

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



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

December 8, 2008

Ms. Florence Farrell  
847 Washington Avenue  
Albany, CA 94706

Mr. John DeVincenzi  
6801 Fairmont Avenue  
El Cerrito, CA 94530-3710

Mr. Mohammad Mashoon  
Mash Petroleum  
428 13<sup>th</sup> Street, 10<sup>th</sup> Floor  
Oakland, CA 94612

Subject: Fuel Leak Site Case Closure; Mashoon Property/Union 76, 5725 Thornhill Drive, Oakland CA,  
Case No. RO0000317 (Global ID# T0600102278)

Dear Mr. Mashoon, Mr. DeVincenzi and Ms. Farrell:

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 contamination of up to 240 parts per million total petroleum hydrocarbon as gasoline, 210 parts per million total petroleum hydrocarbon as diesel 140 parts per million total petroleum hydrocarbon as motor oil, 0.33 ppm MtBE remain in soil beneath your site.
- Residual concentrations of up to 1,840 micrograms per liter ( $\mu\text{g/L}$ ) of total petroleum hydrocarbons as gasoline, 1090  $\mu\text{g/L}$  of total petroleum hydrocarbons as diesel and 17.3 micrograms per liter ( $\mu\text{g/L}$ ) of MtBE remain in groundwater beneath your site.

If you have any questions, please call Steven Plunkett at (510) 383-1767. Thank you.

Sincerely,

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

Donna L. Drogos, P.E.  
LOP and Toxics Program Manager

Enclosures:

1. Remedial Action Completion Certificate
2. Case Closure Summary

cc:

Ms. Cherie McCaulou (w/enc)

Florence Farrell, John DeVincenzi and Mohammad Mashoon  
December 8, 2008  
RO0000317  
Page 2

SF- Regional Water Quality Control Board  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

Leroy Griffin  
Oakland Fire Department  
250 Frank H. Ogawa Plaza, Ste. 3341  
Oakland, CA 94612-2032

Steven Plunkett (w/orig enc), D. Drogos (w/enc), R. Garcia (w/enc)



ENVIRONMENTAL HEALTH SERVICES  
ENVIRONMENTAL PROTECTION  
1131 Harbor Bay Parkway, Suite 250  
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FAX (510) 337-9335

December 10, 2008

Ms. Florence Farrell  
847 Washington Avenue  
Albany, CA 94706

Mr. John DeVincenzi  
6801 Fairmont Avenue  
El Cerrito, CA 94530-3710

Mr. Mohammad Mashoon  
Mash Petroleum  
428 13<sup>th</sup> Street, 10<sup>th</sup> Floor  
Oakland, CA 94612

**REMEDIAL ACTION COMPLETION CERTIFICATE**

Subject: Fuel Leak Site Case Closure; Mashoon Property/Union 76, 5725 Thornhill Drive, Oakland CA,  
Case No. RO0002000 (Global ID# T0600102278)

Dear Mr. Mashoon, Mr. DeViencenzi and Ms. Farrell:

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,

  
Ariu Levi  
Director  
Alameda County Environmental Health

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

**I. AGENCY INFORMATION**

Date: September 10, 2008

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: Steven Plunkett	Title: Hazardous Materials Specialist

**II. CASE INFORMATION**

Site Facility Name: Mashhoon Property / Union 76		
Site Facility Address: 5725 Thornhill Dr., Oakland CA		
RB Case No.: 01-2473	Local Case No.: 1145	LOP Case No.: RO0000317
URF Filing Date: 12/19/98	Geotracker ID: T0600102278	APN: 48G-7420-7
Responsible Parties	Addresses	Phone Numbers
Florence Farrell	947 Washington Avenue, Albany, CA 94706	-
John DeVincenzi	6801 Fairmont Ave, El Cerrito, CA 94530-3710	-
Mohammad Mashhoon	428 13 <sup>th</sup> Street, Oakland, CA 94612	510-891-9988

Tank I.D. No	Size in Gallons	Contents	Closed In Place/Removed?	Date
Waste oil	550	Waste oil	Removed	11/25/98
Piping			Removed	11/25/98

**III. RELEASE AND SITE CHARACTERIZATION INFORMATION**

Cause and Type of Release: Unknown, UST appeared intact at the time of removal.		
Site characterization complete? Yes	Date Approved By Oversight Agency: ----	
Monitoring wells installed? Yes	Number: 5	Proper screened interval? yes
Highest GW Depth Below Ground Surface: 3.73 feet bgs	Lowest Depth: 8.51 feet bgs	Flow Direction: Southwest
Most Sensitive Current Use: None		

Summary of Production Wells in Vicinity: A well survey performed for the site did not identify any water supply, irrigation or groundwater production wells within a 0.5 mile radius.

Are drinking water wells affected? No

Aquifer Name: East Bay Plain

Is surface water affected? No

Nearest SW Name: Temescal Creek 200 ft. south

Off-Site Beneficial Use Impacts (Addresses/Locations): None

Reports on file? Yes

Where are reports filed? Alameda County Environmental Health and City of Oakland Fire Department

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL

Material	Amount (Include Units)	Action (Treatment or Disposal w/Destination)	Date
UST	550 gallon waste oil tank	Erickson Inc facility in Richmond, CA	11/25/98
Piping	NA	Piping disposal location unknown	11/25/98
Free Product	410 gallons sludge	Alviso Independent Oil Alviso, CA	11/25/98
Soil	87.4 tons from waste oil tank	TPS Tech, Richmond, CA	2/5/99
Groundwater	150 gallons from	Crosby & Overton, Inc., Long Beach CA	10/10/07

MAXIMUM DOCUMENTED CONTAMINANT CONCENTRATION BEFORE AND AFTER CLEANUP  
(Please see Attachments 1 through 5 for additional information on contaminant locations and concentrations)

Contaminant	Soil (ppm)		Water (µg/L)	
	Before	After	Before	After
TPH (Gas)	1,100	240	13,000	1,840
TPH (Diesel)	2,700	210	110,000	1,090
TPH (Motor Oil)	4,200	140	18,000	<250
Benzene	0.043	<0.020	180	<0.5
Toluene	<0.005	<0.005	0.95	<2.0
Ethylbenzene	<0.020	4.52	490	1.44
Xylenes	<0.020	0.023	1,100	<2.0
Heavy Metals (Cd, Cr, Pb, Ni, Zn)	<0.5 <sup>1</sup>	Not Analyzed	27 <sup>2</sup>	27 <sup>2</sup>
MTBE	0.33 <sup>3</sup>	0.0086	16,000	17.3
Other (8240/8270)	20.9	20.9	<2 <sup>4</sup>	<2 <sup>4</sup>

1) Heavy metals (soil): 21 mg/kg Cr, 5.5 mg/kg Pb, 24 mg/kg Ni, 53 mg/kg Zn

2) Heavy metals (groundwater): 31 µg/L Cr, 11 µg/L Pb, 35 µg/L Ni, 10 µg/L Zn

3) TBA 0.029 mg/kg

4) TBA <97.8 µg/L, DIPE <0.5 µg/L, ETBE <0.5 µg/L, TAME <2 µg/L, 1,2-DCA <0.5 µg/L, EDB <0.5 µg/L, EtOH <1,000 µg/L

#### Site History and Description of Corrective Actions:

The site is currently an active service station surrounded by commercial and residential properties. In November 1997 an unauthorized release was detected during the removal of one 550 gallon waste oil tank. Confirmation soil samples were collected from the tank pit after the UST was removed. Contamination was detected in soil at concentrations of 1,100 ppm TPHg, 2,700 ppm TPHd, and 4,200 ppm TPHmo at eight feet bgs in the tank pit. BTEX (Benzene, Toluene, Ethylbenzene, and Xylenes) constituents were not detected above laboratory detection limits. Additional excavation was completed and approximately 70 cubic yards of soil was removed and disposed of off site. Confirmation soil samples collected after over-excavation detected TPHg and MTBE at concentrations of 68 µg/L and 48 µg/L, respectively. However, confirmation soil samples were collected from 6 feet bgs, which was likely above the zone of impacted soil. Consequently, soil boring (BH-A) was installed in July 1999 next to the former tank pit. A grab groundwater sample was collected, hydrocarbon sheen was observed, and elevated levels of up to 1,700 µg/L TPHg, 10,000 µg/L TPHd and 4,700 µg/L TPHmo were detected. Soil from the boring was not analyzed for TPH constituents or fuel oxygenates; however Cadmium, Chromium, Lead, Nickel, Zinc, HVOCs, SVOCs, or PCBs were not detected in the above laboratory detection limits.

In September 2000 two soil borings (BH-B and BH-C) were installed onsite and downgradient of the site. Soil boring BH-B was advanced in the southwest corner of the site, and a soil sample collected from eight feet bgs detected 240 ppm TPHg and 360 ppm TPHd. Additionally, a grab groundwater sample collected from boring BH-B detected high levels of up to 12,000 µg/L TPHg, 11,000 µg/L TPHd, 44 µg/L benzene and 4,300 µg/L MtBE. To determine if Temescal Creek was impacted from the unauthorized release, soil boring BH-C was installed adjacent to the creek. Soil samples collected from the soil boring did not detect TPHg, TPHd, MTBE or BTEX above laboratory reporting limits. However, a grab groundwater sample detected 7,300 µg/L TPHg, 25,000 µg/L TPHd, and 5,300 µg/L MtBE. A surface water sample was collected from Temescal Creek in December 2000 did not detect contamination above laboratory reporting limits.

Additional site characterization completed in October 2000 included the installation of two soil borings. Soil boring BH-D, which was installed approximately 25 feet northeast of boring BH-E, detected groundwater contamination at concentrations of 13,000 µg/L TPHg, 110,000 µg/L TPHd, 18,000 µg/L TPHmo, 16,000 µg/L MTBE, and 180 µg/L benzene. Soil boring BH-E, which is the most distant downgradient soil boring detected MtBE in groundwater at concentrations up to 730 µg/L. Soil samples collected from borings BH-D and BH-E detected low levels of MTBE at concentrations of up to 0.33 ppm and 0.037 ppm.

Nine soil borings (HP-1 to HP-10) and three monitoring wells (SOMA-1 to SOMA-3) were installed in March 2004. Soil samples collected from the soil borings detected contamination at maximum concentrations of up to 130 mg/kg TPHg, 210 mg/kg TPHd, 910 mg/kg TPHmo and 0.27 mg/kg MtBE, benzene was not detected above laboratory reporting limits in any soil borings. Groundwater samples collected from the borings detected elevated levels of TPHg, TPHd, TPHmo, and MTBE up to 9,700 µg/L, 21,000 µg/L, 58,000 µg/L and 1,100 µg/L, respectively. Groundwater analytical data for monitoring wells SOMA-1, SOMA-2 and SOMA-3 detected TPHg, TPHd and MTBE at concentrations up to 1,900 µg/L, 690 µg/L and 1,900 µg/L, respectively. Monitoring well (SOMA-4) was also installed in May 2004, and soil samples collected at 11.5–12 feet bgs during well installation detected 63 mg/kg TPHg, 1.8 mg/kg Benzene and 63 mg/kg TPHd.

In May 2005 a CPT/MIP investigation was conducted and ten hydropunch borings (GS-1 to GS-11) were installed to evaluate both the vertical and horizontal distribution of dissolved phase contamination onsite and downgradient of the site. Results from the investigation detected elevated levels of TPHg, TPHd, and MtBE in boring GS-2 -21 feet bgs- at maximum concentrations of 11,400 µg/L, 8,900 µg/L and 36.1 µg/L, respectively. TPHd and MTBE were detected in the lower water bearing zone -33 feet bgs- at concentrations of up to 220 µg/L, and 164 µg/L.

In September 2007 preferential pathway survey was conducted to determine if an upgradient source of dissolved phase contamination was impacting the site. One soil boring (USB-1) was advanced in the utility corridor, and a soil sample was collected from the fill material surrounding a 15" diameter sewer line. No contamination including TPH, BTEX, MtBE or other fuel additives were detected above laboratory reporting limits. Also, one additional monitoring well (SOMA-5) was installed adjacent to Temescal Creek to evaluate if dissolved phase contamination was impacting the creek. Soil samples collected during well installation detected contamination at concentrations up to .035 mg/kg TPHg and 0.03 mg/kg TBA. While groundwater samples collected from the SOMA-5 detected 1,310 µg/L TPHg and 21 µg/L MtBE.

Quarterly groundwater analytical data from March 2008 detected residual dissolved phase contamination on site (SOMA-2) at maximum concentrations up to 1,400 µg/L TPHg, 229 µg/L TPHd and 17.3 µg/L MtBE, while downgradient groundwater data (SOMA-4) detected up to 1,840 µg/L TPHg, 1,090 TPHd, and 17.3 µg/L MTBE.

**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.		
Site Management Requirements: Case closure for the fuel leak site is granted for commercial land use only. If a change in land use to residential or other conservative scenario occurs at this property, Alameda County Environmental Health must be notified and the case needs to be re-evaluated. This site is to be entered into the City of Oakland Permit Tracking System due to the residual contamination posing a nuisance for subsurface utility work.		
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: 5
List Enforcement Actions Taken: None		
List Enforcement Actions Rescinded: --		

**V. ADDITIONAL COMMENTS, DATA, ETC.**


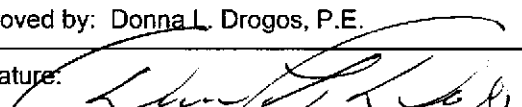
Considerations and/or Variances:

- Residual contamination in groundwater below the ESLs is present beneath the site at concentrations of up to 1,840 µg/kg TPHg, 1,090 µg/kg TPHd, 440 µg/kg TPHmo and 17 µg/kg MtBE.
- Residual contamination remains in soil beneath the site at concentrations of up to 130mg/kg TPHg, 210 mg/kg TPHd, 910 mg/kg TPHmo, 1.54 mg/kg benzene and 0.270 mg/kg MtBE.
- During the initial waste oil tank removal, the required waste oil analyses were not performed.
- Downgradient of the site residual contamination remains in soil at 0.354 mg/kg which is below the ESL for soil
- ESLs used for the site are based on a scenario where groundwater is not a current or potential drinking water source; however, the appropriated ESLs should reflect current basin plan guidelines where groundwater is a current or potential drinking water source.

Conclusion:

Alameda County Environmental Health staff believe that the levels of residual contamination do not pose a significant threat to water resources, public health and safety, and the environment based upon the information available in our files to date. No further investigation or cleanup is necessary. ACEH staff recommend case closure for this site.

**VI. LOCAL AGENCY REPRESENTATIVE DATA**

Prepared by: Steven Plunkett	Title: Hazardous Materials Specialist
Signature: 	Date: 9/10/08
Approved by: Donna L. Drogos, P.E.	Title: Supervising Hazardous Materials Specialist
Signature: 	Date: 09/10/08

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
RB Response: Concur, based solely upon information contained in this case closure summary.	Date Submitted to RB: 9/15/08
Signature: <i>Cherie McCaulou</i>	Date: 12/1/08

**VIII. Monitoring Well Decommissioning**

Date Requested by ACEH:	Date of Well Decommissioning Report:	
All Monitoring Wells Decommissioned:	Number Decommissioned:	Number Retained:
Reason Wells Retained:		
Additional requirements for submittal of groundwater data from retained wells:		
ACEH Concurrence - Signature:		Date:

**Attachments:**

1. Site Vicinity Map
2. Site Plan Map
3. Groundwater Elevation Map
4. Groundwater Analytical Data (10 pages)
5. Soil Analytical Data (6 pages)
6. Geologic Cross Sections (4 pages)
7. Temescal Creek Sampling Map (2 pages)
8. Boring Logs (30 pages)

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.

Post-It® Fax Note	7671	Date	12/3/08	# of pages	1
To	Steven Plunkett	From	Cherie McCaulou		
Co./Dept.	ACEH - LOP	Co.	RW&CB		
Phone #	(510) 383-1767	Phone #	(510) 622-2342		
Fax #	(510) 337-9335	Fax #	(510) 622-2464		



**VII. REGIONAL BOARD NOTIFICATION**

Regional Board Staff Name: Cherie McCaulou	Title: Engineering Geologist
RB Response: Concur, based solely upon information contained in this case closure summary.	Date Submitted to RB:
Signature:	Date:

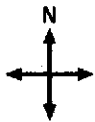
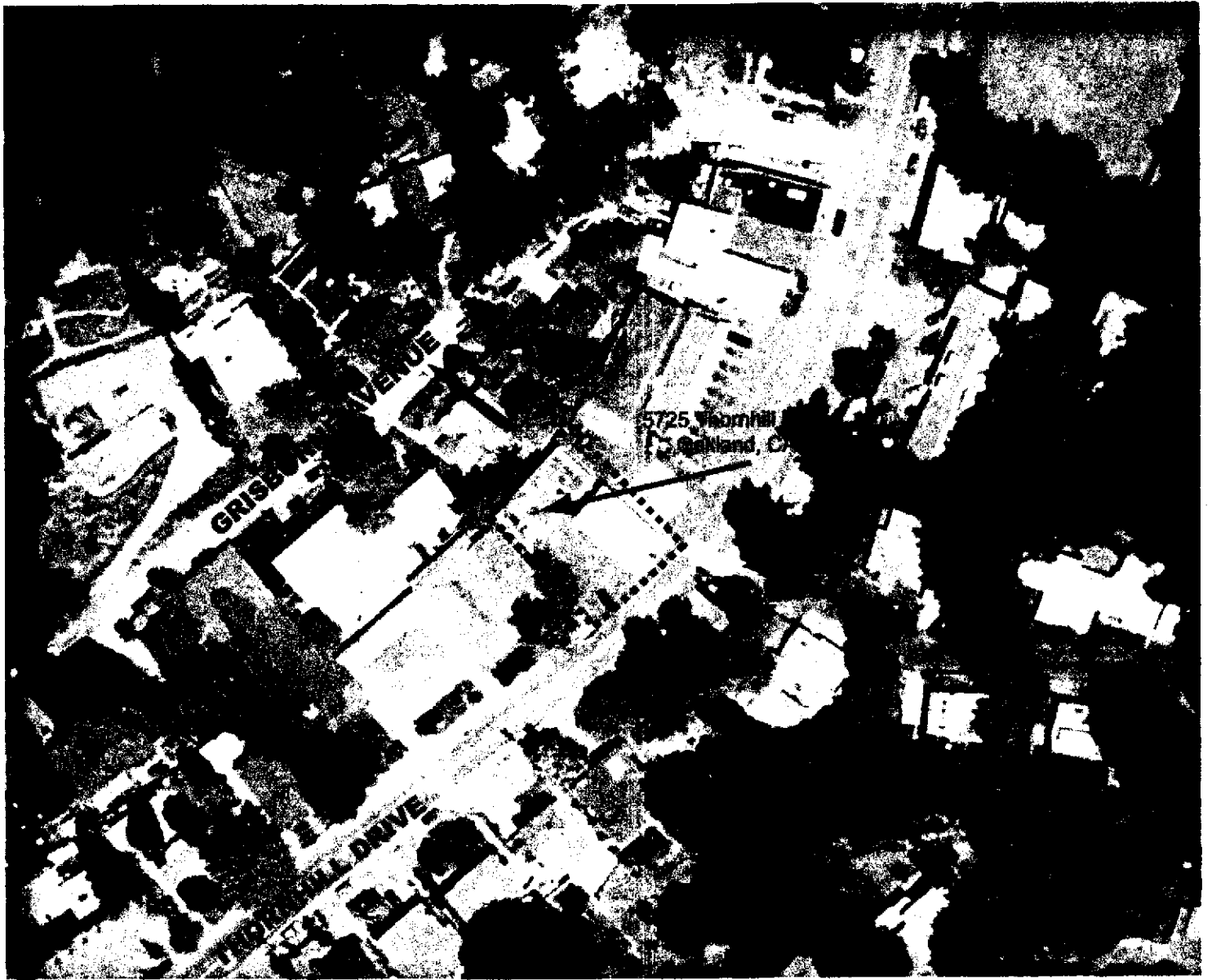
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This document and the related CASE CLOSURE LETTER & REMEDIAL ACTION COMPLETION CERTIFICATE shall be retained by the lead agency as part of the official site file.



approximate scale in feet  
0 100 200

Figure 1: Site vicinity map.

ATTACHMENT 1

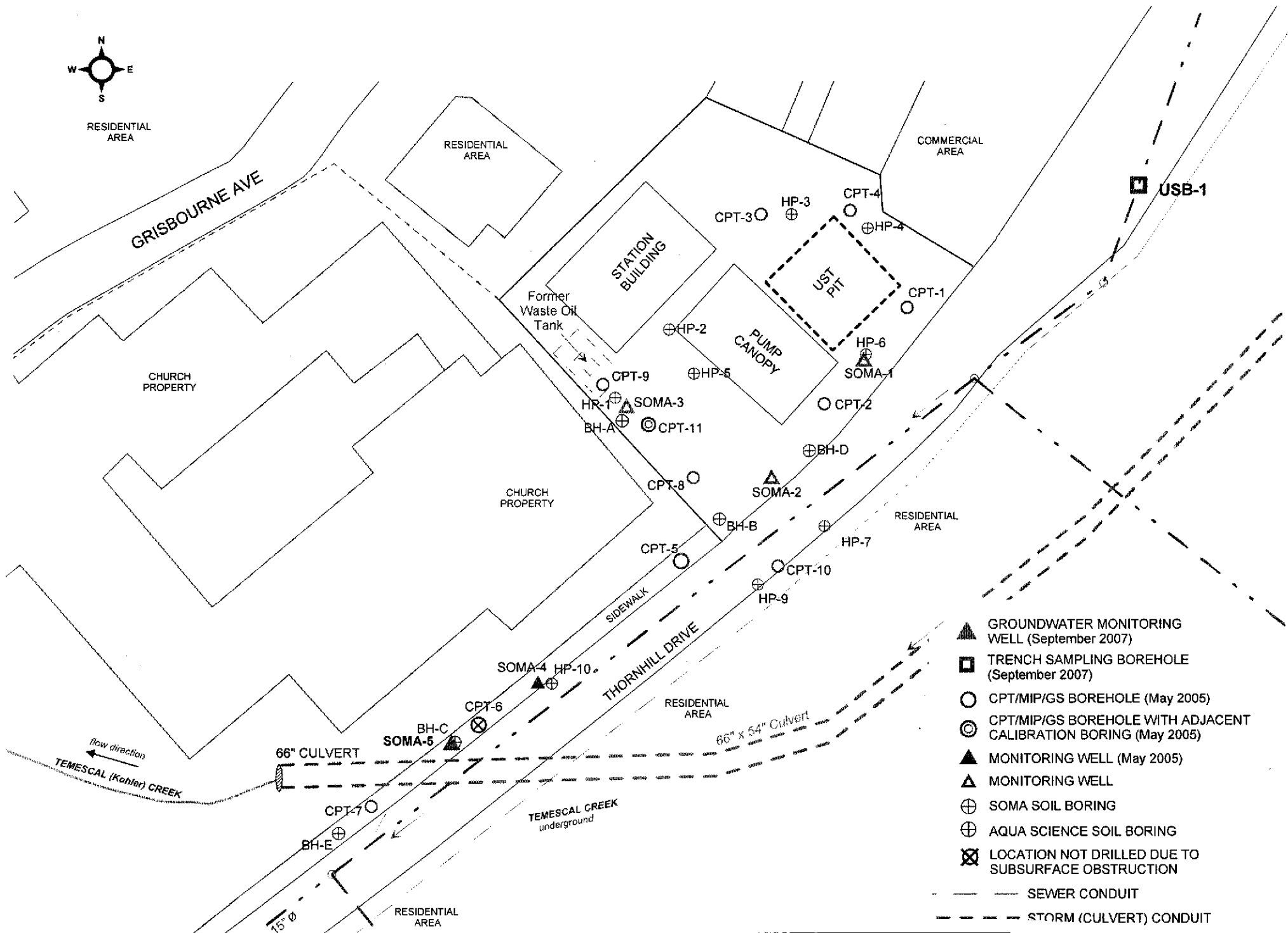
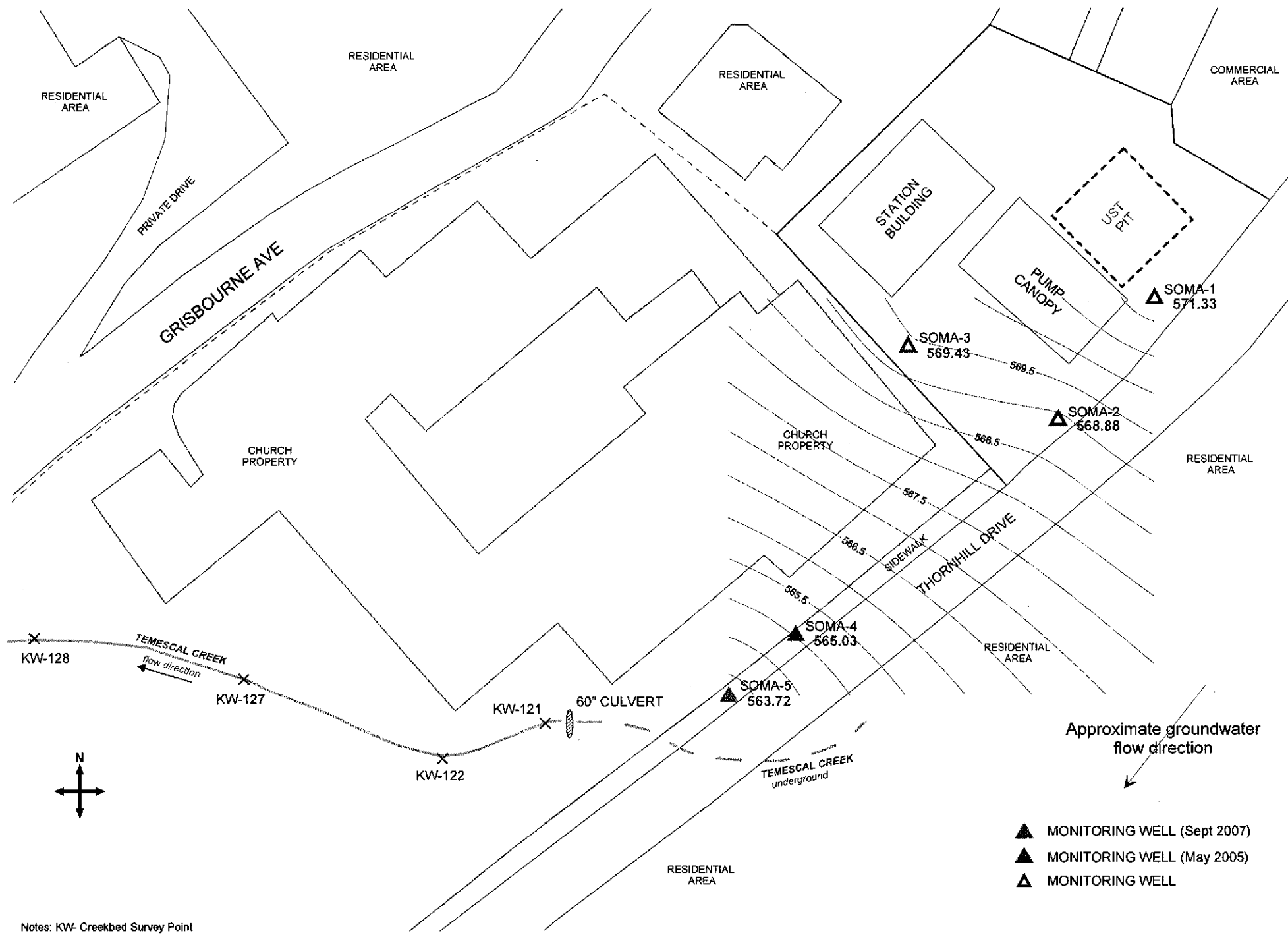


Figure 2: Site Map Showing the Locations of existing and newly installed borings and groundwater monitoring well



Notes: KW- Creekbed Survey Point

approximate scale in feet

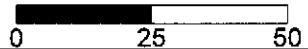


Figure 3: Groundwater elevation contour map in feet. March 4, 2008.

**ATTACHMENT 3**

# CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-07-0370

To: Aqua Science Engineers, Inc.

Test Method: 6010A

Attn.: Robert Kitay

Prep Method: 3010A

## Metals

Sample ID:	BHA	Lab Sample ID:	1999-07-0370-003
Project:	Mashhoon-Thornhill	Received:	07/23/1999 13:41
Site:	5725 Thornhill, Oakland, Ca	Extracted:	07/28/1999 08:06
Sampled:	07/22/1999 16:45	QC-Batch:	1999/07/28-01.15
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Cadmium	0.027	0.0020	mg/L	1.00	07/28/1999 12:11	
Chromium	0.031	0.0050	mg/L	1.00	07/28/1999 12:11	
Lead	0.011	0.0050	mg/L	1.00	07/28/1999 12:11	
Nickel	0.035	0.0050	mg/L	1.00	07/28/1999 12:11	
Zinc	0.10	0.010	mg/L	1.00	07/28/1999 12:11	

1220 Quarry Lane \* Pleasanton, CA 94566-4756  
Telephone: (925) 484-1919 \* Facsimile: (925) 484-1096

Printed on: 07/30/1999 16:21

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**Table 1**  
**ASE Groundwater Analytical Data**  
**5725 Thornhill Drive, Oakland, CA (1999-2000)**

<b>Borehole ID</b>	<b>Date Sampled</b>	<b>TPH-g (ug/L)</b>	<b>TPH-d (ug/L)</b>	<b>TPH-mo (ug/L)</b>	<b>MtBE (ug/L)</b>	<b>Benzene (ug/L)</b>	<b>Toluene (ug/L)</b>	<b>Ethyl benzene (ug/L)</b>	<b>Total Xylenes (ug/L)</b>
BH-A	Aug-99	1,700	10,000	4,700	NA	NA	NA	NA	NA
BH-B	6-Sep-00	12,000	11,000	420	4,300	44	NA	360	49
BH-C	6-Sep-00	7,300	25,000	620	5,300	NA	NA	NA	NA
BH-D	23-Oct-00	13,000	110,000	18,000	16,000	180	NA	490	1,000
BH-E	23-Oct-00	NA	NA	NA	730	NA	0.95	NA	1.8
<b>ESL**</b>		<b>500</b>	<b>640</b>	<b>640</b>	<b>1,800</b>	<b>46</b>	<b>130</b>	<b>290</b>	<b>100</b>

Notes

\*\* Environmental Screening Levels (ESL) residential scenario, >9 ft bgs, groundwater is not current of potential drinking water source, California Regional Water Quality Control Board, February 2005

**Table 3A**  
**Groundwater Analytical Results**  
 5725 Thornhill Drive  
 Oakland, California

Groundwater Sampling Borehole (Sample Interval)	TPH-g (µg/L)	TPH-d (µg/L)	TPH-Mo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)
<b>Groundwater Monitoring Data Third Quarter 2006</b>									
SOMA-1	<50	<50	<250	<0.5	<2.0	<0.5	<1.0	4.62	<10
SOMA-2	3,580	288 <sup>A,B</sup>	<250	0.8	0.7	2.66	0.7	44.8	32.4
SOMA-3	<50	60 <sup>A,Y</sup>	<250	<0.5	<0.5	<0.5	<1.0	8.05	<10
SOMA-4	4,340	357 <sup>A,B</sup>	<250	<0.5	0.52	<0.5	0.52	34.2	216
<b>Abandoned Monitoring Wells (March 2004)</b>									
MW-1	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5	NA
MW-2	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5	NA
MW-3	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<0.5	NA
<b>ESL**</b>	<b>500</b>	<b>640</b>	<b>640</b>	<b>46</b>	<b>130</b>	<b>290</b>	<b>100</b>	<b>1,800</b>	<b>930</b>

**NOTES**

<sup>1</sup> Total petroleum hydrocarbons as gasoline (TPH-g), TPH-d, and TPH-Mo using EPA Method 8016B (May 2006 Investigation)

<sup>2</sup> BTEX, MBE, DIPE, ETBE, TAME, TBA, and Ethanol using EPA Method 8260B (May 2006 Investigation)

<sup>L</sup> Lighter hydrocarbons contributed to the quantitation

<sup>H</sup> Heavier hydrocarbons contributed to the quantitation

<sup>Y</sup> Sample exhibits chromatographic pattern that does not resemble standard

NS – Not Sampled

A To reduce matrix interference, the sample extract has undergone silica-gel clean-up, method 3830, which is specific to polar compound contamination, diesel 2Q06.

B Unidentified hydrocarbons C9-C18, diesel 2Q06.

\*\* Environmental Screening Levels (ESL) residential scenario, >9 ft bgs, groundwater is not current of potential drinking water source, California Regional Water Quality Control Board, February 2005

**Table 3A**  
**Groundwater Analytical Results**  
5725 Thornhill Drive  
Oakland, California

Groundwater Sampling Borehole (Sample Interval)	TPH-g (µg/L)	TPH-d (µg/L)	TPH-Mo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)
<b>Upper Water-Bearing Zone (May 2005 Investigation)</b>									
GS-1(16-18)	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<10.0
GS-2(19-21)	11,400	8,900 <sup>LY</sup>	300 <sup>LY</sup>	1.11	2.29	1.68	3.98	36.1	<10.0
GS-3(22-26)	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<10.0
GS-4(24-28)	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<10.0
GS-5(24-28)	<200	180 <sup>LY</sup>	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<10.0
GS-8(20-24)	<200	2,800 <sup>LY</sup>	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<10.0
GS-9(24-28)	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<10.0
GS-10(22-26)	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<10.0
GS-11(23-27)	<200	60 <sup>Y</sup>	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<10.0
<b>Lower Water-Bearing Zone (May 2005 Investigation)</b>									
GS-1(30-34)	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<10.0
GS-3(36-40)	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<10.0
GS-4(35-39)	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	5.59	<10.0
GS-7(29-33)	<200	190 <sup>Y</sup>	<300	<0.5	<0.5	<0.5	<1.0	164	<10.0
GS-8(35-39)	<200	220 <sup>LY</sup>	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<10.0
GS-9(36-38)	<200	53 <sup>Y</sup>	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<10.0
GS-11(35-39)	<200	51 <sup>Y</sup>	<300	<0.5	<0.5	<0.5	<1.0	<0.5	<10.0
<b>Upper Water-Bearing Zone (March 2004 Investigation)</b>									
HP-1	4,200 <sup>Y</sup>	5,900 <sup>HL</sup>	11,000	<0.5	<0.5	<0.5	<0.5	11	<10.0
HP-2	360 <sup>Y</sup>	10,000 <sup>HY</sup>	58,000	<0.5	<0.5	<0.5	<0.5	20	<10.0
HP-3	<50	3,500 <sup>HY</sup>	5,700	<0.5	<0.5	<0.5	<0.5	<5	<10.0
HP-4	<50	740 <sup>HY</sup>	6,300 <sup>H</sup>	<0.5	<0.5	<0.5	<0.5	<5	<10.0
HP-5	6,700 <sup>Y</sup>	3,600 <sup>HL</sup>	650	<0.5	<0.5	<0.5	0.7	33	<10.0
HP-6	250 <sup>HY</sup>	370 <sup>HY</sup>	730	<0.5	1.5	<0.5	2.5	8.1	<10.0
HP-7	<50	1,800 <sup>HY</sup>	1,400	<0.5	<0.5	<0.5	<0.5	<0.5	<10.0
HP-9	<50	160 <sup>HY</sup>	1,700	<1.3	<1.3	<1.3	<0.5	440	<10.0
HP-10	9,700 <sup>Y</sup>	21,000 <sup>HL</sup>	5,700	<3.6	<3.6	<3.6	<0.5	1,100	<10.0



**Table 5**  
**Groundwater Analytical Results**  
**5725 Thornhill Drive, Oakland California**

Analyte	USB-1 (ug/L)	SOMA-5 (ug/L)	ESL**
	9/21/2007	9/23/2007	ug/L
TPH-mo	75.40	111 [1][2]	640
TPH-d	<250	<250	640
TPH-g	<50	<50	500
Benzene	<0.5	<0.5	46
Ethylbenzene	4.31	<0.5	290
Total Xylenes	<2	<2	100
MTBE	<0.5	54.90	1,800
DIPE	<0.5	<0.5	NA
ETBE	<0.5	<0.5	NA
TAME	<2	<2	NA
TBA	<2	203.00	18000
1,2 DCE	<0.5	<0.5	NA
1,2 EDB	<0.5	<0.5	NA
Ethanol	<1000	<1000	NA

Notes:

< Less than the Laboratory Reporting Limit

1 The sample chromatographic pattern does not resemble the fuel standard used for quantification.

2 Unidentified hydrocarbons C9-C16.

\*\* Environmental Screening Levels (ESL), groundwater is not current of potential drinking water source, California Regional Water Quality Control Board, February 2005  
 Environmental Screening Levels (ESL) residential scenario,  
 Regional Water Quality Control Board, February 2005.

NA Not Applicable

**Table 1**  
**SOMA Historical Groundwater Elevation Data**  
**& Analytical Results (Hydrocarbons, BTEX, & MtBE)**  
**5725 Thornhill Drive, Oakland California**

Monitoring Well	Date	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	TPH-d (µg/L)	TPH-mo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Total Xylenes (µg/L)	MtBE* 8260B (µg/L)
SOMA-1	4/22/2004	576.47	5.75	570.72	63	<50	<300	<0.5	<0.5	<0.5	<0.5	7.7
	7/27/2004	576.47	6.21	570.26	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	9.1
	10/28/2004	576.47	5.76	570.71	<50	<1.0	<1.0	<0.5	<0.5	<0.5	<1.0	6.4
	1/11/2005	576.47	3.73	572.74	<50	200 HY	900	<0.5	<0.5	<0.5	<0.5	4.7
	4/12/2005	576.47	4.72	571.75	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	7.49
	7/19/2005	576.47	5.87	570.60	<200	<50	<300	<0.5	<2.0	<0.5	<1.0	4.94
	10/18/2005	576.47	6.12	570.35	<50	<50	<300	<0.5	<2.0	<0.5	<1.0	5.33
	2/6/2006	576.47	5.10	571.37	<50	920LY	<300	<0.5	<2.0	<0.5	<1.0	2.74
	4/26/2006	576.47	4.71	571.76	<50	<50 <sup>1</sup>	<250 <sup>1</sup>	<0.5	<2.0	<0.5	<1.0	5.28
	8/3/2006	576.47	5.96	570.51	<50	<50	<250	<0.5	<2.0	<0.5	<1.0	4.52
	10/30/2006	576.47	6.22	570.25	<50	<50	<250	<0.5	<2.0	<0.5	<1.0	3.38
	1/8/2007	576.47	6.19	570.28	<50	<50 <sup>4</sup>	<250 <sup>4</sup>	<0.5	<2.0	<0.5	<2.0	3.07
	6/14/2007	576.47	5.96	570.51	<50	<50 <sup>4</sup>	<250 <sup>4</sup>	<0.5	<2.0	<0.5	<2.0	1.91
	9/13/2007	576.47	6.31	570.16	<50	<50 <sup>1</sup>	<250 <sup>1</sup>	<0.5	<2.0	<0.5	<2.0	0.85
12/4/2007	576.47	6.11	570.36	<50	<50 <sup>1</sup>	<250	<0.5	<2.0	<0.5	<2.0	1.17	
3/4/2008	576.47	5.14	571.33	<50	<50 <sup>1</sup>	<250 <sup>1</sup>	<0.5	<2.0	<0.5	<2.0	0.85	

**Table 1**  
**SOMA Historical Groundwater Elevation Data**  
**& Analytical Results (Hydrocarbons, BTEX, & MtBE)**  
**5725 Thornhill Drive, Oakland California**

Monitoring Well	Date	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	TPH-d (µg/L)	TPH-mo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Total Xylenes (µg/L)	MtBE* 8260B (µg/L)
SOMA-2	4/22/2004	575.50	7.40	568.10	1,900	690 LY	<300	<0.5	<0.5	5.2	9.9	1,900
	7/27/2004	575.50	7.92	567.58	1,500	710 LY	<300	8.9 C	<0.5	1.5 C	2.9 C	740
	10/28/2004	575.50	7.62	567.88	955	790 LY	<1.0	<2.5	<2.5	<2.5	< 5	785
	1/11/2005	575.50	5.70	569.80	3,700	2100 LY	380	3.7	<2.0	3.5	102	310
	4/12/2005	575.50	6.28	569.22	5,960	1200 LY	<300	1.19	<0.5	20.6	25	241
	7/19/2005	575.50	7.42	568.08	2,480	800 LY	<300	1.09	<2.0	2.65	0.73	162
	10/18/2005	575.50	7.70	567.80	2,710	1,100 LY	<300	1.41	<2.0	2.24	0.64	130
	2/6/2006	575.50	6.71	568.79	2,730	66Y	<300	0.68	<2.0	0.71	6.33	49
	4/26/2006	575.50	6.32	569.18	6,490	1,580 <sup>1,2,3</sup>	<250 <sup>1</sup>	<0.5	<2.0	15.3	8.49	38.5
	8/3/2006	575.50	7.39	568.11	3,580	286 <sup>1,3</sup>	<250	0.8	0.7	2.65	0.7	44.8
	10/30/2006	575.50	7.60	567.90	1,680	608 <sup>2,3</sup>	448	<0.5	<2.0	3.78	<1.0	51.4
	1/8/2007	575.50	7.18	568.32	1,720	1010 <sup>3,Y</sup>	<250	<0.5	<2.0	2.75	<2.0	33.3
	6/14/2007	575.50	7.39	568.11	988	427 <sup>3,4,Y</sup>	<250 <sup>4</sup>	<0.5	<2.0	4.80	2.46	28.9
	9/13/2007	575.50	7.91	567.59	906	427 <sup>1,2,3</sup>	<250 <sup>1</sup>	<0.5	<2.0	4.64	2.37	58
12/4/2007	575.50	7.64	567.86	868	182 <sup>1,2,3</sup>	<250	0.69	<2.0	0.65	<2.0	76	
3/4/2008	575.50	6.62	568.88	1,400	229 <sup>1,2,3</sup>	<250 <sup>1</sup>	<0.5	<2.0	1.44	<2.0	17.3	
SOMA-3	4/22/2004	575.92	7.14	568.78	190	120 Y	<300	<0.5	<0.5	<0.5	<0.5	5.1
	7/27/2004	575.92	7.95	567.97	130	120 LY	<300	<0.5	<0.5	<0.5	<0.5	9.1
	10/28/2004	575.92	7.60	568.32	57	280 LY	<1.0	<0.5	<0.5	<0.5	<2	11.3

**Table 1**  
**SOMA Historical Groundwater Elevation Data**  
**& Analytical Results (Hydrocarbons, BTEX, & MtBE)**  
**5725 Thornhill Drive, Oakland California**

Monitoring Well	Date	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	TPH-d (µg/L)	TPH-mo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Total Xylenes (µg/L)	MtBE* 8260B (µg/L)
SOMA-3 cont	1/11/2005	575.92	5.45	570.47	140	210 Y	<300	<0.5	<0.5	<0.5	<0.5	5.8
	4/12/2005	575.92	6.02	568.90	<200	<50	<300	<0.5	<0.5	<0.5	<1.0	4.53
	7/19/2005	575.92	7.49	568.43	<200	120 Y	<300	<0.5	<2.0	<0.5	<1.0	4.69
	10/18/2005	575.92	7.63	568.29	50.1	120 Y	<300	<0.5	<2.0	<0.5	<1.0	8.63
	2/6/2006	575.92	7.20	568.72	1,010	220Y	<300	<0.5	<2.0	<0.5	2.06	32
	4/26/2006	575.92	6.13	569.79	121	123 <sup>1,2,3</sup>	<250 <sup>1</sup>	<0.5	<2.0	<0.5	<1.0	5.49
	8/3/2006	575.92	7.35	568.57	<50	60 <sup>1,2</sup>	<250	<0.5	<0.5	<0.5	<1.0	8.05
	10/30/2006	575.92	7.64	568.28	<50	199 <sup>2,3</sup>	<250	<0.5	<2.0	<0.5	<1.0	7.37
	1/8/2007	575.92	7.82	568.10	<50	181 <sup>3,Y</sup>	<250	<0.5	<2.0	<0.5	<2.0	8.65
	6/14/2007	575.92	7.31	568.61	<50	569 <sup>3,Y</sup>	<250	<0.5	<2.0	<0.5	<2.0	5.57
	9/13/2007	575.92	8.00	567.92	<50	<50 <sup>1</sup>	<250 <sup>1</sup>	<0.5	<2.0	<0.5	<2.0	8.55
	12/4/2007	575.92	7.74	568.18	<50	<50 <sup>1</sup>	<250	<0.5	<2.0	<0.5	<2.0	13.2
	3/4/2008	575.92	6.49	569.43	<50	<50 <sup>1</sup>	<250 <sup>1</sup>	<0.5	<2.0	<0.5	<2.0	<0.5
SOMA-4	7/19/2005	572.65	8.10	564.55	3,350	1,200 LY	<300	<1.0	<4.0	<1.0	<2.0	455
	10/18/2005	572.65	8.15	564.50	1,580	1,200 LY	<300	<2.15	<8.6	<2.15	<4.3	425
	2/6/2006	572.65	7.68	564.97	1,940	830LY	<300	<2.15	<8.60	<2.15	<4.3	409
	4/26/2006	572.65	7.61	565.04	3,930	1,080 <sup>1,2,3</sup>	<250 <sup>1</sup>	<0.5	<2.0	<0.5	<1.0	231
	8/3/2006	572.65	8.08	564.57	4,340	357 <sup>1,3</sup>	<250	<0.5	0.52	<0.5	0.52	34.2
	10/30/2006	572.65	8.11	564.54	4,320	1070 <sup>2,3</sup>	<250	<0.5	<2.0	3.34	0.54	37.4
	1/8/2007	572.65	7.86	564.79	2,280	977 <sup>3,Y</sup>	<250	<0.5	<2.0	<0.5	<2.0	36
	6/14/2007	572.65	8.03	564.62	2,600	407 <sup>3,4,Y</sup>	<250 <sup>4</sup>	<0.5	<2.0	4.39	2.69	10.3
	9/13/2007	572.65	8.46	564.19	2,670	642 <sup>1,2,3</sup>	<250 <sup>1</sup>	<0.5	<2.0	4.52	2.79	25.3
	12/4/2007	572.65	7.93	564.72	1,960	623 <sup>1,2,3</sup>	<250	<0.5	<2.0	<0.5	<2.0	31.2
3/4/2008	572.65	7.62	565.03	1,840	1,090 <sup>1,2,3</sup>	<250 <sup>1</sup>	<0.5	<2.0	<0.5	<2.0	7.68	
SOMA-5	12/4/2007	572.23	8.05	564.18	1,310	295 <sup>1,2,3</sup>	<250	<0.5	<2.0	<0.5	<2.0	21
	3/4/2008	572.23	8.51	563.72	824	200 <sup>1,2,3</sup>	<250 <sup>1</sup>	<0.5	<2.0	<0.5	<2.0	8.96

**Table 2**  
**Groundwater Analytical Results**  
**Gasoline Oxygenates & Lead Scavengers**  
**5725 Thornhill Drive, Oakland California**

Monitoring Well	Date	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Ethanol (µg/L)
SOMA-1	4/22/2004	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<1000
	7/27/2004	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<1000
	10/28/2004	<2.5	<0.5	<0.5	<2	<0.5	<0.5	<1.0
	1/11/2005	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<1,000
	4/12/2005	<2.5	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	7/19/2005	<10	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	10/18/2005	<10	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	2/1/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	4/26/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	8/3/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	10/30/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	1/8/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	6/14/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	9/13/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	12/4/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
3/4/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5	<1000	
SOMA-2	4/22/2004	<100	<5.0	<5.0	19.0	<5.0	<5.0	<10000
	7/27/2004	<33	<1.7	<1.7	9.8	<1.7	<1.7	<3300
	10/28/2004	36.3	<2.5	<2.5	12.85	<0.5	<0.5	<1.0
	1/11/2005	67	<2.0	<2.0	6.7	<2.0	<2.0	<4,000
	4/12/2005	71	<0.5	<0.5	3.29	<0.5	<0.5	<1000
	7/19/2005	74.2	<0.5	<0.5	2.82	<0.5	<0.5	<1000
	10/18/2005	81.7	<0.5	<0.5	2.61	<0.5	<0.5	<1000
	2/1/2006	37.8	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	4/26/2006	36.1	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	8/3/2006	32.4	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	10/30/2006	20.7	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	1/8/2007	22.2	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	6/14/2007	35.6	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	9/13/2007	61.1	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	12/4/2007	23.2	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
3/4/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5	<1000	

**Table 2**  
**Groundwater Analytical Results**  
**Gasoline Oxygenates & Lead Scavengers**  
**5725 Thornhill Drive, Oakland California**

Monitoring Well	Date	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Ethanol (µg/L)
SOMA-3	4/22/2004	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<1000
	7/27/2004	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<1000
	10/28/2004	<2.5	<0.5	<0.5	<2	<0.5	<0.5	<1.0
	1/11/2005	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<1,000
	4/12/2005	<2.5	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	7/19/2005	<10	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	10/18/2005	<10	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	2/1/2006	40.9	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	4/26/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	8/3/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	10/30/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	1/8/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	6/14/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	9/13/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
12/4/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5	<1000	
3/4/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5	<1000	
SOMA-4	7/19/2005	84.1	<1.0	<1.0	4.4	<1.0	<1.0	<1000
	10/18/2005	314	<2.15	<2.15	<8.6	<2.15	<2.15	<4300
	2/1/2006	417	<2.15	<2.15	<8.6	<2.15	<2.15	<4300
	4/26/2006	357	0.59	<0.5	2.1	<0.5	<0.5	<1000
	8/3/2006	216	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	10/30/2006	269	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	1/8/2007	233	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	6/14/2007	87.9	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	9/13/2007	278	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	12/4/2007	387	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
3/4/2008	97.8	<0.5	<0.5	<2.0	<0.5	<0.5	<1000	
SOMA-5	12/4/2007	241	<0.5	<0.5	<2.0	<0.5	<0.5	<1000
	3/4/2008	147	<0.5	<0.5	<2.0	<0.5	<0.5	<1000

**Notes:**

<: Not detected above the laboratory reporting limit.

The Second Quarter 2004 was the first time SOMA monitored the site.

Wells SOMA-1 to SOMA-3 were monitored at that time.

Well SOMA-4 was installed on May 27, 2005. The Third Quarter 2005 was the first time SOMA monitored this well.

**Gasoline Oxygenates:**

TBA: tertiary butyl alcohol

DIPE: Di-Isopropyl ether

ETBE: Ethyl tertiary butyl ether

TAME: Methyl tertiary amyl ether

Ethanol

**Lead Scavengers:**

1,2-Dichloroethane

EDB: 1,2-Dibromoethane


An inspector from the Oakland Fire Department - Hazardous Materials Division witnessed and approved the removal of the tank. The tank was removed, loaded onto an approved transport vehicle, and transported off-site to a recycling facility.

**4.6 SAMPLING and ANALYSES**

Two soil samples (sample numbers 112598-801 and 112598-802) were retrieved from the waste oil tank location. One additional four-point composite soil sample, 112598-803 A,B,C,D, was collected from the stockpiled soil. Sample locations are shown on Figure 1: Site Map.

The samples were taken in brass tubes which were driven into the soil until completely full, then sealed with aluminum foil, plastic end caps, and tape. The secured sample tubes were placed into a cooler with ice and Chain of Custody documentation was initiated. The samples were transferred to Kiff Analytical Laboratories in Davis, California (a state certified laboratory) for analysis.

All soil samples were analyzed for Total Petroleum Hydrocarbons as Diesel (TPH-D) and TPH as Motor Oil (TPH-M) by EPA method 8260B, 8015A, and 8240A. Results are presented in the following table and in Appendix B: Sample Analytical Documentation.



Sample Number	Depth (ft)	TPH-D (ppm)	TPH-M (ppm)	TPH-6 (ppm)
112598-801	1-foot	2700	4200	1100
112598-802	1-foot	1200	620	440
112598-803 A,B,C,D	Stockpile	20	210	5.9

NA Not Analyzed

ND Constituent Not Detected

## 5.0 ANALYTICAL RESULTS FOR SOIL

Following a discussion between Robert Kitay of ASE and Mr. Don Hwang of the ACHCSA as to which soil sample to analyze, the soil sample from 8-foot bgs was chosen since it had the strongest hydrocarbon odor and since this was the depth of the soil sample beneath the UST which contained elevated concentration of total petroleum hydrocarbons. The soil sample from 8-foot bgs was analyzed by Chromalab for HVOCs by EPA Method 8010, SVOCs by EPA Method 8270, PCBs by EPA Method 8080 and the metals cadmium, chromium, lead, zinc and nickel (collectively known as the LUFT 5 metals) by EPA Method 6010. These analyses represent the analyses that were not performed in soil at the time of the UST removal. The analytical results are tabulated in Table One, and the certified analytical report and chain of custody form are included in Appendix C.

**TABLE ONE**  
Summary of Chemical Analysis of **SOIL** Samples  
All results are in parts per million

Boring	Sample Depth	HVOCs	SVOCs	PCBs	Cd	Cr	Pb	Ni	Zn
BH-A	8.0'	ND	ND	< 0.050	< 0.5	<b>21</b>	<b>5.5</b>	<b>24</b>	<b>53</b>
PRG		NE	NE	0.2	9.0	210	130	150	22,000

Notes:

Non-detectable concentrations are noted by the less than symbol (<) followed by the detection limit or are indicated by ND if various detection limits are used for multiple compounds. Please see the original laboratory reports in Appendix C for detection limits for these compounds.

Detectable concentrations are in **bold**.

PRG is the United States Environmental Protection Agency (US EPA) Region IX Preliminary Remediation Goal (PRG) for residential soil.

No HVOCs, SVOCs or PCBs were detected in the soil sample. None of the metal concentrations detected exceeded United States Environmental Protection Agency (US EPA) Preliminary Remediation Goals (PRGs) for residential soil.



**Table 2**  
**ASE Soil Analytical Data**  
**5725 Thornhill Drive, Oakland, CA (1999-2000)**

Borehole ID and sampled depth	Date Sampled	TPH-g (ug/kg)	TPH-d (ug/kg)	TPH-mo (ug/kg)	MtBE (ug/kg)	Benzene (ug/kg)	Toluene (ug/kg)	Ethyl benzene (ug/kg)	Total Xylenes (ug/kg)
BH-A @ 8'	23-Jul-99	NA	NA	NA	NA	NA	NA	NA	NA
BH-B @ 8'	6-Sep-00	<b>240,000</b>	<b>370,000</b>	<200,000	<20	<b>43.00</b>	<20	<b>130</b>	<20
BH-C @ 8'	6-Sep-00	<1000	<1000	<1000	<5	<5	<5	<5	<5
BH-D @ 11'	23-Oct-00	<1000	<1000	<1000	<b>330.00</b>	<5	<5	<b>7.4</b>	<b>23.0</b>
BH-E @ 9.5'	23-Oct-00	<1000	<1000	<1000	<b>37.00</b>	<5	<5	<5	<5
<hr/>									
<i>ESL** &lt;9.8 ft</i>		100,000	100,000	500,000	2,000	180.00	9,300	32,000	11,000
<i>ESL** &gt;9.8 ft</i>		400,000	500,000	1,000,000	2,000	180.00	9,300	32,000	11,000

\*\* Environmental Screening Levels (ESL) residential scenario, groundwater is not current of potential drinking water source, California Regional Water Quality Control Board, February 2005  
*Environmental Screening Levels (ESL) residential scenario, Regional Water Quality Control Board, February 2005*

**TABLE 3**  
Soil Analytical Data  
5725 Thornhill Drive Oakland, CA

Temporary Well Borehole Field ID	Date Sampled	TPH-Gasoline (µg/kg)	TPH-Diesel (µg/kg)	TPH-Motor Oil (µg/kg)	MtBE (µg/kg)	Benzene (µg/kg)	Toluene (µg/kg)	Ethyl benzene (µg/kg)	Total Xylenes (µg/kg)
<b>ESL** &lt;9.8 ft</b>		<b>100,000</b>	<b>100,000</b>	<b>500,000</b>	<b>2,000</b>	<b>180.00</b>	<b>9,300</b>	<b>32,000</b>	<b>11,000</b>
<b>ESL** &gt;9.8 ft</b>		<b>400,000</b>	<b>500,000</b>	<b>1,000,000</b>	<b>2,000</b>	<b>180.00</b>	<b>9,300</b>	<b>32,000</b>	<b>11,000</b>
HP1- (5-5.5')	03/01/04	<930	7,800 <sup>HY</sup>	62,000	<4.5	<4.5	<4.5	<4.5	<4.5
HP1- (9-9.5')	03/01/04	16,000 <sup>Y</sup>	6,000 <sup>HY</sup>	17,000	<4.7	<4.7	<4.7	<4.7	<4.7
HP1- (14.5-15')	03/01/04	<1,100	5,400 <sup>HY</sup>	19,000	<4.9	<4.9	<4.9	<4.9	<4.9
HP1- (19.5-20')	03/01/04	<970	2,000 <sup>Y</sup>	<5,000	<4.5	<4.5	<4.5	<4.5	<4.5
HP1- (24.5-25')	03/01/04	<1,000	1,500 <sup>Y</sup>	<5,000	<4.6	<4.6	<4.6	<4.6	<4.6
HP2- (4-4.5')	03/01/04	<1,100	3,500 <sup>HY</sup>	51,000	<4.7	<4.7	<4.7	<4.7	<4.7
HP2- (9-9.5')	03/01/04	<1,100	210,000 <sup>HY</sup>	910,000	<4.3	<4.3	<4.3	<4.3	<4.3
HP2- (14-14.5')	03/01/04	<1,100	5,200 <sup>HY</sup>	34,000	6.3	<4.6	<4.6	<4.6	<4.6
HP2- (19-19.5')	03/01/04	<970	10,000 <sup>HY</sup>	59,000	<4.4	<4.4	<4.4	<4.4	<4.4
HP2- (25-25.5')	03/01/04	<950	6,500 <sup>HY</sup>	39,000	4.7	<4.3	<4.3	<4.3	<4.3
HP3- (5.5-6')	03/01/04	<950	23,000 <sup>HY</sup>	78,000	<4.8	<4.8	<4.8	<4.8	<4.8
HP3- (10-10.5')	03/01/04	<1,000	22,000 <sup>HY</sup>	65,000	<5.0	<5.0	<5.0	<5.0	<5.0
HP3- (16-16.5')	03/01/04	<930	17,000 <sup>HY</sup>	77,000	<4.7	<4.7	<4.7	<4.7	<4.7
HP3- (21-21.5')	03/01/04	<1,100	11,000 <sup>HY</sup>	60,000	<4.5	<4.5	<4.5	<4.5	<4.5
HP3- (26-26.5')	03/01/04	<980	8,300 <sup>HY</sup>	39,000	<4.2	<4.2	<4.2	<4.2	<4.2
HP4- (4-4.5')	03/01/04	<1.0	3,000 <sup>HY</sup>	17,000	<4.6	<4.6	<4.6	<4.6	<4.6
HP4- (9-9.5')	03/01/04	<0.92	<1,000	<5,000	<4.7	<4.7	<4.7	<4.7	<4.7
HP4- (14-14.5')	03/01/04	<1,000	1,100 <sup>HY</sup>	11,000	<4.9	<4.9	<4.9	<4.9	<4.9
HP4- (19-19.5')	03/01/04	<910	1,100 <sup>Y</sup>	<5,000	<4.8	<4.8	<4.8	<4.8	<4.8
HP4- (24-24.5')	03/01/04	<960	5,000 <sup>HY</sup>	42,000 <sup>H</sup>	<4.7	<4.7	<4.7	<4.7	<4.7
HP5- (5-5.5')	03/01/04	<1,000	22,000 <sup>HY</sup>	140,000	17	<4.4	<4.4	<4.4	<4.4
HP5- (10-10.5')	03/01/04	<1,100	<1,000	<5,000	10	<4.3	<4.3	<4.3	<4.3
HP5- (15.5-16')	03/01/04	2,600 <sup>HY</sup>	6,100 <sup>HY</sup>	33,000	24	<4.5	<4.5	<4.5	<4.5
HP5- (19.5-20')	03/01/04	<1,100	1,700 <sup>Y</sup>	<5,000	<4.6	<4.6	<4.6	<4.6	<4.6
HP5- (27-27.5')	03/01/04	9,100 <sup>HY</sup>	2,800 <sup>Y</sup>	<5,000	11	<4.9	<4.9	<4.9	<4.9
HP6- (4-4.5')	03/01/04	<1,100	<1,000	<5,000	<4.3	<4.3	<4.3	<4.3	<4.3
HP6- (9-9.5')	03/01/04	<960	5,400 <sup>HY</sup>	30,000	<4.3	<4.3	<4.3	<4.3	<4.3
HP6- (14-14.5')	03/01/04	<910	2,200 <sup>HY</sup>	16,000	<4.6	<4.6	<4.6	<4.6	<4.6
HP6- (19-19.5')	03/01/04	<910	2,500 <sup>HY</sup>	8,100	4.9	<4.5	<4.5	<4.5	<4.5
HP6- (23.5-24')	03/01/04	<960	3,200 <sup>HY</sup>	19,000	<4.6	<4.6	<4.6	<4.6	<4.6

**TABLE 3**  
Soil Analytical Data  
5725 Thornhill Drive Oakland, CA

Temporary Well Borehole Field ID	Date Sampled	TPH-Gasoline (µg/kg)	TPH-Diesel (µg/kg)	TPH-Motor Oil (µg/kg)	MtBE (µg/kg)	Benzene (µg/kg)	Toluene (µg/kg)	Ethyl benzene (µg/kg)	Total Xylenes (µg/kg)
<b>ESL** &lt;9.8 ft</b>		<b>100,000</b>	<b>100,000</b>	<b>500,000</b>	<b>2,000</b>	<b>180.00</b>	<b>9,300</b>	<b>32,000</b>	<b>11,000</b>
<b>ESL** &gt;9.8 ft</b>		<b>400,000</b>	<b>500,000</b>	<b>1,000,000</b>	<b>2,000</b>	<b>180.00</b>	<b>9,300</b>	<b>32,000</b>	<b>11,000</b>
HP6- (27.5-28')	03/01/04	<1,000	2,200 <sup>Y</sup>	<5,000	7.0	<4.7	<4.7	<4.7	<4.7
HP7- (6-6.5')	03/02/04	<970	6,300 <sup>HY</sup>	16,000	<4.7	<4.7	<4.7	<4.7	<4.7
HP7- (11.5-12')	03/02/04	<1,000	2,000 <sup>HY</sup>	6,400 <sup>HY</sup>	<4.8	<4.8	<4.8	<4.8	<4.8
HP7- (16.5-17')	03/02/04	<930	3,700 <sup>Y</sup>	<5,000	<4.7	<4.7	<4.7	<4.7	<4.7
HP7- (22-22.5')	03/02/04	<920	<1,000	<5,000	<5.0	<5.0	<5.0	<5.0	<5.0
HP7- (26.5-27')	03/02/04	<970	11,000 <sup>HY</sup>	15,000	<5.0	<5.0	<5.0	<5.0	<5.0
HP9- (7-7.5')	03/02/04	<1,100	1,900 <sup>Y</sup>	<5,000	<4.4	<4.4	<4.4	<4.4	<4.4
HP9- (11.5-12')	03/02/04	<960	4,300 <sup>HY</sup>	53,000 <sup>H</sup>	<4.8	<4.8	<4.8	<4.8	<4.8
HP9- (16-16.5')	03/02/04	<990	5,300 <sup>HY</sup>	52,000 <sup>H</sup>	<4.6	<4.6	<4.6	<4.6	<4.6
HP9- (21.5-22')	03/02/04	<980	<1,000	5,600	28	<5.0	<5.0	<5.0	<5.0
HP9- (26.5-27')	03/02/04	<1,100	<990	<5,000	36	<4.4	<4.4	<4.4	<4.4
HP10- (6-6.5')	03/02/04	<940	5,700 <sup>HY</sup>	72,000	<4.7	<4.7	<4.7	<4.7	<4.7
HP10- (11.5-12')	03/02/04	16,000 <sup>Y</sup>	16,000 <sup>LY</sup>	<5,000	94	<5.0	<5.0	<5.0	<5.0
HP10- (18.5-19')	03/02/04	130,000 <sup>Y</sup>	58,000 <sup>HL</sup>	16,000	270	<5.0	<5.0	<5.0	<5.0
HP10- (19.5-20')	03/02/04	<920	<990	<5,000	11	<4.8	<4.8	<4.8	<4.8
HP10- (22.5-23')	03/02/04	3,700 <sup>Y</sup>	8,000 <sup>HY</sup>	22,000	<4.9	<4.9	<4.9	<4.9	<4.9
<b>SOMA 4 (11.5-12')</b>	05/27/05	<b>62,900</b>	<b>63,000</b>	<b>18,000</b>	<b>&lt;30</b>	<b>1,540</b>	<b>6,360</b>	<b>497</b>	<b>1,847</b>

Notes:

- (1) µg/kg= micrograms per kilogram
  - (2) <= Not detected at or above the laboratory reporting limit
  - (3) <sup>H</sup> Heavier hydrocarbons contributed to the quantification
  - (4) <sup>L</sup> Lighter hydrocarbons contributed to the quantification
  - (5) <sup>Y</sup> Sample exhibits chromatographic pattern which does not resemble standard
- \*\* Residential land use, Groundwater is not current or potential drinking water source  
Environmental Screening Levels (ESL) residential scenario, >9 ft bgs, groundwater is current of potential drinking water source, California Regional Water Quality Control Board, February 2005

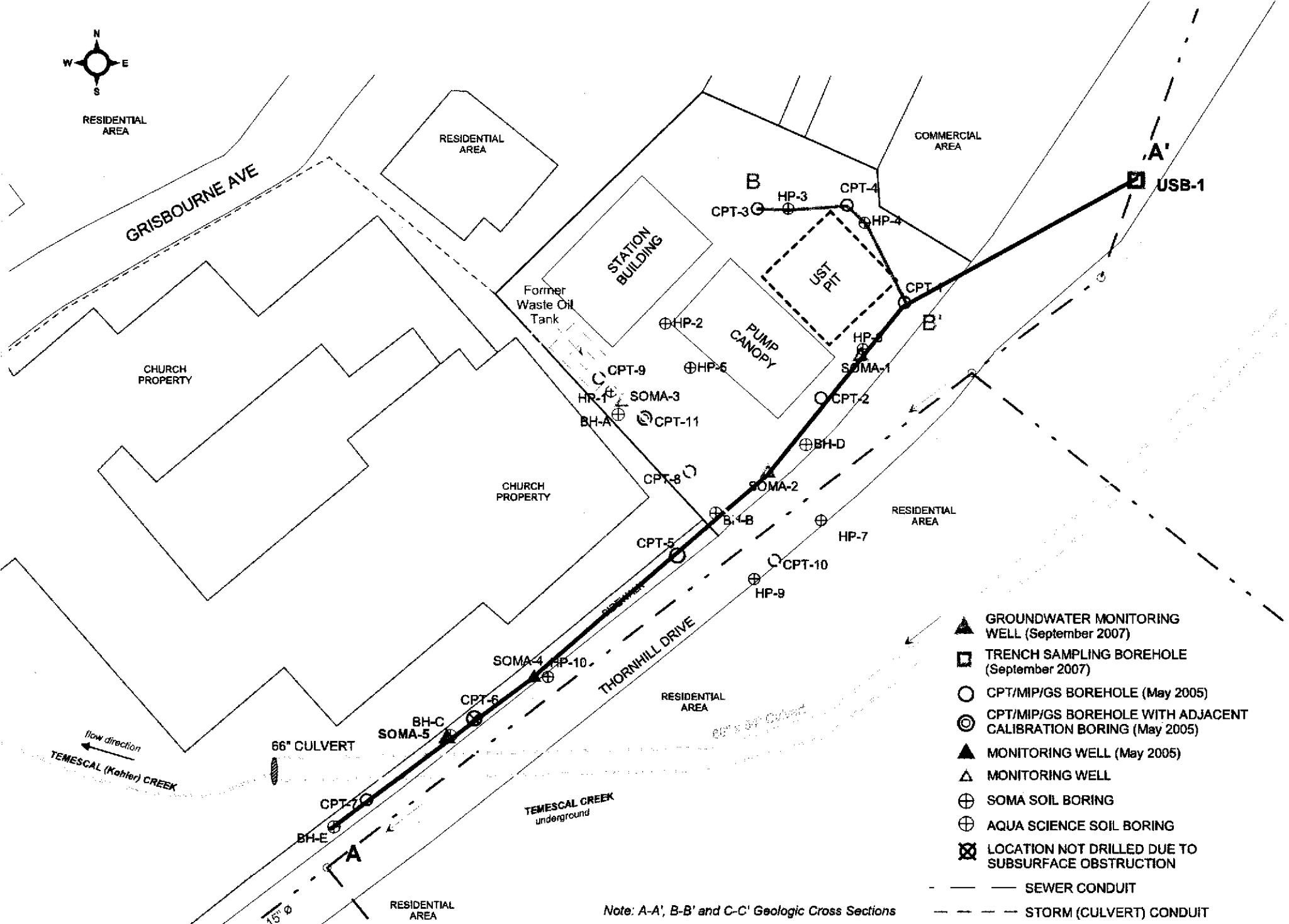
**Table 4**  
**Soil Analytical Results (EPA Method 8260B)**  
 5725 Thornhill Drive, Oakland California

Sample ID	Sampling Depth	Date	TPH-g	Benzene	Ethylbenzene	Total Xylenes	Toluene	MTBE	TAME	TBA
			(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
USB-1	9-9.5' bgs	9/21/2007	<50	<0.5	<0.5	<2	<2	<0.5	<2	<2
SOMA-5A	5-6' bgs	9/21/2007	<50	<0.5	<0.5	<2	<2	<0.5	<2	<2
SOMA-5B	11-12' bgs	9/21/2007	<50	<0.5	<0.5	<2	<2	0.68	<2	5.33
SOMA-5C	14-15' bgs	9/21/2007	354.0	<0.5	4.52	2.51	<2	0.86	<2	20.9
<b>ESLs**</b>			<b>400000</b>	<b>180</b>	<b>32000</b>	<b>11000</b>	<b>NA</b>	<b>2,000</b>	<b>NA</b>	<b>110000</b>

Notes:

< Less than the Laboratory Reporting Limit

\*\* Environmental Screening Levels (ESL), residential exposure scenario, groundwater is not current of potential drinking water source, California Regional Water Quality Control Board, February 2005  
 Environmental Screening Levels (ESL) residential scenario,  
 Regional Water Quality Control Board, February 2005  
 NA Not Applicable



Note: A-A', B-B' and C-C' Geologic Cross Sections

Figure 2: Site Map Showing the Locations of existing and newly instal borings and groundwater monitoring wells



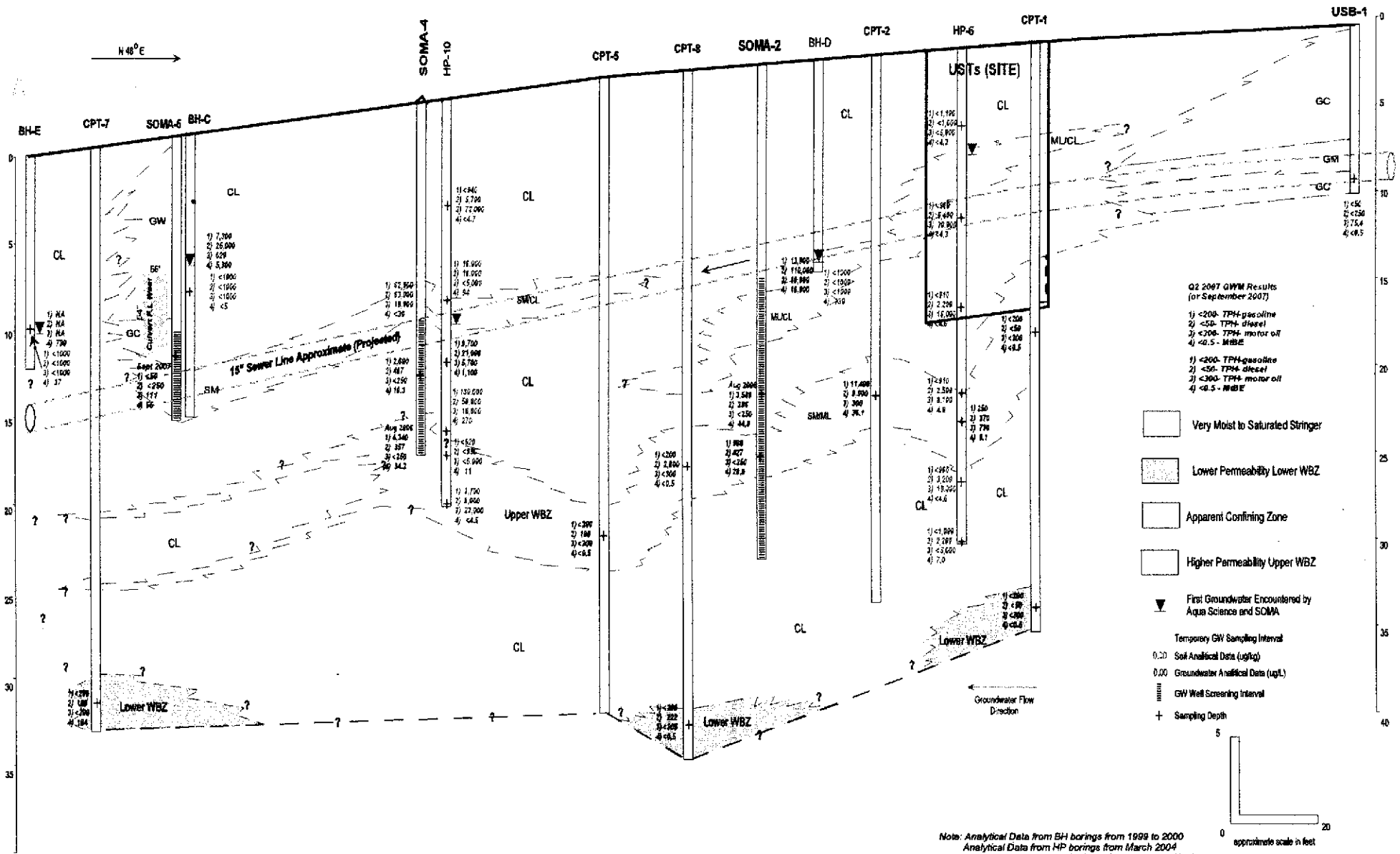


Figure 3: Geologic Cross Section A-A'.



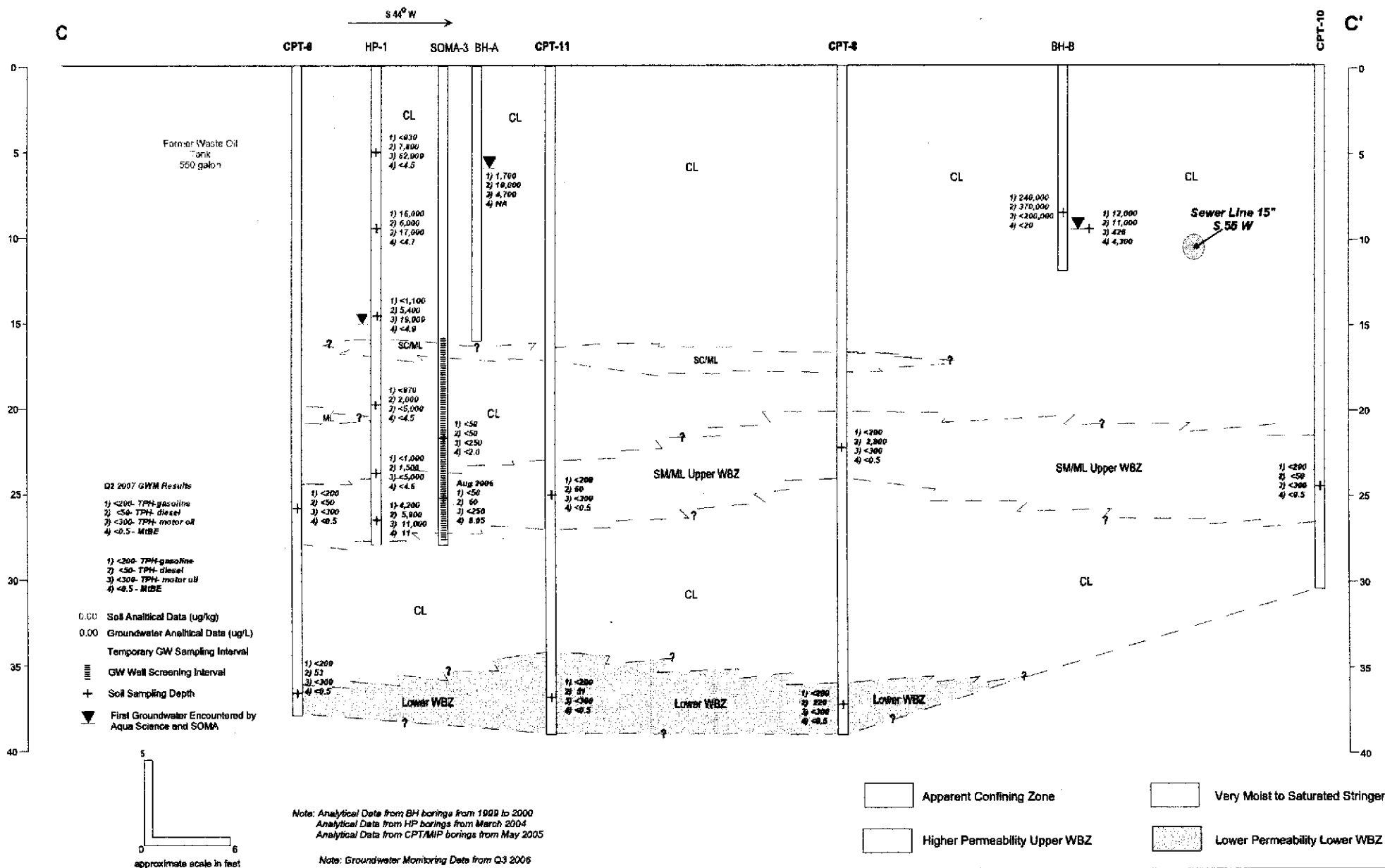





Figure 3B: Geologic Cross Section C-C'.

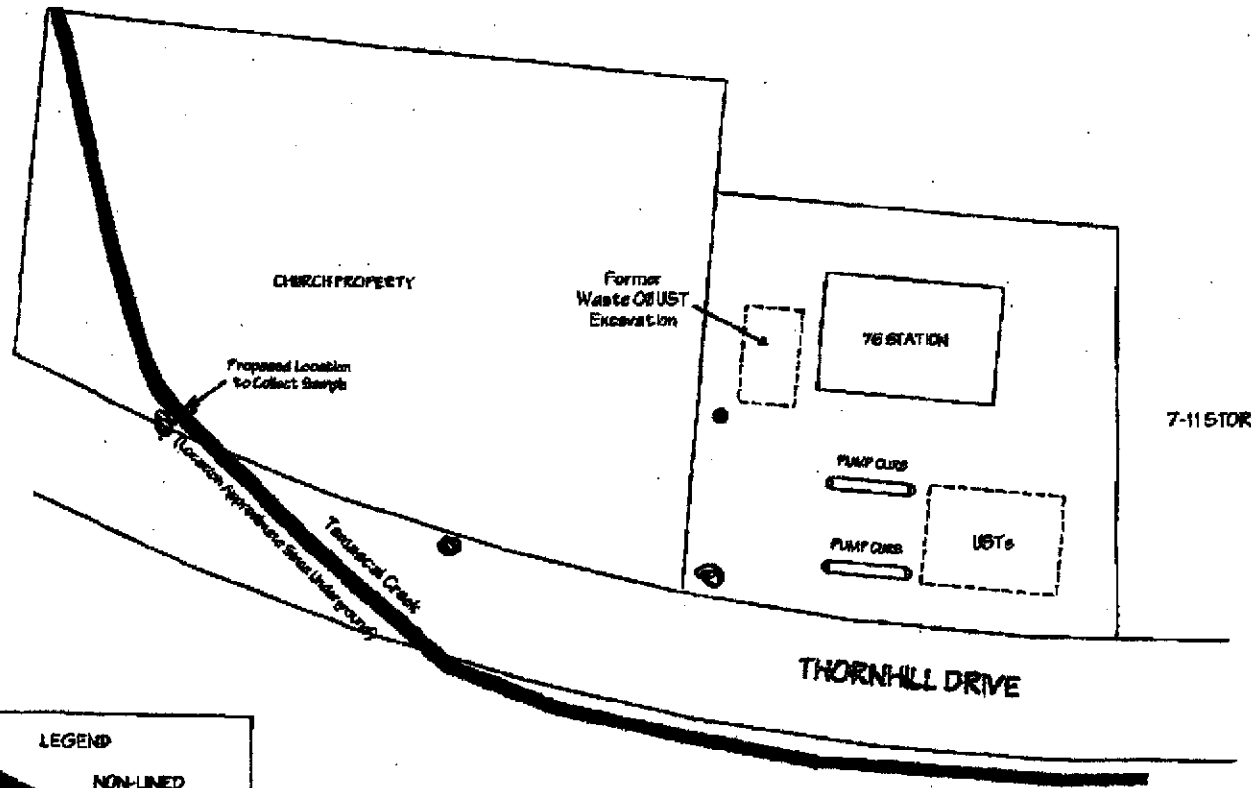




SCALE  
1" = 30'

**LEGEND**

-  NON-LINED CREEK
-  UNDERGROUND CONCRETE LINED CREEK
-  SOIL BORING LOCATION



<b>TEMASCAL CREEK</b>	
MASH PETROLEUM 5725 THORNHILL DRIVE OAKLAND, CA	
AQUA SCIENCE ENGINEERS	FIGURE 1



Report Number : 18587

Date : 12/27/00

Project Name : MO-Thornhill

Project Number : 3457

Sample : CREEK

Matrix : Water

Lab Number : 18587-01

Sample Date :12/5/00

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8020	12/14/00
Toluene	< 0.50	0.50	ug/L	EPA 8020	12/14/00
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8020	12/14/00
Total Xylenes	< 0.50	0.50	ug/L	EPA 8020	12/14/00
Methyl-t-butyl ether	< 5.0	5.0	ug/L	EPA 8020	12/14/00
TPH as Gasoline	< 50	50	ug/L	M EPA 8015	12/14/00
TPH as Diesel	< 50	50	ug/L	M EPA 8015	12/27/00
TPH as Motor Oil	< 100	100	ug/L	M EPA 8015	12/27/00
aaa-Trifluorotoluene (8020 Surrogate)	98.3		% Recovery	EPA 8020	12/14/00
aaa-Trifluorotoluene (Gasoline Surrogate)	95.8		% Recovery	M EPA 8015	12/14/00

Approved By:  Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

SOIL BORING LOG AND MONITORING WELL COMPLETION DETAILS							Boring: BH-A	
Project Name: Mashhoon-Thornhill			Project Location: 5725 Thornhill Drive, Oakland, CA				Page 1 of 1	
Driller: Vironex			Type of Rig: Geoprobe		Size of Drill: 2.0" Diameter			
Logged By: Robert E. Kitay, R.G.			Date Drilled: July 22, 1999		Checked By: Robert E. Kitay, R.G.			
<b>WATER AND WELL DATA</b>					Total Depth of Well Completed: NA			
Depth of Water First Encountered: 6.0'					Well Screen Type and Diameter: NA			
Static Depth of Water in Well: NA					Well Screen Slot Size: NA			
Total Depth of Boring: 16'					Type and Size of Soil Sampler: 2.0" I.D. Macro Sampler			
Depth in Feet	BORING DETAIL	Description	SOIL/ROCK SAMPLE DATA				Depth in Feet	DESCRIPTION OF LITHOLOGY
			Interval	Blow Counts	OVM (ppmv)	Water Level		Graphic Log
0							Asphalt	
0							Sandy SILT (ML); dark yellow brown; medium stiff; damp; 80% silt; 15% fine sand; 5% subangular gravel to 0.2" diameter; non-plastic; medium estimated K; no odor	
5							Sandy GRAVEL (GW); gray; medium dense; damp; 60-90% angular gravel to 2" diameter; 10-40% fine sand and silt; non-plastic; high estimated K; no odor	
5							Sandy SILT (ML); brown; medium stiff; damp; 80% silt; 20% fine sand; trace clay; low plasticity; low estimated K; no odor	
10							Clayey SILT (MH); brown; stiff; wet; 70% silt; 30% clay; high plasticity; very low estimated K; slight hydrocarbon odor; gray mottling at 8'	
15							End of boring at 16'	
20								
25								
30								

**SOIL BORING LOG AND MONITORING WELL COMPLETION DETAILS** Boring: BH-B

Project Name: Mashhoon-Thornhill Project Location: 5725 Thornhill Drive, Oakland, CA Page 1 of 1  
 Driller: Vironex Type of Rig: Geoprobe Size of Drill: 2.0" Diameter  
 Logged By: Ian T. Reed Date Drilled: September 6, 2000 Checked By: Robert E. Kitay, R.G.

**WATER AND WELL DATA**  
 Depth of Water First Encountered: 8.0'  
 Static Depth of Water in Well: NA  
 Total Depth of Boring: 12'  
 Total Depth of Well Completed: NA  
 Well Screen Type and Diameter: NA  
 Well Screen Slot Size: NA  
 Type and Size of Soil Sampler: 2.0" I.D. Macro Sampler

Depth in Feet	BORING DETAIL	Description	SOIL/ROCK SAMPLE DATA				Depth in Feet	DESCRIPTION OF LITHOLOGY
			Interval	Blow Counts	OVM (ppmv)	Water Level		
0	Portland Cement				3,700	8.0'	Asphalt	
5							Sandy SILT (ML); dark brown; medium stiff; damp; 60% silt; 40% fine to coarse sand; trace gravel to 0.5" diameter; non-plastic, medium estimated K; no odor	
10					70		gray; moist to wet; 60% silt; 30% fine to coarse sand; 10% gravel to 1.0" diameter; moderate hydrocarbon odor wet at 8'	
15							End of boring at 12'	
20								
25								
30								

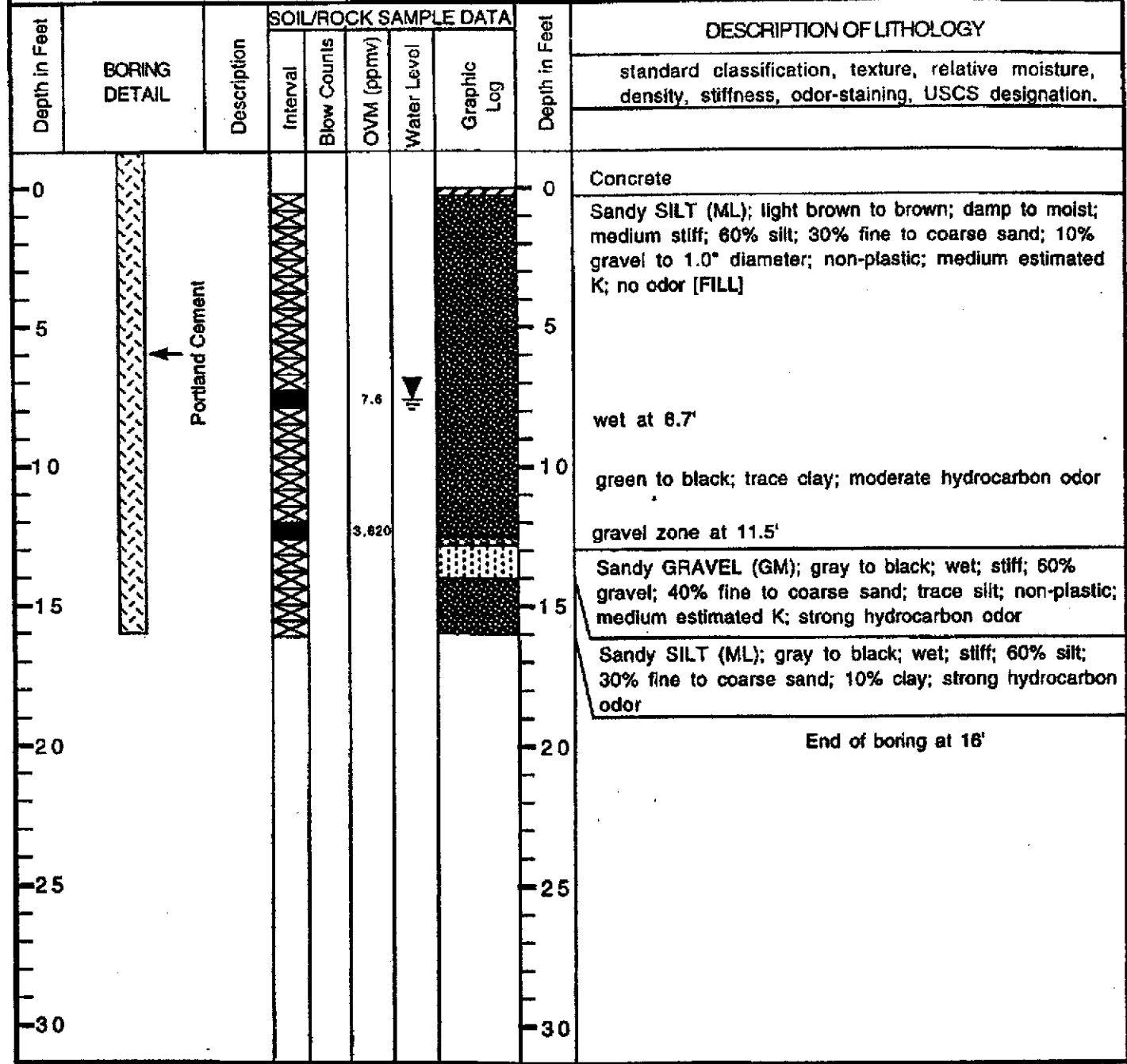
**SOIL BORING LOG AND MONITORING WELL COMPLETION DETAILS** Boring: BH-C

Project Name: Mashhoon-Thornhill Project Location: 5725 Thornhill Drive, Oakland, CA Page 1 of 1

Driller: Vironex Type of Rig: Geoprobe Size of Drill: 2.0" Diameter

Logged By: Ian T. Reed Date Drilled: September 6, 2000 Checked By: Robert E. Kitay, R.G.

<b>WATER AND WELL DATA</b>	Total Depth of Well Completed: NA
Depth of Water First Encountered: 8.7'	Well Screen Type and Diameter: NA
Static Depth of Water in Well: NA	Well Screen Slot Size: NA
Total Depth of Boring: 16'	Type and Size of Soil Sampler: 2.0" I.D. Macro Sampler



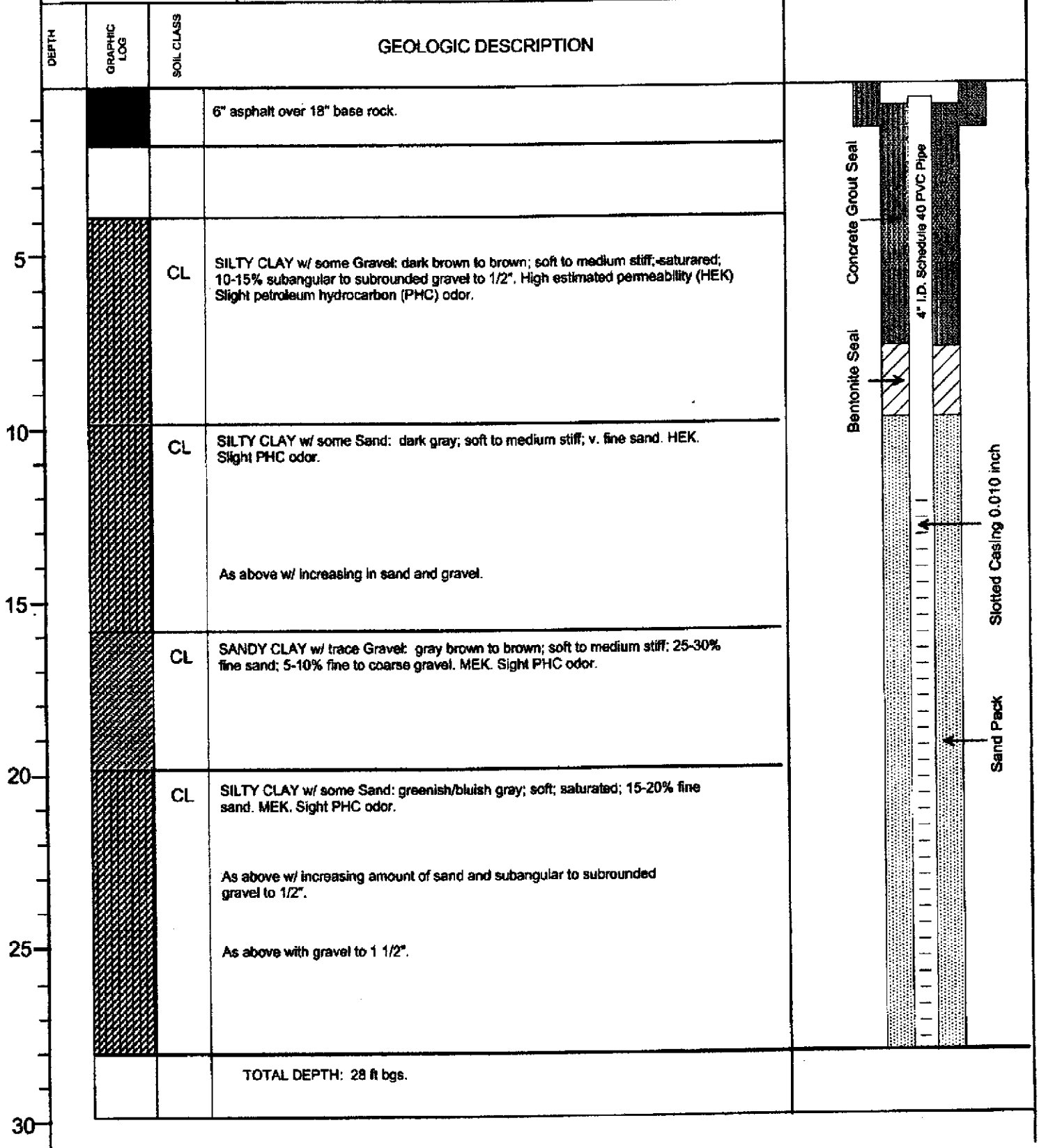


Boring Location:

Project: 2832  
Site Location: 5725 Thornhill Dr  
Oakland CA  
Drilling Method: HSA  
Driller: Woodward  
Logged By: E Jennings

Date Drilled: 3/12/04  
Casing Elevation: 576.72  
Depth to 1st Groundwater: 12 ft  
Approved By: M Sepehr

See Site Map.





Boring Location:

Project: 2832  
Site Location: 5725 Thornhill Dr  
Oakland CA  
Drilling Method: HSA

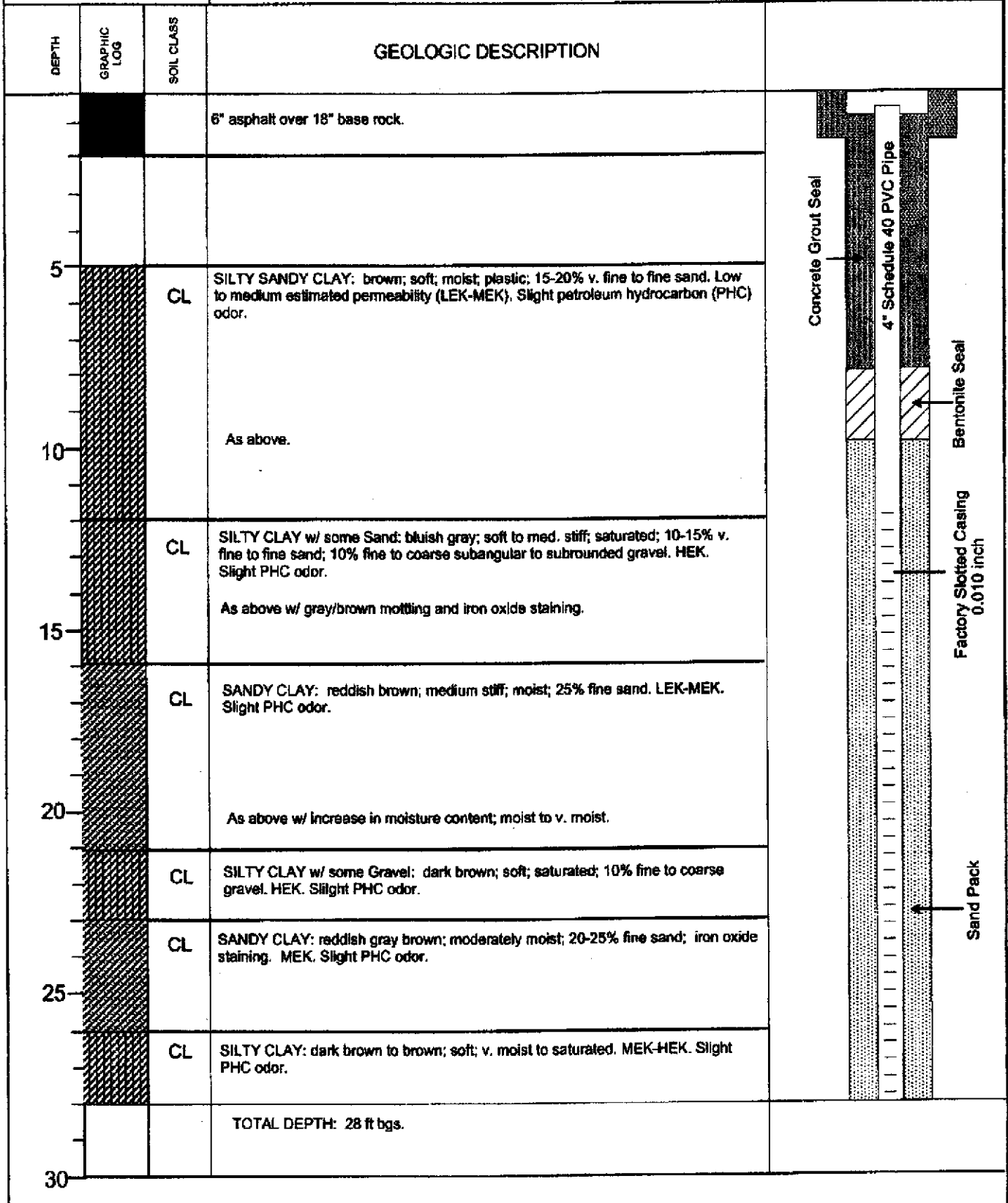
Date Drilled: 3/12/04  
Casing Elevation: 575.73  
Depth to 1st Groundwater: 12 ft

See Site Map.

Driller: Woodward

Approved By: M Sepehr

Logged By: E Jennings





Boring Location:

Project: 2832

Date Drilled: 3/12/04

Site Location: 5725 Thornhill Dr  
Oakland CA

Casing Elevation: 576.29

See Site Map.

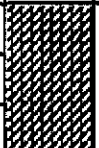
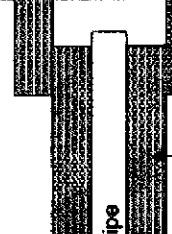

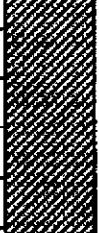
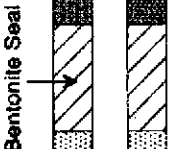
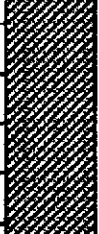
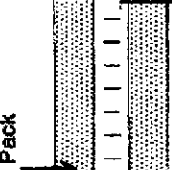
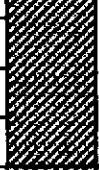
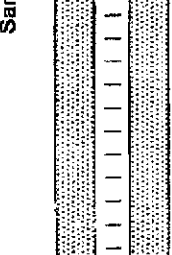
Drilling Method: HSA

Depth to 1st Groundwater: 10 ft

Driller: Woodward

Approved By: M Sepehr

Logged By: E Jennings

DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	WELL CONSTRUCTION DIAGRAM
			4-6" asphalt.	
5		CL	SILTY CLAY: dark brown; soft; moist; plastic; iron oxide staining; gray fragments. Medium estimated permeability (MEK). Slight petroleum hydrocarbon (PHC) odor.  As above with 5-10% subangular, subrounded gravel to 1/2".	
10		CL	SILTY SANDY CLAY w/ some Gravel: brown; soft; moist; 15-20% v. fine sand; 10-15% fine to coarse subangular gravel. MEK. No PHC odor.	
15		CL	SANDY CLAY w/ some Gravel: greenish gray; soft; moist; 20-25% v. fine to fine sand; 10-15% fine to coarse gravel. MEK. Slight PHC odor.  As above with increasing gravel; becomes saturated.  As above.	
20			As above with slight PHC odor.	
25		CL	SANDY CLAY w/ Gravel: bluish gray mottled brown; soft; saturated; 20-25% sand; 5-15% fine to coarse subangular to subrounded gravel to 1/2". MEK. Slight PHC odor.  As above with increasing gravel to 1 1/2".	
30			TOTAL DEPTH: 28 ft bgs.	





PROJECT: 2832

DATE DRILLED: 5/27/05

SITE LOCATION: 5725 Thornhill Drive,  
Oakland, CA

CASING ELEVATION: NA

DRILLER: Gregg Drilling & Testing

DEPTH TO GW: 12' bgs

DRILLING METHOD: HSA

T.O.C. TO SCREEN: 12'

BORING DIAMETER: 8"

SCREEN LENGTH: 8'

LOGGED BY: E. Jennings

APPROVED BY: M. Sepehr, Ph. D., P.E.

PID Depth	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SPLIT-SPOON CORE SAMPLED	GW LEVEL	BLOWCOUNTS	WELL DIAGRAM
				4" Asphalt over 4" baserock				
	5		CL	SILTY CLAY: Brown, moist, soft, moderate plasticity; Low estimated permeability (LEK). No petroleum hydrocarbon (PHC) odor.				
	10		SM	(At 10') 6" GRAVELLY SAND/SANDY GRAVEL lens: Saturated. SILTY SAND: Gray brown, very moist to saturated; HEK. Moderate to strong PHC odor.	X		3 3 5 4 4 6 4 4 5 6	Bentonite Seal 2" Schedule 40 PVC Pipe Cement Grout
	15		CL	SILTY CLAY with some Sand: Grayish brown mottled reddish brown, very moist, soft, slight plasticity; MEK. No PHC odor. (At 13') 4" GRAVEL lens: very moist (@ 13').				
	20		CL	SILTY CLAY WITH SOMA SAND AND GRAVEL: Brown, saturated, soft, loose subrounded-subangular gravel to 1"; HEK. No PHC odor.			7 11 20	2 1/2 Sand Pack Slotted Casing 0.010 inch
				TOTAL DEPTH 20' BGS				

NOTES: Hard brittle siltstone encountered at 20' below ground surface (bgs).

TOTAL DEPTH 20' BGS

X - Soil Sample Collected

PROJECT: 2832

DATE DRILLED: 9/21/07

SITE LOCATION: 2725 Thornhill Dr.  
Oakland

CASING ELEVATION: 572.23 ft

DRILLER: Gregg Drilling

DEPTH TO GW: 12 ft.

DRILLING METHOD: Hollow Stem Auger

T.O.C. TO SCREEN: 10 feet

BORING DIAMETER: 8"

SCREEN LENGTH: 5 ft.

LOGGED BY: E. Hightower

APPROVED BY: M. Sepehr, Ph.D., P.E.

DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SPLIT SPON CORE	SAMPLED	GW LEVEL	BLOWCOUNTS	WELL DIAGRAM
			5" Concrete					
5		GW	GRAVELLY SAND (GW): dark brown, soft, moist, no PHC fine- to med-grained sand, med- to large-grained		Sampled at 1230 pm			
		GW	GRAVELLY SAND (GW): dark brown, soft, moist, slight PHC odor		1.7 ppm			
10		GC	CLAYEY GRAVEL (GC): dark brown, soft, saturated, strong PHC odor, med-grained and small-grained gravel		5.5 ppm Sampled at 1235 pm			
15		SM	SILTY SAND (SM): dark brown, soft, moist, PHC odor, greenish mottling throughout		Sampled at 1240 pm			
15					4.0 ppm			
20								
25								

COMMENTS:



PROJECT: 2832

DATE DRILLED: 9/21/2007

SITE LOCATION: 5725 Thornhill Drive  
Oakland, CA

CASING ELEVATION: NA

DRILLER: Gregg Drilling

DEPTH TO GW: 9 feet

DRILLING METHOD: Hollow Stem Auger (HSA)

T.O.C. TO SCREEN: 10 feet

BORING DIAMETER: 8 inches

SCREEN LENGTH: 5 feet

LOGGED BY: E. Hightower

APPROVED BY: M. Sepehr, Ph.D., P.E.

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SPLIT SPOON CORE	SAMPLED	GW LEVEL	BLOWCOUNTS	WELL DIAGRAM
				8" Asphalt					
	5		GP	SANDY GRAVEL (GP): Reddish Brown; soft; moist; fine- to medium-grained sand; medium- to large-grained gravel; no PHC odor.					
			GM	PEA GRAVEL (GM): Dark Brown; soft; wet; fine- to large-grained gravel intermixed with silt; no PHC odor.					
	10		GC	GRAVELLY CLAY (GC): Dark Brown; soft; saturated; medium-grained gravel; no PHC odor.		Soil sample @ 9:20 am			
	15								
	20								
	25								

COMMENTS:



# GEOLOGIC LOG OF BOREHOLE HP-1

Boring Location:

Project: 2832  
 Site Location: 5725 Thornhill Dr. Oakland  
 Drilling Method: DPT  
 Driller: Gregg Drilling  
 Logged By: E Jennings

Date Drilled: 3/1/04  
 Casing Elevation: NA  
 Depth to 1st Groundwater: 16 ft  
 Approved By: M Sepehr

See Site Map.

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	WELL SAMPLE	GW LEVEL	WELL DIAGRAM
				4-6" asphalt.			HAND AUGERED TO 5 FT BGS
	5		CL	SILTY CLAY: dark brown; soft; moist; plastic; iron oxide staining; gray fragments. Medium estimated permeability (MEK). Slight petroleum hydrocarbon (PHC) odor.  As above with 5-10% subangular, subrounded gravel to 1/2".			
	10		CL	SILTY SANDY CLAY w/ some Gravel: brown; soft; moist; 15-20% v. fine sand; 10-15% fine to coarse subangular gravel. MEK. No PHC odor.			
	15		CL	SANDY CLAY w/ some Gravel: greenish gray; soft; moist; 20-25% v. fine to fine sand; 10-15% fine to coarse gravel. MEK. Slight PHC odor.  As above with increasing gravel; becomes saturated.  As above.			NO TEMPORARY WELL INSTALLED
	20			As above with slight PHC odor.			
	25		CL	SANDY CLAY w/ Gravel: bluish gray mottled brown; soft; saturated; 20-25% sand; 5-15% fine to coarse subangular to subrounded gravel to 1/2". MEK. Slight PHC odor.  As above with increasing gravel to 1 1/2".			
	30			TOTAL DEPTH: 28 ft bgs.			



# GEOLOGIC LOG OF BOREHOLE HP-2

Boring Location:

Project: 2832  
Site Location: 5725 Thornhill Dr. Oakland

Date Drilled: 3/1/04  
Casing Elevation: NA

See Site Map.

Drilling Method: DPT  
Driller: Gregg Drilling  
Logged By: E Jennings

Depth to 1st Groundwater: 16 ft  
Approved By: M Sepehr

PID cont.	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SOIL SOCIETY SAMPLE NO'S	GW LEVEL	WELL DIAGRAM
				6" asphalt over 18" base rock.			NO TEMPORARY WELL INSTALLED           HAND AUGERED TO 5 FT BGS
	5		CL	SILTY CLAY w/ some Sand: brown to grayish brown; medium stiff; moist; 15-20% v. fine to fine sand; iron oxide staining. Low to medium estimated permeability (LEK-MEK). Slight petroleum hydrocarbon (PHC) odor.			
			-- --	As above with 6" sandy gravelly lense; fine to medium sand; subangular gravel.			
	10		CL	SILTY CLAY: dark grayish brown to grayish brown; medium stiff to stiff; moist; LEK-MEK. Slight PHC odor.			
	15			As above w/ subangular to subrounded gravel to 1"; becomes brown and v. moist to saturated.			
	20		CL	SANDY CLAY: brown; soft; saturated; 20-25% v. fine to fine sand. HEK. Slight PHC odor.			
				As above.			
	25		CL	SILTY SANDY CLAY/SANDY SILTY CLAY w/ some Gravel: bluish gray green to brown; medium stiff to stiff; moist to v. moist; 5-10% subangular gravel to 1/2" LEK-MEK. Slight PHC odor.			
			CL	SANDY CLAY w/some Sand: brown; soft; saturated; 20-25% fine sand. HEK. Slight PHC odor.			
				TOTAL DEPTH: 28 ft bgs.			
	30						



# GEOLOGIC LOG OF BOREHOLE HP-3

Boring Location:

Project: 2832  
 Site Location: 5725 Thornhill Dr. Oakland  
 Drilling Method: DPT  
 Driller: Gregg Drilling  
 Logged By: E Jennings

Date Drilled: 3/1/04  
 Casing Elevation: NA  
 Depth to 1st Groundwater: 6.5 ft  
 Approved By: M Sepehr

See Site Map.

PHD (ft)	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	split spoon sample core	GW LEVEL	WELL DIAGRAM
0				6" asphalt over 18" base rock.			HAND AUGERED TO 5 FT BGS
5			CL	SILTY CLAY w/ some Gravel: yellowish brown to brown; silt; saturated; 10-15% subangular to subrounded gravel. Medium to high estimated permeability (MEK-HEK). Slight petroleum hydrocarbon (PHC) odor.		▽	
10				As above.			
15				No recovery from 12-16 ft.			
20			CL	As above w/ increasing medium to coarse gravel fragments to 1 1/2"			
25			CL	SILTY CLAY: greenish gray; soft; saturated. MEK-HEK. Slight PHC odor.			
30				As above.			
				TOTAL DEPTH: 28 ft bgs.			NO TEMPORARY WELL INSTALLED



# GEOLOGIC LOG OF BOREHOLE HP-4

Boring Location:

Project: 2832  
 Site Location: 5725 Thornhill Dr. Oakland  
 Drilling Method: DPT  
 Driller: Gregg Drilling  
 Logged By: E Jennings

Date Drilled: 3/1/04  
 Casing Elevation: NA  
 Depth to 1st Groundwater: 5 ft  
 Approved By: M Sepehr

See Site Map.

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SPILL SOURCE SAMPLE CORE	GW LEVEL	WELL DIAGRAM
	0			6" asphalt over 18" base rock.			HAND AUGERED TO 5 FT BGS
	0						
	5		CL	SILTY CLAY w/ some Sand and Gravel: brown; soft to medium stiff; v. moist to saturated; 15-20% v. fine to fine sand; 10-15% fine to coarse subangular gravel. Medium to high estimated permeability (MEK-HEK). Slight petroleum hydrocarbon (PHC) odor.			NO TEMPORARY WELL INSTALLED
	10		CL	SILTY CLAY: grayish brown to gray; soft to medium stiff; saturated; 10% fine to v. fine sand. MEK. Slight PHC odor.			
	15			As above w/ 5-10% subangular to subrounded gravel to 1" and becomes soft.			
	20			No recovery from 20-24 ft.			
	0	25		CL	SANDY CLAY; greenish gray; soft to loose; v. moist to saturated; 25-30% v. fine to fine sand. MEK-HEK. Slight PHC odor.		
	0		CL	SILTY CLAY w/ some Sand: dark brown; soft to medium stiff; v. moist to saturated; 10-20% v. fine sand. MEK. Slight PHC odor.			
				TOTAL DEPTH: 28 ft bgs.			
	30						



# GEOLOGIC LOG OF BOREHOLE HP-5

Boring Location:  
  
See Site Map.

Project: 2832  
Site Location: 5725 Thornhill Dr. Oakland  
Drilling Method: DPT  
Driller: Gregg Drilling  
Logged By: E Jennings

Date Drilled: 3/1/04  
Casing Elevation: NA  
Depth to 1st Groundwater: 16 ft  
Approved By: M Sepehr

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	DEPTH (ft)	SAMPLE CORE	GW LEVEL	WELL DIAGRAM
	0			6" asphalt over 18" base rock.				HAND AUGERED TO 5 FT BGS
	0							
	5		CL	SILTY CLAY w/ some Sand and Gravel: dark grayish brown; soft; moist; 10-15% v. fine to fine sand; 10-15% subangular to subrounded gravel to 1/2". Medium estimated permeability (MEK). Slight petroleum hydrocarbon (PHC) odor.  As above with increase from soft to medium stiff and increase in gravel fragments.				NO TEMPORARY WELL INSTALLED
	10		CL	SILTY CLAY w/ some Sand: brown; soft; moist becoming greenish gray at 11.5 ft.				
	15			No recovery from 12-16 ft.				
	20		CL	SANDY CLAY: greenish gray; soft; saturated; 20-25% fine sand. MEK-HEK. No Slight PHC odor.				
	25		CL	SANDY CLAY w/ some Gravel: bluish gray green; soft; saturated; 20-25% v. fine to fine sand; 10-15% subangular to subrounded gravel to 1". HEK. Slight PHC odor.  As above w/ increase in sand.				
	30			TOTAL DEPTH: 28 ft bgs.				





# GEOLOGIC LOG OF BOREHOLE HP-6

Boring Location:

Project: 2832  
 Site Location: 5725 Thornhill Dr. Oakland  
 Drilling Method: DPT  
 Driller: Gregg Drilling  
 Logged By: E Jennings

Date Drilled: 3/1/04  
 Casing Elevation: NA  
 Depth to 1st Groundwater: 6 ft  
 Approved By: M Sepehr

See Site Map.

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	split spoon core	SAMPLE core	GW LEVEL	WELL DIAGRAM
				6" asphalt over 18" base rock.				HAND AUGERED TO 5 FT BGS
	5		CL	SILTY CLAY w/ some Gravel: dark brown to brown; soft to medium stiff, saturated; 10-15% subangular to subrounded gravel to 1/2". High estimated permeability (HEK) Slight petroleum hydrocarbon (PHC) odor.			▽	
	10		CL	SILTY CLAY w/ some Sand: dark gray; soft to medium stiff; v. fine sand. HEK. Slight PHC odor.  As above w/ increasing in sand and gravel.				
	15		CL	SANDY CLAY w/ trace Gravel: gray brown to brown; soft to medium stiff; 25-30% fine sand; 5-10% fine to coarse gravel. MEK. Slight PHC odor.				
	20		CL	SILTY CLAY w/ some Sand: greenish/bluish gray; soft; saturated; 15-20% fine sand. MEK. Slight PHC odor.  As above w/ increasing amount of sand and subangular to subrounded gravel to 1/2".  As above with gravel to 1 1/2".				
				TOTAL DEPTH: 28 ft bgs.				NO TEMPORARY WELL INSTALLED
	30							



# GEOLOGIC LOG OF BOREHOLE HP-7

Boring Location:

Project: 2832

Date Drilled: 3/2/04

Site Location: 5725 Thornhill Dr. Oakland

Casing Elevation: NA

See Site Map.

Drilling Method: DPT

Depth to 1st Groundwater: 13 ft

Driller: Gregg Drilling

Approved By: M Sepehr

Logged By: E Jennings

PID Perm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SPIT SPECIM. CORE	SAMPLE	GW LEVEL	WELL DIAGRAM
				6" asphalt over 18" base rock.				HAND AUGERED TO 5 FT BGS
	5		CL	SILTY SANDY CLAY: brown; soft; moist; plastic; 15-20% v. fine to fine sand. Low to medium estimated permeability (LEK-MEK). Slight petroleum hydrocarbon (PHC) odor.  As above.				
	10							
	15		CL	SILTY CLAY w/ some Sand: bluish gray; soft to med. stiff; saturated; 10-15% v. fine to fine sand; 10% fine to coarse subangular to subrounded gravel. HEK. Slight PHC odor.  As above w/ gray/brown mottling and iron oxide staining.			▽	
	20		CL	SANDY CLAY: reddish brown; medium stiff; moist; 25% fine sand. LEK-MEK. Slight PHC odor.  As above w/ increase in moisture content; moist to v. moist.				
	25		CL	SILTY CLAY w/ some Gravel: dark brown; soft; saturated; 10% fine to coarse gravel. HEK. Slight PHC odor.				
	25		CL	SANDY CLAY: reddish gray brown; moderately moist; 20-25% fine sand; iron oxide staining. MEK. Slight PHC odor.				
	25		CL	SILTY CLAY: dark brown to brown; soft; v. moist to saturated. MEK-HEK. Slight PHC odor.				
				TOTAL DEPTH: 28 ft bgs.				NO TEMPORARY WELL INSTALLED





# GEOLOGIC LOG OF BOREHOLE HP-10

Boring Location:

Project: 2832  
Site Location: 5725 Thornhill Dr. Oakland

Date Drilled: 3/2/04

See Site Map.

Drilling Method: DPT  
Driller: Gregg Drilling

Casing Elevation: NA

Depth to 1st Groundwater: 13 ft

Logged By: E Jennings

Approved By: M Sepehr

PID 00ft	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SOIL SECTION SAMPLE CORE	GW LEVEL	WELL DIAGRAM
				6" asphalt over 18" road base.			HAND AUGERED TO 5 FT BGS
9	5		CL	SILTY SANDY CLAY: dark reddish brown; soft; slightly plastic to plastic; moist. Low to medium estimated permeability (LEK-MEK). Slight petroleum hydrocarbon (PHC) odor.			
	10			No recovery from 8-12 ft.			NO TEMPORARY WELL INSTALLED
28	15		CL	SILTY CLAY: dark greenish gray; soft; plastic; saturated. HEK. Slight PHC odor.		▽	
	18			No recovery from 16-20 ft.			
	20		CL	SILTY CLAY w/ some Sand: gray; soft; saturated; v. fine to fine sand. MEK-HEK. Slight PHC odor.  As above w/ fine to coarse subangular to subrounded gravel to 1/2"			
	25						
	30			TOTAL DEPTH: 23 ft bgs.			

qc [MPa]

fs [MPa]

u2 [MPa]

Rf (%)

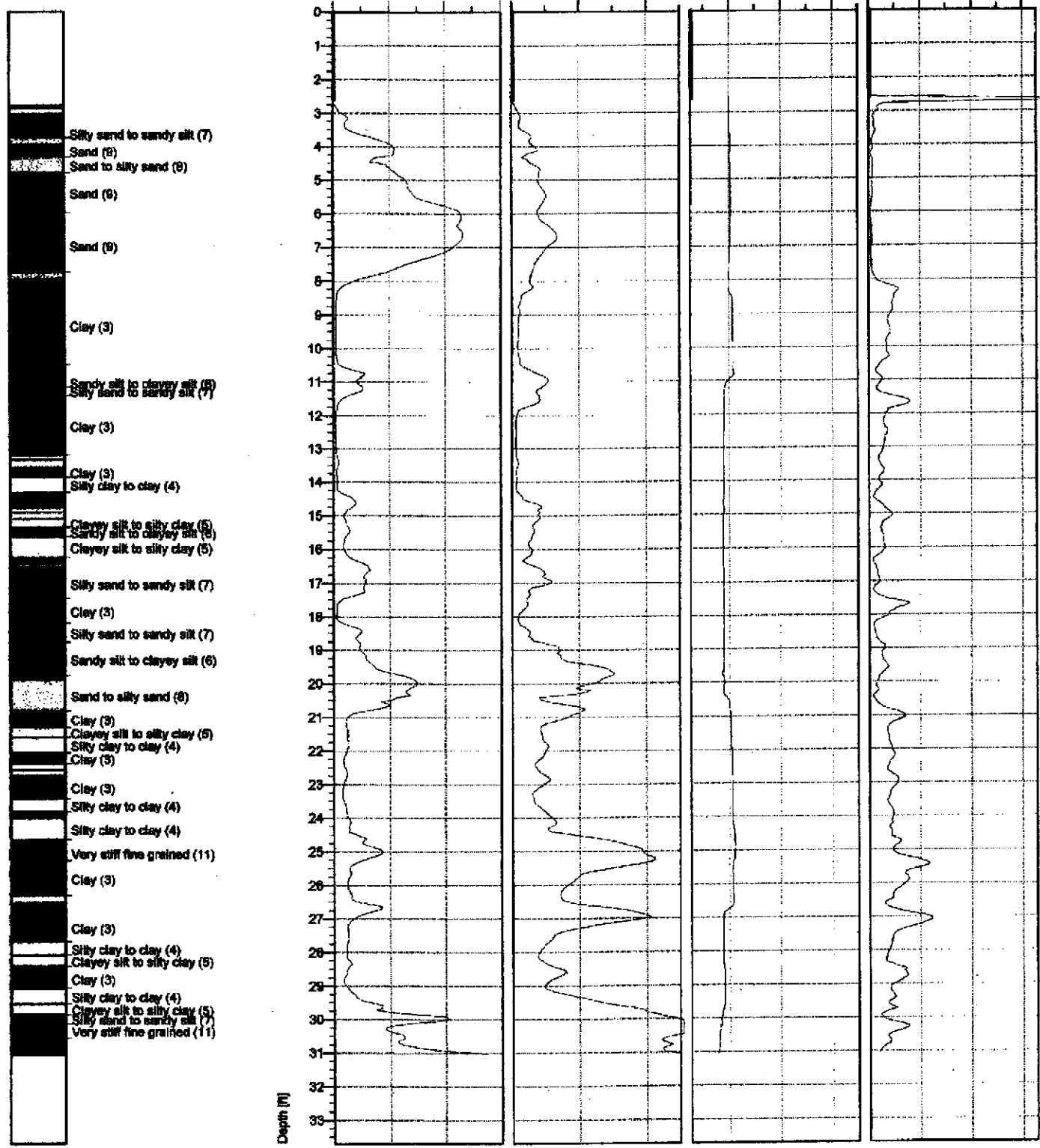
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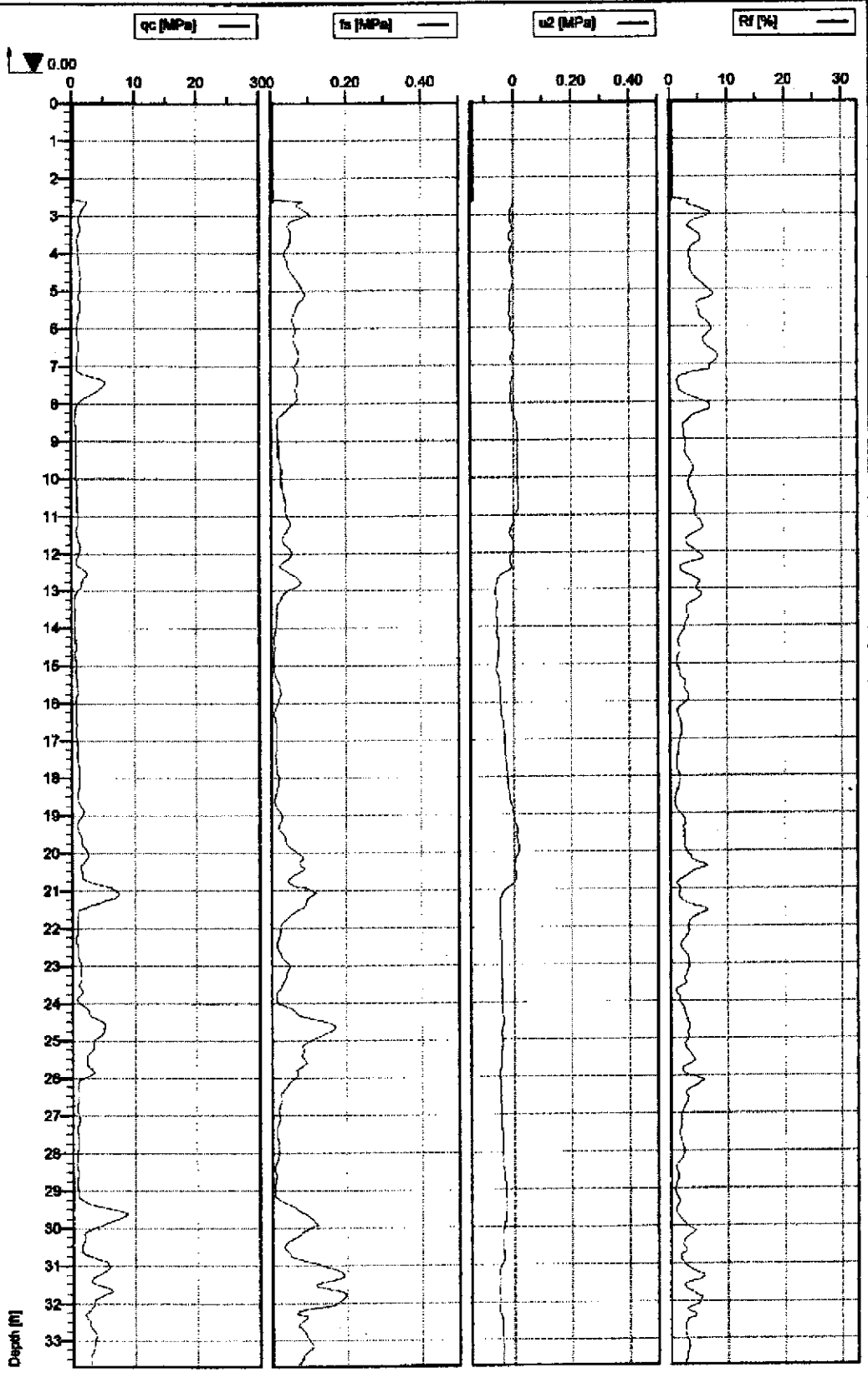
0 0.20 0.40

0 10 20 30



Cone No: 0  
 Tip area [cm<sup>2</sup>]: 10  
 Sleeve area [cm<sup>2</sup>]: 150

Test no: G3080-2	Position: X: 0.00 m, Y: 0.00 m	Ground level: 0.00	
Client: SOMA	Date: 6/10/2005	Scale: 1 : 50	
Project: 5725 Thornhill Dr. Oakland, Ca	Page: 1/1	Fig:	
Stopped Refusal		File: G3090-2.001	



Clay (3)  
 Silty clay to clay (4)  
 Clay (3)  
 Silty clay to clay (4)  
 Clay (3)  
 Silty sand to sandy silt (7)  
 Clay (3)  
 Silty clay to clay (4)  
 Clay (3)  
 Clay (3)  
 Clay (3)  
 Clay (3)  
 Clay (3)  
 Sandy silt to clayey silt (6)  
 Clay (3)  
 Sensitive fine grained (1)  
 Clay (3)  
 Clayey silt to silty clay (5)  
 Silty clay to clay (4)  
 Clayey silt to silty clay (5)  
 Clayey silt to silty clay (5)  
 Sandy silt to clayey silt (6)  
 Clayey silt to silty clay (5)  
 Clay (3)  
 Silty sand to sandy silt (7)  
 Clay (3)  
 Silty clay to clay (4)  
 Clayey silt to silty clay (5)  
 Silty clay to clay (4)  
 Clayey silt to silty clay (5)  
 Sandy silt to clayey silt (6)  
 Sandy silt to clayey silt (6)  
 Sandy silt to clayey silt (6)  
 Clay (3)  
 Silty clay to clay (4)  
 Clayey silt to silty clay (5)  
 Silty clay to clay (4)  
 Clayey silt to silty clay (5)  
 Clayey silt to silty clay (5)  
 Sandy silt to clayey silt (6)  
 Clay (3)  
 Sandy silt to clayey silt (6)  
 Clay (3)  
 Sandy silt to clayey silt (6)  
 Clayey silt to silty clay (5)  
 Sandy silt to clayey silt (6)

Cone No: 3335  
 Tip area (cm<sup>2</sup>): 10  
 Sleeve area (cm<sup>2</sup>): 150

Test no: <b>G3080-3</b>	Position: <b>X: 0.00 m, Y: 0.00 m</b>	Ground level: <b>0.00</b>	
Client: <b>SOMA</b>	Date: <b>5/9/2005</b>	Scale: <b>1 : 50</b>	
Project: <b>5725 Thornhill Dr. Oakland, CA</b>	Page: <b>1/2</b>	Fig: <b></b>	
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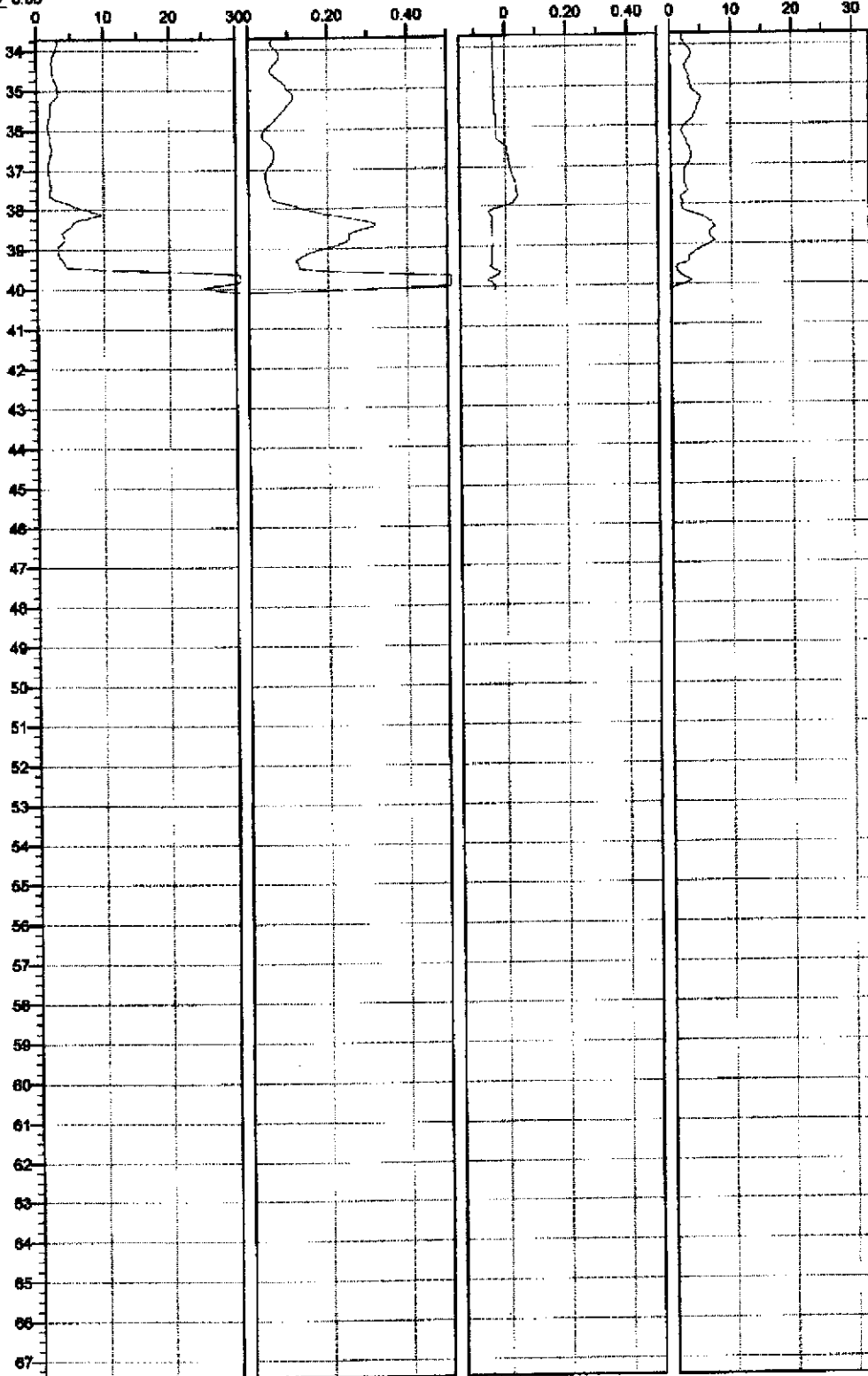
qc [MPa]

fs [MPa]

u2 [MPa]

Rf (%)

0.00



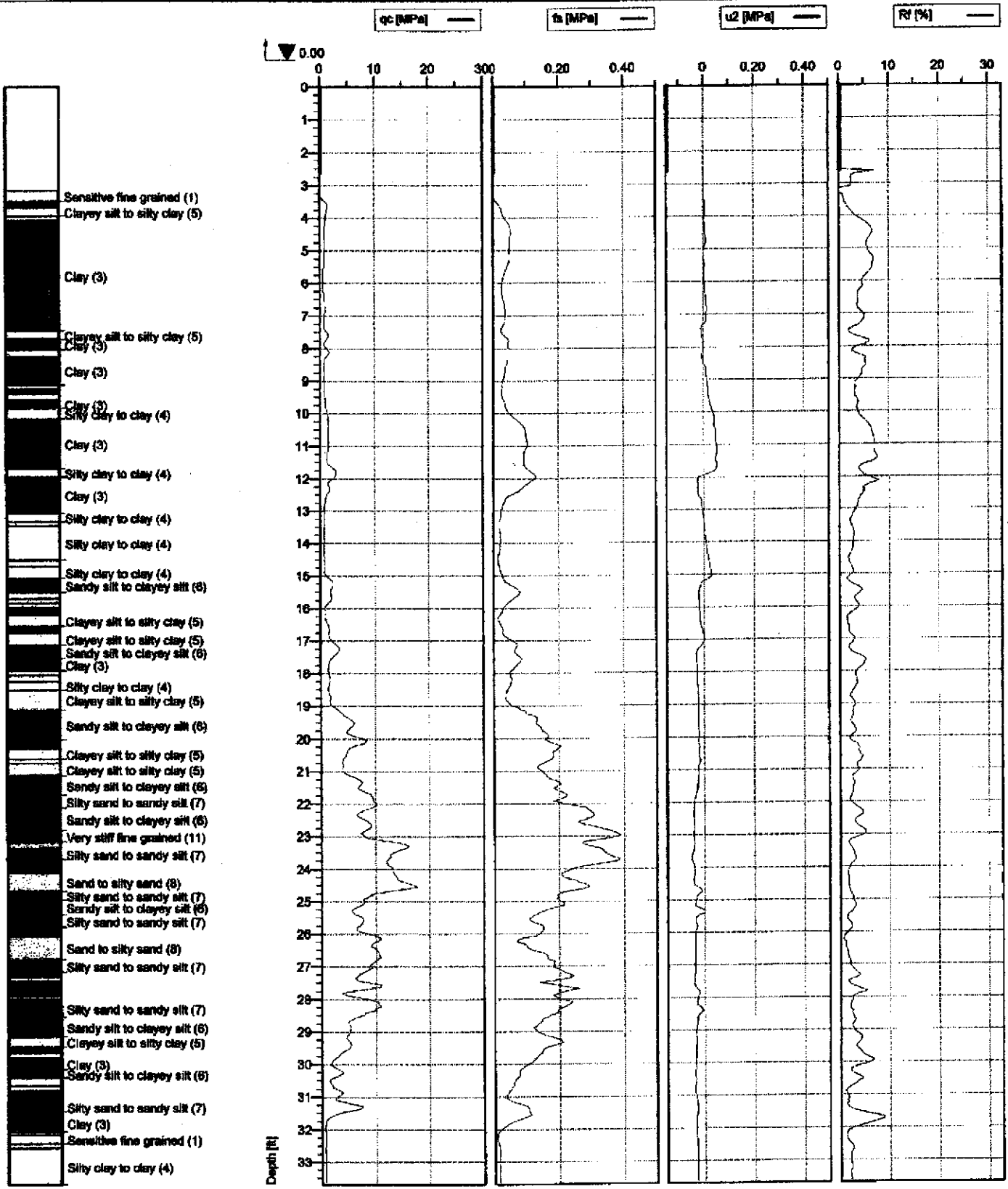
- Sandy silt to clayey silt (8)
- Clayey silt to silty clay (5)
- Clayey silt to silty clay (5)
- Clay (3)
- Silty clay to clay (4)
- Clayey silt to silty clay (5)
- Clayey silt to silty clay (5)
- Silty sand to sandy silt (7)
- Clay (3)

Depth [ft]



Cone No: 3335  
 Tip area [cm<sup>2</sup>]: 10  
 Sleeve area [cm<sup>2</sup>]: 150

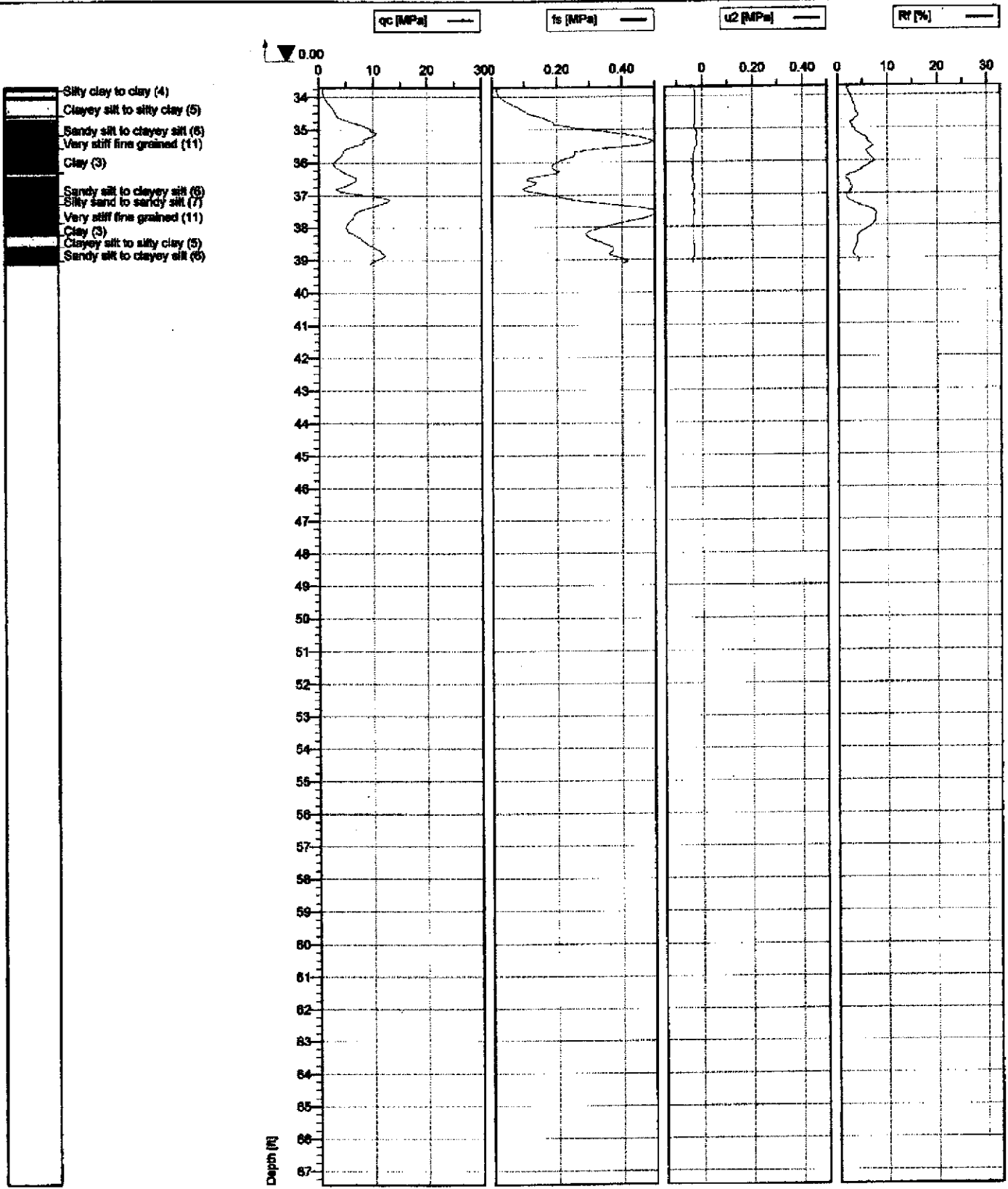
Test no: G3080-3	Position: X: 0.00 m, Y: 0.00 m	Ground level: 0.00	
Client: SOMA		Date: 5/9/2005	Scale: 1 : 50
Project: 5725 Thornhill Dr. Oakland, CA		Page: 2/2	Fig:
Stopped Refusal		File: G3080-3.001	



Cone No: 3335  
 Tip area [cm<sup>2</sup>]: 10  
 Sleeve area [cm<sup>2</sup>]: 150

Test no: <b>G3080-4</b>	Position: <b>X: 0.00 m, Y: 0.00 m</b>	Ground level: <b>0.00</b>	
Client: <b>SOMA</b>		Date: <b>5/9/2005</b>	Scale: <b>1 : 50</b>
Project: <b>5725 Thornhill Dr. Oakland, CA</b>		Page: <b>1/2</b>	Fig: <b></b>
		File: <b>G3080-4.001</b>	





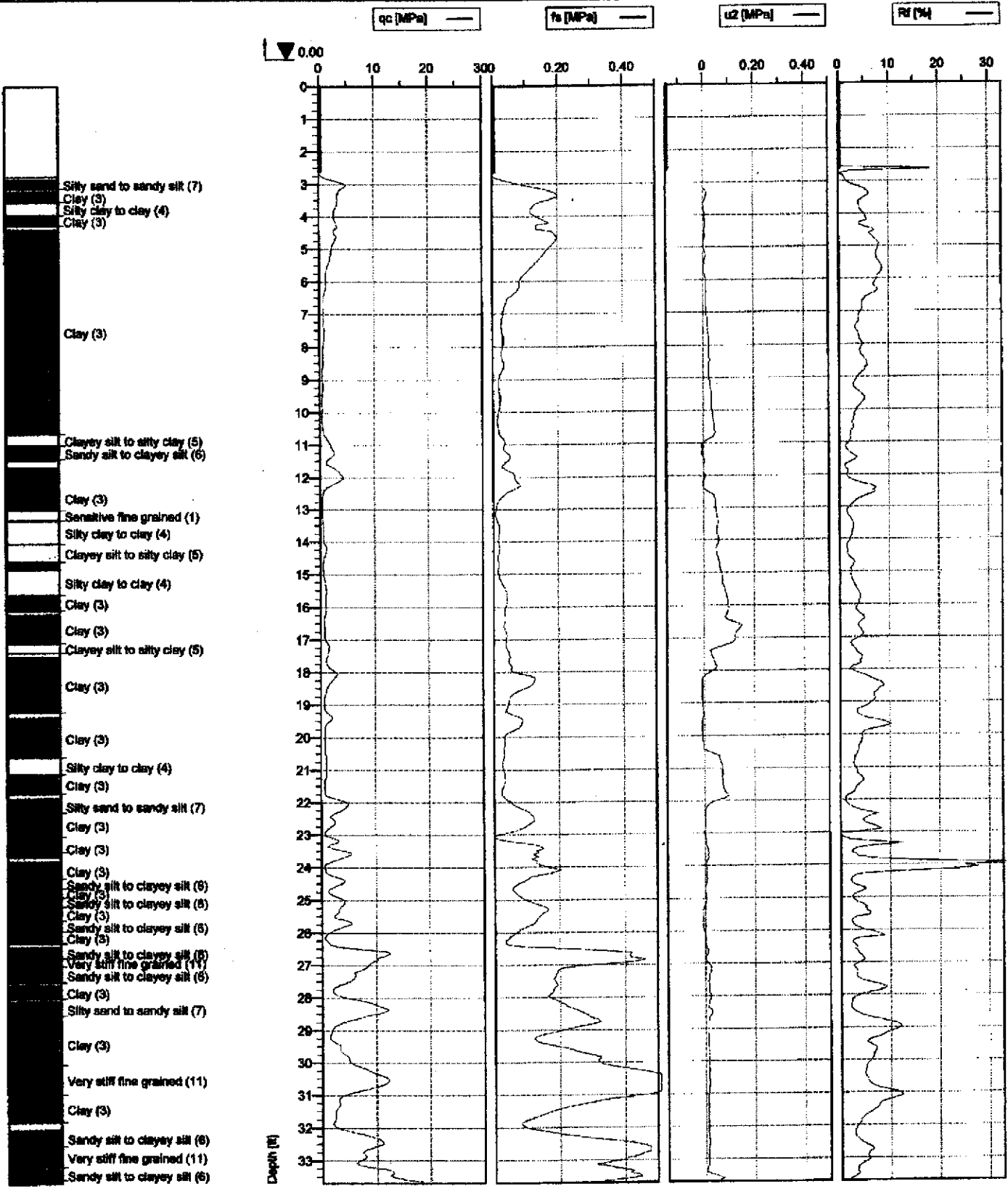
- Silty clay to clay (4)
- Clayey silt to silty clay (5)
- Sandy silt to clayey silt (6)
- Very stiff fine grained (11)
- Clay (3)
- Sandy silt to clayey silt (6)
- Silty sand to sandy silt (7)
- Very stiff fine grained (11)
- Clay (3)
- Clayey silt to silty clay (5)
- Sandy silt to clayey silt (6)

Depth (m)

Cone No: 3335  
 Tip area [cm<sup>2</sup>]: 10  
 Sleeve area [cm<sup>2</sup>]: 150



Test no: <b>G3080-4</b>	Position: X: 0.00 m, Y: 0.00 m	Ground level: 0.00	
Client: SOMA		Date: 5/9/2005	Scale: 1 : 50
Project: 5725 Thornhill Dr. Oakland, CA		Page: 2/2	Fig:
		File: G3080-4.001	




  
 Cone No: 3335
   
 Tip area [cm<sup>2</sup>]: 10
   
 Sleeve area [cm<sup>2</sup>]: 150

Test no: <b>G3080-5</b>	Position: X: 0.00 m, Y: 0.00 m	Ground level: 0.00	
Client: <b>SOMA</b>		Date: 5/10/2006	Scale: 1 : 50
Project: 5725 Thornhill Dr. Oakland, CA		Page: 1/2	Fig: 
		File: G3080-5.001	

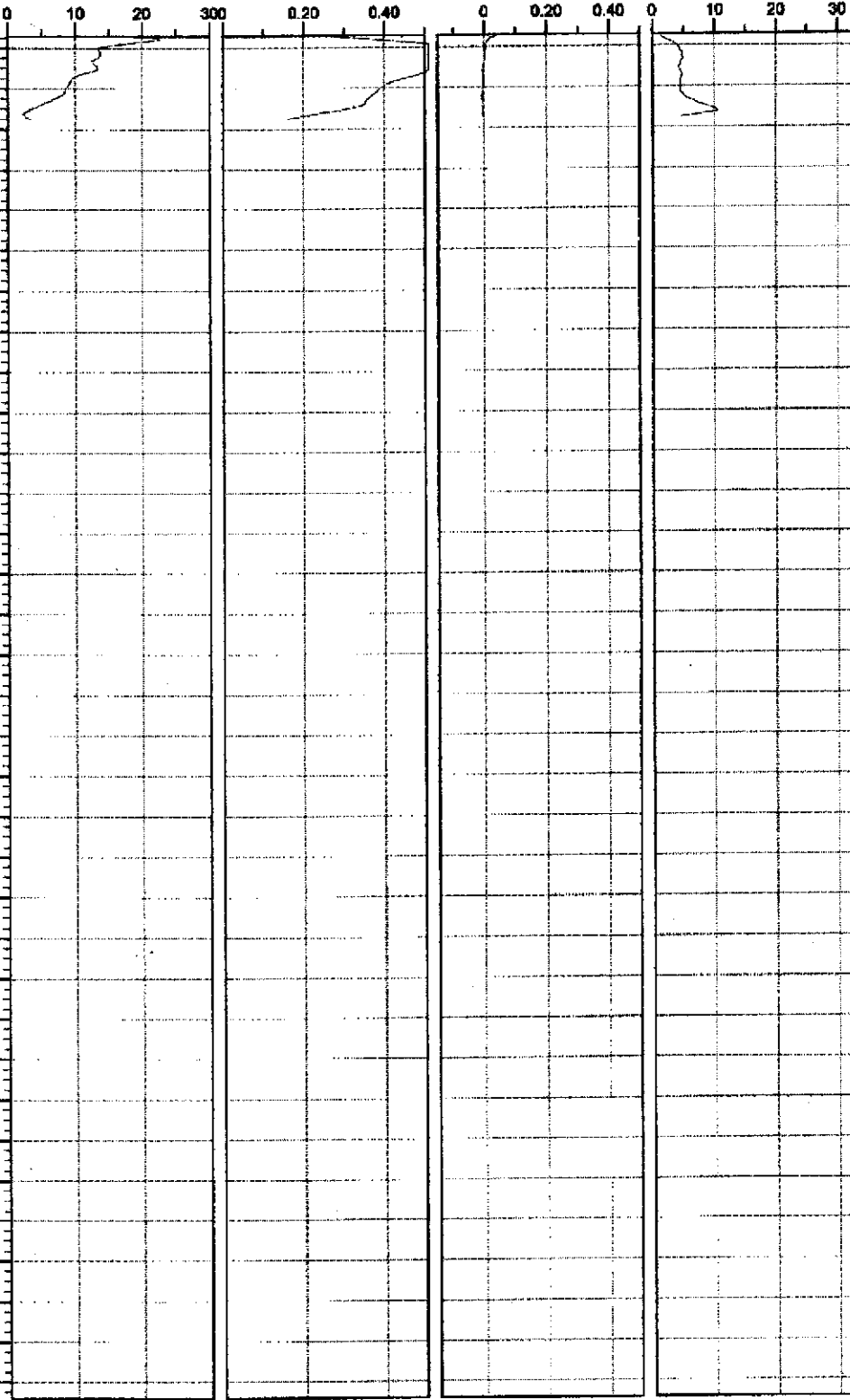
qc [MPa]

fs [MPa]

u2 [MPa]

Rf [%]

0.00



Very stiff fine grained (11)

Clay (3)

Depth [m]



Cone No: 3385  
Tip area [cm<sup>2</sup>]: 10  
Sleeve area [cm<sup>2</sup>]: 150

Test no: <b>G3080-5</b>	Position: X: 0.00 m, Y: 0.00 m	Ground level: 0.00	
Client: <b>SOMA</b>		Date: 5/19/2005	Scale: 1 : 60
Project: 5725 Thornhill Dr. Oakland, CA		Page: 2/2	Fig:
		File: G3080-5.001	

qc [MPa]

fs [MPa]

u2 [MPa]

Rf (%)

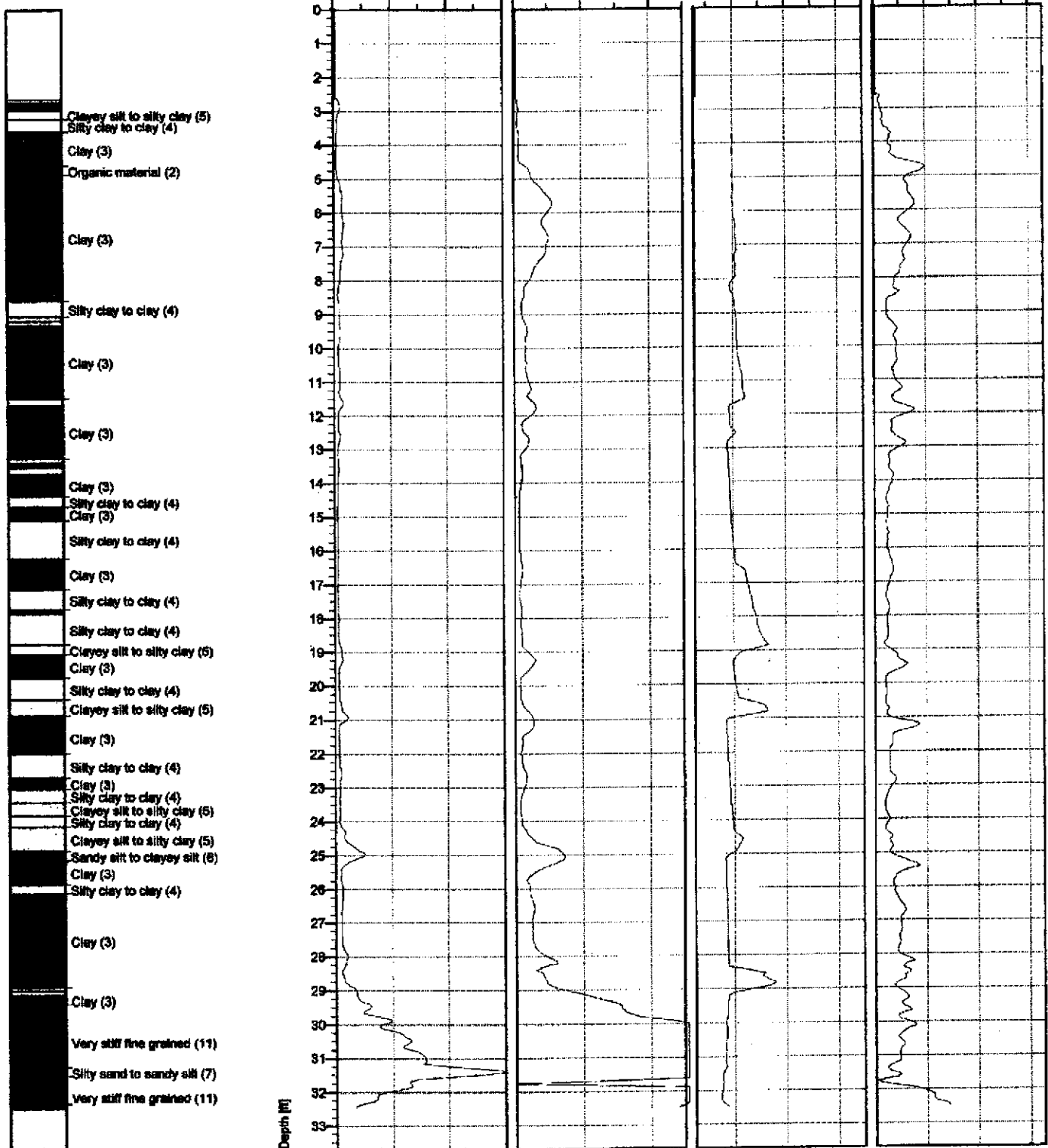
0.00

10 20 300

0.20 0.40

0 0.20 0.40

0 10 20 30

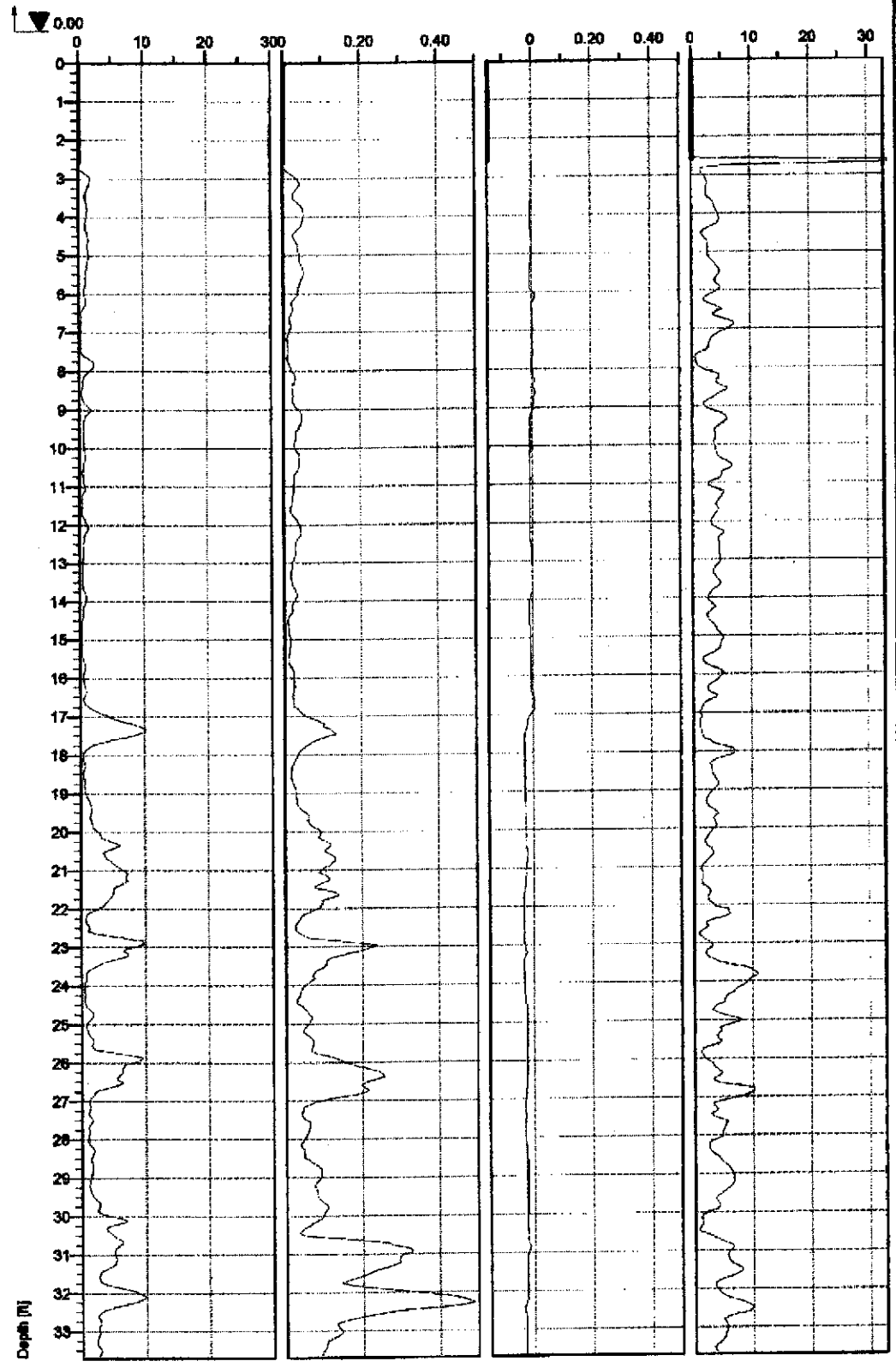


Cone No: 3335  
 Tip area [cm2]: 10  
 Sleeve area [cm2]: 150



Test no: <b>G3080-7</b>	Position: X: 0.00 m, Y: 0.00 m	Ground level: 0.00	
Client: SOMA		Date: 5/10/2005	Scale: 1 : 50
Project: 5725 Thornhill Dr. Oakland, CA		Page: 1/1	Fig: 1
		File: G3080-7.001	

qc [MPa]      fs [MPa]      u2 [MPa]      Rf (%)



- Clayey silt to silty clay (5)
- Clay (3)
- Clayey silt to silty clay (5)
- Clay (3)
- Clay (3)
- Clay (3)
- Organic material (2)
- Clay (3)
- Clay (3)
- Clayey silt to silty clay (5)
- Clay (3)
- Clay (3)
- Silty clay to clay (4)
- Clay (3)
- Clay (3)
- Clay (3)
- Clay (3)
- Silty sand to sandy silt (7)
- Sand to silty sand (6)
- Clay (3)
- Clayey silt to silty clay (5)
- Silty clay to clay (4)
- Silty sand to sandy silt (7)
- Sandy silt to clayey silt (6)
- Clay (3)
- Clay (3)
- Clay (3)
- Clay (3)
- Clay (3)
- Clay (3)
- Clayey silt to silty clay (5)
- Clay (3)
- Silty sand to sandy silt (7)
- Clay (3)
- Very stiff fine grained (11)
- Clay (3)
- Silty clay to clay (4)

Cone No: 3335  
 Tip area [cm<sup>2</sup>]: 40  
 Sleeve area [cm<sup>2</sup>]: 150



Test no: <b>G3080-8</b>	Position: <b>X: 0.00 m, Y: 0.00 m</b>	Ground level: <b>0.00</b>	
Client: <b>SOMA</b>		Date: <b>5/9/2005</b>	Scale: <b>1 : 50</b>
Project: <b>5725 Thornhill Dr. Oakland, Ca.</b>		Page: <b>1/2</b>	Fig: <b></b>
<b>Stopped Refusal</b>		File: <b>G3080-8.001</b>	

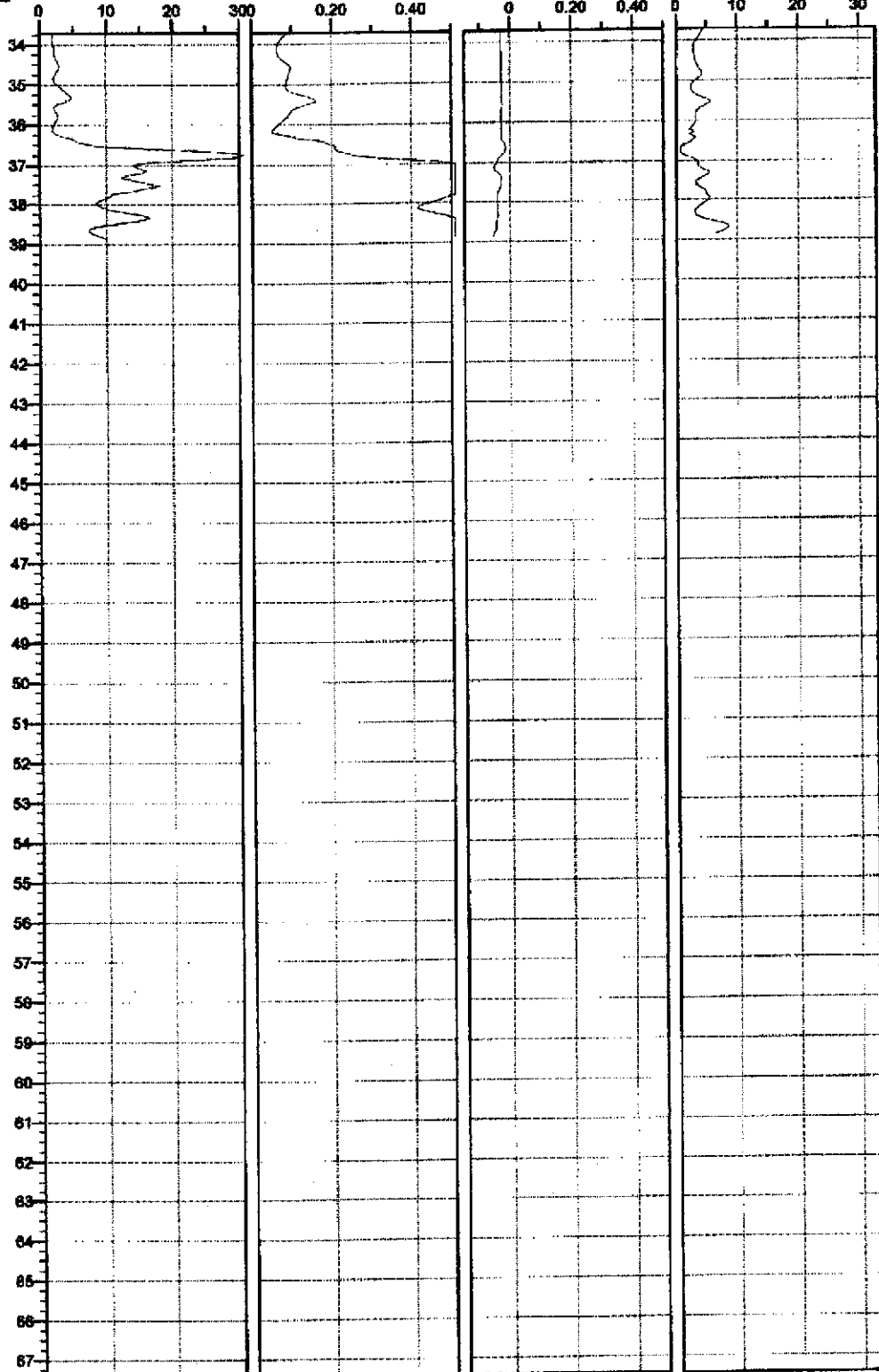
qc [MPa]

fs [MPa]

s2 [MPa]

F<sub>0</sub> [%]

0.00



- Silty clay to clay (4)
- Clayey silt to silty clay (5)
- Sandy silt to clayey silt (6)
- Clayey silt to silty clay (5)
- Very stiff fine grained (11)
- Very stiff fine grained (11)
- Very stiff fine grained (11)

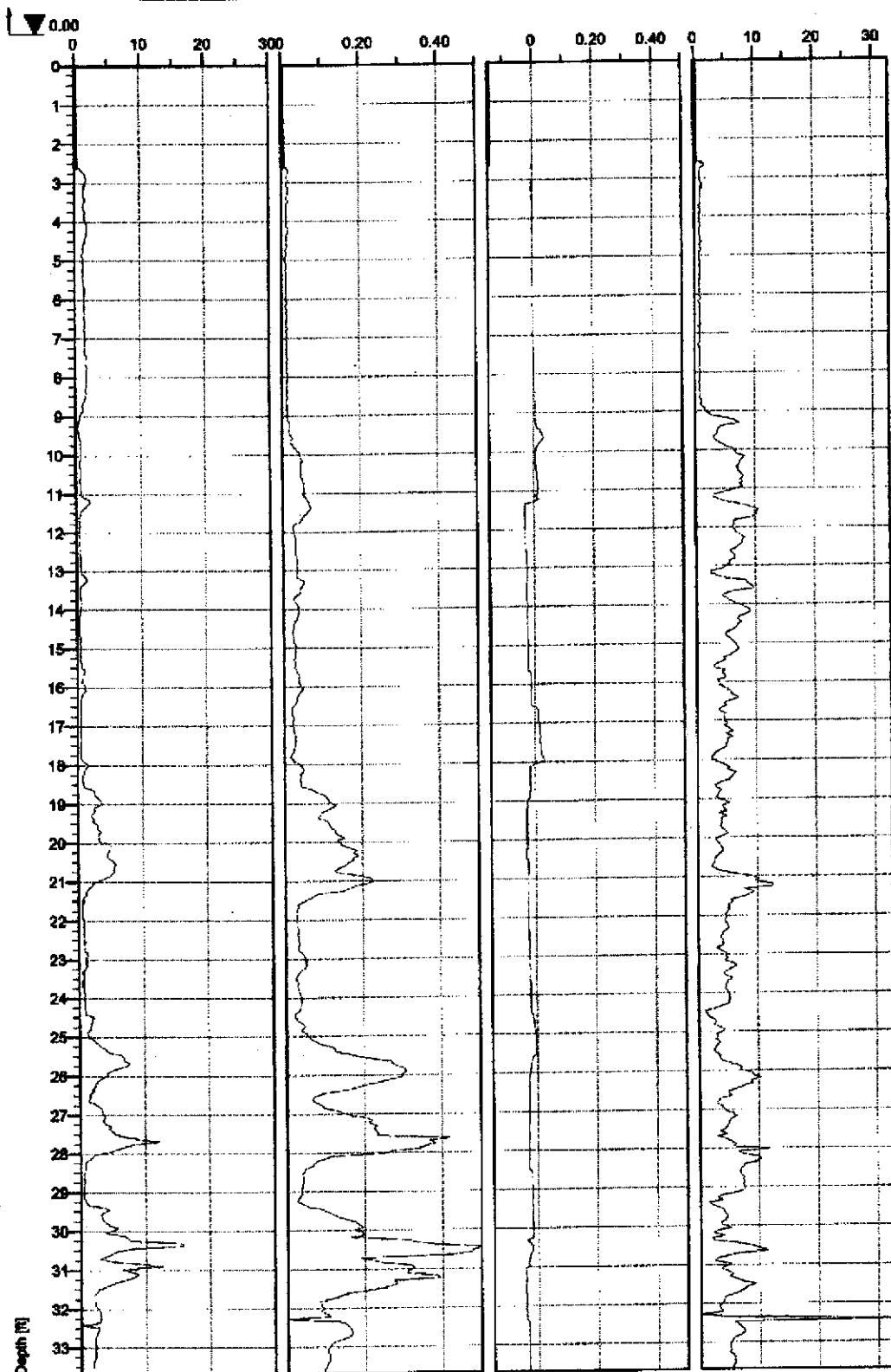
Depth [m]



Cone No: 3335  
 Tip area [cm<sup>2</sup>]: 10  
 Sleeve area [cm<sup>2</sup>]: 150

Test no: G3080-8	Position: X: 0.00 m, Y: 0.00 m	Ground level: 0.00	
Client: SOMA		Date: 5/9/2006	Scale: 1 : 50
Project: 5725 Thornhill Dr. Oakland, Ca.		Page: 2/2	Fig: 1
Stopped Refusal		File: G3080-8.001	

qc [MPa]      fs [MPa]      u2 [MPa]      Rf [%]



Sandy silt to clayey silt (6)  
 Clay (3)  
 Clay (3)  
 Clay (3)  
 Organic material (2)  
 Clay (3)  
 Clay (3)  
 Organic material (2)  
 Clay (3)  
 Clay (3)  
 Clay (3)  
 Clayey silt to silty clay (5)  
 Clay (3)  
 Silty clay to clay (4)  
 Clayey silt to silty clay (5)  
 Sandy silt to clayey silt (6)  
 Clay (3)  
 Clayey silt to silty clay (5)  
 Sandy silt to clayey silt (6)  
 Clay (3)  
 Clayey silt to silty clay (5)  
 Silty clay to clay (4)  
 Clay (3)  
 Silty sand to sandy silt (7)  
 Clay (3)  
 Clay (3)  
 Clayey silt to silty clay (5)  
 Clay (3)

Cone No. 3335  
 Tip area [cm<sup>2</sup>]: 10  
 Sleeve area [cm<sup>2</sup>]: 150



Test no: G3080-9	Position: X: 0.00 m, Y: 0.00 m	Ground level: 0.00	
Client: SOMA		Date: 5/9/2005	Scale: 1 : 50
Project: 5725 Thornhill Dr. Oakland, CA		Page: 1/2	Fig:
Stopped Refusal		File: G3080-9.CPT	

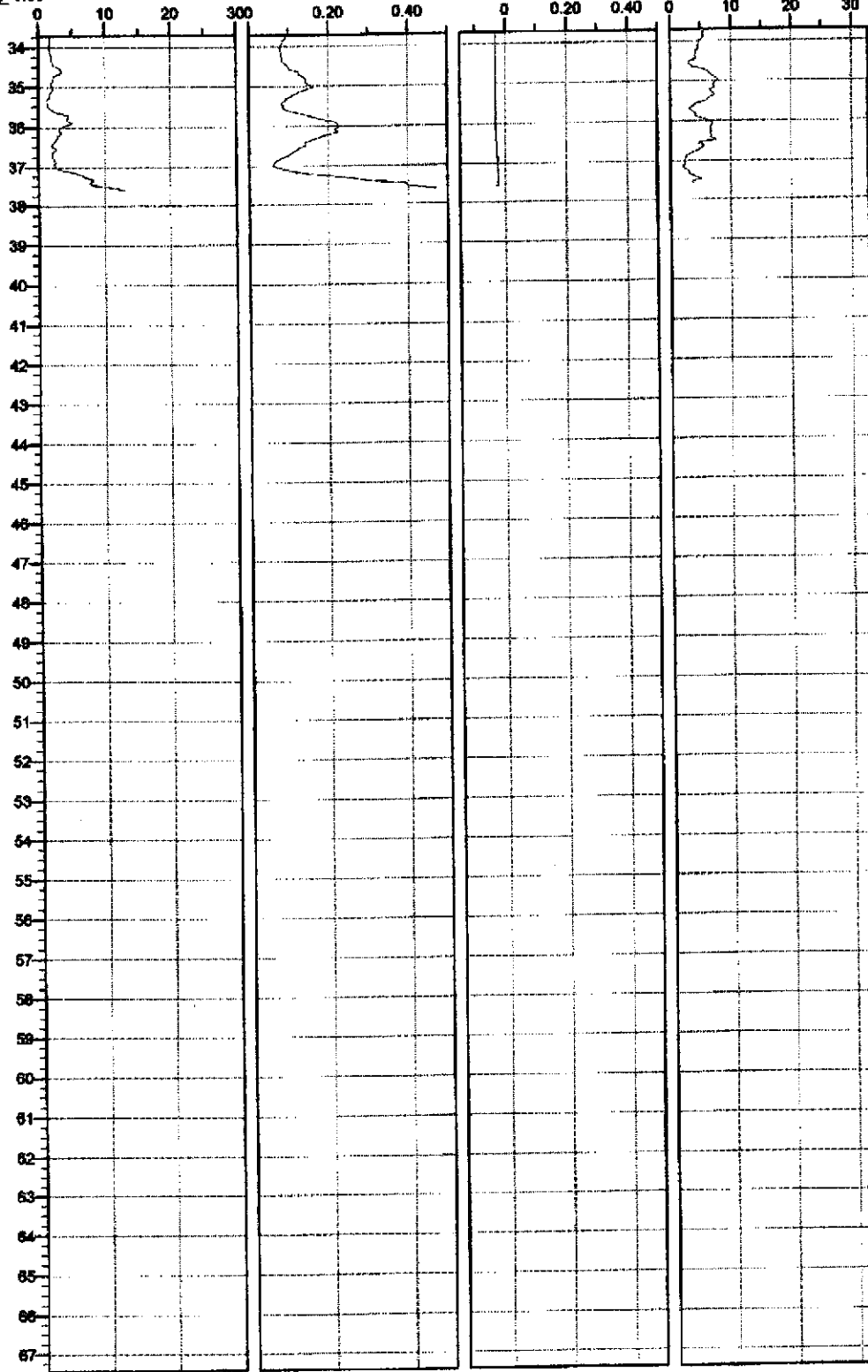
qc [MPa]

fs [MPa]

u2 [MPa]

Rf (%)

0.00



Clay (3)  
 Clay (3)  
 Clay (3)  
 Sandy silt to clayey silt (B)

Depth [m]



Cone No: 3335  
 Tip area (cm<sup>2</sup>): 10  
 Sleeve area (cm<sup>2</sup>): 150

Test no: <b>G3080-9</b>	Position: <b>X: 0.00 m, Y: 0.00 m</b>	Ground level: <b>0.00</b>	
Client: <b>SOMA</b>		Date: <b>5/9/2006</b>	Scale: <b>1 : 50</b>
Project: <b>5725 Thornhill Dr, Oakland, CA</b>		Page: <b>2/2</b>	Fig: <b></b>
	<b>Stopped Refusal</b>	File: <b>G3080-9.CPT</b>	



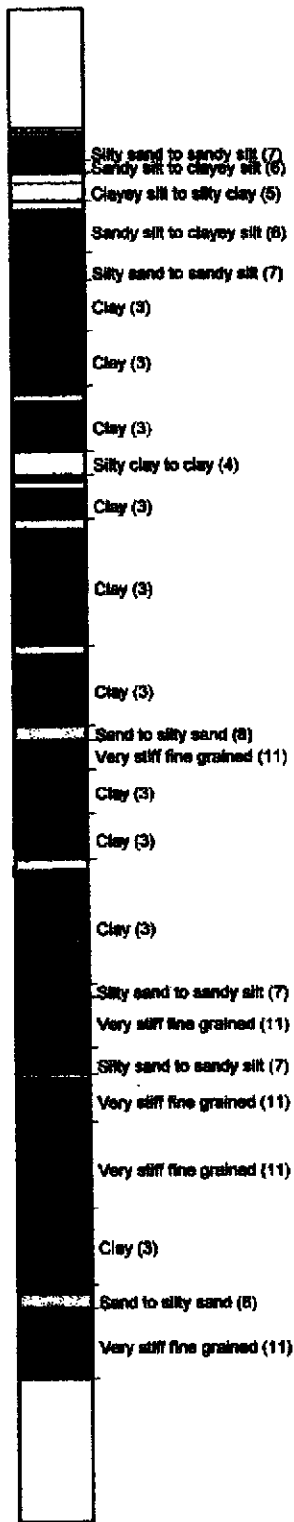
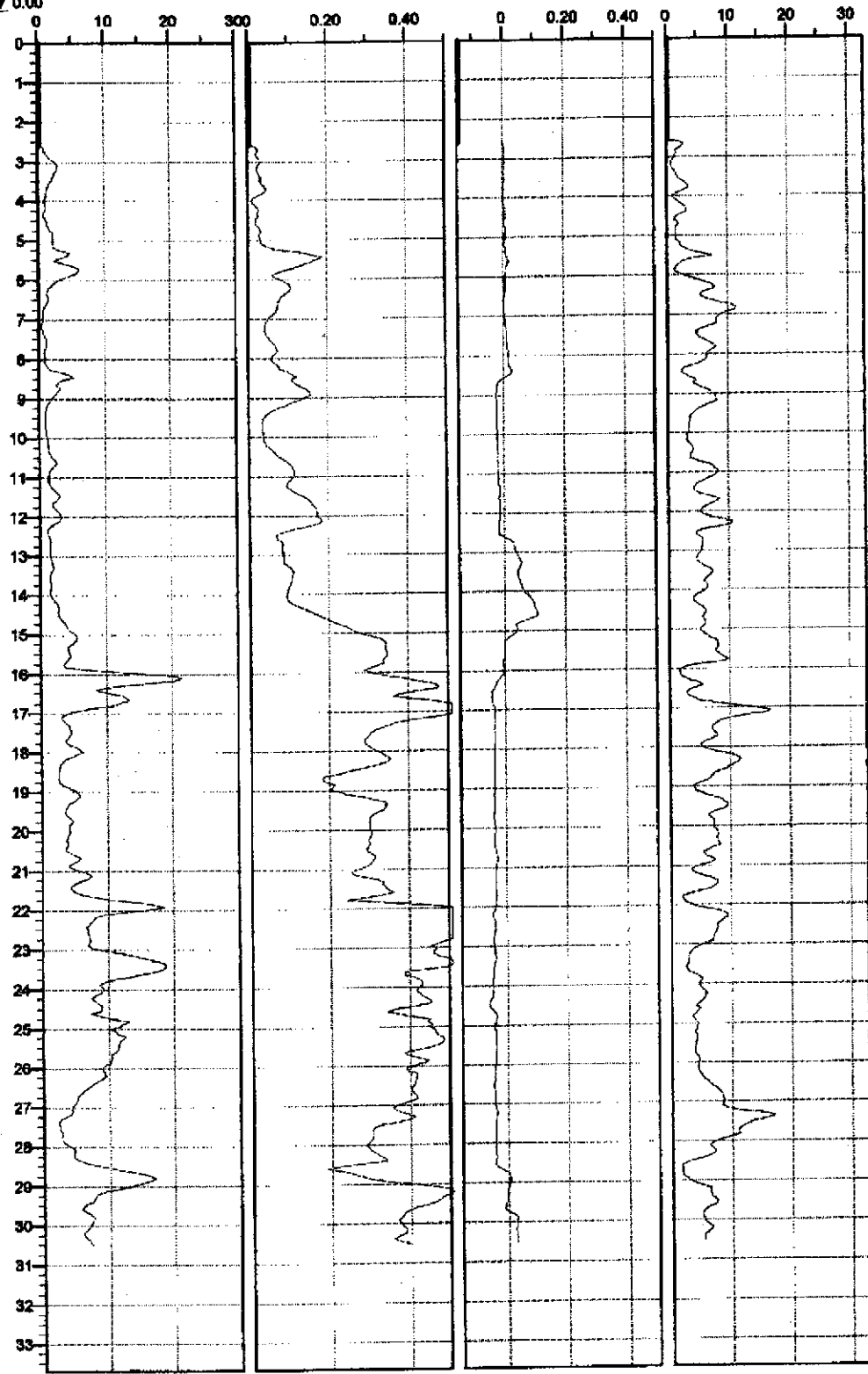
qc [MPa]

fs [MPa]

u2 [MPa]

Rf (%)

0.00



Cone No: 3335  
 Tip area [cm<sup>2</sup>]: 10  
 Sleeve area [cm<sup>2</sup>]: 150



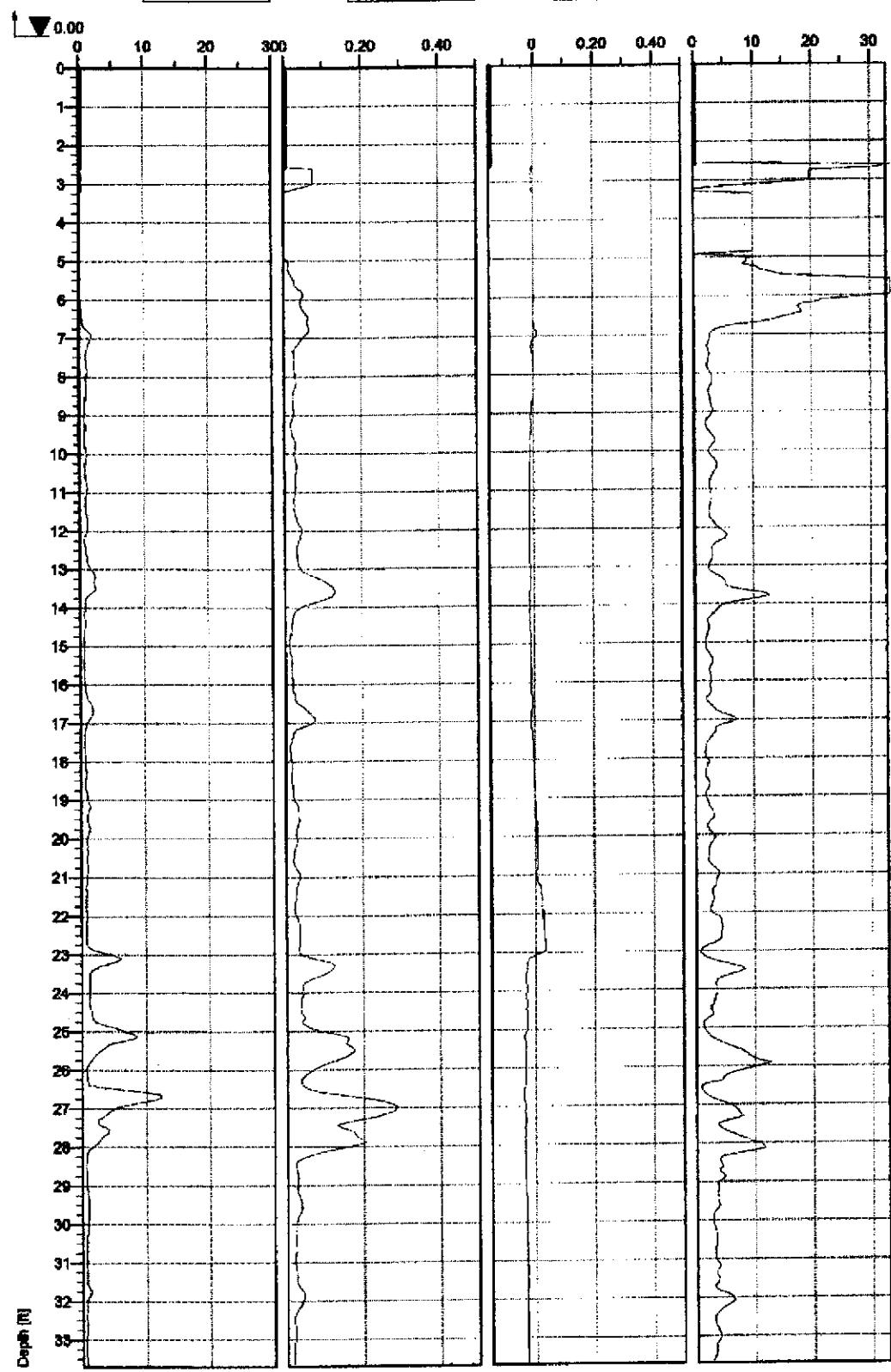
Test no: <b>G3080-10</b>	Position: <b>X: 0.00 m, Y: 0.00 m</b>	Ground level: <b>0.00</b>	
Client: <b>SOMA</b>	Date: <b>5/10/2005</b>		Scale: <b>1 : 50</b>
Project: <b>5725 Thornhill Dr. Oakland, CA</b>	Page: <b>1/1</b>		Fig: <b></b>
Sloped Refusal			File: <b>G3080-10.001</b>

qc [MPa]

fs [MPa]

u2 [MPa]

Rf [%]



- Organic material (2)
- Clayey silt to silty clay (5)
- Clayey silt to silty clay (5)
- Silty clay to clay (4)
- Silty clay to clay (4)
- Clayey silt to silty clay (5)
- Clay (3)
- Silty clay to clay (4)
- Clayey silt to silty clay (5)
- Clay (3)
- Silty clay to clay (4)
- Clayey silt to silty clay (5)
- Clay (3)
- Silty clay to clay (4)
- Silty clay to clay (4)
- Silty clay to clay (4)
- Clayey silt to silty clay (5)
- Clay (3)
- Silty clay to clay (4)
- Clayey silt to silty clay (5)
- Clayey silt to silty clay (5)
- Clayey silt to silty clay (5)
- Silty clay to clay (4)
- Clayey silt to silty clay (5)
- Silty clay to clay (4)
- Clayey silt to silty clay (5)
- Clay (3)
- Silty clay to clay (4)
- Clay (3)
- Sand to silty sand (8)
- Clay (3)
- Silty clay to clay (4)
- Clayey silt to silty clay (5)
- Silty sand to sandy silt (7)
- Clay (3)
- Sand to silty sand (8)
- Clay (3)
- Clay (3)
- Silty clay to clay (4)
- Clay (3)
- Clay (3)
- Silty clay to clay (4)

Depth [m]



Cone No: 3338  
 Tip area [cm<sup>2</sup>]: 10  
 Sleeve area [cm<sup>2</sup>]: 150

Test no: <b>G3080-11</b>	Position: X: 0.00 m, Y: 0.00 m	Ground level: 0.00	
Client: SOMA		Date: 5/9/2005	Scale: 1 : 60
Project: 5725 Thornhill Dr. Oakland, CA		Page: 1/2	Fig:
Stopped Refusal		File: G3080-11.001	