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## **WORK PLAN TO DECOMMISSION GROUNDWATER MONITORING WELLS**

***Caltrans South Oakland Maintenance Station  
1112 29<sup>th</sup> Avenue  
Oakland, California***

October 20, 2009

Prepared for:

California Department of Transportation  
District 4  
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Prepared by:

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***Task Order No.: 001  
E.A. No.: 43-910076  
Contract No.: 04A2902***

***Project No.: 130880***

# WORK PLAN TO DECOMMISSION GROUNDWATER MONITORING WELLS

*Caltrans Alemany Maintenance Station  
1112 29<sup>th</sup> Avenue  
Oakland, California*

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SHAW ENVIRONMENTAL, INC.



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Andrew D. Lehane, P.E., C55798  
Task Order Manager



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Attachment A Boring Logs for Existing Groundwater Monitoring Wells

## 1.0 Introduction

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This work plan was prepared by Shaw Environmental, Inc. (Shaw) on behalf of the California Department of Transportation (Caltrans). This work plan was prepared at the request and authorization of Mr. Ray Boyer of Caltrans District 4 under Contract No. 04A2902, Task Order No. 001. (Caltrans 2008).

### 1.1 Project Objective

This document is intended to satisfy the Alameda County Environmental Health Department (ACEHD) requirement for a work plan for decommissioning of groundwater monitoring wells at the site prior to case closure. A request for case closure is pending with ACEHD. This work plan includes a brief discussion of site location, site background, and proposed scope of work.

### 1.2 Site Location

The project site is located at 1112 29<sup>th</sup> Avenue, Oakland, California (Figure 1). The site is bordered by 29<sup>th</sup> Avenue to the west, East 12<sup>th</sup> Street to the north, Derby Avenue to the east, and a railroad right-of-way to the south. The property is currently owned and occupied by Caltrans and is used as a maintenance facility.

### 1.3 Site Background

One 4,000-gallon underground storage tank (UST) and one 2,000-gallon UST were removed from the site in March 1997. Several site investigations were subsequently performed to characterize the extent of impact to soil and groundwater. As part of the site investigations, four groundwater monitoring wells were installed (Figure 2). Total depth of the groundwater monitoring wells vary from 20 to 25 feet below ground surface (bgs) (Attachment A). Groundwater monitoring performed on the wells between 2000 and 2005 indicates depth to water has historically varied from about 7.5 to 10.5 feet bgs.

Based on the results of the site investigation work and a comparison of site conditions with criteria in the *Oakland Urban Land Redevelopment Program: Guidance Document*, a request for low-risk case closure was submitted to the ACEHD in 2006 (Geocon, 2006). Additional supporting documentation, including a landowner notification certification, recent well survey data, and a case closure summary form, were subsequently submitted to ACEHD in support of the request for case closure.

## *2.0 Proposed Scope of Work*

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The objective of the proposed work is to decommission the existing site groundwater monitoring wells in preparation for case closure. A request for case closure is pending with ACEHD.

The proposed scope of work for includes:

- Prefield
- Monitoring Well Destruction
- Waste Sampling, Analysis, and Disposal
- Reporting

### *2.1 Prefield*

Well destruction permits will be obtained from the Alameda County Public Works Agency (ACPWA), Water Resources Section after approval of this work plan and prior to mobilization. The work locations will be marked in the field, and Underground Service Alert will be notified 48 hours in advance of field activities so that member companies can mark subsurface utility locations. If necessary, a utility locator service will be deployed to clear the existing well locations, as well. A site-specific Health and Safety Plan will be prepared for the field activities, and a pre-field meeting will be held to review the scope of work and coordinate field activities with Caltrans personnel.

### *2.2 Monitoring Well Destruction*

Following ACPWA requirements, the four site monitoring wells will be abandoned by removing the wellhead vault box and completely overdrilling to the total depth of each well using 8-inch augers. After overdrilling is completed, the augers will be removed and the borehole filled with a neat cement mix containing approximately 5% bentonite from the bottom of the borehole to the surface using a tremie pipe.

Waste materials generated during the well over-drilling process will be stored in DOT-approved 55-gallon drums pending disposal arrangements. The drums will be sealed, labeled, and stored at an on-site location approved by Caltrans personnel. Wastes such as trash, gloves, unused sampling equipment, and similar materials, may be segregated and disposed separately.

### *2.3 Waste Sampling, Analysis, and Disposal*

Waste materials generated during the well destruction process will be sampled for the purpose of profiling for disposal at an appropriate California state-certified treatment and disposal facility. Following sample collection, the samples will be placed on ice for transport to a California state-certified analytical laboratory accompanied by chain-of-custody documentation. Samples will be analyzed for the presence of fuel compounds and related parameters, as required by the intended disposal facility. Certified analytical results will be transmitted to the proposed disposal facility along with appropriate profiling forms to obtain clearance for disposal prior to transportation. Shaw will coordinate an appropriately licensed transportation contractor for collection of the waste materials from the site and transportation to the designated treatment and disposal site.

### *2.4 Reporting*

A technical report documenting destruction of the wells will be prepared following the completion of the fieldwork and laboratory analyses. The report will include a brief written summary of field activities completed to destroy the wells. In addition, the report will include copies of well destruction report forms, certified analytical reports and chain-of-custody documentation, and bills of lading/manifests for disposal of waste materials.

### 3.0 References

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Caltrans, 2008: Contract No. 04A2902, Task Order No. 001, dated January 15, 2008

Geocon, 2006: *Low Risk Case Closure Summary Report*, dated June 14, 2006

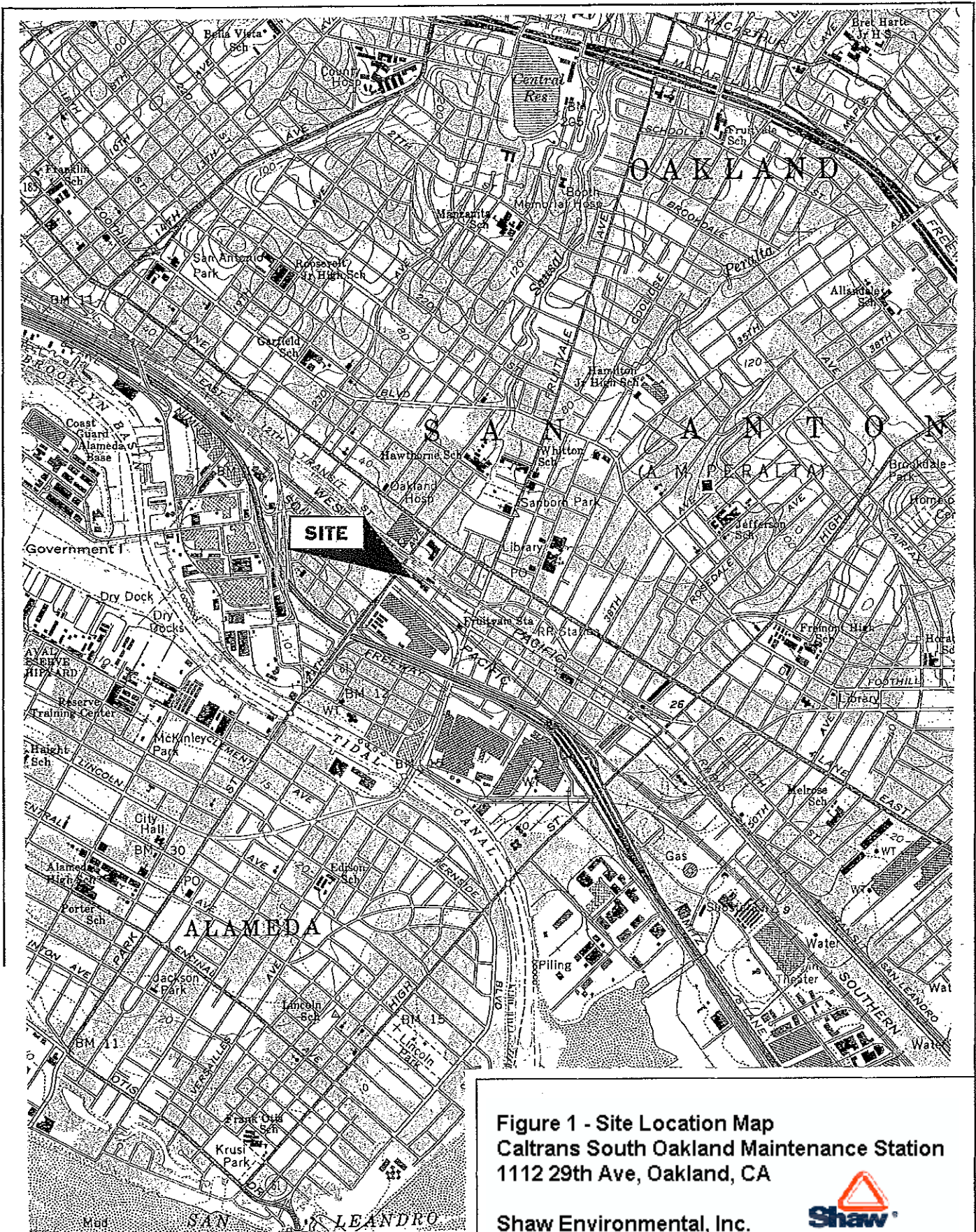


Figure 1 - Site Location Map  
 Caltrans South Oakland Maintenance Station  
 1112 29th Ave, Oakland, CA

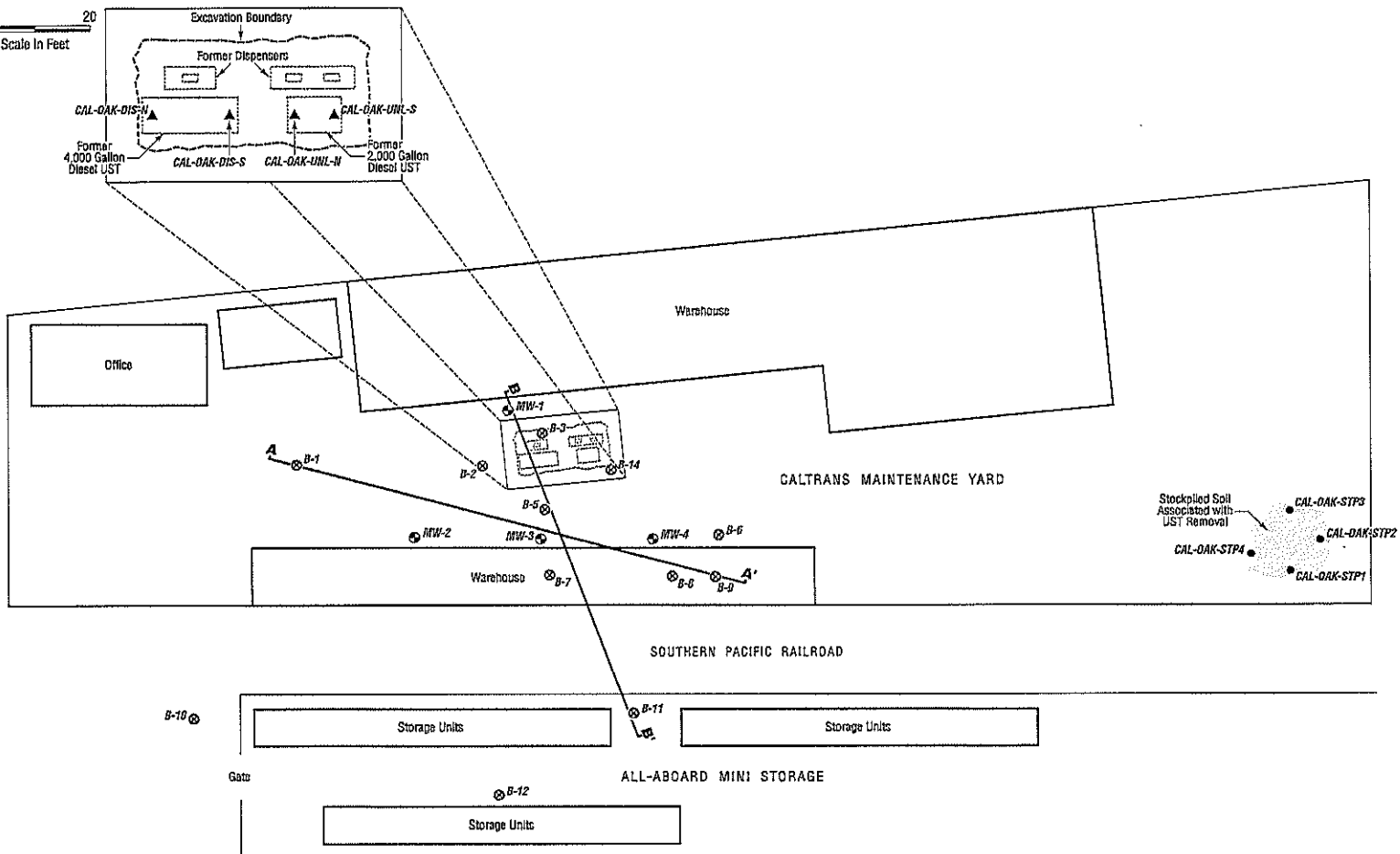
Shaw Environmental, Inc.



Source: Geocon, June 2006



0 20  
Scale In Feet



LEGEND:

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

0 50  
Scale In Feet

Figure 2 - Site Plan  
Caltrans South Oakland Maintenance Station  
1112 29th Avenue, Oakland, CA

Shaw Environmental, Inc.



Source: Geocon, June 2006

***Attachment A***  
***Boring Logs for Existing Groundwater Monitoring Wells***

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# SOIL BORING LOG

BORING NO: B11MW1

SHEET 1 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:

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS
6/8/00	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	B1-5.0			6	Clayey Sand: Poorly graded fine sand with clay, brown, damp.		SC	
6				8				
				16				
7								
8								
9								
10	B1-10.0			6	Clayey Sand: As above	0		
11				14				
				17				
12								
13								
14								
15	B1-15.0			4	Sandy Clay: Poorly graded fine sand with clay, brown, damp			Approximate first water by void contents.
16				4	with saturated voids and channels.			
				8				
17								
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: **B1\MW1**  
 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	COMMENTS	DEPTH BGS
6/8/00	INITIAL GROUNDWATER	~15 FEET

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1				11	gravel and poorly graded fine sand, light tan, damp.		GC	
				18				
2								
3								
4								
25	B1-25.0			8	Sandy Clay: Clay with poorly graded fine sand, brown, damp.		CL	
6				15				
				25				
7								
8								Total depth 25 feet + sample.
9								Screen 25-5 feet.
30								Sand 25-3 feet.
1								Chips 3-2 feet
2								Grout\Box 2-0 feet
3								
4								
35								
6								
7								
8								
9								
40								

Reviewed By:

LOGGED BY: **CHRIS MERRITT**

# SOIL BORING LOG

BORING NO: B2\MW2

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)	USCS	REMARKS
0								4 inches asphalt.
2					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								
6	B2-5.0			6	Clayey Sand: Poorly graded fine sand with clay, brown, damp.		SC	Trace fine gravel.
7				7				
9				12				
11	B2-10.0			9	Clayey Silty Sand: Poorly graded fine sand with silt and clay, mottled brown, damp.		SM	
12				14				
13				17				
15								First water.
16				8	Clay: Brown, damp.			
17				14				
18				18				
19								Lost sampler, overdrilled to 20 feet.
20								Total depth 20 feet.
								Screened 20-5 feet.
								Sand 20-3 feet.
								Chips 3-2 feet
								GroutBox 2-0 feet.

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# OIL BORING LOG

BORING NO: B3-MW3  
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)	USCS	REMARKS
0								4 inches asphalt.
2					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								
6	B3-5.0			6	Clayey Sand: Poorly graded fine sand with clay, brown, damp.	0	SC	Trace fine gravel.
7				7				
9				12				
10	B3-10.0			9	Sandy Clay: Clay with poorly graded fine sand, brown, damp.		CL	
11				12				
12				12				
13								First water
15	B3-15.0			10	Sandy Clay: As above, light gray			
16				16				
17				18				
18								
19								
20								
21								
22								
23								
24								
25	B3-20.0			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.

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# OIL BORING LOG

BORING NO: **B41MW4**  
 SHEET **1** 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	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
1								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			6	Clayey Sand: Poorly graded fine sand with clay, brown, damp.	0	SC	
6				8				
6				16				
7								
8								
9								
10	B4-10.0			6	Clayey Sand: As above	0		
11				14				
11				17				
12								
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 sand, brown, wet.			
16				15	Sand: Poorly graded medium sand, brown, wet.		SP	
17								
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	COMMENTS
6/8/00	INITIAL WATER
	DEPTH BGS
	12.5 FEET

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1				6	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								GroutBox 2-0 feet
13								
14								
15								
16								
17								
18								
19								
20								

Reviewed By: \_\_\_\_\_ LOGGED BY: CHRIS MERRITT