

ALAMEDA COUNTY
**HEALTH CARE SERVICES
AGENCY**

ALEX BRISCOE, Agency Director



DEPARTMENT OF ENVIRONMENTAL HEALTH
OFFICE OF THE DIRECTOR
1131 HARBOR BAY PARKWAY
ALAMEDA, CA 94502
(510) 567-6777
FAX (510) 337-9135

July 25, 2011

William Whitely
Caltrans
111 Grand Avenue, Mail Stop 8C
Oakland, CA 94612

State of California
P.O. Box 23440
Oakland, CA 94623-0440

REMEDIAL ACTION COMPLETION CERTIFICATE

Subject: Fuel Leak Case, RO0000397 and Geotracker Global ID T0600101631, Caltrans South Oakland Maintenance Station, 1112 29th Avenue, CA 94601

Dear Ladies and Gentlemen:

This letter confirms the completion of a site investigation and remedial action for the underground storage tanks formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tank(s) are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, this agency finds that the site investigation and corrective action carried out at your underground storage tank(s) site is in compliance with the requirements of subdivisions (a) and (b) of Section 25299.37 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.77 of the Health and Safety Code and that no further action related to the petroleum release(s) at the site is required.

This notice is issued pursuant to subdivision (h) of Section 25299.37 of the Health and Safety Code.

Please contact our office if you have any questions regarding this matter.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ariad Levi'.

Ariad Levi
Director
Alameda County Environmental Health

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HEALTH CARE SERVICES
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Subject: Subject: Fuel Leak Case, RO0000397 and Geotracker Global ID T0600101631, Caltrans South Oakland Maintenance Station, 1112 29th Avenue, CA 94601

Dear Ladies and Gentlemen:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25299.37[h]). The State Water Resources Control Board adopted this letter on February 20, 1997. As of March 1, 1997, the Alameda County Environmental Health (ACEH) is required to use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site. The subject fuel leak case is closed.

SITE INVESTIGATION AND CLEANUP SUMMARY

Please be advised that the following conditions exist at the site:

- Residual pollution remaining in soil beneath the site includes MTBE at concentrations of up to 9.15 ppm.
- Maximum concentrations of up to 1,300 ppb TPH as gasoline and 3,200 ppb MTBE remain in groundwater beneath the site.

If you have any questions, please call Barbara Jakub at (510) 639-1287. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read "Donna L. Drogos".

Donna L. Drogos, P.E.
Division Chief

Enclosures:

1. Remedial Action Completion Certificate
2. Case Closure Summary

Ladies and Gentlemen

July 25, 2011

Page 2

Cc Cherie McCaulou SF- Regional Water Quality Control Board (w/enc) (via electronic mail: cmccaulou@waterboards.ca.gov)
Leroy Griffin Oakland Fire Department (w/enc via electronic mail: lgriffin@oaklandnet.com)
Barbara Jakub (w/ enc via e-mail), D. Drogos (w/ enc via e-mail), T. LeKhan (w/orig enc)

**CASE CLOSURE SUMMARY
LEAKING UNDERGROUND FUEL STORAGE TANK - LOCAL OVERSIGHT PROGRAM**

I. AGENCY INFORMATION

Date: August 30, 2010

Agency Name: Alameda County Environmental Health	Address: 1131 Harbor Bay Parkway
City/State/Zip: Alameda, CA 94502-6577	Phone: (510) 383-1767
Responsible Staff Person: Barbara Jakub	Title: Hazardous Materials Specialist

II. CASE INFORMATION

Site Facility Name: Caltrans South Oakland Maintenance Station		
Site Facility Address: 1112 29 th Ave Oakland, CA 94601		
RB Case No.: 01-1763	STID No.: 2933	LOP Case No.: RO0000397
URF Filing Date: May 15, 1997	Geotracker ID: T0600101631	APN: 25-693-7-2
Responsible Parties	Addresses	Phone Numbers
William Whitely, Caltrans	111 Grand Ave., Oakland, CA 94612, Mail Stop 8C	510-286-5668
State of California	P.O. Box 23440 Oakland, CA 94623-0440	---
---	---	---

Tank I.D. No	Size in Gallons	Contents	Closed In Place/Removed?	Date
1	4,000	Diesel	Removed	March 11, 1997
2	2,000	Gasoline	Removed	March 11, 1997
---	---	---	---	---
Piping			Removed	March 11, 1997

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and Type of Release: UST reported to have possible leak in rib.		
Site characterization complete? Yes	Date Approved By Oversight Agency: ----	
Monitoring wells installed? Yes	Number: 4	Proper screened interval? Yes
Highest GW Depth Below Ground Surface: 7.65 feet bgs	Lowest Depth: 10.76 feet	Flow Direction: Southwest
Most Sensitive Current Use: Potential drinking water source.		

Summary of Production Wells in Vicinity: Two water supply wells were identified in a 1500 meter well survey. The property directly south of the site formerly owned by Del Monte operated two industrial wells, each at a depth approximately 875 feet bgs (below ground surface). One of the wells is known to be decommissioned; no information could be found pertaining to the other well. It is unlikely this well is a potential receptor for the site since the well is likely to be screened below the shallow aquifer and contaminant concentrations in the shallow aquifer on-site are attenuating and off-site concentrations were predominantly below the detection limits.	
Are drinking water wells affected? No	Aquifer Name: East Bay Plain
Is surface water affected? No	Nearest SW Name: - Sausal Creek. Approximately 650 feet northeast
Off-Site Beneficial Use Impacts (Addresses/Locations): None	
Reports on file? Yes	Where are reports filed? Alameda County Environmental Health and Oakland Fire Department

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL			
Material	Amount (Include Units)	Action (Treatment or Disposal w/Destination)	Date
Tank	1 – 2,000 gallon 1 – 4,000 gallon	Tanks disposed of at Erickson Inc. facility in Richmond, CA	March 11, 1997
Piping	Unavailable	Piping disposed of at Erickson Inc. facility in Richmond, CA	March 11, 1997
Free Product	----	----	----
Soil	52.4 tons	Soil disposed at TPS Technologies Richmond, CA	March 14, 1997
Groundwater	135 gallons	Groundwater disposed of at Evergreen Oil Co. in Newark, CA	March 14, 1997

MAXIMUM DOCUMENTED CONTAMINANT CONCENTRATIONS BEFORE AND AFTER CLEANUP
 (Please see Attachments 1 – x for additional information on contaminant locations and concentrations)

Contaminant	Soil (ppm)		Water (ppb)	
	Before	After	Before	After
TPH (Gas)	380	<0.5	5,200	1,300
TPH (Diesel)	33	23	<10	<10
Oil and Grease	Not analyzed	Not analyzed	Not analyzed	Not analyzed
Benzene	1.65	<1.0	220	40
Toluene	11.86	<1.0	92	<5.0
Ethylbenzene	8.04	<1.0	11	1.2
Xylenes	48.86	<3.0	40	<5.0
Heavy Metals (Cd, Cr, Pb, Ni, Zn)	8.7 [^] (cal-oak-stp-1)	8.7 [^] (cal-oak-stp-1)	Not analyzed	Not analyzed
MTBE	9.15 [*]	9.15 [*]	6,600 ^{**}	3,200 ^{***}
Other VOCs (8260)	Not Analyzed	Not Analyzed	12 ⁺	12 ⁺

[^] 8.7 ppm Pb: Cd, Cr, Ni, Zn not analyzed.

^{*} 9.15 ppm MTBE, <0.002 ppm EDB, and <0.001 ppm EDC. TBA, TAME, ETBE, DIPE, and EtOH all not analyzed.

^{**} 6,600 ppb MTBE; 890 ppb TBA; <0.5 ppb TAME; <0.5 ppb ETBE; <0.5 ppb DIPE. EtOH, EDB, and EDC not analyzed.

^{***} 3,200 ppb MTBE; 890 ppb TBA; <0.5 ppb TAME; <0.5 ppb ETBE; <0.5 ppb DIPE. EtOH, EDB, and EDC not analyzed.

⁺ 12 µg/L PCE, 4.4 µg/L Chloromethane, 16 µg/L Chloroform, 1.8 µg/L iso-Propylbenzene, 5.4 µg/L N-propylbenzene, 3.5 µg/L Naphthalene, 31 µg/L 1,2,4-Trimethylbenzene, 12 µg/L 1,3,5-Trimethylbenzene,

Site History and Description of Corrective Actions:

The site is located at 1112 29th Avenue, Oakland in a commercial and industrial area, and is currently used by Caltrans as vehicle storage and maintenance station.

Lithology beneath the site consists of sand and gravel fill below and asphalt concrete pavement from the ground surface to depths ranging from three to five feet below ground surface (bgs). Underlying the fill material are fine grain soils consisting primarily of inter-bedded clayey sands and silts, and clays to a depth of approximately 25 feet bgs.

One 4,000-gallon UST and one 2,000-gallon UST were removed from the site on March 11, 1997. Associated piping and fuel dispensers were also removed at that time. Eight soil samples were collected from the tank pit excavation and soil stockpile, and approximately 52 tons of soil was removed and disposed of off-site. Analysis of soil samples collected from the tank pit indicated that an unauthorized release had occurred, and concentrations of up to 380 ppm TPHg, 1.65 ppm Benzene, 11.86 ppm Toluene, 8.04 ppm Ethylbenzene, 48.86 ppm Xylenes, and 9.15 ppm MTBE were detected in soil.

On April 6 and 7, 1999, soil and grab groundwater samples were collected from six soil borings (B-1 through B-6) installed at the site. Soil sampling data detected TPHg and MTBE at maximum levels of up to 13 ppm and 0.16 ppm in soil, respectively. Groundwater data collected during the investigation detected up to 520 µg/L TPHg and 6,600 µg/L MtBE. On August 13, 1999, soil and groundwater samples were collected from three additional borings (B-7 through B-9) were installed along the property boundary. MTBE, Benzene and TPHg were detected in groundwater samples at concentrations of up to 3,800 µg/L, 220 µg/L and 5,600 µg/L, respectively, while TPHg and MTBE were detected in soil samples at concentrations of up to 0.54 ppm and 0.011 ppm, respectively.

Four groundwater monitoring wells (MW1 through MW4) were installed on June 8, 2000 and a program of groundwater monitoring and sampling was implemented after well installation. Soil samples collected during the well installation detected TPHd and MTBE to the south of the former USTs at concentrations of up to 23 ppm and 0.52 ppm, respectively. MTBE was detected in all groundwater samples and was reported highest south of the former USTs (MW-3). TPHg, VOCs, and BTEX (Benzene, Toluene, Ethylbenzene, and Xylenes) were detected directly north and south of former USTs in the groundwater.

On August 24, 2001 three soil borings (B-10 through B-12) were installed offsite to define the lateral extent of contamination downgradient of the site. TPHg, BTEX and MTBE were not detected in soil above laboratory reporting limits. Groundwater samples detected maximum concentrations of up to 2.1 µg/L MTBE southwest of the site, while TPHg and BTEX were not detected above laboratory reporting limits.

Groundwater monitoring has been conducted at the site from June 2000 to May of 2005. Groundwater gradient has typically been toward the southwest, with groundwater elevations between 8 feet to 10 feet below ground surface. The most recent groundwater data collected in May 2005 detected elevated levels of up to 1,300 µg/L TPHg, 40 µg/L benzene 3,200 µg/L MTBE and 890 µg/L TBA.

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Yes		
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? Yes		
Does corrective action protect public health for current land use? Alameda County Environmental Health staff does not make specific determinations concerning public health risk. However, based upon the information available in our files to date, it does not appear that the release would present a risk to human health based upon current land use and conditions.		
<p>Site Management Requirements:</p> <p>Case closure for this fuel leak site is granted for the current industrial land use only. If a change in land use to any commercial, residential, or other conservative land use scenario occurs at this site, Alameda County Environmental Health (ACEH) must be notified as required by Government Code Section 65850.2.2. ACEH will re-evaluate the case upon receipt of approved development/construction plans.</p> <p>Excavation or construction activities in areas of residual contamination require planning and implementation of appropriate health and safety procedures by the responsible party prior to and during excavation and construction activities.</p> <p>This site is to be entered into the City of Oakland Permit Tracking System due to the residual contamination on site.</p>		
Should corrective action be reviewed if land use changes? Yes		
Was a deed restriction or deed notification filed? No		Date Recorded: --
Monitoring Wells Decommissioned: No	Number Decommissioned: 0	Number Retained: 4
List Enforcement Actions Taken: None		
List Enforcement Actions Rescinded: None		

V. ADDITIONAL COMMENTS, DATA, ETC.

<p>Considerations and/or Variances:</p> <ul style="list-style-type: none"> • TBA, TAME, ETBE, DIPE and EtOH not analyzed in soil. • EDB, EDC and EtOH not analyzed in groundwater. <p>Conclusion:</p> <p>Alameda County Environmental Health staff consider that the levels of residual contamination do not pose a significant threat to water resources, public health and safety, and the environment under the current industrial land use based upon the information available in our files to date. No further investigation or cleanup for the fuel leak case is necessary at this time. However, as specified in the Site Management Requirements, re-evaluation of this case may be required if land uses changes to any residential or other conservative land use scenario; or construction or excavation activities take place or the building structure is otherwise modified. ACEH staff recommend closure for this site.</p>

VI. LOCAL AGENCY REPRESENTATIVE DATA

Prepared by: Barbara Jakub, P.G.	Title: Hazardous Materials Specialist
Signature: <i>Barbara Jakub</i>	Date: 8/30/10
Approved by: Donna L. Drogos, P.E.	Title: Division Chief
Signature: <i>Donna L. Drogos</i>	Date: 9/2/10

This closure approval is based upon the available information and with the provision that the information provided to this agency was accurate and representative of site conditions.

VII. REGIONAL BOARD NOTIFICATION

Regional Board Staff Name: Cherie McCaulou	Title: Engineering Geologist
Notification Date: 9/2/10	

VIII. MONITORING WELL DECOMMISSIONING

Date Requested by ACEH: 10/5/10	Date of Well Decommissioning Report: 6/20/2011	
All Monitoring Wells Decommissioned: Yes	Number Decommissioned: 4	Number Retained: 0
Reason Wells Retained: - - -		
Additional requirements for submittal of groundwater data from retained wells: - - -		
ACEH Concurrence - Signature: <i>Barbara Jakub</i>		Date: 7/25/10

Attachments:

1. Site Vicinity Map (pp1)
2. Site Plan with UST Sampling Locations and Cross Section (pps 2-4)
3. Soil Boring and Monitoring Well Location Map (pp 5)
4. Soil Analytical Data (pps 6-8)
5. Groundwater Analytical Data (pps 9-12)
6. Groundwater Elevation Map (pp13)
7. Isoconcentration Maps (pps 14-16)
8. Boring Logs (pps 17-41)

This document and the related CASE CLOSURE LETTER & REMEDIAL ACTION COMPLETION CERTIFICATE shall be retained by the lead agency as part of the official site file.

Jakub, Barbara, Env. Health

From: Cherie McCaulou [CMccaulou@waterboards.ca.gov]
Sent: Thursday, September 02, 2010 4:38 PM
To: Jakub, Barbara, Env. Health
Subject: Re: Case Closure Summary for RO0000397

Hello Barbara - The Regional Water Board has no objection to ACEH recommendation for closing the case located at 1112 29th Avenue, Oakland. Thank you.

Sincerely,

Cherie McCaulou
Engineering Geologist
San Francisco Bay Regional Water Quality Control Board
cmccaulou@waterboards.ca.gov
510-622-2342

>>> "Jakub, Barbara, Env. Health" <barbara.jakub@acgov.org> 9/2/2010 3:21 PM >>>
Hello Cherie,

Attached is a closure summary for RO0000397; Caltrans South Oakland Maintenance Station located at 1112 29th Avenue in Oakland to comply with the RWQCB's 30-day review period. If no comments from the RWQCB are received within the 30-day review period, ACEH's will proceed with case closure.

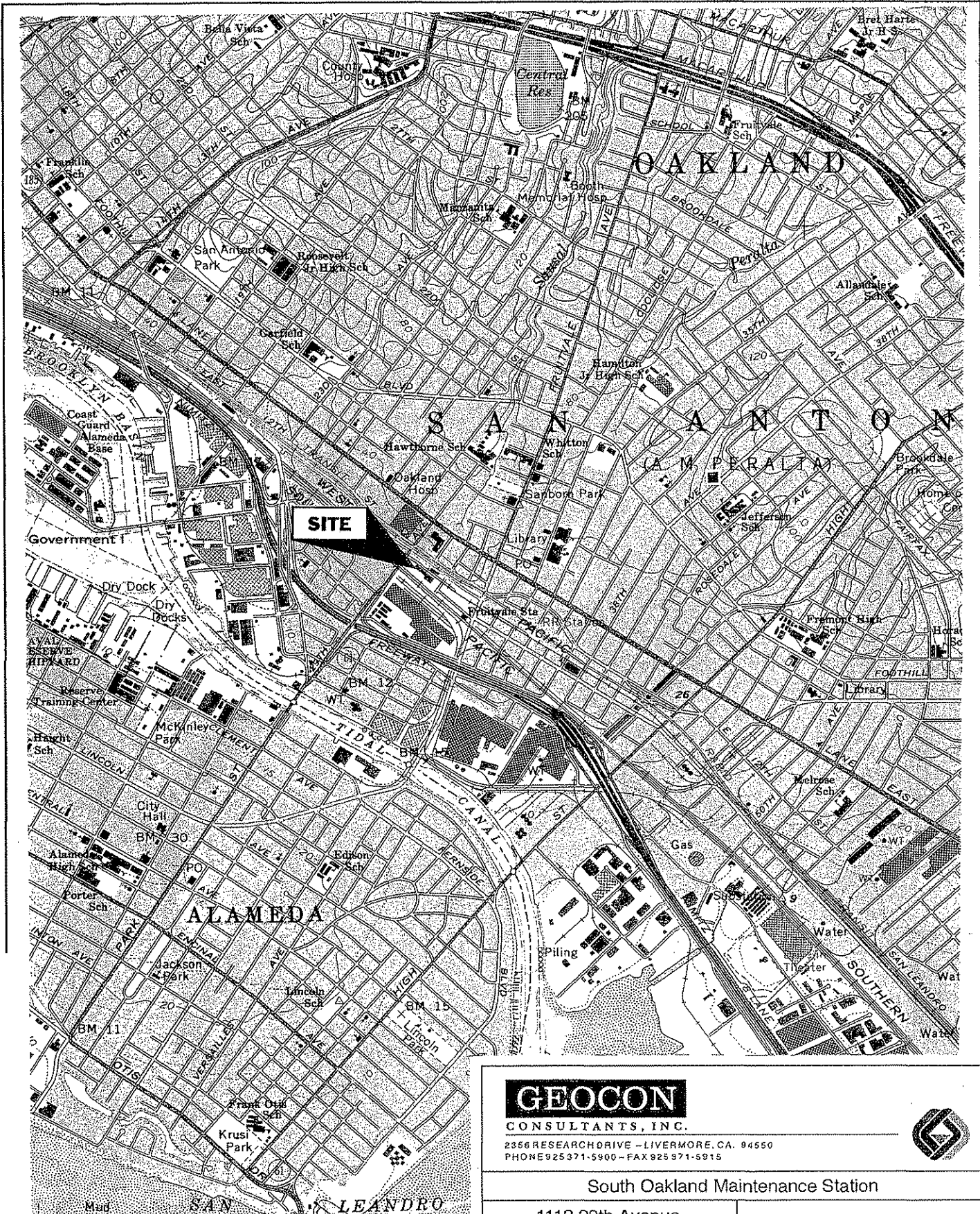
Please contact me if you have any comments or questions regarding the subject site.


Regards,

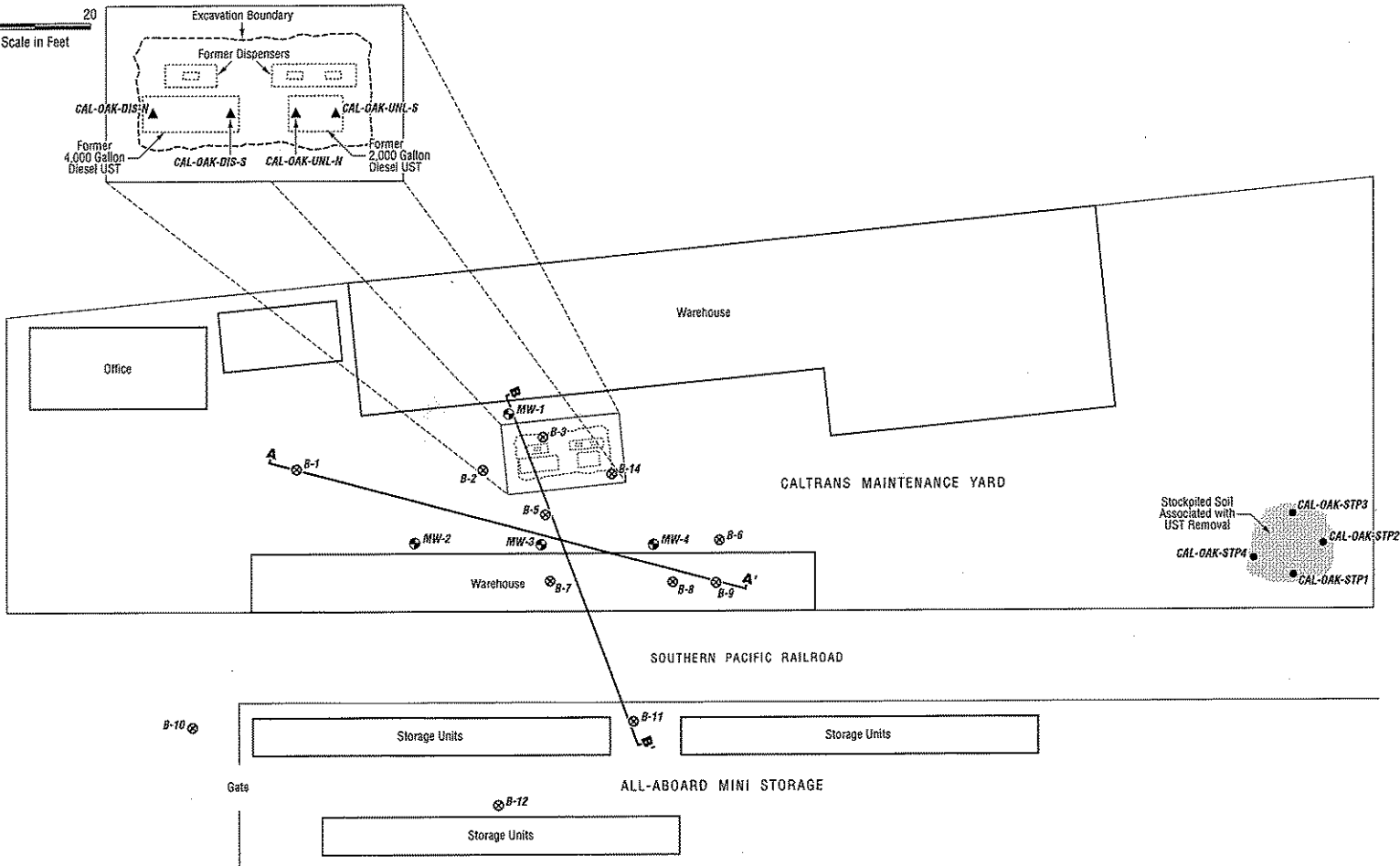
Barbara Jakub, P.G.
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Pky.
Alameda, CA 94502
Direct: 510-639-1287
Fax: 510-337-9335

PDF copies of case files can be downloaded at:

<http://www.acgov.org/aceh/lop/ust.htm>

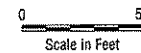


 <p>GEOCON CONSULTANTS, INC.</p> <p>2366 RESEARCH DRIVE - LIVERMORE, CA. 94550 PHONE 925 371-5900 - FAX 925 371-5915</p>			
<p>South Oakland Maintenance Station</p>			
<p>1112 29th Avenue Oakland, California</p>		<p>VICINITY MAP</p>	
<p>GEOCON Proj. No. E8220-06-32</p>		<p>June 2006</p>	
<p>Task Order No. 32</p>		<p>Figure 1</p>	



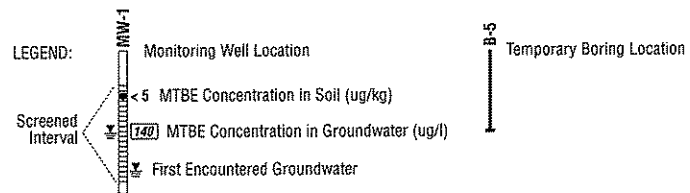
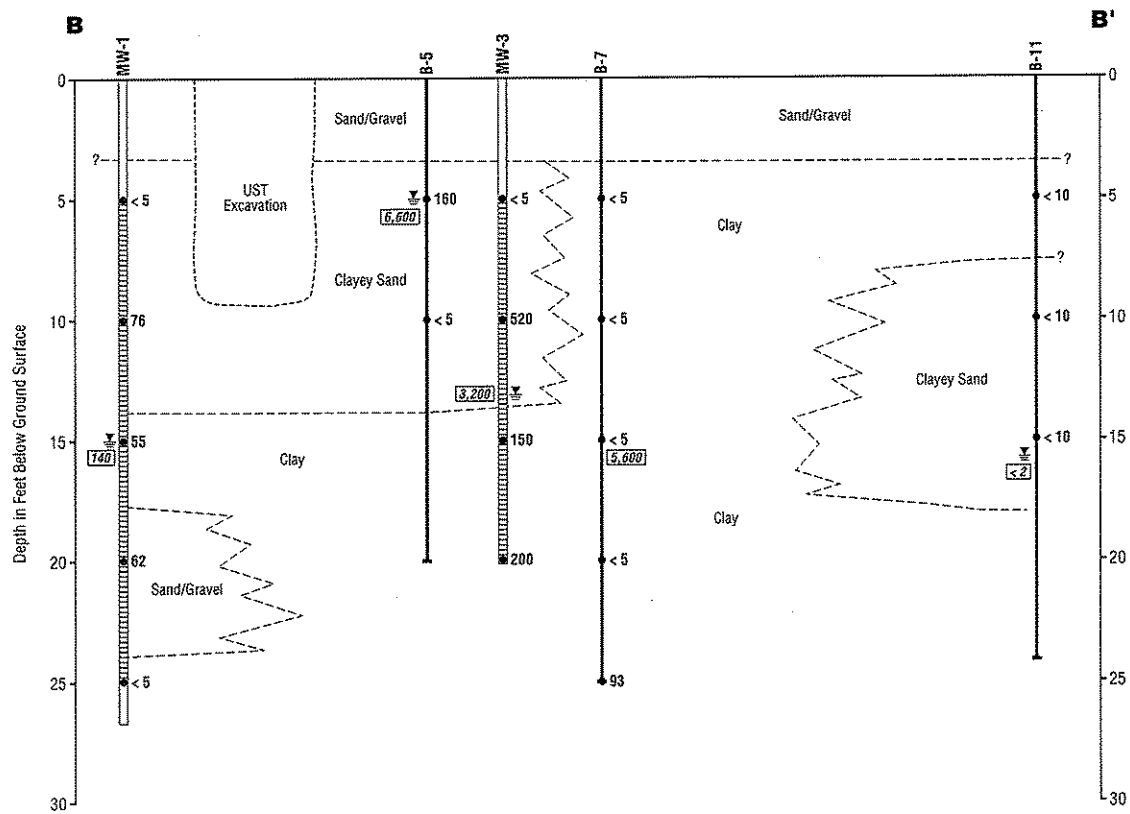
LEGEND:

- MW-1 ⊕ Approximate Monitoring Well Location
- B-1 ⊕ Approximate Temporary Boring Location
- CAL-OAK-DIS-H ▲ Approximate Excavation Sample Location
- CAL-OAK-STP1 ⊕ Approximate Stockpile Sample Location
- A — A' Cross-Section Location (See Figures 3 and 4)



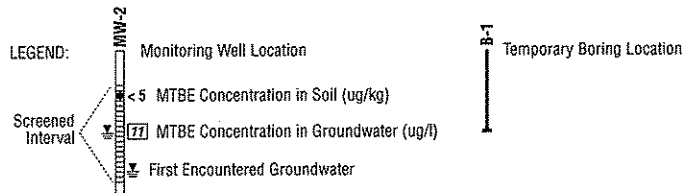
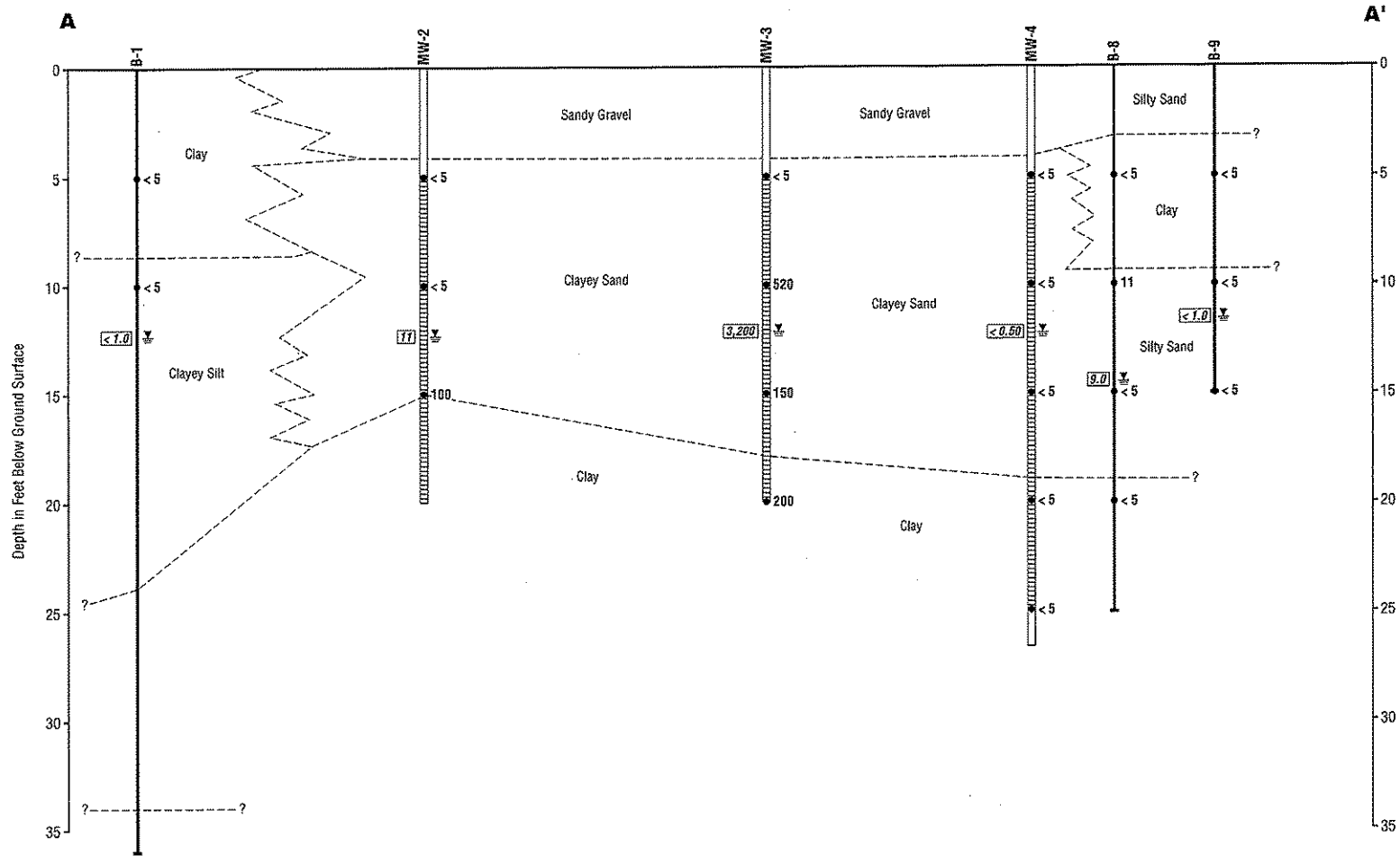
GEOCON CONSULTANTS, INC. <small>2356 RESEARCH DRIVE - LIVERMORE, CA. 94550 PHONE 925-371-5500 - FAX 925-371-5515</small>		
South Oakland Maintenance Station		
1112 29th Avenue Oakland, California		SITE PLAN
GEOCON Proj. No. E6220-06-32		
Task Order No. 32	June 2006	Figure 2

ATTACHMENT 2



HORIZONTAL SCALE: 1" = 20'
 VERTICAL SCALE: 1" = 5'

GEOCON CONSULTANTS, INC. 2306 RESEARCH DRIVE - LIVERMORE, CA. 94560 PHONE 925 371-5800 - FAX 925 371-5915		
South Oakland Maintenance Station		
1112 29th Avenue Oakland, California		CROSS-SECTION B - B'
GEOCON Proj. No. E8220-06-32		
Task Order No. 32	June 2006	Figure 4



HORIZONTAL SCALE: 1" = 20'
 VERTICAL SCALE: 1" = 5'

GEOCON
 CONSULTANTS, INC.

2306 RESEARCH DRIVE - LIVERMORE, CA. 94550
 PHONE 925 371-5900 - FAX 925 371-5915



South Oakland Maintenance Station

1112 29th Avenue
 Oakland, California

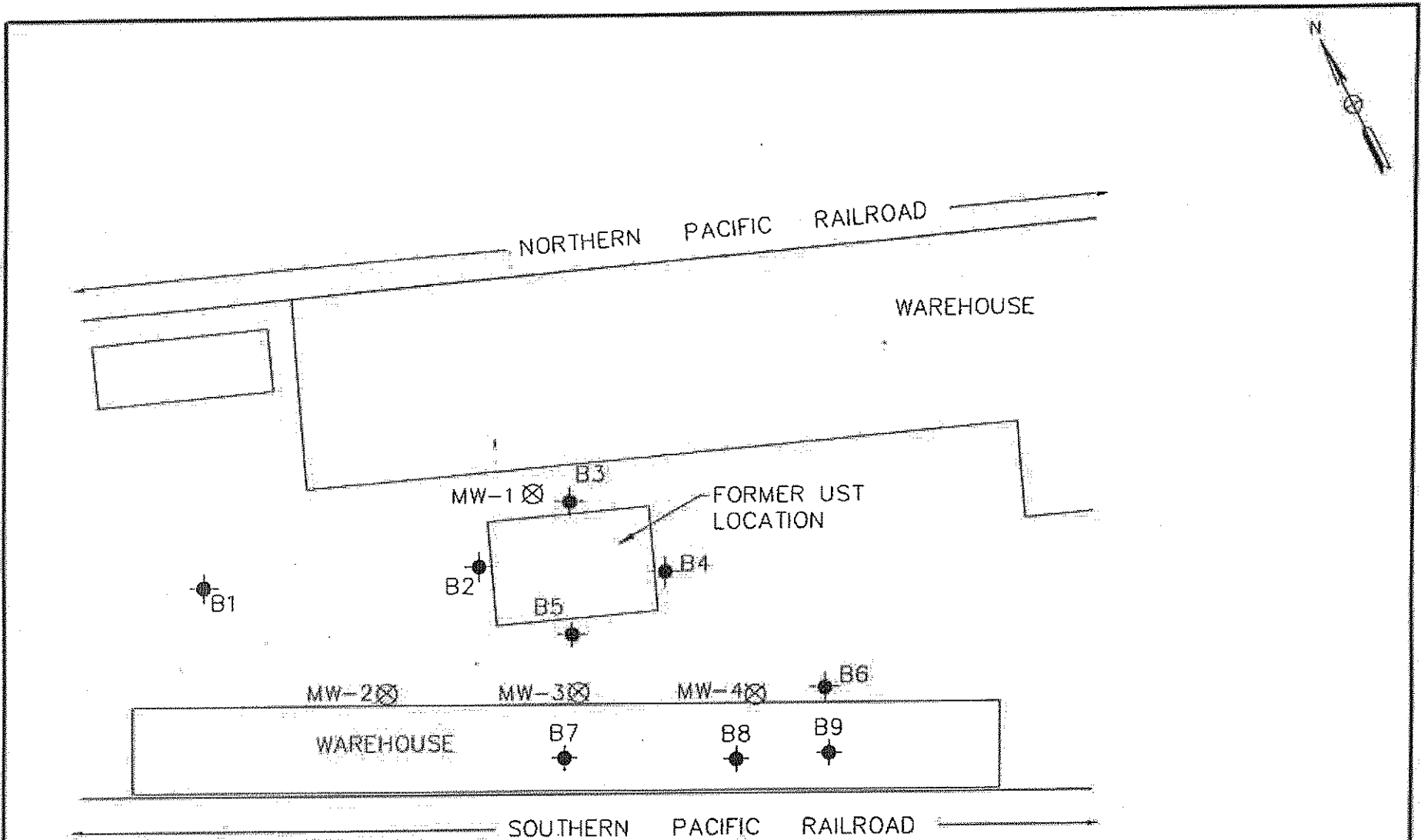
CROSS-SECTION
A - A'

GEOCON Proj. No. E8220-06-32

Task Order No. 32

June 2006

Figure 3



LEGEND
 B7 ● FORMER SOIL BORING LOCATION
 MW-2 ⊗ GROUNDWATER MONITORING WELL LOCATION

0 35 70
 SCALE IN FEET


 ENVIRONMENTAL GEOTECHNICAL CONSTRUCTION <small>CONSULTING • ENGINEERING • TESTING</small>		
GROUNDWATER MONITORING WELL LOCATIONS CALTRANS MAINTENANCE STATION 1112 29TH AVENUE OAKLAND, CALIFORNIA PROJECT NUMBER: 575-06019		
DATE: 7/21/00	CKD BY:	FIGURE NO.: 2
FILE NO: 06019-2H	DRAWN BY: A.CONSTANTINESCU	

Table 1
Soil Sample Results
Caltrans South Oakland Maintenance Station
Oakland, California

Sample Location	Sample Type	Sample Date	Sample Depth (feet)	TPHg (mg/kg)	TPHd (mg/kg)	Lead (mg/kg)	Benzene (ug/kg)	Toluene (ug/kg)	Ethylbenzene (ug/kg)	Xylenes (ug/kg)	MTBE (ug/kg)	VOCs (ug/kg)	FOCs (ug/kg)
CAL-OAK-STP1	Stockpile	3/11/97	10	2.3	18	8.7	<5	<5	7.2	145	293	--	--
CAL-OAK-STP2	Stockpile	3/11/97	10	2.4	33	<5.0	<5	15	5.4	76	125	--	--
CAL-OAK-STP3	Stockpile	3/11/97	10	4.4	20	<5.0	<5	<5	11	280	<5	--	--
CAL-OAK-STP4	Stockpile	3/11/97	10	1.2	18	<5.0	<5	<5	<5	43	52	--	--
CAL-OAK-UNL-N	Excavation	3/11/97	10	380	--	<5.0	1,650	11,860	8,040	48,860	9,150	--	--
CAL-OAK-UNL-S	Excavation	3/11/97	10	<1.0	--	<5.0	75	<5	10	<5	380	--	--
CAL-OAK-DIS-N	Excavation	3/11/97	10	--	4.9	<5.0	<5	<5	<5	<5	112	--	--
CAL-OAK-DIS-S	Excavation	3/11/97	10	--	21	<5.0	<5	<5	<5	<5	41	--	--
B-1	Soil Boring	4/6/99	5	<1.0	<10	--	<1	<1	<1	<3	<5	ND	--
B-1	Soil Boring	4/6/99	10	<1.0	<10	--	<1	<1	<1	<3	<5	ND	--
B-2	Soil Boring	4/6/99	5	<1.0	<10	--	<1	<1	<1	<3	<5	ND	--
B-2	Soil Boring	4/6/99	10	<1.0	<10	--	<1	<1	<1	<3	<5	ND	--
B-3	Soil Boring	4/6/99	5	<1.0	<10	--	<1	<1	<1	<3	<5	ND	--
B-3	Soil Boring	4/6/99	10	<1.0	<10	--	<1	<1	<1	<3	<5	ND	--
B-4	Soil Boring	4/7/99	5	<1.0	<10	--	<1	<1	<1	<3	<5	ND	--
B-4	Soil Boring	4/7/99	10	<1.0	<10	--	<1	<1	<1	<3	<5	ND	--
B-5	Soil Boring	4/7/99	5	<1.0	<10	--	<1	<1	<1	<3	160	ND	--
B-5	Soil Boring	4/7/99	10	<1.0	<10	--	<1	<1	<1	<3	<5	ND	--
B-6	Soil Boring	4/7/99	5	<1.0	<10	--	<1	<1	<1	<3	<5	ND	--
B-6	Soil Boring	4/7/99	10	13	<10	--	<1	<1	<1	<3	<5	ND	--
B-7	Soil Boring	8/13/99	5	<0.5	<10	--	<1	<1	<1	<3	<5	ND	--
B-7	Soil Boring	8/13/99	10	<0.5	<10	--	<1	<1	<1	<3	<5	ND	--
B-7	Soil Boring	8/13/99	15	<0.5	<10	--	<1	<1	<1	<3	<5	ND	--
B-7	Soil Boring	8/13/99	20	<0.5	<10	--	<1	<1	<1	<3	93	ND	--
B-8	Soil Boring	8/13/99	5	<0.5	<10	--	<1	<1	<1	<3	<5	ND	--
B-8	Soil Boring	8/13/99	10	<0.5	<10	--	<1	<1	<1	<3	11	1 (PCE)	--
B-8	Soil Boring	8/13/99	15	<0.5	<10	--	<1	<1	<1	<3	<5	ND	--
B-8	Soil Boring	8/13/99	20	<0.5	<10	--	<1	<1	<1	<3	<5	ND	--
B-9	Soil Boring	8/13/99	5	<0.5	<10	--	<1	<1	<1	<3	<5	1 (PCE)	--
B-9	Soil Boring	8/13/99	10	<0.5	<10	--	<1	<1	<1	<3	<5	ND	--
B-9	Soil Boring	8/13/99	15	0.54	<10	--	<1	<1	<1	<3	<5	ND	--

Table 1
Soil Sample Results
Caltrans South Oakland Maintenance Station
Oakland, California

Sample Location	Sample Type	Sample Date	Sample Depth (feet)	TPHg (mg/kg)	TPHd (mg/kg)	Lead (mg/kg)	Benzene (ug/kg)	Toluene (ug/kg)	Ethylbenzene (ug/kg)	Xylenes (ug/kg)	MTBE (ug/kg)	VOCs (ug/kg)	FOCs (ug/kg)
MW-1	MW Borehole	6/8/00	5	<0.5	--	--	<1	<1	<1	<3	<5	ND	--
MW-1	MW Borehole	6/8/00	10	<0.5	--	--	<1	<1	<1	<3	76	ND	--
MW-1	MW Borehole	6/8/00	15	<0.5	--	--	<1	<1	<1	<3	55	ND	--
MW-1	MW Borehole	6/8/00	20	<0.5	--	--	<1	<1	<1	<3	62	ND	--
MW-1	MW Borehole	6/8/00	25	<0.5	--	--	<1	<1	<1	<3	<5	ND	--
MW-2	MW Borehole	6/8/00	5	<0.5	--	--	<1	<1	<1	<3	<5	ND	--
MW-2	MW Borehole	6/8/00	10	<0.5	--	--	<1	<1	<1	<3	<5	ND	--
MW-2	MW Borehole	6/8/00	15	<0.5	--	--	<1	<1	<1	<3	100	ND	--
MW-3	MW Borehole	6/8/00	5	<0.5	23	--	<1	<1	<1	<3	<5	ND	--
MW-3	MW Borehole	6/8/00	10	<0.5	10	--	<1	<1	<1	<3	520	ND	--
MW-3	MW Borehole	6/8/00	15	<0.5	<10	--	<1	<1	<1	<3	150	ND	--
MW-3	MW Borehole	6/8/00	20	<0.5	<10	--	<1	<1	<1	<3	200	ND	--
MW-4	MW Borehole	6/8/00	5	<0.5	--	--	<1	<1	<1	<3	<5	ND	--
MW-4	MW Borehole	6/8/00	10	<0.5	--	--	<1	<1	<1	<3	<5	ND	--
MW-4	MW Borehole	6/8/00	15	<0.5	--	--	<1	<1	<1	<3	<5	ND	--
MW-4	MW Borehole	6/8/00	20	<0.5	--	--	<1	<1	<1	<3	<5	ND	--
MW-4	MW Borehole	6/8/00	25	<0.5	--	--	<1	<1	<1	<3	<5	ND	--
B-10	Soil Boring	8/24/01	5	<1.0	--	--	<5.0	<5.0	<5.0	<10.0	<10	ND	ND
B-10	Soil Boring	8/24/01	10	<1.0	--	--	<5.0	<5.0	<5.0	<10.0	<10	ND	ND
B-10	Soil Boring	8/24/01	25	<1.0	--	--	<5.0	<5.0	<5.0	<10.0	<10	ND	ND
B-10	Soil Boring	8/24/01	20	<1.0	--	--	<5.0	<5.0	<5.0	<10.0	<10	ND	ND
B-10	Soil Boring	8/24/01	25	<1.0	--	--	<5.0	<5.0	<5.0	<10.0	<10	ND	ND
B-11	Soil Boring	8/24/01	5	<1.0	--	--	<5.0	<5.0	<5.0	<10.0	<10	ND	ND
B-11	Soil Boring	8/24/01	10	<1.0	--	--	<5.0	<5.0	<5.0	<10.0	<10	ND	ND
B-11	Soil Boring	8/24/01	15	<1.0	--	--	<5.0	<5.0	<5.0	<10.0	<10	ND	ND
B-12	Soil Boring	8/24/01	5	<1.0	--	--	<5.0	<5.0	<5.0	<10.0	<10	ND	ND
B-12	Soil Boring	8/24/01	10	<1.0	--	--	<5.0	<5.0	<5.0	<10.0	<10	ND	ND
B-12	Soil Boring	8/24/01	15	<1.0	--	--	<5.0	<5.0	<5.0	<10.0	<10	ND	ND

Notes -

Bold type indicates compound detected above reporting limit

mg/kg - milligrams per kilogram

ug/kg - Micrograms per kilogram

-- Not analyzed

PCE - tetrachloroethene

VOCs - volatile organic compounds analyzed using Test Method 8260B

FOCs - fuel oxygenate compounds including tert-Butanol (TBA), tert-amyl-methyl ether (TAME), tert-butyl ethyl ether (ETBE), and di-isopropyl ether (DIPE)

MTBE - methyl tertiary butyl ether

Client: A.E. Schmidt Environmental
Attn: Mr. Chris Thixton

Client's Project: Caltrans Maintenance Yard

Date Received: 03/12/97
Date Sampled: 03/11/97

Lab No.	Sample ID	Analysis	Date Analyzed	Results	Matrix Units	MDL	DLR	Analyst
16222-001	CAL-OAK-STP 1	EPA 7420 (Lead)	03/13/97	8.7	Soil, mg/kg	5.0	5.0	DJ
16222-002	CAL-OAK-STP 2	EPA 7420 (Lead)	03/13/97	ND	Soil, mg/kg	5.0	5.0	DJ
16222-003	CAL-OAK-STP 3	EPA 7420 (Lead)	03/13/97	ND	Soil, mg/kg	5.0	5.0	DJ
16222-004	CAL-OAK-STP 4	EPA 7420 (Lead)	03/13/97	ND	Soil, mg/kg	5.0	5.0	DJ
16222-005	CAL-OAK-UNL-N	EPA 7420 (Lead)	03/13/97	ND	Soil, mg/kg	5.0	5.0	DJ
16222-006	CAL-OAK-UNL-S	EPA 7420 (Lead)	03/13/97	ND	Soil, mg/kg	5.0	5.0	DJ

MDL = Method Detection Limit
ND = Not Detected (Below DLR)
DF = Dilution Factor (DLR/MDL)

Reviewed/Approved By: *Cheryl De Los Reyes*
Cheryl De Los Reyes
Department Supervisor

Date: 3/13/97

The cover letter is an integral part of this analytical report.

Table 2
 Grab Groundwater Sample Results
 Caltrans South Oakland Maintenance Station
 Oakland, California

Sample Location	Sample Type	Sample Date	First Encountered Groundwater (feet bgs)	TPHg (mg/l)	TPHd (mg/l)	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylenes (ug/l)	MTBE (ug/l)	VOCs (ug/l)	FOCs (ug/l)
B-1	Temp. Boring	4/6/99	32	<0.5	<10	<0.5	<0.5	<0.5	2.0	<1.0	ND	--
B-2	Temp. Boring	4/6/99	19	<0.5	<10	<0.5	<0.5	<0.5	<1.5	<1.0	ND	--
B-3	Temp. Boring	4/6/99	10	0.52	<10	6.3	2.2	11	40	<1.0	see table 2A	--
B-4	Temp. Boring	4/7/99	9.5	0.52	<10	<0.5	<0.5	3.7	7.7	<1.0	see table 2A	--
B-5	Temp. Boring	4/7/99	5.5	<0.5	<10	<0.5	0.6	<0.5	<1.5	6,600	ND	--
B-6	Temp. Boring	4/7/99	8	<0.5	<10	<0.5	<0.5	<0.5	<1.5	24	see table 2A	--
B-7	Temp. Boring	8/13/99	15	3.8	0.73	<0.5	<0.5	<0.5	<1.5	5,600	ND	ND
B-8	Temp. Boring	8/13/99	14.5	<0.5	<0.42	<0.5	<0.5	<0.5	<1.5	9.0	see table 2A	ND
B-9	Temp. Boring	8/13/99	11.5	<0.5	<0.42	<0.5	<0.5	<0.5	<1.5	<1.0	see table 2A	ND
B-10	Temp. Boring	8/24/01	15.5	<0.5	--	<1.0	<1.0	<1.0	<3.0	2.1	see table 2A	ND
B-11	Temp. Boring	8/24/01	15	<0.5	--	<1.0	<1.0	<1.0	<3.0	<2	see table 2A	ND
B-12	Temp. Boring	8/24/01	15	<0.5	--	<1.0	<1.0	<1.0	<3.0	<2	see table 2A	ND

Notes -

Bold type indicates compound detected above reporting limit

feet bgs - feet below ground surface

mg/l - milligrams per liter

ug/l - Micrograms per liter

-- Not analyzed

VOCs - volatile organic compounds analyzed using Test Method 8260B

FOCs - fuel oxygenate compounds including tert-Butanol (TBA), tert-amyl-methyl ether (TAME), tert-butyl ethyl ether (ETBE), and di-isopropyl ether (DIPE)

MTBE - methyl tertiary butyl ether

Table 2A
Grab Groundwater Sample Results (Other VOCs)
Caltrans South Oakland Maintenance Station
Oakland, California

Sample Location	Sample Date	First Encountered Groundwater (feet bgs)	Chloromethane (ug/l)	isopropylbenzene (ug/l)	n-Propylbenzene (ug/l)	Naphthalene (ug/l)	1,2,4-Trimethylbenzene (ug/l)	1,3,5-Trimethylbenzene (ug/l)	Chloroform (ug/l)	Tetrachlorethene (ug/l)
B-3	4/6/99	10	<0.5	1.8	5.4	3.5	31	12	<0.5	<0.5
B-4	4/6/99	9.5	<0.5	1.3	3.0	2.6	19	6.3	2.4	<0.5
B-6	4/7/99	8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.7	12
B-8	8/13/99	14.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	10	<0.5
B-9	8/13/99	11.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	16	<0.5
B-10	8/24/01	15.5	4.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
B-11	8/24/01	15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	<1.0
B-12	8/24/01	15	1.9	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Notes -

Bold type indicates compound detected above reporting limit

feet bgs - feet below ground surface

ug/l - Micrograms per liter

VOCs - volatile organic compounds analyzed using Test Method 8260B

Table 3
Depth to Water and Monitoring Well Sample Results
Caltrans South Oakland Maintenance Station
Oakland, California

Well	Date	*TOC Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Screened Interval (feet bgs)	TPHg (mg/l)	Benzene (ug/l)	Toluene (ug/l)	Ethyl- benzene (ug/l)	Xylenes (ug/l)	MTBE (ug/l)	ETBE (ug/l)	TAME (ug/l)	TBA (ug/l)	DIPE (ug/l)
MW-1	27-Jun-00	99.57	9.13	90.44	5-25	0.85	20	<1.0	<1.0	19	880	---	<5.0	<50	---
	11-Sep-00	99.57	9.52	90.05	5-25	0.92	14	<1.0	1.6	3.6	860	---	<5.0	190	---
	28-Nov-00	99.57	9.62	89.95	5-25	<0.5	3.6	<2.5	<2.5	<7.5	610	---	<25	<250	---
	27-Mar-01	99.57	8.79	90.78	5-25	<0.2	<0.5	<0.5	<0.5	<1.0	29	<5.0	<5.0	<200	<5.0
	26-Jun-01	99.57	9.80	89.77	5-25	0.24	<0.5	<0.5	<0.5	<1.0	200	<5.0	<5.0	<200	<5.0
	24-Aug-01	---	---	---	5-25	<0.5	<25	<25	<25	<75	520	---	<50	<1,200	---
	05-Dec-01	99.57	8.32	91.25	5-25	0.388	3.5	<0.3	2.4	15.4	505	---	<0.5	<100	---
	04-Mar-01	99.57	8.66	90.91	5-25	0.69	<0.5	<0.5	<0.5	<1.0	55	<0.5	<0.5	<50	<0.5
	14-Jun-02	99.57	9.53	90.04	5-25	<0.5	<0.5	<0.5	<0.5	<1.0	5.3	<0.5	<0.5	<0.5	<0.5
	24-Sep-02	99.57	10.06	89.51	5-25	0.166	<0.5	<0.5	0.5	1.6	60.0	<0.5	<0.5	<50	<0.5
	05-May-04	99.57	9.06	90.51	5-25	<0.05	0.5	<0.5	0.6	1.7	201	<0.5	<0.5	<50	<0.5
	12-May-05	99.57	8.53	91.04	5-25	0.19	<1.0	<1.0	1.2	<1.0	140	<1.0	<1.0	50	<1.0
	MW-2	27-Jun-00	98.91	9.05	89.86	5-20	<0.5	<1.0	<1.0	<1.0	<3.0	86	---	<5	<50
11-Sep-00		98.91	9.95	88.96	5-20	<0.5	<1.0	<1.0	<1.0	<3.0	110	---	<5	<50	---
28-Nov-00		98.91	9.94	88.97	5-20	<0.5	<1.0	<1.0	<1.0	<3.0	130	---	<5	<50	---
27-Mar-01		98.91	8.35	90.56	5-20	<0.2	<0.5	<0.5	<0.5	<1.0	110	<5.0	<5.0	<200	<5.0
26-Jun-01		98.91	10.76	88.15	5-20	0.11	<0.5	<0.5	<0.5	<1.0	51	<5.0	<5.0	<200	<5.0
24-Aug-01		---	---	---	5-20	<0.5	<2.0	<2.0	<2.0	<6.0	36	---	<4	<100	---
05-Dec-01		98.91	8.53	90.38	5-20	0.06	<0.3	<0.3	<0.3	<0.6	79	---	<0.5	<100	---
04-Mar-01		98.91	8.25	90.66	5-20	<0.5	<0.5	<0.5	<0.5	<1.0	9	<0.5	<0.5	<50	<0.5
14-Jun-02		98.91	9.50	89.41	5-20	<0.5	<0.5	<0.5	<0.5	<1.0	25.0	<0.5	<0.5	<0.5	<0.5
24-Sep-02		98.91	10.31	88.60	5-20	<0.05	<0.5	<0.5	<0.5	<1.0	34.6	<0.5	<0.5	<50	<0.5
05-May-04		98.91	8.46	90.45	5-20	<0.05	<0.5	<0.5	<0.5	<1.0	13.5	<0.5	<0.5	<50	<0.5
12-May-05		98.91	8.21	90.70	5-20	<0.05	<1.0	<1.0	<1.0	<1.0	11	<1.0	<1.0	<1.0	<1.0
MW-3		27-Jun-00	98.98	8.76	90.22	5-20	2.7	73	1.7	1.2	4.6	5,000	---	11	1,500
	11-Sep-00	98.98	9.28	89.70	5-20	1.9	19	<1.0	<1.0	<3.0	2,700	---	10	310	---
	28-Nov-00	98.98	9.36	89.62	5-20	1.7	27	92	<10	<30	2,500	---	<100	<1,000	---
	27-Mar-01	98.98	8.35	90.63	5-20	5.2	220	5.9	2.2	<1.0	5,500	<5.0	12	270	<5.0
	26-Jun-01	98.98	10.51	88.47	5-20	2.5	20	<0.5	<0.5	<1.0	2,800	<5.0	12	230	<5.0
	24-Aug-01	---	---	---	5-20	1.7	<100	<100	<100	<300	2,800	---	<200	<5,000	---
	05-Dec-01	98.98	8.05	90.93	5-20	1.86	18.3	0.3	1.2	1.0	2,240	---	<200	<5,000	---
	04-Mar-01	98.98	8.05	90.93	5-20	3.23	94.2	0.8	2.4	6.9	7,520	<0.5	11	<50	<0.5
	14-Jun-02	98.98	9.35	89.63	5-20	2.32	3.6	<0.5	<0.5	<1.0	5,290	<0.5	8.9	<0.5	<0.5
	24-Sep-02	98.98	10.28	88.70	5-20	2.06	24.0	0.5	1.2	3.4	2,020	<0.5	7.6	<50	<0.5
	05-May-04	98.98	8.88	90.10	5-20	0.27	32.2	<0.5	0.8	4.8	4,420	<0.5	<0.5	<50	<0.5
	12-May-05	98.98	9.15	89.83	5-20	1.3	40	<5.0	<5.0	<5.0	3,200	<5.0	<5.0	890	<5.0

Table 3
Depth to Water and Monitoring Well Sample Results
Caltrans South Oakland Maintenance Station
Oakland, California

Well	Date	*TOC	Depth to	Groundwater	Screened	TPHg (mg/l)	Benzene (ug/l)	Toluene (ug/l)	Ethyl-	Xylenes (ug/l)	MTBE (ug/l)	ETBE (ug/l)	TAME (ug/l)	TBA (ug/l)	DIPE (ug/l)
		Elevation (feet)	Water (feet)	Elevation (feet)	Interval (feet bgs)				benzene (ug/l)						
MW-4	27-Jun-00	99.04	8.74	90.30	5-25	<0.5	<1.0	<1.0	<1.0	<3.0	18	---	<5	<50	---
	11-Sep-00	99.04	9.30	89.74	5-25	<0.5	<1.0	<1.0	<1.0	<3.0	<1.0	---	<5	<50	---
	28-Nov-00	99.04	9.32	89.72	5-25	<0.5	<0.5	<0.5	<0.5	<1.5	<1.0	---	<5	<50	---
	27-Mar-01	99.04	7.96	91.08	5-25	<0.2	<0.5	<0.5	<0.5	<1.0	<5.0	<5.0	<5.0	<200	<5.0
	26-Jun-01	99.04	9.56	89.48	5-25	<0.05	<0.5	<0.5	<0.5	<1.0	<5.0	<5.0	<5.0	<200	<5.0
	24-Aug-01	---	---	---	5-25	<0.5	<1.0	<1.0	<1.0	<3.0	<2	---	<4	<100	---
	05-Dec-01	99.04	8.58	90.46	5-25	<0.05	<0.3	<0.3	<0.3	<0.6	<0.3	---	<0.5	<100	---
	04-Mar-01	99.04	8.00	91.04	5-25	<0.5	0.5	<0.5	<0.5	<1.0	5.00	<0.5	<0.5	<0.5	<0.5
	14-Jun-02	99.04	8.79	90.25	5-25	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5
	24-Sep-02	99.04	9.75	89.29	5-25	<0.05	<0.5	<0.5	<0.5	<1.0	1.3	<0.5	<0.5	<50	<0.5
	05-May-04	99.04	8.55	90.49	5-25	<0.05	<0.5	<0.5	<0.5	<1.0	2.2	<0.5	<0.5	<50	<0.5
	12-May-05	99.04	7.65	91.39	5-25	<0.05	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<10	<1.0

Notes-

Bold type indicates compound detected above reporting limit

mg/l - milligrams per liter

ug/l - micrograms per liter

TOC - top of casing

bgs - below ground surface

* - elevation measured relative to an arbitrary datum assigned a value of 100.00 feet

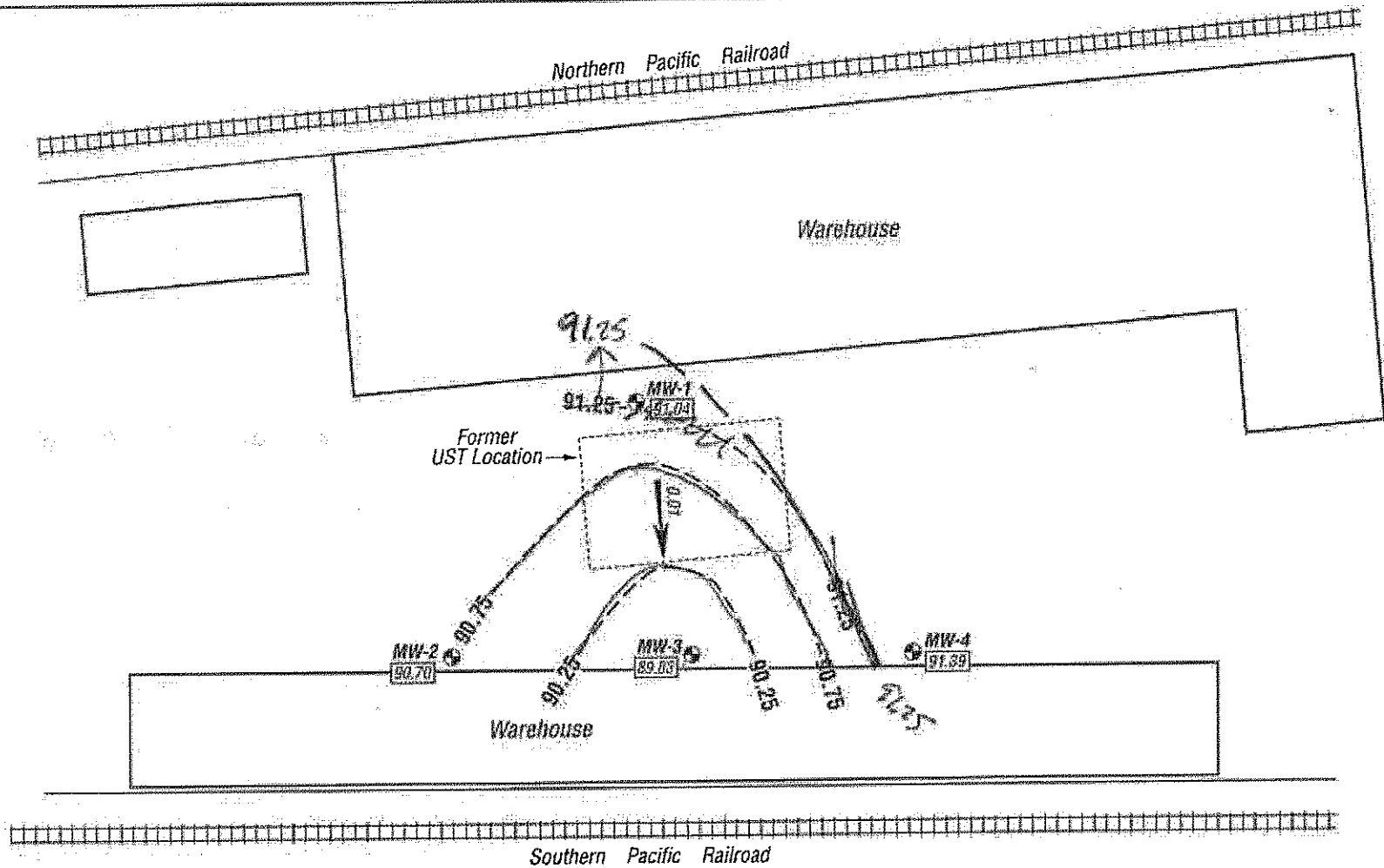
MTBE - methyl tertiary butyl ether

ETBE - Ethyl tertiary butyl ether

TAME - tertiary amyl methyl ether

TBA - tert-butanol

DIPE - di-isopropyl ether



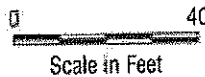
LEGEND:

MW-1 Approximate Monitoring Well Location

Groundwater Elevation Contour (Interval = 0.50 Ft.)

MSL Elevation of Groundwater Measured 5/12/05

Approximate Groundwater Direction & Gradient



GEOCON

CONSULTANTS, INC.

2356 RESEARCH DRIVE - LIVERMORE, CA 94550
PHONE 925 971-5900 - FAX 925 971-5915



South Oakland Maintenance Station

1112 29th Avenue
Oakland, California

**GROUNDWATER
ELEVATION MAP-
MAY 2005**

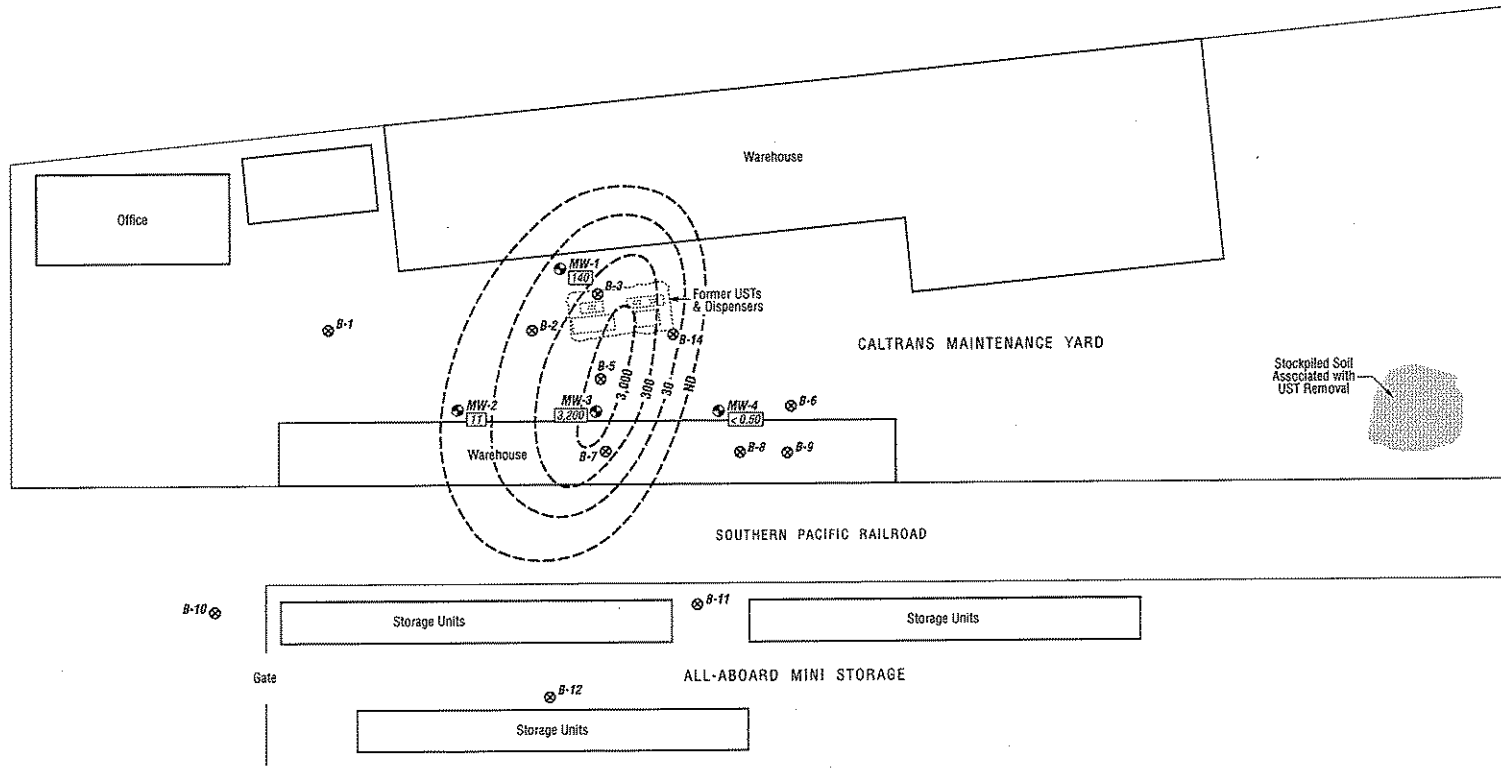
GEOCON Proj. No. E8220-06-18

Task Order No. 18

May 2005

Figure 3


ATTACHMENT 6



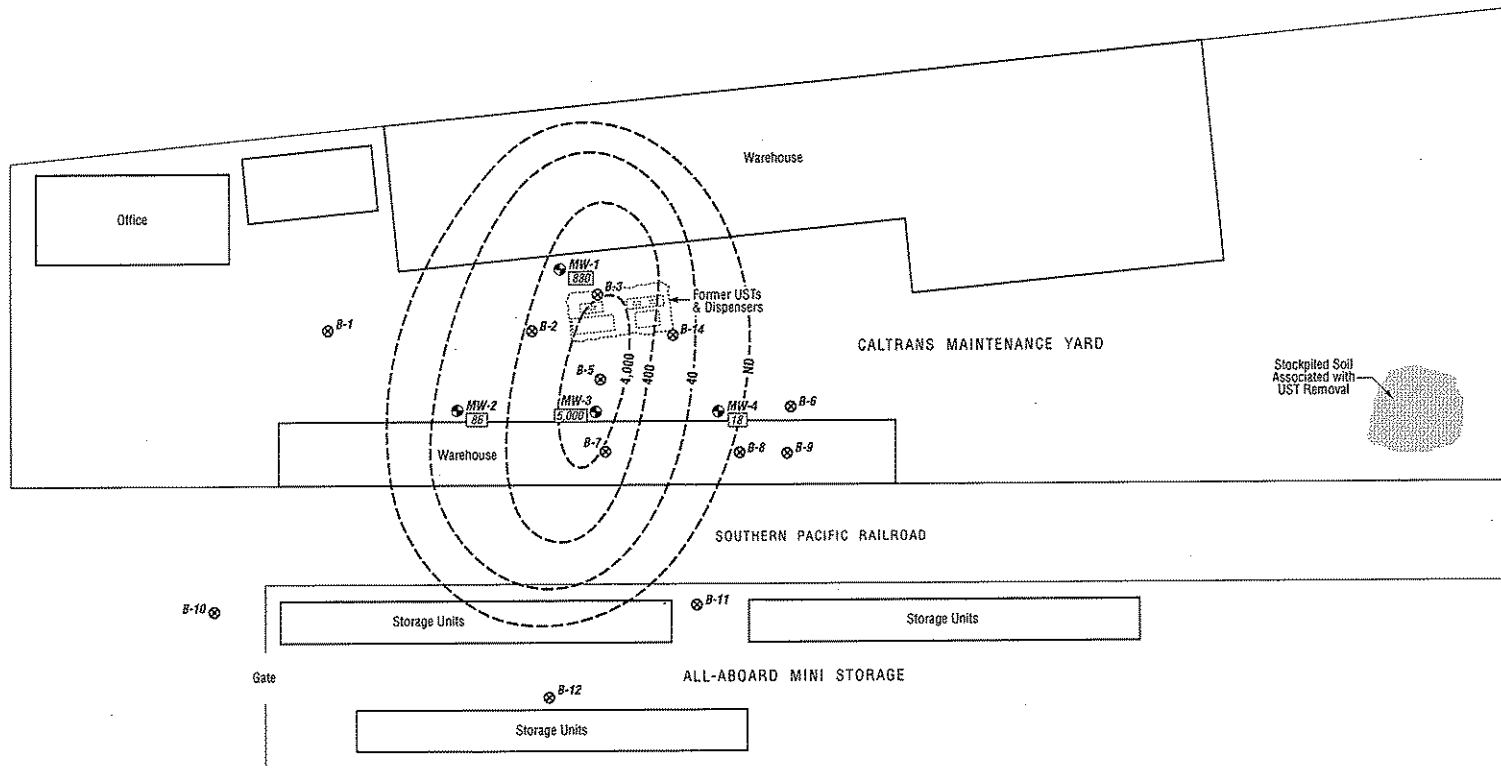
LEGEND:

- MW-1 ⊕ Approximate Monitoring Well Location
- B-1 ⊕ Approximate Temporary Boring Location
- 3,200 MTBE Concentration (ug/l)
- 3,000 - - - - - MTBE Isoconcentration Contour (ug/l)



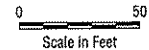
GEOCON CONSULTANTS, INC. <small>2866 RESEARCH DRIVE • LIVERMORE, CA. 94550 PHONE 925-371-5900 • FAX 925-371-5915</small>			
South Oakland Maintenance Station			
1112 29th Avenue Oakland, California		Isoconcentration Map - MTBE Concentrations in Groundwater (May 2005)	
GEOCON Proj. No. E8220-06-32			
Task Order No. 32		June 2008	Figure 7


ATTACHMENT 7

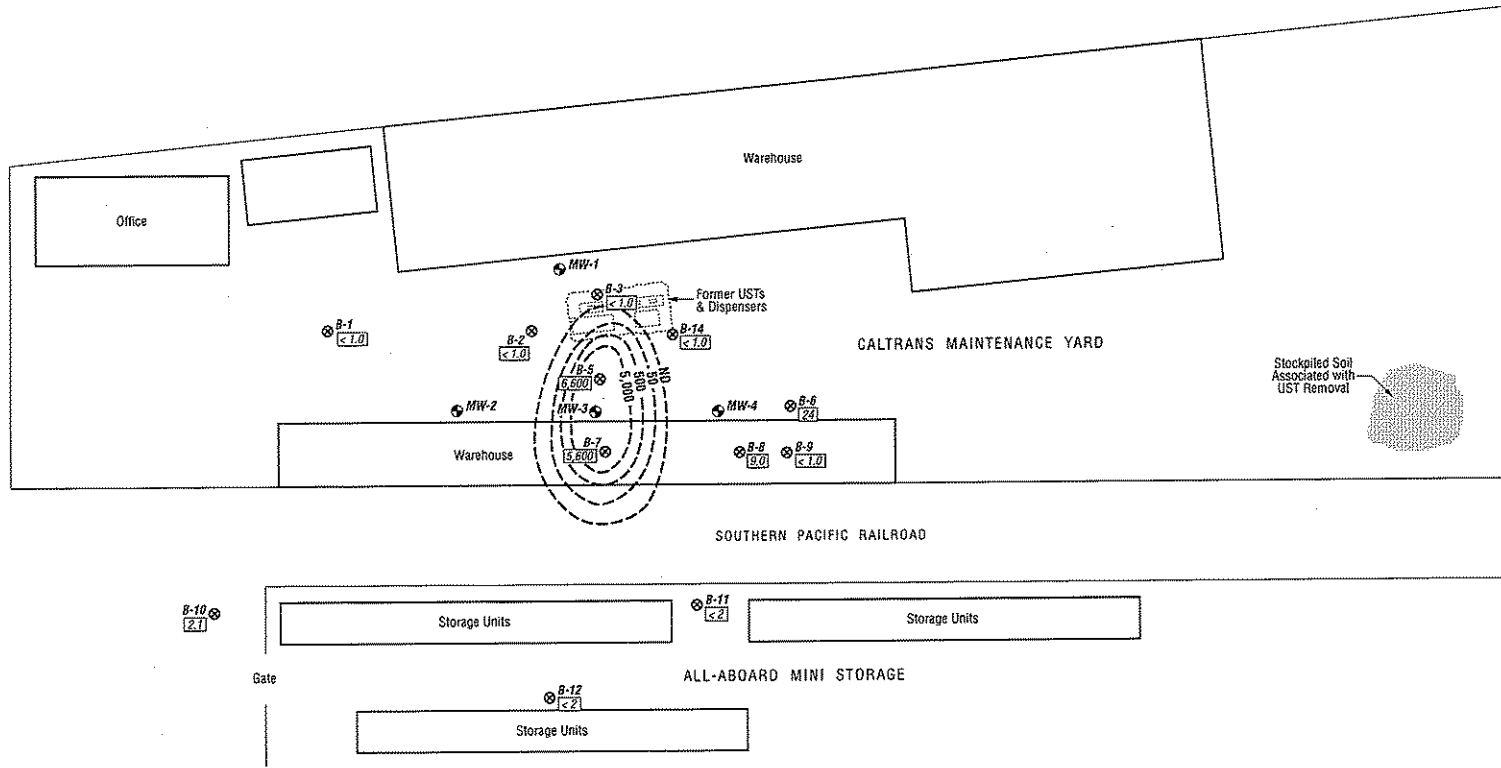


LEGEND:

- MW-1 ⊕ Approximate Monitoring Well Location
- B-1 ⊕ Approximate Temporary Boring Location
- 880 MTBE Concentration (ug/l)
- 4,000 - - - - MTBE Isoconcentration Contour (ug/l)



GEOCON CONSULTANTS, INC. <small>2355 RESEARCH DRIVE - LIVERMORE, CA. 94550 PHONE 925 371-5950 - FAX 925 371-5915</small>		
South Oakland Maintenance Station		
1112 29th Avenue Oakland, California		Isoconcentration Map - MTBE Concentrations in Groundwater (June 2000)
GEOCON Proj. No. E8220-06-32		
Task Order No. 32	June 2006	Figure 6



LEGEND:

- MW-1 ● Approximate Monitoring Well Location
- B-1 ⊕ Approximate Temporary Boring Location
- 16.500 MTBE Concentration (ug/l)
- 5.000 - - - - - MTBE Isoconcentration Contour (ug/l)



GEOCON CONSULTANTS, INC.		
2356 RESEARCH DRIVE - LIVERMORE, CA. 94550 PHONE 925-371-5800 - FAX 925-371-5915		
South Oakland Maintenance Station		
1112 29th Avenue Oakland, California		Isoconcentration Map - MTBE Concentrations in Grab Groundwater Samples
GEOCON Proj. No. E8220-06-32		
Task Order No. 32	June 2006	Figure 5

SOIL BORING LOG

BORING NO:	B1	
SHEET 1	OF 2	
PROJECT NAME:	Caltrans: South Oakland Maintenance Station	
PROJECT NUMBER:	575-9G014	
DATE:	4/6/99	
NORTHINGS:	EASTINGS:	
DRILLING COMPANY:	Fisch Environmental	
DRILLING METHOD:	Direct Push (Geoprobe)	
BORING DIAMETER:	2 inch	
DEPTH:	36 feet	
GROUNDWATER LEVELS		
DATE	COMMENTS	DEPTH BGS
4/6/99	Initial	32
4/7/99	stabilized	6.9

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
0					Silty Clay, low plasticity, brown, damp, no odor.		CL	Asphalt Surface
1								
2								
3								
4								
5		16				0		
6								
7								
8								
9								
10		14			Clayey Silt, brown, low plasticity, damp, no odor.	0	ML	
11								
12								
13								
14								
15		18				0		moisture increase.
16								
17								
18								
19								
20		20			Log continues downward.	0		

REVIEWED BY: Tim O'Brien LOGGED BY: Scott Bowers

SOIL BORING LOG

BORING NO: B1
SHEET 2 OF 2

PROJECT NAME: Caltrans: South Oakland Maintenance Station
PROJECT NUMBER: 575-9G014 DATE: 4/6/99
NORTHINGS: EASTINGS:
DRILLING COMPANY: Fisch Environmental
DRILLING METHOD: Direct Push (Geoprobe)
BORING DIAMETER: 2 inch DEPTH: 36 feet

GROUNDWATER LEVELS		
DATE	COMMENTS	DEPTH BGS

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
21					Clayey Silt as described above.		ML	
22								
23								
24					Silty Clay, low to medium plasticity, damp, no odor		CL	
25		17				0		
26								
27								
28								
29								moisture increase.
30		12				0		
31								
32								
33								
34					Silty Sandy Gravel, coarse sand, fine gravel, tan, wet, no odor.		GW	
35		20				0		
36								
37								Total Depth = 36 feet
38								Boring drilled to sufficient depth for investigation
39								Groundwater stabilized at 6.9 feet bgs.
40								Boring converted to temporary groundwater monitoring well.
								Well grouted by removing casing and tremie placement of neat cement.
						0		

REVIEWED BY: Tim O'Brien

LOGGED BY: Scott A. Bowers

SOIL BORING LOG

BORING NO: B2
SHEET 1 OF 1

PROJECT NAME: Caltrans: South Oakland Maintenance Station
 PROJECT NUMBER: 575-9G014 DATE: 4/6/99
 NORTHINGS: EASTINGS:
 DRILLING COMPANY: Fisch Environmental
 DRILLING METHOD: Direct Push (Geoprobe)
 BORING DIAMETER: 2 inch DEPTH: 20 feet

GROUNDWATER LEVELS		
DATE	COMMENTS	DEPTH BGS
4/6/99	initial	19
4/6/99	stabilized	5

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1					Silty Clay with some fine grained gravel, low to medium plasticity, brown, damp, no odor.		CL	Asphalt surface
2								
3								
4								
5		17				0		
6								
7								
8								
9								
10		12				0		
11								
12								
13								
14								
15								
16								
17		21				0		
18								
19								
20		22				0		

Groundwater encountered at 19 feet bgs.
 Total Depth = 20 feet
 Boring drilled to sufficient depth for investigation
 Groundwater stabilized at 5 feet bgs.
 Boring converted to temporary groundwater monitoring well.
 Well grouted by removing casing and tremie placement of neat cement.

REVIEWED BY: Tim O'Brien LOGGED BY: Scott Bowers

SOIL BORING LOG

BORING NO: B3

SHEET 1 OF 1

PROJECT NAME: Caltrans: South Oakland Maintenance Station

PROJECT NUMBER: 575-9G014

DATE: 4/6/99

NORTHINGS:

EASTINGS:

DRILLING COMPANY: Fisch Environmental

DRILLING METHOD: Direct Push (Geoprobe)

BORING DIAMETER: 2 inch

DEPTH: 20 feet

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS
4/6/99	initial	10
4/6/99	stabilized	5

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1					Silty Clay with some gravel, fine grained gravel, low to medium plasticity, brown, damp, no odor.		CL	Concrete surface
2								
3								
4								
5		20				0		
6								
7								
8								
9								
10		21				0		Groundwater encountered.
11								
12								
13								
14								
15		24				0		
16								
17								
18								
19								
20		23				0		

Total Depth = 20 feet
 Boring drilled to sufficient depth for investigation
 Groundwater stabilized at 5 feet bgs.
 Boring converted to temporary groundwater monitoring well.
 Well grouted by removing casing and tremie placement of neat cement.

REVIEWED BY: Tim O'Brien

LOGGED BY: Scott Bowers

SOIL BORING LOG

BORING NO:	B4
SHEET	1 OF 1
PROJECT NAME:	Caltrans: South Oakland Maintenance Station
PROJECT NUMBER:	575-9G014
DATE:	4/6/99
NORTHINGS:	EASTINGS:
DRILLING COMPANY:	Fisch Environmental
DRILLING METHOD:	Direct Push (Geoprobe)
BORING DIAMETER:	2 inch
DEPTH:	20 feet
GROUNDWATER LEVELS	
DATE	COMMENTS
4/6/99	initial
4/6/99	stabilized
DEPTH BGS	9.5
9.5	

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1					Silty Clay with some gravel, fine grained gravel, low to medium plasticity, brown, damp, no odor.		CL	Asphalt surface
2								
3								
4								
5		10				0		
6								
7								
8								
9								
10		20				0	Groundwater encountered.	
11								
12								
13								
14								
15		24				0		
16								
17								
18								
19								
20		24				0		

Total Depth = 20 feet
 Boring drilled to sufficient depth for investigation
 Groundwater stabilized at 5 feet bgs.
 Boring converted to temporary groundwater monitoring well.
 Well grouted by removing casing and tremie placement of neat cement.

REVIEWED BY: Tim O'Brien

LOGGED BY: Scott Bowers

SOIL BORING LOG

BORING NO:	B5	
SHEET	1 OF 1	
PROJECT NAME: Caltrans: South Oakland Maintenance Station		
PROJECT NUMBER: 575-9G014	DATE: 4/7/99	
NORTHINGS:	EASTINGS:	
DRILLING COMPANY: Fisch Environmental		
DRILLING METHOD: Direct Push (Geoprobe)		
BORING DIAMETER: 2 inch	DEPTH: 20 feet	
GROUNDWATER LEVELS		
DATE	COMMENTS	DEPTH BGS
4/7/99	Initial	5
4/7/99	stabilized	5

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1					Silty Clay with some gravel, fine grained gravel, low to medium plasticity, brown, damp, no odor.		CL	Asphalt surface
2								
3								
4								
5		17				0		
6								
7								
8								
9								
10		12				0		
11								
12								
13								
14								
15		21				0		
16								
17								
18								
19								
20		22				0		

Total Depth = 20 feet
 Boring drilled to sufficient depth for investigation
 Groundwater stabilized at 5 feet bgs.
 Boring converted to temporary groundwater monitoring well.
 Well grouted by removing casing and tremie placement of neat cement.

REVIEWED BY: Tim O'Brien

LOGGED BY: Scott Bowers

SOIL BORING LOG

BORING NO: B6

SHEET 1 OF 1

PROJECT NAME: Caltrans: South Oakland Maintenance Station

PROJECT NUMBER: 575-9G014 DATE: 4/7/99

NORTHINGS: EASTINGS:

DRILLING COMPANY: Fisch Environmental

DRILLING METHOD: Direct Push (Geoprobe)

BORING DIAMETER: 2 inch DEPTH: 20 feet

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS
4/7/99	initial	8
4/7/99	stabilized	8

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1					Silty Clay with some fine grained gravel, low to medium plasticity, brown, damp, no odor.		CL	Asphalt surface
2								
3								
4								
5		17				0		
6								
7								
8								Groundwater encountered.
9								
10		12				17.5		
11								
12								
13								
14								
15		21				0		
16								
17								
18								
19								
20		22				0		

Total Depth = 20 feet
 Boring drilled to sufficient depth for investigation
 Groundwater stabilized at 8 feet bgs.
 Boring converted to temporary groundwater monitoring well.
 Well grouted by removing casing and tremie placement of neat cement.

REVIEWED BY: Tim O'Brien

LOGGED BY: Scott Bowers

SOIL BORING LOG

BORING NO: B7
SHEET 1 OF 2

PROJECT NAME: Caltrans: South Oakland Maintenance Station
 PROJECT NUMBER: 575-9G014 DATE: 8/13/99
 NORTHINGS: EASTINGS:
 DRILLING COMPANY: Fisch Environmental
 DRILLING METHOD: Direct Push (Geoprobe)
 BORING DIAMETER: 2 inch DEPTH: 25 feet

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS
8/13/99	initial	none encountered
8/16/99	stabilized	15

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1					Poorly Graded Silty Sand with Gravel, fine gravel, brown, moist, low plasticity fines.		SM	Asphalt surface (6")
2								
3								Brick debris
4								
5	B7-5				Silty Clay, dark brown, moist, medium plasticity.	0	CL	
6		20						
7								
8								
9								
10	B7-10				Silty Clay, stiff, brown, moist, low plasticity	0		
11		10						
12								
13								
14								
15	B7-15					0		
16		21						
17								moisture increase to very moist.
18								
19								
20	B7-20				log continues downward.	0		

REVIEWED BY: Tim O'Brien

LOGGED BY: Scott Bowers

SOIL BORING LOG

BORING NO: B7
SHEET 2 OF 2

PROJECT NAME: Caltrans: South Oakland Maintenance Station
 PROJECT NUMBER: 575-9G014 DATE: 8/13/99
 NORTHINGS: EASTINGS:
 DRILLING COMPANY: Fisch Environmental
 DRILLING METHOD: Direct Push (Geoprobe)
 BORING DIAMETER: 2 inch DEPTH: 25 feet

GROUNDWATER LEVELS		
DATE	COMMENTS	DEPTH BGS

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
21		24			Silty Clay as described above.		CL	
22								
23								
24								
25	B7-25	22				0		
26								Total Depth = 25 feet
27								Boring drilled to sufficient depth for investigation
28								Groundwater stabilized at 15 feet bgs
29								Boring grouted with neat cement.
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								

REVIEWED BY: Tim O'Brien

LOGGED BY: Scott Bowers

SOIL BORING LOG

BORING NO:	B8	
SHEET	1 OF 1	
PROJECT NAME:	Caltrans: South Oakland Maintenance Station	
PROJECT NUMBER:	575-9G014	
DATE:	8/13/99	
NORTHINGS:	EASTINGS:	
DRILLING COMPANY:	V & W Drilling	
DRILLING METHOD:	Direct Push (Geoprobe)	
BORING DIAMETER:	2 inch	
DEPTH:	20 feet	
GROUNDWATER LEVELS		
DATE	COMMENTS	DEPTH BGS
8/13/99	initial	none encountered
8/13/99	stabilized	14.5

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
0					Well graded Silty Sand, fine to coarse sand, brown, low plasticity fines.		SM	Concrete surface (7")
1								
2								
3					Silty Clay, dark brown, moist, medium plasticity.		CL	
4								
5	88-5					0		
6		12						
7								
8								
9								
10	88-10				Gravelly Silty Sand, fine gravel, fine to coarse sand, brown, moist, low plasticity fines.	0	SM	
11		18						
12								
13								
14								
15	88-15					0		
16		21						
17								
18								
19								
20	88-20				Silty Clay with Gravel, fine gravel, brown, moist, medium plasticity.	0	CL	Total Depth = 20 feet Boring drilled to sufficient depth for investigation Groundwater stabilized at 14.5 feet bgs Boring grouted with neat cement.

REVIEWED BY: Tim O'Brien

LOGGED BY: Scott Bowers

SOIL BORING LOG

BORING NO: **B9**
 SHEET **1** OF **1**

PROJECT NAME: Caltrans: South Oakland Maintenance Station
 PROJECT NUMBER: 575-9G014 DATE: 8/13/99
 NORTHINGS: EASTINGS:
 DRILLING COMPANY: V & W Drilling
 DRILLING METHOD: Direct Push (Geoprobe)
 BORING DIAMETER: 2 inch DEPTH: 15 feet

GROUNDWATER LEVELS		
DATE	COMMENTS	DEPTH BGS
8/13/99	Initial	11.5

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1					Well graded Silty Sand, fine to coarse sand, brown, low plasticity fines.		SM	Concrete surface (1") Asphalt (3")
2								
3					Silty Clay, dark brown, moist, medium plasticity.		CL	
4								
5	B9-5					0		
6		14						
7								
8								
9								
10	B9-10				Gravelly Silty Sand, fine gravel, fine to coarse sand, brown, moist, low plasticity fines.	0	SM	
11		20						
12								
13								
14								
15	B9-15					0		
16		22						Total Depth = 15 feet Boring drilled to sufficient depth for investigation Groundwater stabilized at 11.5 feet bgs Boring grouted with neat cement.
17								
18								
19								
20	B9-20							

REVIEWED BY: Tim O'Brien

LOGGED BY: Scott Bowers

OIL BORING LOG

BORING NO:	B10	
SHEET	1 OF 1	
PROJECT NAME:	CALTRANS SOUTH OAKLAND	
PROJECT NUMBER:	1G026	
DATE:	8/24/01	
DRILLING COMPANY:	V&W	
DRILLING METHOD:	DP	
BORING DIAMETER:	2"	
DEPTH:	28 FEET	
GROUNDWATER LEVELS		
DATE	COMMENTS	DEPTH BGS
8/24/01	GROUNDWATER ENCOUNTERED	15.5 FEET

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
2								
4	B10-5.0				SANDY CLAY: WELLGRADED MEDIUM SAND WITH CLAY. BROWN, MOIST			TRACE COARSE FRACTION
9	B10-10.0				CLAYEYGRAVELLY SAND: WELL GRADED FINE TO COARSE SAND WITH FINE GRAVEL & CLAY. BROWN MATRIX MULTICOLORED GRAVEL.			DEBRIS & BRICK IN SAMPLE.
15	B10-15.0				CLAYEY SILT: BROWN, MOIST			CLAY LESSENS DOWN SAMPLE.
19					CLAYEY SANDY GRAVEL: WELL GRADED FINE TO COARSE SAND AND FINE GRAVEL WITH CLAY, MOIST, GRADING TO SLIGHT MOIST, BROWN.			CLAY IN TOP HALF

viewed By: _____ LOGGED BY: CHRIS MERRITT

OIL BORING LOG

BORING NO: B10
 SHEET 2 OF 2

PROJECT NAME: CALTRANS SOUTH OAKLAND
 PROJECT NUMBER: 1G026 DATE: 8/24/01

DRILLING COMPANY: V&W
 DRILLING METHOD: DP
 BORING DIAMETER: 2" DEPTH: 28 FEET

GROUNDWATER LEVELS		
DATE	COMMENTS	DEPTH BGS
8/24/01	GROUNDWATER ENCOUNTERED	15.5 FEET

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1					SEE SHEET 1			
2								
3								
4					SAND: WELL GRADED FINE TO MEDIUM			TRACE COARSE POOR H2O ZONE. HYDRO PUNCHING TO ~28'
5				SAND BROWN, WET, SOME CLAY				
6				SOME GRAVEL.				
7								
8								
9								GROUNDWATER OBTAINED. TOTAL DEPTH 28 FEET. BORING COMPLETED TO DEPTH SUFFICIENT FOR INVESTIGATION. BORING GROUTED WITH NEAT CEMENT.
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

Reviewed By: _____ LOGGED BY: _____

OIL BORING LOG

BORING NO: B11
SHEET 1 OF 1

PROJECT NAME: CALTRANS SOUTH OAKLAND
PROJECT NUMBER: 1G026 DATE: 8/24/01
DRILLING COMPANY: V&W
DRILLING METHOD: DP
BORING DIAMETER: 2" DEPTH:

GROUNDWATER LEVELS		
DATE	COMMENTS	DEPTH BGS
8/24/01	GROUNDWATER ENCOUNTERED	-15 FEET

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
2								
4								
5	B11-5.0				SANDY CLAY: WELL GRADED <-M SAND W/CLAY. BROWN MOIST		CL	TRACE COARSE SAND OCCASIONAL GRAVEL
9								
11	B11-10				CLAYEY GRAVELLY SAND: WELL GRADED FINE TO COARSE SAND WITH GRAVEL AND CLAY, BROWN, MOIST.			
13							SC	
15	B11-15				AS ABOVE			H2O @1034.
17								HYDROPUNCHED TO 24. GROUNDWATER OBTAINED. BORING COMPLETED TO DEPTH SUFFICIENT FOR INVESTIGATION. BORING GROUTED WITH NEAT CEMENT.
19								
20								

Reviewed By:

LOGGED BY: CHRIS MERRITT

OIL BORING LOG

BORING NO: B12

SHEET 1 OF 1

PROJECT NAME: CALTRANS SOUTH OAKLAND
 PROJECT NUMBER: 1G026 DATE: 8/24/01

DRILLING COMPANY: V&W

DRILLING METHOD: DP

BORING DIAMETER: 2" DEPTH:

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS
8/24/01	GROUNDWATER ENCOUNTERED	-15 FEET

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1								1 IN AC
2								
3								
4								
5	B12-5.0				SILTY GRAVELLY SAND: WELL GRADED FINE TO MEDIUM SAND WITH FINE GRAVEL AND CLAY BROWN, MOIST.			ALSO SOME CLAY
6								
7								
8								
9								
10	B12-10.0				SANDY SILT: SILT WITH POORLY GRADED FINE SAND, BROWN, MOIST, TRACE MEDIUM COARSE, CLAY			
11								
12								
13								
14								
15	B12-15.0				SANDY GRAVEL: WELL GRADED FINE COARSE GRAVEL FINE COARSE SAND			APPROXIMATE FIRST WET AREA.
16								
17								HYDROPUNCHED TO 24. GROUNDWATER OBTAINED. BORING COMPLETED TO DEPTH SUFFICIENT FOR INVESTIGATION. BORING GROUTED WITH NEAT CEMENT.
18								
19								
20								
21								
22								
23								
24								

Viewed By:

LOGGED BY:

SOIL BORING LOG

BORING NO: B11MW1
SHEET 1 OF 2

PROJECT NAME: CALTRANS SOUTH OAKLAND
PROJECT NUMBER: 0G019 DATE: 8/8/00

DRILLING COMPANY: V&W
DRILLING METHOD: HSA
BORING DIAMETER: 8 INCHES DEPTH:

GROUNDWATER LEVELS		
DATE	COMMENTS	DEPTH BGS
8/8/00	INITIAL GROUNDWATER	-15 FEET

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1					Silty Sandy Gravel: Well graded fine to coarse gravel with fine to coarse sand and silt, mottled dark brown to black, damp.	0	GM	4 inches Asphalt Slight diesel odor, no OVM response
2								
3								
4								
5	B1-6.0			6	Clayey Sand: Poorly graded fine sand with clay, brown, damp.		SC	
6				8				
7				10				
8								
9								
10	B1-10.0			8	Clayey Sand: As above.	0		
11				14				
12				17				
13								
14								
15	B1-15.0			4	Sandy Clay: Poorly graded fine sand with clay, brown, damp with saturated voids and channels.			Approximate first water by vial contains.
16				4				
17				8				
18								
19								
20	B1-20.0			8	Gravelly Sandy Clay: Clay with well graded fine to coarse		GC	

Reviewed By: _____ LOGGED BY: CHRIS MERRITT

SOIL BORING LOG

BORING NO:	B11MW1		
SHEET	2	OF	2
PROJECT NAME:	CALTRANS SOUTH OAKLAND		
PROJECT NUMBER:	0G019	DATE:	5/8/00
DRILLING COMPANY:	V&W		
DRILLING METHOD:	HSA		
BORING DIAMETER:	8 INCHES	DEPTH:	25 FEET
GROUNDWATER LEVELS			
DATE	COMMENTS	DEPTH BGS	
5/8/00	INITIAL GROUNDWATER	-15 FEET	

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	FID (PPM)	USCS	REMARKS
1				11	gravel and poorly graded fine sand, light tan, damp.		GC	
				18				
2								
3								
4								
5								
6				8	Sandy Clay: Clay with poorly graded fine sand, brown, damp.		CL	
				15				
				25				
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								

Total depth 25 feet + sample.
 Screen 25-5 feet.
 Sand 25-3 feet.
 Chips 3-2 feet.
 Grout/Box 2-0 feet.

Revised By:	LOGGED BY: CHRIS MERRITT
-------------	--------------------------

MONITORING WELL CONSTRUCTION DATA

WELL/BORING NO: **B11MW1**

PERMIT NO:

DATE: **6/8/00**

PROJECT NAME: **CALTRANS SOUTH OAKLAND**

PROJECT NO: **0G018**

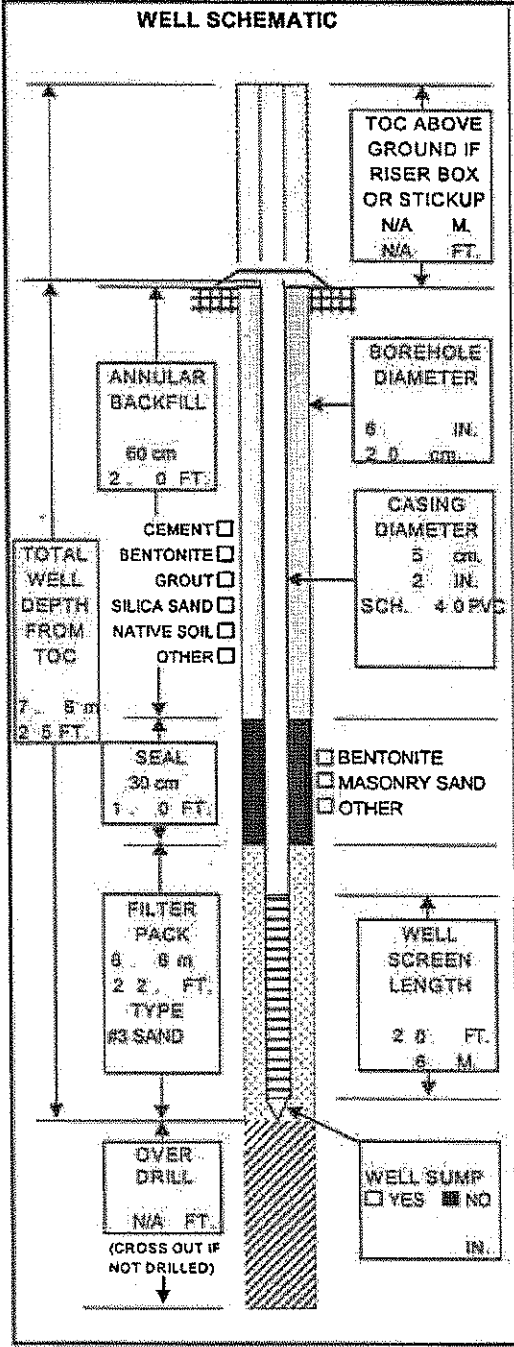
WELL SITE LOCATION PLAN:

SEC: TWN: RGE: LAT: LONG:

DRILLING CO: **V & W DRILLING**

DRILL CREW:

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



INSTALLATION DATA

DECON: STEAM CLEAN HIGH PRESSURE WASH
 SOAP WASH OTHER

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

PIT CASING: YES NO DESCRIBE

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

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

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

DRILLING MUD: NONE WATER BENTONITE
 OTHER

CENTRALIZER: YES NO

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

PAD: 2X2' 4'X4' OTHER _____

CUTTINGS: DRUMMED NUMBER OF DRUMS **2**
 SPREAD OTHER

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

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

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

EVIDENT ODOR: YES NO TYPE _____

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

WATER LEVEL: INITIAL **~13** FT BTOC BGS
DATE: **6/27** **9.13** FT BELOW TOC
DATE: _____ FT BELOW TOC

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

PREPARED BY: **CHRIS MERRITT**

SOIL BORING LOG

BORING NO:	B21MW2	
SHEET	1 OF 1	
PROJECT NAME:	CALTRANS SOUTH OAKLAND	
PROJECT NUMBER:	0G019	
DATE:	6/8/00	
NORTHINGS:	EASTINGS:	
DRILLING COMPANY:	V&W	
DRILLING METHOD:	HSA	
BORING DIAMETER:	8 INCHES	
DEPTH:	20 FEET	
GROUNDWATER LEVELS		
DATE	COMMENTS	DEPTH BGS
6/8/00	INITIAL WATER	13 FEET

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USGS	REMARKS
0								4 inches asphalt.
1					Silty Sandy Gravel. Well graded fine to coarse gravel with fine to coarse sand and silt, mottled dark brown to black, damp.	0	GM	
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

LOGGED BY: CHRIS MERRITT

Lost sampler, overdrilled to 20 feet.
 Total depth 20 feet.
 Screened 20-5 feet.
 Sand 20-3 feet.
 Chips 3-2 feet.
 Grout/Box 2-0 feet.

MONITORING WELL CONSTRUCTION DATA

WELL/BORING NO: **B2IMW2**

PERMIT NO:

DATE: **6/8/00**

PROJECT NAME: **CALTRANS SOUTH OAKLAND**

PROJECT NO: **0G019**

WELL SITE LOCATION PLAN:

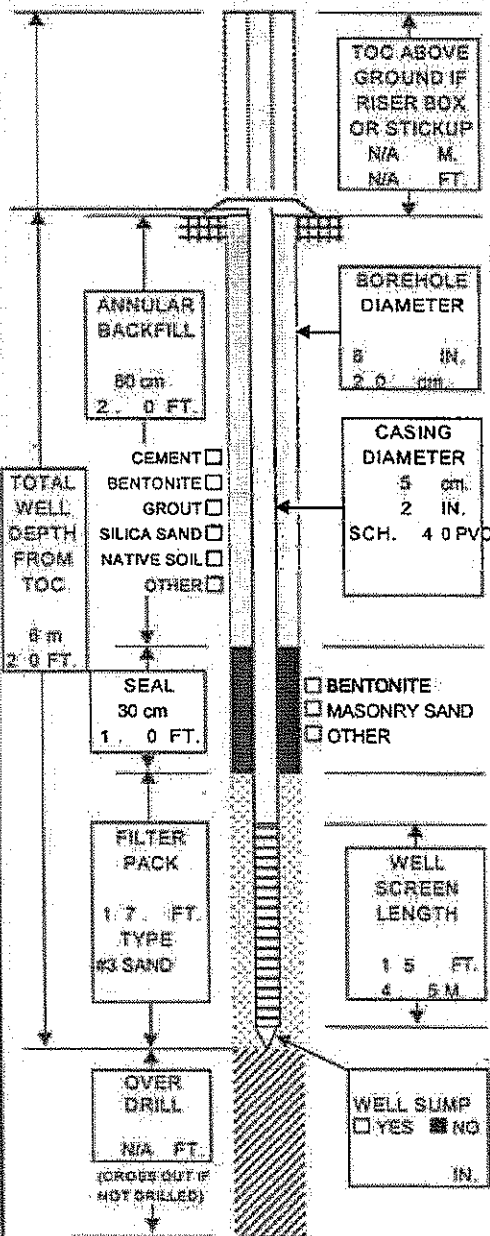
SEC: TWN: RGE: LAT: LONG:

DRILLING CO: **V & W DRILLING**

DRILL CREW:

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

WELL SCHEMATIC



INSTALLATION DATA

DECON. STEAM CLEAN HIGH PRESSURE WASH
 SOAP WASH OTHER

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

PIT CASING: YES NO DESCRIBE

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

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

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

DRILLING MUD: NONE WATER BENTONITE
 OTHER

CENTRALIZER: YES NO

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

PAD: 2X2' 4X4' OTHER

CUTTINGS: DRUMMED NUMBER OF DRUMS **1**
 SPREAD OTHER

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

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

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

EVIDENT ODOR: YES NO TYPE _____

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

WATER LEVEL: INITIAL **~13** FT BTOC BGS

DATE: **6/27/00** **9.03** FT BELOW TOC

DATE: _____ FT BELOW TOC

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

PREPARED BY: **CHRIS MERRITT**

OIL BORING LOG

BORING NO:	B3-MW3	
SHEET	1	OF 1
PROJECT NAME:	CALTRANS SOUTH OAKLAND	
PROJECT NUMBER:	06019	DATE: 6/8/00
NORTHINGS:	EASTINGS:	
DRILLING COMPANY:	V&W	
DRILLING METHOD:	HSA	
BORING DIAMETER:	8 INCHES	DEPTH: 20 FEET
GROUNDWATER LEVELS		
DATE	COMMENTS	DEPTH BGS
6/8/00	INITIAL WATER	13 FEET

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
0								4 inches asphalt.
3					Silly Sandy Gravel: Well graded fine to coarse gravel with fine to coarse sand and silt, mottled dark brown to black, damp.	0	GM	
5				8	Clayey Sand: Poorly graded fine sand with clay, brown, damp.	0	SC	Trace fine gravel.
7				7				
9				12				
11				9	Sandy Clay: Clay with poorly graded fine sand, brown, damp.		CL	
12				12				
13				12				
15								First water
16				10	Sandy Clay: As above, light gray			
18				15				
19				18				
20				9				
				15				
				25				

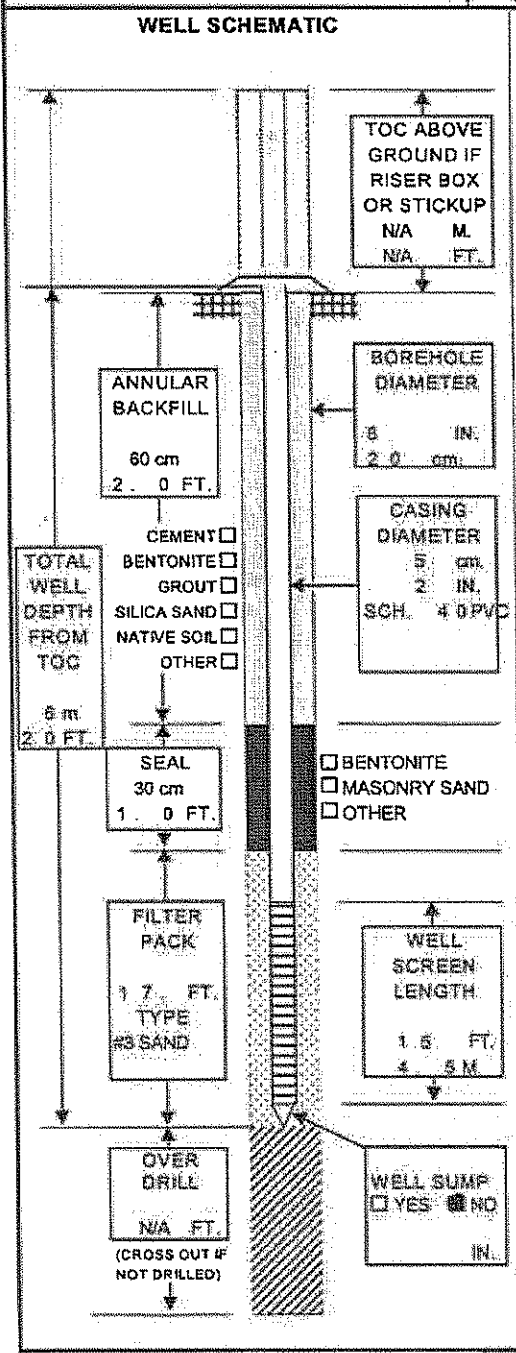
Total depth 20 feet + sample.
 Screened 20-5 feet.
 Sand 20-3 feet.
 Chips 3-2 feet.
 Grout Box 2-0 feet.

LOGGED BY: CHRIS MERRITT

MONITORING WELL CONSTRUCTION DATA

WELL/BORING NO: B33MW3
 PERMIT NO:
 PROJECT NO: 0G019

DATE: 5/8/00 PROJECT NAME: CALTRANS SOUTH OAKLAND
 SEC: TWN: RGE: LAT: LONG:
 DRILLING CO: V & W DRILLING
 DRILL CREW:
 WELL TYPE: SHALLOW SINGLE CASED MONITORING
 PERMANENT INTERMEDIATE DOUBLE CASED RECOVERY
 TEMPORARY DEEP OTHER OTHER



INSTALLATION DATA

DECON: STEAM CLEAN HIGH PRESSURE WASH
 SOAP WASH OTHER

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

PIT CASING: YES NO DESCRIBE

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

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

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

DRILLING MUD: NONE WATER BENTONITE
 OTHER

CENTRALIZER: YES NO

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

PAD: 2'x2' 4'x4' OTHER

CUTTINGS: DRUMMED NUMBER OF DRUMS 1
 SPREAD OTHER

DEVELOPMENT METHOD: NONE BAILING PUMPING AIR LIFT
 SURGE & BLOCK OTHER
 TIME: 10 MIN 20 MIN OTHER MIN
 AMOUNT: 5 GAL 10 GAL OTHER GAL

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

EVIDENT ODOR: YES NO TYPE

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

WATER LEVEL: INITIAL ~12.5 FT BTOC BGS
 DATE: 6/27/00 8.76 FT BELOW TOC
 DATE: FT BELOW TOC

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

PREPARED BY: CHRIS MERRITT

OIL BORING LOG

BORING NO:	B4MW4	
SHEET	1 OF 2	
PROJECT NAME:	CALTRANS SOUTH OAKLAND	
PROJECT NUMBER:	DG019	
DATE:	6/8/00	
DRILLING COMPANY:	V&W	
DRILLING METHOD:	HSA	
BORING DIAMETER:	8 INCHES	
DEPTH:	25 FEET	
GROUNDWATER LEVELS:		
DATE	COMMENTS	DEPTH BGS
6/8/00	INITIAL WATER	12.5 FEET

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
0								4 inches Asphalt
1					Silty Sandy Gravel: Well graded fine to coarse gravel with fine to coarse sand and silt, mottled dark brown to black, damp.	0	GM	
2								
3								
4								
5	B4-5.0			5	Clayey Sand: Poorly graded fine sand with clay, brown, damp.	0	SC	
6				8				
7				16				
8								
9								
10	B4-10.0			6	Clayey Sand: As above.	0		
11				14				
12				17				
13								First water.
14								
15	B4-15.0			10	Sandy Gravel: Well graded fine to coarse gravel with poorly		GW	2-3 inch zone
16				12	graded medium sands, brown, wet.		SP	
17				15	Sand: Poorly graded medium sand, brown, wet.			
18								
19								
20	B4-20.0			9	Clay: Light tan, wet.		CL	

Reviewed By: _____ LOGGED BY: CHRIS MERRITT

SOIL BORING LOG

BORING NO:	B41MW4		
SHEET	2	OF	2
PROJECT NAME:	CALTRANS SOUTH OAKLAND		
PROJECT NUMBER:	0G019	DATE:	6/8/00
DRILLING COMPANY:	V&W		
DRILLING METHOD:	HSA		
BORING DIAMETER:	8 INCHES	DEPTH:	25 FEET
GROUNDWATER LEVELS			
DATE:	6/8/00	COMMENTS:	INITIAL WATER
			DEPTH BGS: 12.6 FEET

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1				5	Clay: Light tan, wet.		CL	
				10				
2								
3								
4								
5	B4-25.0			8	Sandy Clay: Clay with poorly graded fine sand, brown, damp.		CL	
6				12				
				21				
7								
8								Total depth 25 feet + sample.
9								Screen 25-5 feet
10								Sand 25-3 feet
11								Chips 3-2 feet
12								Grout Box 2-0 feet
13								
14								
15								
16								
17								
18								
19								
20								

Reviewed By:	LOGGED BY: CHRIS MERRITT
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MONITORING WELL CONSTRUCTION DATA

WELL/BORING NO: **B41MW4**

PERMIT NO:

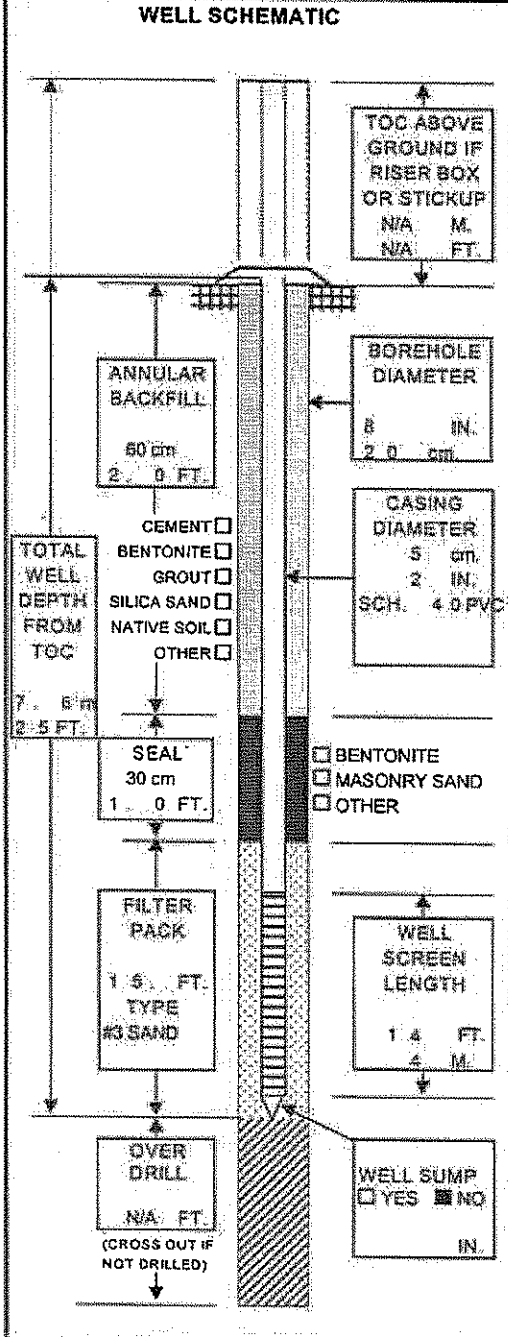
DATE: **6/8/00** PROJECT NAME: **CALTRANS SOUTH OAKLAND** PROJECT NO: **06019**

WELL SITE LOCATION PLAN: SEC: TWN: RGE: LAT: LONG:

DRILLING CO: **V & W DRILLING**

DRILL CREW:

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



INSTALLATION DATA

DECON: STEAM CLEAN HIGH PRESSURE WASH
 SOAP WASH OTHER

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

PIT CASING: YES NO DESCRIBE

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

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

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

DRILLING MUD: NONE WATER BENTONITE
 OTHER

CENTRALIZER: YES NO

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

PAD: 2'X2' 4'X4' OTHER

CUTTINGS: DRUMMED NUMBER OF DRUMS **2**
 SPREAD OTHER

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

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

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

EVIDENT ODOR: YES NO TYPE

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

WATER LEVEL: INITIAL **~13** FT BTOC BGS
 DATE: **6/27/00** **8.74** FT BELOW TOC
 DATE: _____ FT BELOW TOC

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

PREPARED BY: **CHRIS MERRITT**