

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Director



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

September 6, 2011

Shannon Couch (Sent via E-mail to: shannon.couch@bp.com)
Atlantic Richfield Corporation
P.O. Box 1257
San Ramon, CA 94583

Subject: Fuel Leak Case No. RO0002565 and GeoTracker Global ID T0600108312, ARCO #0276,
10600 Macarthur Boulevard, Oakland, CA 94605

Dear Ms. Couch:

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 groundwater contamination consisting of 1,400 µg/L TPH-g, 140 µg/L MTBE, and 410 µg/L PCE (from an off-site source) remain at the site.

If you have any questions, please call Paresh Khatri at (510) 777-2478. Thank you.

Sincerely,

Donna L. Drogos, P.E.
Division Chief

Enclosures: 1. Remedial Action Completion Certificate
2. Case Closure Summary

cc:

Ms. Cherie McCaulou (w/enc)
SF- Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612
(Sent via E-mail to:
CMccaulou@waterboards.ca.gov)

Closure Unit (w/enc)
State Water Resources Control Board
UST Cleanup Fund
P.O. Box 944212
Sacramento, CA 94244-2120
(Sent via E-mail)

Paresh Khatri (w/orig enc), D. Drogos (w/enc), T. Le-Khan (w/enc)

ALAMEDA COUNTY
**HEALTH CARE SERVICES
AGENCY**

ALEX BRISCOE, Agency Director



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

September 6, 2011

Shannon Couch (*Sent via E-mail to: shannon.couch@bp.com*)
Atlantic Richfield Corporation
P.O. Box 1257
San Ramon, CA 94583

REMEDIAL ACTION COMPLETION CERTIFICATE

Subject: Fuel Leak Case No. RO0002565 and GeoTracker Global ID T0600108312, ARCO #0276,
10600 Macarthur Boulevard, Oakland, CA 94605

Dear Ms. Couch:

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 25296.10 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.3 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, 2010

Agency Name: Alameda County Environmental Health	Address: 1131 Harbor Bay Parkway
City/State/Zip: Alameda, CA 94502-6577	Phone: (510) 777-2478
Responsible Staff Person: Paresh Khatri	Title: Hazardous Materials Specialist

II. CASE INFORMATION

Site Facility Name: ARCO #0276		
Site Facility Address: 10600 MacArthur Boulevard, Oakland, CA 94609		
RB Case No.: --	STID No.: --	LOP Case No.: RO0002565
URF Filing Date: 01/21/2003	GeoTracker ID: T0600108312	APN: 47-5594-21-1
Responsible Parties	Addresses	Phone Numbers
Chuck Carmel	PO Box 1257, San Ramon, CA, 94583	925-275-3803

Tank I.D. No	Size in Gallons	Contents	Closed In Place/Removed?	Date
---	---	---	---	---
---	---	---	---	---
---	---	---	---	---
---	---	---	---	---
Piping			Removed	9/26/2002

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and Type of Release: Unauthorized release from piping is suspected.		
Site characterization complete? Yes	Date Approved By Oversight Agency: ---	
Monitoring wells installed? Yes	Number: 10	Proper screened interval? Yes
Highest GW Depth Below Ground Surface: 12.50	Lowest Depth: 48.37	Flow Direction: Southwest
Most Sensitive Current Use: Potential drinking water source.		

Summary of Production Wells in Vicinity: A one-half mile well survey was conducted for the nearby USA Petroleum site located at 10700 MacArthur Blvd (RO232) in May 2005. The nearest water supply well is an irrigation well located at 2455 109th Avenue, approximately 1,000 feet to the southwest. This well is not considered a receptor due to its respective distance from the subject site.

Are drinking water wells affected? No	Aquifer Name: East Bay Plain
Is surface water affected? No	Nearest SW Name: Lake Chabot, approx 1.25 mi east of site
Off-Site Beneficial Use Impacts (Addresses/Locations): None	
Reports on file? Yes	Where are reports filed? Alameda County Environmental Health (and Oakland Fire Department, Fire Prevention Bureau)

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL			
Material	Amount (Include Units)	Action (Treatment or Disposal w/Destination)	Date
Tank	--	--	--
Piping	Unknown quantity	Disposal, unknown location	September 2002
Free Product	None reported	--	--
Soil	210 tons	Disposal, Altamont Landfill	October 2002
Groundwater	None Reported	--	--

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

Contaminant	Soil (ppm)		Water (ppb)	
	Before	After	Before	After ⁹
TPH (Gas)	14 <small>(S5, 3 ft, 9/26/2002)</small>	14 <small>(S5, 3 ft, 9/26/2002)</small>	3,200 <small>(MW-5, 11/2/28/01) (MW-7, 11/7/03)</small>	1,400 <small>(MW-7, 7/21/09)</small>
TPH (Diesel)	Not analyzed	Not analyzed	Not analyzed	Not analyzed
Oil and Grease	Not analyzed	Not analyzed	Not analyzed	Not analyzed
Benzene	<0.0038 <small>(L6, 3 ft, 9/26/2002)</small>	<0.0038 <small>(L6, 3 ft, 9/26/2002)</small>	190 <small>(MW-5, 12/28/01)</small>	<10 <small>(MW-6, 7/21/09)</small>
Toluene	<0.0038 <small>(L6, 3 ft, 9/26/2002)</small>	<0.0038 <small>(L6, 3 ft, 9/26/2002)</small>	3.6 <small>(MW-5, 12/28/01)</small>	<10 <small>(MW-6, 7/21/09)</small>
Ethylbenzene	<0.0038 <small>(L6, 3 ft, 9/26/2002)</small>	<0.0038 <small>(L6, 3 ft, 9/26/2002)</small>	140 <small>(MW-5, 12/28/01)</small>	<10 <small>(MW-6, 7/21/09)</small>
Xylenes	<0.0038 <small>(L6, 3 ft, 9/26/2002)</small>	<0.0038 <small>(L6, 3 ft, 9/26/2002)</small>	11 <small>(MW-7, 11/7/03)</small>	<10 <small>(MW-6, 7/21/09)</small>
Heavy Metals (Cd, Cr, Pb, Ni, Zn) ⁵	8.9 <small>(Pile A-D, 9/26/2002)</small>	8.9 <small>(Pile A-D, 9/26/2002)</small>	Not analyzed	Not analyzed
MTBE	<0.160 ⁴ <small>(L4, L6, 3 ft, 9/26/2002)</small>	<0.160 ³ <small>(L4, L6, 3 ft, 9/26/2002)</small>	700 ² <small>(MW-7, 11/7/2003)</small>	140 ¹ <small>(MW-5, 7/21/09)</small>
Other (8240/8270)	Not analyzed	Not analyzed	3,200 ⁶ <small>(MW-5, 12/28/01)</small>	410 ⁶ <small>(MW-6, 7/21/09)</small>

¹ Other VOCs analyzed (groundwater µg/L after cleanup): 140 µg/L MtBE, <40 µg/L TBA, <2.0 µg/L DIPE, <2.0 µg/L ETBE, <19 µg/L TAME, <2.0 µg/L EDB, <5.9 µg/L 1,2-DCA, <300 µg/L <6,000 µg/L EtOH

² Other VOCs analyzed (groundwater ppb before cleanup): MtBE, <1,000 µg/L TBA, <25 µg/L DIPE, <5.0 µg/L ETBE, 43 µg/L TAME, <10 µg/L EDB, <25 µg/L 1,2-DCA, <6,000 µg/L EtOH

³ Other VOCs (Soil mg/kg after cleanup): 0.160 mg/kg MtBE; TBA, TAME, DIPE, EtOH EDB, 1,2-DCA all not analyzed

⁴ Other VOCs (Soil mg/kg before cleanup): 0.160 mg/kg MtBE; TBA, TAME, DIPE, EtOH EDB, 1,2-DCA all not analyzed

⁵ <0.20 mg/kg Cd, 41 mg/kg Cr, 8.9 mg/kg Pb, 35 mg/kg Ni, 58 mg/kg Zn.

⁶ Tetrachloroethene from off-site source (see RO2580)

Site History and Description of Corrective Actions:

The site is an operating ARCO gasoline station #0276 located at 10600 MacArthur Boulevard in Oakland, California at the southeast corner of the intersection of 106th Avenue and MacArthur Boulevard (see **Figure 1**). The site is on a relatively flat lot at an elevation of approximately 61 feet above mean sea level. The site is located west of the East Bay Hills and lies within the East Bay Alluvial Plain. Land-use in the immediate vicinity to the north and south is commercial with residential to the east and west. Current site structures include four double-walled fiberglass gasoline USTs, three pump islands with eight dispensers, and a convenience store.

Prior to the dispenser upgrades in 2002, a previous case (RO0000831) for an unauthorized release related to the former USTs had been opened for the site. The previous unauthorized release included an investigation, cleanup, followed by case closure on March 11, 1999. This new case was opened in response to the unauthorized release related to the product piping and dispensers. Monitoring wells were previously installed during the investigation and cleanup of the RO0000831. Two water-bearing zones were identified at the site with monitoring wells (MW-2 and MW-7) installed to a depth of approximately 28 feet bgs that encountered water at 17 feet bgs in the shallow zone and other wells (MW-1, MW-3, MW-4, MW-5, MW-6, and MW-8) installed to a depth of approximately 40 to 50 feet bgs that encountered groundwater at 33 feet bgs in the deeper water-bearing zone (see **Table 2**).

On September 26, 2002, all dispensers related to the USTs were removed by KE Curtis Construction. No observable cracks, deterioration, soil staining, or odors were detected. However, measureable PID readings at 350 ppm were observed at sampling location S1. Consequently, URS instructed the contractor to over-excavate to approximately 6 ft bgs and an additional soil sample was collected (Sump 1A). A total of 8 soil samples (designated as S1 through S8) were collected at 3 ft bgs at the former dispenser locations and over-excavation sample Sump 1A was collected at 6 ft bgs. A total of 8 soil samples (designated as L1 through L8) were collected at an approximate depth of 3 ft bgs in the former product line trenches. Soil sample analytical results detected of TPH-g, benzene, and MTBE at maximum concentrations of 14 mg/kg, <0.0038 mg/kg, and 0.160 mg/kg, respectively. Analytical results are summarized on **Table 1** and sampling locations are illustrated on **Figure 2**. In October, 2002, Dillard Environmental transported approximately 210 tons of soil to Altamont Landfill in Livermore, California.

Groundwater sampling recommenced on December 17, 2000 and has been ongoing. In addition to low concentrations of petroleum hydrocarbons in groundwater, PCE has also been detected at the site. The PCE has been attributed to Young's Cleaners located at 10700 MacArthur Boulevard (RO0002580). The most recent groundwater sample analytical results conducted on July 21, 2009 detected maximum TPH-g, benzene, and MTBE at concentrations of 1,400 µg/L, 0.73 µg/L, 140 µg/L, respectively. Analytical results are summarized on **Table 2** and sampling locations are illustrated on **Figure 3**.

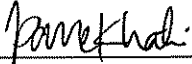
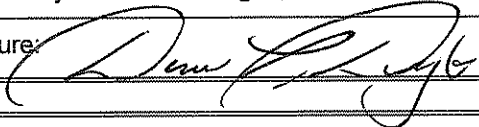
IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Yes		
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? Yes		
Does corrective action protect public health for current land use? Alameda County Environmental Health staff does not make specific determinations concerning public health risk. However, based upon the information available in our files to date, it does not appear that the release would present a risk to human health based upon current land use and conditions.		
<p>Site Management Requirements: Case closure for this fuel leak site is granted for the current commercial land use only. If a modification to the existing structure or a change in land use to any other commercial, residential, or other conservative land use scenario is proposed at this site, Alameda County Environmental Health (ACEH) must be notified as required by Government Code Section 65850.2.2. ACEH will re-evaluate the case upon receipt of approved development/construction plans.</p> <p>Excavation or construction activities in areas of residual contamination require planning and implementation of appropriate health and safety procedures by the responsible party (or current property owner/developer) prior to and during excavation and construction activities.</p> <p>This site is to be entered into the City of Oakland Permit Tracking System due to the residual contamination on site.</p>		
Should corrective action be reviewed if land use changes? Yes		
Was a deed restriction or deed notification filed? No		Date Recorded: --
Monitoring Wells Decommissioned: No	Number Decommissioned: 0	Number Retained: 10
List Enforcement Actions Taken: None		
List Enforcement Actions Rescinded: --		

V. ADDITIONAL COMMENTS, DATA, ETC.

<p>Considerations and/or Variances:</p> <p>None</p> <p>Conclusion:</p> <p>Alameda County Environmental Health staff believe that the levels of residual contamination do not pose a significantly threat to water resources, public health and safety, and the environment under the current commercial land use based upon the information available in our files to date. No further investigation or cleanup for the fuel leak case is necessary unless a change in land use to any residential or other conservative land use scenario occurs at the site. ACEH staff recommend closure for the site.</p>

VI. LOCAL AGENCY REPRESENTATIVE DATA

Prepared by: Paresh Khatri	Title: Hazardous Materials Specialist
Signature: 	Date: September 10, 2010
Approved by: Donna L. Drogos, P.E.	Title: Division Chief
Signature: 	Date: 09/10/10

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

VII. REGIONAL BOARD NOTIFICATION

Regional Board Staff Name: Cherie McCaulou	Title: Engineering Geologist
Notification Date: SEPTEMBER 10, 2010	

VIII. MONITORING WELL DECOMMISSIONING

Date Requested by ACEH: SEPT. 16, 2010	Date of Well Decommissioning Report: June 23, 2011	
All Monitoring Wells Decommissioned: YES	Number Decommissioned: 17	Number Retained: 0
Reason Wells Retained: N/A		
Additional requirements for submittal of groundwater data from retained wells:		
ACEH Concurrence - Signature: <i>[Signature]</i>	Date: SEPT. 6, 2011	

Attachments:

1. Figures (1 through 3)
2. Tables (1 through 3)
3. Well Survey Map & Data Table (2 pp)
4. Boring logs/Well Completion Details (41 pp) .

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.

Khatri, Paresh, Env. Health

From: Cherie McCaulou [CMccaulou@waterboards.ca.gov]
Sent: Tuesday, September 14, 2010 9:41 AM
To: Khatri, Paresh, Env. Health
Subject: Re: RO0002565; Closure Summary for ARCO #0276 (T0600108312)

The Regional Water Board has no objection to ACEH recommendation for closing the case located at 10600 Macarthur Blvd. in Oakland. Thank you.

Sincerely,

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

>>> "Khatri, Paresh, Env. Health" <paresh.khatri@acgov.org> 9/10/2010 11:19 AM >>>
Hello Cherie,

Attached is a closure summary for RO0002565; ARCO #0276 located at 10600 Macarthur Boulevard in Oakland to comply with the RWQCB's 30-day review period. If no comments from the RWQCB are received within the 30-day review period, ACEH's will proceed with case closure.

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

Sincerely,

Paresh C. Khatri
Hazardous Materials Specialist
Alameda County Environmental Health
Local Oversight Program
1131 Harbor Bay Parkway
Alameda, CA 94502-6577

Phone: (510) 777-2478
Fax: (510) 337-9335

E-mail: Paresh.Khatri@acgov.org

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

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NORTH

KNOWLAND
STATE PARK
AND
ARBORETUM

MACARTHUR BLVD

99TH AVE

PROJECT
LOCATION

...AVE

107TH AVE

580

BANCROFT AVE

DURANT AVE

MACARTHUR BLVD

VICTORIA AVE

VICTORIA CT

KENILWORTH AVE

200 m
1000 ft

URS

Project No. 38485980

ARCO Service Station 276
10600 MacArthur BLVD
Oakland, California

SITE LOCATION MAP

Figure
1

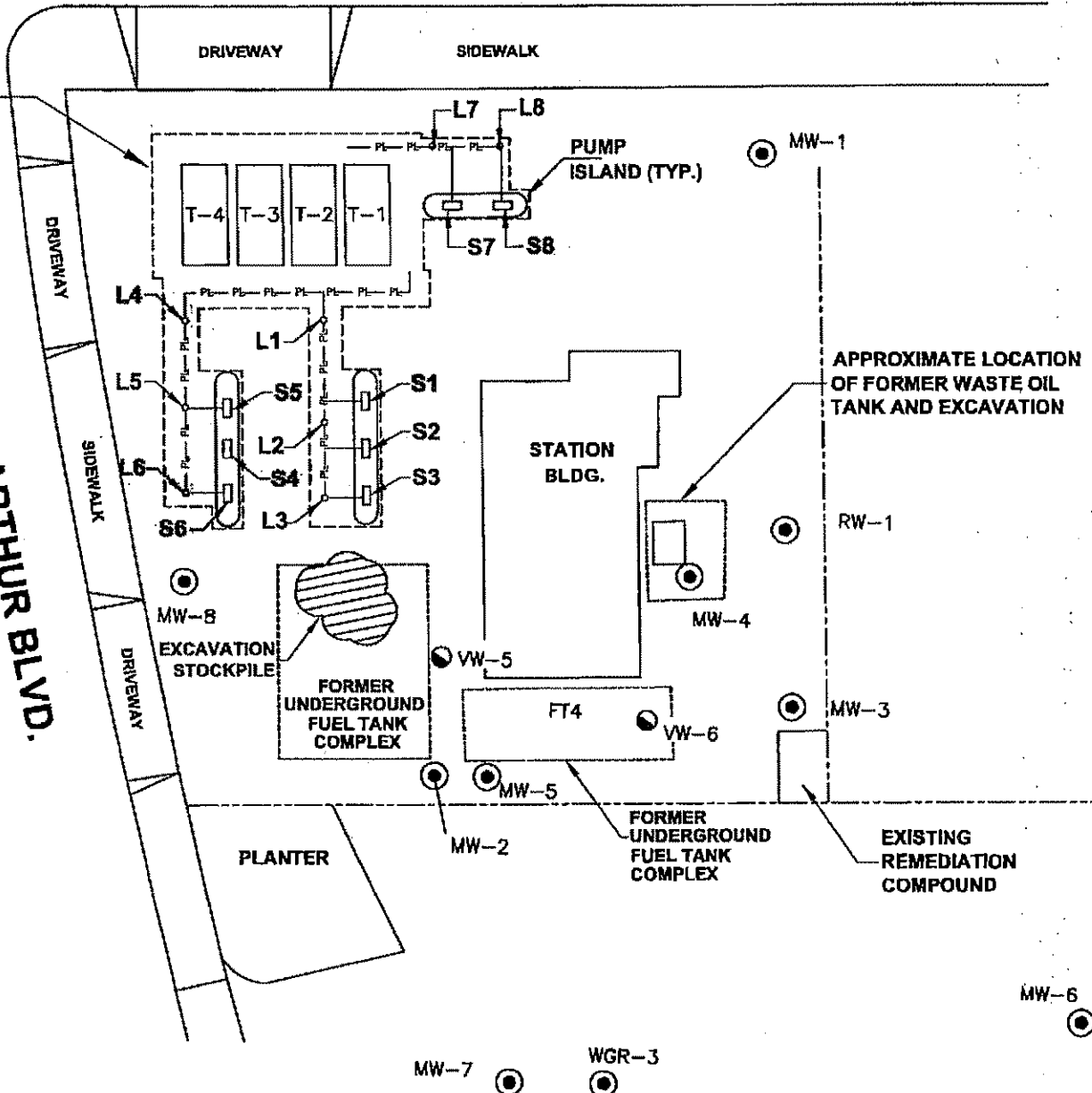
106TH AVENUE



NORTH

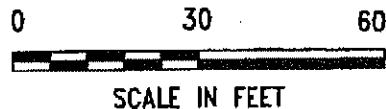
EXISTING FUEL TANK COMPLEX

MacARTHUR BLVD.



LEGEND:

- RW-1 GROUNDWATER MONITORING WELL
- VW-1 GROUNDWATER EXTRACTION WELL
- L1 FUEL LINE SAMPLING LOCATION
- S1 FUEL DISPENSER/SUMP SAMPLING LOCATION
- PL — EXPOSED PRODUCT LINE PIPING
- - - - - APPROXIMATE LIMITS OF EXCAVATION

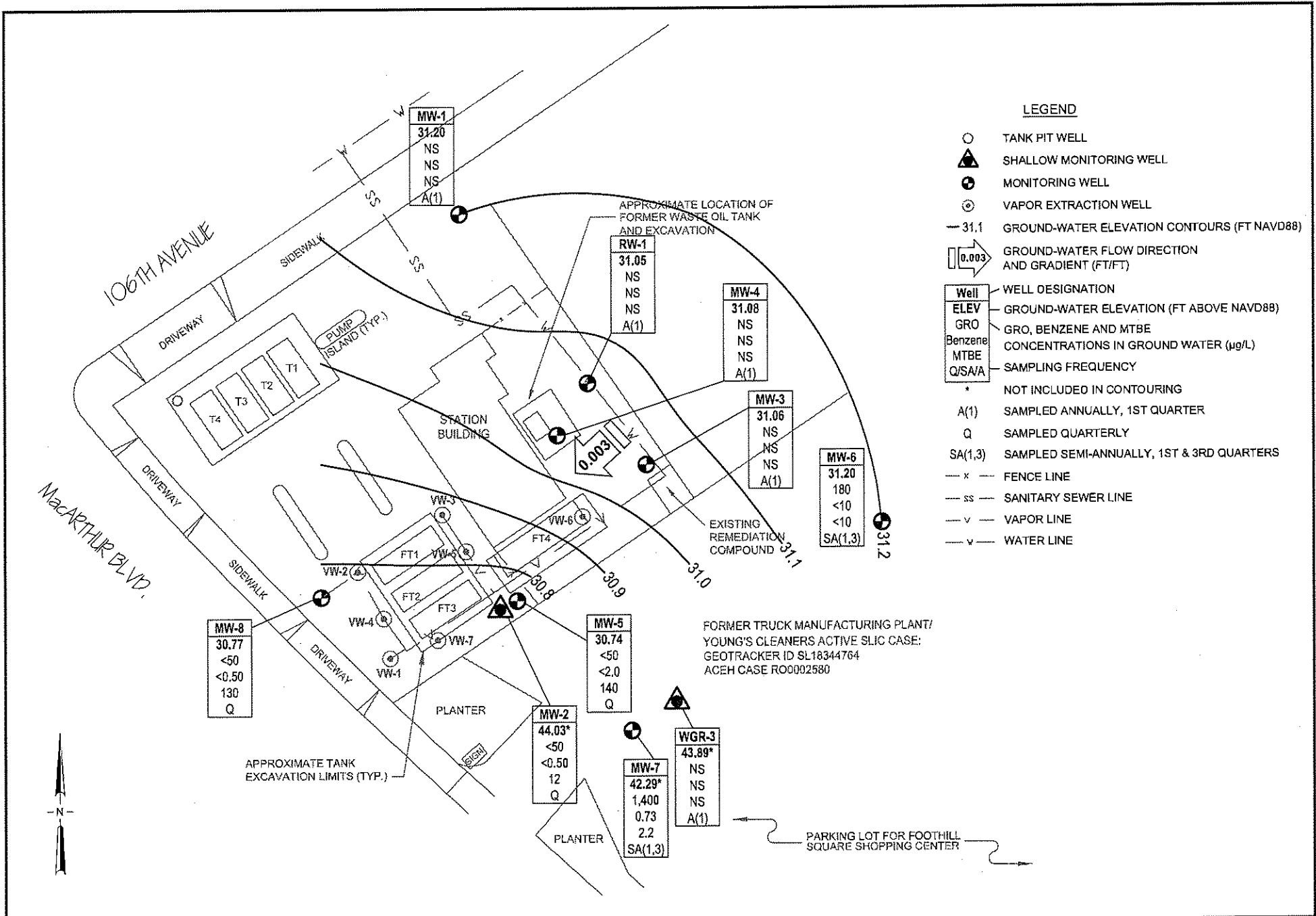


Project No. 38485980

ARCO Service Station 276
10600 MacArthur Boulevard
Oakland, California

SOIL SAMPLING LOCATION PLAN
SEPTEMBER 26, 2002

Figure
2



LEGEND

- TANK PIT WELL
- ▲ SHALLOW MONITORING WELL
- MONITORING WELL
- ⊕ VAPOR EXTRACTION WELL
- 31.1 GROUND-WATER ELEVATION CONTOURS (FT NAVD88)
- 0.003 GROUND-WATER FLOW DIRECTION AND GRADIENT (FT/FT)
- Well Well DESIGNATION
- ELEV GROUND-WATER ELEVATION (FT ABOVE NAVD88)
- GRO GRO, BENZENE AND MTBE
- Benzene CONCENTRATIONS IN GROUND WATER (µg/L)
- MTBE
- Q/SA/VA SAMPLING FREQUENCY
- * NOT INCLUDED IN CONTOURING
- A(1) SAMPLED ANNUALLY, 1ST QUARTER
- Q SAMPLED QUARTERLY
- SA(1,3) SAMPLED SEMI-ANNUALLY, 1ST & 3RD QUARTERS
- x - FENCE LINE
- ss - SANITARY SEWER LINE
- v - VAPOR LINE
- w - WATER LINE

MW-8
30.77
<50
<0.50
130
Q

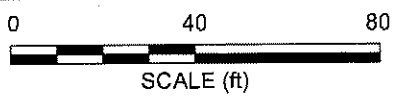
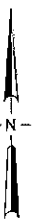
MW-5
30.74
<50
<2.0
140
Q

MW-2
44.03*
<50
<0.50
12
Q

MW-7
42.29*
1,400
0.73
2.2
SA(1,3)

WGR-3
43.89*
NS
NS
NS
A(1)

FORMER TRUCK MANUFACTURING PLANT/
 YOUNG'S CLEANERS ACTIVE SLIC CASE:
 GEOTRACKER ID SL18344764
 ACEH CASE RO0002580



BROADBENT & ASSOCIATES, INC.
 ENGINEERING, WATER RESOURCES & ENVIRONMENTAL
 1324 Mangrove Ave. Suite 212, Chico, California
 Project No.: 06-88-601 Date: 8/23/09

Station #276
 10600 MacArthur Boulevard
 Oakland, California

Ground-Water Elevation Contour
 and Analytical Summary Map
 21 July 2009

Drawing
3

Soil Analytical Data
ARCO Service Station 276
10600 MacArthur Boulevard
Oakland, California

TABLE 1

Soil Sample ID	Sample Depth (feet)	Date Sampled	TPH as Gasoline (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	MTBE (ppm)
S1	3	9/26/02	ND<0.5	ND<1.6	ND<1.6	ND<1.6	ND<1.6	8.9
S2	3	9/26/02	4.3	ND<2.3	ND<2.3	ND<2.3	ND<2.3	0.29
S3	3	9/26/02	ND<0.5	ND<2.3	ND<2.3	ND<2.3	5.8	ND<0.025
S4	3	9/26/02	ND<0.5	ND<1.8	ND<1.8	ND<1.8	ND<1.8	45
S5	3	9/26/02	14	ND<0.1	ND<0.1	ND<0.1	3.1	1.10
S6	3	9/26/02	ND<0.5	ND<1.4	ND<1.4	ND<1.4	ND<1.4	7.10
S7	3	9/26/02	ND<0.5	ND<2.4	ND<2.4	ND<2.4	4.3	ND<0.025
S8	3	9/26/02	ND<0.5	ND<1.9	ND<1.9	ND<1.9	ND<1.9	3
L1	3	9/26/02	ND<0.5	ND<0.1	ND<0.1	ND<0.1	ND<0.1	1.9
L2	3	9/26/02	0.51	ND<0.1	ND<0.1	ND<0.1	ND<0.1	2.4
L3	3	9/26/02	ND<0.5	ND<2.2	ND<2.2	ND<2.2	ND<2.2	22
L4	3	9/26/02	ND<0.5	ND<1.7	ND<1.7	ND<1.7	ND<1.7	160
L5	3	9/26/02	ND<0.5	ND<1.8	ND<1.8	ND<1.8	ND<1.8	ND<0.025
L6	3	9/26/02	ND<0.5	ND<3.8	ND<3.8	ND<3.8	ND<3.8	160
L7	3	9/26/02	ND<0.5	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<0.025
L8	3	9/26/02	ND<0.5	ND<1.6	ND<1.6	ND<1.6	ND<1.6	ND<0.025

Soil Sample ID	Sample Depth (feet)	Date Sampled	TPH as Gasoline (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	Total Pb (ppm)
Pile A-D	--	9/27/02	ND<0.5	ND<0.005	ND<0.005	ND<0.005	ND<0.01	8.9
Sump 1A	6	9/27/02	ND<0.5	ND<0.005	ND<0.005	ND<0.005	ND<0.01	--

TPH = Total purgeable petroleum hydrocarbons using EPA Method 8015, modified.
 BTEX = Benzene, toluene, ethylbenzene, total xylenes using EPA Method 8021B.
 MTBE = Methyl Tertiary Butyl Ether.
 ppb = Parts per billion.
 ppm = Parts per million.
 ND< = Less than stated laboratory detection limit.

Table 2. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #276, 10600 MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
MW-1															
12/17/2000	--		55.92	23.50	28.50	29.16	26.76	5.09	--	--	--	--	--	--	--
12/28/2001	--		55.92	23.50	28.50	27.38	28.54	8.8	--	--	--	--	--	--	--
11/27/2002	NP		55.92	23.50	28.50	29.45	26.47	4.2	--	--	--	--	--	2.3	6.7
7/22/2003	NP		55.92	23.50	28.50	27.58	28.34	<50	<0.50	<0.50	<0.50	<0.50	<0.50	3.1	6.7
11/07/2003	NP		55.92	23.50	28.50	30.42	25.50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.1	6.6
02/03/2004	NP		55.92	23.50	28.50	38.80	17.12	--	--	--	--	--	--	1.5	--
05/04/2004	NP	g	61.26	23.50	28.50	26.67	34.59	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	6.6
08/12/2004	NP		61.26	23.50	28.50	29.49	31.77	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.2	6.6
11/10/2004	NP		61.26	23.50	28.50	30.29	30.97	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.1	6.6
02/03/2005	NP		61.26	23.50	28.50	26.23	35.03	--	--	--	--	--	--	0.89	--
05/09/2005	--		61.26	23.50	28.50	22.93	38.33	--	--	--	--	--	--	--	--
08/11/2005	--		61.26	23.50	28.50	26.11	35.15	--	--	--	--	--	--	--	--
11/18/2005	--		61.26	23.50	28.50	29.14	32.12	--	--	--	--	--	--	--	--
02/01/2006	NP	i	61.26	23.50	28.50	24.15	37.11	53	<0.50	<0.50	<0.50	<0.50	<0.50	1.6	6.7
5/30/2006	--		61.26	23.50	28.50	21.25	40.01	--	--	--	--	--	--	--	--
8/10/2006	--		61.26	23.50	28.50	24.70	36.56	--	--	--	--	--	--	--	--
11/2/2006	--		61.26	23.50	28.50	27.71	33.55	--	--	--	--	--	--	--	--
2/6/2007	NP		61.26	23.50	28.50	28.12	33.14	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.15	7.57
5/8/2007	--		61.26	23.50	28.50	27.27	33.99	--	--	--	--	--	--	--	--
8/14/2007	--		61.26	23.50	28.50	29.70	31.56	--	--	--	--	--	--	--	--
11/13/2007	--		61.26	23.50	28.50	30.92	30.34	--	--	--	--	--	--	--	--
2/29/2008	NP		61.26	23.50	28.50	26.21	35.05	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.31	7.63
5/17/2008	--		61.26	23.50	28.50	28.50	32.76	--	--	--	--	--	--	--	--
8/12/2008	--		61.26	23.50	28.50	30.50	30.76	--	--	--	--	--	--	--	--
10/21/2008	--		61.26	23.50	28.50	31.85	29.41	--	--	--	--	--	--	--	--
1/20/2009	NP		61.26	23.50	28.50	31.61	29.65	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.29	6.83
4/21/2009	--		61.26	23.50	28.50	27.83	33.43	--	--	--	--	--	--	--	--
7/21/2009	--		61.26	23.50	28.50	30.06	31.20	--	--	--	--	--	--	--	--
MW-2															
12/17/2000	--		55.10	15.00	25.00	15.72	39.38	--	--	--	--	--	--	--	--

Table 2. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #276, 10600 MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Water Level Elevation (feet)	Concentrations in (µg/L)					DO (mg/L)	pH	
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes			MTBE
MW-2 Cont.															
12/28/2001	--		55.10	15.00	23.00	27.38	27.72	--	--	--	--	--	--	--	--
11/27/2002	--		55.10	15.00	25.00	16.35	38.75	--	--	--	--	--	--	--	--
7/22/2003	--		55.10	15.00	25.00	16.20	38.90	--	--	--	--	--	--	--	--
11/07/2003	P		55.10	15.00	25.00	18.22	36.88	990	<5.0	<5.0	<5.0	<5.0	110	1.8	6.7
02/03/2004	P		55.10	15.00	25.00	13.63	41.47	180	<2.5	<2.5	2.6	4.1	55	1.8	6.5
05/04/2004	P	g	60.21	15.00	25.00	15.76	44.45	290	<2.5	<2.5	<2.5	<2.5	70	0.6	6.3
08/12/2004	P		60.21	15.00	25.00	17.21	43.00	<250	<2.5	<2.5	3.2	<2.5	49	1.6	6.6
11/10/2004	P		60.21	15.00	25.00	15.90	44.31	270	<1.0	<1.0	1.6	<1.0	90	0.9	6.2
02/03/2005	P		60.21	15.00	25.00	14.29	45.92	480	1.7	<0.50	2.0	1.4	37	1.53	6.5
05/09/2005	P		60.21	15.00	25.00	14.38	45.83	320	<0.50	<0.50	<0.50	0.64	56	0.57	6.5
08/11/2005	P		60.21	15.00	25.00	15.97	44.24	320	<0.50	<0.50	<0.50	<0.50	50	1.0	6.3
11/18/2005	P		60.21	15.00	25.00	17.66	42.55	990	3.2	0.64	3.8	1.6	49	3.23	6.5
02/01/2006	P		60.21	15.00	25.00	12.50	47.71	<50	<0.50	<0.50	<0.50	<0.50	3.1	1.0	6.4
5/30/2006	P		60.21	15.00	25.00	13.25	46.96	280	<0.50	<0.50	<0.50	<0.50	64	1.76	6.5
8/11/2006	P	Water Level +10	60.21	15.00	25.00	15.90	44.31	210	<0.50	<0.50	<0.50	<0.50	28	0.63	6.4
11/2/2006	P		60.21	15.00	25.00	17.38	42.83	270	0.64	<0.50	<0.50	<0.50	40	1.41	6.82
2/6/2007	NP	1	60.21	15.00	25.00	15.48	44.73	110	<0.50	<0.50	<0.50	<0.50	39	0.67	6.95
5/8/2007	NP		60.21	15.00	25.00	15.40	44.81	140	<0.50	<0.50	<0.50	<0.50	25	0.84	6.85
8/14/2007	NP		60.21	15.00	25.00	17.40	42.81	190	<0.50	<0.50	<0.50	<0.50	19	0.71	6.75
11/13/2007	P		60.21	15.00	25.00	16.11	44.10	170	<0.50	<0.50	<0.50	<0.50	27	1.99	6.32
2/29/2008	P		60.21	15.00	25.00	13.37	46.84	<50	<0.50	<0.50	<0.50	<0.50	6.1	1.80	7.26
5/17/2008	--	m	60.21	15.00	25.00	--	--	--	--	--	--	--	--	--	--
8/12/2008	NP		60.21	15.00	25.00	16.75	43.46	56	<0.50	<0.50	<0.50	<0.50	14	0.84	8.97
10/21/2008	NP		60.21	15.00	25.00	18.05	42.16	460	0.81	<0.50	<0.50	<0.50	16	2.98	7.01
1/20/2009	NP		60.21	15.00	25.00	15.75	44.46	200	<0.50	<0.50	<0.50	<0.50	6.8	0.91	6.73
4/21/2009	NP		60.21	15.00	25.00	15.23	44.98	74	<0.50	<0.50	<0.50	<0.50	5.5	0.94	6.75
7/21/2009	NP		60.21	15.00	25.00	16.18	44.03	<50	<0.50	<0.50	<0.50	<0.50	12	1.58	6.53
MW-3															
12/17/2000	--		56.55	22.00	27.00	29.78	26.77	153	--	--	--	--	--	--	--
12/28/2001	--		56.55	22.00	27.00	27.95	28.60	310	20	1.5	13	--	--	--	--

Table 2. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #276, 10600 MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
MW-3 Cont.															
11/27/2002	NP		56.55	22.00	27.00	30.10	26.45	110	--	--	--	--	--	2.0	7.2
7/22/2003	NP		56.55	22.00	27.00	28.32	28.23	120	<0.50	<0.50	<0.50	<0.50	<0.50	2.2	5.9
11/07/2003	NP		56.55	22.00	27.00	30.86	25.69	70	<0.50	<0.50	<0.50	<0.50	<0.50	2.8	6.5
02/03/2004	NP		56.55	22.00	27.00	27.65	28.90	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.1	6.7
05/04/2004	NP	g	61.89	22.00	27.00	27.57	34.32	<100	<1.0	<1.0	<1.0	<1.0	<1.0	1.6	6.4
08/12/2004	NP		61.89	22.00	27.00	30.31	31.58	52	<0.50	<0.50	<0.50	<0.50	<0.50	1.6	6.3
11/10/2004	NP		61.89	22.00	27.00	31.00	30.89	91	<0.50	<0.50	<0.50	<0.50	<0.50	2.6	6.7
02/03/2005	NP	i	61.89	22.00	27.00	26.85	35.04	180	<0.50	<0.50	<0.50	<0.50	<0.50	2.25	6.5
05/09/2005	--		61.89	22.00	27.00	23.72	38.17	--	--	--	--	--	--	--	--
08/11/2005	--		61.89	22.00	27.00	26.84	35.05	--	--	--	--	--	--	--	--
11/18/2005	--		61.89	22.00	27.00	29.82	32.07	--	--	--	--	--	--	--	--
02/01/2006	NP		61.89	22.00	27.00	24.80	37.09	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.4	6.4
5/30/2006	--		61.89	22.00	27.00	21.77	40.12	--	--	--	--	--	--	--	--
8/10/2006	--		61.89	22.00	27.00	25.37	36.52	--	--	--	--	--	--	--	--
11/2/2006	--		61.89	22.00	27.00	28.43	33.46	--	--	--	--	--	--	--	--
2/6/2007	NP	i, k	61.86	22.00	27.00	28.85	33.01	50	<0.50	<0.50	<0.50	<0.50	<0.50	1.27	8.63
5/8/2007	--	k	61.86	22.00	27.00	27.98	33.88	--	--	--	--	--	--	--	--
8/14/2007	--	k	61.86	22.00	27.00	30.41	31.45	--	--	--	--	--	--	--	--
11/13/2007	--		61.86	22.00	27.00	31.63	30.23	--	--	--	--	--	--	--	--
2/29/2008	NP	l	61.86	22.00	27.00	26.86	35.00	79	<0.50	<0.50	<0.50	<0.50	0.54	1.13	7.04
5/17/2008	--		61.86	22.00	27.00	29.22	32.64	--	--	--	--	--	--	--	--
8/12/2008	--		61.86	22.00	27.00	31.22	30.64	--	--	--	--	--	--	--	--
10/21/2008	--		61.86	22.00	27.00	32.55	29.33	--	--	--	--	--	--	--	--
1/20/2009	NP		61.86	22.00	27.00	32.31	29.55	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.11	6.72
4/21/2009	--		61.86	22.00	27.00	28.48	33.38	--	--	--	--	--	--	--	--
7/21/2009	--		61.86	22.00	27.00	30.80	31.06	--	--	--	--	--	--	--	--
MW-4															
12/17/2000	--		55.98	25.00	45.00	29.22	26.76	225	--	--	--	--	--	--	--
12/28/2001	--		55.98	25.00	45.00	27.37	28.61	160	1.2	--	--	--	--	--	--
11/27/2002	NP		55.98	25.00	45.00	29.55	26.43	95	--	--	--	--	--	3.7	6.7

Table 2. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses

Station #276, 10600 MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
MW-4 Cont.															
7/22/2003	NP		55.98	25.00	45.00	27.73	28.25	130	<0.50	<0.50	<0.50	<0.50	<0.50	2.9	6.6
11/07/2003	NP		55.98	25.00	45.00	30.41	25.57	59	<0.50	<0.50	<0.50	<0.50	<0.50	2.6	6.5
02/03/2004	NP		55.98	25.00	45.00	27.01	28.97	<50	<0.50	<0.50	<0.50	<0.50	<0.50	4.2	7.1
05/04/2004	NP	g	61.30	25.00	45.00	26.91	34.39	<100	<1.0	<1.0	<1.0	<1.0	<1.0	2.1	6.5
08/12/2004	NP		61.30	25.00	45.00	29.76	31.54	58	<0.50	<0.50	<0.50	<0.50	<0.50	2.3	6.4
11/10/2004	NP		61.30	25.00	45.00	30.40	30.90	69	<0.50	<0.50	<0.50	<0.50	<0.50	2.4	6.6
02/03/2005	NP	i	61.30	25.00	45.00	26.28	35.02	51	<0.50	<0.50	<0.50	<0.50	<0.50	3.77	6.8
05/09/2005	--		61.30	25.00	45.00	23.14	38.16	--	--	--	--	--	--	--	--
08/11/2005	--		61.30	25.00	45.00	26.23	35.07	--	--	--	--	--	--	--	--
11/18/2005	--		61.30	25.00	45.00	29.24	32.06	--	--	--	--	--	--	--	--
02/01/2006	P	i	61.30	25.00	45.00	24.20	37.10	330	<0.50	<0.50	<0.50	<0.50	<0.50	1.7	7.0
5/30/2006	--		61.30	25.00	45.00	21.26	40.04	--	--	--	--	--	--	--	--
8/10/2006	--		61.30	25.00	45.00	24.62	36.68	--	--	--	--	--	--	--	--
11/2/2006	--		61.30	25.00	45.00	27.90	33.40	--	--	--	--	--	--	--	--
2/6/2007	NP	i	61.30	25.00	45.00	28.28	33.02	55	<0.50	<0.50	<0.50	<0.50	<0.50	1.21	8.28
5/8/2007	--		61.30	25.00	45.00	27.40	33.90	--	--	--	--	--	--	--	--
8/14/2007	--		61.30	25.00	45.00	29.88	31.42	--	--	--	--	--	--	--	--
11/13/2007	--		61.30	25.00	45.00	31.05	30.25	--	--	--	--	--	--	--	--
2/29/2008	NP	i	61.30	25.00	45.00	26.30	35.00	31	<0.50	<0.50	<0.50	<0.50	<0.50	3.57	7.44
5/17/2008	--		61.30	25.00	45.00	28.65	32.65	--	--	--	--	--	--	--	--
8/12/2008	--		61.30	25.00	45.00	30.68	30.62	--	--	--	--	--	--	--	--
10/21/2008	--		61.30	25.00	45.00	32.00	29.30	--	--	--	--	--	--	--	--
1/20/2009	NP		61.30	25.00	45.00	31.73	29.57	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.18	6.76
4/21/2009	--		61.30	25.00	45.00	27.91	33.39	--	--	--	--	--	--	--	--
7/21/2009	--		61.30	25.00	45.00	30.22	31.08	--	--	--	--	--	--	--	--
MW-5															
12/17/2000	--		55.43	23.50	31.50	28.82	26.61	1,040	--	--	--	--	--	--	--
12/28/2001	--		55.43	23.50	31.50	26.91	28.52	3,200	190	2/4/1900	140	1.9/3.2/2.0	--	--	--
11/27/2002	P		55.43	23.50	31.50	29.15	26.28	110	--	--	--	--	--	1.4	6.4
7/22/2003	P		55.43	23.50	31.50	27.43	28.00	160	<1.0	<1.0	<1.0	<1.0	110	1.5	6.6

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Station #276, 10600 MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
MW-5 Cont.															
11/07/2003	P		55.43	23.50	31.50	29.99	25.44	<250	<2.5	<2.5	<2.5	<2.5	120	0.6	6.2
02/03/2004	P		55.43	23.50	31.50	26.55	28.88	85	<2.5	<2.5	<2.5	<2.5	71	1.7	6.7
05/04/2004	P	g	60.73	23.50	31.50	26.47	34.26	<250	<2.5	<2.5	<2.5	<2.5	150	0.9	6.2
08/12/2004	P		60.73	23.50	31.50	29.49	31.24	<250	<2.5	<2.5	<2.5	<2.5	140	1.8	6.3
11/10/2004	P		60.73	23.50	31.50	30.15	30.58	170	<1.0	<1.0	<1.0	<1.0	150	1.0	6.3
02/03/2005	P		60.73	23.50	31.50	25.85	34.88	100	<0.50	<0.50	<0.50	<0.50	16	1.65	6.5
05/09/2005	P		60.73	23.50	31.50	22.85	37.88	340	<2.5	<2.5	<2.5	<2.5	140	0.87	6.3
08/11/2005	P		60.73	23.50	31.50	26.05	34.68	<250	<2.5	<2.5	<2.5	<2.5	160	1.6	6.3
11/18/2005	P		60.73	23.50	31.50	29.07	31.66	<250	<2.5	<2.5	<2.5	<2.5	120	1.98	6.3
02/01/2006	P	i	60.73	23.50	31.50	23.70	37.03	520	<1.2	<1.2	<1.2	<1.2	100	0.4	6.4
5/30/2006	P		60.73	23.50	31.50	21.03	39.70	220	<2.5	<2.5	<2.5	<2.5	230	1.32	6.3
8/11/2006	P	Water Levels 8/10	60.73	23.50	31.50	24.77	35.96	150	<2.5	<2.5	<2.5	<2.5	170	0.68	6.1
11/2/2006	P		60.73	23.50	31.50	27.65	33.08	100	<1.0	<1.0	<1.0	<1.0	160	1.43	6.32
2/6/2007	NP	i	60.73	23.50	31.50	28.00	32.73	150	<1.0	<1.0	<1.0	<1.0	120	1.19	7.33
5/8/2007	NP	i	60.73	23.50	31.50	27.12	33.61	130	<1.0	<1.0	<1.0	<1.0	180	0.82	6.42
8/14/2007	NP	i	60.73	23.50	31.50	29.62	31.11	110	<0.50	<0.50	<0.50	<0.50	150	1.32	6.97
11/13/2007	NP		60.73	23.50	31.50	30.77	29.96	950	<0.50	<0.50	<0.50	<0.50	130	1.33	6.50
2/29/2008	NP	l	60.73	23.50	31.50	25.86	34.87	110	<0.50	<0.50	<0.50	<0.50	120	1.04	7.21
5/17/2008	NP		60.73	23.50	31.50	28.40	32.33	<50	<1.0	<1.0	<1.0	<1.0	190	0.85	6.07
8/12/2008	NP		60.73	23.50	31.50	30.44	30.29	<50	<2.5	<2.5	<2.5	<2.5	140	1.04	9.42
10/21/2008	NP		60.73	23.50	31.50	31.73	29.00	<50	<2.5	<2.5	<2.5	<2.5	170	2.90	6.99
1/20/2009	NP		60.73	23.50	31.50	31.39	29.34	69	<5.0	<5.0	<5.0	<5.0	130	1.08	6.57
4/21/2009	NP		60.73	23.50	31.50	27.48	33.25	190	<2.5	<2.5	<2.5	<2.5	130	1.12	6.62
7/21/2009	NP		60.73	23.50	31.50	29.99	30.74	<50	<2.0	<2.0	<2.0	<2.0	140	2.14	6.58
MW-6															
12/17/2000	--		61.21	37.50	56.00	34.61	26.60	--	--	--	--	--	--	--	--
12/28/2001	--		61.21	37.50	56.00	32.80	28.41	--	--	--	--	--	--	--	--
11/27/2002	--		61.21	37.50	56.00	35.00	26.21	--	--	--	--	--	--	--	--
7/22/2003	--		61.21	37.50	56.00	33.17	28.04	--	--	--	--	--	--	--	--
11/07/2003	P	d, e	61.21	37.50	56.00	35.70	25.51	<500	<5.0	<5.0	<5.0	<5.0	<5.0	2.7	6.9

Table 2. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #276, 10600 MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Water Level Elevation (feet)	Concentrations in (µg/L)					DO (mg/L)	pH	
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes			MTBE
MW-6 Cont.															
02/03/2004	P		61.21	37.50	56.00	32.17	29.04	84	<2.5	<2.5	<2.5	<2.5	<2.5	1.9	7.0
05/04/2004	P	g	66.65	37.50	56.00	32.07	34.58	<250	<2.5	<2.5	<2.5	<2.5	<2.5	2.0	6.7
08/12/2004	P		66.65	37.50	56.00	34.90	31.75	660	<0.50	<0.50	<0.50	<0.50	0.81	1.4	6.9
11/10/2004	P		66.65	37.50	56.00	35.70	30.95	640	<0.50	<0.50	<0.50	<0.50	0.89	2.6	6.8
02/03/2005	P	i	66.65	37.50	56.00	31.48	35.17	77	<0.50	<0.50	<0.50	<0.50	<0.50	1.73	7.0
05/09/2005	--		66.65	37.50	56.00	28.37	38.28	--	--	--	--	--	--	--	--
08/11/2005	P		66.65	37.50	56.00	31.40	35.25	630	<0.50	<0.50	<0.50	<0.50	0.77	1.9	6.3
11/18/2005	--		66.65	37.50	56.00	34.50	32.15	--	--	--	--	--	--	--	--
02/01/2006	P	i	66.65	37.50	56.00	29.40	37.25	760	<5.0	<5.0	<5.0	<5.0	<5.0	2.1	6.9
5/30/2006	--		66.65	37.50	56.00	26.51	40.14	--	--	--	--	--	--	--	--
8/11/2006	P	Water Level N/A	66.65	37.50	56.00	30.10	36.55	790	<5.0	<5.0	<5.0	<5.0	<5.0	1.32	6.7
11/2/2006	--		66.65	37.50	56.00	33.12	33.53	--	--	--	--	--	--	--	--
2/6/2007	P	i	66.65	37.50	56.00	33.53	33.12	510	<0.50	<0.50	<0.50	<0.50	0.80	0.68	6.34
5/8/2007	--		66.65	37.50	56.00	32.65	34.00	--	--	--	--	--	--	--	--
8/14/2007	P	i	66.65	37.50	56.00	35.10	31.55	510	<0.50	<0.50	<0.50	<0.50	0.91	1.60	7.10
11/13/2007	--		66.65	37.50	56.00	36.31	30.34	--	--	--	--	--	--	--	--
2/29/2008	P	i	66.65	37.50	56.00	31.50	35.15	72	<0.50	<0.50	<0.50	<0.50	<0.50	4.41	7.77
5/17/2008	--		66.65	37.50	56.00	33.88	32.77	--	--	--	--	--	--	--	--
8/12/2008	P		66.65	37.50	56.00	35.91	30.74	250	<2.5	<2.5	<2.5	<2.5	<2.5	0.79	9.17
10/21/2008	--		66.65	37.50	56.00	37.22	29.43	--	--	--	--	--	--	--	--
1/20/2009	P	n	66.65	37.50	56.00	37.02	29.63	240	<2.5	<2.5	<2.5	<2.5	<2.5	0.75	6.99
4/21/2009	--		66.65	37.50	56.00	33.10	33.55	--	--	--	--	--	--	--	--
7/21/2009	P	n, o	66.65	37.50	56.00	35.45	31.20	180	<10	<10	<10	<10	<10	3.20	6.60
MW-7															
12/17/2000	--		58.22	17.50	37.5	19.94	38.28	--	--	--	--	--	--	--	--
12/28/2001	--		58.22	17.50	37.5	17.29	40.93	--	--	--	--	--	--	--	--
11/27/2002	--		58.22	17.50	37.5	21.30	36.92	--	--	--	--	--	--	--	--
7/22/2003	--		58.22	17.50	37.5	21.36	36.86	--	--	--	--	--	--	--	--
11/07/2003	P	d	58.22	17.50	37.5	23.76	34.46	3,200	15	<2.5	150	11	53	2.2	6.8
02/03/2004	P		58.22	17.50	37.5	17.74	40.48	53	<0.50	<0.50	<0.50	0.54	32	1.9	6.4

Table 2. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #276, 10600 MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Water Level Elevation (feet)	Concentrations in (µg/L)					DO (mg/L)	pH	
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes			MTBE
MW-7 Cont.															
02/03/2005	P		63.54	17.50	37.5	18.13	45.41	61	<0.50	<0.50	<0.50	<0.50	14	3.39	6.5
05/09/2005	--		63.54	17.50	37.5	18.39	45.15	--	--	--	--	--	--	--	--
08/11/2005	P		63.54	17.50	37.5	21.47	42.07	1,500	1.8	<1.0	4.2	1.2	21	2.0	6.3
11/18/2005	--		63.54	17.50	37.5	22.41	41.13	--	--	--	--	--	--	--	--
02/01/2006	P		63.54	17.50	37.5	16.65	46.89	<50	<0.50	<0.50	<0.50	<0.50	1.8	1.3	6.3
5/30/2006	--		63.54	17.50	37.50	19.22	44.32	--	--	--	--	--	--	--	--
8/11/2006	P	Water Levels 9/10	63.54	17.50	37.50	21.28	42.26	1,800	1.3	0.55	5.0	1.4	41	1.22	6.4
11/2/2006	--		63.54	17.50	37.50	22.61	40.93	--	--	--	--	--	--	--	--
2/6/2007	NP		63.54	17.50	37.50	19.79	43.75	530	<0.50	<0.50	<0.50	<0.50	8.4	0.93	7.23
5/8/2007	--		63.54	17.50	37.50	19.62	43.92	--	--	--	--	--	--	--	--
8/14/2007	NP		63.54	17.50	37.50	22.72	40.82	1,900	1.2	<0.50	2.7	1.3	9.8	0.94	7.5
11/13/2007	--		63.54	17.50	37.50	20.92	42.62	--	--	--	--	--	--	--	--
2/29/2008	P	j	63.54	17.50	37.50	17.40	46.14	64	<0.50	<0.50	<0.50	<0.50	1.5	1.23	7.35
5/17/2008	--		63.54	17.50	37.50	21.10	42.44	--	--	--	--	--	--	--	--
8/12/2008	NP		63.54	17.50	37.50	21.67	41.87	2,300	3.3	0.82	1.3	2.2	7.0	0.63	9.60
10/21/2008	--		63.54	17.50	37.50	24.14	39.40	--	--	--	--	--	--	--	--
1/20/2009	NP		63.54	17.50	37.50	20.81	42.73	4,700	3.5	0.81	11	3.2	<0.50	0.69	6.67
4/21/2009	--		63.54	17.50	37.50	19.26	44.28	--	--	--	--	--	--	--	--
7/21/2009	NP		63.54	17.50	37.50	21.25	42.29	1,400	0.73	0.51	<0.50	0.83	2.2	2.71	6.82
MW-8															
12/17/2000	--		53.65	29.00	49.00	27.02	26.63	--	--	--	--	--	--	--	--
12/28/2001	--		53.65	29.00	49.00	24.99	28.66	--	--	--	--	--	--	--	--
11/27/2002	--		53.65	29.00	49.00	27.45	26.20	--	--	--	--	--	--	--	--
7/22/2003	--		53.65	29.00	49.00	25.74	27.91	--	--	--	--	--	--	--	--
11/07/2003	P		53.65	29.00	49.00	28.27	25.38	<500	<5.0	<5.0	<5.0	<5.0	440	2.6	6.5
02/03/2004	P	f	53.65	29.00	49.00	24.80	28.85	170	<12	<12	<12	<12	470	3.0	6.7
05/04/2004	P	g	58.96	29.00	49.00	24.81	34.15	<1,000	<10	<10	<10	<10	700	3.8	6.4
08/12/2004	P		58.96	29.00	49.00	27.72	31.24	<2,500	<25	<25	<25	<25	400	3.4	6.5
11/10/2004	P		58.96	29.00	49.00	28.41	30.55	<500	<5.0	<5.0	<5.0	<5.0	480	3.4	6.3
02/03/2005	P		58.96	29.00	49.00	24.01	34.95	<50	<0.50	<0.50	<0.50	<0.50	45	1.43	6.4

Table 2. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses
Station #276, 10600 MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
MW-8 Cont.															
05/09/2005	P	i	58.96	29.00	49.00	21.07	37.89	640	<5.0	<5.0	<5.0	<5.0	440	1.06	6.4
08/11/2005	P		58.96	29.00	49.00	24.32	34.64	<500	<5.0	<5.0	<5.0	<5.0	420	5.0	6.1
11/18/2005	P		58.96	29.00	49.00	27.35	31.61	<500	<5.0	<5.0	<5.0	<5.0	390	3.51	6.4
02/01/2006	P	i	58.96	29.00	49.00	22.00	36.96	520	<5.0	<5.0	<5.0	<5.0	600	0.5	6.3
5/30/2006	P		58.96	29.00	49.00	19.25	39.71	310	<5.0	<5.0	<5.0	<5.0	480	1.35	6.3
8/11/2006	P	Water Levels 8/10	58.96	29.00	49.00	22.95	36.01	320	<0.50	<0.50	<0.50	<0.50	630	0.65	6.2
11/2/2006	P		58.96	29.00	49.00	25.98	32.98	370	<2.5	<2.5	<2.5	<2.5	660	1.46	6.61
2/6/2007	P	i	58.96	29.00	49.00	26.27	32.69	66	<0.50	<0.50	<0.50	<0.50	60	0.65	6.64
5/8/2007	P	1,4-DIBP	58.96	29.00	49.00	25.35	33.61	440	<0.50	<0.50	<0.50	<0.50	490	1.35	6.60
8/14/2007	P		58.96	29.00	49.00	27.92	31.04	250	<0.50	<0.50	<0.50	<0.50	510	2.80	6.88
11/13/2007	P		58.96	29.00	49.00	29.05	29.91	290	<2.5	<2.5	<2.5	<2.5	400	3.14	6.38
2/29/2008	P		58.96	29.00	49.00	24.03	34.93	<50	<0.50	<0.50	<0.50	<0.50	300	1.54	7.21
5/17/2008	--	m	58.96	29.00	49.00	--	--	--	--	--	--	--	--	--	--
8/12/2008	P		58.96	29.00	49.00	28.70	30.26	55	<2.5	<2.5	<2.5	<2.5	310	1.37	8.92
10/21/2008	P		58.96	29.00	49.00	29.95	29.01	150	<5.0	5.3	<5.0	22	260	1.26	7.05
1/20/2009	NP		58.96	29.00	49.00	29.52	29.44	<50	<0.50	<0.50	<0.50	<0.50	35	1.27	6.84
4/21/2009	P		58.96	29.00	49.00	25.58	33.38	<50	<1.0	<1.0	<1.0	<1.0	48	1.17	6.70
7/21/2009	P		58.96	29.00	49.00	28.17	30.79	<50	<0.50	<0.50	<0.50	<0.50	130	2.86	6.62
RW-1															
12/17/2000	--		56.32	36.00	51.00	29.57	26.75	--	--	--	--	--	--	--	--
12/28/2001	--		56.32	36.00	51.00	27.64	28.68	--	--	--	--	--	--	--	--
11/27/2002	--		56.32	36.00	51.00	29.93	26.39	--	--	--	--	--	--	--	--
7/22/2003	--		56.32	36.00	51.00	28.09	28.23	--	--	--	--	--	--	--	--
11/07/2003	P		56.32	36.00	51.00	30.64	25.68	<50	<0.50	<0.50	<0.50	<0.50	<0.50	3.1	7.0
02/03/2004	P		56.32	36.00	51.00	27.28	29.04	<50	<0.50	<0.50	<0.50	<0.50	<0.50	6.7	7.1
05/04/2004	P	g	61.65	36.00	51.00	27.16	34.49	<50	<0.50	<0.50	<0.50	<0.50	<0.50	4.4	6.8
08/12/2004	P		61.65	36.00	51.00	30.10	31.55	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.2	7.1
11/10/2004	P		61.65	36.00	51.00	30.79	30.86	<100	<0.50	<0.50	<0.50	<0.50	<0.50	5.7	6.9
02/03/2005	P		61.65	36.00	51.00	26.61	35.04	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.57	7.1
05/09/2005	--		61.65	36.00	51.00	23.51	38.14	--	--	--	--	--	--	--	--

Table 2. Summary of Ground-Water Monitoring Data: Relative Water Elevations and Laboratory Analyses

Station #276, 10600 MacArthur Blvd., Oakland, CA

Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Water Level Elevation (feet)	Concentrations in (µg/L)						DO (mg/L)	pH
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE		
RW-1 Cont.															
08/11/2005	--		61.65	36.00	51.00	26.60	35.05	--	--	--	--	--	--	--	--
11/18/2005	--		61.65	36.00	51.00	29.65	32.00	--	--	--	--	--	--	--	--
02/01/2006	P		61.65	36.00	51.00	24.65	37.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.5	7.0
5/30/2006	--		61.65	36.00	51.00	21.69	39.96	--	--	--	--	--	--	--	--
8/10/2006	--		61.65	36.00	51.00	25.31	36.34	--	--	--	--	--	--	--	--
11/2/2006	--		61.65	36.00	51.00	28.28	33.37	--	--	--	--	--	--	--	--
2/6/2007	NP		61.65	36.00	51.00	28.63	33.02	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.21	6.92
5/8/2007	--		61.65	36.00	51.00	27.77	33.88	--	--	--	--	--	--	--	--
8/14/2007	--		61.65	36.00	51.00	30.23	31.42	--	--	--	--	--	--	--	--
11/13/2007	--		61.65	36.00	51.00	31.41	30.24	--	--	--	--	--	--	--	--
2/29/2008	NP		61.65	36.00	51.00	26.65	35.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	6.16	9.94
5/17/2008	--	m	61.65	36.00	51.00	--	--	--	--	--	--	--	--	--	--
8/12/2008	--		61.65	36.00	51.00	31.05	30.60	--	--	--	--	--	--	--	--
10/21/2008	--		61.65	36.00	51.00	32.35	29.30	--	--	--	--	--	--	--	--
1/20/2009	NP		61.65	36.00	51.00	32.10	29.55	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.16	7.02
4/21/2009	--		61.65	36.00	51.00	28.25	33.40	--	--	--	--	--	--	--	--
7/21/2009	--		61.65	36.00	51.00	30.60	31.05	--	--	--	--	--	--	--	--
WGR-3															
12/17/2000	--		--	--	--	19.21	--	--	--	--	--	--	--	--	--
12/28/2001	--	h	--	--	--	--	--	--	--	--	--	--	--	--	--
11/27/2003	--		--	--	--	20.60	--	--	--	--	--	--	--	--	--
7/22/2003	--		--	--	--	20.77	--	--	--	--	--	--	--	--	--
05/04/2004	P	g	63.27	--	--	19.53	43.74	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.1	1.8 6.5
08/12/2004	P		63.27	--	--	22.20	41.07	<50	<0.50	<0.50	<0.50	<0.50	<0.50	35	2.0 --
11/10/2004	P		63.27	--	--	19.98	43.29	<50	<0.50	<0.50	<0.50	<0.50	<0.50	5.6	0.3 6.3
02/03/2005	P		63.27	--	--	16.91	46.36	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.1	2.04 6.5
05/09/2005	--		63.27	--	--	17.29	45.98	--	--	--	--	--	--	--	--
08/11/2005	--		63.27	--	--	20.88	42.39	--	--	--	--	--	--	--	--
11/18/2005	--		63.27	--	--	22.15	41.12	--	--	--	--	--	--	--	--
02/01/2006	P		63.27	--	--	14.90	48.37	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.3	2.0 6.5

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Well and Sample Date	P/NP	Comments	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet bgs)	Water Level Elevation (feet)	Concentrations in (µg/L)					DO (mg/L)	pH	
								GRO/TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes			MTBE
WGR-3 Cont.															
5/30/2006	--		63.27	--	--	18.39	44.88	--	--	--	--	--	--	--	--
8/10/2006	--		63.27	--	--	20.63	42.64	--	--	--	--	--	--	--	--
11/2/2006	--		63.27	--	--	20.32	42.95	--	--	--	--	--	--	--	--
2/6/2007	P		63.27	--	--	18.52	44.75	<50	<0.50	<0.50	<0.50	<0.50	4.4	0.89	6.87
5/8/2007	--		63.27	--	--	18.41	44.86	--	--	--	--	--	--	--	--
8/14/2007	--		63.27	--	--	22.38	40.89	--	--	--	--	--	--	--	--
11/13/2007	--		63.27	--	--	19.95	43.32	--	--	--	--	--	--	--	--
2/29/2008	P		63.27	--	--	15.91	47.36	<50	<0.50	<0.50	<0.50	<0.50	1.4	1.03	7.35
5/17/2008	--		63.27	--	--	20.22	43.05	--	--	--	--	--	--	--	--
8/12/2008	--		63.27	--	--	21.05	42.22	--	--	--	--	--	--	--	--
10/21/2008	--		63.27	--	--	23.72	39.55	--	--	--	--	--	--	--	--
1/20/2009	P		63.27	--	--	19.90	43.37	<50	<0.50	<0.50	<0.50	<0.50	1.2	1.09	6.79
4/21/2009	--		63.27	--	--	18.16	45.11	--	--	--	--	--	--	--	--
7/21/2009	--		63.27	--	--	19.38	43.89	--	--	--	--	--	--	--	--

SYMBOLS & ABBREVIATIONS:

-- = Not analyzed/applicable/measured/available
< = Not detected at or above laboratory reporting limit
BTEX = Benzene, toluene, ethylbenzene and xylenes
DO = Dissolved oxygen
DTW = Depth to water in ft bgs
ft bgs = Feet below ground surface
GRO = Gasoline range organics
GWE = Groundwater elevation measured in ft
mg/L = Milligrams per liter
MTBE = Methyl tert butyl ether
NP = Not purged prior to sampling
P = Purged prior to sampling
TOC = Top of casing measured in ft
TPH-g = Total petroleum hydrocarbons as gasoline
µg/L = Micrograms per liter

FOOTNOTES:

a = 1,1 DCE; this footnote is no longer applicable.
b = 1,2 DCA; this footnote is no longer applicable.
c = Chlorobenzene; this footnote is no longer applicable.
d = Sample was originally analyzed within the EPA recommended hold time. Re-analysis for confirmation or dilution was performed past the recommended hold time. Results may still be used for intended purpose.
e = The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.
f = Discrete peak @ C5 for GRO/TPH-g.
g = Site was re-surveyed to NAVD' 88 on January 26, 2004.
h = Well was dry.
i = Hydrocarbon result for GRO partly due to individual peak(s) in quantitative range.
j = Initial analysis within holding time but required dilution.
k = TOC recorded incorrectly (61.86 instead of 61.89).
l = The hydrocarbon pattern for GRO in the sample does not match that of the gasoline standard used to calculate results. The values reported for these samples are in part due to the PCE peak that falls within the GRO (C6-C12) window.
m = Well inaccessible.
n = Quantitation of unknown hydrocarbon(s) in sample based on gasoline.
o = The reporting limits are elevated due to high levels of non-target compounds.

NOTES:

Beginning in the fourth quarter 2003, the laboratory modified the reported analyte list. TPH-g was changed to GRO. The resulting data may be impacted by the potential of non-TPH-g analytes within the requested fuel range resulting in a higher concentration being reported.

Beginning in the second quarter 2004, the carbon range for GRO was changed from C6-C10 to C4-C12.

Groundwater samples were analyzed by EPA method 8015B for GRO and EPA method 8260B for BTEX, fuel oxygenates, ethanol, and PCE.

Values for pH and DO levels are field measurements.

GRO analysis was completed by EPA method 8260B (C4-C12) for samples collected from the time period April 2006 through February 4, 2008. The analysis for GRO was changed to EPA method 8015B (C6-C12) for samples collected from the time period February 5, 2008 through the present.

Note: The data within this table collected prior to April 2006 was provided to Broadbent & Associates, Inc. by Atlantic Richfield Company and their previous consultants. Broadbent & Associates, Inc. has not verified the accuracy of this information.

**Table 3. Summary of Fuel Additives Analytical Data
Station #276, 10600 MacArthur Blvd., Oakland, CA**

Well and Sample Date	Concentrations in (µg/L)														Footnotes
	Ethanol	TBA	MtBE	DIPE	EtBE	TAME	1,2-DCA	EDB	trans-1,2	cis-1,2	VOC	Oxygen	PCE	TCE	
MW-1															
12/17/2000	--	--	--	--	--	--	--	--	--	--	--	--	5.09	--	
12/28/2001	--	--	--	--	--	--	--	--	--	--	--	--	8.8	--	
11/27/2002	--	--	--	--	--	--	--	--	--	--	--	--	4.2	--	
7/22/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	6.0	--	
11/07/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--	3.0	--	
02/03/2004	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
05/04/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	34	--	
08/12/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	4.5	--	
11/10/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	4.9	--	
02/03/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	e
05/09/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
08/11/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
11/18/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
02/01/2006	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	38	--	e
5/30/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	g
8/11/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	g
11/2/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	g
2/6/2007	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--	
2/29/2008	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	39	--	
1/20/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	4.8	--	
MW-2															
11/07/2003	<1,000	<200	110	<5.0	<5.0	28	--	--	--	--	--	--	<5.0	--	
02/03/2004	<500	<100	55	<5.0	<5.0	16	<2.5	<2.5	--	--	--	--	<2.5	--	
05/04/2004	<500	<100	70	<2.5	<2.5	15	<2.5	<2.5	--	--	--	--	<2.5	--	
08/12/2004	<500	<100	49	<2.5	<2.5	14	<2.5	<2.5	--	--	--	--	<0.50	--	
11/10/2004	<200	<40	90	<1.0	<1.0	19	<1.0	<1.0	--	--	--	--	<1.0	--	
02/03/2005	<100	<20	37	<0.50	<0.50	13	<0.50	<0.50	--	--	--	--	<0.50	--	e
05/09/2005	<100	<20	56	<0.50	<0.50	17	<0.50	<0.50	--	--	--	--	<0.50	--	e
08/11/2005	<100	<20	50	<0.50	<0.50	8.5	<0.50	<0.50	--	--	--	--	<0.50	--	
11/18/2005	<100	<20	49	<0.50	<0.50	11	<0.50	<0.50	--	--	--	--	<0.50	--	f
02/01/2006	<300	<20	3.1	<0.50	<0.50	0.52	<0.50	<0.50	--	--	--	--	<0.50	--	e

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Station #276, 10600 MacArthur Blvd., Oakland, CA**

Well and Sample Date	Concentrations in (µg/L)														Footnotes
	Ethanol	TBA	MtBE	DIPE	EtBE	TAME	1,2-DCA	EDB	trans-1,2	cis-1,2	VOC	Oxygen	PCE	TCE	
MW-2 Cont.															
5/30/2006	<300	<20	64	<0.50	<0.50	12	<0.50	<0.50	--	--	--	--	<0.50	--	
8/11/2006	<300	<20	28	<0.50	<0.50	5.9	<0.50	<0.50	--	--	--	--	<0.50	--	
11/2/2006	<300	<20	40	<0.50	<0.50	7.9	<0.50	<0.50	--	--	--	--	<0.50	--	
2/6/2007	<300	<20	39	<0.50	<0.50	9.2	<0.50	<0.50	--	--	--	--	--	--	
5/8/2007	<300	<20	25	<0.50	<0.50	5.4	<0.50	<0.50	--	--	--	--	<0.50	--	
8/14/2007	<300	<20	19	<0.50	<0.50	3.4	<0.50	<0.50	--	--	--	--	<0.50	--	
11/13/2007	<300	<20	27	<0.50	<0.50	5.1	<0.50	<0.50	--	--	--	--	<0.50	--	
2/29/2008	<300	<10	6.1	<0.50	<0.50	1.2	<0.50	<0.50	--	--	--	--	<0.50	--	
5/7/2008	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
8/12/2008	<300	<10	14	<0.50	<0.50	2.6	<0.50	<0.50	--	--	--	--	<0.50	--	
10/21/2008	<300	11	16	<0.50	<0.50	3.8	<0.50	<0.50	--	--	--	--	<0.50	--	
1/20/2009	<300	14	6.8	<0.50	<0.50	1.6	<0.50	<0.50	--	--	--	--	<0.50	--	
4/21/2009	<300	11	5.5	<0.50	<0.50	1.5	<0.50	<0.50	--	--	--	--	<0.50	--	
7/21/2009	<300	12	12	<0.50	<0.50	2.6	<0.50	<0.50	--	--	--	--	<0.50	--	
MW-3															
12/17/2000	--	--	--	--	--	--	--	--	--	--	--	--	158	--	
12/28/2001	--	--	--	--	--	--	--	--	1.5	13	--	--	310	20	
11/27/2002	--	--	--	--	--	--	--	--	--	--	--	--	110	--	
7/22/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	80	--	
11/07/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--	80	--	
02/03/2004	<100	<20	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	--	--	--	--	110	--	
05/04/2004	<200	<40	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	110	--	
08/12/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	61	--	
11/10/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	99	--	
02/03/2005	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	160	e	
05/09/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
08/11/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
11/18/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
02/01/2006	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	110	e	
5/30/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	g	
8/11/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	g	

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Station #276, 10600 MacArthur Blvd., Oakland, CA

Well and Sample Date	Concentrations in (µg/L)														Footnotes
	Ethanol	TBA	MtBE	DIPE	EtBE	TAME	1,2-DCA	EDB	trans-1,2	cis-1,2	VOC	Oxygen	PCE	TCE	
MW-3 Cont.															
11/2/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	g
2/6/2007	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--	
2/29/2008	<300	<10	0.54	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	160	--	
1/20/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	39	--	
MW-4															
12/17/2000	--	--	--	--	--	--	--	--	--	--	--	--	225	--	
12/28/2001	--	--	--	--	--	--	--	--	--	--	--	--	160	1.2	
11/27/2002	--	--	--	--	--	--	--	--	--	--	--	--	95	--	
7/22/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	94	--	
11/07/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--	68	--	
02/03/2004	<100	<20	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	--	--	--	--	83	--	
05/04/2004	<200	<40	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	--	--	--	81	--	
08/12/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	59	--	
11/10/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	78	--	
02/03/2005	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	61	--	e
05/09/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
08/11/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
11/18/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
02/01/2006	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	320	--	e
5/30/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	g
8/11/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	g
11/2/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	g
2/6/2007	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--	
2/29/2008	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	170	--	
1/20/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	22	--	
MW-5															
12/17/2000	--	--	--	--	--	--	--	--	--	--	--	--	1,040	--	
12/28/2001	--	--	--	--	--	--	--	--	36	140	1.9, 3.2, 2.0	--	3,200	190	a,b,c
11/27/2002	--	--	--	--	--	--	--	--	--	--	--	--	110	--	
7/22/2003	<200	<40	110	1.4	<1.0	3.2	12	<1.0	--	--	--	--	55	--	

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	Ethanol	TBA	MtBE	DIPE	EtBE	TAME	1,2-DCA	EDB	trans-1,2	cis-1,2	VOC	Oxygen	PCE	TCE		
MW-5 Cont.																
11/07/2003	<500	<100	120	<2.5	<2.5	6.6	--	--	--	--	--	--	42	--		
02/03/2004	<500	<100	71	<5.0	<5.0	<5.0	12	<2.5	--	--	--	--	130	--		
05/04/2004	<500	<100	150	<2.5	<2.5	5.9	8.8	<2.5	--	--	--	--	36	--		
08/12/2004	<500	<100	140	<2.5	<2.5	10	10	<2.5	--	--	--	--	37	--		
11/10/2004	<200	<40	150	1.1	<1.0	9.5	9.8	<1.0	--	--	--	--	50	--		
02/03/2005	<100	<20	16	<0.50	<0.50	0.54	2.7	<0.50	--	--	--	--	480	--	e	
05/09/2005	<500	<100	140	<2.5	<2.5	9.2	10	<2.5	--	--	--	--	78	--	e	
08/11/2005	<500	<100	160	<2.5	<2.5	10	9.6	<2.5	--	--	--	--	27	--		
11/18/2005	<500	<100	120	<2.5	<2.5	9.2	10	<2.5	--	--	--	--	19	--	f	
02/01/2006	<750	<50	100	<1.2	<1.2	5.1	7.4	<1.2	--	--	--	--	470	--	e	
5/30/2006	<1,500	<100	230	<2.5	<2.5	11	11	<2.5	--	--	--	--	48	--		
8/11/2006	<1,500	<100	170	<2.5	<2.5	14	9.2	<2.5	--	--	--	--	24	--		
11/2/2006	<600	<40	160	<1.0	<1.0	12	7.8	<1.0	--	--	--	--	9.8	--		
2/6/2007	<600	<40	120	<1.0	<1.0	13	4.6	<1.0	--	--	--	--	--	--		
5/8/2007	<600	<40	180	<1.0	<1.0	16	8.6	<1.0	--	--	--	--	9.0	--		
8/14/2007	<300	<20	150	0.73	<0.50	14	5.4	<0.50	--	--	--	--	5.6	--		
11/13/2007	<300	<20	110	0.60	<0.50	12	5.2	<0.50	--	--	--	--	1,500	--		
2/29/2008	<300	<10	120	0.59	<0.50	10	5.0	<0.50	--	--	--	--	180	--		
5/17/2008	<600	<20	190	<1.0	<1.0	15	7.0	<1.0	--	--	--	--	23	--		
8/12/2008	<1,500	<50	140	<2.5	<2.5	13	5.0	<2.5	--	--	--	--	9.0	--		
10/21/2008	<1,500	<50	170	<2.5	<2.5	21	4.0	<2.5	--	--	--	--	6.6	--		
1/20/2009	<3,000	<100	130	<5.0	<5.0	19	<5.0	<5.0	--	--	--	--	6.8	--		
4/21/2009	<1,500	<50	130	<2.5	<2.5	14	5.4	<2.5	--	--	--	--	300	--		
7/21/2009	<1,200	<40	140	<2.0	<2.0	19	5.9	<2.0	--	--	--	--	36	--		
MW-6																
11/07/2003	<1,000	<200	<5.0	<5.0	<5.0	<5.0	--	--	--	--	--	--	560	--		
02/03/2004	<500	<100	<2.5	<5.0	<5.0	<5.0	<2.5	<2.5	--	--	--	--	220	--		
05/04/2004	<500	<100	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	--	--	--	--	210	--		
08/12/2004	<100	<20	0.81	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	750	--		
11/10/2004	<100	<20	0.89	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	530	--		
02/03/2005	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	85	--	e	

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	Ethanol	TBA	MtBE	DIPE	EtBE	TAME	1,2-DCA	EDB	trans-1,2	cis-1,2	VOC	Oxygen	PCE	TCE	
MW-6 Cont.															
05/09/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
08/11/2005	<100	<20	0.77	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	610	--	
11/18/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
02/01/2006	<3,000	<200	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	--	--	--	--	690	--	e
8/11/2006	<3,000	<200	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	--	--	--	--	880	--	
2/6/2007	<300	<20	0.80	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--	
8/14/2007	<300	<20	0.91	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	640	--	
2/29/2008	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	120	--	
8/12/2008	<1,500	<50	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	--	--	--	--	520	--	
1/20/2009	<1,500	<50	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	--	--	--	--	600	--	
7/21/2009	<6,000	<200	<10	<10	<10	<10	<10	<10	--	--	--	--	410	--	
MW-7															
11/07/2003	<500	<100	53	<2.5	<2.5	13	--	--	--	--	--	--	<2.5	--	
02/03/2004	<100	<20	32	<1.0	<1.0	7.4	<0.50	<0.50	--	--	--	--	0.74	--	
02/03/2005	<100	<20	14	<0.50	<0.50	3.9	<0.50	<0.50	--	--	--	--	1.6	--	d
05/09/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
08/11/2005	<200	<40	21	<1.0	<1.0	4.7	<1.0	<1.0	--	--	--	--	1.0	--	e
11/18/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
02/01/2006	<300	<20	1.8	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	0.71	--	e
8/11/2006	<300	<20	41	<0.50	<0.50	9.0	<0.50	<0.50	--	--	--	--	<0.50	--	
2/6/2007	<300	<20	8.4	<0.50	<0.50	2.2	<0.50	<0.50	--	--	--	--	<0.50	--	
8/14/2007	<300	<20	9.8	<0.50	<0.50	1.8	<0.50	<0.50	--	--	--	--	<0.50	--	
2/29/2008	<300	<10	1.5	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<0.50	--	
8/12/2008	<300	<10	7.0	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<0.50	--	
1/20/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<0.50	--	
7/21/2009	<300	<10	2.2	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<0.50	--	
MW-8															
11/07/2003	<1,000	<200	440	<5.0	<5.0	18	--	--	--	--	--	--	<5.0	--	
02/03/2004	<2,500	<500	470	<25	<25	<25	<12	<12	--	--	--	--	<12	--	
05/04/2004	<2,000	<400	700	<10	<10	21	<10	<10	--	--	--	--	12	--	

**Table 3. Summary of Fuel Additives Analytical Data
Station #276, 10600 MacArthur Blvd., Oakland, CA**

Well and Sample Date	Concentrations in (µg/L)														Footnotes
	Ethanol	TBA	MtBE	DIPE	EtBE	TAME	1,2-DCA	EDB	trans-1,2	cis-1,2	VOC	Oxygen	PCE	TCE	
MW-8 Cont.															
08/12/2004	<3,000	<1,000	400	<25	<25	<25	<25	<25	--	--			1.1	--	
11/10/2004	<1,000	<200	480	<5.0	<5.0	21	<5.0	<5.0	--	--			8.9	--	
02/03/2005	<100	<20	45	<0.50	<0.50	1.9	<0.50	<0.50	--	--			0.59	--	e
05/09/2005	<1,000	<200	440	<5.0	<5.0	21	<5.0	<5.0	--	--			<5.0	--	e
08/11/2005	<1,000	<200	420	<5.0	<5.0	24	<5.0	<5.0	--	--			<0.50	--	e
11/18/2005	<1,000	<200	390	<5.0	<5.0	23	<5.0	<5.0	--	--			4.2	--	f
02/01/2006	<3,000	<200	600	<5.0	<5.0	21	<5.0	<5.0	--	--			<0.50	--	e
5/30/2006	<3,000	<200	480	<5.0	<5.0	25	<5.0	<5.0	--	--	--	--	<5.0	--	
8/11/2006	<300	<20	630	<0.50	<0.50	37	1.2	<0.50	--	--	--	--	<0.50	--	
11/2/2006	<1,500	<100	660	<2.5	<2.5	43	<2.5	<2.5	--	--	--	--	<2.5	--	
2/6/2007	<300	<20	60	<0.50	<0.50	4.8	<0.50	<0.50	--	--	--	--	0.72	--	
5/8/2007	<300	<20	490	<0.50	<0.50	35	1.9	<0.50	--	--	--	--	9.0	--	h (MTBE)
8/14/2007	<300	<20	510	<0.50	<0.50	39	1.5	<0.50	--	--	--	--	12	--	
11/13/2007	<1,500	<100	400	<2.5	<2.5	18	<2.5	<2.5	--	--	--	--	17	--	
2/29/2008	<300	10	300	<0.50	<0.50	15	1.1	<0.50	--	--	--	--	3.5	--	
5/17/2008	--	--	--	--	--	--	--	--	--	--	--	--	--	--	i
8/12/2008	<1,500	<50	310	<2.5	<2.5	39	<2.5	<2.5	--	--	--	--	6.4	--	
10/21/2008	<3,000	<100	260	<5.0	<5.0	21	<5.0	<5.0	--	--	--	--	<5.0	--	
1/20/2009	<300	<10	35	<0.50	<0.50	2.9	0.73	<0.50	--	--	--	--	<0.50	--	
4/21/2009	<600	<20	48	<1.0	<1.0	3.7	<1.0	<1.0	--	--	--	--	5.5	--	
7/21/2009	<300	<10	130	<0.50	<0.50	14	0.99	<0.50	--	--	--	--	3.7	--	
RW-1															
11/07/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	--	--	--	--			3.1	--	
02/03/2004	<100	<20	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	--	--			0.76	--	
05/04/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--			1.8	--	
08/12/2004	330/<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--			2.9	--	d
11/10/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--			5.2	--	
02/03/2005	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--			1.7	--	e
05/09/2005	--	--	--	--	--	--	--	--	--	--			--	--	
08/11/2005	--	--	--	--	--	--	--	--	--	--			--	--	
11/18/2005	--	--	--	--	--	--	--	--	--	--			--	--	

**Table 3. Summary of Fuel Additives Analytical Data
Station #276, 10600 MacArthur Blvd., Oakland, CA**

Well and Sample Date	Concentrations in (µg/L)														Footnotes
	Ethanol	TBA	MtBE	DIPE	EtBE	TAME	1,2-DCA	EDB	trans-1,2	cis-1,2	VOC	Oxygen	PCE	TCE	
RW-1 Cont.															
02/01/2006	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	1.7	--	e
5/30/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	g
8/11/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	g
11/2/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	g
2/6/2007	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	1.5	--	
2/29/2008	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	1.4	--	
1/20/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	6.6	--	
WGR-3															
05/04/2004	<100	<20	11	<0.50	<0.50	2.4	<0.50	<0.50	--	--	--	--	<0.50	--	
08/12/2004	<100	<20	35	<0.50	<0.50	7.5	<0.50	<0.50	--	--	--	--	<0.50	--	
11/10/2004	<100	<20	5.6	<0.50	<0.50	1.3	<0.50	<0.50	--	--	--	--	<0.50	--	
02/03/2005	<100	<20	1.1	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<0.50	--	e
05/09/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
08/11/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
11/18/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
02/01/2006	<300	<20	2.3	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<0.50	--	e
5/30/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	g
8/11/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	g
11/2/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	g
2/6/2007	<300	<20	4.4	<0.50	<0.50	0.58	<0.50	<0.50	--	--	--	--	<0.50	--	
2/29/2008	<300	<10	1.4	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<0.50	--	
1/20/2009	<300	<10	1.2	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	<0.50	--	

SYMBOLS & ABBREVIATIONS:

-- = Not analyzed/applicable/measured/available
< = Not detected at or above the laboratory reporting limit
1,2-DCA = 1,2-Dichloroethane
cis-1,2-DCE = cis-1,2-Dichloroethene
DIPE = Di-isopropyl ether
EDB = 1,2-Dibromoethane
ETBE = Ethyl tert-butyl ether
MTBE = Methyl tert-butyl ether
PCE = Tetrachloroethene
TAME = tert-Amyl methyl ether
TBA = tert-Butyl alcohol
TCE = Trichloroethene
trans-1,2-DCE = trans 1,2-Dichloroethene
VOC = Volatile organic compounds
µg/L = Micrograms per Liter
BTEX = Benzene, toluene, ethylbenzene and xylenes

FOOTNOTES:

a = VOC 1,1 DCE detected at a concentration of 1.9 ug/L.
b = VOC 1,2 DCA detected at a concentration of 3.2 ug/L.
c = VOC Chlorobenzene detected at a concentration of 2.0 ug/L.
d = Ethanol was re-analyzed two days out of holding time and was not detected above a laboratory reporting limit of 100 ug/L.
e = Calibration verification for ethanol was within method limits but outside contract limits.
f = Sample for PCE analyzed after holding time expired.
g = Well sampled annually.
h = Initial analysis within holding time but required dilution.
i = Well inaccessible.

NOTES:

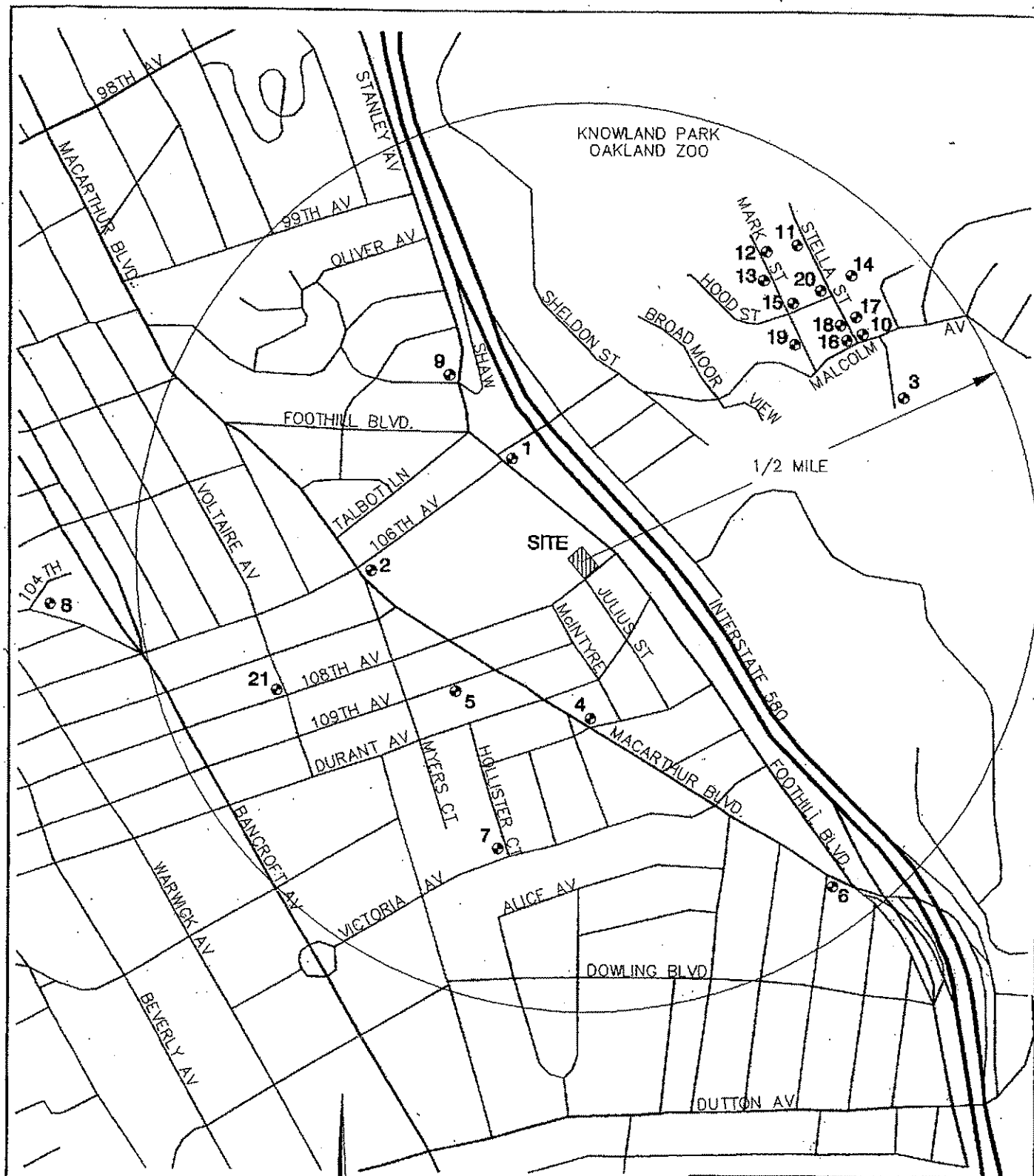
PCE was analyzed using EPA Method 8260B. Samples were analyzed by EPA method 8015B for GRO and EPA method 8260B for BTEX, fuel oxygenates, ethanol, and PCE.

Note: The data within this table collected prior to April 2006 was provided to Broadbent & Associates, Inc. by Atlantic Richfield Company and their previous consultants. Broadbent & Associates, Inc. has not verified the accuracy of this information.

**Table 4. Historical Ground-Water Flow Direction and Gradient
Station #276, 10600 MacArthur Blvd., Oakland, CA**

Date Sampled	Approximate Flow Direction	Approximate Hydraulic Gradient
12/17/2000	South-Southeast	0.003
12/28/2001	Southeast	0.002
11/27/2002	South-Southeast	0.003
7/22/2003	South	0.007
11/7/2003	Southwest	0.002
2/3/2004	South-Southwest	0.002
5/4/2004	South-Southwest	0.003
8/12/2004	South	0.004
11/10/2004	Southwest	0.004
2/3/2005	Southwest	0.003
5/9/2005	South-Southwest	0.004
8/11/2005	South-Southwest	0.007
11/18/2005	Southwest	0.005
2/1/2006	Southwest	0.002
5/30/2006	South-Southwest	0.007
8/10/2006	South-Southwest	0.004
11/2/2006	South-Southwest	0.004
2/6/2007	South-Southwest	0.005
5/8/2007	South-Southwest	0.005
8/14/2007	South-Southwest	0.004
11/13/2007	South-Southwest	0.003
2/29/2008	South-Southwest	0.001
5/17/2008	Southwest	0.005
8/12/2008	Southwest	0.004
10/21/2008	Southwest	0.003
1/20/2009	Southwest	0.002
4/21/2009	Southwest	0.002
7/21/2009	Southwest	0.003

Note: The data within this table collected prior to April 2006 was provided to Broadbent & Associates, Inc. by Atlantic Richfield Company and their previous consultants. Broadbent & Associates, Inc. has not verified the accuracy of this information.



APPROX. SCALE: 1" = 800'
 ● WELL LOCATION


USA GASOLINE STATION #57 10700 MACARTHUR BLVD. OAKLAND, CALIFORNIA WELL LOCATION MAP	
 ENGINEERING, INC. 8084 Old Auburn Rd. Citrus Heights, CA 95610 (916) 723-7645	INITIAL M.A.R.
	DATE 9/2/97
	JOB # 5090
	FIG. # 5

FIGURE 8

TABLE 1
WELLS WITHIN 1/2-MILE RADIUS
USA STATION #57
OAKLAND, CALIFORNIA

Map ID	Well Use	Owner	Well Address	DWR	Year	Perforated Interval (feet)
1	MW	Southland	10501 Foothills	2 S 3 W 24 E (3-5)	1987	
2	MW	Arco	10600 MacArthur	2 S 3 W 24 E 11	1992	
3	MW	Sam Kai Kee	106th	2 S 3 W 24 G 1	1951	28-85'
4	MW	Shell		2 S 3 W 24 M		
5	IW	Ms. Kitchen	2544 109th	2 S 3 W 24 M 1		38-55'
6	MW	Unocal	96 MacArthur			Unknown
7	IW	Mr. Brahms	377 Hollister	2 S 3 W 24 N 1	1971	35-75'
8	CPW	PG&E	Sunnyside 75 SW of 104th	2 S 3 W 23 K 1	1974	120'
9	CPW	PG&E	Shaw & Stanley	2 S 3 W 24 E 2	1976	120'
10	DW	Mr. Freitas	Stella & Malcolm	2 S 3 W 24 B 5	1955	55-123'
11	DW	G. Hower	10700 Stella	2 S 3 W 24 B 2	1951	55'
12	DW	Johnson	10731 Mark	2 S 3 W 24 B 1	1951	102'
13	DW	Sam Kai Kee	Mark	2 S 3 W 24 B 3		100'
14	DW	H. Mathews	10544 Stella	2 S 3 W 24 C 3		42-92'
15	DW	A. Bassigian	Mark & Hood	2 S 3 W 24 B	1958	56-107'
16	DW	C. Bach	Malcolm & Stella	2 S W W 24		100'
17	DW	J. Prentiss	10521 Stella	S 2 3 W 24 C	1951	Unknown
18	DW	R. Trimble	10520 Stella	2 S 3 W 24 C	1951	190'
19	DW	C. Armtrout	10550 Stella	2 S 3 W 24 C	1951	Unknown
20	DW	H. Brenneman	10600 Stella	2 S 3 W 24 B 4	1951	98'
21	CPW	PG&E	Voltaire & 108th	2 S S W 23 J 1		105'

MW Monitoring well
 DW Domestic well
 CW Cathodic protection well
 IW Irrigation well

G:\data\5090\Search.wbl

Total depth of boring: 40-1/2 feet **Diameter of boring:** 8 inches **Date drilled:** 3-21-89
Casing diameter: 2 inches **Length:** 39 feet **Slot size:** 0.020-inch
Screen diameter: 2 inches **Length:** 20 feet **Material type:** Sch 40 PVC
Drilling Company: Kvilhaug Drilling Co. **Driller:** Chris & Mike
Method Used: Hollow-Stem Auger **Field Geologist:** Jim Cline

Signature of Registered Professional: _____

Registration No.: _____ **State:** CA

DEPTH	SAMPLE NO.	BLOWS	P.I.D.	USCS CODE	DESCRIPTION	WELL CONST.
0					Asphalt (6 inches) over baserock (8 inches).	
2				CH	Silty clay with some sand, gray, moist, high plasticity, stiff.	
4					With trace of gravel, grades gray-brown, damp, hard.	
6	S-5.5	16 38	0			
8				CL	Silty clay with sand, brown, damp, medium plasticity, hard.	
10	S-10.5	12 28	0			
12						
14						
16	S-15.5	16 34	0			
18	S-18	17 40	0		Grades moist.	
20					Grades very stiff.	

(Section continues downward)



PROJECT NO. 19014-1

LOG OF BORING B-1/MW-1
Arco Service Station No. 276
10600 McArthur Blvd.
Oakland, California

PLATE
P - 4

Depth	Sample No.	SOFT LOG	P.I.D.	USCS Code	Description	Well Const.
-22	S-21	8 17	0	CL	Silty clay with sand, brown, damp, moist, medium plasticity, very stiff.	
-24	S-23.5	8 9 11				
-26	S-26	7 8 10	0			
-28				ML	Clayey silt, brown, moist, low plasticity, very stiff.	
-30		9 10 11	0			
-32	S-31					
-34						
-36	S-36	8 10 14	0		Wet, with clay lenses.	
-38						
-40	S-40	10 10 12	0	SM	Silty sand, fine grained, grades gray-brown.	
Total Depth = 40-1/2 feet.						
-42						
-44						
-46						
-48						
-50						



PROJECT NO. 19014-1

LOG OF BORING B-1/MW-1

Arco Service Station No. 276
10600 McArthur Blvd.
Oakland, California

PLATE

P - 5

Total depth of boring: 28-1/2 feet **Diameter of boring:** 10 inches **Date drilled:** 3-22-89
Casing diameter: 4 inches **Length:** 25-1/2 feet **Slot size:** 0.020-inch
Screen diameter: 4 inches **Length:** 10 feet **Material type:** Sch 40 PVC
Drilling Company: Kvilhaug Drilling Co. **Driller:** Chris & Mike
Method Used: Hollow-Stem Auger **Field Geologist:** Steve Johnston

Signature of Registered Professional: _____

Registration No.: _____ **State:** CA

DEPTH	SAMPLE NO.	SHAFT NO.	P.I.D.	USCS CODE	DESCRIPTION	WELL CONST.
0					Asphalt (3 inches) over baserock (6 inches) over asphalt (3 inches) and baserock (6 inches).	
2				CH	Silty clay, dark gray, damp, high plasticity, very stiff.	
4					-----	
6	S-5.5	30 38	1	CL	Sandy clay, brown, damp, low plasticity, hard.	
8						
10		6 6			Gray mottling, medium plasticity, grades very stiff.	
12	S-11	11	26			
14						
16	S-16	6 7 11	97		▽ ▽	
18	S-18	12 24	300	GM	Silty gravel, fine-to coarse-grained sand, brown-gray, wet, dense, noticeable odor.	
20	S-20	12 36	330		Grades more silty, fine-to medium-grained gravel, noticeable odor. (Section continues downward)	



PROJECT NO. 19014-1

LOG OF BORING B-2/MW-2
Arco Service Station No. 276
10800 McArthur Blvd.
Oakland, California

PLATE
P - 6

Depth	Sample No.	BLOWS	P.I.D.	USCS Code	Description	Well Const.
-22				GM	Silty gravel, fine-to coarse-grained sand, brown-gray, wet, dense, obvious odor.	
-24	S-24.5	20 24	30	SC	Clayey sand, brown, moist, dense.	
-26				SM	Silty sand with clay lenses, brown, moist, dense.	
-28	S-28	20 22	50			
-30					Total Depth = 28-1/2 feet.	
-32						
-34						
-36						
-38						
-40						
-42						
-44						
-46						
-48						
-50						



PROJECT NO. 19014-1

LOG OF BORING B-2/MW-2

Arco Service Station No. 276
10600 McArthur Blvd.
Oakland, California

PLATE

P - 7

Total depth of boring: 40-1/2 feet **Diameter of boring:** 8 inches **Date drilled:** 3-21-89
Casing diameter: 2 inches **Length:** 40 feet **Slot size:** 0.020-inch
Screen diameter: 2 inches **Length:** 20 feet **Material type:** Sch 40 PVC
Drilling Company: Kvilhaug Drilling Co. **Driller:** Chris and Mike
Method Used: Hollow-Stem Auger **Field Geologist:** Steve Johnston

Signature of Registered Professional: _____
Registration No.: _____ **State:** CA

DEPTH	SAMPLE NO.	BLOWS	P.L.D.	USCS CODE	DESCRIPTION	WELL CONST.
0					Asphalt (2 inches) over baserock (8 inches).	
2				CL	Silty clay with some gravel, brown-gray, wet, medium plasticity, very stiff.	
4				CH	Silty clay with some sand, gray, damp, high plasticity, hard.	
6	S-5.5	12 20	0			
10	S-10.5	12 22	0	SM	Silty sand, trace gravel, brown, damp, dense.	
12				CL	Silty clay, brown, damp, medium plasticity, hard.	
16	S-15.5	12 30	0			
18	S-18.5	12 20	0		With fine-grained sand, grades moist.	
20						

(Section continues downward)



PROJECT NO. 19014-1

LOG OF BORING B-3/MW-3

Arco Service Station No. 276
 10600 McArthur Blvd.
 Oakland, California

PLATE

P - 8

Depth	Sample No.	Blows	P.I.D.	USCS Code	Description	Well Const.
	S-20.5	20	0	CL	Silty clay with fine-grained sand, brown, moist, medium plasticity, hard.	
-22		10			With trace gravel, grades to very stiff.	
-24	S-23.5	10	0			
-26	S-25.5	7	0			
-28		5				
-30	S-30.5	20	0	SM	Silty sand with gravel, brown, moist, dense.	
-32		15				
-34		10		ML	Clayey silt with trace gravel, brown, wet, slight plasticity, very stiff.	
-36	S-36	10	0			
-38		10				
-40	S-40	25	0	SM	Silty sand with trace gravel, brown, wet, dense.	
-42		25				
					Total Depth = 40-1/2 feet.	
-44						
-46						
-48						
-50						



PROJECT NO. 19014-1

LOG OF BORING B-3/MW-3

Arco Service Station No. 276
10600 McArthur Blvd.
Oakland, California

PLATE

P - 9

Total depth of boring: 53-1/2 feet **Diameter of boring:** 8 inches **Date drilled:** 3-29-89
Casing diameter: 2 inches **Length:** 50 feet **Slot size:** 0.020-inch
Screen diameter: 2 inches **Length:** 20 feet **Material type:** Sch 40 PVC
Drilling Company: Kvilhaug Drilling Co. **Driller:** Chris & Mike
Method Used: Hollow-Stem Auger **Field Geologist:** Leigh Beem

Signature of Registered Professional: _____
Registration No.: _____ **State:** CA

DEPTH	SAMPLE NO.	BLOWS	P.L.D.	USCS CODE	DESCRIPTION	WELL CONST.
0					Concrete (6 inches) over backfill.	
2					Large gravel (backfill material).	
4						
6	S-6	4 6 7	2.3			
8						
10				SW	Sand with gravel, brown-gray, wet, loose.	
12	S-11	10 5 4	2			
14				CL	Sandy clay with trace gravel, and some fine-to medium-grained sand, brown, damp, medium plasticity, hard.	
16	S-16	12 25 50	1.1			
18						
20					Grades to silty clay, with some very fine-grained sand. (Section continues downward)	



PROJECT NO. 19014-1

LOG OF BORING B-4/MW-4

Arco Service Station No. 276
10600 McArthur Blvd.
Oakland, California

PLATE

P - 10

Depth	Sample No.	SOIL SAMPLE	P.I.D.	USCS Code	Description	Well Const.
22	S-21	14 17 41	4.8	CL	Silty clay with some very fine-grained sand, brown, damp, medium plasticity, hard.	
24				ML	Sandy silt, fine-grained sand, brown, moist, dense.	
26	S-26	10 16 16	1.9			
28				SM	Silty sand, fine-to medium-grained, with some clay and trace gravel, brown, moist, medium dense.	
30		7 8				
32	S-31	20	1.9			
34						
36	S-36	8 4 4	1.9	ML	Sandy silt, fine-grained, brown, wet, low plasticity, medium stiff.	
38				GC	Clayey gravel with sand and silt, brown, wet, loose.	
40						
42	S-41	X				
44						
46	S-46		1.5	SM	Silty sand, fine-to medium-grained, brown, wet medium dense.	
48						
50						
	S-51	X	1			

(Section continues downward)



PROJECT NO. 19014-1

LOG OF BORING B-4/MW-4
 Arco Service Station No. 276
 10600 McArthur Blvd.
 Oakland, California

PLATE
 P - 11

Depth	Sample No.	BLDG	P.I.D.	USCS Code	Description	Well Const.
				SM	Silty sand, fine-to medium-grained, brown, wet, medium dense.	
-52	S-53	X	1	CH	Gravelly clay with minor fine-to medium-grained sand, red-brown, moist, medium-high plasticity, stiff.	
-54					Total Depth = 53-1/2 feet.	
-56						
-58						
-60						
-62						
-64						
-66						
-68						
-70						
-72						
-74						
-76						
-78						
-80						



PROJECT NO. 19014-1

LOG OF BORING B-4/MW-4 PLATE

Arco Service Station No. 276
10600 McArthur Blvd.
Oakland, California

P - 12

Total depth of boring: 49 feet **Diameter of boring:** 10 inches **Date drilled:** 4-6-89
Casing diameter: 4 inches **Length:** 47-1/2 feet **Slot size:** 0.020-inch
Screen diameter: 4 inches **Length:** 15 feet **Material type:** Sch 40 PVC
Drilling Company: Kvilhaug Drilling Co. **Driller:** Chris & Mike
Method Used: Hollow-Stem Auger **Field Geologist:** Leigh Beem

Signature of Registered Professional: _____
Registration No.: _____ **State:** CA

DEPTH	SAMPLE NO.	BLOWS	P.I.D.	USCS CODE	DESCRIPTION	WELL CONST.
0					Asphalt (2 inches) over backfill (6 inches) over asphalt (2 inches).	
2				CH	Silty clay, dark brown, damp, high plasticity, very stiff.	
4						
6	S-6			CL	Sandy clay with minor gravel, brown-gray mottling, damp, medium plasticity, very stiff.	
8						
10		6				
11	S-11	7	18		Silty clay with minor fine-grained sand, green-brown mottling.	
12		11				
14						
16	S-16	12	111	GC	Clayey gravel with fine-to coarse-grained sand, gray, very moist, dense, noticeable odor.	
18	S-18	12				
19		18				
20	S-20	10	44	CL	Gravelly clay with fine-to coarse-grained sand, brown, damp, low-medium plasticity, very stiff.	
21		10				
22		16				
23		20				
24		25				
25			80		Silty clay with minor fine-grained sand, hard.	
(Section continues downward)						



PROJECT NO. 19014-1

LOG OF BORING B-5/MW-5
 Arco Service Station No. 276
 10600 McArthur Blvd.
 Oakland, California

PLATE

P - 13

Depth	Sample No.	BLOWS	P.I.D.	USCS Code	Description	Well Const.	
				CL	Silty clay with minor fine-grained sand, brown, damp, low-medium plasticity, hard.		
22	S-23	10	75	ML	Sandy silt with fine-grained sand, brown, damp, low plasticity, very stiff, noticeable odor.		
		10					
24		10					
26	S-26	10	116	SM	Silty sand, fine-to medium-grained, brown, damp, dense, noticeable odor.		
		10					
28		20					
30	S-31	10	200	CL	Silty clay lenses, damp, medium plasticity, stiff.		
		15					
32		17					
34	S-36	20	12.5	SM	Silty sand, fine-to medium-grained, brown, damp, dense, noticeable odor.		
							25
							30
36							30
38	S-38.5	2	33	CL	Silty clay with minor gravel, brown, damp, soft.		
		2					
40		2					
42	S-41	4	104	SM	Silty sand, brown, moist, medium dense, noticeable odor.		
		6					
		13					
44	S-43.5	4	124	CL	Clay lenses with minor gravel, brown, damp, medium plasticity, stiff.		
		6					
		10					
46	S-46	6	225	SM	Silty sand, brown, moist, medium dense, noticeable odor.		
		10					
		15					
48	S-48.5	8	200	GC	Clayey gravel with sand, fine-to coarse-grained, brown-gray, moist, very dense, noticeable odor.		
		16					
		50					
50	Total Depth = 49 feet.						



PROJECT NO. 19014-1

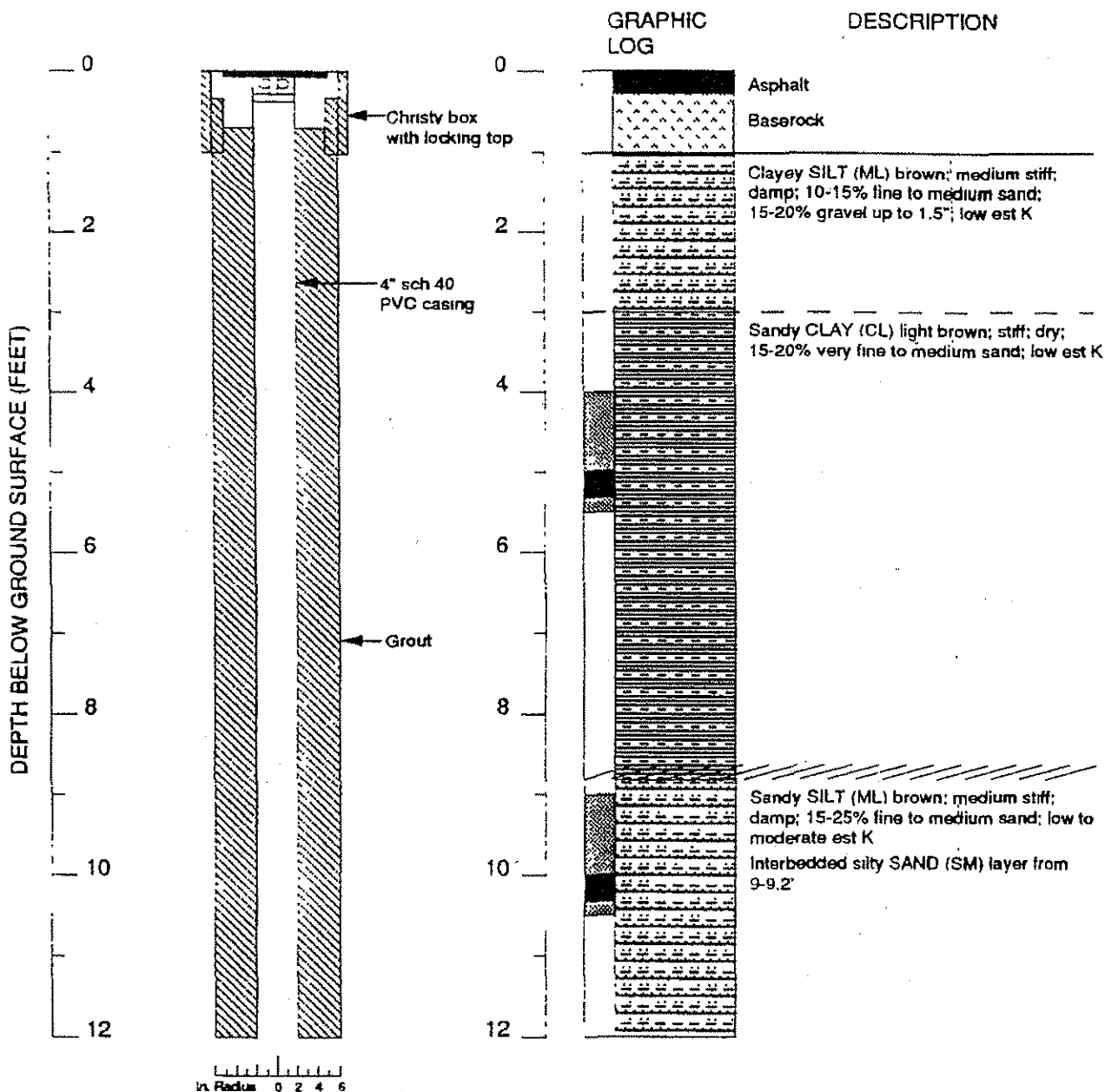
LOG OF BORING B-5/MW-5

Arco Service Station No. 276
10600 McArthur Blvd.
Oakland, California

PLATE

P - 14

MONITOR WELL MW-1



Continues

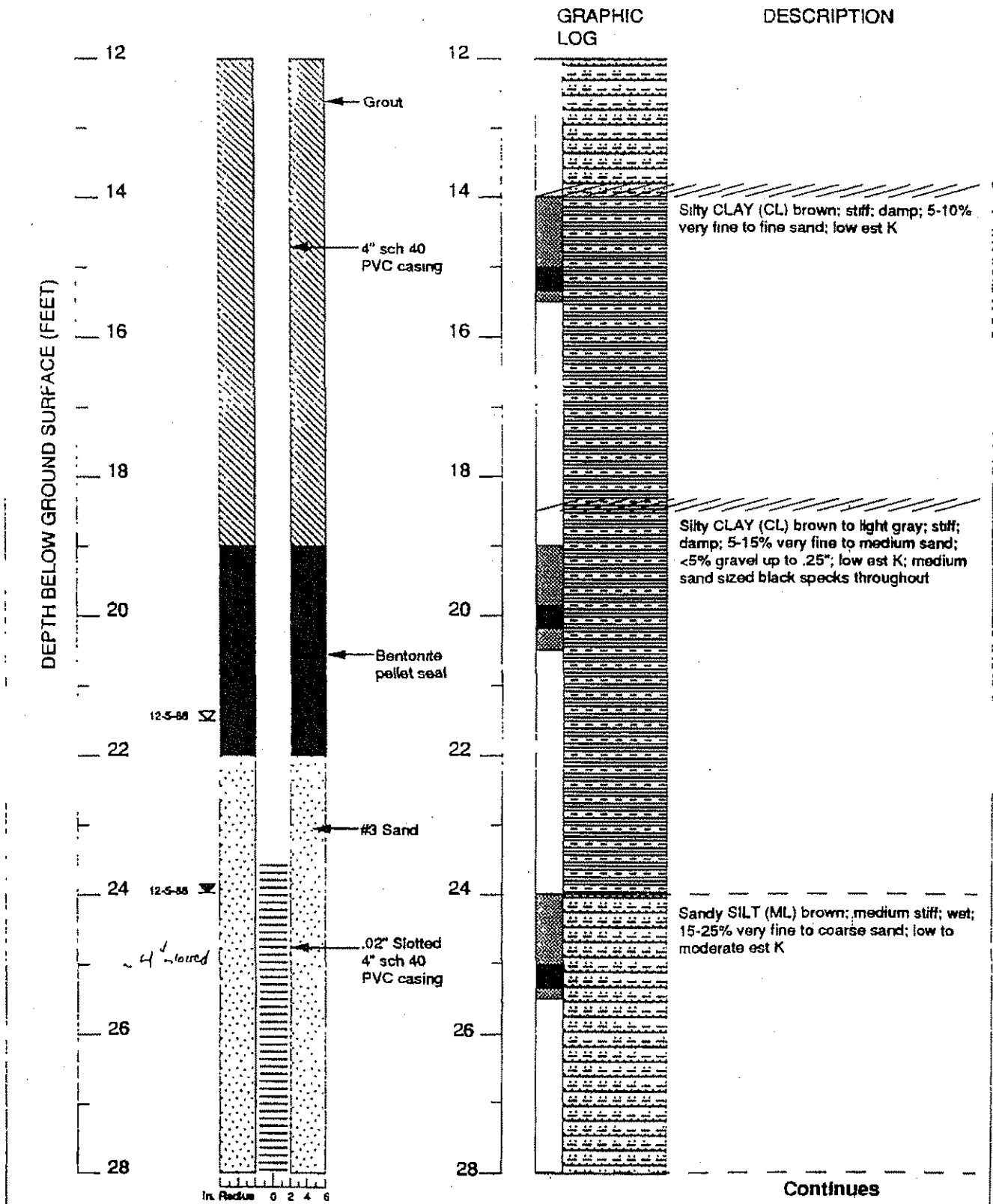
EXPLANATION

- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approx.)
- Gradational (hachured), uncertain (dashed) contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- Grab sample

est K = Estimated permeability (hydraulic conductivity)

Logged by: Mike Edmonson
Supervisor: Todd Daniels
Drilling Company: Exploration Geoservices, Inc.
Driller: Dave Yeager
Drilling Method: Hollow stem auger
Dates Drilled: 12/5/88
Well Head Completion: Christy box & locking cap
Type of Sampler: 2" split barrel
TD: Drill depth = 33.5'

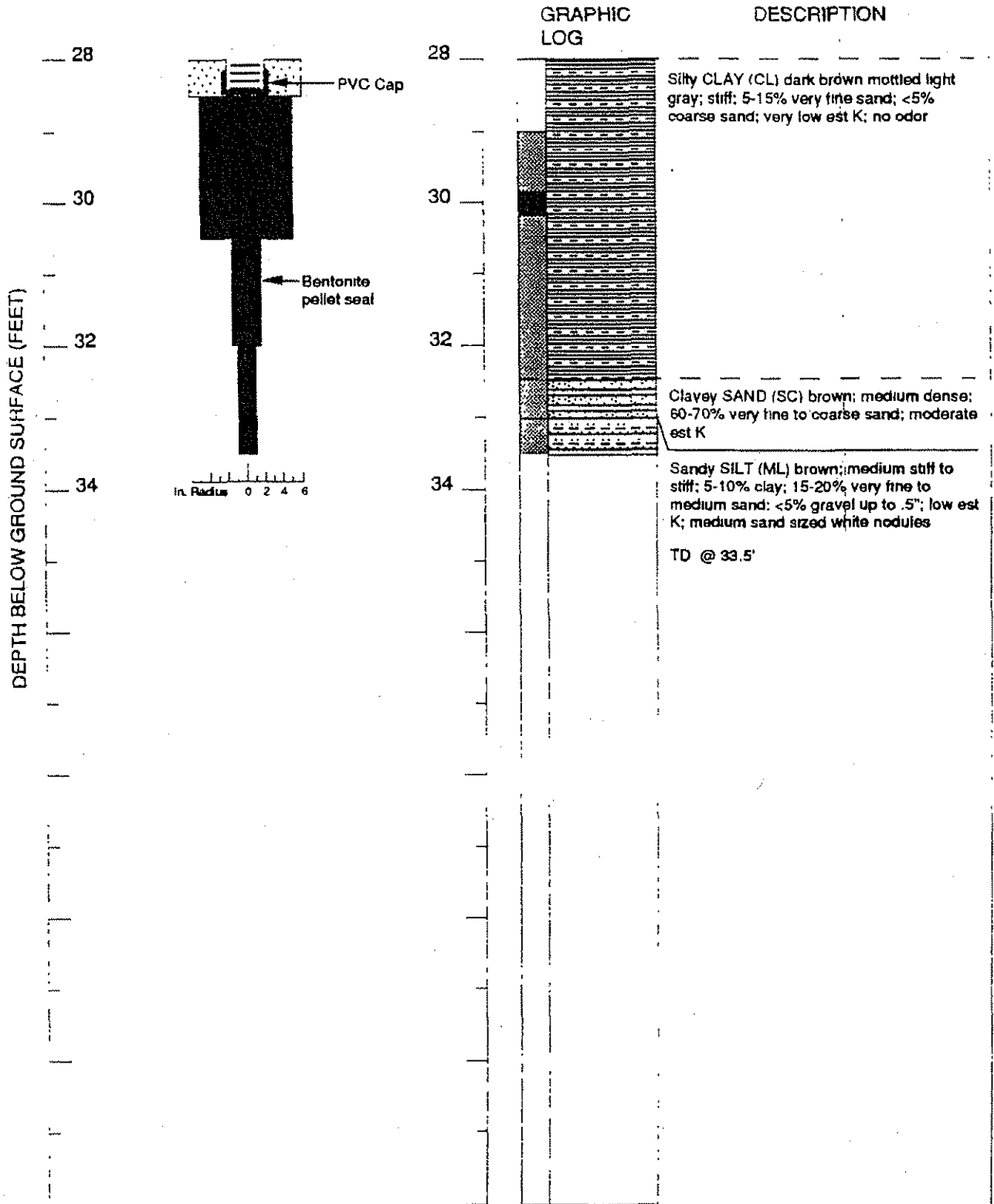
MONITOR WELL MW-1 (cont.)



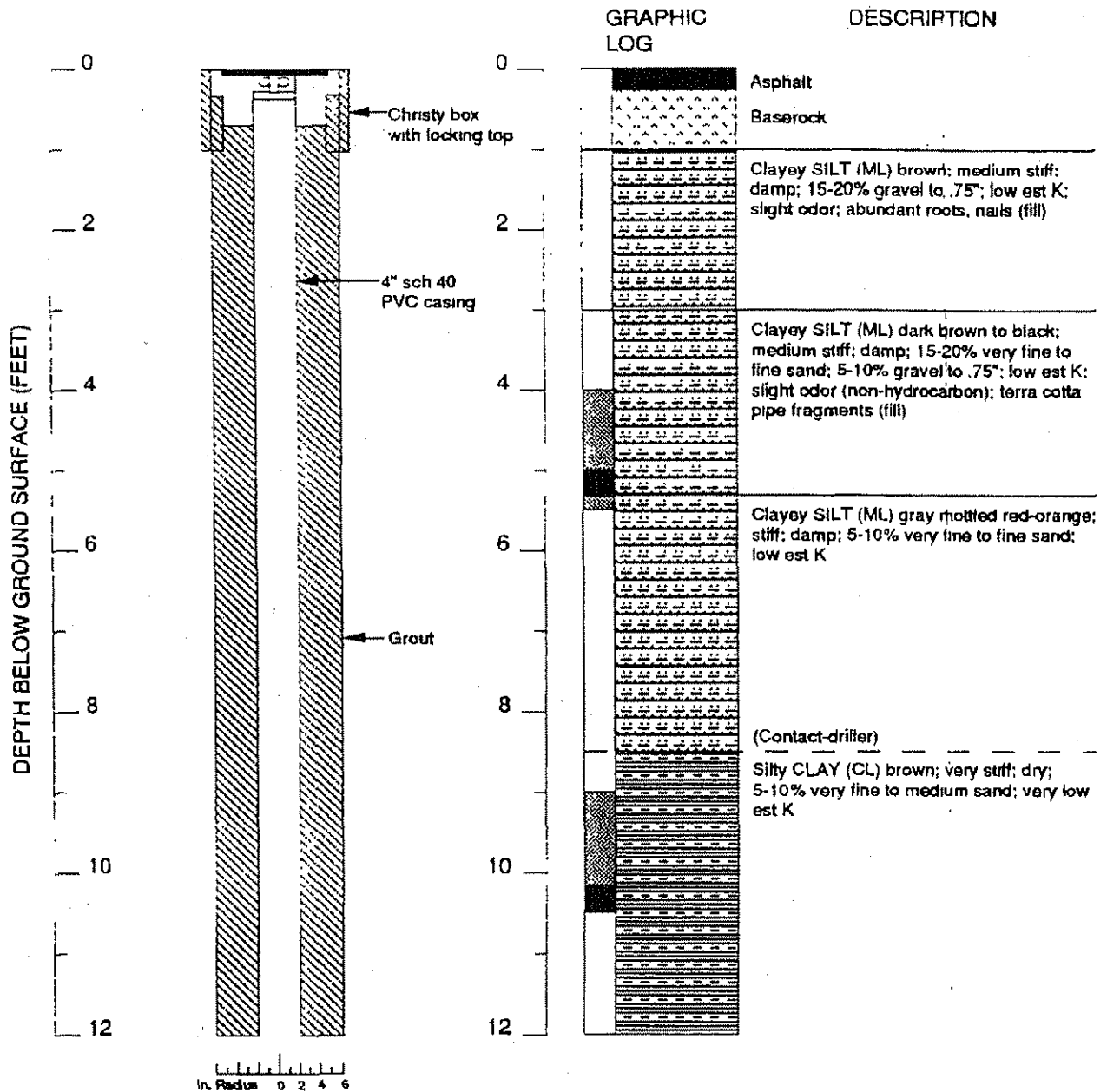
Boring Log and Well Completion Details MW-1 (cont.)
WGR Project No.: 8-088.01

Foothill Plaza
Oakland, CA

MONITOR WELL MW-1 (cont.)



MONITOR WELL MW-2



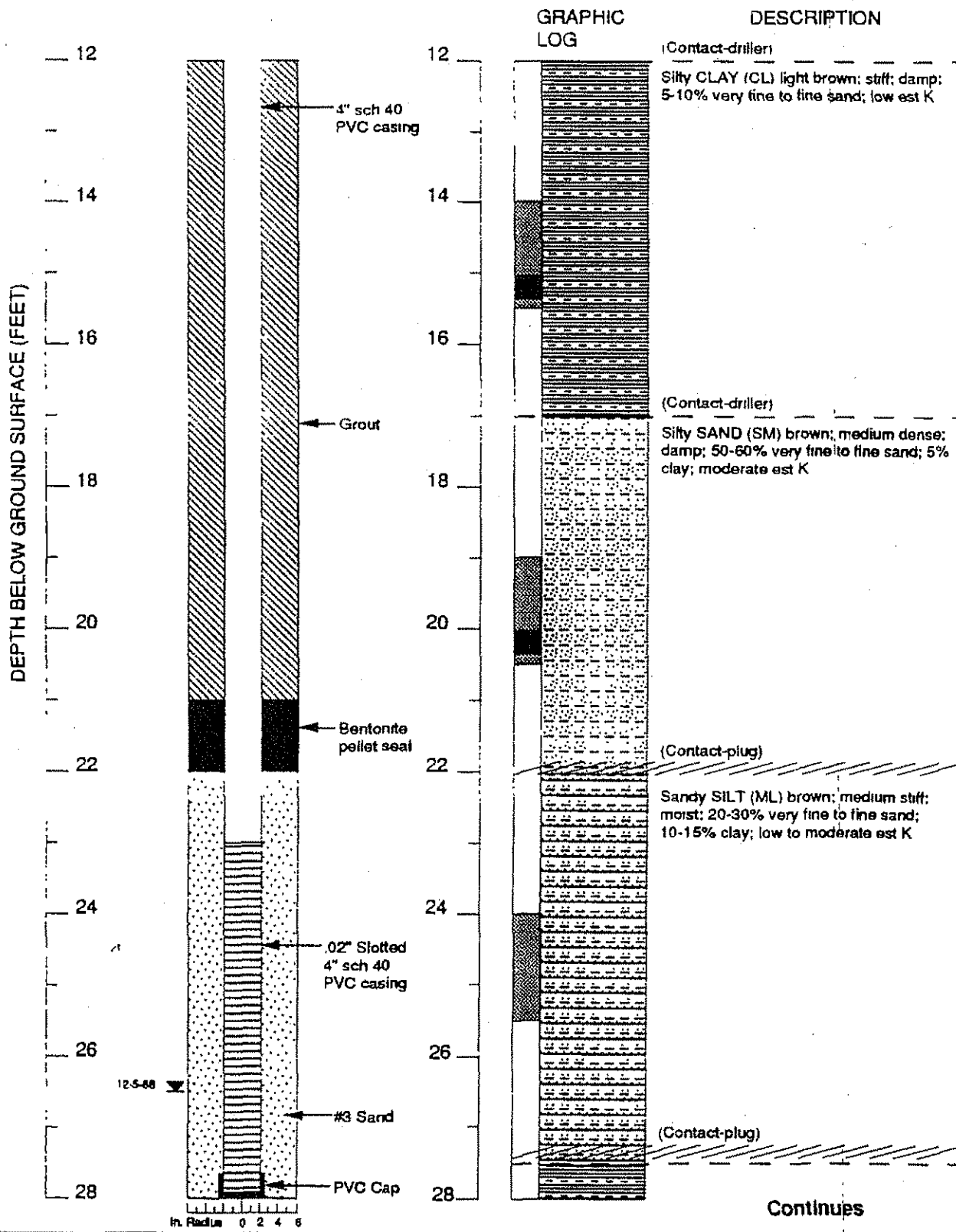
Continues

EXPLANATION

- Water level during drilling (date)
 - Water level (date)
 - Contact (dotted where approx.)
 - Gradational (hachured), uncertain (dashed) contact
 - Location of recovered drive sample
 - Location of drive sample sealed for chemical analysis
 - Grab sample
- est K = Estimated permeability (hydraulic conductivity).

Logged by: Mike Edmonson
 Supervisor: Todd Daniels
 Drilling Company: Exploration Geoservices, Inc.
 Driller: Dave Yeager
 Drilling Method: Hollow stem auger
 Dates Drilled: 12/5/88-12/6/88
 Well Head Completion: Christy box & locking cap
 Type of Sampler: 2" split barrel
 TD: Drill depth= 40.5 ft

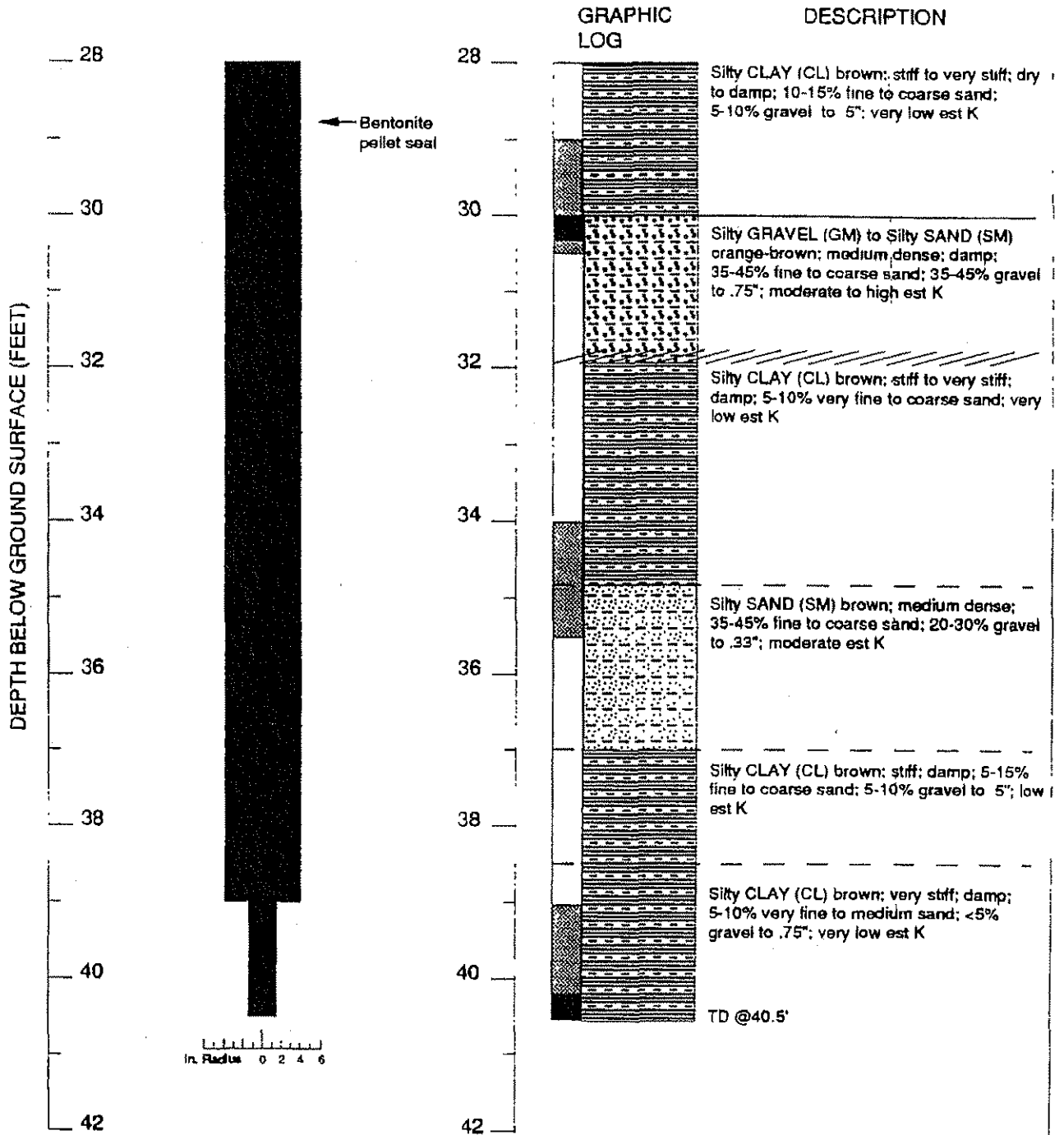
MONITOR WELL MW-2 (cont.)



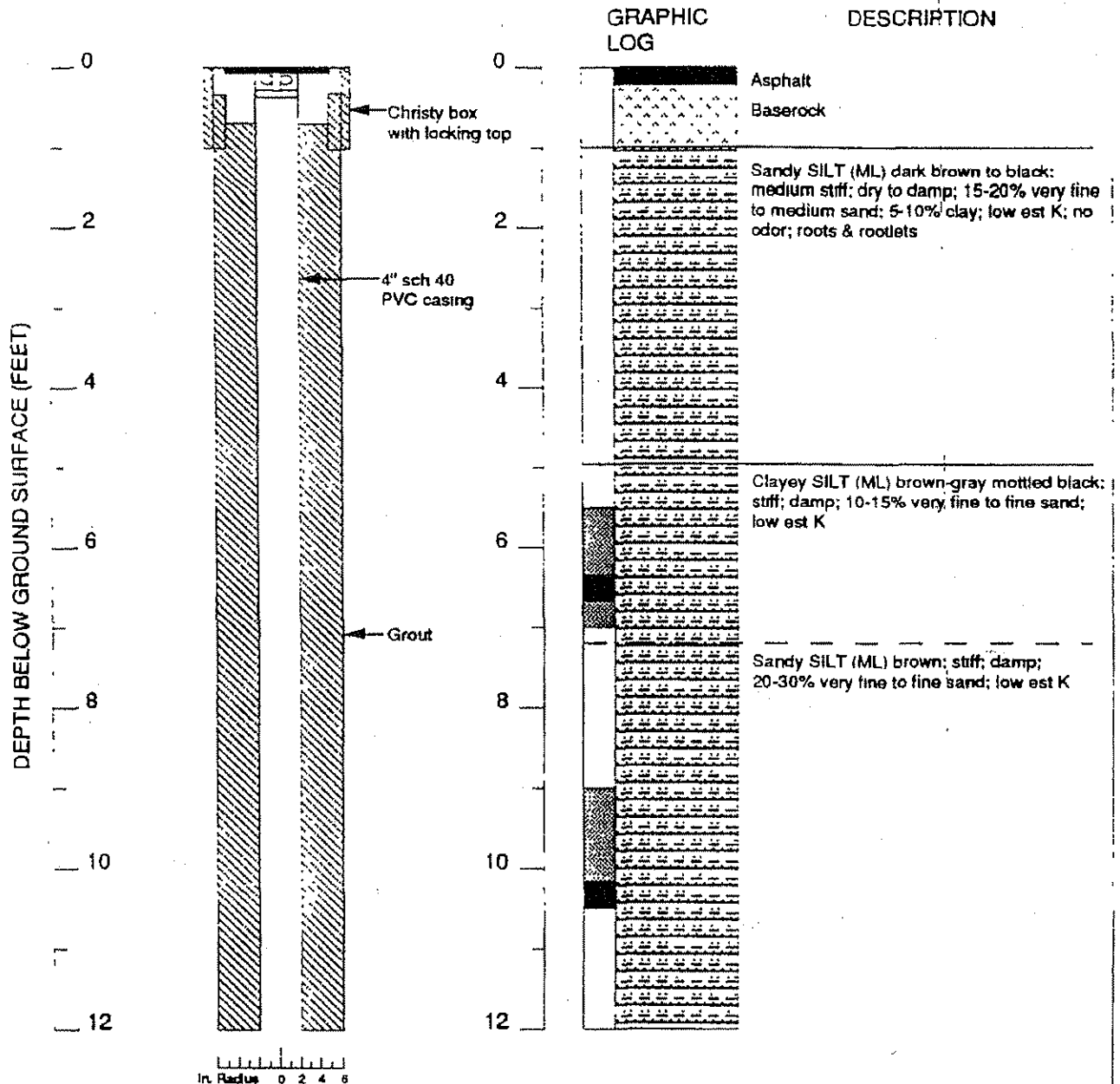
Boring Log and Well Completion Details MW-2 (cont.)
WGR Project No.: 8-088.01

Foothill Plaza
Oakland, CA

MONITOR WELL MW-2 (cont.)



MONITOR WELL MW-3



Continues

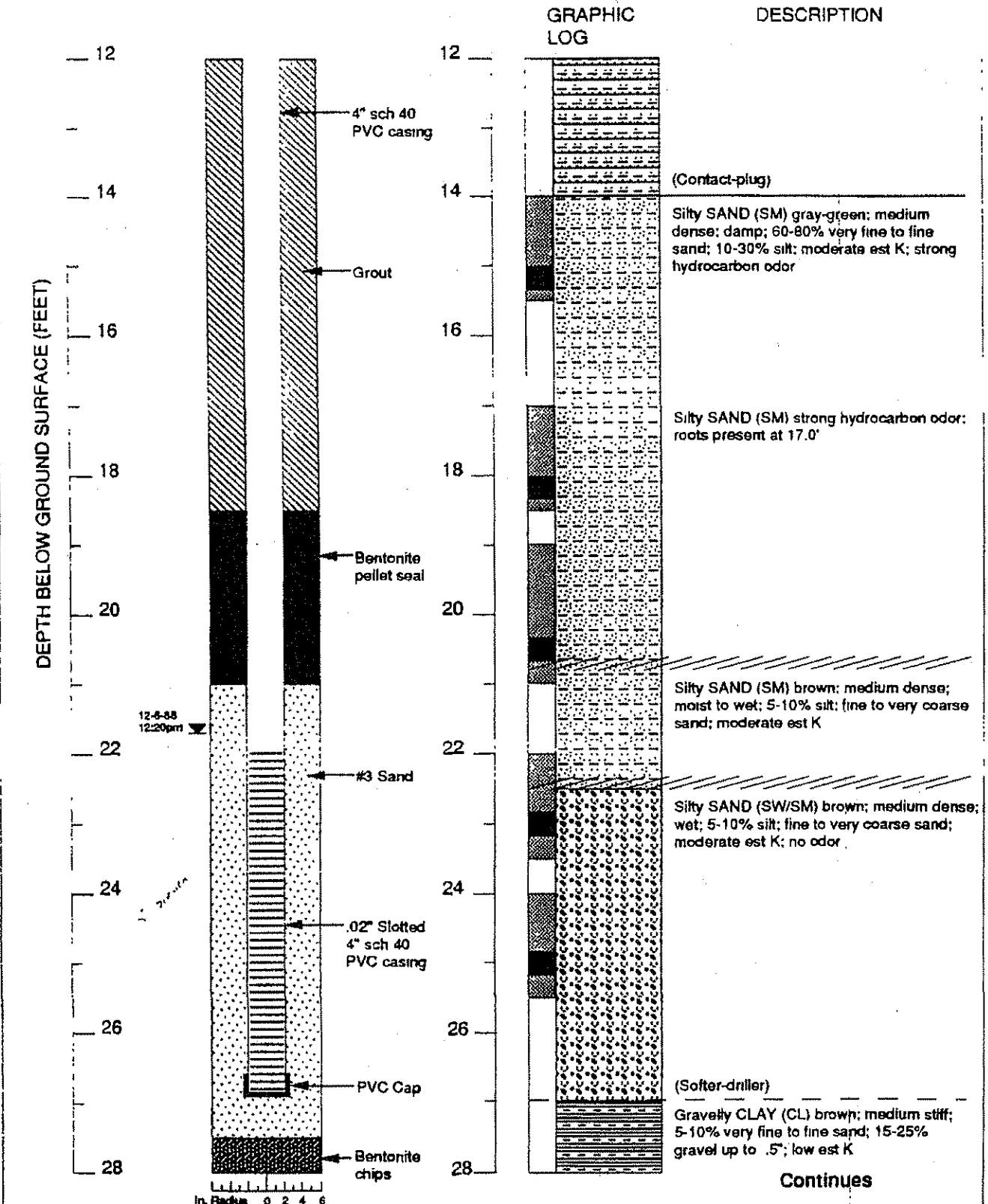
EXPLANATION

- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approx.)
- Gradational (hachured), uncertain (dashed) contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- Grab sample

est K = Estimated permeability (hydraulic conductivity)

Logged by: Mike Edmonson
 Supervisor: Todd Daniels
 Drilling Company: Exploration Geoservices, Inc.
 Driller: Dave Yeager
 Drilling Method: Hollow stem auger
 Dates Drilled: 12/6/88-12/7/88
 Well Head Completion: Christy box & locking cap
 Type of Sampler: 2" split barrel
 TD: Drill depth= 42.0 ft

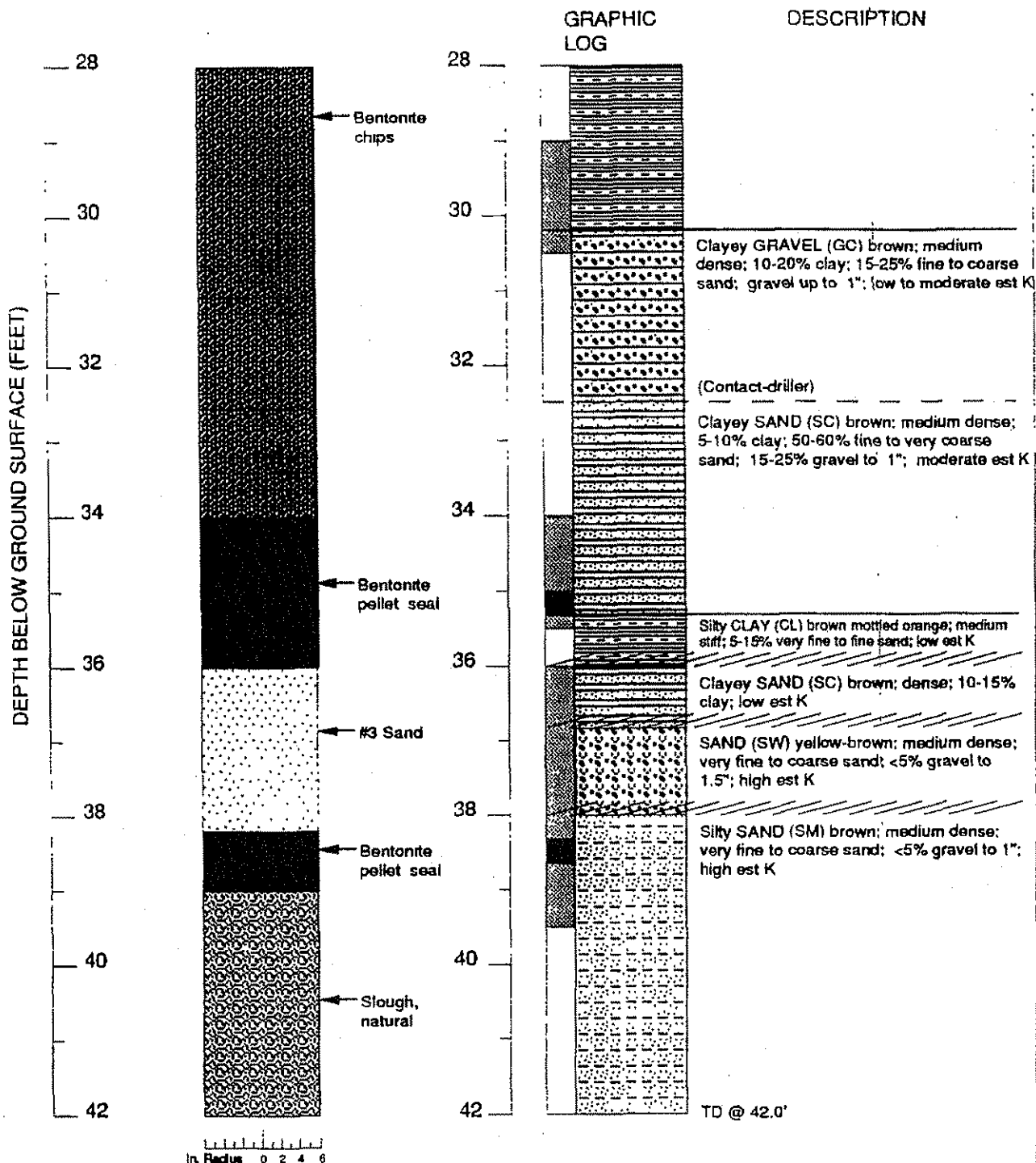
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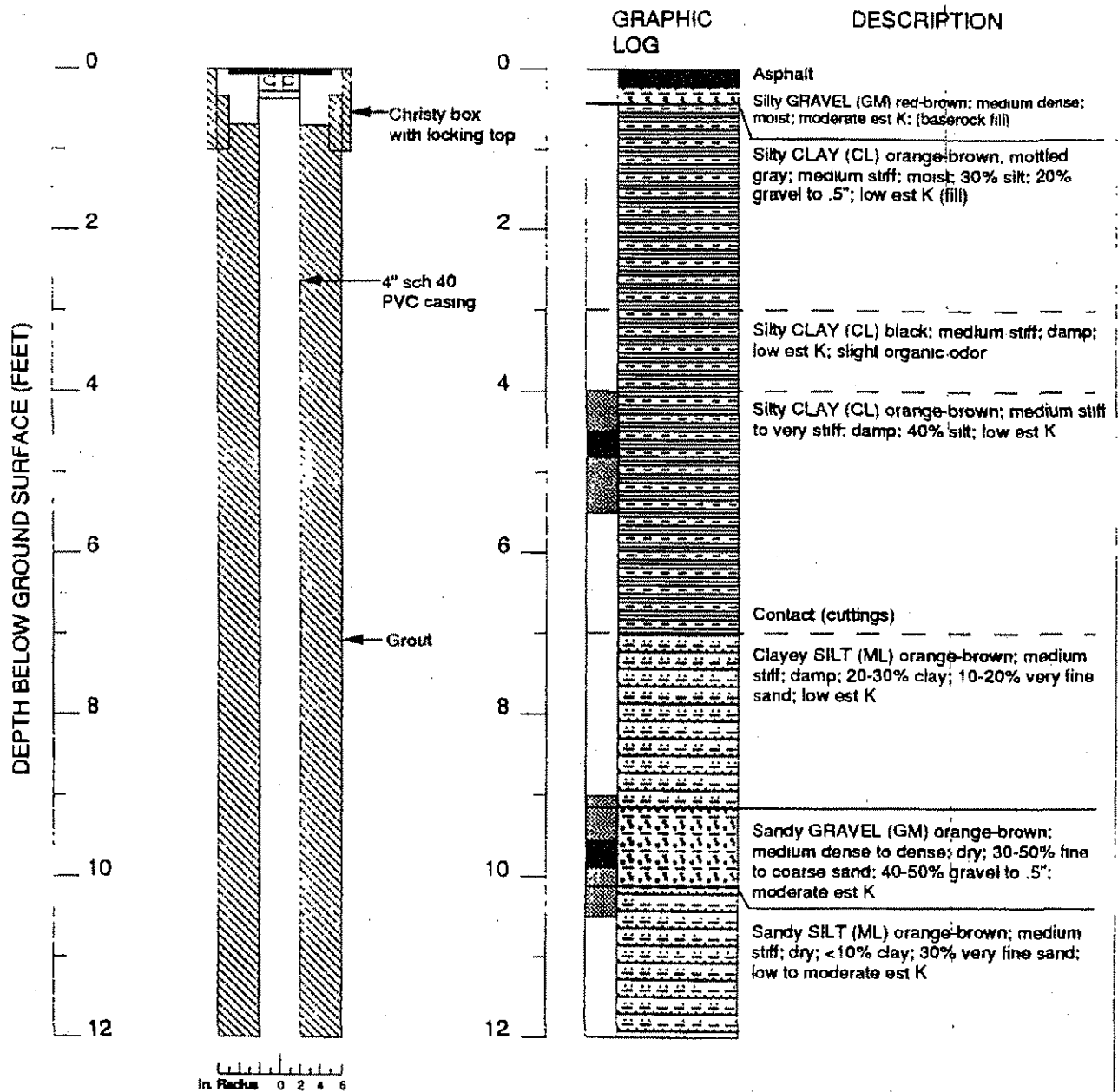
Boring Log and Well Completion Details MW-3 (cont.)
WGR Project No.: 8-088.01

Foothill Plaza
Oakland, CA

MONITOR WELL MW-3 (cont.)



MONITOR WELL MW-4



Continues

EXPLANATION

- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approx.)
- Gradational (hachured), uncertain (dashed) contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- Grab sample

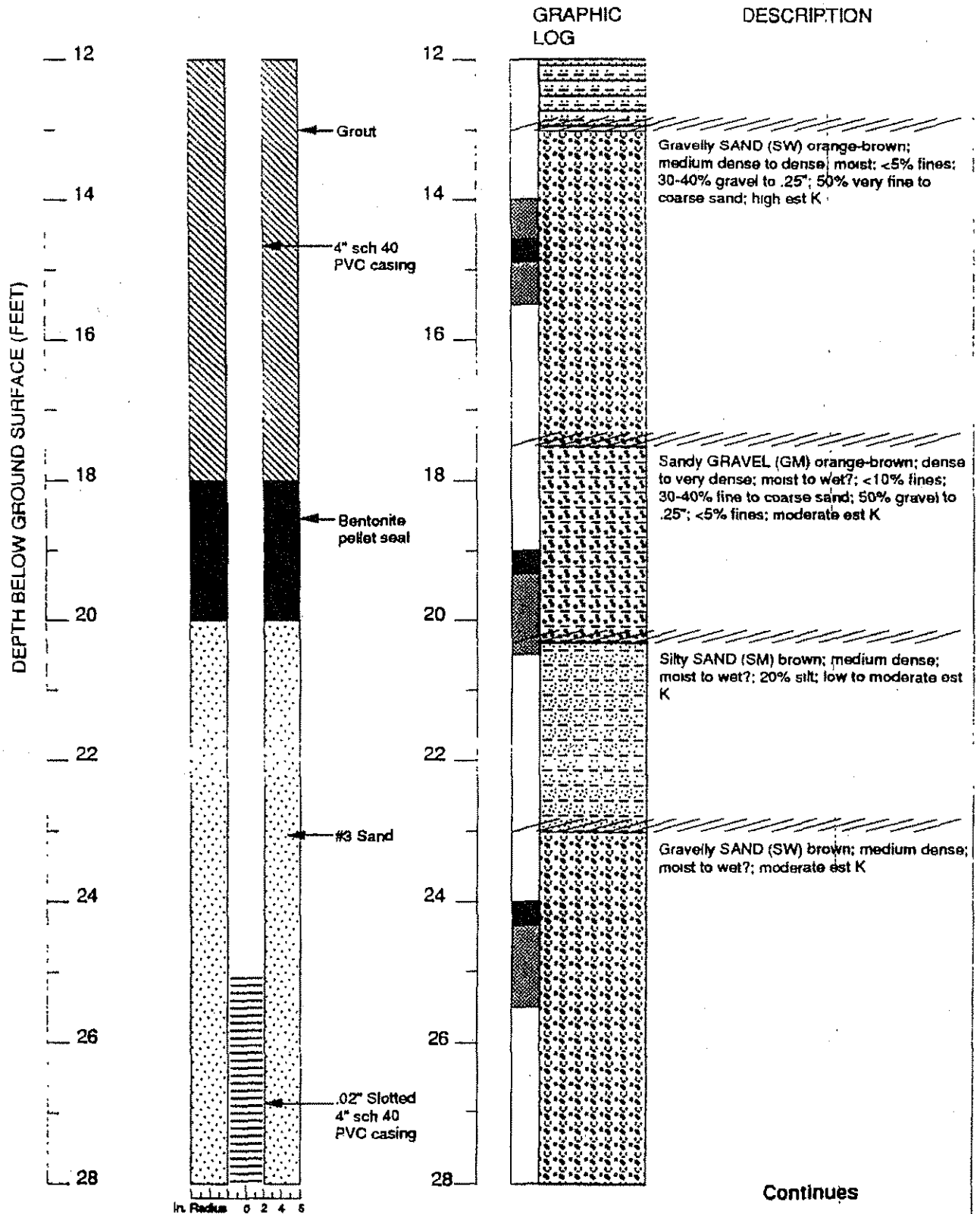
est K = Estimated permeability (hydraulic conductivity)

Logged by: Todd Daniels
 Supervisor: Todd Daniels
 Drilling Company: Exploration Geoservices, Inc.
 Driller: Dave Yeager/Troy
 Drilling Method: Hollow stem auger
 Dates Drilled: 12/7/88
 Well Head Completion: Christy box & locking cap
 Type of Sampler: 2" split barrel
 TD: Drill depth= 50.5 ft

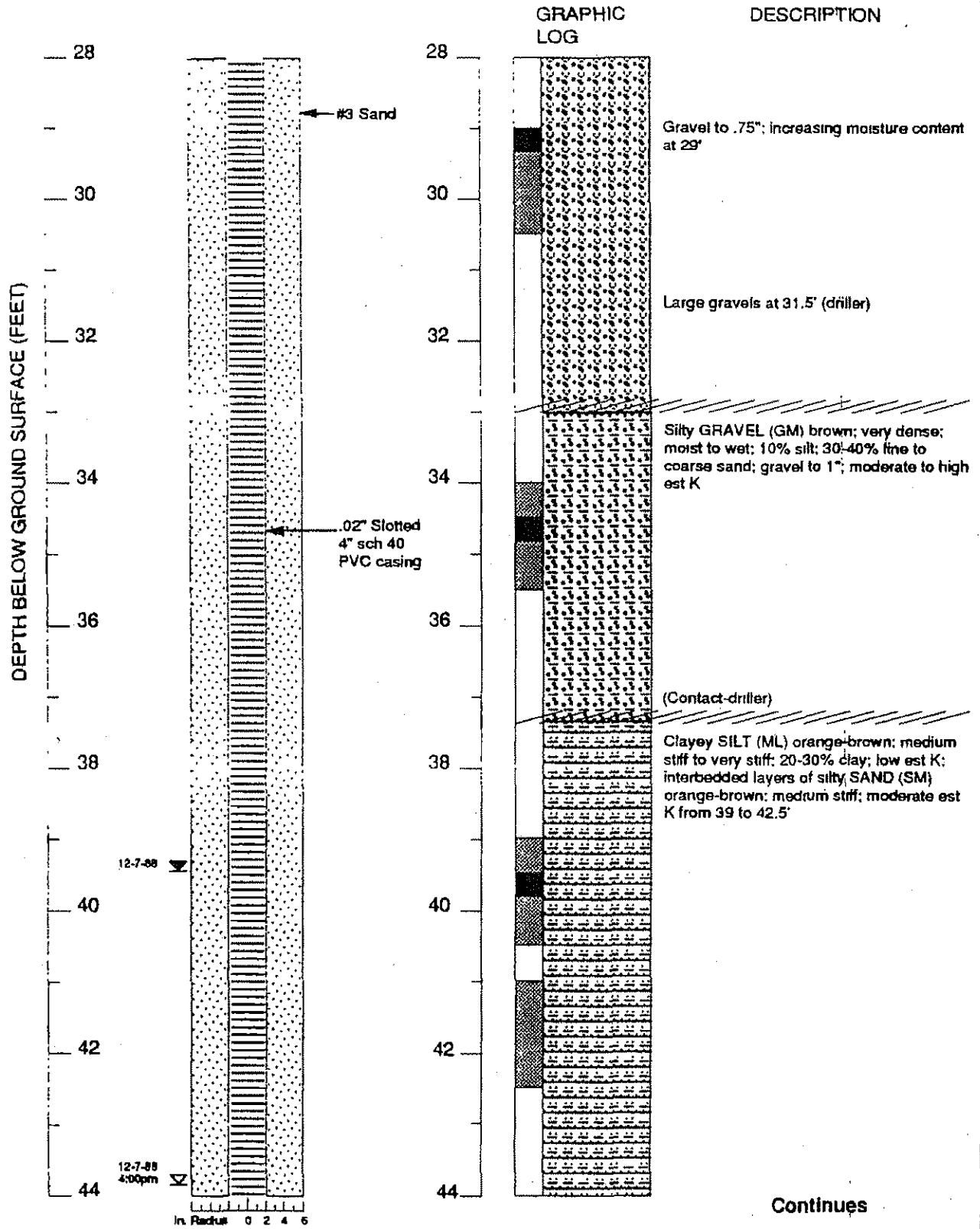
Boring Log and Well Completion Details MW-4
 WGR Project No.: 8-088.01

Foothill Plaza
 Oakland, CA

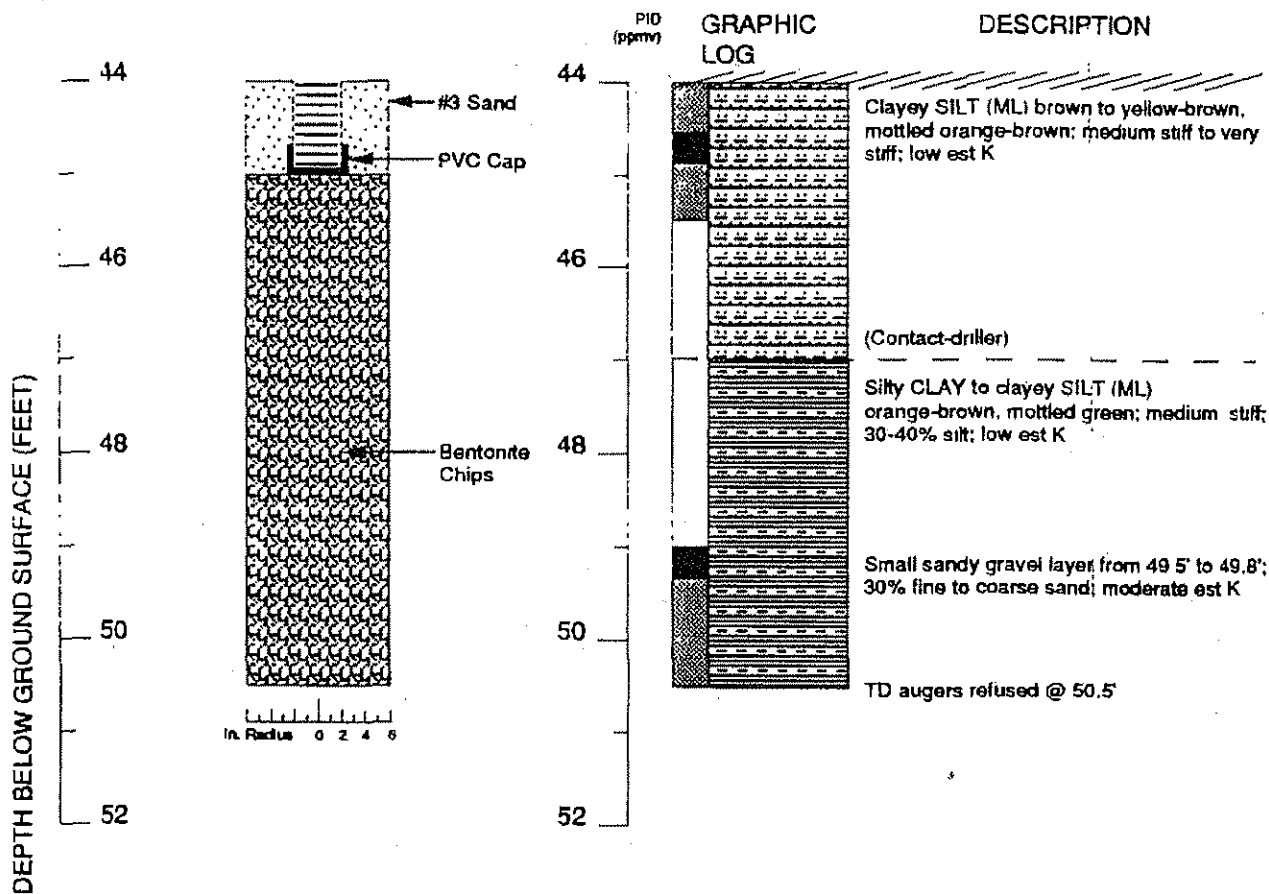
MONITOR WELL MW-4 (cont.)



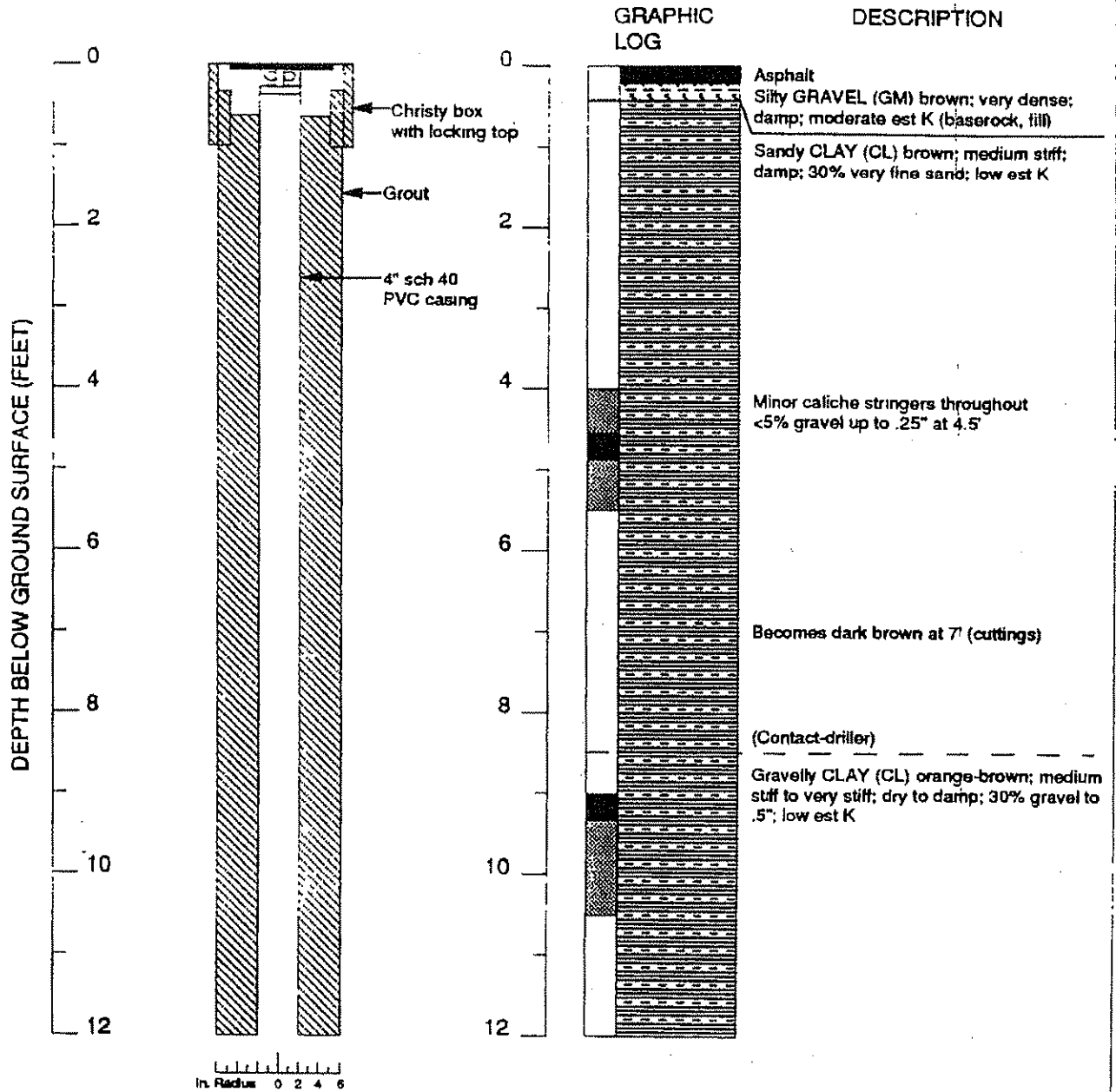
MONITOR WELL MW-4 (cont.)



MONITOR WELL MW-4 (cont.)



MONITOR WELL MW-5



Continues

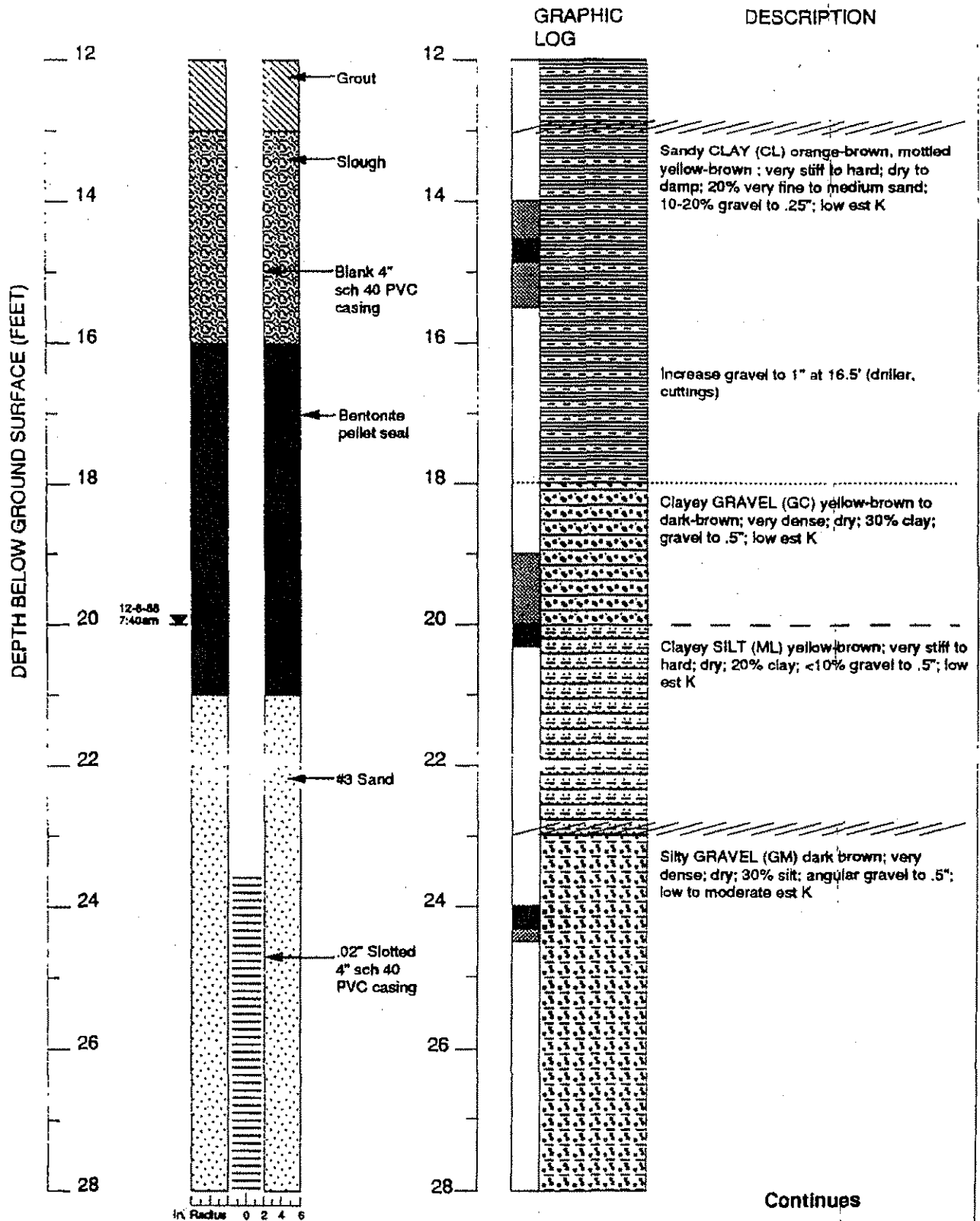
EXPLANATION

- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approx.)
- Gradational (hachured), uncertain (dashed) contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- Grab sample

est K = Estimated permeability (hydraulic conductivity)

Logged by: Todd Daniels
 Supervisor: Todd Daniels
 Drilling Company: Exploration Geoservices, Inc.
 Driller: Dave Yeager
 Drilling Method: Hollow stem auger
 Dates Drilled: 12/7/88-12/8/88
 Well Head Completion: Christy box & locking cap
 Type of Sampler: 2" split barrel
 TD: Drill depth= 31.5 ft

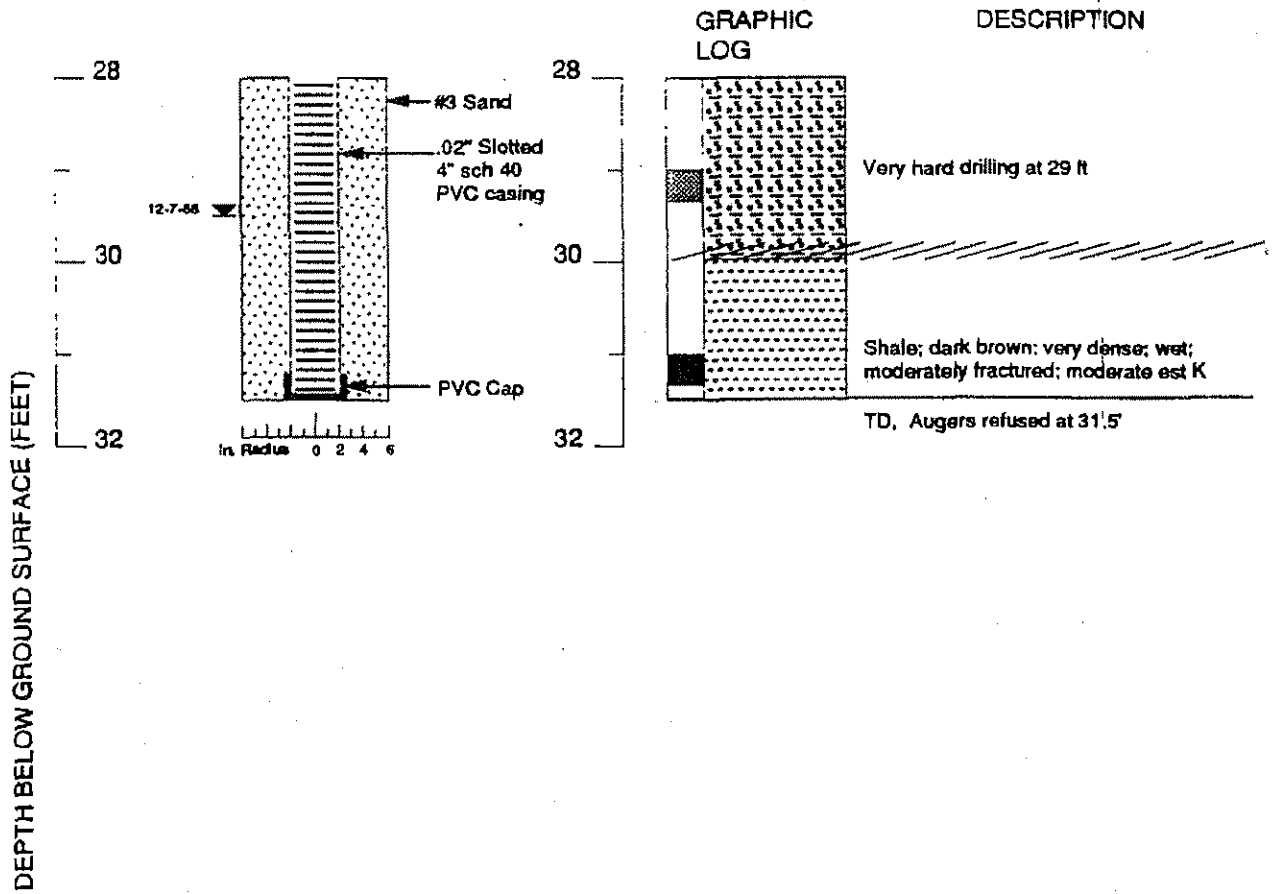
MONITOR WELL MW-5 (cont.)



Boring Log and Well Completion Details MW-5 (cont.)
 WGR Project No.: 8-088.01

Foothill Plaza
 Oakland, CA

MONITOR WELL MW-5 (cont.)



Depth of boring: 61 feet Diameter of boring: 8 inches Date drilled: 06/16/92
 Well depth: 56 feet Material type: Sch 40 PVC Casing diameter: 2 inches
 Screen interval: 37-1/2 to 56 feet Slot size: 0.020-inch
 Drilling Company: Exploration GeoServices Driller: John Collins
 Method Used: Hollow-Stem Auger Field Geologist: Rob Campbell
 Signature of Registered Professional: *Diane M. Buckley*
 Registration No.: CEG 1366 State: CA

Depth	Sample No.	Blows	P.I.D.	USCS Code	Description	Well Const.
0					Pavement. Asphalt (2 inches).	
2				CH	Silty clay, trace sand, dark brown with black mottling, damp, high plasticity, stiff; brick fragments: fill. Color change to black at 2 feet.	
4					Concrete slab, concrete fragments from 4 to 4-1/2 feet	
6	S-5 S-5.5	4 6 8	0	CH	Silty clay, black, damp, high plasticity, stiff.	
8					Color change to brown at 7-1/2 feet.	
10	S-10 S-10.5	9 15 15	0	SC	Clayey sand, fine-grained, trace silt, brown, damp, dense root holes.	
16	S-15 S-15.5	10 19 24	0			
20	S-20 S-20.5	9 13 14	0			

(Section continues downward)



PROJECT: 60026.05

LOG OF BORING B-10/MW-6
 ARCO Station 276
 10600 MacArthur Boulevard
 Oakland, California

PLATE

4

Depth	Sample No.	BLOWS	P.I.D.	USCS Code	Description	Well Const.
-22				SC	Clayey sand, fine-grained, trace silt, brown, damp, medium dense; root holes.	
-24	S-25	4	0			
-26	S-25.5	7				
-28						
-30	S-30	5	0	SP	Medium-grained sand seams, moist; root fibers and holes. Sand, medium-grained, brown, moist, medium dense.	
-32	S-30.5	9				
-34						
-36	S-35	5	0		Trace silt, fine-grained sand.	
-36	S-35.5	8				
-38						
-40	S-39.5	9	0		Water at 40 feet.	
-42		23				
-42		24				
-44	S-45	7	0	SP	Harder drilling at 43-1/2 feet. Gravelly sand, trace silt, coarse-grained sand, brown, wet, very dense.	
-46	S-45.5	47				
-48						
-50	S-50	15	0	SP	Sand, coarse-grained, gray, wet, very dense.	
-50	S-50.5	40				

(Section continues downward)



PROJECT 60026.05

LOG OF BORING B-10/MW-6
ARCO Station 276
10600 MacArthur Boulevard
Oakland, California

PLATE
5

Depth	Sample No.	BLOWS	P.I.D.	USCS Code	Description	Well Const.
-52				SP	Sand, coarse-grained, gray, wet, very dense.	
-54	S-54.5 S-55	23 50/5*	0	SW	Gravelly sand with silt, coarse-grained, brown, wet, very dense.	
-56						
-60	S-60 S-60.5	27 50/5*	0			
-62					Total depth = 61 feet.	
-64						
-66						
-68						
-70						
-72						
-74						
-76						
-78						
-80						



PROJECT 60026.05

LOG OF BORING B-10/MW-6
 ARCO Station 276
 10600 MacArthur Boulevard
 Oakland, California

PLATE
 6

Depth of boring: 37-1/2 feet Diameter of boring: 8 inches Date drilled: 06/16/92
 Well depth: 37-1/2 feet Material type: Sch 40 PVC Casing diameter: 2 inches
 Screen interval: 17-1/2 to 37-1/2 feet Slot size: 0.020-inch
 Drilling Company: Exploration GeoServices Driller: John Collins
 Method Used: Hollow-Stem Auger Field Geologist: Rob Campbell

Signature of Registered Professional: *Dione M. Bailey*
 Registration No.: CEG 1366 State: CA

Depth	Sample No.	Blows	P.I.D.	USCS Code	Description	Well Const.
0					Pavement.	
				CH	Asphalt (2 inches). Silty clay, black, damp, high plasticity, stiff.	
2						
4	S-4.5	8	0	SM	Silty sand, trace clay, fine-grained, brown, damp, dense; root fibers.	
6		15 17				
8					Grades to coarser sand at 8 feet.	
10	S-9.5 S-10	14 16 16	0			
12						
14				SP	Sand, trace clay, fine- to medium-grained, brown, damp dense; root fibers.	
16	S-15 S-15.5	8 7 9	0			
18						
20	S-20 S-20.5	7 9 12	24	SP	Gravelly sand, trace silt, coarse-grained sand, brown, very moist, dense.	
(Section continues downward)						



PROJECT: 60026.05

LOG OF BORING B-11/MW-7
 ARCO Station 276
 10600 MacArthur Boulevard
 Oakland, California

PLATE

7

Depth	Sample No.	BLOWS	P.I.D.	USCS Code	Description	Well Const.
				SP	Gravelly sand, trace silt, coarse-grained sand, brown, very moist, medium dense; noticeable hydrocarbon odor.	
-22				GW	Water at 23 feet; floating product.	
-24	S-24.5 S-25	12 14	25		Sandy gravel, trace silt, brown, wet, medium dense; noticeable hydrocarbon odor.	
-26		14				
-28						
-30	S-29.5 S-30	14 14	242			
-32		12		GM	Silty gravel with sand, brown, wet, medium dense; obvious hydrocarbon odor.	
-34	S-34.5 S-35	12 15	146	GW	Sandy gravel, trace silt, brown, wet, dense; obvious hydrocarbon odor.	
-36	S-36 S-36.5	17 22	95			
-38		19		SP	Sand, fine-grained, brown, wet, dense; obvious hydrocarbon odor.	
-40					Total depth = 37-1/2 feet.	
-42						
-44						
-46						
-48						
-50						



PROJECT 60026.05

LOG OF BORING B-11/MW-7
 ARCO Station 276
 10600 MacArthur Boulevard
 Oakland, California

PLATE
 8

Depth of boring: 50-1/2 feet Diameter of boring: 12 inches Date drilled: 07/16/92
 Well depth: 49 feet Material type: Sch 40 PVC Casing diameter: 4 inches
 Screen interval: 29 to 49 feet Slot size: 0.020-inch
 Drilling Company: Exploration Geoservices Driller: Dave and Fred
 Method Used: Hollow-Stem Auger Field Geologist: Barbara Sieminski

Signature of Registered Professional: *Diane M. Barclay*
 Registration No.: CEG 1366 State: CA

Depth	Sample No.	Blows	P.I.D.	USCS Code	Description	Well Const.
0					Asphalt-covered surface.	
				SP	Asphalt (4 inches).	
				CL/CH	Gravelly sand, gray, damp, dense; baserock.	
2					Silty clay, dark brown, damp, medium to high plasticity, stiff.	
4				CL	Sandy clay, brown, damp, low to medium plasticity, stiff.	
6	S-5	6 8 11	0			
8				SC	Clayey sand, fine-grained, gray, damp, medium dense; obvious product odor.	
10	S-9.5	4 5 7	127			
12					Becoming very moist. No water after waiting 10 minutes.	
14				CL	Sandy clay, brown mottled with gray, damp, medium plasticity, very stiff; obvious product odor.	
16	S-15.5	2 6 11	176			
18					Increasing sand.	
20	S-19	4 9 12	240			
	S-20.5	9 12 14	16	SC	Clayey sand, fine-grained, brown, moist, medium dense	

(Section continues downward)



PROJECT: 60026.05

LOG OF BORING B-12/MW-8
 ARCO Station 276
 10600 MacArthur Boulevard
 Oakland, California

PLATE

9

Depth	Sample No.	BLOWS	P.I.D.	USCS Code	Description	Well Const.
				SC	Clayey sand, fine-grained, brown, moist, medium dense	
-22	S-22	6 12 14	0			
-24	S-24.5	5 7 13	0		Decreasing clay.	
-26						
-28	S-29		34			
-30		6 9 10 5 13		SP	Sand, medium-grained, brown, very moist, dense.	
-32	S-31.5	21 9	0	SP	Gravelly sand, medium- to coarse-grained, brown, wet, dense.	
-34	S-33	15 28	0			
-34	S-34	9 16 22	0			
-36						
-38					Coarser gravel at 38 feet.	
-40	S-39.5	10 16	0			
-42						
-44	S-44.5	14 24 30	0		Very dense.	
-46						
-48						
-50	S-50	14 28 34	0			
					Total depth = 50-1/2 feet.	



PROJECT 60026.05

LOG OF BORING B-12/MW-8
 ARCO Station 276
 10600 MacArthur Boulevard
 Oakland, California

PLATE
 10

Depth of boring: 20-1/2 feet Diameter of boring: 12 inches Date drilled: 07/15/92
 Well depth: 17-1/2 feet Material type: Sch 40 PVC Casing diameter: 4 inches
 Screen interval: 7-1/2 to 17-1/2 feet Slot size: 0.100-inch
 Drilling Company: Exploration Geoservices Driller: Dave and Fred
 Method Used: Hollow-Stem Auger Field Geologist: Barbara Sieminski

Signature of Registered Professional: *Dione M. Barclay*
 Registration No.: CEG 1366 State: CA

Depth	Sample No.	Blows	P.I.D.	USCS Code	Description	Well Const.
0					Asphalt-covered surface. Asphalt (4 inches).	
				SP	Gravelly sand, gray, damp, dense; baserock.	
2				CL/CH	Silty clay, dark brown, damp, medium to high plasticity, stiff.	
4				CL	Sandy clay, brown, damp, low plasticity, very stiff.	
6	S-5	5 9 12	0	SC	Clayey sand, fine-grained, brown, damp, medium dense.	
10	S-10	5 9 12	0		Fine- to medium-grained sand, less clay, trace fine gravel.	
16	S-15	5 7 10	143	GP	Sandy gravel, trace clay, gray, moist, medium dense; obvious product odor.	
18	S-18	9 15 27	121		Decreasing sand. Wet, free product present.	
20	S-19	5 11 10	1280			
					Total depth = 20-1/2 feet	



PROJECT: 60026.05

LOG OF BORING B-13/VW-1
 ARCO Station 276
 10600 MacArthur Boulevard
 Oakland, California

PLATE
 11

Depth of boring: 21-1/2 feet Diameter of boring: 12 inches Date drilled: 07/16/92

Well depth: 18 feet Material type: Sch 40 PVC Casing diameter: 4 inches

Screen interval: 8 to 18 feet Slot size: 0.100-inch

Drilling Company: Exploration Geoservices Driller: Dave and Fred

Method Used: Hollow-Stem Auger Field Geologist: Barbara Sieminski

Signature of Registered Professional: *Stone M. Lavelle*

Registration No.: CEG 1366 State: CA

Depth	Sample No.	Blows	P.I.D.	USCS Code	Description	Well Const.
0					Asphalt-covered surface. Asphalt (4 inches).	
				GP	Sandy gravel, gray, damp, dense: baserock.	
2				CL/CH	Silty clay, dark brown, damp, medium to high plasticity, stiff.	
4				CL	Sandy clay, trace fine gravel, brown, damp, low plasticity, stiff.	
5	S-5	5	0			
7		7				
8		8				
10					Increasing sand. With plant roots.	
10	S-10	4	0			
11		6				
12		7		SC	Clayey sand, fine-grained, brown mottled with gray, moist, medium dense.	
14						
15	S-15	6	17			
16		8				
17		11		GP	Sandy gravel, brown mottled with gray, moist, medium dense. Color change to gray; obvious product odor. Free product present.	
18	S-17.5	6	1084	▽	Clayey sand, brown mottled with gray, moist to wet, medium dense; obvious product odor	
19		4				
20	S-19	3	110	SC	Sand, medium-grained, brown, wet, medium dense, obvious product odor.	
21		2				
21	S-20.5	7	155	SP	Sandy gravel with clay, grayish-brown, wet, medium dense, obvious product odor	
21	S-21	5				
21		7		SP-SC		
21		11				
Total depth = 21-1/2 feet						



LOG OF BORING B-14/VW-2
ARCO Station 276
10600 MacArthur Boulevard
Oakland, California

PLATE
12

PROJECT: 60026.05

Depth of boring: 20-1/2 feet Diameter of boring: 12 inches Date drilled: 07/17/92
 Well depth: 18 feet Material type: Sch 40 PVC Casing diameter: 4 inches
 Screen interval: 8 to 18 feet Slot size: 0.100-inch
 Drilling Company: Exploration Geoservices Driller: Dave and Fred
 Method Used: Hollow-Stem Auger Field Geologist: Barbara Sieminski
 Signature of Registered Professional: *Diane M. Buckley*
 Registration No.: CEG 1366 State: CA

Depth	Sample No.	Blows	P.I.D.	USCS Code	Description	Well Const.
0					Asphalt-covered surface. Asphalt (4 inches).	
				GP		
				CL	Sandy gravel, gray, damp, dense: baserock.	
2					Sandy clay, brown, damp, medium plasticity, stiff; with pieces of wood, asphalt, bricks: backfill.	
				CL/CH		
4				CL	Silty clay, dark brown, damp, medium to high plasticity, stiff.	
	S-5	7 9 12	21		Sandy clay, trace gravel, brown mottled with gray, damp, low plasticity, very stiff.	
6						
				SC	Clayey sand, fine-grained, brown mottled with gray, moisture, medium dense; noticeable product odor.	
8						
	S-10	4 5 6	50			
10						
12						
	S-15	4 7 11	617		Increasing clay. Obvious product odor.	
14						
	S-18	5 7 13	206	SP-SC	Sand with fine gravel and clay, medium-grained sand, brown mottled with gray, very moist, medium dense; obvious product odor.	
16					No gravel.	
	S-19	5 10 10	204	GP-SC	Sandy gravel with clay, gray, wet, medium dense; obvious product odor.	
18					Free product present	
20						
Total depth = 20-1/2 feet.						



PROJECT: 60026.05

LOG OF BORING B-15/VW-3
 ARCO Station 276
 10600 MacArthur Boulevard
 Oakland, California

PLATE
 13

Depth of boring: 21 feet Diameter of boring: 12 inches Date drilled: 07/15/92
 Well depth: 19 feet Material type: Sch 40 PVC Casing diameter: 4 inches
 Screen interval: 9 to 19 feet Slot size: 0.100-inch
 Drilling Company: Exploration Geoservices Driller: Dave and Fred
 Method Used: Hollow-Stem Auger Field Geologist: Barbara Sieminski
 Signature of Registered Professional: Dione M. Barclay
 Registration No.: CEG 1366 State: CA

Depth	Sample No.	Blows	P.I.D.	USCS Code	Description	Well Const.
0					Asphalt-covered surface. Asphalt (4 inches).	
				GP	Sandy gravel with cobbles, brown, damp, dense; baserock.	
2				CL/CH	Silty clay, dark brown, damp, medium to high plasticity, stiff.	
4				CL	Sandy clay, brown, damp, low plasticity, stiff.	
6	S-5	4 7 8	0			
10	S-10	4 7 7	0		With plant roots. Color change to brown with gray mottling, trace fine gravel.	
14					Rougher drilling at 13 feet. With cobbles, color change to gray.	
16	S-15	3 4 6	1244	SP-SC	Gravelly sand with clay, fine- to medium-grained, brown mottled with gray, moist, medium dense; obvious product odor.	
18	S-17	8 11 12	1850	GP-GC	Sandy gravel with clay, gray, moist to wet, medium dense; obvious product odor.	
18		2		SC	Clayey sand, medium-grained, gray, moist to wet, loose; obvious product odor.	
20	S-19	2	27		No water after waiting 15 minutes.	
20	S-20	6 9 14	17	CL	Sandy clay, brown, moist to damp, low plasticity, soft.	
					Total depth = 21 feet	



PROJECT: 60026.05

LOG OF BORING B-16/VW-4
 ARCO Station 276
 10600 MacArthur Boulevard
 Oakland, California

PLATE
 1.4

Depth of boring: 20-1/2 feet Diameter of boring: 12 inches Date drilled: 07/17/92
 Well depth: 18 feet Material type: Sch 40 PVC Casing diameter: 4 inches
 Screen interval: 8 to 18 feet Slot size: 0.100-inch
 Drilling Company: Exploration Geoservices Driller: Dave and Fred
 Method Used: Hollow-Stem Auger Field Geologist: Barbara Sieminski

Signature of Registered Professional: *Stone M. Barclay*
 Registration No.: CEG 1366 State: CA

Depth	Sample No.	Blows	P.I.D.	USCS Code	Description	Well Const.
0					Asphalt-covered surface. Asphalt (4 inches).	
				GP		
				CL/CH	Sandy gravel, gray, damp, dense: baserock.	
2					Silty clay, dark grayish-brown, damp, medium to high plasticity, stiff.	
4				CL	Sandy clay, brown, damp, low plasticity, very stiff.	
5	S-5	5	0			
7		7				
12		12				
8				SC	Clayey sand, fine-grained, brown mottled with gray, moist, medium dense.	
10	S-10	3	15			
11		5				
12		7				
14						
15	S-15	3	657		Obvious product odor. Increasing clay.	
16		3				
17		3				
18	S-18	6	896	SP	Sand, trace gravel, medium-grained, gray, wet, medium dense; obvious product odor.	
19		8				
20	S-19	7	760		Free product present.	
		9				
		11				
					Total depth = 20-1/2 feet.	



PROJECT: 60026.05

LOG OF BORING B-17/VW-5
 ARCO Station 276
 10600 MacArthur Boulevard
 Oakland, California

PLATE

15

Depth of boring: 20 feet Diameter of boring: 12 inches Date drilled: 07/15/92
 Well depth: 18 feet Material type: Sch 40 PVC Casing diameter: 4 inches
 Screen interval: 9 to 18 feet Slot size: 0.100-inch
 Drilling Company: Exploration Geoservices Driller: Dave and Fred
 Method Used: Hollow-Stem Auger Field Geologist: Barbora Sieminski
 Signature of Registered Professional: *Shirley M. Buckley*
 Registration No.: CEG 1366 State: CA

Depth	Sample No.	Blows	P.I.D.	USCS Code	Description	Well Const.
0					Asphalt-covered surface. Asphalt (4 inches).	
				GP	Sandy gravel with cobbles, brown, damp, dense; baserock	
2				CL/CH	Silty clay, dark brown, damp, medium to high plasticity, stiff.	
4				CL	Sandy clay, brown, damp, low plasticity, very stiff.	
6	S-5.5	4 8 9	0			
10	S-10.5	4 5 7	0		Color change to brown with gray mottling, increasing sand, trace fine gravel.	
14				SC	Clayey sand, brown with gray mottling, moist, medium dense; obvious product odor.	
16	S-15.5	4 12 24	1361	GP-GC	Sandy gravel with clay, gray, moist, dense; obvious product odor.	
18	S-17.5	5 6 7	880	SP-SC	Gravelly sand with clay, gray, moist to wet, medium dense; obvious product odor.	
19	S-19	10 12 ?	836	▽	Wet, free product present.	
20					Total depth = 20 feet.	



PROJECT: 60026.05

LOG OF BORING B-18/VW-6
 ARCO Station 276
 10600 MacArthur Boulevard
 Oakland, California

PLATE
 16

Depth of boring: 20 feet Diameter of boring: 12 inches Date drilled: 07/17/92

Well depth: 17-1/2 feet Material type: Sch 40 PVC Casing diameter: 4 inches

Screen interval: 7-1/2 to 17-1/2 feet Slot size: 0.100-inch

Drilling Company: Exploration Geoservices Driller: Dave and Fred

Method Used: Hollow-Stem Auger Field Geologist: Barbara Sieminski

Signature of Registered Professional: *Diane M Barclay*

Registration No.: CEG 1366 State: CA

Depth	Sample No.	Blows	P.I.D.	USCS Code	Description	Well Const.
0					Asphalt-covered surface.	
				GP	Asphalt (4 inches).	
					Sandy gravel, brown, damp, dense; baserock.	
2				GP	Asphalt (3 inches).	
				CL/CH	Sandy gravel, brown, damp, dense; baserock.	
				CL	Silty clay, dark brown, damp, medium to high plasticity, stiff.	
4					Sandy clay, brown, damp, low plasticity, hard.	
	S-5	9	0			
		16				
6		24				
				ML	Sandy silt, brown, damp, low plasticity, hard.	
8						
	S-10	10	0			
		16				
		18				
12						
	S-15	6	14	SC	Clayey sand with gravel, medium-grained, brown mottled with gray, very moist, medium dense.	
		7				
16		8				
	S-17.5	10	23	GP-GC	Sandy gravel with clay, gray, wet, medium dense; noticeable product odor.	
	S-18	13				
		10		CL	Silty clay, brown, damp, medium plasticity, very stiff.	
		7				
	S-19	9	0			
		11				
20					Total depth = 20 feet	



LOG OF BORING B-19/VW-7
 ARCO Station 276
 10600 MacArthur Boulevard
 Oakland, California

PLATE
 17

PROJECT: 60026.05