cal-EPA). As a result, shallow soil excavated from these areas would require special handling and disposal as a hazardous waste.

At the Hayward site, concentrations of Oil and Grease ranging from 60 to 480 mg/kg were encountered at depths varying 0 to 6 feet at nearly every boring location. Clean-up levels for Oil and Grease impacted soil could range from background to 1,000 mg/kg, based on distance to groundwater and site development plans.

5.0 Conclusions and Recommendations

Based on the laboratory results, current regulatory guidelines, and the judgement of IT the following conclusions and recommendations are offered.

5.1 Oakland Site

Elevated concentrations of TPH-gasoline in soil and groundwater have been encountered near boring B1-11. Analysis of soil sample B1-11-126 detected **1,100 ppm TPH-gasoline**. Analysis of groundwater sample B1-11-GW detected **1,700 ppb TPH-gasoline and 51 ppb benzene**. This benzene concentration exceeds MCLs for drinking water.

In addition, analysis of groundwater sample B1-11-GW detected VOCs 1,2- Dichloroethane at 5.4 ppb and 1,2-Dichloropropane at 0.9 ppb. This concentration of 1,2-DCA exceeds the MCLs. Additional investigation would be required to assess the lateral and vertical extent of impacts to soil and groundwater. Given the sandy soils and shallow groundwater at the site, the extent could be evaluated quickly by groundwater sampling with a Direct Push Drilling program. It is likely that the RWQCB will want to confirm the presence of impact to the groundwater with the installation of a groundwater monitoring well.

5.2 Hayward Site

Concentrations of Oil and Grease ranging from 60 to 480 mg/kg were encountered at the Hayward site. Oil and Grease analysis was conducted on samples collected from 6- to 174-inches, and the highest concentration (480 mg/kg) was reported from 12-inches at boring B2-8. Previous investigation (1995) encountered Oil and Grease concentrations of **7,200 mg/kg** at 17 feet at a location near boring B2-3. Analytical results from B2-3 indicate that the source for the high concentrations found at one location in 1995 is elsewhere. A indication of the nature of the Oil and Grease found previously at 17 feet bgs comes from sample B2-2-174. When analyzed for TPH-D, the laboratory indicated that TPH as motor oil was present.

no gw monitoring

Low levels of Oil and Grease were encountered in near surface soils (0-6 feet) during this investigation and in our judgement the regulatory community would likely not require active remediation. Further assessment may be required to confirm or better understand the origin and extent of the presence of Oil and Grease at higher concentrations at depth. This may be

accomplished by reviewing the data with the appropriate regulatory agencies. If additional site assessment is conducted, LUFT Method 8015 for TPH-motor oil should be included for soil samples collected at deeper depths.

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

Soil

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

continued on next page

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

GW.

CONTINUED

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

NOTES:

mg/kg = miligams per kilogram (approximately equivalent to parts per million, ppm)

ug/L = micrograms per liter (approximately equivalent to parts per billion)

* hydrocarbon nontypical for diesel present at 58 ppm

* * hydrocarbon nontypical for diesel present at 1100 ppb

* * * hydrocarbon nontypical for diesel present at 970 ppb

TABLE 2
RESULTS OF SOIL ANALYSIS
PETROLEUM HYDROCARBONS
CAL TRANS - HAYWARD SITE

SAMPLE	DATE	SOIL DEPTH	TPH-G	TPH-D	OIL & GREASE	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES
		inches	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
B2-1-6	10/15/96	6			80				
B2-1-30	10/15/96	30			ND				
B2-2-6	10/15/96	6			ND				
B2-2-30	10/15/96	30			ND				
B2-2-78	10/15/96	78	ND	ND	ND	ND	ND	ND	ND
B2-2-126	10/15/96	126	ND	ND		ND	ND	ND	ND
B2-2-174	10/15/96	174	ND	ND *		ND	ND	ND	ND
B2-3-6	10/15/96	6			ND				
B2-3-30	10/15/96	30			60				
B2-3-78	10/15/96	78	ND	ND	ND	ND	ND	ND	ND
B2-3-126	10/15/96	126	ND	ND		ND	ND	ND	ND
B2-3-174	10/15/96	174	ND	ND		ND	ND	ND	ND
B2-4-6	10/15/96	6			280				
B2-4-30	10/15/96	30			ND				
B2-4-78	10/15/96	78	ND	ND	ND	ND	ND	ND	ND
B2-4-126	10/15/96	126	ND	ND		ND	ND	ND	ND
B2-5-6	10/15/96	6			ND				
B2-5-30	10/15/96	30			ND				
B2-5-78	10/15/96	78	ND	ND	180	ND	ND	ND	ND
B2-5-126	10/15/96	126	ND	ND		ND	ND	ND	ND
B2-5-174	10/15/96	174	ND	ND		ND	ND	ND	ND
B2-6-6	10/15/96	6			200				
B2-6-30	10/15/96	30			120				
B2-6-78	10/15/96	78	ND	ND	80	ND	ND	ND	ND
B2-6-126	10/15/96	126	ND	ND		ND	ND	ND	ND
B2-6-174	10/15/96	174	ND	ND		ND	ND	ND	ND
B2-7-6	10/15/96	6			120				
B2-7-30	10/15/96	30			60				
B2-7-78	10/15/96	78	ND	ND	100	ND	ND	ND	ND
B2-7-126	10/15/96	126	ND	ND		ND	ND	ND	ND
B2-7-174	10/15/96	174	ND	ND		ND	ND	ND	ND
B2-8-12	10/15/96	12			480				
B2-8-78	10/15/96	78	ND	ND	60	ND	ND	ND	ND
B2-8-126	10/15/96	126	ND	ND		ND	ND	ND	ND
B2-8-174	10/15/96	174	ND	ND		ND	ND	ND	ND
B2-9-6	10/15/96	6			140				
B2-9-30	10/15/96	30			ND				
B2-9-78	10/15/96	78	ND	ND	160	ND	ND	ND	ND
B2-9-126	10/15/96	126	ND	ND		ND	ND	ND	ND
B2-9-174	10/15/96	174	ND	ND		ND	ND	ND	ND

NOTES:

mg/kg = miligams per kilogram (approximately equivalent to parts per million, ppm)

ND = Compound not detected at or above the method detection limit

* TPHmotor oil is present

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

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

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

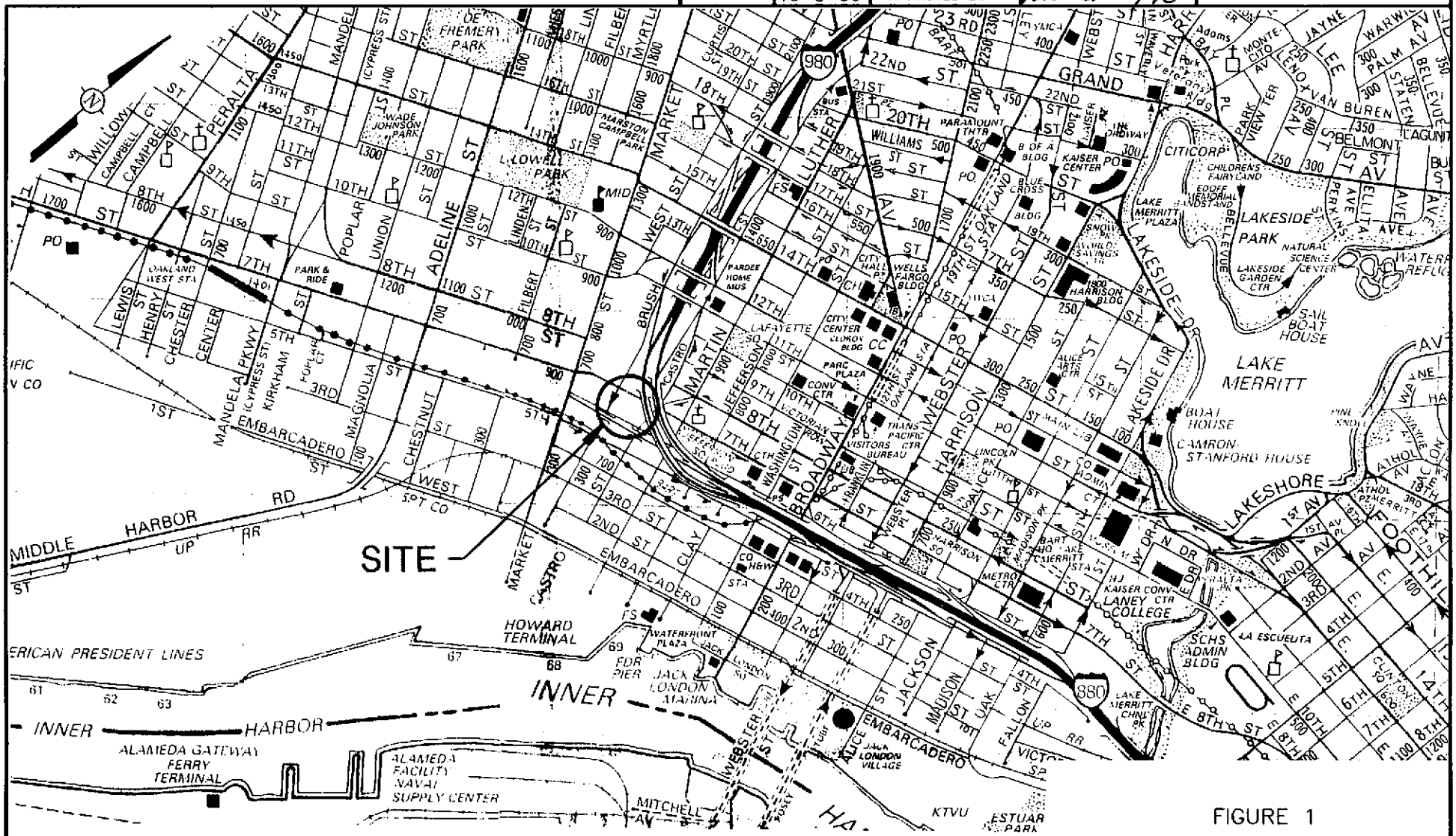
SAMPLE	DATE	SOIL DEPTH	EPA METHOD 6010 TTLC LEAD	EPA METHOD 6010 STLC LEAD	EPA METHOD 6010 TCLP LEAD	pH
		inches	mg/kg	mg/L	mg/L	
B1-1-6	10/16/96	6	149	11	0.55	
B1-1-30	10/16/96	30	2.9			7.4
B1-1-78	10/16/96	78	2.9			
B1-2-1	10/16/96	1	138	5.5	0.22	
B1-2-6	10/16/96	6	397	10	0.23	
B1-2-30	10/16/96	30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

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

			CONTINUED			
		SOIL	EPA METHOD 6010	EPA METHOD 6010	EPA METHOD 6010	
SAMPLE	DATE	DEPTH	TTLC LEAD	STLC LEAD	TCLP LEAD	pH
			mg/kg	mg/L	mg/L	
B2-1-1	10/15/96	1	46			
B2-1-6	10/15/96	6	4			
B2-1-30	10/15/96	30	ND			
B2-2-6	10/15/96	6	ND			
B2-2-30	10/15/96	30	ND			
B2-2-78	10/15/96	78	ND			
B2-3-6	10/15/96	6	8.6			
B2-3-30	10/15/96	30	ND			
B2-3-78	10/15/96	78	ND			
B2-4-1	10/15/96	1	92	3.5		
B2-4-6	10/15/96	6	ND			
B2-4-30	10/15/96	30	ND			
B2-4-78	10/15/96	78	ND			
B2-5-6	10/15/96	6	ND			
B2-5-30	10/15/96	30	3.9			
B2-5-78	10/15/96	78	18			
B2-6-6	10/15/96	6	ND			
B2-6-30	10/15/96	30	ND			
B2-6-78	10/15/96	78	42			
B2-7-1	10/15/96	1	27			
B2-7-6	10/15/96	6	12			
B2-7-30	10/15/96	30	ND			
B2-7-78	10/15/96	78	ND			
B2-8-12	10/15/96	12	20			
B2-8-78	10/15/96	78	18			
B2-9-1	10/15/96	1	33			
B2-9-6	10/15/96	6	6.7			
B2-9-30	10/15/96	30	ND			
B2-9-78	10/15/96	78	11			
NOTES:						
mg/kg = miligams per kilogram (approximately equivalent to parts per million, ppm)						
mg/L= miligams per Liter (approximately equivalent to parts per million, ppm), leachate matrix						
ND = Compound not detected at or above the method detection limit						

DRAWN BY	BJ	CHECKED BY	RPS 12/2/96
	10-8-96	APPROVED BY	

DRAWING NUMBER 769025-A3



NOTE: SOURCE-CAL TRANS TASK ORDER #04-952137-03.

REFERENCE:
THOMAS BROS. MAPS
1995 EDITION
SCALE 1:1/4 MILE

SCALE
0 .5 1 MILE

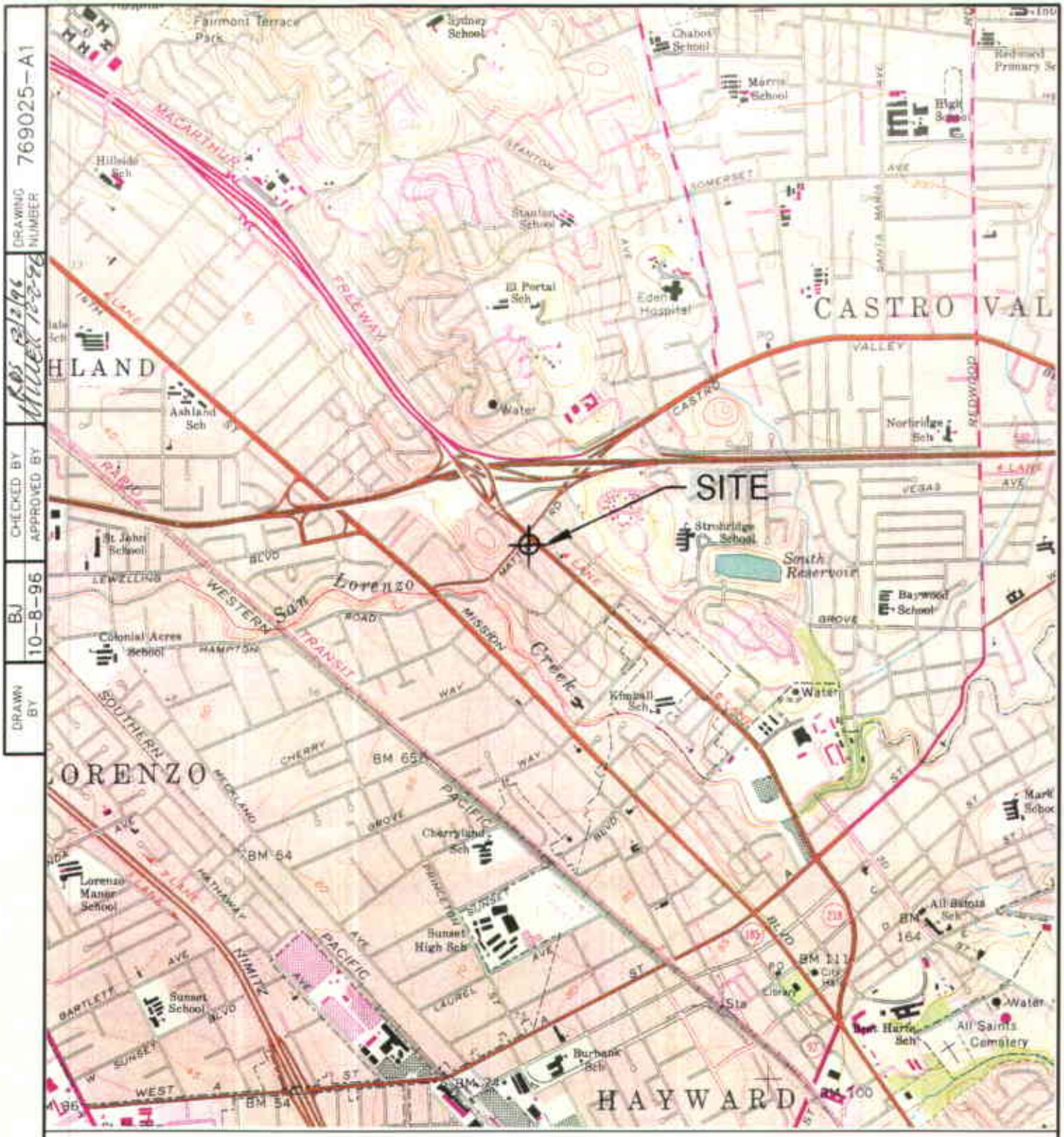
FIGURE 1

SITE LOCATION MAP

OAKLAND SITE
6TH STREET & CASTRO STREET
PREPARED FOR
CAL TRANS – DISTRICT 4

INTERNATIONAL TECHNOLOGY CORPORATION

CT-6CSLM(CT2)



NOTE: SOURCE-CAL TRANS TASK ORDER #04-952137-03.

REFERENCE:
USGS 7.5' QUAD "HAYWARD, CALIF."
DATED:1959, PHOTOREVISED:1980
SCALE 1:2400

SCALE
0 2000 4000 FEET

FIGURE 2

SITE LOCATION MAP

HAYWARD SITE
FOOTHILL BLVD. & MATTOX RD.

PREPARED FOR

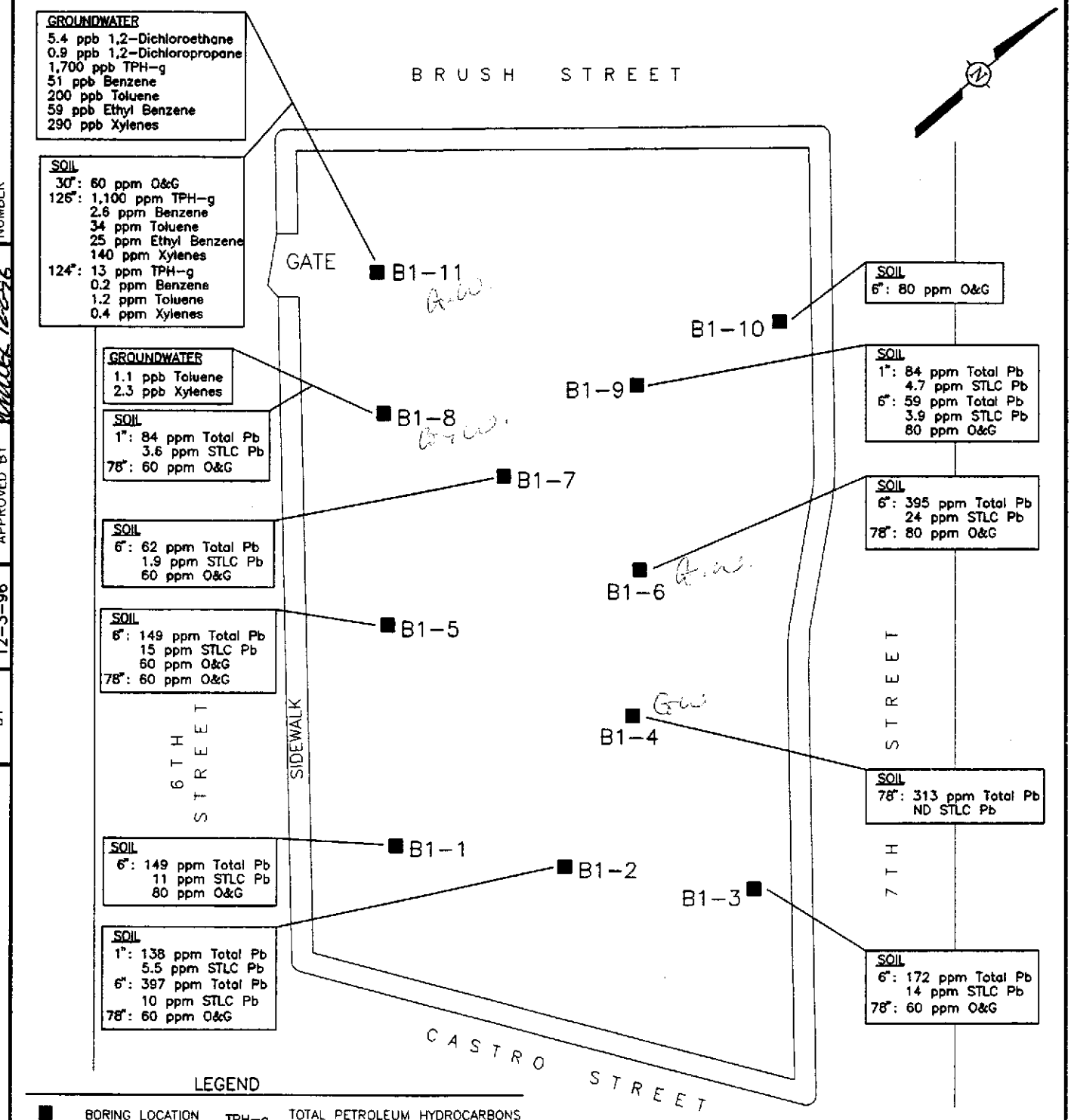
CAL TRANS - DISTRICT 4

INTERNATIONAL TECHNOLOGY CORPORATION

CTFBMSLM(CT2)

DRAWN BY	CHECKED BY	DRAWING NUMBER
BJ	APPROVED BY	769025-A5
12-3-96		

CHS 12/2/96
MWLEE 12-2-96



LEGEND

■ BORING LOCATION

SOIL
6": 80 ppm O&G

DETECTED ANALYTE
ANALYTE CONCENTRATION
SAMPLE DEPTH IN INCHES BELOW GROUND SURFACE

TPH-g	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE, METHOD 8015
TOTAL Pb	TOTAL LEAD, METHOD 6010
STLC Pb	SOLUBLE LIMIT THRESHOLD CONCENTRATION, WASTE EXTRACTION TEST (WET) METHOD
ppb	PARTS PER BILLION, EQUAL TO MICROGRAMS PER LITRE (μg/l)
ppm	PARTS PER MILLION, EQUAL TO MILLIGRAMS PER KILOGRAM (mg/kg)

O&G OIL AND GREASE, METHOD 5520

NOTE: SOURCE-CAL TRANS TASK ORDER #04-952137-03.

SCALE
0 60 120 FEET

FIGURE 3

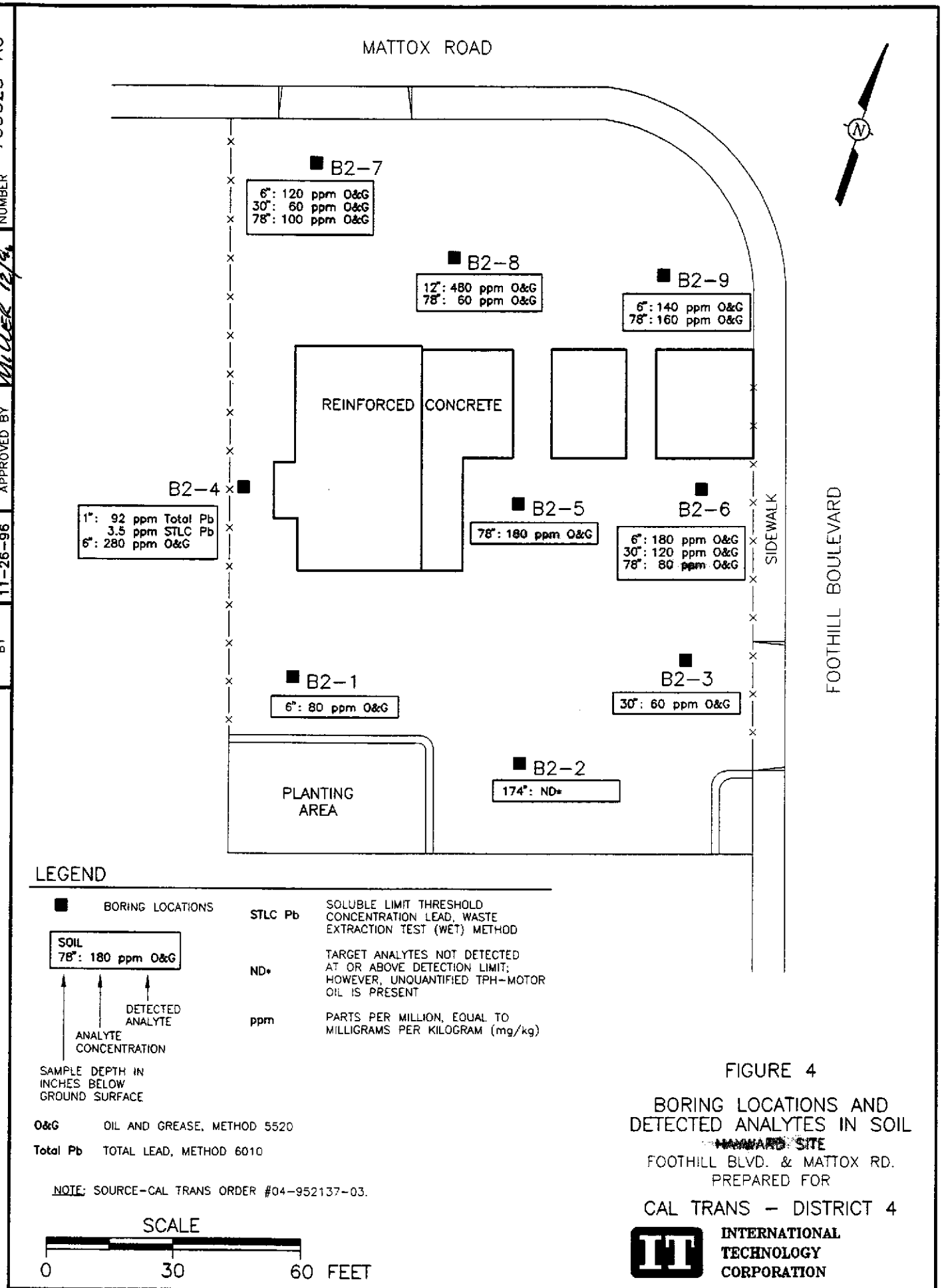
BORING LOCATIONS AND DETECTED ANALYTES IN SOIL AND GROUNDWATER

OAKLAND SITE
6TH STREET & CASTRO STREET
PREPARED FOR
CAL TRANS - DISTRICT 4

INTERNATIONAL TECHNOLOGY CORPORATION

CTH-AG(CT2)

DRAWN BY	CHECKED BY	DRAWING NUMBER
SJZ 11-26-96	APPROVED BY	769025-A6



LEGEND

■ BORING LOCATIONS

SOIL
78": 180 ppm O&G

DETECTED ANALYTE

ANALYTE CONCENTRATION

SAMPLE DEPTH IN INCHES BELOW GROUND SURFACE

STLC Pb	SOLUBLE LIMIT THRESHOLD CONCENTRATION LEAD, WASTE EXTRACTION TEST (WET) METHOD
ND*	TARGET ANALYTES NOT DETECTED AT OR ABOVE DETECTION LIMIT; HOWEVER, UNQUANTIFIED TPH-MOTOR OIL IS PRESENT
ppm	PARTS PER MILLION, EQUAL TO MILLIGRAMS PER KILOGRAM (mg/kg)
O&G	OIL AND GREASE, METHOD 5520
Total Pb	TOTAL LEAD, METHOD 6010

NOTE: SOURCE-CAL TRANS ORDER #04-952137-03.

SCALE

0 30 60 FEET

FIGURE 4

BORING LOCATIONS AND DETECTED ANALYTES IN SOIL

[redacted] SITE

FOOTHILL BLVD. & MATTOX RD.

PREPARED FOR

CAL TRANS - DISTRICT 4

INTERNATIONAL TECHNOLOGY CORPORATION

CTH-AS(CT2)

ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588 VOICE (510) 484-2600
FAX (510) 462-3914

ATT: WYMAN HONG

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT Property located at the corner of Mattox Road and Foothill Boulevard, Hayward, CA

CLIENT
Name CALTRANS DISTRICT 4
Address P.O. BOX 23600 Voice MIKE FLAKE 510-286-5664
City OAKLAND CA Zip 94623-0440

APPLICANT
Name IT CORPORATION
MIKE MILLER Fax 916-361-3047
Address 3634 BALSEATER ST Voice 916-361-7673
City MATHER, CA Zip 95655

TYPE OF PROJECT
Well Construction
Cathodic Protection ___
Water Supply ___
Monitoring ___
Geotechnical Investigation
General ___
Contamination X
Well Destruction ___

PROPOSED WATER SUPPLY WELL USE
Domestic ___ Industrial ___ Other ___
Municipal ___ Irrigation ___

DRILLING METHOD:
Mud Rotary ___ Air Rotary ___ Auger X
Cable ___ Other ___

DRILLER'S LICENSE NO. C57-720904

WELL PROJECTS
Drill Hole Diameter ___ in. Maximum
Casing Diameter ___ in. Depth ___ ft.
Surface Seal Depth ___ ft. Number ___

GEOTECHNICAL PROJECTS
Number of Borings 9 Maximum
Hole Diameter 6 in. Depth 15 ft.

ESTIMATED STARTING DATE 10-15-96
ESTIMATED COMPLETION DATE 10-17-96

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

APPLICANT'S SIGNATURE Michael D. Miller Date 10-4-96

FOR OFFICE USE

PERMIT NUMBER 96746
LOCATION NUMBER ___

PERMIT CONDITIONS

Circled Permit Requirements Apply

A. GENERAL
(1.) A permit application should be submitted so as to arrive at t Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitte work the original Department of Water Resources Water We Drillers Report or equivalent for well Projects, or drilling logs and location sketch for geotechnical projects.
(3.) Permit is void if project not begun within 90 days of approval date.

B. WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement gro placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial w or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 fe

(C.) GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grou shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

Approved Wyman Hong Date 14 Oct
Wyman Hong

91

ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588 VOICE (510) 484-2600
FAX (510) 462-3914

ATTN: WYMAN HONG

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT PROPERTY BOUNDED BY 6TH ST, CASTRO ST., 7TH ST, AND BRUSH STREETS, OAKLAND, CA

CLIENT
Name CALTRANS DISTRICT 4
Address P.O. BOX 23600 Voice MIKE FLAKE-510-286-5664
City OAKLAND CA Zip 94623-0440

APPLICANT
Name IT CORPORATION
MIKE MILLER Fax 916-361-3047
Address 3634 BACKSEATER ST Voice 916-361-7673
City MATHER, CA Zip 95655

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection		General	
Water Supply		Contamination	X
Monitoring		Well Destruction	

PROPOSED WATER SUPPLY WELL USE
Domestic ___ Industrial ___ Other ___
Municipal ___ Irrigation ___

DRILLING METHOD:
Mud Rotary ___ Air Rotary ___ Auger ✓
Cable ___ Other ___

DRILLER'S LICENSE NO. C57-720904

WELL PROJECTS
Drill Hole Diameter ___ in. Maximum
Casing Diameter ___ in. Depth ___ ft.
Surface Seal Depth ___ ft. Number ___

GEOTECHNICAL PROJECTS
Number of Borings 11 Maximum
Hole Diameter 6 in. Depth 15 ft.

ESTIMATED STARTING DATE 10-15-96
ESTIMATED COMPLETION DATE 10-17-96

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

APPLICANT'S SIGNATURE Michael D Miller Date 10-4-96

FOR OFFICE USE

PERMIT NUMBER 96747
LOCATION NUMBER ___

PERMIT CONDITIONS

Circled Permit Requirements Apply

A. GENERAL
(1.) A permit application should be submitted so as to arrive at th Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitte work the original Department of Water Resources Water We Drillers Report or equivalent for well Projects, or drilling logs and location sketch for geotechnical projects.
(3.) Permit is void if project not begun within 90 days of approva date.

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D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

Approved Wyman Hong Date 14 Oct
Wyman Hong

91

STATE OF CALIFORNIA · DEPARTMENT OF TRANSPORTATION

ENCROACHMENT PERMIT

TR-0120 (NEW 9/91)

Permit No.	0496-NSV-1945
Dist/Co/Rte/PM	04-Ala-880-31.7 04-Ala-238-14.29
Date	September 18, 1996
Fee Paid	$
Deposit	$
Performance Bond Amount (1)	$
Payment Bond Amount (2)	$
Bond Company	
Bond Number (1)	
Bond Number (2)	

In compliance with (check one):

x Your application of September 16, 1996

____ Utility Notice No. _____ of _____

____ Agreement No. _____ of _____

____ R/W Contract No. _____ of _____

TO:

IT Corporation
3634 Backseater Street, Bldg.2389
Mather, CA 95655

ATTN: Joseph Ramage
PHONE: (916) 361-7673

, PERMITTEE

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

perform soil borings for geotechnical investigation at 6th Street and Castro Street on State Highway 04-Ala-880, Post Mile 31.7 in Oakland, and at Foothill Boulevard and Mattox Road on State Highway 04-Ala-238, Post Mile 14.29 in Hayward.

Two days before work is started under this permit, notice shall be given to, and approval of construction details, operations, public safety, and traffic control shall be obtained from State Representative N. Freitag, 600 Lewelling Blvd., San Leandro, 94579, 510-614-5951, weekdays, between 7:30 AM and 4:00 PM.

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

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

The following attachments are also included as part of this permit. (Check applicable):

X Yes	__ No	General Provisions
__ Yes	x No	Utility Maintenance Provisions
__ Yes	x No	Special Provisions
__ Yes	x No	A Cal-OSHA permit required prior to beginning work; # _____

In addition to fee the permittee will be billed actual costs for:

__ Yes	x No	Review
__ Yes	x No	Inspection
X Yes	_____	Field Work

(If any Caltrans effort expended)

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

This permit is void unless the work is completed before December 31, 1996

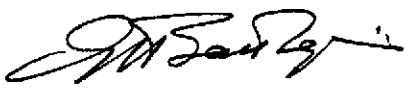
This permit is to be strictly construed and no other work other than specifically mentioned is hereby authorized.

No project work shall be commenced until all other necessary permits and environmental clearances have been obtained.

APPROVED:

Joe Browne, District Director

BY:



G. J. Battaglini, District Permit Engineer

Permittee shall furnish, place and maintain required signs, safety equipment, and traffic control and warning devices in accordance with the Manual of Traffic Controls published by the Department of Transportation.

No soil borings shall be permitted in roadway pavement.

Before any work is begun which will interrupt the normal flow of public traffic, approval shall be obtained from State's representative, and closures will be as shown on the attached copy of Standard Plan Sheet T-10 and T-11.

The attached freeway traffic control plan shall be used for shoulder closures only.

Unless specifically authorized in this permit, survey markings within the right-of-way shall be temporary. Paint used for markings shall be water soluble and other markers shall be removed upon completion of survey.

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

Permittee shall provide for the safe passage of pedestrians.

Excavation backfill shall be in accordance with State standards and as directed by the State's representative.

Certain details of work authorized hereby are shown on permittee's plan submitted with request for permit.

This work is performed in accordance with Caltrans Contract No.53W202, Hazardous Waste Site Assessments, Investigations and Surveys and Task Order No.04-952137-03.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

ENCROACHMENT PERMIT GENERAL PROVISIONS

TR-0045 (REV. 9/95)

1. **AUTHORITY:** Encroachment permits are issued under the authority given the Department, Div. 1, Chpt. 1, Art. 3 in accordance with Div. 1, Chpt. 3, Art. 1, Sect. 660 to 734 of the Streets and Highways Code.

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

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

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

5. **ACCEPTANCE OF PROVISIONS:** Permittee understands and agrees to acceptance of the provisions and all attachments to this permit, for any work to be performed under this permit.

6. **BEGINNING OF WORK:** It is the responsibility of the Permittee to notify the Departments' Representative, two (2) days in advance of the intent to begin work under this permit. Permittee shall notify the Departments' Representative if the work is to be interrupted for a period of five (5) days or more, unless a prearranged continuance of work agreement had been made. All work shall be performed on weekdays during regular work hours, excluding holidays, unless otherwise specified in this permit.

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

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

9. **PERMIT AT WORKSITE:** The Permit Package or a copy of, shall be kept at the work site and must be shown upon request to any Department Representative or Law Enforcement Officer. It is a violation of permit conditions and work shall be suspended if the Permit Package is not kept and available at the work site.

10. **CONFLICTING ENCROACHMENTS:** Permittee shall yield start of work, to ongoing prior authorized work adjacent to or within the limits of the project site. When existing encroachments conflict with new work, the Permittee is solely responsible for any and all cost for rearrangements necessary (relocation, alteration or removal of).

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

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

13. **PUBLIC TRAFFIC CONTROL:** Required by law, the Permittee is to provide traffic control protection of warning signs, lights, safety devices and other measures for the safety of the traveling public. Day and Nighttime lane closures shall be in compliance with the Manual of Traffic Controls, Standard Plans and Standard Specifications for traffic control systems. It is not intended, as to third parties, to impose on the permittee any duty or standard of care, greater than or different from, as required by law.

14. **MINIMUM INTERFERENCE WITH TRAFFIC:** Work shall be planned and conducted so as to create the least possible inconvenience to the traveling public, traffic shall not be unreasonably delayed. On conventional highways, Permittee is authorized to place properly attired flagger(s) to stop or warn the traveling public. All flagging procedures shall be in compliance with the Manual of Traffic Controls and Instructions to Flaggers pamphlet.

15. **STORAGE OF EQUIPMENT AND MATERIALS:** Equipment and Material storage in State rights of way shall be in compliance Standard Specifications, Standard Plans and Special Provisions. Where any Permittee obstacle is placed within twelve (12) feet of a lane carrying public traffic, the Permittee shall install temporary railing (Type K).

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

17. **RESTORATION AND REPAIRS IN RIGHTS OF WAY:** Permittee is responsible for restoration and repair of State Highway rights of way resulting from permitted work, per State Highway Code, Sections 670 et. seq.

18. **RIGHTS OF WAY CLEAN UP:** Upon completion of work Permittee shall remove entirely and dispose of all scraps, brush, timber, materials, etc., off the rights of way. The aesthetics of the highway shall be as it was before work started.

19. **COST OF WORK:** Unless stated in the permit, or separate written agreement, all costs incurred for work within the State rights of way pursuant to this encroachment permit shall be borne entirely by the Permittee. Permittee hereby waives all claims for indemnification or contribution from the State for any such work.

20. **ACTUAL COST BILLING:** When Permittee is to be billed actual costs, (as indicated on the face of the permit), such costs will be at the currently set hourly rate for encroachment permits.

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

22. **PERMITS FOR RECORD PURPOSES ONLY:** When work in rights of way is within an area under a Joint Use Agreement (JUA) or a Consent to Common Use Agreement (CCUA), an Exempt Permit will be issued to the Permittee for the purpose of providing a notice and record of work. All prior rights of the permittee shall be preserved, no new or different rights or obligations are intended to be created. "Notice and Record Purposes Only" shall be stamped across the face of the permit.

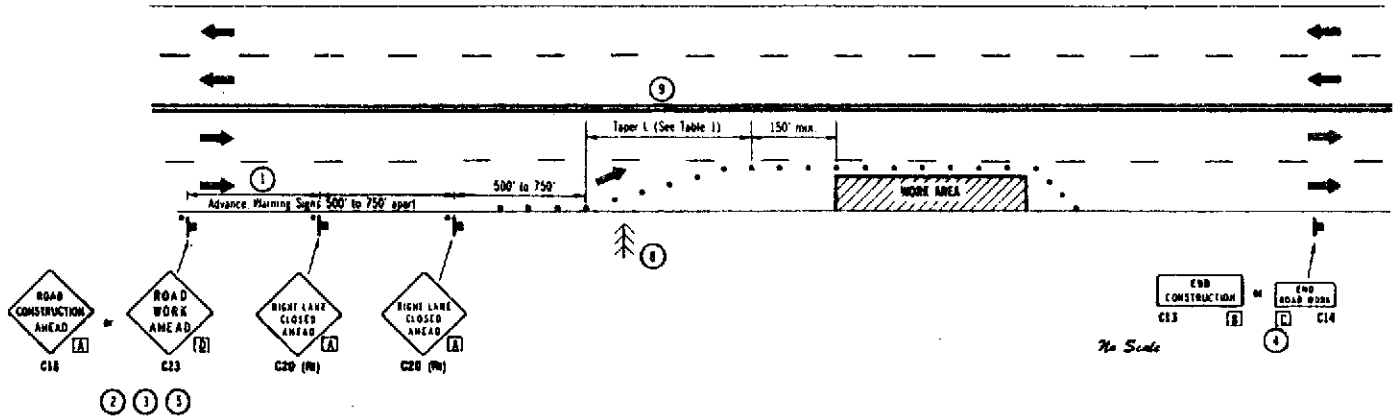
MULTI-LANE TCS

TYPICAL LANE CLOSURE

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

CHIEF, DIVISION OF TRAFFIC ENGINEERING
REGISTERED CIVIL ENGINEER

January 4, 1988
PLANS APPROVAL DATE



SIGN PANEL SIZE (Min.)

[A]	36" x 36"
[B]	48" x 18"
[C]	36" x 18"
[D]	30" x 30"

LEGEND

- Traffic Cone
- Portable Sign
- Flashing Arrow Sign
- Direction of Travel

NOTES:

1. Where approach speeds are low, signs may be placed at 300 feet spacing, and in urban areas, closer.
2. All warning signs for night lane closures shall be illuminated or reflectorized as specified in the specifications.
3. All advance warning sign installations shall be equipped with flags for daytime closures.
4. A C13 "END CONSTRUCTION" or C14 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious, or ends within a longer project limits.
5. If the C18 (or C23) sign would follow within 2,000 feet of a stationary C18, C23, or C11 "STATE HIGHWAY CONSTRUCTION NEXT _____ MILES", use a C20 sign for the first advance warning sign.
6. All cones used for night lane closures shall be illuminated traffic cones or fitted with 13" reflective sleeves as specified in the specifications.
7. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used in lieu of cones for daytime closures only.
8. Flashing arrow sign shall be either Type I or Type II.
9. The maximum spacing between cones in a taper shall be approximately as shown in Table 1 and 50 foot maximum spacing on tangent.
10. For approach speeds over 50 mph, use the "Traffic Control System For Lane Closure On Freeways And Expressways" plan for lane closure details and requirements.

TABLE 1 (Taper)

Approach Speed (M.P.H.)	Taper Length (L) in	Number of Cones for Taper #	Spacing of Cones Along Taper (Feet) ±
0-25	125	6	25
25-40	320	9	40
40-50	500	13	50
Over 50 see note 10			

(#) Based on 12 Foot Wide Lane. This column is also appropriate for lane widths less than 12 feet.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON MULTILANE CONVENTIONAL HIGHWAYS

MISCELLANEOUS DETAILS

T-11

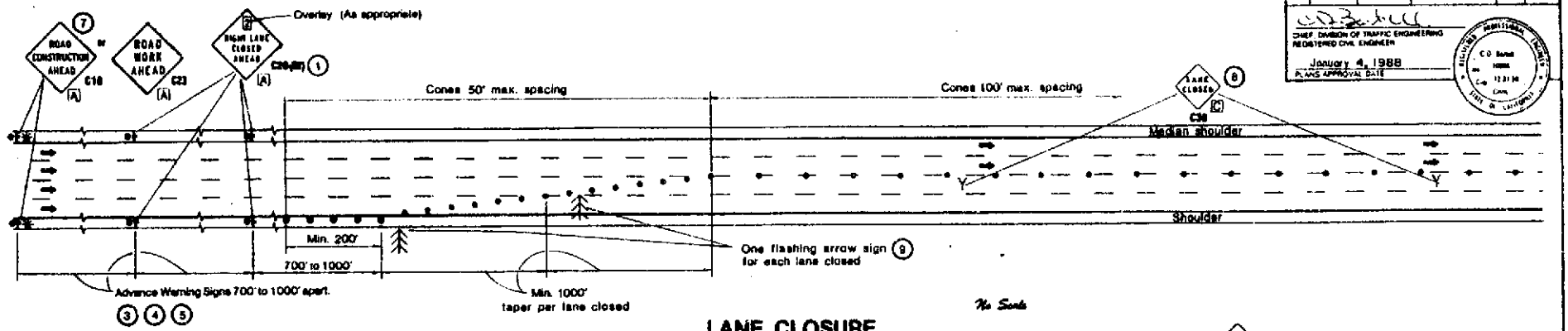
T-11

FREEWAY TCS

DIST	COUNTY	ROUTE	POST MILES (TOTAL PROJECT)	SHEET NO.	TOTAL SHEETS

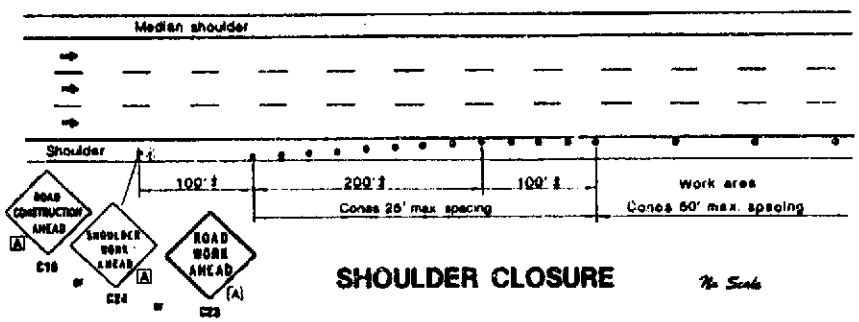
CHIEF, DIVISION OF TRAFFIC ENGINEERING
REGISTERED CIVIL ENGINEER

January 4, 1988
PLANS APPROVAL DATE



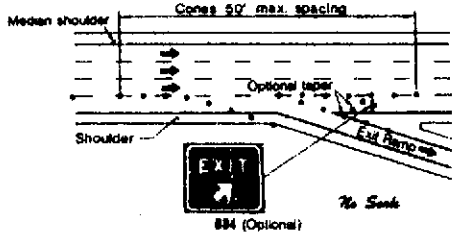
LANE CLOSURE

No Scale



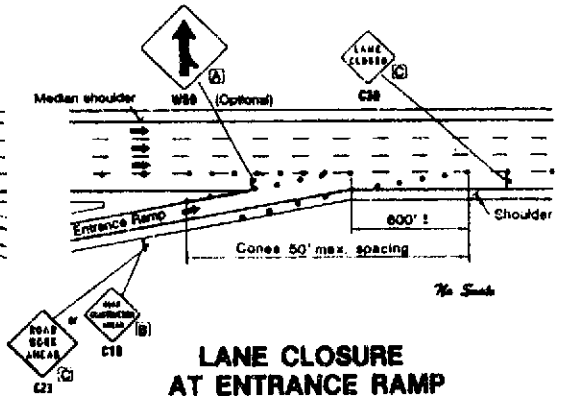
SHOULDER CLOSURE

No Scale



LANE CLOSURE AT EXIT RAMP

No Scale



LANE CLOSURE AT ENTRANCE RAMP

No Scale

NOTES:

1. Median lane closures shall conform to the details for outside lane closures except that C30 (L) signs shall be used.
2. Not less than one person shall be assigned to full time maintenance of traffic control devices on all night lane closures, or daytime closures exceeding one mile in length, including taper.
3. Duplicate sign installations on opposite shoulders are not required for daytime operations if at least one-half of the available lanes remain open to traffic.
4. All warning signs for night lane closures shall be illuminated or reflectorized as specified in the specifications.
5. All advance warning sign installations shall be equipped with flags for daytime closures. Flashing beacons shall be placed at the locations indicated during night lane closures.
6. A C13 "END CONSTRUCTION" or C14 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious, or ends within a larger project limits.
7. If the C18 (or C23) sign would follow within 2,000 feet of a stationary C18, C23, or C11 "STATE HIGHWAY CONSTRUCTION NEXT _____ MILES", use a C20 sign for the first advance warning sign.
8. Place a C30 sign on flag tree every 2,000 feet throughout length of lane closure.
9. The first flashing arrow sign shall be Type I. All others may be either Type I or Type II.
10. A minimum 1,500 feet of sight distance shall be provided, where possible, for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at top of crest vertical curve or on a horizontal curve.
11. All cones used for night lane closures shall be illuminated traffic cones or fitted with 12" reflective sleeves as specified in the specifications.
12. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used in lieu of cones for daytime closures only.

SIGN PANEL SIZE (Min.)

- [A] 48" x 48"
- [B] 36" x 36"
- [C] 30" x 30"

LEGEND

- Traffic Cone
- Portable Sign
- Flag Tree
- Flashing Arrow Sign
- Portable Flashing Beacon
- Direction of Travel

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON FREEWAYS AND EXPRESSWAYS

MISCELLANEOUS DETAILS | T-10

T-10

BORING NO. B1-1

FIELD GEOLOGIST R.D. Smith — DATE BEGAN 10/16/96
CHECKED BY R.D. Smith — DATE FINISHED 10/16/96
APPROVED BY M. Miller
TOTAL DEPTH 15 ft.

DEPTH IN FEET	CORE/SAMPLE RUN NUMBER	BLOWS ON SAMPLER PER 6"	RECOVERY (in/in)	REMARKS	USCS	PROFILE	DESCRIPTION
0	B1-1 6	24/32/30	15/18		fill		ASPHALT & ROADBASE. 1.0'
	B1-1 30	6/14/27	16/18				Poorly Graded SAND; pale brown to moderate brown; moist; soft to medium dense; 100% fine sand.
5	B1-1 78	0/20/23	16/18		sp		
10	B1-1 126	5/23/30	16/18				
15	B1-1 174	4/8/12	17/18	▽			Sand becomes wet.
							TOTAL DEPTH 15.0 FEET
20							
25							
30							
35							

DRILLER : J. Wong
DRILLING CO. : V & W Drilling
DRILLING METHOD : Hollow Stem Auger
SAMPLING METHOD : 2" California Modified Split Spoon Sampler
PROJECT NAME : Caltrans
LOCATION : Oakland Site
PROJECT NO. : 769025

DRAWN BY	T.R.S.	CHECKED BY	RDS 12/2/96	FILE NAME & DISK NUMBER	CT-811(CT4)
DATE	11/15/96	APPROVED BY	MDM		

INTERNATIONAL TECHNOLOGY CORPORATION

BORING NO. B1-2

FIELD GEOLOGIST R.D. Smith — DATE BEGAN 10/16/96
CHECKED BY R.D. Smith — DATE FINISHED 10/16/96
APPROVED BY M. Miller
TOTAL DEPTH 15 ft.

DEPTH IN FEET	CORE/SAMPLE RUN NUMBER	BLOWS ON SAMPLER PER 6"	RECOVERY (in/in)	REMARKS	USCS	PROFILE	DESCRIPTION
0	B1-2 6	15/50	8/18	Collected B1-2-1, surface soil sample.	fill		ASPHALT & ROADBASE. 1.0'
	B1-2 30	8/10/13	14/18		sp		Poorly Graded SAND; moderate yellowish brown; moist; soft to medium dense; 100% fine sand.
5							
	B1-2 78	9/20/27	18/18				Color changes to moderate brown.
10	B1-2 126	5/28/24	18/18				
15	B1-2 174	4/9/13	17/18	▽			Sand becomes wet.
							TOTAL DEPTH 15.0 FEET
20							
25							
30							
35							

DRILLER : J. Wong
DRILLING CO. : V & W Drilling
DRILLING METHOD : Hollow Stem Auger
SAMPLING METHOD : 2" California Modified Split Spoon Sampler
PROJECT NAME : Caltrans
LOCATION : Oakland Site
PROJECT NO. : 769025

DRAWN BY	T.R.S.	CHECKED BY	RDS 12/2/96	FILE NAME & DISK NUMBER	CT-B12(CT4)
DATE	11/15/96	APPROVED BY	MDM		

INTERNATIONAL TECHNOLOGY CORPORATION

BORING NO. B1-3

FIELD GEOLOGIST R.D. Smith — DATE BEGAN 10/16/96
CHECKED BY R.D. Smith — DATE FINISHED 10/16/96
APPROVED BY M. Miller
TOTAL DEPTH 15 ft.

DEPTH IN FEET	CORE/SAMPLE RUN NUMBER	BLOWS ON SAMPLER PER 6"	RECOVERY (in/in)	REMARKS	USCS	PROFILE	DESCRIPTION
0					fill		ASPHALT & ROADBASE. 1.0'
	B1-3 6	9/7/20	6/18				Poorly Graded SAND; grayish brown; moist; soft; 100% fine sand.
	B1-3 30	4/7/12	17/18				
5							
	B1-3 78	5/9/15	17/18		sp		Color change to moderate brown; sand becomes very moist; contains trace silt.
10							
	B1-3 126	5/25/38	16/18				
15	B1-3 174	9/10/12	18/18	▽			Sand becomes wet.
							TOTAL DEPTH 15.0 FEET
20							
25							
30							
35							

DRILLER : J. Wong
DRILLING CO. : V & W Drilling
DRILLING METHOD : Hollow Stem Auger
SAMPLING METHOD : 2" California Modified Split Spoon Sampler
PROJECT NAME : Caltrans
LOCATION : Oakland Site
PROJECT NO. : 769025

DRAWN BY	T.R.S.	CHECKED BY	ROS 12/2/96	FILE NAME & DISK NUMBER CT-B13(CT4)
DATE	11/15/96	APPROVED BY	MDM	

INTERNATIONAL TECHNOLOGY CORPORATION

BORING NO. B1-4

FIELD GEOLOGIST R.D. Smith — DATE BEGAN 10/16/96
CHECKED BY R.D. Smith — DATE FINISHED 10/16/96
APPROVED BY M. Miller
TOTAL DEPTH 23 ft.

DEPTH IN FEET	CORE/SAMPLE RUN NUMBER	BLOWS ON SAMPLER PER 6"	RECOVERY (in/in)	REMARKS	USCS	PROFILE	DESCRIPTION
0	B1-4 6	24/35	6/18		sm		SAND with SILT; grayish brown; moist; soft; 90% fine sand; 12% silt.
2.5'							
5	B1-4 30	8/8/8	17/18				Poorly Graded SAND; moderate brown; very moist; medium dense; 99% fine sand; trace silt.
	B1-4 78	9/11/20	17/18				
10	B1-4 126	8/32/35	17/18		sp		Color changes to mottled pale brown, light brown, and moderate brown.
15	B1-4 174	9/15/19	17/18				
20				▼ Collected B1-4-GW groundwater sample.			
25							TOTAL DEPTH 23.0 FEET
30							
35							

DRILLER : J. Wong
DRILLING CO. : V & W Drilling
DRILLING METHOD : Hollow Stem Auger
SAMPLING METHOD : 2" California Modified Split Spoon Sampler
PROJECT NAME : Caltrans
LOCATION : Oakland Site
PROJECT NO. : 769025

DRAWN BY	T.R.S.	CHECKED BY	RDS 12/2/96	FILE NAME & DISK NUMBER	CT-B14(CT4)
DATE	11/18/96	APPROVED BY	MDM		

INTERNATIONAL TECHNOLOGY CORPORATION

BORING NO. B1-5

FIELD GEOLOGIST R.D. Smith — DATE BEGAN 10/16/96
CHECKED BY R.D. Smith — DATE FINISHED 10/16/96
APPROVED BY M. Miller
TOTAL DEPTH 15 ft.

DEPTH IN FEET	CORE/SAMPLE RUN NUMBER	BLOWS ON SAMPLER PER 6"	RECOVERY (in/in)	REMARKS	USCS	PROFILE	DESCRIPTION
0	B1-5 6	7/24/50	6/18	Collected B1-5-1, surface soil sample.	fill		SILTY SAND with GRAVEL. 1.0'
	B1-5 30	9/11/12	18/18		sp		Poorly Graded SAND; pale yellowish brown; moist; soft; 100% fine sand.
5	B1-5 78	8/25/37	16/18				Color change to moderate brown.
10	B1-5 126	8/25/29	16/18				
15	B1-5 174	6/6/4	18/18	▽			Sand becomes saturated.
							TOTAL DEPTH 15.0 FEET
20							
25							
30							
35							

DRILLER : J. Wong
DRILLING CO. : V & W Drilling
DRILLING METHOD : Hollow Stem Auger
SAMPLING METHOD : 2" California Modified Split Spoon Sampler
PROJECT NAME : Caltrans
LOCATION : Oakland Site
PROJECT NO. : 769025

DRAWN BY	T.R.S.	CHECKED BY	RDS 12/2/96
DATE	11/15/96	APPROVED BY	MDM

FILE NAME & DISK NUMBER CT-B15(CT4)

INTERNATIONAL TECHNOLOGY CORPORATION

BORING NO. B1-6

FIELD GEOLOGIST R.D. Smith — DATE BEGAN 10/16/96
CHECKED BY R.D. Smith — DATE FINISHED 10/16/96
APPROVED BY M. Miller
TOTAL DEPTH 23 ft.

DEPTH IN FEET	CORE/SAMPLE RUN NUMBER	BLOWS ON SAMPLER PER 6"	RECOVERY (in./in.)	REMARKS	USCS	PROFILE	DESCRIPTION
0	B1-6 6	21/37/50	12/18		fill		SILTY SAND with GRAVEL; pale brown; dry; dense; 60% sand; 20% silt; 20% gravel. 1.0'
	B1-6 30	8/11/13	14/18		sp		Poorly Graded SAND; moderate brown; moist; soft; 99% fine sand; 10% silt.
5							
	B1-6 78	11/22/27	18/18				Color change to light brown; sand becomes medium dense.
10	B1-6 126	15/21/30	15/18				14.0'
	B1-6 174	7/11/12	15/18		sm		SAND with SILT; light brown to moderate brown; wet; medium dense; 90% fine sand; 10% silt.
15							
20				▼ Collected B1-6-GW, groundwater sample.			
							TOTAL DEPTH 23.0 FEET
25							
30							
35							

DRILLER : J. Wong
DRILLING CO. : V & W Drilling
DRILLING METHOD : Hollow Stem Auger
SAMPLING METHOD : 2" California Modified Split Spoon Sampler
PROJECT NAME : Caltrans
LOCATION : Oakland Site
PROJECT NO. : 769025

DRAWN BY	T.R.S.	CHECKED BY	RDS 12/2/96	FILE NAME & DISK NUMBER	CT-B16(CT5)
DATE	11/15/96	APPROVED BY	MDM		

INTERNATIONAL TECHNOLOGY CORPORATION

BORING NO. B1-7

FIELD GEOLOGIST R.D. Smith — DATE BEGAN 10/16/96
CHECKED BY R.D. Smith — DATE FINISHED 10/16/96
APPROVED BY M. Miller
TOTAL DEPTH 15 ft.

DEPTH IN FEET	CORE/SAMPLE RUN NUMBER	BLOWS ON SAMPLER PER 6"	RECOVERY (in/in)	TEMPORARY WELL CONSTRUCTION	USCS	PROFILE	DESCRIPTION
0					fill		SILTY SAND with GRAVEL. 1.0'
	B1-7 6	10/12/50	8/18				Poorly Graded SAND; moderate yellowish brown; moist; soft; 100% fine sand.
	B1-7 30	10/14/17	14/18				
5							
	B1-7 78	7/25/34	17/18				Color changes to moderate brown; sand becomes medium dense.
					sp		
10	B1-7 126	7/25/37	16/18				
	B1-7 174	7/11/14	16/18	▽			Sand becomes wet.
15							TOTAL DEPTH 15.0 FEET
20							
25							
30							
35							

DRILLER : J. Wong
DRILLING CO. : V & W Drilling
DRILLING METHOD : Hollow Stem Auger
SAMPLING METHOD : 2" California Modified Split Spoon Sampler
PROJECT NAME : Caltrans
LOCATION : Oakland Site
PROJECT NO. : 769025

DRAWN BY	T.R.S.	CHECKED BY	RDS 12/2/96	FILE NAME & DISK NUMBER	CT-B17(CT5)
DATE	11/15/96	APPROVED BY	MDM		

INTERNATIONAL TECHNOLOGY CORPORATION

BORING NO. B1-8

FIELD GEOLOGIST R.D. Smith — DATE BEGAN 10/16/96
CHECKED BY R.D. Smith — DATE FINISHED 10/16/96
APPROVED BY M. Miller
TOTAL DEPTH 20 ft.

DEPTH IN FEET	CORE/SAMPLE RUN NUMBER	BLOWS ON SAMPLER PER 6"	RECOVERY (in/in)	REMARKS	USCS	PROFILE	DESCRIPTION
0	B1-8 6	32/34/44	18/18		sm		SAND with SILT; grayish brown; slightly moist; soft; 90% fine sand; 10% silt.
2.5'							
	B1-8 30	8/22/22	18/18		sp		Poorly Graded SAND; moderate yellowish brown; moist; soft; 99% firm sand; trace (1%) silt.
5							Color changes to moderate brown.
	B1-8 78	6/26/36	18/18				
10							
10.0'							
	B1-8 126	8/22/25	18/18		sm		SAND with SILT; moderate brown; very moist; medium dense; 90% fine sand; 10% silt.
							Sand becomes wet.
15	B1-8 174	5/8/11	18/18				
				▼ Collected B1-8-GW, groundwater sample.			
20							TOTAL DEPTH 20.0 FEET
25							
30							
35							

DRILLER : J. Wong
DRILLING CO. : V & W Drilling
DRILLING METHOD : Hollow Stem Auger
SAMPLING METHOD : 2" California Modified Split Spoon Sampler
PROJECT NAME : Caltrans
LOCATION : Oakland Site
PROJECT NO. : 769025

DRAWN BY	T.R.S.	CHECKED BY	RDS 12/2/96	FILE NAME & DISK NUMBER	CT-B1B(CT5)
DATE	11/15/96	APPROVED BY	MDM		

INTERNATIONAL TECHNOLOGY CORPORATION

BORING NO. B1-9

FIELD GEOLOGIST R.D. Smith — DATE BEGAN 10/16/96
CHECKED BY R.D. Smith — DATE FINISHED 10/16/96
APPROVED BY M. Miller
TOTAL DEPTH 15 ft.

DEPTH IN FEET	CORE/SAMPLE RUN NUMBER	BLOWS ON SAMPLER PER 6"	RECOVERY (in/in)	REMARKS	USCS	PROFILE	DESCRIPTION
0	B1-9 6	5/32/40	6/18	Collected B1-9-1, surface soil sample.	fill		SILTY SAND with GRAVEL. 1.0'
					sp		Poorly Graded SAND; grayish brown; moist; soft to medium stiff; 99% fine sand; trace silt.
5	B1-9 30	5/8/8	14/18				
	B1-9 78	9/12/19	15/18				Color changes to light brown to moderate brown.
10	B1-9 126	25/22/22	16/18				Sand becomes very moist.
15	B1-9 174	9/12/24	16/18				TOTAL DEPTH 15.0 FEET
20							
25							
30							
35							

DRILLER : J. Wong
DRILLING CO. : V & W Drilling
DRILLING METHOD : Hollow Stem Auger
SAMPLING METHOD : 2" California Modified Split Spoon Sampler
PROJECT NAME : Caltrans
LOCATION : Oakland Site
PROJECT NO. : 769025

DRAWN BY	T.R.S.	CHECKED BY	RDS 12/2/96	FILE NAME & DISK NUMBER	CT-B19(CTS)
DATE	11/15/96	APPROVED BY	MDM		

INTERNATIONAL TECHNOLOGY CORPORATION

BORING NO. B1-10

FIELD GEOLOGIST R.D. Smith — DATE BEGAN 10/16/96
CHECKED BY R.D. Smith — DATE FINISHED 10/16/96
APPROVED BY M. Miller
TOTAL DEPTH 15 ft.

DEPTH IN FEET	CORE/SAMPLE RUN NUMBER	BLOWS ON SAMPLER PER 6"	RECOVERY (in./in.)	REMARKS	USCS	PROFILE	DESCRIPTION
0					fill		SILTY SAND with GRAVEL. 1.0'
	B1-10 6	50/50	6/12				Poorly Graded SAND; grayish brown; moist; soft to medium dense; 99% fine sand; trace silt.
	B1-10 30	12/12/9	14/18				
5					sp		Color changes to moderate yellowish brown.
	B1-10 78	4/8/15	16/18				
10							~11.0'
	B1-10 126	8/25/26	16/18		sm		SAND with SILT; light brown; moist; medium dense; 90% fine sand; 10% silt.
15	B1-10 174	9/10/19	16/18				TOTAL DEPTH 15.0 FEET
20							
25							
30							
35							

DRILLER : J. Wong
DRILLING CO. : V & W Drilling
DRILLING METHOD : Hollow Stem Auger
SAMPLING METHOD : 2" California Modified Split Spoon Sampler
PROJECT NAME : Caltrans
LOCATION : Oakland Site
PROJECT NO. : 769025

DRAWN BY	T.R.S.	CHECKED BY	RDS 12/2/96 MDM	FILE NAME & DISK NUMBER	CT-B110(CT5)
DATE	11/15/96	APPROVED BY			

INTERNATIONAL TECHNOLOGY CORPORATION

BORING NO. B1-11

FIELD GEOLOGIST R.D. Smith — DATE BEGAN 10/16/96
CHECKED BY R.D. Smith — DATE FINISHED 10/16/96
APPROVED BY M. Miller
TOTAL DEPTH 23 ft.

DEPTH IN FEET	CORE/SAMPLE RUN NUMBER	BLOWS ON SAMPLER PER 6"	RECOVERY (in/in)	REMARKS	USCS	PROFILE	DESCRIPTION
0	B1-11 6	16/37/24	14/18				SAND with SILT: grayish brown; slightly moist; soft; 90% fine sand; 10% silt.
	B1-11 30	18/27/30	16/18				Color changes to mottled pale yellowish brown and moderate brown.
5	B1-11 78	16/24/28	16/18				Color changes to moderate brown.
10	B1-11 126	22/15/20	15/18	Odor; PID = 1,350 ppm.	sm		Sand becomes very moist.
15	B1-11 174	9/12/20	14/18	▼ Collected B1-11-GW, groundwater sample.			Color changes to dark yellowish brown.
20							
25							TOTAL DEPTH 23.0 FEET
30							
35							

DRILLER : J. Wong
DRILLING CO. : V & W Drilling
DRILLING METHOD : Hollow Stem Auger
SAMPLING METHOD : 2" California Modified Split Spoon Sampler
PROJECT NAME : Caltrans
LOCATION : Oakland Site
PROJECT NO. : 769025

DRAWN BY	T.R.S.	CHECKED BY	RDS 12/2/96
DATE	11/15/96	APPROVED BY	MM

FILE NAME & DISK NUMBER CT-B111(CT5)

INTERNATIONAL TECHNOLOGY CORPORATION

BORING NO. B2-1

FIELD GEOLOGIST R.D. Smith — DATE BEGAN 10/15/96
CHECKED BY R.D. Smith — DATE FINISHED 10/15/96
APPROVED BY M. Miller
TOTAL DEPTH 6 ft.

DEPTH IN FEET	CORE/SAMPLE RUN NUMBER	BLOWS ON SAMPLER PER 6"	RECOVERY (in/in)	REMARKS	USCS	PROFILE	DESCRIPTION
0	B2-1 6	15/7/6	8/16	Boring moved 8 feet east of proposed location due to refusal near surface.	sm		SILTY SAND; moderate yellowish brown; slightly moist; soft; 70% well-graded sand; 30% silt. 2.0'
	B2-1 30	4/7/9	12/18		rock		Serpentine; weathered; greenish gray; dense; serpentine fragments in sandy clay matrix. Serpentine becomes fresh, very dense.
5				Refusal at 6 feet.			TOTAL DEPTH 6.0 FEET
10							
15							
20							
25							
30							
35							

DRILLER : J. Wong
DRILLING CO. : V & W Drilling
DRILLING METHOD : Hollow Stem Auger
SAMPLING METHOD : 2" California Modified Split Spoon Sampler
PROJECT NAME : Caltrans
LOCATION : Hayward Site
PROJECT NO. : 769025

DRAWN BY	T.R.S.	CHECKED BY	RDS 12/2/96	FILE NAME & DISK NUMBER	CT-B21(CT3)
DATE	11/15/96	APPROVED BY	MDM		

INTERNATIONAL TECHNOLOGY CORPORATION

BORING NO. B2-2

FIELD GEOLOGIST R.D. Smith — DATE BEGAN 10/15/96
CHECKED BY R.D. Smith — DATE FINISHED 10/15/96
APPROVED BY M. Miller
TOTAL DEPTH 15 ft.

DEPTH IN FEET	CORE/SAMPLE RUN NUMBER	BLOWS ON SAMPLER PER 6"	RECOVERY (in/in)	REMARKS	USCS	PROFILE	DESCRIPTION
0					fill		ASPHALT and ROADBASE. 1.0'
	B2-2 6	13/7/9	6/18		sm		SILTY SAND; grayish orange; moist; medium dense; 80% well-graded sand, 20% silt. 3.0'
	B2-1 30	5/9/13	12/18		cl		CLAY; black to olive black; moist; stiff; medium plasticity; 99% clay; trace sand. 10.0'
5	B2-2 78	4/19/14	16/18				
10	B2-2 126	50	6/18		ml		SANDY SILT; moderate yellowish brown; moist; medium dense; non-plastic; 60% silt; 40% well-graded sand.
15	B2-2 174	50	4/18				TOTAL DEPTH 15.0 FEET
20							
25							
30							
35							

DRILLER : J. Wong
DRILLING CO. : V & W Drilling
DRILLING METHOD : Hollow Stem Auger
SAMPLING METHOD : 2" California Modified Split Spoon Sampler
PROJECT NAME : Caltrans
LOCATION : Hayward Site
PROJECT NO. : 769025

DRAWN BY	T.R.S.	CHECKED BY	RDS 12/12/96	FILE NAME & DISK NUMBER	CT-B22(CT3)
DATE	11/15/96	APPROVED BY	MDM		

INTERNATIONAL TECHNOLOGY CORPORATION

BORING NO. B2-3

FIELD GEOLOGIST R.D. Smith — DATE BEGAN 10/15/96
CHECKED BY R.D. Smith — DATE FINISHED 10/15/96
APPROVED BY M. Miller
TOTAL DEPTH 15 ft.

DEPTH IN FEET	CORE/SAMPLE RUN NUMBER	BLOWS ON SAMPLER PER 6"	RECOVERY (in/in)	REMARKS	USCS	PROFILE	DESCRIPTION
0	B2-3 6	8/28/30	8/18	Collected B2-3-1, surface soil sample.	fill		ASPHALT and ROADBASE. 1.0'
					sm		SILTY SAND; moderate yellowish brown; slightly moist; dense; 70% well-graded sand; 30% silt. 3.5'
	B2-3 30	8/8/8	12/18				
5					cl		CLAY; olive black; moist; stiff; medium plasticity; 95% clay; ~2% silt; ~2% sand; trace clasts of serpentine. 11.0'
	B2-3 78	3/4/6	16/18				
10	B2-3 126	8/13/14	18/18				CLAY with SILT and SAND; olive gray; moist; stiff; medium plasticity; 60% clay; 25% well-graded serpentinitic sand; 15% silt.
15	B2-3 174	9/19/22	17/18				TOTAL DEPTH 15.0 FEET
20							
25							
30							
35							

DRILLER : J. Wong
DRILLING CO. : V & W Drilling
DRILLING METHOD : Hollow Stem Auger
SAMPLING METHOD : 2" California Modified Split Spoon Sampler
PROJECT NAME : Caltrans
LOCATION : Hayward Site
PROJECT NO. : 769025

DRAWN BY	T.R.S.	CHECKED BY	RDS 12/2/96	FILE NAME & DISK NUMBER	CT-B23(CT3)
DATE	11/15/96	APPROVED BY	MDM		

INTERNATIONAL TECHNOLOGY CORPORATION

BORING NO. B2-4

FIELD GEOLOGIST R.D. Smith — DATE BEGAN 10/15/96
CHECKED BY R.D. Smith — DATE FINISHED 10/15/96
APPROVED BY M. Miller
TOTAL DEPTH 15 ft.

DEPTH IN FEET	CORE/SAMPLE RUN NUMBER	BLOWS ON SAMPLER PER 6"	RECOVERY (in/in)	REMARKS	USCS	PROFILE	DESCRIPTION
0	B2-4 6	26/9/10	6/18		cl		SANDY CLAY; grayish black to olive black; slightly moist; very stiff; low plasticity; 65% clay; 35% coarse angular sand composed of serpentine. 3.0'
	B2-4 30	20/34/40	12/18				Deeply weathered serpentine; greenish gray; moist; dense; serpentine fragments in matrix of sandy clay.
5	B2-4 78	32/13/14	6/18				
10	B2-4 126	17/50	6/18		rock		Serpentine becomes less weathered; large fresh clasts of rock surrounded by thin sand matrix.
15	B2-4 174	N/A	N/A	Sample refusal at 14.5 feet.			TOTAL DEPTH 15.0 FEET
20							
25							
30							
35							

DRILLER : J. Wong
DRILLING CO. : V & W Drilling
DRILLING METHOD : Hollow Stem Auger
SAMPLING METHOD : 2" California Modified Split Spoon Sampler
PROJECT NAME : Caltrans
LOCATION : Hayward Site
PROJECT NO. : 769025

DRAWN BY	T.R.S.	CHECKED BY	RDS 12/2/96	FILE NAME & DISK NUMBER	CT-B24(CT3)
DATE	11/15/96	APPROVED BY	MD M		

INTERNATIONAL TECHNOLOGY CORPORATION

BORING NO. B2-5

FIELD GEOLOGIST R.D. Smith — DATE BEGAN 10/15/96
CHECKED BY R.D. Smith — DATE FINISHED 10/15/96
APPROVED BY M. Miller
TOTAL DEPTH 15 ft.

DEPTH IN FEET	CORE/SAMPLE RUN NUMBER	BLOWS ON SAMPLER PER 6"	RECOVERY (in/in)	REMARKS	USCS	PROFILE	DESCRIPTION
0					fill		ASPHALT & ROADBASE. 1.0'
	B2-5 6	15/13/7	8/18		sm		SILTY SAND; moderate yellowish brown; moist; medium dense; 70% well-graded sand; 30% silt. 3.0'
	B2-5 30	12/5/9	12/18		cl		CLAY with SILT and SAND; grayish olive green to olive black; moist; stiff; medium plasticity; 80% clay; 15% well-graded sand; 5% silt; coarse sand composed of serpentine. ~13.0'
5							
	B2-5 78	5/7/9	16/18				
10							
	B2-5 126	4/9/12	15/18		ml		SANDY SILT; light olive gray; moist; medium stiff; non-plastic; 60% silt; 40% fine to medium sand.
15	B2-5 174	7/50	7/18				TOTAL DEPTH 15.0 FEET
20							
25							
30							
35							

DRILLER : J. Wong
DRILLING CO. : V & W Drilling
DRILLING METHOD : Hollow Stem Auger
SAMPLING METHOD : 2" California Modified Split Spoon Sampler
PROJECT NAME : Caltrans
LOCATION : Hayward Site
PROJECT NO. : 769025

DRAWN BY	T.R.S.	CHECKED BY	RPS 12/2/96	FILE NAME & DISK NUMBER	CT-B25(CT3)
DATE	11/15/96	APPROVED BY	MBM		

INTERNATIONAL TECHNOLOGY CORPORATION

BORING NO. B2-6

FIELD GEOLOGIST R.D. Smith — DATE BEGAN 10/15/96
CHECKED BY R.D. Smith — DATE FINISHED 10/15/96
APPROVED BY M. Miller
TOTAL DEPTH 15 ft.

DEPTH IN FEET	CORE/SAMPLE RUN NUMBER	BLOWS ON SAMPLER PER 6"	RECOVERY (in/in)	REMARKS	USCS	PROFILE	DESCRIPTION
0	B2-6 6	2/24/15	14/18		fill		ASPHALT & ROADBASE. 1.0'
					ml		SANDY SILT; dark yellowish brown; moist; stiff; non-plastic; 55% silt; 45% well-graded sand. 2.5'
	B2-6 30	4/6/14	14/18		cl		CLAY; brownish gray; moist; stiff; medium plasticity; 99% clay; trace silt and trace fine sand.
5							
	B2-6 78	3/6/13	16/18				
10	B2-6 126	3/5/13	16/18				Color changes to grayish black.
							Color changes to brownish gray.
15	B2-6 174	6/11/18	14/18				TOTAL DEPTH 15.0 FEET
20							
25							
30							
35							

DRILLER : J. Wong
DRILLING CO. : V & W Drilling
DRILLING METHOD : Hollow Stem Auger
SAMPLING METHOD : 2" California Modified Split Spoon Sampler
PROJECT NAME : Caltrans
LOCATION : Hayward Site
PROJECT NO. : 769025

DRAWN BY	T.R.S.	CHECKED BY	RDS 12/12/96
DATE	11/15/96	APPROVED BY	MBM

FILE NAME & DISK NUMBER CT-B26(CT3)

INTERNATIONAL TECHNOLOGY CORPORATION

BORING NO. B2-7

FIELD GEOLOGIST R.D. Smith — DATE BEGAN 10/15/96
CHECKED BY R.D. Smith — DATE FINISHED 10/15/96
APPROVED BY M. Miller
TOTAL DEPTH 15 ft.

DEPTH IN FEET	CORE/SAMPLE RUN NUMBER	BLOWS ON SAMPLER PER 6"	RECOVERY (in/in)	REMARKS	USCS	PROFILE	DESCRIPTION
0				Collected B2-7-1, surface soil sample.	fill		ASPHALT & ROADBASE. 1.0'
	B2-7 6	12/13/15	12/18		ml		SANDY SILT to SILT with SAND; pale yellowish brown to mottled light brown and black; moist; stiff; low plasticity; 60-85% silt; 40-15% sand; trace gravel, black; rich in organic remains.
	B2-7 30	5/10/14	14/18				
5							Color change to olive gray.
	B2-7 78	7/11/15	14/18				Clay content increases. ~9.0'
10					cl		SILTY CLAY; grayish black; moist; very stiff; medium plasticity; 80% clay; 20% silt.
	B2-7 126	5/8/13	16/18				
15	B2-7 174	4/11/18	14/18				TOTAL DEPTH 15.0 FEET
20							
25							
30							
35							

DRILLER : J. Wong
DRILLING CO. : V & W Drilling
DRILLING METHOD : Hollow Stem Auger
SAMPLING METHOD : 2" California Modified Split Spoon Sampler
PROJECT NAME : Caltrans
LOCATION : Hayward Site
PROJECT NO. : 769025

DRAWN BY	T.R.S.	CHECKED BY	RPS 12/2/96
DATE	11/15/96	APPROVED BY	Miller

FILE NAME & DISK NUMBER CT-B27(CT3)

INTERNATIONAL TECHNOLOGY CORPORATION

BORING NO. B2-8

FIELD GEOLOGIST R.D. Smith — DATE BEGAN 10/15/96
CHECKED BY R.D. Smith — DATE FINISHED 10/15/96
APPROVED BY M. Miller
TOTAL DEPTH 15 ft.

DEPTH IN FEET	CORE/SAMPLE RUN NUMBER	BLOWS ON SAMPLER PER 6"	RECOVERY (in/in)	REMARKS	USCS	PROFILE	DESCRIPTION
0	B2-8 6	3/13/18	14/18		fill		ASPHALT & ROADBASE. 2.5'
	B2-8 30	8/14/18	16/18		ml		SILT with SAND; moderate brown; slightly moist; stiff; non- to low plasticity; 75-85% silt; 15-25% sand.
5							Color changes to dark greenish gray at ~5.5 ft.
	B2-8 78	8/14/18	16/18				~9.0'
10	B2-8 126	9/14/18	18/18		cl		CLAY with SILT; grayish black to olive gray; moist; very stiff; medium plasticity; 85% clay; 15% silt.
15	B2-8 174	7/11/11	16/18				TOTAL DEPTH 15.0 FEET
20							
25							
30							
35							

DRILLER : J. Wong
DRILLING CO. : V & W Drilling
DRILLING METHOD : Hollow Stem Auger
SAMPLING METHOD : 2" California Modified Split Spoon Sampler
PROJECT NAME : Caltrans
LOCATION : Hayward Site
PROJECT NO. : 769025

DRAWN BY	T.R.S.	CHECKED BY	MILLER 12/16/96	FILE NAME & DISK NUMBER	CT-B28(CT4)
DATE	11/15/96	APPROVED BY			

INTERNATIONAL TECHNOLOGY CORPORATION

BORING NO. B2-9

FIELD GEOLOGIST R.D. Smith DATE BEGAN 10/15/96
CHECKED BY R.D. Smith DATE FINISHED 10/15/96
APPROVED BY M. Miller
TOTAL DEPTH 15 ft.

DEPTH IN FEET	CORE/SAMPLE RUN NUMBER	BLOWS ON SAMPLER PER 6"	RECOVERY (in/in)	REMARKS	USCS	PROFILE	DESCRIPTION
0				Collected B2-9-1, surface soil sample.	fill		ASPHALT & ROADBASE. 1.0'
	B2-9 6	8/32/50	12/18		ml		SANDY SILT; dark yellowish brown to olive gray; moist; medium stiff; non-plastic; 60% silt; 40% well-graded, sub angular sand.
	B2-9 30	6/6/5	14/18				
5							
	B2-9 78	3/4/6	16/18				
10							50% silt, 50% well-graded sand from 10-12 ft.
	B2-9 126	9/6/5	14/18				~14.0'
					cl		CLAY; black; moist; stiff; medium to high plasticity; 99% clay; trace silt.
15	B2-9 174	8/11/16	14/18				TOTAL DEPTH 15.0 FEET
20							
25							
30							
35							

DRILLER : J. Wong
DRILLING CO. : V & W Drilling
DRILLING METHOD : Hollow Stem Auger
SAMPLING METHOD : 2" California Modified Split Spoon Sampler
PROJECT NAME : Caltrans
LOCATION : Hayward Site
PROJECT NO. : 769025

DRAWN BY	T.R.S.	CHECKED BY	RDS 12/2/96	FILE NAME & DISK NUMBER	CT-B29(CT4)
DATE	11/15/96	APPROVED BY			

INTERNATIONAL TECHNOLOGY CORPORATION