ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
(510) 337-9335 (FAX)

REMEDIAL ACTION COMPLETION CERTIFICATION

**StID 3702 - 3015 Adeline Street, Oakland, CA
(1-1,000 gallon gasoline tank removed in December 6, 1990)**

July 8, 1997

Mr. Walter Vance
CA Electric Co
3015 Adeline Street
Oakland, CA 94607

Dear Mr. Vance:

This letter confirms the completion of site investigation and remedial action for the underground storage tank 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 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, no further action related to the underground tank release is required.

This notice is issued pursuant to a regulation contained in Title 23, Section 2721(e) of the California Code of Regulations.

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

Sincerely,

Mee Ling Tung, Director

cc: Chief, Division of Environmental Protection
Kevin Graves, RWQCB
Dave Deaner, SWRCB (with attachment-case closure summary)
Leroy Griffin, OFD
files-ec (caelec.2)

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StID 3702

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1131 Harbor Bay Parkway, Suite 250
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July 8, 1997

Mr. Walter Vance
CA Electric Co
3015 Adeline Street
Oakland, CA 94607

Re: Fuel Leak Site Case Closure for California Electric Co, at 3015 Adeline Street, Oakland, CA 94607

Dear Mr. Vance:

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 Protection Division 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 soil containing up to 0.10ppm benzene, and
- residual groundwater contamination at up to 7,400ppb TPHg and 310ppb benzene.

If you have any questions, please contact me at (510) 567-6762.

eva chu
Hazardous Materials Specialist

enlosure:
1. Case Closure Letter
2. Case Closure Summary

c:
Frank Kliewer, City of Oakland-Planning, 1330 Broadway, 2nd Floor, Oakland, CA 94612
files (caelec.3)

01-1761

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION **Date: June 13, 1997**

Agency name: **Alameda County-HazMat** Address: **1131 Harbor Bay Pkwy**
City/State/Zip: **Alameda, CA 94502** Phone: **(510) 567-6700**
Responsible staff person: **T. Peacock** Title: **Supervisor**

II. CASE INFORMATION

Site facility name: **California Electric Co.**
Site facility address: **3015 Adeline St, Oakland, CA 94608**
RB LUSTIS Case No: **N/A** Local Case No./LOP Case No.: **3702**
URF filing date: **9/22/93** SWEEPS No: **N/A**

Responsible Parties:	Addresses:	Phone Numbers:
Walter D. Vance **CA Electric Co**	**3015 Adeline St** **Oakland, CA 94607**	

Tank No:	Size in gal.:	Contents:	Closed in-place or removed?:	Date:
1	1,000	Gasoline	Removed	12/6/90

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: **Possible pipe leak.**
Site characterization complete? **YES**
Date approved by oversight agency: **2/13/97**
Monitoring Wells installed? **Yes** Number: **5 temporary wells**
Proper screened interval? **NA**
Highest GW depth below ground surface: **Groundwater 1st encountered at ~14'**
Flow direction: **SW**
Most sensitive current use: **Commercial**
Are drinking water wells affected? **No** Aquifer name: **Unknown**
Is surface water affected? **No** Nearest affected SW name: **NA**
Off-site beneficial use impacts (addresses/locations): **None**

Report(s) on file? **YES** Where is report(s) filed? **Alameda County**
1131 Harbor Bay Pkwy
Alameda, CA 94502

Treatment and Disposal of Affected Material:

Material	Amount (include units)	Action (Treatment or Disposal w/destination)	Date
Tank	1 UST	Disposed by H & H, San Francisco	12/6/90
Piping			
Soil	65 cy	Disposed at Redwood L.F., Novato, CA	9/16/92

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil (ppm) Before[1]	Soil (ppm) After[2]	Water (ppb) Before[3]	Water (ppb) After
TPH (Gas)	260	1.1	7,400	
TPH (Diesel)				
Benzene	2.1	0.10	310	
Toluene	11	<.005	340	
Ethylbenzene	4.7	"	400	
Xylenes	33	0.02	2,100	
MTBE	NA		ND	

NOTE: 1 soil collected from pit bottom after UST removal, 12/6/90
2 soil collected after overexcavation to 16'bgs, 12/12/90
3 grab groundwater sample from boring B-1, advanced to ~5' bgs, southwest of former tank excavation

Comments (Depth of Remediation, etc.):

See Section VII, Additional Comments, etc...

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? **Undetermined**
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? **Undetermined**
Does corrective action protect public health for current land use? **YES**
Site management requirements: **None**

Should corrective action be reviewed if land use changes? **YES**
Monitoring wells Decommissioned: **Yes**
Number Decommissioned: **5** Number Retained: **0**
List enforcement actions taken: **None**

List enforcement actions rescinded: **NA**

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: **Eva Chu** Title: **Haz Mat Specialist**

Signature: Eva Chu Date: 6/16/97

Reviewed by

Name: **Barney Chan** Title: **Haz Mat Specialist**

Signature: Barney Chan Date: 6/13/97

Name: **Thomas Peacock** Title: **Supervisor**

Signature: Thomas Peacock Date: 6/16/97

VI. RWQCB NOTIFICATION

Date Submitted to RB: 6/17/97 RB Response: Approved

RWQCB Staff Name: **Kevin Graves** Title: **AWRCE**

Signature: Kevin Graves Date: 6-30-97

VII. ADDITIONAL COMMENTS, DATA, ETC.

This site reportedly had a 550 gallon gasoline UST removed in 1976. The pit was enlarged to accommodate the installation of a 1,000 gallon replacement UST for the storage of gasoline.

The 1,000 gallon UST was removed on December 6, 1990. Groundwater was not observed in the excavation. Two soil samples (CAL-1 and CAL-2) were collected from native soil below each end of the tank at ~11' bgs and analyzed for TPHg and BTEX. Up to 260 ppm TPHg, and 2.1 ppm, 11 ppm, 4.7 ppm, and 33 ppm BTEX, respectively, were identified in the soil samples (see Fig 1, Table 1 and 2). The pit was overexcavated to ~16' bgs and four confirmatory soil samples (A, B, C, and AA) were collected from the excavation bottom. Levels of petroleum hydrocarbons identified in these samples were much lower than the initial soil samples (see Fig 2, Table 3 and 4). It appears overexcavation removed most of the hydrocarbon-impacted soil.

In November 1994 an exploratory boring (B-1) was drilled ~5' west, southwest of the former excavation. The boring was drilled using hollow-stem auger and was advanced to 25.5' bgs and logged with soil samples collected from 7.5', 12,5', and 14.5' bgs. Clay soils were encountered throughout the depth of the boring, with a zone of what appeared to be a saturated silt at 13.5' to 21' bgs. A hydrocarbon odor was noted in unsaturated soils at 6' to 12.5' bgs. The augers were withdrawn to a depth of 15' and the boring allowed to recharge overnight. Approximately 2' of

groundwater was present in the borehole the next day. (See Fig 3, Boring Log)

A groundwater sample was collected and analyzed for TPHg and BTEX. Up to 7,400 ppb TPHg, and 310 ppb, 340 ppb, 400 ppb, and 2,100 ppb BTEX, respectively, were identified in the groundwater sample. However, the consultants felt the results were suspect because the contaminated soil at 6' to 12' bgs may have been brought down the boring by the augers and mixed with the groundwater.

In May 1995, another boring (B-2) was advanced ~65' southwest of the former tank excavation using a direct-push sampling system. Saturated soil was first encountered at 13' bgs. The borehole was allowed to recharge overnight and a groundwater sample was collected the next day. This sample contained 100 ppb TPHg, and 2 ppb, 0.8ppb, 4 ppb, and 3 ppb BTEX, respectively. (See Fig 4 and Boring Log)

In May 1996 additional subsurface investigations were conducted to verify groundwater flow direction and to delineate the lateral extent of the contaminant plume at the site. Five temporary wells (B-3 through B-8) were installed around the perimeter of the property. Groundwater samples and groundwater elevation data were collected from the temporary wells. Groundwater analytical results indicate that trace levels of TPHg and BTEX were detected in four of the five temporary wells (B-2, B-4, B-7, and B-8). It appeared the fuel release had not significantly impacted groundwater quality beneath the site. The plume also appeared to be limited in extent and had not migrated offsite. (See Fig 4 and 5, and Boring Logs)

A groundwater risk based analysis was performed and compared with ASTM's Tier 1 RBSL Look Up Table. The results suggested that residual BTEX in groundwater would not pose an unacceptable health risk to on-site workers or off-site residents through exposure from groundwater volatilization to indoor and outdoor air, the only potential complete pathways. (See Table 5)

In summary, case closure is recommended because:

- the leak and ongoing sources have been removed;
- the site has been adequately characterized;
- the dissolved plume is not migrating;
- no water wells, surface water, or other sensitive receptors are likely to be impacted; and,
- the site presents no significant risk to human health or the environment.

caelec.1

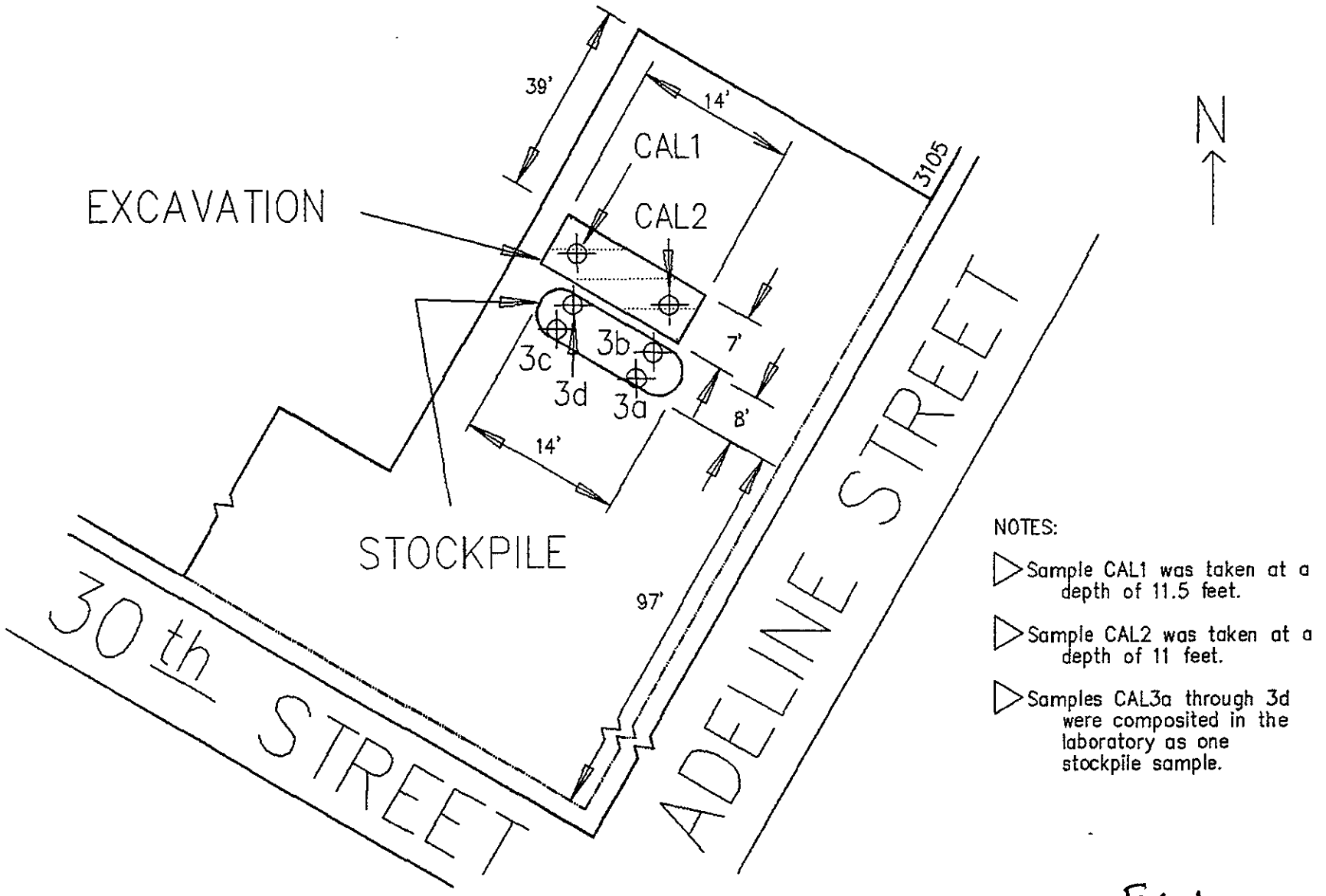

Fig 1

CALIFORNIA ELECTRIC CO. (SCOTT) 3015 ADELINE OAKLAND, CALIFORNIA	Sample Log#: 2081 DATE: 12/6/1990	Western Environmental Science & Technology 1046 Olive Drive #3, Davis, CA 95616 Phone: (916) 753-9500 Drawn by: TGT

December 10, 1990
Sample Log 2081

Table 1: 'BTEX' Results for 3 Soil Sample(s) Identified as
California Electric
Received 12/06/90

--all concentrations are units of mg/kg--

Sample	Benzene	Toluene	Ethylbenzene	Xylenes
CAL 1	1.4	11	4.7	26
CAL 2	2.1	6.8	4.6	33
Composite 1	<.005	<.005	<.005	.028
CAL 3a				
CAL 3b				
CAL 3c				
CAL 3d				
(Reporting Limit	.005	.005	.005	.005)

Western Environmental
Science & Technology
1046 Olive Drive, Suite 3
Davis, CA 95616
916 753-9500

December 10, 1990
Sample Log 2081

Table 2: Gasoline Results for 3 Soil Sample(s)
From : California Electric
Received 12/06/90

--all concentrations are units of mg/kg--

Sample	TPH as Gasoline
CAL 1	230
CAL 2	260
Composite 1 CAL 3a CAL 3b CAL 3c CAL 3d	.66
(Reporting Limit	.5)

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Science & Technology
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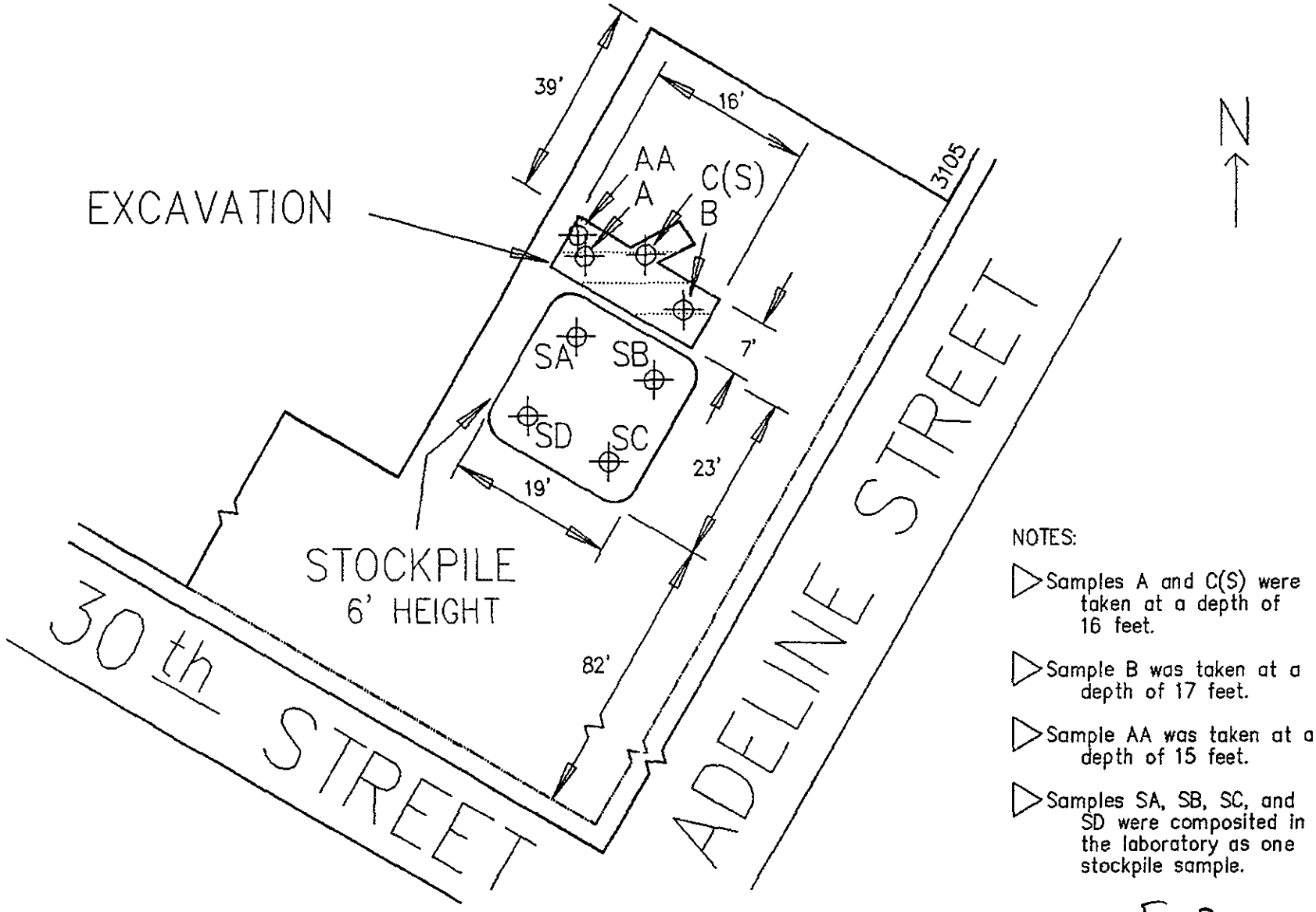
Davis, CA 95616
916 753-9500



NOTES:

- Samples A and C(S) were taken at a depth of 16 feet.
- Sample B was taken at a depth of 17 feet.
- Sample AA was taken at a depth of 15 feet.
- Samples SA, SB, SC, and SD were composited in the laboratory as one stockpile sample.

Fig 2

CALIFORNIA ELECTRIC CO. (SCOTT) 3015 ADELINE OAKLAND, CALIFORNIA	Sample Log#: 2100 DATE: 12/12/1990	Western Environmental Science & Technology 1046 Olive Drive #3, Davis, CA 95616 Phone: (916) 753-9500 Drawn by: TGT

December 14, 1990
Sample Log 2100

Table 3a: Gasoline Results for 5 Soil Sample(s)
From : California Electric Co.
Received 12/12/90

--all concentrations are units of mg/kg--

Sample	TPH as Gasoline
A	.50
AA	1.1
B	.51
C(s)	.76
Composite 1 S-A S-B S-C S-D	120
(Reporting Limit	.5)

Western Environmental
Science & Technology
1046 Olive Drive, Suite 3
Davis, CA 95616
916 753-9500

December 14, 1990
Sample Log 2100

Table 4: 'BTEX' Results for 5 Soil Sample(s) Identified as California Electric Co.
Received 12/12/90

--all concentrations are units of mg/kg--

Sample	Benzene	Toluene	Ethylbenzene	Xylenes
A	<.005	<.005	<.005	<.005
AA	.076	<.005	<.005	.0073
B	<.005	<.005	<.005	<.005
C(s)	.10	<.005	<.005	.020
Composite 1 S-A S-B S-C S-D	.19	.85	1.1	8.1
(Reporting Limit	.005	.005	.005	.005)

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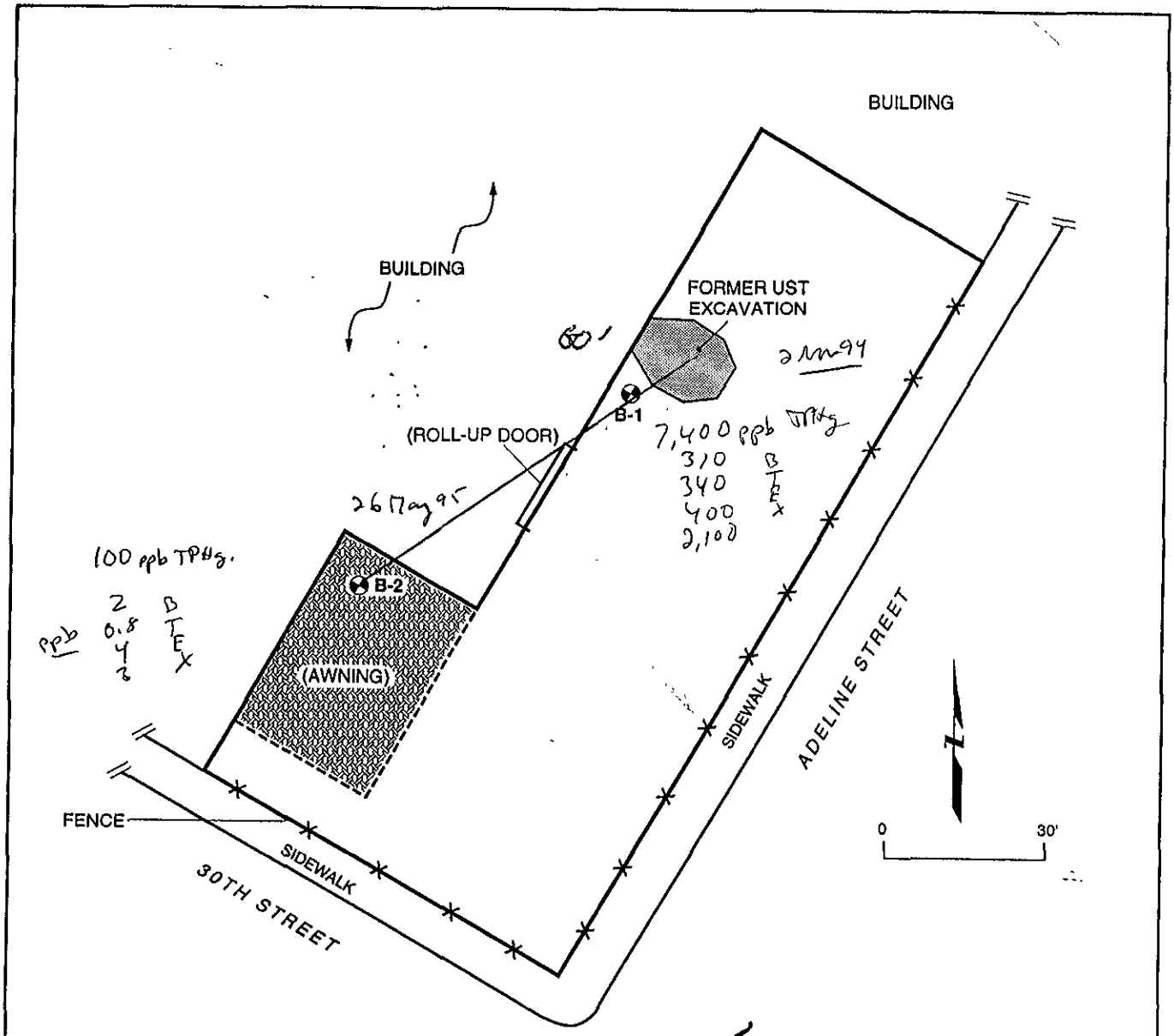
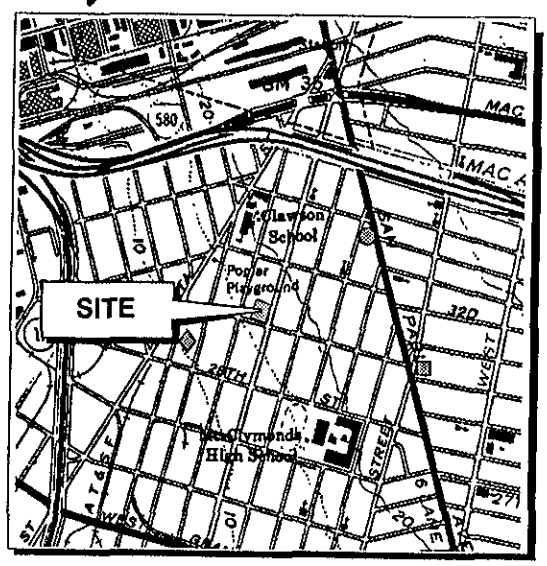
916 753-9500





EXPLANATION

B-1 ⊕ Approximate location of soil boring

◉ 3402 San Pablo Avenue
▣ 3032 Market Street
◈ 2850 Poplar Street

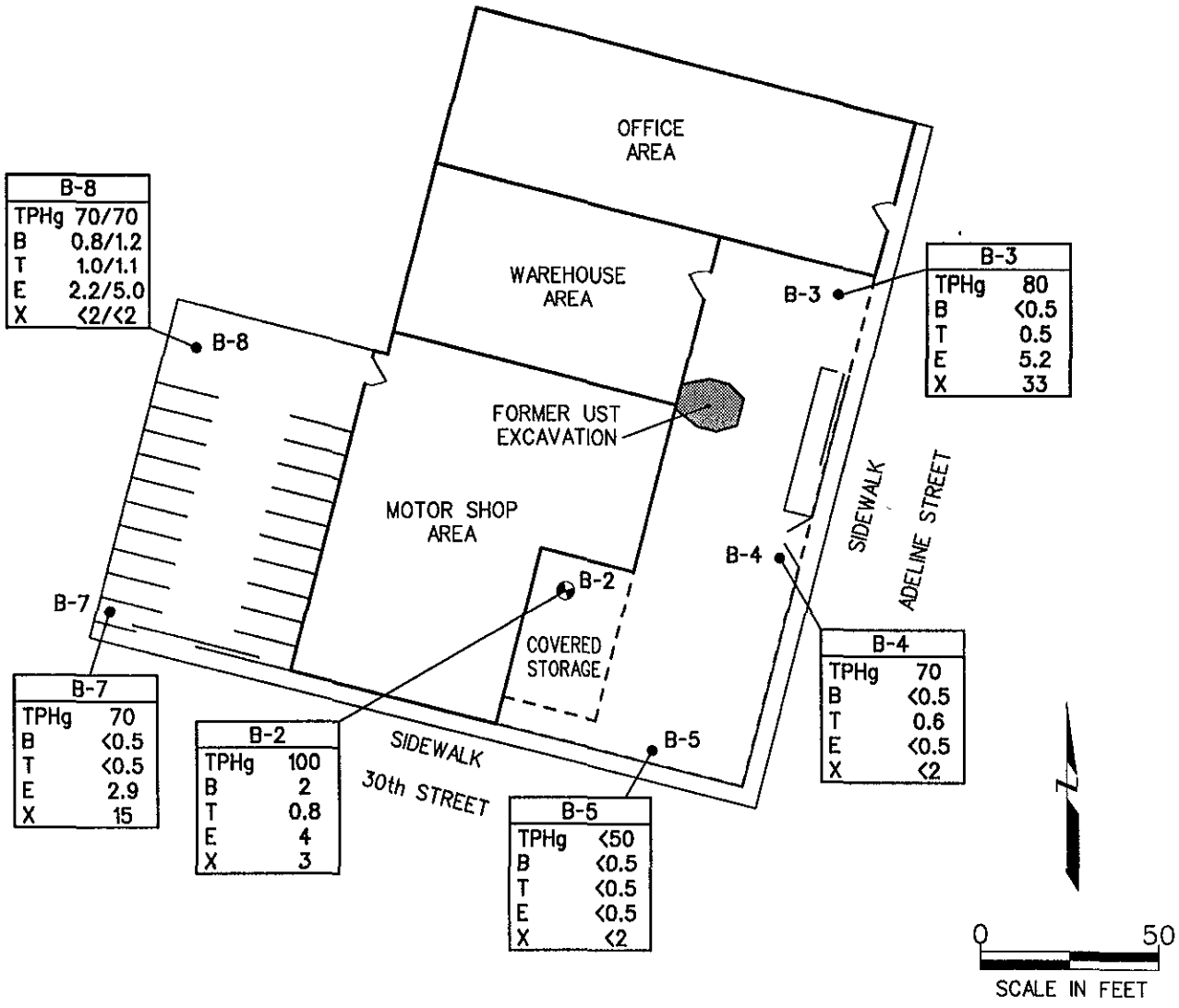
GEOMATRIX

BORING LOCATIONS
California Electric Company
3015 Adeline Street
Oakland, California

Figure 3

Project No. 2892

2892.002



EXPLANATION

B-1 ⊕ Previous boring and grab groundwater sample location

B-7 • Grab groundwater sample location

B-7	
TPHg	70
B	<0.5
T	<0.5
E	2.9
X	15

Groundwater analytical results in micrograms per liter; total petroleum hydrocarbons as gasoline (TPHg); benzene (B), toluene (T), ethylbenzene (E), and xylenes (X)

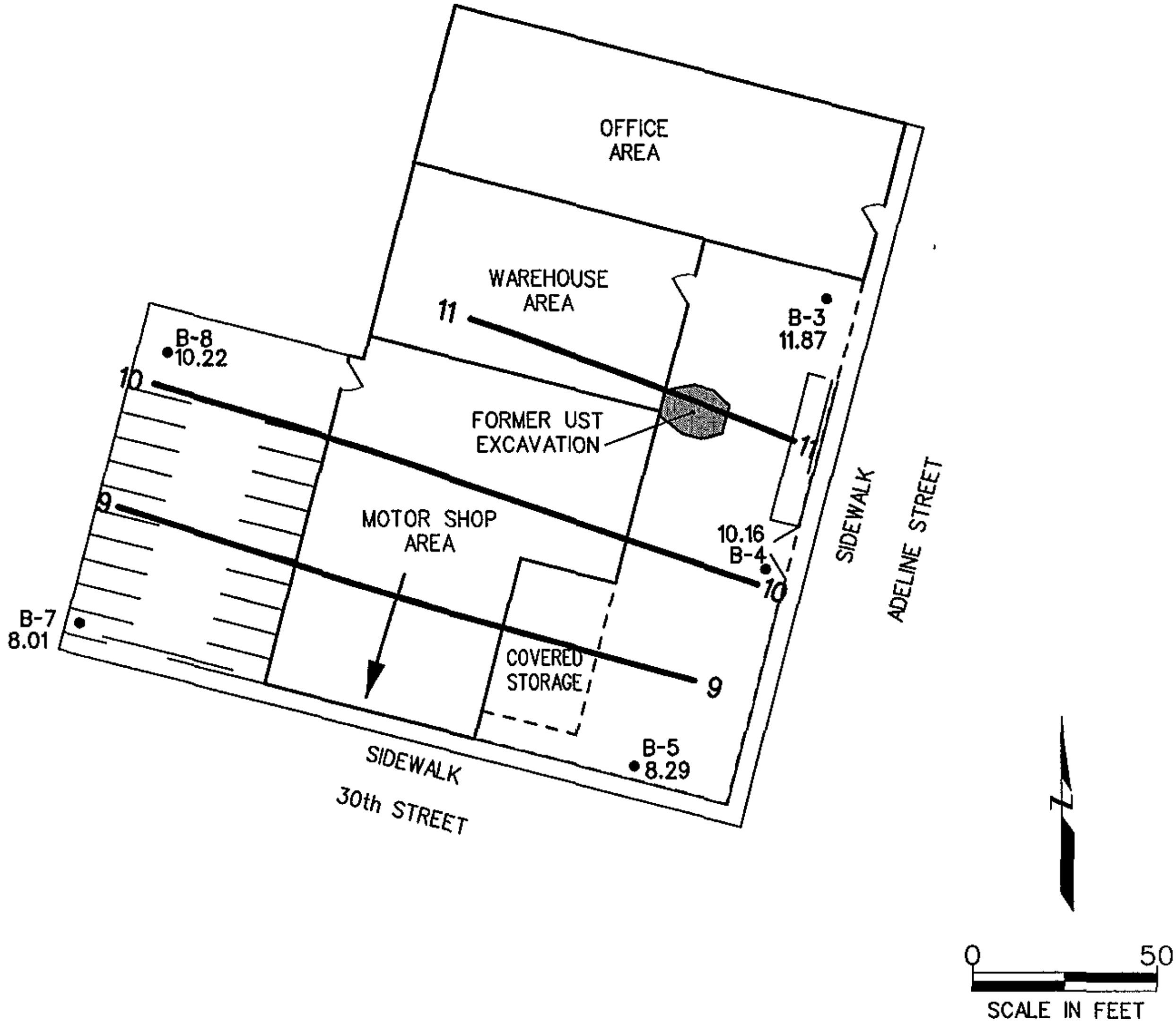
Basemap source: California Electric drawing and site survey

GEOMATRIX

GROUNDWATER QUALITY
28-29 MARCH 1996
California Electric Company
3015 Adeline Street
Oakland, California

Figure 4

Project No. 2849



EXPLANATION

B-7 • Grab groundwater sample location

8.04 Water-level elevation (feet, mean sea level)

9 ——— Line of equal elevation of potentiometric surface (feet; mean sea level); contours are shown as solid line solely for clarity and are not meant to imply certainty

Direction of horizontal gradient

Basemap source: California Electric drawing and site survey

GEOMATRIX	POTENTIOMETRIC SURFACE MAP 11 APRIL 1996 California Electric Company 3015 Adeline Street Oakland, California	Figure 5 Project No. 2849

GEOMATRIX

TABLE 5

ASTM RBCA TIER 1 EVALUATION
California Electric Company
Oakland, California

INDUSTRIAL SCENARIO

Chemical	Groundwater Concentration[a] (mg/l)	Tier 1 RBSL - Commercial/Industrial	
		Groundwater to Ambient Air (mg/l)	Groundwater to Indoor Air (mg/l)
Benzene	0.156	53.4[b]	0.214[b]
Ethylbenzene	0.202	>S[c]	>S
Toluene	0.17	>S	85
Xylenes	1.05	>S	>S

RESIDENTIAL SCENARIO

Chemical	Groundwater Concentration[d] (mg/l)	Tier 1 RBSL - Commercial/Industrial	
		Groundwater to Ambient Air (mg/l)	Groundwater to Indoor Air (mg/l)
Benzene	0.0012	3.19[e]	0.0069[e]
Ethylbenzene	0.0052	>S[c]	>S
Toluene	0.0011	>S	32.8
Xylenes	0.033	>S	>S

[a] Equal to the average of B-1 and B-2.

[b] Based on a 1E-05 excess cancer risk; adjusted for California EPA's carcinogenic potency value.

[c] Calculated RBSL exceeds component solubility in water. Therefore, any dissolved concentration results in an acceptable risk level.

[d] Equal to the maximum concentration in the peripheral grab groundwater samples: B-3, B-4, B-5, B-7 and B-8.

[e] Based on a 1x 10^{-6} excess cancer risk; adjusted for California EPA's carcinogenic potency value.

PROJECT: CALIFORNIA ELECTRIC
Oakland, California

Log of Boring No. B-1

BORING LOCATION: 5 feet from excavation asphalt patch	ELEVATION AND DATUM: --			
DRILLING CONTRACTOR: S & G Drilling	DATE STARTED: 11/1/94	DATE FINISHED: 11/1/94		
DRILLING METHOD: 6-inch auger, 0-5 feet; 2.5-inch soil core 5-20 feet	TOTAL DEPTH: 24.5 feet	MEASURING POINT: --		
DRILLING EQUIPMENT: Failing and Bobcat	DEPTH TO WATER	FIRST 13.5 ft.	COMPL. --	24 HRS. --
SAMPLING METHOD: 2-inch diameter split barrel	LOGGED BY: C. Y. Page			
HAMMER WEIGHT: --- DROP: ---	RESPONSIBLE PROFESSIONAL: C. Y. Page		REG. NO. RG 5288	

DEPTH (feet)	SAMPLES Sample No.	SAMPLES Sample	SAMPLES Blows/ Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
					Surface Elevation:	
					2-inches asphalt underlain by base rock	
1					FAT CLAY (CH) Very dark gray (5YR 3/1), moist, clay, high plasticity, firm	
2						
3						
4						
5				0		
6				100	LEAN CLAY with GRAVEL (CL) Dark gray (5Y 4/1), moist, clay, 25% gravel, low plasticity, firm to hard, [odor]	
7	B-1 7.5			75		
8				100		
9						
10						
11				160		
12	B-1 12.5			60		
13				0	ELASTIC SILT (ML) Dark brown (7.5YR 4/2), wet, silt and clay	
14						

B-1 (11/92)

PROJECT: CALIFORNIA ELECTRIC
Oakland, California

Log of Boring No. B-1 (Cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading ppm	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
15	B-1 14.5			0	ELASTIC SILT (MH) (continued)	
16						
17						
18						
19				0		
20						
21					GRAVELLY LEAN CLAY (CL) Dark brown, (7.5YR 4/2), moist, clay, 40% gravel (angular to rounded, 1/4- to 1-inch diameter), low plasticity, hard	
22					LEAN CLAY (CL) Dark brown, (7.5YR 4/2), moist, clay, low plasticity, hard	
23						
24						
25					Bottom of boring at 24.5 feet	
26						
27						
28						
29						
30						
31						

PROJECT: CALIFORNIA ELECTRIC
Oakland, California

Log of Boring No. B-2

BORING LOCATION: Under awning	ELEVATION AND DATUM: --			
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 5/25/95	DATE FINISHED: 5/25/95		
DRILLING METHOD: Direct Push	TOTAL DEPTH: 25.0 feet	MEASURING POINT: --		
DRILLING EQUIPMENT: XD-3	DEPTH TO WATER	FIRST 13.0 ft.	COMPL. --	24 HRS. --
SAMPLING METHOD: Continuous core	LOGGED BY: C. Y. Page			
HAMMER WEIGHT: -- / DROP: --	RESPONSIBLE PROFESSIONAL: C. Y. Page		REG. NO. RG 5288	

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading ppm	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo inter. Surface Elevation:	REMARKS
					6 inches concrete	
1				0	SANDY LEAN CLAY (CL) [FILL] Very dark grayish brown (10YR 3/2), mottled yellowish brown (10YR 5/8), moist, clay, 40% medium to fine sand, 5% gravel, low plasticity, firm	
2				0	FAT CLAY (CH) Very dark gray (10YR 3/1), moist, clay, high plasticity, hard	
3						
4				0		
5				0	SILT with SAND (ML) Dark gray (10YR 4/1), dry, silt, 20% fine sand, 5% fine gravel, low plasticity, hard	
6				2		
7				1		
8				0 1	Gravel increase to 20%	
9				3 20	Color change to gley (5GY 4/1) [odor]	
10				50		
11				20 50	GRAVELLY FAT CLAY (CH) Gley (5GY 4/1), dry, clay, 40% gravel to 3/8-inch diameter, high plasticity, very hard, [odor]	
12				50 100	Gradational contact WELL-GRADED GRAVEL with SAND (GW) Gley (5GY 4/1), dry, angular gravel, 15% medium to fine sand, [odor]	
13				70	▽ CLAYEY SAND (SC) Brown (10YR 5/3), wet, medium to coarse sand, 15% clay, 5% gravel, sand increases in coarseness with depth, [no odor]	
14				5 1		

PROJECT: CALIFORNIA ELECTRIC
Oakland, California

Log of Boring No. B-2 (Cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading ppm	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
15				0 0 0	CLAYEY SAND (SC) (continued)	
16				0	SANDY SILT (ML) Brown (10YR 5/3), moist, silt, 30% fine sand, low plasticity, soft	
17				0		
18				0 0		
19					Gradational contact	
20				0 0	GRAVELLY LEAN CLAY with SAND (CL) Brown (10YR 5/3), dry, clay, 25% medium to fine sand, 20% gravel	
21				0 0		
22				0	SILT (ML) Dark yellowish brown, (10YR 4/6), mottled gray (10YR 5/1), dry to moist, silt, low plasticity, hard	
23						
24						
25					Bottom of boring at 25 feet	
26						
27						
28						
29						
30						
31						

PROJECT: CALIFORNIA ELECTRIC 3015 Adeline Street Oakland, California	**Log of Well No. B3**
BORING LOCATION: Northeast corner of property	ELEVATION AND DATUM: 19.16 feet NGVD
DRILLING CONTRACTOR: Precision Sampling Inc.	DATE STARTED: 3/28/96 / DATE FINISHED: 3/28/96
DRILLING METHOD: Direct push, 2-inch-diameter continuous core	TOTAL DEPTH: 17 feet bgs / SCREEN INTERVAL: Ground surface
DRILLING EQUIPMENT: XD-2	DEPTH TO WATER ATD: 14 feet / CASING: ---
SAMPLING METHOD: Direct push, 3-foot core barrel	LOGGED BY: T. Gavigan
HAMMER WEIGHT: N/A / DROP: N/A	RESPONSIBLE PROFESSIONAL: Cheri Page / REG. NO. 5288

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., density, structure, cementation, react. w/HCl. geo. inter. Surface Elevation: # Feet	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0					Asphalt with Sand Base [FILL]	Bentonite berm Traffic plate Plastic annular fill
1						
2				0	LEAN CLAY (CL) Dark brown (7.5YR 3/2), moist, medium plasticity, firm	No recovery 1 to 2.5 feet
3				0		2-inch-diameter borehole
4				0		No recovery 4 to 4.5 feet
5				0	CLAYEY SAND (SC) Dark gray (5Y 4/1), moist, 15% low plasticity fines, 85% fine sand	1-inch-diameter Sch. 40 PVC blank
6				0		No annular material
7				0		No recovery 7 to 8 feet
8				0	Increase to 20% medium to coarse sand, color change to dark greenish gray (5GY 4/1) Trace gravel	
9						
10				0		No recovery 9.5 to 10 feet
11				0	Color change to olive (5Y 4/4), 80% fine sand	
12				0	Color change to light olive brown (2.5Y 5/4)	
13				0	SILT (ML) Light olive brown (2.5Y 5/4), 100% fines, moist, medium plasticity, soft Wet ATD ▽	1-inch-diameter Sch. 40 PVC screen 0.010-inch slot
14						

W-1 (5/95)

Project No. 2849	**Geomatrix Consultants**	Figure A-2

2849.007

PROJECT: CALIFORNIA ELECTRIC
3015 Adeline Street
Oakland, California

Log of Well No. B3 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist, % by weight., plast., density, structure, cementation, react. w/HCl. geo. inter.	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
15	0			0	SILT (ML) (continued)	2-inch-diameter borehole
16				0		
17				0	CLAYEY SAND (SC) Dark yellowish brown (10YR 4/6), wet, 15% medium plasticity fines, 85% fine to medium sand	1-inch-diameter Sch. 40 PVC screen 0.010-inch slot
					Bottom of boring at 17 feet.	

W-2 (5/95)

Project No. 2849 | Geomatrix Consultants | Figure A-2 (cont.)

2849.008

PROJECT: CALIFORNIA ELECTRIC
3015 Adeline Street
Oakland, California

Log of Well No. B4

BORING LOCATION: Central east side of property	ELEVATION AND DATUM: 18.77 feet (TOC)	
DRILLING CONTRACTOR: Precision Sampling Inc.	DATE STARTED: 3/28/96	DATE FINISHED: 3/28/96
DRILLING METHOD: Direct push, 2-inch-diameter continuous core	TOTAL DEPTH: 17 feet bgs	SCREEN INTERVAL: Ground surface
DRILLING EQUIPMENT: XD-2	DEPTH TO WATER ATD: 13.5 feet	CASING: ---
SAMPLING METHOD: Direct push, 3-foot core barrel	LOGGED BY: T. Gavigan	
HAMMER WEIGHT: N/A / DROP: N/A	RESPONSIBLE PROFESSIONAL: Cheri Page	REG. NO. 5288

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION (NAME (USCS Symbol): color, moist, % by weight., plast., density, structure, cementation, react. w/HCl. geo. inter.)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
					Surface Elevation: # Feet	
					Concrete	Bentonite berm; Traffic plate
1					LEAN CLAY (CL) Dark brown (7.5YR 3/2), moist, medium plasticity, firm	Plastic annular fill
2			0			No recovery 1 to 2 feet
3			0			
4			0			2-inch-diameter borehole
5			0		CLAYEY SAND (SC) Dark gray (5Y 4/1), moist, 25% medium plasticity fines, 75% fine sand, trace gravel	1-inch-diameter Sch. 40 PVC blank
6			0			No annular material
7			0			
8			0		Trace gravel to 8.5 feet	
9			0		Decrease to 15% fines, decrease in density to soft	
10			0			Bentonite chips unsaturated
11			46			
12			107			2/12 Lonestar silica sand
13			15		POORLY-GRADED SAND (SP) Dark greenish gray (5GY 4/1), moist, 90% fine to medium sand, 10% low plasticity fines, firm	1-inch-diameter Sch. 40 PVC screen 0.010-inch slot
14			0		Increase to 20% medium to coarse sand ATD ▽	

W-1 (5/95)

Project No. 2849	Geomatrix Consultants	Figure A-3

2849.009

PROJECT: CALIFORNIA ELECTRIC
3015 Adeline Street
Oakland, California

Log of Well No. B4 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., density, structure, cementation, react. w/HCl. geo. inter.	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
15			0		POORLY-GRADED SAND (SP) (continued) Color change to olive brown (2.5Y 4/3)	2-inch-diameter borehole
16			0			
17			0		SANDY SILT Light olive brown (2.5Y 5/6), wet, 35% fine sand, 65% fines, trace medium to coarse sand, wet, firm Bottom of boring at 17 feet.	1-inch-diameter Sch. 40 PVC screen 0.010-inch slot
18						
19						
20						
21						
22						
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27						
28						
29						
30						
31						

PROJECT: CALIFORNIA ELECTRIC
3015 Adeline Street
Oakland, California

Log of Well No. B5

BORING LOCATION: Southwest portion of property	ELEVATION AND DATUM: 18.36 feet (TOC)	
DRILLING CONTRACTOR: Precision Sampling Inc.	DATE STARTED: 3/28/96	DATE FINISHED: 3/28/96
DRILLING METHOD: Direct push, 2-inch-diameter continuous core	TOTAL DEPTH: 19 feet bgs	SCREEN INTERVAL: Ground surface
DRILLING EQUIPMENT: XD-2	DEPTH TO WATER ATD: 16 feet	CASING: ---
SAMPLING METHOD: Direct push, 3-foot core barrel	LOGGED BY: T. Gavigan	
HAMMER WEIGHT: N/A / DROP: N/A	RESPONSIBLE PROFESSIONAL: Cheri Page	REG. NO. 5288

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading (ppm)	DESCRIPTION (NAME (USCS Symbol): color, moist, % by weight., plast., density, structure, cementation, react. w/HCl. geo. Inter.)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
					Surface Elevation: # Feet	
					Concrete and Clayey Sandy Gravel Base [FILL]	Bentonite berm; Traffic plate; Plastic annular fill
1		X			LEAN CLAY (CL) Dark brown (7.5YR 3/2), moist, medium plasticity	No recovery 1 to 1.5 feet
2				0		
3				0		
					Color change to very dark gray (5Y 3/1)	
4				0	CLAYEY SAND (SC) Dark gray (5Y 4/1), 15% medium plasticity fines, 85% fine sand	2-inch-diameter borehole
5				0		1-inch-diameter Sch. 40 PVC blank
6				0		No annular material
					Color change to dark greenish gray (5GY 4/1)	
7				0		
8				0	SILTY SAND (SM) Olive (5Y 4/3), moist, 15% low plasticity fines, 85% fine to medium sand, trace gravel	
9				0	CLAYEY SAND (SC) Dark greenish gray (5GY 4/1), 15% medium plasticity fines, 85% fine sand, trace gravel	
10				0	SILT (ML) Olive (5Y 4/3), moist, low plasticity, firm	
11				0		1-inch-diameter Sch. 40 PVC screen 0.010-inch slot
12				0		
13				0	Color change to light olive brown (2.5Y 5/4)	
14				0		

W-1 (5/95)

Project No. 2849 | Geomatrix Consultants | Figure A-4

2849.011

PROJECT: CALIFORNIA ELECTRIC
3015 Adeline Street
Oakland, California

Log of Well No. B5 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., density, structure, cementation, react. w/HCl. geo. inter.	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
15			0		SILT (ML (continued)	2-inch-diameter borehole
16			0		ATD ▽	
					SILTY SAND (SM) Light olive brown (2.5Y 5/4), wet, 20% low plasticity fines, 80% fine to medium sand	1-inch-diameter Sch. 40 PVC screen 0.010-inch slot
17			0			
18			0			
					CLAYEY SAND (SC) Light olive brown (2.5Y 5/4), moist, 15% medium plasticity fines, 85% fine sand	
19			0		Bottom of boring at 19 feet.	
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

W-2 (5/95)

PROJECT: CALIFORNIA ELECTRIC 3015 Adeline Street Oakland, California		**Log of Well No. B7**
BORING LOCATION: Southwest corner of property		ELEVATION AND DATUM: 16.85 feet (TOC)
DRILLING CONTRACTOR: Precision Sampling Inc.		DATE STARTED: 3/28/96 / DATE FINISHED: 3/28/96
DRILLING METHOD: Direct push, 2-inch-diameter continuous core		TOTAL DEPTH: 17 feet bgs / SCREEN INTERVAL: Ground surface
DRILLING EQUIPMENT: XD-2		DEPTH TO WATER ATD: 13.5 feet / CASING: ---
SAMPLING METHOD: Direct push, 3-foot core barrel		LOGGED BY: T. Gavigan / C. Page
HAMMER WEIGHT: N/A	DROP: N/A	RESPONSIBLE PROFESSIONAL: Cheri Page / REG. NO. 5288

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight , plast., density, structure, cementation, react. w/HCl. geo. inter. Surface Elevation: # Feet	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0					Asphalt with Sand Base	Bentonite berm Traffic plate Plastic annular fill
1						
2					LEAN CLAY (CL) Dark brown (7.5YR 3/2), moist, medium plasticity, firm	No recovery 1 to 2.5 feet
3				0		2-inch-diameter borehole
4				0	CLAYEY SAND (SC) Dark grayish brown (10YR 4/2), dry, 80% fine sand, 20% medium plasticity fines	
5				0		1-inch-diameter Sch. 40 PVC blank
6				0	Color change to olive gray (5Y 4/2), 15% medium coarse sand	No annular material
7				0	10% gravel	
8						
9				41		
10				212		Bentonite chips unsaturated
11				15		
12				0		2/12 Lonestar silica sand
13				0	LEAN CLAY (CL) Olive brown (2.5Y 4/4), moist, medium plasticity, soft ATD ▽	1-inch-diameter Sch. 40 PVC screen 0.010-inch slot
14				0	Wet at 13.5 feet	

W-1 (5/95)

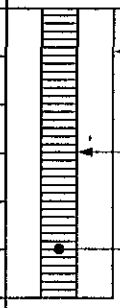
Project No. 2849	**Geomatrix Consultants**	Figure A-6

2849.013

PROJECT: CALIFORNIA ELECTRIC
3015 Adeline Street
Oakland, California

Log of Well No. B7 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist, % by weight., plast., density, structure, cementation, react. w/HCl. geo. inter.	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
15				0	FAT CLAY (CL) (continued)	
16				0		
17				0	SILTY SAND (SM) Yellowish brown (10YR 5/6), moist, 80% fine sand, 20% low plasticity fines	
					Bottom of boring at 17 feet.	



2-inch-diameter borehole

1-inch-diameter Sch. 40 PVC blank

1-inch-diameter Sch. 40 PVC screen 0.010-inch slot

Water level 13.33 at 10:10, just after taking gas groundwater sample

W-2 (5/95)

PROJECT: CALIFORNIA ELECTRIC 3015 Adeline Street Oakland, California	**Log of Well No. B8**	
BORING LOCATION: Northwest corner of property	ELEVATION AND DATUM: 18.16 feet (TOC)	
DRILLING CONTRACTOR: Precision Sampling Inc.	DATE STARTED: 3/28/96	DATE FINISHED: 3/28/96
DRILLING METHOD: Direct push, 2-inch-diameter continuous core	TOTAL DEPTH: 17 feet bgs	SCREEN INTERVAL: Ground surface
DRILLING EQUIPMENT: XD-2	DEPTH TO WATER ATD: 13.5 feet	CASING: ---
SAMPLING METHOD: Direct push, 3-foot core barrel	LOGGED BY: T. Gavigan	
HAMMER WEIGHT: N/A / DROP: N/A	RESPONSIBLE PROFESSIONAL: Cheri Page	REG. NO. 5288

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., density, structure, cementation, react. w/HCl. geo. inter. Surface Elevation: # Feet	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0					Asphalt with Sand Base	Bentonite berm Traffic plate Plastic annular fill
1						
2					LEAN CLAY (CL) Dark brown (7.5YR 3/2), moist, medium plasticity, firm	No recovery 1 to 2.5 feet
3				0		2-inch-diameter borehole
4				0		No recovery 4 to 5 feet
5				0	Color change to very dark grayish brown (2.5Y 3/2)	
6				0	CLAYEY SAND (SC) Olive brown (2.5Y 4/4), moist, 20% medium plasticity fines, 10% coarse sand, 70% fine to medium sand, trace gravel, hard	1-inch-diameter Sch. 40 PVC blank
7				0		No annular material
8				0		
9				0	Color change to dark greenish gray (5G 4/1)	
10				270		Bentonite chips unsaturated
11				35 415	Increase in gravel to 15%, moist (wet around gravel grains)	2/12 Lonestar silica sand
12				112		
13				0	Color change to olive brown (2.5Y 4/4), decrease in gravel to trace	1-inch-diameter Sch. 40 PVC screen 0.010-inch slot
14				0	Wet ATD ▽	

W-1 (5/95)

Project No. 2849	**Geomatrix Consultants**	Figure A-7

2849 015

PROJECT: CALIFORNIA ELECTRIC
3015 Adeline Street
Oakland, California

Log of Well No. B8 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., density, structure, cementation, react. w/HCl. geo. inter.	WELL CONSTRUCTION DETAILS *AND/OR DRILLING REMARKS*
15				0	CLAYEY SAND (SC) (continued) Increase in gravel to 15%	2-inch-diameter borehole 1-inch-diameter Sch. 40 PVC blank 1-inch-diameter Sch. 40 PVC screen 0.010-inch slot
16				0		
17				0	Bottom of boring at 17 feet.	No water at 11:35 ~15 minutes after well installation
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

W-2 (5/95)

Project No. 2849 | Geomatrix Consultants | Figure A-7 (cont.)

2849.016