Jillian Holloway
Project Manager
Marketing Business Unit

Chevron Environmental Management Company
6101 Bollinger Canyon Road, 5338B
San Ramon, CA 94583
Tel (925) 790-3513
JillianHolloway@chevron.com

October 10, 2014

RECEIVED
By Alameda County Environmental Health at 9:18 am, Oct 16, 2014

Alameda County Health Care Services Agency
Environmental Health Services
Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: **RO352, Unocal No. 5484 (351812)**
18950 Lake Chabot Road, Castro Valley, California

I have reviewed the attached report dated October 10, 2014.

I agree with the conclusions and recommendations presented in the referenced Case Closure Summary. The information in this report is accurate to the best of my knowledge and all local Agency/Regional Board guidelines have been followed. This report was prepared by AECOM, upon whose assistance and advice I have relied.

This letter is submitted pursuant to the requirements of California Water Code Section 13257(b)(1) and the regulating implementation entitled Appendix A pertaining thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Sincerely,

Jillian Holloway

Jillian Holloway
Project Manager

Attachment: *Case Closure Summary* by AECOM

AECOM
2020 L Street, Suite 400
Sacramento, CA 95811
www.aecom.com

916 414 5800 tel
916 414 5850 fax

October 10, 2014

Keith Nowell
Alameda County Health Care Services Agency
Environmental Health Services
Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: **Case Closure Summary**
Unocal No. 5484 (351812)
18950 Lake Chabot Road, Castro Valley, California
Fuel Leak Case No. RO0000352
Geotracker Global ID # T0600101453

Dear Mr. Nowell,

On behalf of Chevron Environmental Management Company's (EMC's) affiliate, Union Oil Company of California ("Union Oil"), AECOM has prepared a Case Closure Summary for the Unocal No. 5484 site located at 18950 Lake Chabot Road in Castro Valley, California . This Case Closure Summary follows a Soil, Groundwater, and Soil Vapor Investigation conducted by AECOM at the request of ACEH on July 22, 2014, with the intent of moving the site to closure.

Remarks/Signatures

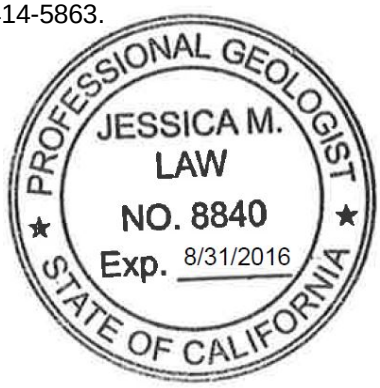
The interpretations in the attached documents represent AECOM's professional opinions which are are based on currently available information and are arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended.

If you have any questions regarding this project, please contact James Harms at (916) 414-5863.

Sincerely,

James Harms
Project Manager

Jessica Law, PG No. 8840
Project Geologist
Stamped: 10/10/2014



cc: Jillian Holloway EMC (via electronic copy)
Abdi Fugfugosh and Shukri Noor, property owners (via paper copy)

Attachments
Attachment A Case Closure Summary

Attachment A

Case Closure Summary

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

I. AGENCY INFORMATION

Date: October 10, 2014

Agency Name: Alameda County Environmental Health	Address: 1131 Harbor Bay Parkway
City/State/Zip: Alameda, CA 94502-6577	Phone: (510) 567-6764
Responsible Staff Person: Keith Nowell	Title: Hazardous Materials Specialist

II. CASE INFORMATION

Site Facility Name: Unocal No. 5484		
Site Facility Address: 18950 Lake Chabot Road, Castro Valley, California 94546		
RB Case No.: 01-1578	STiD No.	LOP Case No.: RO0000352
GeoTracker ID: T0600101453		APN: 84D-1305-2-3
Current Land Use: Active Fueling Station		

Responsible Parties	Addresses	Phone Numbers
Jillian Holloway Chevron Environmental Management Company	6101 Bollinger Canyon Road, Room 5119, San Ramon, California, 94583	(925) 790-3513

This Case Closure Summary along with the Case Closure Transmittal letter and the Remedial Action Completion Certification provides documentation of the case closure. 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. Additional information on the case can be viewed in the online case file. The entire case file can be viewed over the Internet on the Alameda County Environmental Health (ACEH) website (http://www.acgov.org/aceh/lop/ust.htm) or the State of California Water Resources Control Board GeoTracker website (http://geotracker.waterboards.ca.gov). Not all historic documents for the fuel leak case may be available on GeoTracker. A more complete historic case file for this site is located on the ACEH website.

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and Type of Release: Release from underground storage tank (UST) system discovered in June 1988.		
Number of monitoring wells installed: 7	Number of monitoring wells destroyed: 7	Number of monitoring wells remaining: 0
Highest Groundwater Depth Below Ground Surface: 3.5' (2.99 ft btoc)	Lowest Depth: 12.0; (11.46 feet btoc)	Flow Direction: Southwest
Most Sensitive Current Groundwater Use: Potential drinking water source		

Summary of Production Wells in Vicinity: No water supply wells were identified within 2,000 feet of the site. The nearest well is an unspecified use well 2,700 feet south-southeast.	
Are drinking water wells affected? No	Aquifer Name: East Bay Plain
Is surface water affected? No	Nearest Surface Water Name: Almond Reservoir is approximately 3,080 feet west of the site.

LTCP GROUNDWATER SPECIFIC CRITERIA						
LTCP Groundwater Specific Scenario under which case was closed: Scenario 5						
Site Data			LTCP Scenario 1 Criteria (ppb)	LTCP Scenario 2 Criteria (ppb)	LTCP Scenario 3 Criteria (ppb)	LTCP Scenario 4 Criteria (ppb)
Plume Length	65 feet estimated, not 100% defined		<100 feet	<250 feet	<250 feet	<1,000 feet
Free Product	No free product		No free product	No free product	Removed to maximum extent practicable	No free product
Plume Stable or Decreasing	decreasing		Stable or decreasing	Stable or decreasing	Stable or decreasing for minimum of 5 Years	Stable or decreasing
Distance to Nearest Water Supply Well	2,700 feet		>250 feet	>1,000 feet	>1,000 feet	>1,000 feet
Distance to Nearest Surface Water and Direction	3,080 feet upgradient		>250 feet	>1,000 feet	>1,000 feet	>1,000 feet
Property Owner Willing to Accept a Land Use Restriction?	Not applicable for groundwater specific criteria		Not applicable	Not applicable	Yes	Not applicable
GROUNDWATER CONCENTRATIONS						
Constituent	Historic Site Maximum (ppb)	Current Site Maximum (ppb)	LTCP Scenario 1 Criteria (ppb)	LTCP Scenario 2 Criteria (ppb)	LTCP Scenario 3 Criteria (ppb)	LTCP Scenario 4 Criteria (ppb)
Benzene	980	5.8	No criteria	3,000	No criteria	1,000
MTBE	1,600	42	No criteria	1,000	No criteria	1,000
TPHg	11,000	1,900	No criteria	No criteria	No criteria	No criteria
Scenario 5: If the site does not meet scenarios 1 through 4, has a determination been made that under current and reasonably expected future scenarios, the contaminant plume poses a low threat to human health and safety and to the environment and water quality objectives will be achieved within a reasonable time frame?			Yes, see Section V, additional comments.			

LTCP VAPOR SPECIFIC CRITERIA							
LTCP Vapor Specific Scenario under which case was closed*:* Active fueling station exempt from vapor specific criteria but meets Scenario 4 Criteria for downgradient and future residential land uses.							
Active Fueling Station	Active as of 09/30/2014						
Site Data		LTCP Scenario 1 Criteria	LTCP Scenario 2 Criteria	LTCP Scenario 3A Criteria	LTCP Scenario 3B Criteria	LTCP Scenario 3C Criteria	LTCP Scenario 4 Criteria
Unweathered NAPL	No NAPL	LNAPL in groundwater	LNAPL in soil	No NAPL	No NAPL	No NAPL	No criteria
Thickness of Bioattenuation Zone Beneath Foundation	<5 feet	≥30 feet	≥30 feet	≥5 feet	≥10 feet	≥5 feet	≥5 feet
Total TPH in Bioattenuation Zone	<100 ppm	<100 ppm	<100 ppm	<100 ppm	<100 ppm	<100 ppm	<100 ppm
Maximum Current Benzene Concentration in Groundwater	5.8 ppb	No criteria	No criteria	<100 ppb	≥100 and <1,000 ppb	<1,000 ppb	No criteria
Oxygen Data within Bioattenuation Zone	17%	No criteria	No criteria	No oxygen data or <4%	No oxygen data or <4%	≥4% at lower end of zone	≥4% at lower end of zone
Depth of soil vapor measurement beneath foundation	5 feet	No criteria	No criteria	No criteria	No criteria	No criteria	≥5 feet

SCENARIO 4 DIRECT MEASUREMENT OF SOIL VAPOR CONCENTRATIONS						
Site Soil Vapor Data			No Bioattenuation Zone		Bioattenuation Zone	
Constituent	Historic Maximum ($\mu g/m^3$)	Current Maximum ($\mu g/m^3$)	Residential	Commercial	Residential	Commercial
Benzene	11	11	<85	<280	<85,000	<280,000
Ethylbenzene	28	28	<1,100	<3,600	<1,100,000	<3,600,000
Naphthalene	<25	<25	<93	<310	<93,000	<310,000
If the site does not meet scenarios 1 through 4, does a site-specific risk assessment for the vapor intrusion pathway demonstrate that human health is protected?				---		
If the site does not meet scenarios 1 through 4, has a determination been made that petroleum vapors from soil or groundwater will have no significant risk of adversely affecting human health as a result of controlling exposure through the use of mitigation measures or through the use of institutional controls?				---		

LTCP DIRECT CONTACT AND OUTDOOR AIR EXPOSURE CRITERIA						
LTCP Direct Contact and Outdoor Air Exposure Specific Scenario under which case was closed: A determination been made that the concentrations of petroleum in soil will have no significant risk of adversely affecting human health.						
Are maximum concentrations less than those in Table 1 below?		No				
Constituent		Residential		Commercial/Industrial		Utility Worker
		0 to 5 feet bgs (ppm)	Volatilization to outdoor air (5 to 10 feet bgs) ppm	0 to 5 feet bgs (ppm)	Volatilization to outdoor air (5 to 10 feet bgs) ppm	0 to 10 feet bgs (ppm)
Site Maximum	Benzene	0.83	4.2	0.83	4.2	4.2
LTCP Criteria	Benzene	≤1.9	≤2.8	≤8.2	≤12	≤14
Site Maximum	Ethylbenzene	3.81	160	3.81	160	160
LTCP Criteria	Ethylbenzene	≤21	≤32	≤89	≤134	≤314
Site Maximum	Naphthalene	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
LTCP Criteria	Naphthalene	≤9.7	≤9.7	≤45	≤45	≤219
Site Maximum	PAHs	<0.0030	0.008792	<0.0030	0.008792	0.008792
LTCP Criteria	PAHs	≤0.063	NA	≤0.68	NA	≤4.5
If maximum concentrations are greater than those in Table 1, are they less than levels from a site-specific risk assessment?		---				
If maximum concentrations are greater than those in Table 1, has a determination been made that the concentrations of petroleum in soil will have no significant risk of adversely affecting human health as a result of controlling exposure through the use of mitigation measures or through the use of institutional controls?		Yes, see Section IV.				

IV. CLOSURE

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, closure of this site appears to be consistent with the policies established by the State Water Resources Control Board Low-Threat Underground Storage Tank Closure Policy which became effective on August 17, 2012.

Site Management Requirements:

1) DIRECT CONTACT ISSUE – SITE DOES NOT MEET COMMERCIAL AND RESIDENTIAL

This fuel leak case has been evaluated for closure consistent with the State Water Resources Control Board Low-Threat Underground Storage Tank Closure Policy (LTCP). Benzene was detected in one soil sample collected from the gasoline UST sidewall from 5 to 10 feet bgs which exceeded the numerical criteria for outdoor air exposure prescribed in the LTCP for residential land use. Ethylbenzene was detected in one soil sample near the former waste oil UST from 5 to 10 feet bgs which exceeded the numerical criteria for outdoor air exposure prescribed in the LTCP for residential and commercial land use. Oxygen was measured at the site during the 2014 soil vapor investigation which measured oxygen in the subsurface at 17%. According to the LTCP oxygen greater than 4% creates an assumed "1000-fold attenuation for migrating vapors" in the bioattenuation zone. Under the current land use as an active fueling station, most of the site is paved with minor landscaped areas near the site boundaries resulting in a low potential for direct exposure under the current land use. Therefore, case closure is granted for the current commercial land use as an active fueling station.

If a change in land use to any residential, commercial other than as an active fueling station, or conservative land use, or if any redevelopment occurs, 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.

Excavation or construction activities in areas of residual contamination require planning and implementation of appropriate health and safety procedures by the responsible party prior to and during excavation and construction activities.

Should corrective action be reviewed if land use changes? No

Was a deed restriction or deed notification filed? No	Date Recorded: ----

V. ADDITIONAL COMMENTS AND CONCLUSION

Additional Comments:

Scenario 5 for Groundwater Criteria: Due to the locations of downgradient wells MW-4 and MW-5, there is the potential for hydrocarbons in groundwater to migrate undetected between these wells. However, a 1,000 foot buffer between the nearest down gradient receptor exists beyond the maximum plumes lengths specified from the LTCP justification paper.

Conclusion:

LAND USE RESTRICTIONS

Alameda County Environmental Health staff believe that the site meets the conditions for case closure under the State Water Resources Control Board Low-Threat Underground Storage Tank Closure Policy. Based upon the information available in our files to date, no further investigation or cleanup for the fuel leak case is necessary at this time. However, as specified in the Site Management Requirements, re-evaluation of this case is required if land uses changes to any residential or other conservative land use, or any redevelopment occurs.

VI. LOCAL AGENCY REPRESENTATIVE DATA

Prepared by: Keith Nowell	Title: Hazardous Materials Specialist
Signature:	Date:
Approved by: Dilan Roe	Title: LOP and SCP Program Manager
Signature:	Date:

VII. REGIONAL BOARD AND PUBLIC NOTIFICATION

Regional Board Staff Name: Cherie McCaulou	Title: Engineering Geologist
Regional Board Notification Date: tbd	
Public Notification Date: tbd	

VIII. MONITORING WELL DESTRUCTION

Date Requested by ACEH: tbd	Date of Well Decommissioning Report: tbd	
All Monitoring Wells Destroyed: Yes	Number Destroyed: 7	Number Retained: 0
Reason Wells Retained: ----		
Additional requirements for submittal of groundwater data from retained wells: ----		
ACEH Concurrence - Signature:		Date:

Attachments:

1. Site Receptor and Plume Maps (2 pp)
2. Site Plan (1 p)
3. Groundwater Contour and Chemical Concentration Maps (2 pp)
4. Soil and Soil Vapor Analytical Data (8 pp)
5. Groundwater Analytical Data (8 pp)
6. Cross Sections (2 pp)
7. Concentration Graphs (11 pp)
8. Boring Logs (26 pp)
9. List of Landowners Form (1pp)

Site Receptor and Plume Maps (2pp)

Legend

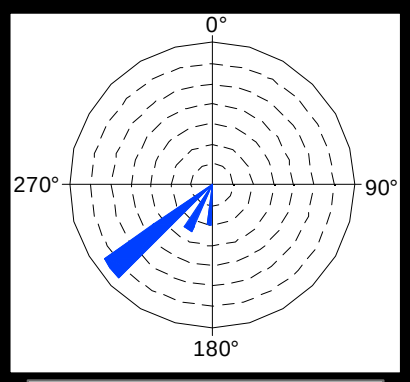
- Abandoned Monitoring Well
- Active Monitoring Well
- Supply Well, 2006 DWR Search
- Supply Well 2014 ACPW Search
- Maximum Plume plus 1,000 foot Buffer
- Maxium MTBE Plume Extent
- Source Area

Sensitive Receptors

- Community Center
- Church
- School

Surface Water

- Creeks, Buried or Drained
- Underground Culverts and Storm Drains



Historical Groundwater Flow Direction 4Q90 to 1Q13

2,000 Feet

Central Chinese Christian Church

The Church of Jesus Christ Latter-Day Saints

1,000 Feet

Almond Reservoir 3,080 Feet

Site Location

Casto Valley Community Center

Chabot Elementary School

Castro Valley Church of the Nazarene

East Bay Chinese Church

Map Source: ESRI Data Resource Center 2013.

AECOM
2020 L Street, Suite 400
Sacramento, CA 958211
916.414.5800

N

0 0.125 0.25 Miles

Figure 1: Receptor Map

Unocal No. 5484 (351812), RO352
18950 Lake Chabot Road
Castro Valley, California

Path: P:\ENV\01231-Chevron\76Products_transfer_sites\351812_5484_Castro Valley\7.0 Deliverables\7.2 CADD\GIS\Projects\FSCM\Figure 1_Receptor_Map_351812.mxd

Legend

- Abandoned Monitoring Well
- Active Monitoring Well
- Maximum Plume plus 1,000 foot Buffer
- Maxium MTBE Plume Extent
- Source Area

Sensitive Receptors

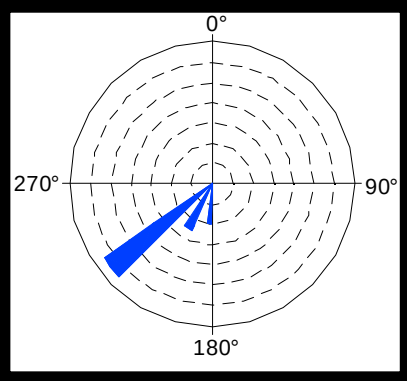
- Community Center
- Church
- School

Surface Water

- Creeks, Buried or Drained
- Underground Culverts and Storm Drains

1,000 Feet

Almond Reservoir 3,080 Feet



Historical Groundwater Flow Direction 4Q90 to 1Q13

Site Location

MW-3
MW-6
MW-1
MW-2
MW-4B
MW-4A
MW-7
MW-4
MW-5

Area of Potential MTBE Plume Migration from LTC Justification Paper and Historical Groundwater Flow Direction

Hillside: Elevation Increases to Above the Site Elevation

1,000 Foot Buffer Beyond Maximum MTBE Plume

2,000 Feet

Path: P:\ENV\01231-Chevron\76Products_transfer_sites\351812_5484_Castro Valley\7.0 Deliverables\7.2 CADD\GIS\Projects\FSCM\Figure2_Plume_extents_351812_.mxd

Map Source: ESRI Data Resource Center 2013.

AECOM
2020 L Street, Suite 400
Sacramento, CA 958211
916.414.5800

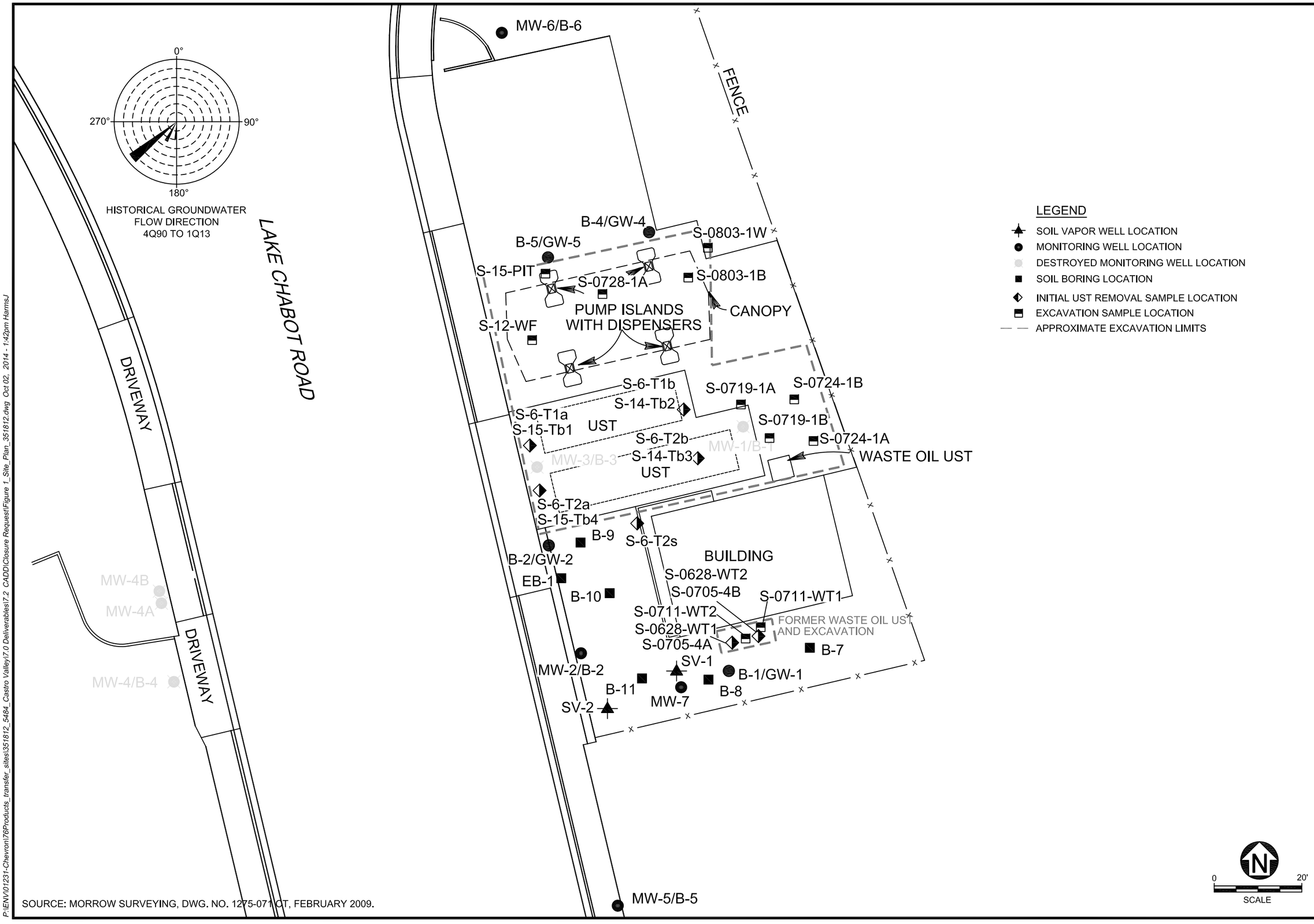
N

0 300 600 Feet

Figure 2: Plume Extent Map

Unocal No. 5484 (351812), RO352
18950 Lake Chabot Road
Castro Valley, California

Site Plan (1pp)



SOURCE: MORROW SURVEYING, DWG. NO. 1275-071CT, FEBRUARY 2009.

P:\ENV\01231-Chevron\76Products_transfer_sites\351812_5484_Castro Valley\7.0 Deliverables\7.2_CADD\Closure Request\Figure 1_Site_Plan_351812.dwg Oct 02, 2014 - 1:42pm Harms,J

REVISIONS			
NO.:	DESCRIPTION:	DATE:	BY:

DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:
	JH	JL	JH

AECOM
2020 L STREET, SUITE 170
SACRAMENTO, CALIFORNIA 95811
PHONE: (916) 414-5800
FAX: (916) 414-5850
WEB: HTTP://WWW.AECOM.COM

SITE PLAN

Unocal No. 5484 (351812), RO352
18950 Lake Chabot Road
Castro Valley, California

SCALE:	DATE:	PROJECT NUMBER:
1" = 20'	10/02/2014	60318102

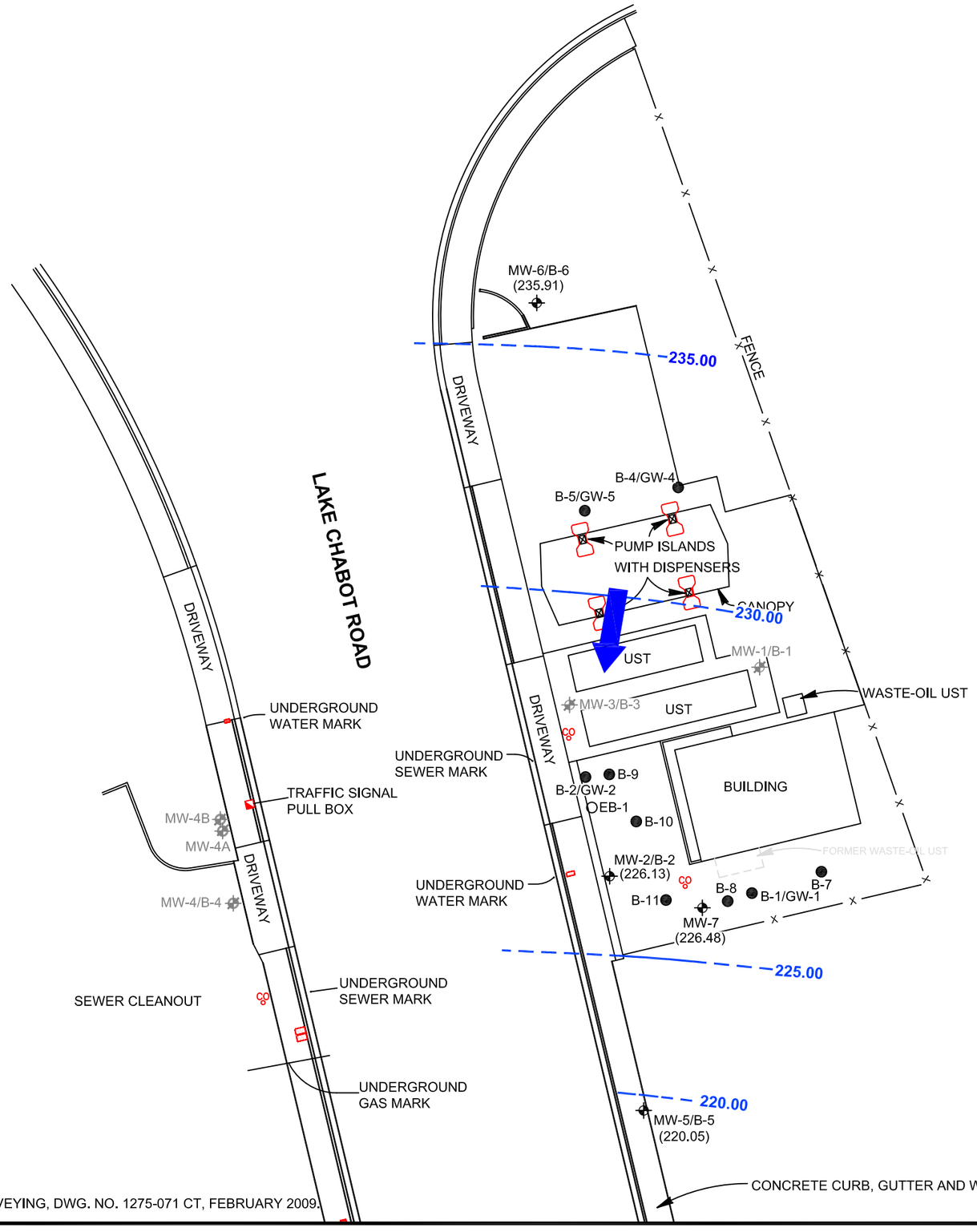
FIGURE NUMBER:

1

SHEET NUMBER:

1 of 1

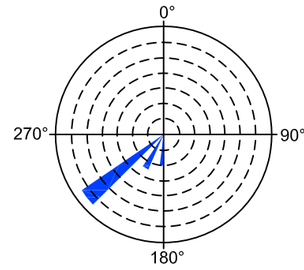
Groundwater Contour and Chemical Concentration Maps (2pp)



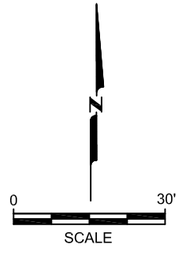
SOURCE: MORROW SURVEYING, DWG. NO. 1275-071 CT, FEBRUARY 2009.

Legend

- Monitoring Well
- Destroyed Monitoring Well
- Soil Boring
- UST — Underground Storage Tank
- (#) — Groundwater Elevation in Feet Above Mean Sea Level
- 230.00 — Groundwater Contour Line in Feet Above Mean Sea Level (Dashed Where Inferred)
- Groundwater Flow Direction
- Hydraulic Gradient = 0.15 Feet per Foot



HISTORICAL GROUNDWATER
FLOW DIRECTION
4Q90 TO 1Q13



REVISIONS			
NO.:	DESCRIPTION:	DATE:	BY:

DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:
TQ	TQ	JH	JH

AECOM TECHNICAL SERVICES
10461 OLD PLACERVILLE ROAD, SUITE 170
SACRAMENTO, CALIFORNIA 95827
PHONE: (916) 361-6400
FAX: (916) 361-6401
WEB: HTTP://WWW.AECOM.COM

Groundwater Elevation Contour Map

Unocal Service Station #5484 (351812), RO352
18950 Lake Chabot Road
Castro Valley, California

PROJECT NUMBER:	DATE:	SCALE:
60284081	2/12/2013	1" = 30'

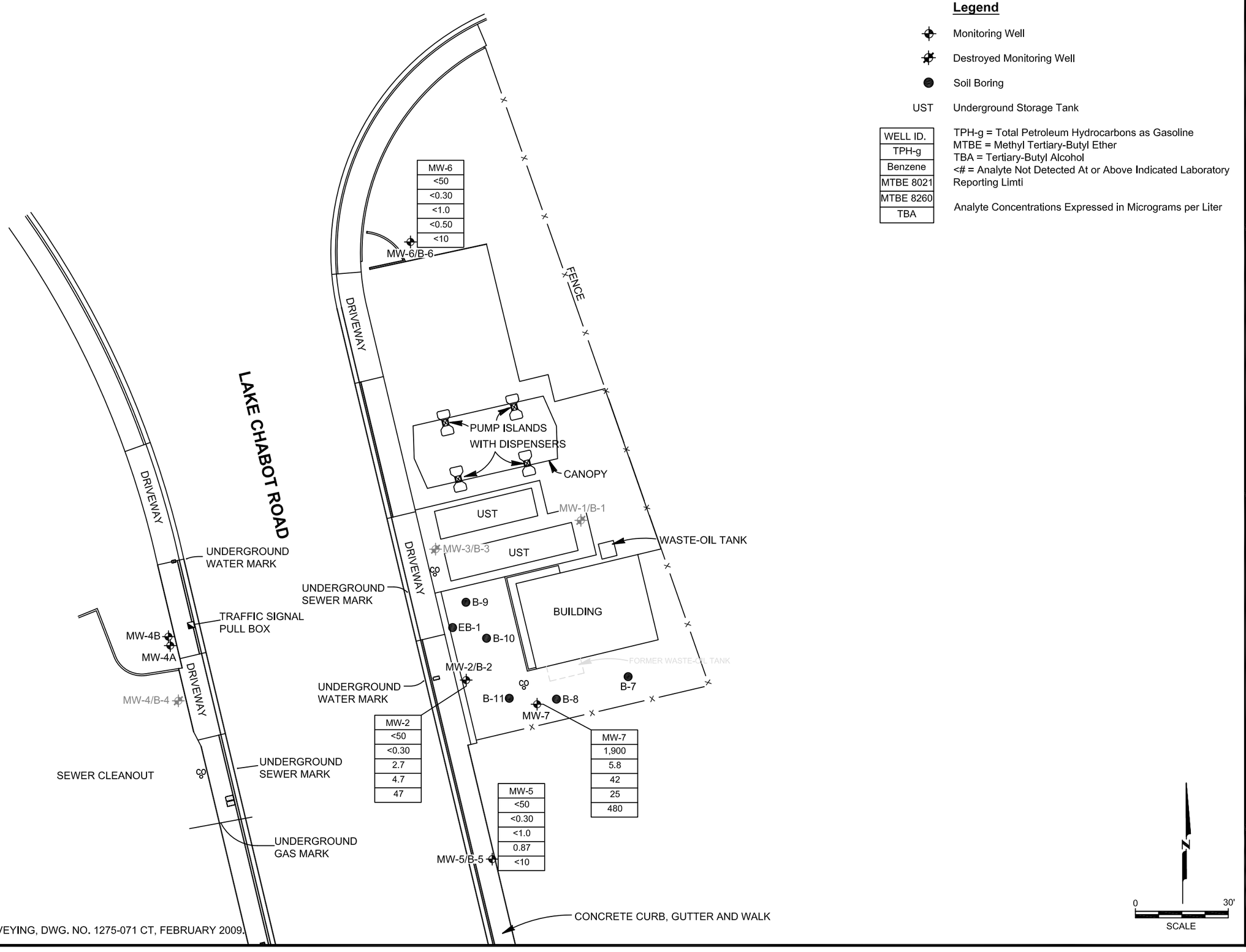
FIGURE NUMBER:

3

SHEET NUMBER:

1 of 1

P:\ENV\01231-Chevron\76Products_transfer_sites\351812_5484_Castro Valley\7.0 Deliverables\7.2_CADD\CSM\Fig 2 - GW Elevation.dwg Jul 21, 2014 - 4:46pm HarmsJ



Legend

- Monitoring Well
- Destroyed Monitoring Well
- Soil Boring
- UST — Underground Storage Tank

WELL ID.
TPH-g
Benzene
MTBE 8021
MTBE 8260
TBA

TPH-g = Total Petroleum Hydrocarbons as Gasoline
MTBE = Methyl Tertiary-Butyl Ether
TBA = Tertiary-Butyl Alcohol
<# = Analyte Not Detected At or Above Indicated Laboratory Reporting Limti

Analyte Concentrations Expressed in Micrograms per Liter

SOURCE: MORROW SURVEYING, DWG. NO. 1275-071 CT, FEBRUARY 2009.

REVISIONS			
NO.:	DESCRIPTION:	DATE:	BY:

DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:
TQ	TQ	JH	JH

AECOM
AECOM TECHNICAL SERVICES
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Groundwater Analytical Data Map

Unocal Service Station #5484 (351812)
18950 Lake Chabot Road
Castro Valley, California

SCALE:	DATE:	PROJECT NUMBER:
1" = 30'	03/30/2013	60284081

FIGURE NUMBER:
3

SHEET NUMBER:
1 of 1

J:\Client-Projects\76_Products\351812-Castro_Valley-18950_Lake_Chabot_Rd\7.0_Deliverables\7.2_CADD-Graphics\CADD\Fig 3 - GW Analytical Data.dwg Apr 17, 2013 - 12:58pm quirozt

Soil and Soil Vapor Analytical Data (8pp)

TABLE 1
CUMULATIVE SOIL DATA
UNOCAL NO. 5484 (351812), RO352
18950 LAKE CHABOT ROAD
CASTRO VALLEY, CALIFORNIA

Sample Location	Date	Sample Area	Sample Depth (fbg)	TOG (ppm)	TPHd (mg/kg)	TPHg (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Total Xylenes (ppm)	MTBE (mg/kg)	HVOC (ppm)	Lead (mg/kg)
Applied GeoSystems, 1988, Report of Subsurface Environmental Investigation, April 30.													
S-15-B1 (MW-1)	7/12-13/1988	MW-1	15	--	--	3	0.06	0.56	0.24	1.21	--	--	--
S-5-B2 (MW-2)	7/12-13/1988	MW-2	5	--	--	12	0.16	0.92	0.66	3.58	--	--	--
S-5-B3 (MW-3)	7/12-13/1988	MW-3	5	--	--	79	0.83	6.63	3.81	26.12	--	--	--
Applied GeoSystems 1990, Report on Soil Excavation, Aeration, and Sampling, March 30.													
S-8.5-B4 (MW-4)	5/23-24/1989	MW-4	8.5	--	--	<2.0	<0.050	<0.050	<0.050	<0.050	--	--	--
S-13.5-B4 (MW-4)	5/23-24/1989	MW-4	13.5	--	--	<2.0	<0.050	<0.050	<0.050	<0.050	--	--	--
S-8.5-B5 (MW-5)	5/23-24/1989	MW-5	8.5	--	--	<2.0	<0.050	<0.050	<0.050	<0.050	--	--	--
S-13.5-B5 (MW-5)	5/23-24/1989	MW-5	13.5	--	--	2.4	<0.050	<0.050	<0.050	<0.050	--	--	--
S-8.5-B6 (MW-6)	5/23-24/1989	MW-6	8	--	--	<2.0	<0.050	<0.050	<0.050	<0.050	--	--	--
S-13.5-B6 (MW-6)	5/23-24/1989	MW-7	13.5	--	--	<2.0	<0.050	<0.050	<0.050	<0.050	--	--	--
Applied GeoSystems 1990, Report on Soil Excavation, Aeration, and Sampling, March 30.													
~~S-6-T1a~~	~~6/13/1989~~	Gasoline UST initial	~~6~~	--	--	~~2,100~~	~~13.00~~	~~110~~	~~37~~	~~230~~	--	--	--
~~S-6-T1b~~	~~6/13/1989~~		~~6~~	--	--	~~1,800~~	~~5.60~~	~~89~~	~~35~~	~~210~~	--	--	--
~~S-6-T2a~~	~~6/13/1989~~		~~6~~	--	--	~~4,300~~	~~12.00~~	~~150~~	~~57~~	~~350~~	--	--	--
~~S-6-T2b~~	~~6/13/1989~~		~~6~~	--	--	~~1,400~~	~~9.70~~	~~100~~	~~47~~	~~270~~	--	--	--
S-6-T2s	6/13/1989		6	--	--	1,800	4.20	48	39	240	--	--	--
S-15-Tb1	6/16/1989		15	--	--	<2.0	<0.050	0.056	<0.050	0.15	--	--	--
S-14-Tb2	6/16/1989		14	--	--	<2.0	<0.050	<0.050	<0.050	<0.050	--	--	--
S-14-Tb3	6/16/1989		14	--	--	<2.0	<0.050	<0.050	<0.050	<0.050	--	--	--
S-15-Tb4	6/16/1989	Gasoline UST Excavation	15	--	--	8.90	<0.050	0.27	0.13	0.88	--	--	--
S-12-WF	7/25/1989		12 (?)	--	--	<2.0	<0.050	<0.050	<0.050	<0.050	--	--	--
S-0728-1A	7/28/1989		+	--	--	<2.0	<0.050	<0.050	<0.050	<0.050	--	--	--
S-15-PIT	8/1/1989		15	--	--	3.4	<0.050	<0.050	<0.050	<0.050	--	--	--
S-0803-1B	8/3/1989		+	--	--	<2.0	<0.050	<0.050	<0.050	<0.050	--	--	--
S-0803-1W	8/3/1989		++	--	--	<2.0	<0.050	<0.050	<0.050	<0.050	--	--	--
S-0719-1A/1B	5/30/1990	Gasoline UST Excavation	11.5	--	--	<2.0	<0.050	<0.050	<0.050	<0.050	--	--	--
S-0724-1A/1B	5/30/1990		12	--	--	<2.0	<0.050	<0.050	<0.050	<0.050	--	--	--
~~S-0628-WT1,2~~	~~6/28/1989~~	Waste Oil UST Initial	~~7~~	--	--	~~650~~	~~<2.0~~	~~8~~	~~3~~	~~26~~	--	--	--
~~S-0705-4A-4B~~	~~7/5/1989~~		~~7~~	~~1,200~~	--	~~110~~	~~0.026~~	~~0.110~~	~~0.065~~	~~0.480~~	--	--	--
S-0711-WT1	7/11/1989	Waste Oil UST Excavation	8	1300	--	480	<1.0	12	15	74	--	--	--
S-0711-WT2	7/11/1989		8	1800	--	87	<0.5	1.3	2.1	9.1	--	--	--
Applied GeoSystems 1990, Report on Soil Excavation, Aeration, and Sampling, March 30.													
S-5.0-B7	11/17-18/1989	Southeast of Waste Oil UST	5	--	--	<2.0	<0.050	<0.050	<0.050	0.090	--	--	--
S-10.0-B7	11/17-18/1989		10	--	--	6.1	0.062	0.54	160	0.91	--	--	--
S-15.0-B7	11/17-18/1989		15	--	--	--	--	--	--	--	--	ND	--
S-20.0-B7	11/17-18/1989		20	--	--	--	--	--	--	--	--	ND	--
S-5.0-B8	11/17-18/1989	South of Waste Oil UST	5	--	--	--	--	--	--	--	--	ND	--
S-9.5-B8	11/17-18/1989		9.5	--	--	200	0.34	0.91	4.1	23	--	--	--
S-10.0-B8	11/17-18/1989		10	--	--	--	--	--	--	--	--	ND	--
S-15.0-B8	11/17-18/1989		15	--	--	66	0.12	0.430	1.1	5.9	--	--	--
S-10.0-B9	11/17-18/1989	South of Gasoline USTs	10	--	--	86	1.1	0.670	2	3.7	--	--	--
S-17.0-B9	11/17-18/1989		17	--	--	3.7	<0.050	0.092	0.076	0.13	--	--	--

TABLE 1
CUMULATIVE SOIL DATA
UNOCAL NO. 5484 (351812), RO352
18950 LAKE CHABOT ROAD
CASTRO VALLEY, CALIFORNIA

Sample Location	Date	Sample Area	Sample Depth (fbg)	TOG (ppm)	TPHd (mg/kg)	TPHg (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Total Xylenes (ppm)	MTBE (mg/kg)	HVOC (ppm)	Lead (mg/kg)
S-10.0-B10	11/17-18/1989	South of B-9	10	--	--	220	0.27	<0.050	5.6	16	--	--	--
S-19.5-B10	11/17-18/1989		19.5	--	--	16	0.081	0.120	0.62	1.8	--	--	--
S-10.0-B11	11/17-18/1989	West of Waste Oil UST	10	<50	--	45	0.074	0.330	1.2	3.1	--	--	--
S-14.5-B11	11/17-18/1989		14.5	--	--	--	--	--	--	--	--	ND	--
S-15.0-B11	11/17-18/1989		15	<50	--	3.4	<0.050	0.061	0.086	2.5	--	--	--
Kaprealian Engineering, Inc. (KEI), Results of Soil and Groundwater Investigation, June 27, 1991													
EB1 (3)	5/7/1991	East Along Sidewalk	3	--	--	1.8	ND	0.0066	0.05	0.12	--	--	--
EB1 (6.5)	5/7/1991		6.5	--	--	33	0.16	0.13	0.73	3.6	--	--	--
MW7 (4.5)*	5/7/1991	MW-7	4.5	--	ND	ND	ND	0.013	ND	0.013	--	--	--
MW7 (10)*	5/7/1991	MW-7	10	--	3.1	19	0.048	0.0086	0.5	1.6	--	--	--
MW7 (13)*	5/7/1991	MW-7	13	--	9.1	130	0.51	0.25	1.9	2.5	--	--	--
Delta Consultants, Inc., 2005, Baseline Assessment Report, March 3, 2005.													
B-1	1/13/2005	South of Waste Oil UST	1.5	--	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	--	21
B-2	1/13/2005	Southeast of Gasoline USTs	6.5	--	--	29	<0.024	<0.024	0.95	1.7	<0.024	--	--
B-2	1/13/2005		19.5	--	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	--	--
B-4	1/13/2005	North of Gasoline USTs	7	--	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	--	--
B-5	1/13/2005		21.5	--	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	--	--
Delta Consultants, Inc., 2009, Well Replacement Report, April 2, 2009.													
MW-4A@9	2/18/2009	MW-4A	9	--	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	--	7.2
MW-4B@10	2/18/2009	MW-4B	10	--	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	--	13
MW-4B@14	2/18/2009	MW-4B	14	--	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	--	13

Abbreviations and Notes:

TOG = Total oil and grease by Method SM 503
TPHd = Total petroleum hydrocarbons as diesel by EPA Method 8015
TPHg = Total petroleum hydrocarbons as gasoline by EPA Method 8015
Benzene, toluene ethylbenzene and total xylenes by EPA Method 8020
MTBE = Methyl tert butyl ether by EPA Method 8020
HVOC = Halogenated Volatile Organic Compounds by EPA Method 8010
fbg = Feet below grade
mg/kg = Milligrams per kilogram
ppm = Parts per million
ND = Not detected at or above laboratory detection limits
<x.xx = Not detected at or above laboratory detection limit indicated
* = TOG and all EPA Method 8010 constinuents were nondetectable.
? = Approximate depth
~~1234~~ = Sample point overexcavated
+ = Floor excavation
++ = Sidewall of excavation

Table 1
Soil Chemical Analytical Results
RO352, Unocal No. 5484 (351812)
18950 Lake Chabot Road
Castro Valley, California

Sample ID	Date	Benzene	Ethylbenzene	Toluene	Xylenes (Total)	MTBE	TPH-Gasoline (C6-C12)	TPH-Diesel (C6-C12)	TPH-Motor Oil (C6-C12)	Napthalene	PAH[1]
0 to 5 feet bgs											
LTCP Residential		**1.9**	**21**	**--**	**--**	**--**	**--**	**--**	**--**	**9.7**	**0.063**
LTCP Commercial		**8.2**	**89**	**--**	**--**	**--**	**--**	**--**	**--**	**45**	**0.68**
LTCP Utility Worker		**14**	**314**	**--**	**--**	**--**	**--**	**--**	**--**	**219**	**4.5**
Shallow Soil ESL		**0.044**	**3.3**	**2.9**	**2.3**	**0.023**	**100**	**100**	**100**	**1.2**	--
SV-1-S-N-5-20140820	8/20/2014	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<4.0	<2.0	**4.7**	<0.0030	<0.0030
SV-2-S-N-5-20140820	8/20/2014	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<4.0	<2.0	**4.7**	<0.0030	**0.008792**
5 to 10 feet bgs											
LTCP Residential		2.8	32	**--**	**--**	**--**	**--**	**--**	**--**	**9.7**	**NA**
LTCP Commercial		12	134	**--**	**--**	**--**	**--**	**--**	**--**	**45**	**NA**
LTCP Utility Worker		**14**	**314**	**--**	**--**	**--**	**--**	**--**	**--**	**219**	**4.5**
Soil ESL		**0.044**	**3.3**	**2.9**	**2.3**	**0.023**	**100**	**100**	**100**	**1.2**	--
SV-1-S-N-6.5-20140820	8/20/2014	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<4.0	**2.3**	**13**	<0.0030	<0.0030

Notes:

Analyses were conducted by USEPA methods 8260 and 8015B modified.

Non-detected analytes are reported as less than (<) practical quantitation limits.

Bold = Analyte detected above practical quantitation limits

All results are in milligrams per kilogram (mg/kg)

[1]Calculated Toxcity Equivalent of benzo(a)pyrene, see Table 2 for calculation.

ESL - Environmental Screening Levels, California Regional Water Quality Control Board, San Francisco Bay Region, February 2013 update

NA = Not Applicable

ND = Not Detected

MTBE = Methyl t-butyl ether.

-- = none specified

Table 2
Soil Chemical Analytical Results - PAHs
RO352, Unocal No. 5484 (351812)
18950 Lake Chabot Road
Castro Valley, California

Sample ID	SV-1-S-N-5-20140820	SV-1-S-N-6.5-20140820	SV-2-S-N-5-20140820	PEF
Benzo(a)pyrene	<0.0030	**0.0062**	<0.0030	*1*
Benzo(a)anthracene	<0.0030	**0.0072**	<0.0030	*0.1*
Benzo(b)fluoranthene	<0.0030	**0.0081**	<0.0030	*0.1*
Benzo(k)fluoranthene	<0.0030	**0.0033**	<0.0030	*0.1*
Chrysene	<0.0030	**0.0072**	<0.0030	*0.01*
Dibenz(a,h)anthracene	<0.0030	<0.0030	<0.0030	*0.34*
Indeno(1,2,3-cd)pyrene	<0.0030	<0.0030	<0.0030	*0.1*
BaPe	<0.0030	**0.008792**	<0.0030	

Notes:
Analyses were conducted by USEPA methods 82670-SIM
Non-detected analytes are reported as less than (<) practical quantitation limits.
Bold = Analyte detected above practical quantitation limits
All results are in milligrams per kilogram (mg/kg)
BaPe = Toxicity equivalent for benzo(a)pyrene calculated as the sum of the 7 carcinogenic PAHs, factors taken from the 3-15-2012 Technical Justification for Soil Screening Levels for Direct Contact and Outdoor Air Exposure Pathways.
PEF = OEHHA Potency Equivalent Factor for carcinogenic PAHs.
PAHs = Poly-aromatic Hydrocarbons.

Table 3
Soil Physical Analytical Results
RO352, Unocal No. 5484 (351812)
18950 Lake Chabot Road
Castro Valley, California

			Porosity (%)			Organic Carbon				Particle Size Distribution (weight %)				
Sample ID	Depth (ft)	Dry Bulk Density (g/cc)	Total	Air-Filled	Water Filled	Total	Fraction	Mean Grain Size Description	Median Grain Size (mm)	Gravel	Coarse Sand	Medium Sand	Fine Sand	Silt/Clay
SV-1-S-N-4.5-20140820	4.5	1.50	43.4	9.4	34	3700	3.70E-03	medium sand	0.856	9.83	10.44	46.58	22.64	10.51
SV-2-S-N-4.5-20140820	4.5	1.53	43.3	30.6	12.6	3200	3.20E-03	medium sand	1.159	10.94	20.20	42.01	19.15	7.70

Notes:
% = percent
ft = feet
g/cc = grams per cubic centimeter
mm = millimeters

Table 4
Soil Vapor Analytical Results and Comparison to CHHSLs and ESLs
RO352, Unocal No. 5484 (351812)
18950 Lake Chabot Road
Castro Valley, California

SAMPLE ID	DATE	DEPTH (feet)	TPH-g ($\mu g/m^3$)	Benzene ($\mu g/m^3$)	Toluene ($\mu g/m^3$)	Ethylbenzene ($\mu g/m^3$)	MTBE ($\mu g/m^3$)	Total Xylenes ($\mu g/m^3$)	Naphthalene ($\mu g/m^3$)
Screening Levels									
Soil Vapor CHHSLs (a)									
future commercial/industrial (AF=0.0005)			*NA*	*280*	*890,000*	*3,600*	*29,000*	*2,100,000*	*310*
future residential (AF=0.001)			*NA*	*85*	*320,000*	*1,100*	*8,600*	*740,000*	*93*
Soil Vapor ESLs (b)									
Commercial/industrial Default AF=0.001			*2,496,600*	*423*	*1,314,000*	*4,906*	*47,169*	*438,000*	*361*
Future commercial/industrial (adjusted; AF=0.0005)(c)			*4,993,200*	*846*	*2,628,000*	*9,811*	*94,338*	*876,000*	*721*
Residential Default AF=0.002			*297,214*	*42*	*156,429*	*487*	*4,679*	*52,143*	*36*
Future residential (adjusted; AF=0.001)(c)			*594,429*	*84*	*312,857*	*973*	*9,359*	*104,286*	*72*
LTCP Soil Gas Criteria - No Bioattentuation Zone									
Residential			*NA*	*85*	*NA*	*1,100*	*NA*	*NA*	*93*
Commercial			*NA*	*280*	*NA*	*3,600*	*NA*	*NA*	*310*
LTCP Soil Gas Criteria - With Bioattentuation Zone									
Residential			*NA*	*85,000*	*NA*	*1,100,000*	*NA*	*NA*	*93,000*
Commercial			*NA*	*280,000*	*NA*	*3,600,000*	*NA*	*NA*	*310,000*
Soil Vapor Results									
SV-1-V-N-5-20140826	8/26/2014	5	**42,000**	**5.9**	**19**	**5.6**	<4.2	24.5	**<24**
SV-1-V-Y-5-20140826	8/26/2014	5	**42,000**	**6.1**	**22**	**6.7**	<4.2	**27.8**	<24
SV-2-V-N-5-20140826	8/26/2014	5	**1,500**	**11**	**130**	**28**	**6.4**	**128**	<25
EB-V-N-20140827	8/27/2014	--	<230	<3.6	<4.2	<4.9	<4.0	<9.8	**<23**

Notes:

bgs = Below ground surface

TPH-GRO = Total Petroleum Hydrocarbons as Gasoline Range Organics

B = Benzene

T = Toluene

E = Ethylbenzene

X = Total xylenes

MTBE = Methyl t-butyl ether.

$\mu g/m^3$ = Micrograms per cubic meter

ND<# = Analyte was not detected at or above indicated laboratory method detection limit

J = Laboratory estimated value

Bold values indicate concentration is above the laboratory method detection limit

ID = Identification

(a) OEHHA Soil Gas Screening Numbers. Updated 9/23/10. Table 2. Values for buildings constructed with engineered fill below sub-slab gravel (i.e., representative of a future scenario and based on soil vapor to indoor air AFs of approximately 0.001 (residential) and 0.0005 (commercial/industrial), consistent with CalEPA (2011) Vapor Intrusion Guidance.

(b) SFRWQCB, 2013 = San Franciso Bay Regional Water Quality Control Board, December 2013 update to Environmental Screening Levels. Summary Table E.

(c) Values adjusted based on CalEPA's (2011) recommended attenuation factors for a future use scenario.

Table 5
Soil Vapor Analytical Results and Comparison to CHHSLs and ESLs - Air Phase Hydrocarbon (APH) Fractions
RO352, Unocal No. 5484 (351812)
18950 Lake Chabot Road
Castro Valley, California

SAMPLE ID	DATE	DEPTH (ft.)	C5-C6 Aliphatic Hydrocarbons ($\mu g/m^3$)	>C6-C8 Aliphatic Hydrocarbons ($\mu g/m^3$)	>C8-C10 Aliphatic Hydrocarbons ($\mu g/m^3$)	>C10-C12 Aliphatic Hydrocarbons ($\mu g/m^3$)	>C8-C10 Aromatic Hydrocarbons ($\mu g/m^3$)	>C10-C12 Aromatic Hydrocarbons ($\mu g/m^3$)
Screening Levels								
Soil Vapor CHHSLs			***NA***	***NA***	***NA***	***NA***	***NA***	***NA***
Soil Vapor ESLs			***NA***	***NA***	***NA***	***NA***	***NA***	***NA***
Soil Vapor Results								
SV-1-V-N-5-20140826	8/26/2014	5	15,000	20,000	980	<160	<110	<130
SV-1-V-Y-5-20140826	8/26/2014	5	16,000	20,000	990	<160	<120	<130
SV-2-V-N-5-20140826	8/26/2014	5	<77	<98	<140	<160	**240**	<130
EB-V-N_20140827	8/27/2014	--	<72	<92	<130	<160	<110	<120

Notes:

< = Analyte was not detected above indicated laboratory reporting limit.

CHHSL = California Human Health Screening Levels, CalEPA, 2010. OEHHA Soil Gas Screening Numbers. Updated 9/23/10.

ESL - Environmental Screening Levels, California Regional Water Quality Control Board, San Francisco Bay Region, February 2013 update

NA = Not available.

OEHHA - Office of Environmental Health Hazard Assessment.

($\mu g/m^3$) = Micrograms per cubic meter.

Table 6
Atmospheric Gas Analytical Results
RO352, Unocal No. 5484 (351812)
18950 Lake Chabot Road
Castro Valley, California

SAMPLE ID	DATE	OXYGEN *(%)*	METHANE *(%)*	CARBON DIOXIDE *(%)*	HELIUM *(%)*	NITROGEN *(%)*
SV-1-V-N-5-20140826	8/26/2014	17	0.00068	0.44	15	68
SV-1-V-Y-5-20140826	8/26/2014	17	0.00068	0.46	15	68
SV-2-V-N-5-20140826	8/26/2014	17	<0.00024	4.1	<0.12	79
EB-V-N_20140827	8/27/2014	0.42	<0.00022	<0.022	<0.11	100

Notes

(%) = Percentage of gas detected in sample canister by modified ASTM D-1946.

< = Gas not detected above indicated laboratory reporting limit.

Groundwater Analytical Data (8pp)

Table 2
Groundwater Analytical Results
Unocal No. 5484 (351812), RO352
18950 Lake Chabot Road
Castro Valley, California

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL (ft)	TPH-d (µg/L)	TPH-g (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE 8021 (µg/L)	MTBE 8260 (µg/L)	TBA (µg/L)	Naphthalene (µg/L)	1,2-DCA (µg/L)
MW-1		7/88	5.16	--	0	--	540	6.1	82.7	35.6	180.3	--	--	--	--	--
Screened		10/88	7.10	--	0	--	1420	13.2	4.1	163.8	58.1	--	--	--	--	--
From		11/02/88	6.08	--	0			not sampled,gauging only				--	--	--	--	--
10 to 30		11/09/88	6.14	--	0			not sampled,gauging only				--	--	--	--	--
feet bgs		12/15/88	6.51	--	<0.01			not sampled,gauging only				--	--	--	--	--
		01/03/89	5.10	--	0	--	410	6.5	10.4	11.8	44.2	--	--	--	--	--
		01/16/89	4.75	--	0			not sampled,gauging only				--	--	--	--	--
		02/15/89	5.13	--	0			not sampled,gauging only				--	--	--	--	--
		03/17/89	3.68	--	0			not sampled,gauging only				--	--	--	--	--
		04/14/89	3.12	--	0			not sampled,gauging only				--	--	--	--	--
		05/19/89	3.46	--	0			not sampled,gauging only				--	--	--	--	--
		6/89		Well Destroyed during tank excavation												
MW-2	--	7/88	6.85	--	0	--	1080	72	139	33	157	--	--	--	--	--
Screened	--	10/88	7.81	--	0	--	1140	80	10	25	26	--	--	--	--	--
From	--	11/02/88	7.83	--	0			not sampled,gauging only				--	--	--	--	--
4 to 19	--	11/09/88	7.98	--	0			not sampled,gauging only				--	--	--	--	--
feet bgs	--	12/15/88	7.89	--	0			not sampled,gauging only				--	--	--	--	--
	--	01/03/89	6.50	--	0	--	4040	80	10	26	25	--	--	--	--	--
	--	01/16/89	6.02	--	0			not sampled,gauging only				--	--	--	--	--
	--	02/15/89	5.22	--	0			not sampled,gauging only				--	--	--	--	--
	--	03/17/89	3.98	--	0			not sampled,gauging only				--	--	--	--	--
	--	04/14/89	3.83	--	0			not sampled,gauging only				--	--	--	--	--
	--	05/19/89	4.85	--	0			not sampled,gauging only				--	--	--	--	--
	--	06/29/89	7.24	--	0	--	550	2.7	1.9	10	34	--	--	--	--	--
	--	11/17/89	7.73	--	0	--	720	1.4	1.4	5.9	34	--	--	--	--	--
	--	02/28/90	4.53	--	0	--	420	5.0	<0.50	3	17	--	--	--	--	--
	--	05/08/90	5.50	--	0	--	1100	9.7	0.95	14	48	--	--	--	--	--
	--	08/24/90	6.04	--	0	--	630	13	1.0	7.2	10	--	--	--	--	--
	--	11/29/90	7.48	--	0	--	190	1.6	<0.50	0.7	0.8	--	--	--	--	--
	--	02/01/91	--	--	--		280	2.6	<0.50	0.7	0.9					
	229.47	05/23/91	6.58	--	0	--	ND	ND	ND	ND	ND	--	--	--	--	--
	229.47	07/20/91	7.24	--	0			not sampled,gauging only				--	--	--	--	--
	229.47	08/21/91	7.42	--	0			not sampled,gauging only				--	--	--	--	--
	229.47	09/20/91	7.85	--	0	--	ND	ND	ND	ND	ND	--	--	--	--	--
	229.47	12/19/91	--	--	--	--	140	0.66	ND	0.64	1.2	--	--	--	--	--
	229.47	03/20/92	--	--	--	--	120	ND	ND	ND	ND	--	--	--	--	--
	229.47	06/18/92	--	--	--	--	140	ND	ND	ND	ND	--	--	--	--	--
	229.47	09/10/92	7.44	222.03	0	--	61	ND	ND	ND	ND	110	--	--	--	--
	229.47	12/10/92	7.55	221.92	0	--	100	ND	ND	ND	ND	170	--	--	--	--
	229.47	03/10/93	4.69	224.78	0	--	110	ND	ND	ND	ND	350	--	--	--	--

Table 2
Groundwater Analytical Results
Unocal No. 5484 (351812), RO352
18950 Lake Chabot Road
Castro Valley, California

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL (ft)	TPH-d (µg/L)	TPH-g (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE 8021 (µg/L)	MTBE 8260 (µg/L)	TBA (µg/L)	Naphthalene (µg/L)	1,2-DCA (µg/L)
MW-2 cont.	229.47	06/09/93	5.85	223.62	0	--	120	ND	ND	ND	ND	300	--	--	--	--
	228.88	09/09/93	6.59	222.29	0	--	210	ND	ND	ND	ND	--	--	--	--	--
	228.88	12/09/93	6.94	221.94	0	--	96	ND	ND	ND	ND	--	--	--	--	--
	228.88	03/03/94	4.91	223.97	0	--	240	ND	ND	ND	ND	--	--	--	--	--
	228.88	06/03/94	5.71	223.17	0	--	190	ND	ND	ND	ND	--	--	--	--	--
	228.88	09/02/94	7.05	221.83	0	--	720	ND	ND	ND	4.6	--	--	--	--	--
	228.88	12/01/94	6.98	221.90	0	--	200	0.7	ND	0.58	ND	--	--	--	--	--
	228.88	03/01/95	4.60	224.28	0	--	ND	ND	ND	ND	ND	--	--	--	--	--
	228.88	06/01/95	4.65	224.23	0	--	420	ND	ND	ND	ND	--	--	--	--	--
	228.88	09/05/95	5.66	223.22	0	--	ND	ND	0.8	ND	0.74	--	--	--	--	--
	228.88	12/05/95	6.32	222.56	0	--	ND	ND	ND	ND	ND	390	--	--	--	--
	228.88	04/11/96	4.22	224.66	0	--	--	--	--	--	--	--	--	--	--	--
	228.88	03/13/97	6.58	222.30	0	--	--	--	--	--	--	--	--	--	--	--
	228.88	03/02/98	5.18	223.70	0	--	--	--	--	--	--	--	--	--	--	--
	228.88	03/25/99	4.84	224.04	0	--	--	--	--	--	--	--	--	--	--	--
	228.88	03/07/00	4.92	223.96	0	--	--	--	--	--	--	--	--	--	--	--
	228.88	03/28/01	4.37	224.51	0	--	--	--	--	--	--	--	--	--	--	--
	228.88	03/09/02	4.29	224.59	0	--	--	--	--	--	--	--	--	--	--	--
	228.88	03/24/03	4.24	224.64	0	--	--	--	--	--	--	--	--	--	--	--
	228.88	03/26/04	4.66	224.22	0	--	--	--	--	--	--	--	--	--	--	--
	228.88	01/13/05	--	--	--	--	<50	<0.5	<0.5	<0.5	<1.0	--	110	18	--	<0.50
	228.88	03/17/05	4.08	224.80	0	--	--	--	--	--	--	--	--	--	--	--
	228.88	03/31/06	4.06	224.82	0	--	--	--	--	--	--	--	--	--	--	--
	228.88	02/16/07	4.87	224.01	0	--	--	--	--	--	--	--	--	--	--	--
	228.88	01/21/08	4.83	224.05	0	--	--	--	--	--	--	--	--	--	--	--
	231.66	02/25/09	4.32	227.34	0	--	260	0.64	<0.30	6.9	<0.60	220	270	--	<2.0	<0.50
	231.66	06/12/09	5.00	226.66	0	--	--	--	--	--	--	--	--	--	--	--
	231.66	11/06/09	5.62	226.04	0	--	--	--	--	--	--	--	--	--	--	--
	231.66	01/13/10	5.02	226.64	0	--	470	0.65	0.67	4.1	3.3	260	350	--	<2.0	--
	231.66	03/30/11	4.80	226.86	0	--	<50	0.37	<0.30	6.4	<0.60	46	47	--	--	--
	231.66	03/30/12	5.17	226.49	0	--	<50	<0.30	<0.30	<0.30	<0.60	17	19	150	--	<0.50
	231.66	**03/08/13**	**5.53**	**226.13**	**0**	**--**	**<50**	**<0.30**	**<0.30**	**<0.30**	**<0.60**	**2.7**	**4.7**	**47**	**<2.0**	**<0.50**
MW-3		7/88	7.49	--	0.00	--	7800	385	640	369	2258	--	--	--	--	--
Screened		10/88	9.06	--	0.75		not sampled, due to floating product					--	--	--	--	--
From		11/02/88	9.12	--	0.96		not sampled,gauging only					--	--	--	--	--
5 to 20		11/09/88	7.60	--	0.06		not sampled,gauging only					--	--	--	--	--
feet bgs		12/15/88	7.97	--	0.56		not sampled,gauging only					--	--	--	--	--
		01/03/89	7.20	--	0.09		not sampled, due to floating product					--	--	--	--	--
		01/16/89	6.36	--	0.22		not sampled, due to floating product					--	--	--	--	--

Table 2
Groundwater Analytical Results
Unocal No. 5484 (351812), RO352
18950 Lake Chabot Road
Castro Valley, California

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL (ft)	TPH-d (µg/L)	TPH-g (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE 8021 (µg/L)	MTBE 8260 (µg/L)	TBA (µg/L)	Naphthalene (µg/L)	1,2-DCA (µg/L)
		02/15/89	5.16	--	0.01		not sampled, due to floating product					--	--	--	--	--
MW-3 cont.		03/17/89	5.01	--	0.04		not sampled, due to floating product					--	--	--	--	--
		04/14/89	4.71	--	<0.01		not sampled, due to floating product					--	--	--	--	--
		05/19/89	5.49	--	0.00		not sampled,gauging only					--	--	--	--	--
		6/89		Well Destroyed during tank excavation												
MW-4	--	06/29/89	9.95	--	0		<20	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
Screened	--	11/17/89	10.56	--	0		<20	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
From	--	02/28/90	9.40	--	0		<20	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
7 to 27	--	05/08/90	9.70	--	0		<20	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
feet bgs	--	08/24/90	10.10	--	0		<20	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	--	11/29/90	10.90	--	0		<20	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	228.08	05/23/91	9.20	218.88	0	--	ND	ND	ND	ND	ND	--	--	--	--	--
	228.08	07/20/91	9.95	218.13	0			not sampled,gauging only				--	--	--	--	--
	228.08	08/21/91	10.05	218.03	0			not sampled,gauging only				--	--	--	--	--
	228.08	09/20/91	10.50	217.58	0	--	--	--	--	--	--	--	--	--	--	--
	228.08	12/19/91	--	--	--	--	ND	ND	ND	ND	ND	--	--	--	--	--
	228.08	06/18/92	--	--	--	--	ND	0.41	0.84	ND	0.55	--	--	--	--	--
	228.08	09/10/92	10.54	217.54	0	--	--	--	--	--	--	--	--	--	--	--
	228.08	12/10/92	9.74	218.34	0	--	ND	ND	ND	ND	ND	--	--	--	--	--
	228.08	03/10/93	7.24	220.84	0	--	ND	ND	ND	ND	ND	--	--	--	--	--
	228.08	06/09/93	8.79	219.29	0	--	ND	ND	ND	ND	ND	--	--	--	--	--
	227.77	09/09/93	9.91	217.86	0	--	ND	ND	ND	ND	ND	--	--	--	--	--
	227.77	03/03/94	6.98	220.79	0	--	ND	ND	ND	ND	ND	--	--	--	--	--
	227.77	06/03/94	8.26	219.51	0	--	ND	ND	ND	ND	ND	--	--	--	--	--
	227.77	09/02/94	10.08	217.69	0	--	ND	ND	ND	ND	ND	--	--	--	--	--
	227.77	12/01/94	10.01	217.76	0	--	ND	ND	ND	ND	ND	--	--	--	--	--
	227.77	03/01/95	7.29	220.48	0	--	ND	ND	1.1	ND	0.75	--	--	--	--	--
	227.77	06/01/95	7.65	220.12	0	--	ND	ND	0.78	ND	1.7	--	--	--	--	--
	227.77	09/05/95	9.27	218.50	0	--	ND	ND	0.7	ND	0.71	--	--	--	--	--
	227.77	12/05/95	9.92	217.85	0	--	ND	ND	ND	ND	ND	0.68	--	--	--	--
	227.77	04/11/96	7.55	220.22	0	--	ND	ND	ND	ND	ND	ND	--	--	ND	ND
	227.77	03/13/97	9.84	217.93	0	--	ND	ND	ND	ND	ND	ND	--	--	ND	ND
	227.77	03/02/98	8.84	218.93	0	--	ND	ND	ND	ND	ND	ND	--	--	--	ND
	227.77	03/25/99	7.46	220.31	0	--	ND	ND	ND	ND	ND	7.6	--	--	ND	ND
	227.77	03/07/00	7.58	220.19	0	--	ND	ND	1.11	ND	ND	ND	--	--	ND	ND
	227.77	03/28/01	7.62	220.15	0	--	ND	ND	ND	ND	ND	ND	--	--	ND	ND
	227.77	03/09/02	6.64	221.13	0	--	270	3.1	<1.0	5	<1.0	1,200	--	--	<5.0	<2.5
	227.77	03/24/03	Inaccessible									--	--	--	--	--
	227.77	03/26/04	Unable to Locate									--	--	--	--	--

Table 2
Groundwater Analytical Results
Unocal No. 5484 (351812), RO352
18950 Lake Chabot Road
Castro Valley, California

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL (ft)	TPH-d (µg/L)	TPH-g (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE 8021 (µg/L)	MTBE 8260 (µg/L)	TBA (µg/L)	Naphthalene (µg/L)	1,2-DCA (µg/L)
MW-4 cont.	227.77	03/17/05	Unable to Locate									--	--	--	--	--
	227.77	03/31/06	Unable to Locate									--	--	--	--	--
	227.77	02/16/07	Unable to Locate									--	--	--	--	--
	227.77	01/21/08	Inaccessible									--	--	--	--	--
			Well Destroyed													
MW-4A	232.55	02/25/09	7.45	225.10	0	--	<50	<0.30	<0.30	<0.30	<0.60	<1.0	<0.50	--	<2.0	<0.50
Screened	232.55	06/12/09	--	--	--	--	--	--	--	--	--	--	--	--	--	--
From	232.55	08/19/09	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6 to 10	232.55	11/06/09	6.02	226.53	0	--	<50	<0.30	<0.30	<0.30	<0.60	<1.0	<0.50	<10	<2.0	<0.50
feet bgs	232.55	01/13/10	6.45	226.10	0	--	<50	<0.30	<0.30	<0.30	<0.60	<1.0	<0.50	<10	<2.0	<0.50
			Well Destroyed													
MW-4B	232.91	02/25/09	8.65	224.26	0	--	<50	<0.30	<0.30	<0.30	<0.60	<1.0	<0.50	--	<2.0	<0.50
Screened	232.91	06/12/09	10.04	222.87	0	--	<50	<0.30	<0.30	<0.30	<0.60	<1.0	<0.50	<10	<2.0	<0.50
From	232.91	08/19/09	10.25	222.66	0	--	<50	<0.30	<0.30	<0.30	<0.60	<1.0	<0.50	<10	<2.0	<0.50
10 to 14	232.91	11/06/09	9.40	223.51	0	--	<50	<0.30	<0.30	<0.30	<0.60	<1.0	<0.50	<10	<2.0	<0.50
feet bgs	232.91	01/13/10	8.84	224.07	0	--	<50	<0.30	<0.30	<0.30	<0.60	<1.0	<0.50	<10	<2.0	<0.50
			Well Destroyed													
MW-5	--	06/29/89	9.03	--	0		<20	0.83	<0.50	0.57	0.94	--	--	--	--	--
Screened	--	11/17/89	9.56	--	0		<20	<0.50	<0.50	<0.50	0.63	--	--	--	--	--
From	--	02/28/90	8.26	--	0		<20	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
9 to 24	--	05/08/90	8.89	--	0		<20	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
feet bgs	--	08/24/90	9.93	--	0		<20	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	--	11/29/90	10.53	--	0		<20	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	225.42	05/23/91	9.47	215.95	0	--	ND	ND	ND	ND	ND	--	--	--	--	--
	225.42	07/20/91	10.22	215.20	0			not sampled,gauging only				--	--	--	--	--
	225.42	08/21/91	10.31	215.11	0			not sampled,gauging only				--	--	--	--	--
	225.42	09/20/91	10.80	214.62	0	450	ND	ND	ND	ND	ND	--	--	--	--	--
	225.42	10/10/91	10.98	214.44	0	ND	--	--	--	--	--	--	--	--	--	--
	225.42	12/19/91	--	--	--	--	ND	ND	ND	ND	ND	--	--	--	--	--
	225.42	03/20/92	--	--	--	170	ND	ND	ND	ND	ND	--	--	--	--	--
	225.42	06/18/92	--	--	--	ND	ND	ND	ND	ND	ND	--	--	--	--	--
	225.42	09/10/92	9.96	215.46	0	110	ND	ND	ND	ND	ND	--	--	--	--	--
	225.42	12/10/92	10.12	215.30	0	83	ND	ND	ND	ND	ND	--	--	--	--	--
	225.42	03/10/93	7.67	217.75	0	69	ND	ND	ND	ND	ND	--	--	--	ND	ND
	225.42	06/09/93	8.57	216.85	0	64	ND	ND	ND	ND	ND	--	--	--	--	ND
	225.11	09/09/93	9.12	215.99	0	58	ND	ND	ND	ND	ND	--	--	--	--	ND

Table 2
Groundwater Analytical Results
Unocal No. 5484 (351812), RO352
18950 Lake Chabot Road
Castro Valley, California

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL (ft)	TPH-d (µg/L)	TPH-g (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE 8021 (µg/L)	MTBE 8260 (µg/L)	TBA (µg/L)	Naphthalene (µg/L)	1,2-DCA (µg/L)
MW-5 cont.	225.11	12/09/93	9.97	215.14	0	87	ND	ND	ND	ND	ND	--	--	--	--	ND
	225.11	03/03/94	7.87	217.24	0	ND	ND	ND	ND	0.71	1.7	ND	--	--	--	ND
	225.11	06/03/94	9.01	216.10	0	80	ND	ND	ND	ND	ND	--	--	--	--	ND
	225.11	09/02/94	9.23	215.88	0	130	ND	ND	ND	ND	ND	--	--	--	--	ND
	225.11	12/01/94	9.18	215.93	0	79	ND	ND	ND	ND	ND	--	--	--	--	ND
	225.11	03/01/95	7.98	217.13	0	ND	ND	ND	ND	ND	ND	--	--	--	--	ND
	225.11	06/01/95	8.21	216.90	0	57	ND	ND	ND	ND	ND	--	--	--	--	ND
	225.11	09/05/95	9.57	215.54	0	210	ND	ND	0.95	ND	0.87	--	--	--	--	ND
	225.11	12/05/95	9.60	215.51	0	170	ND	ND	ND	ND	ND	27	--	--	--	ND
	225.11	04/11/96	7.48	217.63	0	--	ND	ND	ND	ND	ND	56	--	--	ND	ND
	225.11	03/13/97	9.56	215.55	0	--	ND	ND	ND	ND	ND	ND	--	--	ND	ND
	225.11	03/02/98	8.96	216.15	0	--	ND	ND	ND	ND	ND	ND	--	--	--	ND
	225.11	03/25/99	7.53	217.58	0	--	ND	ND	ND	ND	ND	3.9	--	--	ND	ND
	225.11	03/07/00	7.49	217.62	0	--	ND	ND	1.13	ND	ND	ND	--	--	ND	ND
	225.11	03/28/01	6.83	218.28	0	--	ND	ND	ND	ND	ND	ND	--	--	ND	ND
	225.11	03/09/02	5.85	219.26	0	--	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--	<5.0	<0.50
	225.11	03/24/03	5.90	219.21	0	--	561	<0.50	<0.50	<0.50	<1.0	--	<2.0	--	<2.0	<0.50
	225.11	03/26/04	6.93	218.18	0	--	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--	<2.0	<0.50
	225.11	03/17/05	6.08	219.03	0	--	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--	--	<0.50
	225.11	03/31/06	5.51	219.60	0	--	<50	<0.50	<0.50	1.7	<1.0	--	2.9	--	<2.1	<0.50
	225.11	02/16/07	6.05	219.06	0	--	<50	<0.30	<0.30	<0.30	<0.60	1.5	2.6	--	<2.0	<0.50
	225.11	01/21/08	7.43	217.68	0	--	<50	<0.30	<0.30	<0.30	<0.60	<1.0	1.3	--	<2.0	<0.50
	227.90	02/25/09	6.31	221.59	0	--	<50	<0.30	<0.30	<0.30	<0.60	1.5	2.1	--	<2.0	<0.50
	227.90	06/12/09	7.88	220.02	0	--	--	--	--	--	--	--	--		--	--
	227.90	08/19/09	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	227.90	11/06/09	8.42	219.48	0	--	--	--	--	--	--	--	--	--	--	--
	227.90	01/13/10	7.43	220.47	0	--	<50	<0.30	0.48	<0.30	1.7	1.3	1.9	<10	<2.0	<0.50
	227.90	03/30/11	5.47	222.43	0	--	<50	<0.30	<0.30	<0.30	<0.60	1.1	1.9	<10	<2.0	8.4
	227.90	03/30/12	5.54	222.36	0	--	<50	<0.30	<0.30	<0.30	<0.60	1.2	2.4	<10	<2.0	<0.50
	227.90	**03/08/13**	**7.85**	**220.05**	**0**	**--**	**<50**	**<0.30**	**<0.30**	**<0.30**	**<0.60**	**<1.0**	**0.87**	**<10**	**<2.0**	**<0.50**
MW-6	--	08/01/89	7.34	--	0	--	26	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
Screened	--	11/17/89	8.36	--	0	--	<20	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
From	--	02/28/90	7.05	--	0	--	<20	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
7 to 27	--	05/08/90	7.35	--	0	--	<20	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
feet bgs	--	08/24/90	8.15	--	0	--	<20	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	--	11/29/90	9.40	--	0	--	<20	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--
	--	05/23/91	7.38	--	0	--	ND	ND	ND	ND	ND	--	--	--	--	--
	--	07/20/91	8.01	--	0			not sampled,gauging only				--	--	--	--	--

Table 2
Groundwater Analytical Results
Unocal No. 5484 (351812), RO352
18950 Lake Chabot Road
Castro Valley, California

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL (ft)	TPH-d (µg/L)	TPH-g (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE 8021 (µg/L)	MTBE 8260 (µg/L)	TBA (µg/L)	Naphthalene (µg/L)	1,2-DCA (µg/L)
MW-6 cont.	--	08/21/91	8.36	--	0	not sampled,gauging only						--	--	--	--	--
	--	09/20/91	8.61	--	0	--	--	--	--	--	--	--	--	--	--	--
	--	12/19/91	--	--	0	--	ND	ND	ND	ND	ND	--	--	--	--	--
	--	06/18/92	--	--	0	--	ND	ND	ND	ND	ND	--	--	--	--	--
	239.38	12/10/92	8.07	231.31	0	--	ND	ND	ND	ND	ND	--	--	--	--	--
	239.38	03/10/93	5.32	234.06	0	--	--	--	--	--	--	--	--	--	--	--
	239.38	06/09/93	5.94	233.44	0	--	ND	ND	ND	ND	ND	--	--	--	--	--
	239.04	09/09/93	6.82	232.22	0	--	--	--	--	--	--	--	--	--	--	--
	239.04	12/09/93	7.43	231.61	0	--	150	ND	ND	ND	1.7	--	--	--	--	--
	239.04	03/03/94	6.45	232.59	0	--	--	--	--	--	--	--	--	--	--	--
	239.04	06/03/94	5.81	233.23	0	--	ND	ND	ND	ND	ND	--	--	--	--	--
	239.04	09/02/94	6.98	232.06	0	--	--	--	--	--	--	--	--	--	--	--
	239.04	12/01/94	6.92	232.12	0	--	ND	ND	ND	ND	ND	--	--	--	--	--
	239.04	01/13/05	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	<5.0	--	<0.50
	239.04	03/01/95	5.17	233.87	0	--	--	--	--	--	--	--	--	--	--	--
	239.04	06/01/95	4.76	234.28	0	--	ND	ND	0.7	ND	1.7	--	--	--	--	--
	239.04	09/05/95	5.69	233.35	0	--	--	--	--	--	--	--	--	--	--	--
	239.04	12/05/95	6.75	232.29	0	--	ND	ND	ND	ND	ND	1.4	--	--	--	--
	239.04	04/11/96	4.28	234.76	0	--	--	--	--	--	--	--	--	--	--	--
	239.04	03/13/97	7.05	231.99	0	--	--	--	--	--	--	--	--	--	--	--
	239.04	03/02/98	5.14	233.90	0	--	--	--	--	--	--	--	--	--	--	--
	239.04	03/25/99	5.05	233.99	0	--	--	--	--	--	--	--	--	--	--	--
	239.04	03/07/00	5.15	233.89	0	--	--	--	--	--	--	--	--	--	--	--
	239.04	03/28/01	5.17	233.87	0	--	--	--	--	--	--	--	--	--	--	--
	239.04	03/09/02	5.13	233.91	0	--	--	--	--	--	--	--	--	--	--	--
	239.04	03/24/03	5.13	233.91	0	--	--	--	--	--	--	--	--	--	--	--
	239.04	03/26/04	5.10	233.94	0	--	--	--	--	--	--	--	--	--	--	--
	239.04	03/17/05	4.09	234.95	0	--	--	--	--	--	--	--	--	--	--	--
	239.04	03/31/06	2.99	236.05	0	--	--	--	--	--	--	--	--	--	--	--
	239.04	02/16/07	4.07	234.97	0	--	--	--	--	--	--	--	--	--	--	--
	239.04	01/21/08	4.47	234.57	0	--	--	--	--	--	--	--	--	--	--	--
	241.74	02/25/09	3.73	238.01	0	--	<50	<0.30	<0.30	<0.30	<0.60	<1.0	<0.50	--	<2.0	--
	241.74	06/12/09	5.25	236.49	0	--	--	--	--	--	--	--	--	--	--	--
	241.74	11/06/09	5.64	236.10	0	--	--	--	--	--	--	--	--	--	--	<0.50
	241.74	01/13/10	5.34	236.40	0	--	54	<0.30	0.83	<0.30	3.7	<1.0	<0.50	<10	<2.0	<0.50
	241.74	03/30/11	4.72	237.02	0	--	<50	<0.30	<0.30	<0.30	<0.60	<1.0	<0.50	<10	<2.0	<0.50
	241.74	03/30/12	4.99	236.75	0	--	<50	<0.30	<0.30	<0.30	<0.60	<1.0	<0.50	<10	<2.0	<0.50
	241.74	**03/08/13**	**5.83**	**235.91**	**0**	**--**	**<50**	**<0.30**	**<0.30**	**<0.30**	**<0.60**	**<1.0**	**<0.50**	**<10**	**<2.0**	**<0.50**

Table 2
Groundwater Analytical Results
Unocal No. 5484 (351812), RO352
18950 Lake Chabot Road
Castro Valley, California

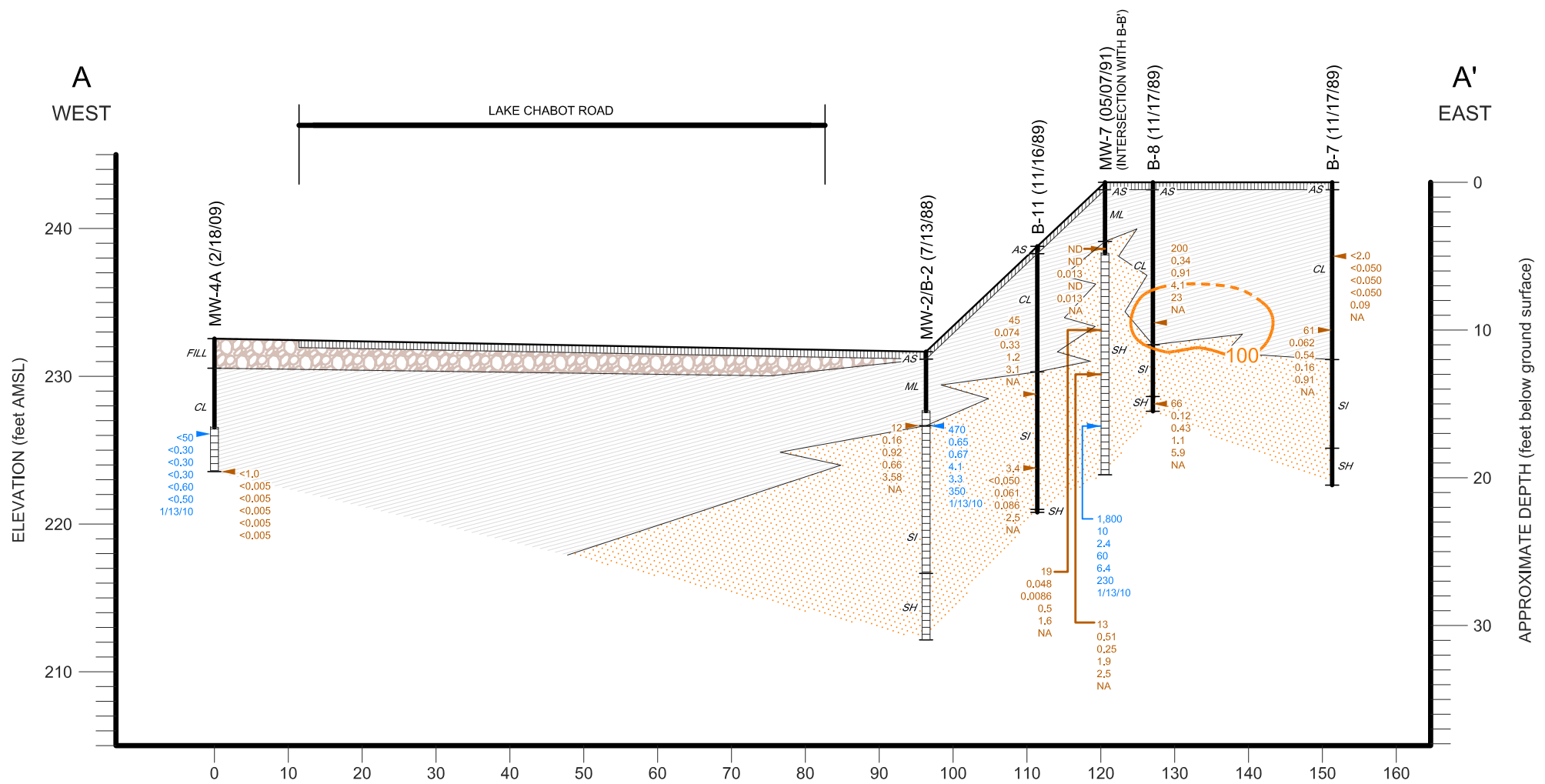
WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL (ft)	TPH-d (µg/L)	TPH-g (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE 8021 (µg/L)	MTBE 8260 (µg/L)	TBA (µg/L)	Naphthalene (µg/L)	1,2-DCA (µg/L)
MW-7	231.66	05/23/91	9.63	222.03	0	540	3,000	160	1.2	25	120	--	--	--	--	3.4
Screened	231.66	07/20/91	10.70	220.96	0			not sampled,gauging only				--	--	--	--	--
From	231.66	08/21/91	11.04	220.62	0			not sampled,gauging only				--	--	--	--	--
4.8 to 19.8	231.66	09/20/91	11.46	220.20	0	580	1,400	160	0.75	89	130	--	--	--	--	ND
feet bgs	231.66	12/19/91	--	--	--	770	3,900	240	2.4	280	270	--	--	--	--	3.1
	231.66	03/20/92	--	--	--	3,200	11,000	980	ND	990	1,600	--	--	--	--	ND
	231.66	06/18/92	--	--	--	990	5,500	340	4.2	380	410	--	--	--	--	ND
	231.66	09/10/92	7.44	224.22	0	290	2,100	160	1.9	140	150	--	--	--	--	2.3
	231.66	12/10/92	11.01	220.65	0	200	1,200	28	ND	37	13	--	--	--	--	2
	231.66	03/10/93	7.69	223.97	0	1,100	4,400	310	ND	300	330	--	--	--	83	1.3
	231.66	06/09/93	8.59	223.07	0	830	4,600	430	ND	510	430	--	--	--	83	1.3
	231.39	09/09/93	10.11	221.28	0	550	2,600	160	19	250	120	--	--	--	48	1.5
	231.39	12/09/93	10.65	220.74	0	250	980	54	4.6	71	5.6	--	--	--	15	1.5
	231.39	03/03/94	8.17	223.22	0	1,400	9,300	290	ND	590	400	1.7	--	--	130	1.7
	231.39	06/03/94	8.73	222.66	0	2,000	9,400	380	5	820	240	--	--	--	61	1.4
	231.39	09/02/94	11.00	220.39	0	490	3,800	77	ND	180	42	--	--	--	ND	1.1
	231.39	12/01/94	10.95	220.44	0	260	3,100	80	ND	250	190	--	--	--	2.5	1
	231.39	03/01/95	8.03	223.36	0	1,900	3,300	200	3.9	300	350	--	--	--	120	1.6
	231.39	06/01/95	7.92	223.47	0	1,600	3,900	170	ND	400	430	--	--	--	83	1.4
	231.39	09/05/95	8.61	222.78	0	ND	710	32	ND	85	33	--	--	--	7	1.8
	231.39	12/05/95	9.69	221.70	0	110	400	23	ND	34	16	1,600	--	--	--	ND
	231.39	12/08/95	9.59	221.80	0	--	--	--	--	--	--	--	--	--	14	--
	231.39	04/11/96	7.31	224.08	0	--	1,500	52	ND	160	130	1,500	--	--	42	0.75
	231.39	03/13/97	9.48	221.91	0	--	460	13	ND	31	4	430	--	--	9	ND
	231.39	03/02/98	7.93	223.46	0	--	1,800	63	ND	240	60	790	--	--	--	0.92
	231.39	03/25/99	7.25	224.14	0	--	380	6.4	ND	10	4.9	1,200	--	--	ND	ND
	231.39	03/07/00	7.12	224.27	0	--	199	3.51	ND	3.3	0.697	1,250	--	--	ND	ND
	231.39	03/28/01	6.92	224.47	0	--	734	19.6	0.514	23.3	6.13	1,070	1,260	ND	7.7	ND
	231.39	03/09/02	6.48	224.91	0	--	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--	<5.0	<0.50
	231.39	03/24/03	6.42	224.97	0	--	--	<10	<10	<10	<20	--	1,600	--	--	0.98
	231.39	03/26/04	7.25	224.14	0	--	2,800	34	<25	120	33	1,200	--	--	17	<10
	231.39	01/13/05	--	--	--	--	1,200	4.9	<0.5	20	<1.0	1,100	--	240	--	<5.0
	231.39	03/17/05	7.02	224.37	0	--	2,700	<5.0	<5.0	160	15	940	--	--	--	<10
	231.39	03/31/06	6.74	224.65	0	--	450	8.7	<2.5	33	<5.0	--	260	--	6.2	<2.5
	231.39	02/16/07	6.95	224.44	0	--	1,600	11	<0.30	61	4.2	350	410	--	37	0.66
	231.39	01/21/08	7.21	224.18	0	--	1,300	11	<0.60	45	<1.2	250	240	--	40	0.77
	234.13	02/25/09	6.61	227.52	0	--	1,000	15	0.7	70	<0.60	130	170	--	27	<0.50
	234.13	06/12/09	7.51	226.62	0	--	--	--	--	--	--	--	--	740		<0.50
	234.13	08/19/09	--	--	--	--	--	--	--	--	--	--	--	790	--	<5.0

Table 2
Groundwater Analytical Results
Unocal No. 5484 (351812), RO352
18950 Lake Chabot Road
Castro Valley, California

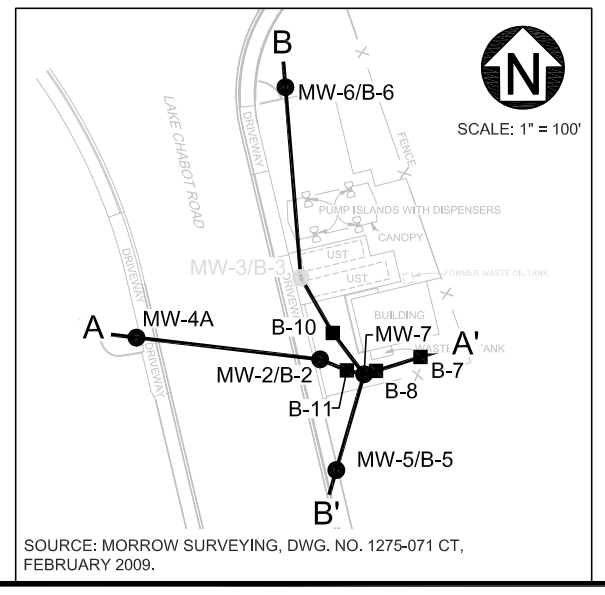
WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL (ft)	TPH-d (µg/L)	TPH-g (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE 8021 (µg/L)	MTBE 8260 (µg/L)	TBA (µg/L)	Naphthalene (µg/L)	1,2-DCA (µg/L)
	234.13	11/06/09	8.18	225.95	0	--	--	--	--	--	--	--	--	160	--	<0.50
MW-7 cont.	234.13	01/13/10	7.50	226.63	0	--	1,800	10	2.4	60	6.4	240	230	<10	150	<0.50
	234.13	03/30/11	6.27	227.86	0	--	680	4.9	0.41	7.2	0.77	44	58	74	8.4	<0.50
	234.13	03/30/12	7.13	227.00	0	--	1,900	13	0.87	16	1.9	79	<1.0	370	32	<1.0
	234.13	**03/08/13**	**7.65**	**226.48**	**0**	**--**	**1,900**	**5.8**	**<1.5**	**3.9**	**<3.0**	**42**	**25**	**480**	**41**	**<0.50**
GW-1	**--**	**1/13/2005**	**2.0**	**--**	**0**	**--**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<1.0**	**--**	**<0.5**	**<5.0**	**--**	**<0.50**
GW-2	**--**	**1/13/2005**	**17.2**	**--**	**0**	**--**	**<250**	**1.4**	**<0.5**	**2.3**	**2.7**	**--**	**1600**	**590**	**--**	**<0.50**
GW-4	**--**	**1/13/2005**	**4.5**	**--**	**0**	**--**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<1.0**	**--**	**<0.5**	**<5.0**	**--**	**<0.50**
GW-5	**--**	**1/13/2005**	**22.4**	**--**	**0**	**--**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<1.0**	**--**	**<0.5**	**<5.0**	**--**	**<0.50**

NOTES:
* TOC and GWE are in feet above mean sea level.
<# = Analyte not detected at or above indicated laboratory reporting limit
Notes:
TOC = Top of casing
LNAPL = Light Non-Aqueous Phase Liquid
ft = Feet
fbg = feet below grade
DTW = Depth to water below TOC
GWE = Groundwater elevation
-- = Not available
µg/L = Micrograms per liter
ID = Identification
TPH-d = Total Petroleum Hydrocarbons as Diesel
TPH-g = Total Petroleum Hydrocarbons as Gasoline
B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
MTBE = Methyl tertiary-butyl ether

Cross Sections (2pp)



SCALE: HORZ. 1" = 20'
VERT. 1" = 10'



SOURCE: MORROW SURVEYING, DWG. NO. 1275-071 CT, FEBRUARY 2009.

LEGEND

MW-7 — WELL DESIGNATION
GROUND SURFACE
OBSERVATION WELL INSTALLATION
STRATIGRAPHIC BOUNDARY
ML — TYPICAL SOIL CLASSIFICATION
SCREENED INTERVAL
BOTTOM OF BORING

TPHg, BENZENE, TOULENE, ETHYLBENZENE, XYLENE, MTBE — APPROXIMATE SOIL SAMPLE LOCATION; HYDROCARBON CONCENTRATIONS IN SOIL (mg/kg)

TPHg, BENZENE, TOULENE, ETHYLBENZENE, XYLENE, MTBE, DATE — APPROXIMATE GROUNDWATER SAMPLE LOCATION; HYDROCARBON CONCENTRATIONS IN GROUNDWATER (ug/L)

FILL

AS - ASPHALT

SI - SILTSTONE BEDROCK
SH - SHALE BEDROCK

ML - INORGANIC SILTS, VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS, CLAYEY SILTS WITH SLIGHT PLASTICITY
CL - INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS

NA — CONSTITUENT NOT ANALYZED
ND — NON DETECT
< — LESS THAN DETECTION LIMITS
100 — TPHg CONTOUR

SCALE: 0 — 20'

REVISIONS: NO. | DESCRIPTION: | DATE: | BY:

DESIGNED BY:
DRAWN BY: RPR
CHECKED BY: RPR
APPROVED BY: JH

ARCADIS
10461 OLD PLACERVILLE ROAD, SUITE 170
SACRAMENTO, CALIFORNIA 95827
PHONE: (916) 361-6400
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WEB: HTTP://WWW.AECOM.COM

CROSS-SECTION A-A'

Unocal No. 5484 (351812), RO352
18950 Lake Chabot Road
Castro Valley, California

PROJECT NUMBER: 60267030
DATE: 2/12/2013
SCALE: 1" = 20'

FIGURE NUMBER: C-1

SHEET NUMBER: 1 of 1

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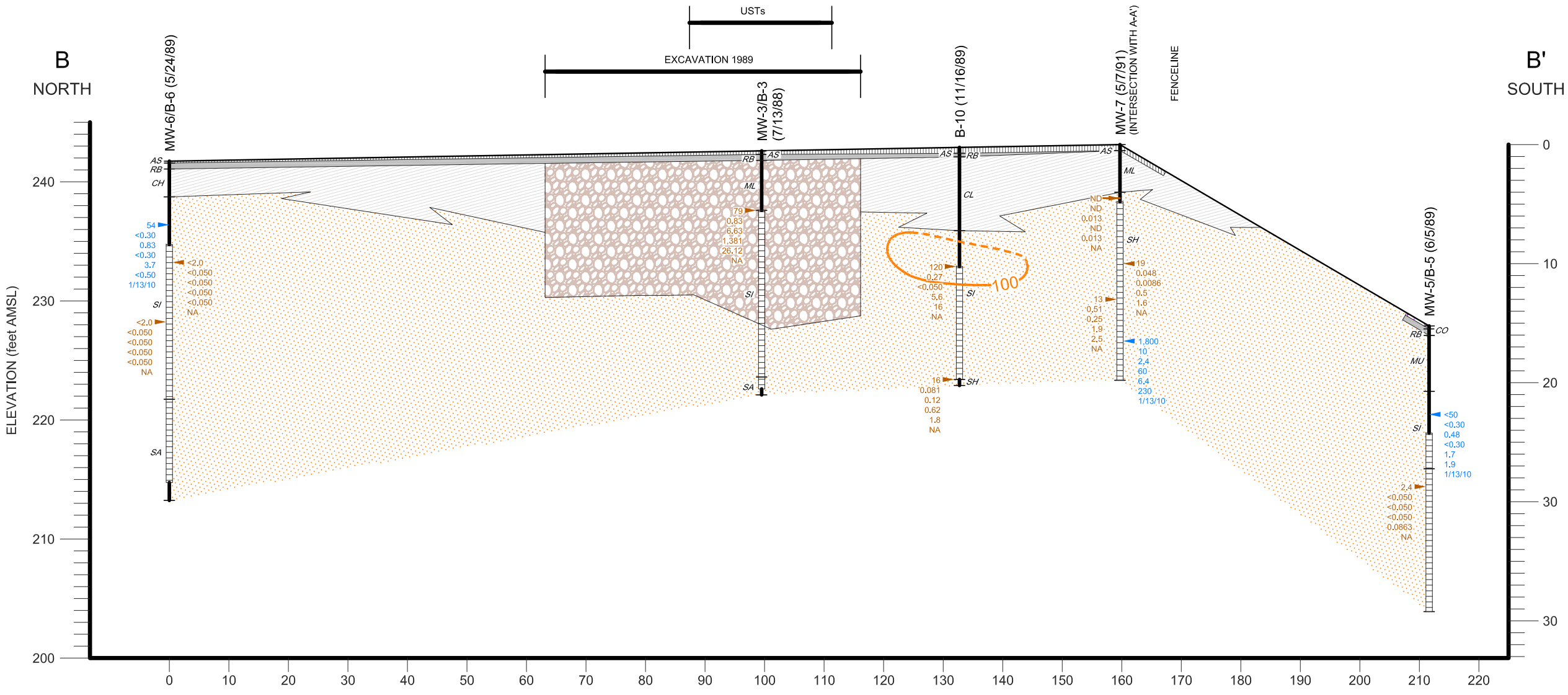
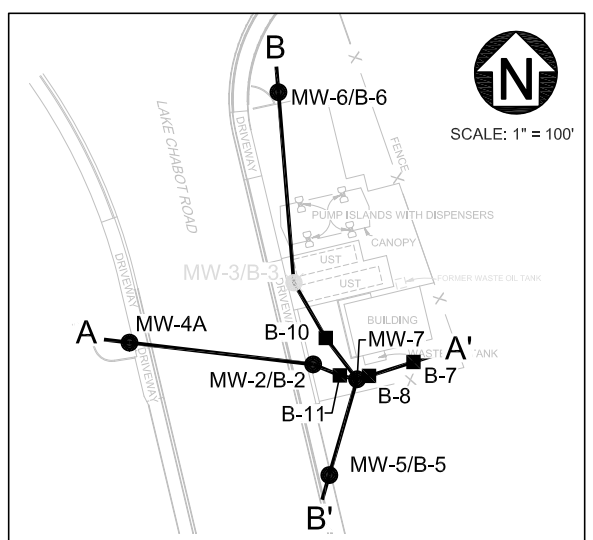


SCALE: HORZ. 1" = 20'
VERT. 1" = 10'



SOURCE: MORROW SURVEYING, DWG. NO. 1275-071 CT, FEBRUARY 2009.

LEGEND

- WELL DESIGNATION
- GROUND SURFACE
- OBSERVATION WELL INSTALLATION
- STRATIGRAPHIC BOUNDARY
- TYPICAL SOIL CLASSIFICATION
- SCREENED INTERVAL
- BOTTOM OF BORING

TPHg, BENZENE, TOULENE, ETHYLBENZENE, XYLENE, MTBE
- APPROXIMATE SOIL SAMPLE LOCATION
- HYDROCARBON CONCENTRATIONS IN SOIL (mg/kg)

TPHg, BENZENE, TOULENE, ETHYLBENZENE, XYLENE, MTBE, DATE
- APPROXIMATE GROUNDWATER SAMPLE LOCATION
- HYDROCARBON CONCENTRATIONS IN GROUNDWATER (ug/L)

- *FILL*
- *AS* - ASPHALT
- *CO* - CONCRETE
- *RB* - ROAD BASE
- *SA* - SANDSTONE BEDROCK
- *SI* - SILTSTONE BEDROCK
- *SH* - SHALE BEDROCK
- *MU* - MUDSTONE BEDROCK
- *ML* - INORGANIC SILTS, VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS, CLAYEY SILTS WITH SLIGHT PLASTICITY
- *CL* - INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
- *CH* - INORGANIC CLAYS OF HIGH PLASTICITY

- NA CONSTITUENT NOT ANALYZED
- ND NON DETECT
- < LESS THAN DETECTION LIMITS
- —100— TPHg CONTOUR

0 20'
SCALE

REVISIONS: NO.: | DESCRIPTION: | DATE: | BY:

DESIGNED BY: | DRAWN BY: RPR | CHECKED BY: RPR | APPROVED BY: JH

AECOM TECHNICAL SERVICES
10461 OLD PLACERVILLE ROAD, SUITE 170
SACRAMENTO, CALIFORNIA 95827
PHONE: (916) 361-6400
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CROSS-SECTION B-B'

Unocal No. 5484 (351812), RO352
18950 Lake Chabot Road
Castro Valley, California

PROJECT NUMBER: 60267030
DATE: 2/12/2013
SCALE: 1" = 20'

FIGURE NUMBER: C-2

SHEET NUMBER: 1 of 1

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Concentration Graphs (11pp)

Chart 1: Mann-Kendall Statistical Method Worksheet

Site-- RO 352, Unocal #5484
Compound-- TPHg
Well-- MW-7

Input data from four to ten sampling events in Row 10.

Date:	03/26/04	03/17/05	03/31/06	02/16/07	01/21/08	02/25/09	01/13/10	03/30/11	03/30/12	**03/08/13**	**Events**
Concentration (ug/L):	2800	2700	450	1600	1,300	1,000	1,800	680	1900	1900	10
	--	--	--	--	--	--	--	--	--	--	**Sum**
Compared to Event 1	*****	-1	-1	-1	-1	-1	-1	-1	-1	-1	-9
Compared to Event 2	*****	*****	-1	-1	-1	-1	-1	-1	-1	-1	-8
Compared to Event 3	*****	*****	*****	1	1	1	1	1	1	1	7
Compared to Event 4	*****	*****	*****	*****	-1	-1	1	-1	1	1	
Compared to Event 5	*****	*****	*****	*****	*****	-1	1	-1	1	1	1
Compared to Event 6	*****	*****	*****	*****	*****	*****	1	-1	1	1	2
Compared to Event 7	*****	*****	*****	*****	*****	*****	*****	-1	1	1	0
Compared to Event 8	*****	*****	*****	*****	*****	*****	*****	*****	1	1	2
Compared to Event 9	*****	*****	*****	*****	*****	*****	*****	*****	*****	0	

Mann-Kendall Statistic 'S' = -5

Statistical Confidence Level

>90% Confidence

I S I ≥ 15

Result: No Trend

>95% Confidence

I S I ≥ 20

Result: No Trend

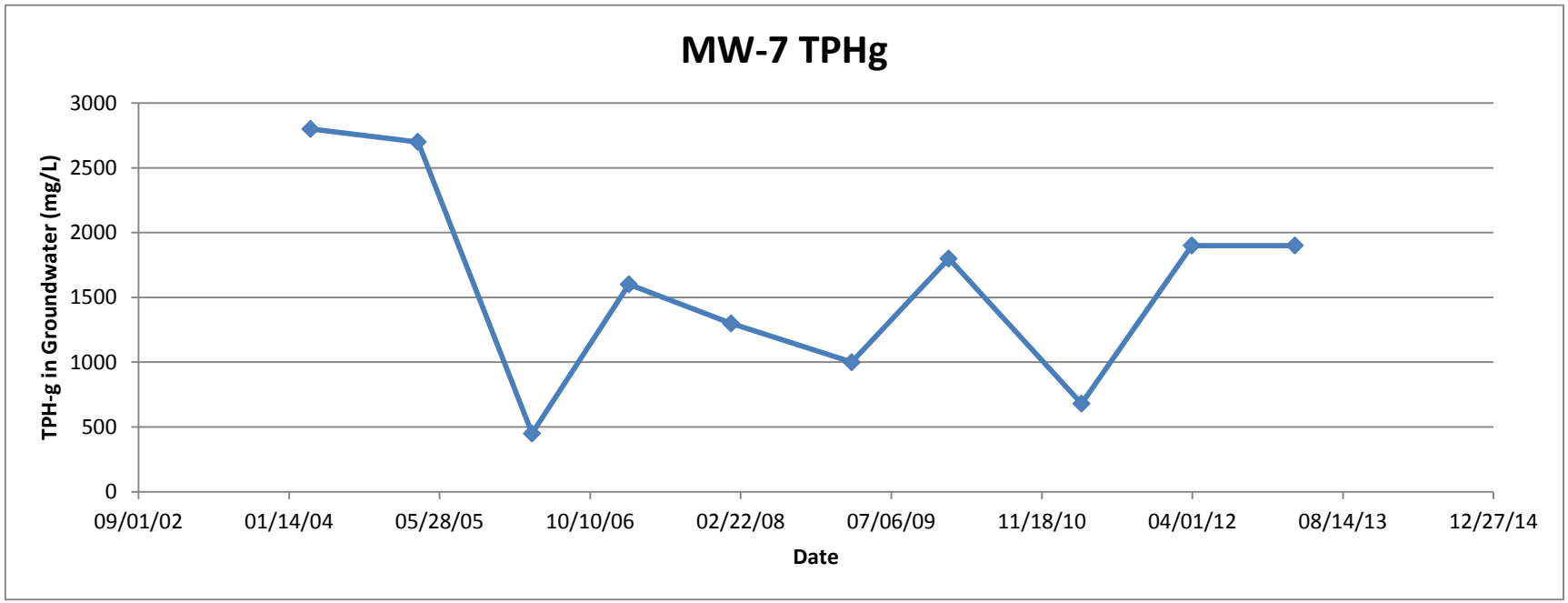

MW-7 TPHg
TPH-g in Groundwater (mg/L)
3000
2500
2000
1500
1000
500
0
09/01/02
01/14/04
05/28/05
10/10/06
02/22/08
07/06/09
11/18/10
04/01/12
08/14/13
12/27/14
Date

Chart 2: Mann-Kendall Statistical Method Worksheet

Site-- RO 352, Unocal #5484
Compound-- MTBE 8021
Well-- MW-2

Input data from four to ten sampling events in Row 10.

Date:	12/05/95	02/25/09	01/13/10	03/30/11	03/30/12	03/08/13					**Events**
Concentration (ug/L):	390	220	260	46	17	2.7					6
	--	--	--	--	--	--	--	--	--	--	**Sum**
Compared to Event 1	*****	-1	-1	-1	-1	-1					-5
Compared to Event 2	*****	*****	1	-1	-1	-1					-2
Compared to Event 3	*****	*****	*****	-1	-1	-1					-3
Compared to Event 4	*****	*****	*****	*****	-1	-1					-2
Compared to Event 5	*****	*****	*****	*****	*****	-1					-1
Compared to Event 6	*****	*****	*****	*****	*****	*****					
Compared to Event 7	*****	*****	*****	*****	*****	*****	*****				0
Compared to Event 8	*****	*****	*****	*****	*****	*****	*****	*****			
Compared to Event 9	*****	*****	*****	*****	*****	*****	*****	*****	*****		

Mann-Kendall Statistic 'S' = -13

Statistical Confidence Level

>90% Confidence

I S I ≥ 8

Result: Decreasing Trend

>95% Confidence

I S I ≥ 10

Result: Decreasing Trend

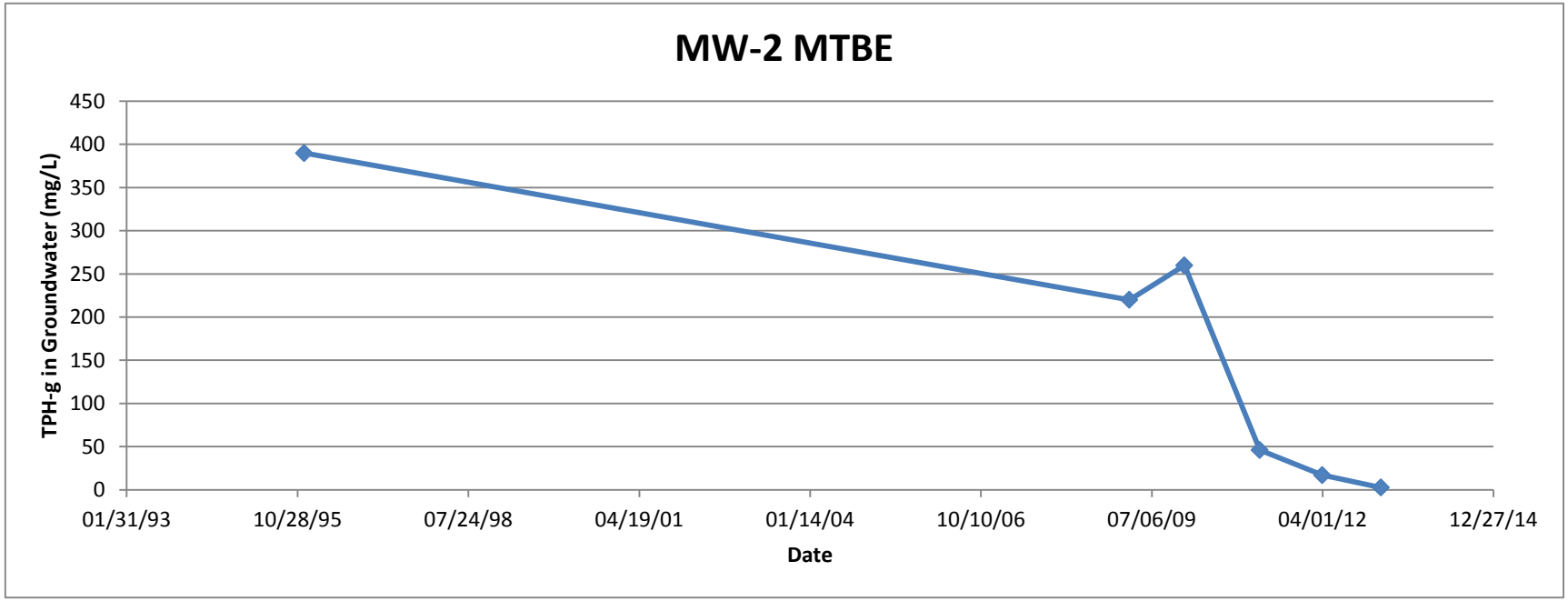

MW-2 MTBE
TPH-g in Groundwater (mg/L)
450
400
350
300
250
200
150
100
50
0
01/31/93
10/28/95
07/24/98
04/19/01
01/14/04
10/10/06
07/06/09
04/01/12
12/27/14
Date

Chart 3: Mann-Kendall Statistical Method Worksheet

Site-- RO 352, Unocal #5484
Compound-- MTBE 8021
Well-- MW-7

Input data from four to ten sampling events in Row 10.

Date:	03/26/04	03/17/05	02/16/07	01/21/08	02/25/09	01/13/10	03/30/11	03/30/12	03/08/13		**Events**
Concentration (ug/L):	1200	940	350	250	130	240	44	79	42		9
	--	--	--	--	--	--	--	--	--	--	**Sum**
Compared to Event 1	*****	-1	-1	-1	-1	-1	-1	-1	-1		-8
Compared to Event 2	*****	*****	-1	-1	-1	-1	-1	-1	-1		-7
Compared to Event 3	*****	*****	*****	-1	-1	-1	-1	-1	-1		-6
Compared to Event 4	*****	*****	*****	*****	-1	-1	-1	-1	-1		-5
Compared to Event 5	*****	*****	*****	*****	*****	1	-1	-1	-1		-2
Compared to Event 6	*****	*****	*****	*****	*****	*****	-1	-1	-1		-3
Compared to Event 7	*****	*****	*****	*****	*****	*****	*****	1	-1		0
Compared to Event 8	*****	*****	*****	*****	*****	*****	*****	*****	-1		-1
Compared to Event 9	*****	*****	*****	*****	*****	*****	*****	*****	*****		

Mann-Kendall Statistic 'S' = -32

Statistical Confidence Level

>90% Confidence

I S I ≥ 13

Result: Decreasing Trend

>95% Confidence

I S I ≥ 17

Result: Decreasing Trend

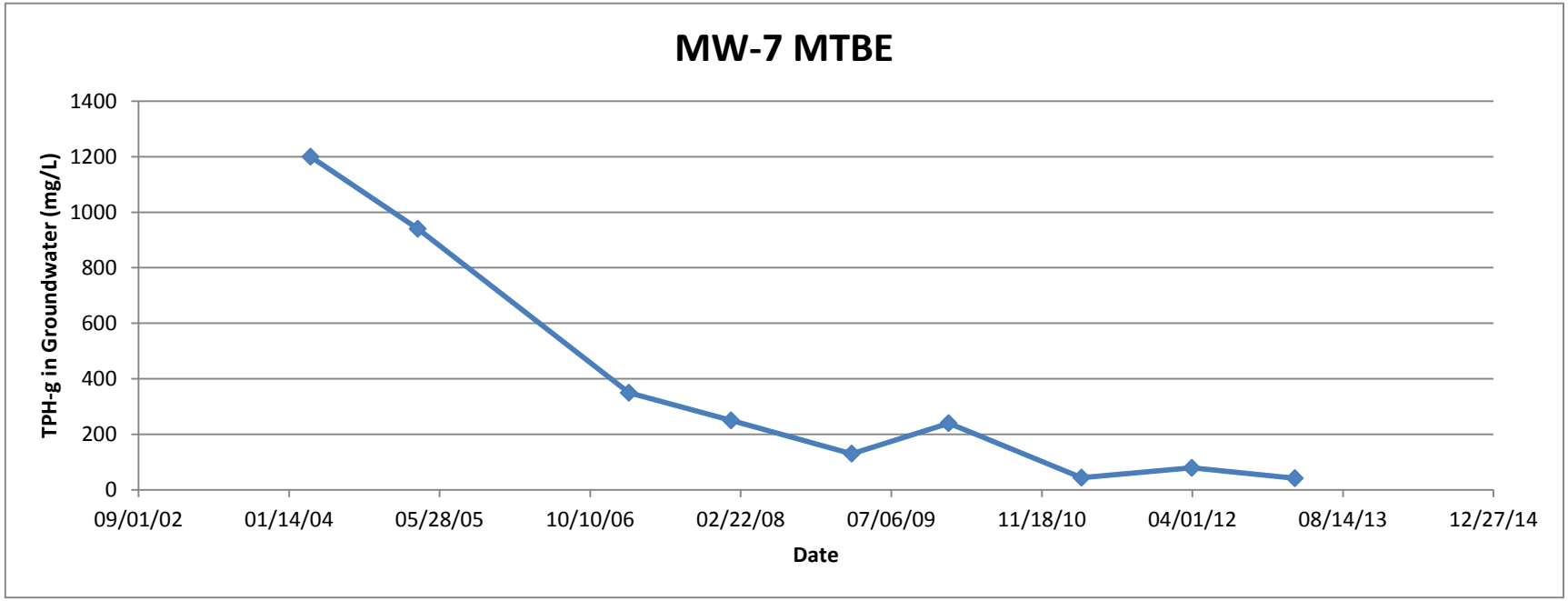

MW-7 MTBE
TPH-g in Groundwater (mg/L)
1400
1200
1000
800
600
400
200
0
09/01/02
01/14/04
05/28/05
10/10/06
02/22/08
07/06/09
11/18/10
04/01/12
08/14/13
12/27/14
Date

Chart 4: Mann-Kendall Statistical Method Worksheet

Site-- RO 352, Unocal #5484
Compound-- Benzene
Well-- MW-7

Input data from four to ten sampling events in Row 10.

Date:	03/26/04	03/17/05	03/31/06	02/16/07	01/21/08	02/25/09	01/13/10	03/30/11	03/30/12	03/08/13	**Events**
Concentration (ug/L):	37	5	8.7	11	11	15	10	5	13.0	5.8	10
	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**Sum**
Compared to Event 1	*****	-1	-1	-1	-1	-1	-1	-1	-1	-1	-9
Compared to Event 2	*****	*****	1	1	1	1	1	-1	1	1	6
Compared to Event 3	*****	*****	*****	1	1	1	1	-1	1	-1	3
Compared to Event 4	*****	*****	*****	*****	0	1	-1	-1	1	-1	-1
Compared to Event 5	*****	*****	*****	*****	*****	1	-1	-1	1	-1	-1
Compared to Event 6	*****	*****	*****	*****	*****	*****	-1	-1	-1	-1	-4
Compared to Event 7	*****	*****	*****	*****	*****	*****	*****	-1	1	-1	0
Compared to Event 8	*****	*****	*****	*****	*****	*****	*****	*****	1	1	2
Compared to Event 9	*****	*****	*****	*****	*****	*****	*****	*****	*****	-1	-1

Mann-Kendall Statistic 'S' = -5

Statistical Confidence Level

>90% Confidence

I S I ≥ 15

Result: No Trend

>95% Confidence

I S I ≥ 20

Result: No Trend

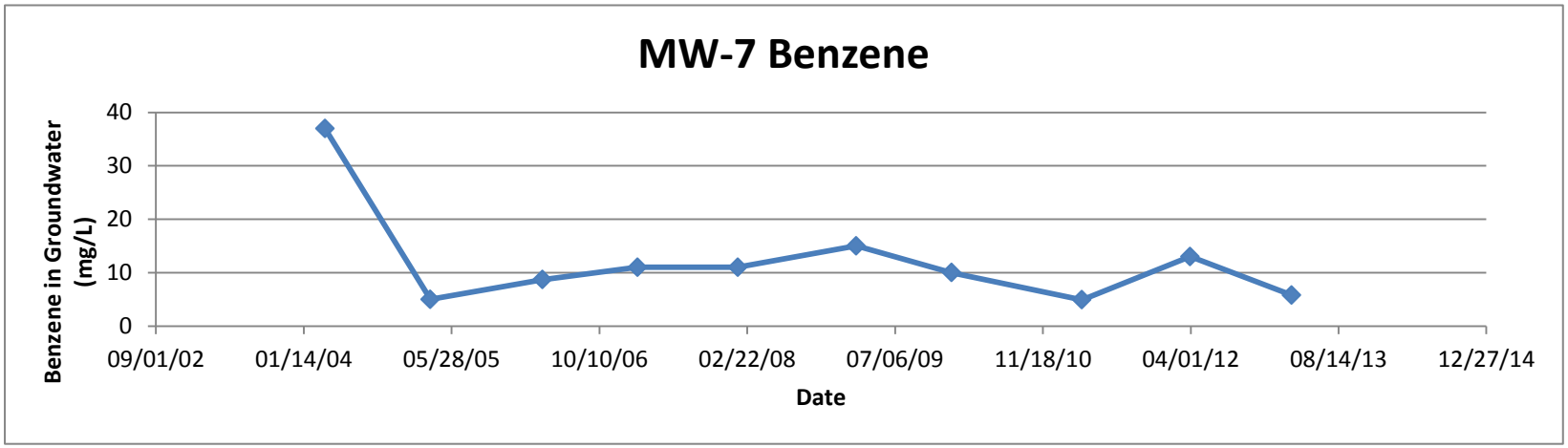

MW-7 Benzene
Benzene in Groundwater (mg/L)
40
30
20
10
0
09/01/02
01/14/04
05/28/05
10/10/06
02/22/08
07/06/09
11/18/10
04/01/12
08/14/13
12/27/14
Date

Chart 5: Mann-Kendall Statistical Method Worksheet

Site-- RO 352, Unocal #5484
Compound-- Naphthalene
Well-- MW-7

Input data from four to ten sampling events in Row 10.

Date:	03/26/04	03/31/06	02/16/07	01/21/08	02/25/09	01/13/10	03/30/11	03/30/12	03/08/13		**Events**
Concentration (ug/L):	17	6.2	37	40	27	150	8	32	41		9
	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**Sum**
Compared to Event 1	*****	-1	1	1	1	1	-1	1	1		4
Compared to Event 2	*****	*****	1	1	1	1	1	1	1		7
Compared to Event 3	*****	*****	*****	1	-1	1	-1	-1	1		
Compared to Event 4	*****	*****	*****	*****	-1	1	-1	-1	1		-1
Compared to Event 5	*****	*****	*****	*****	*****	1	-1	1	1		2
Compared to Event 6	*****	*****	*****	*****	*****	*****	-1	-1	-1		-3
Compared to Event 7	*****	*****	*****	*****	*****	*****	*****	1	1		0
Compared to Event 8	*****	*****	*****	*****	*****	*****	*****	*****	1		1
Compared to Event 9	*****	*****	*****	*****	*****	*****	*****	*****	*****		

Mann-Kendall Statistic 'S' = **10**

Statistical Confidence Level

>90% Confidence

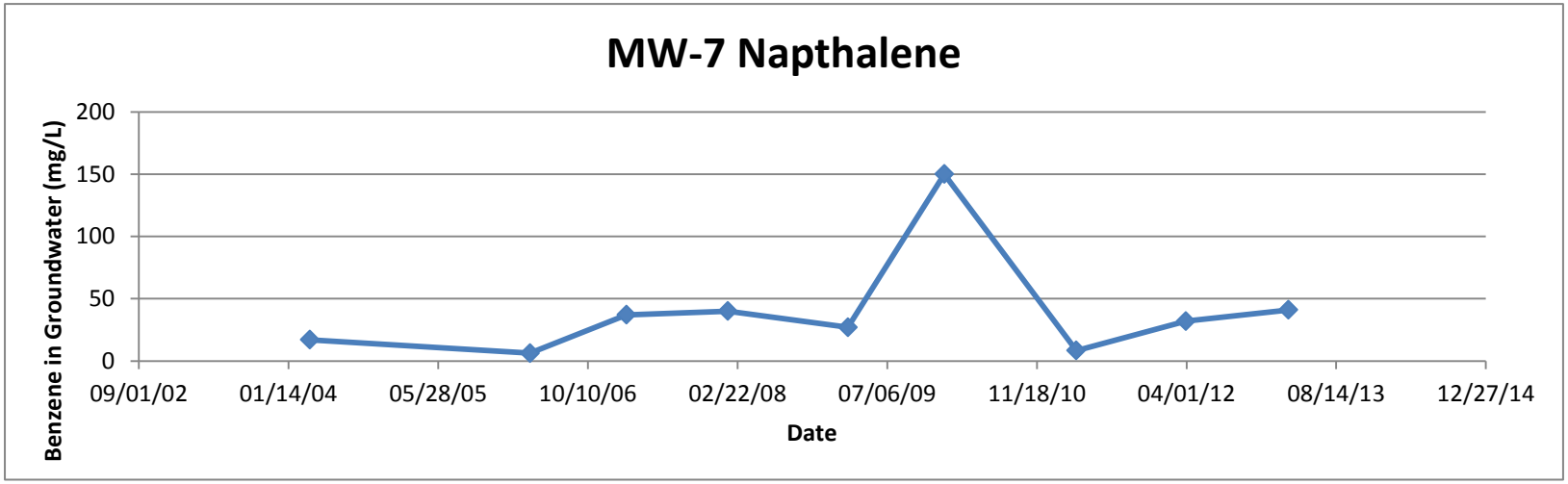
I S I ≥ 13

Result: No Trend

>95% Confidence

I S I ≥ 17

Result: No Trend


MW-7 Napthalene
Benzene in Groundwater (mg/L)
200
150
100
50
0
09/01/02
01/14/04
05/28/05
10/10/06
02/22/08
07/06/09
11/18/10
04/01/12
08/14/13
12/27/14
Date

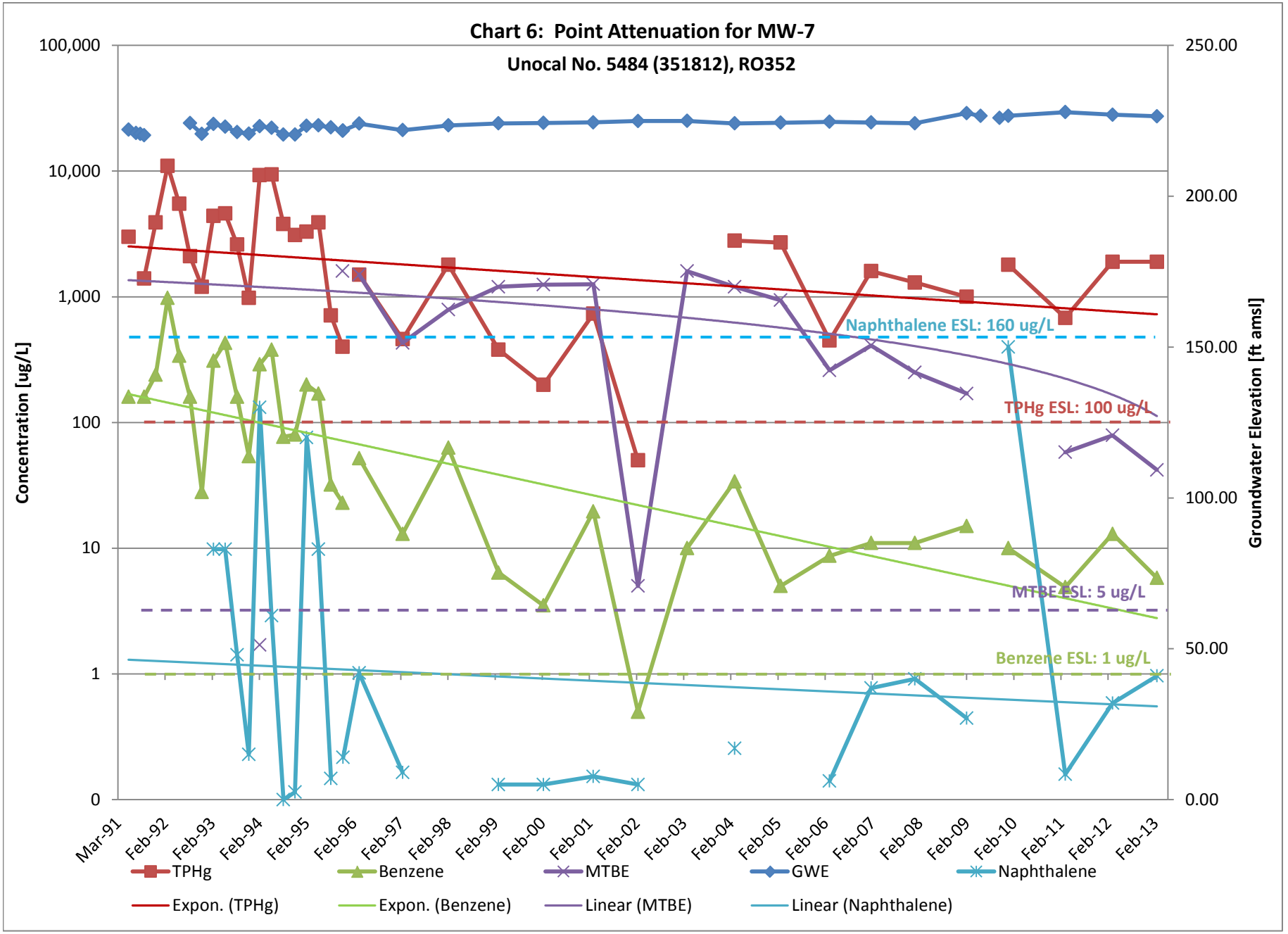
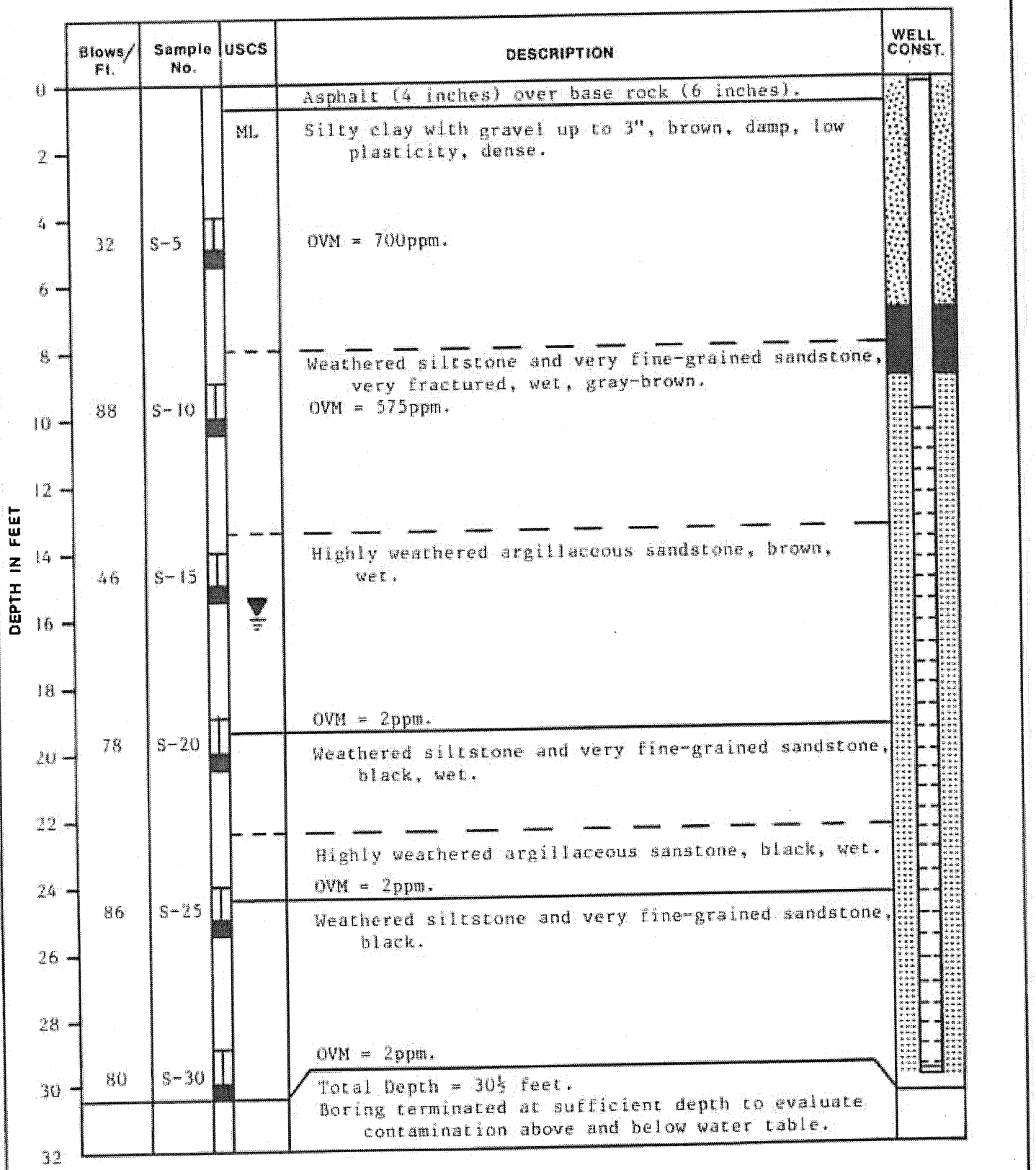


Chart 6: Point Attenuation for MW-7
Unocal No. 5484 (351812), RO352
Concentration [ug/L]
Groundwater Elevation [ft amsl]
100,000
10,000
1,000
100
10
1
0
250.00
200.00
150.00
100.00
50.00
0.00
Naphthalene ESL: 160 ug/L
TPHg ESL: 100 ug/L
MTBE ESL: 5 ug/L
Benzene ESL: 1 ug/L
Mar-91
Feb-92
Feb-93
Feb-94
Feb-95
Feb-96
Feb-97
Feb-98
Feb-99
Feb-00
Feb-01
Feb-02
Feb-03
Feb-04
Feb-05
Feb-06
Feb-07
Feb-08
Feb-09
Feb-10
Feb-11
Feb-12
Feb-13
TPHg
Benzene
MTBE
GWE
Naphthalene
Expon. (TPHg)
Expon. (Benzene)
Linear (MTBE)
Linear (Naphthalene)

Boring Logs (26pp)



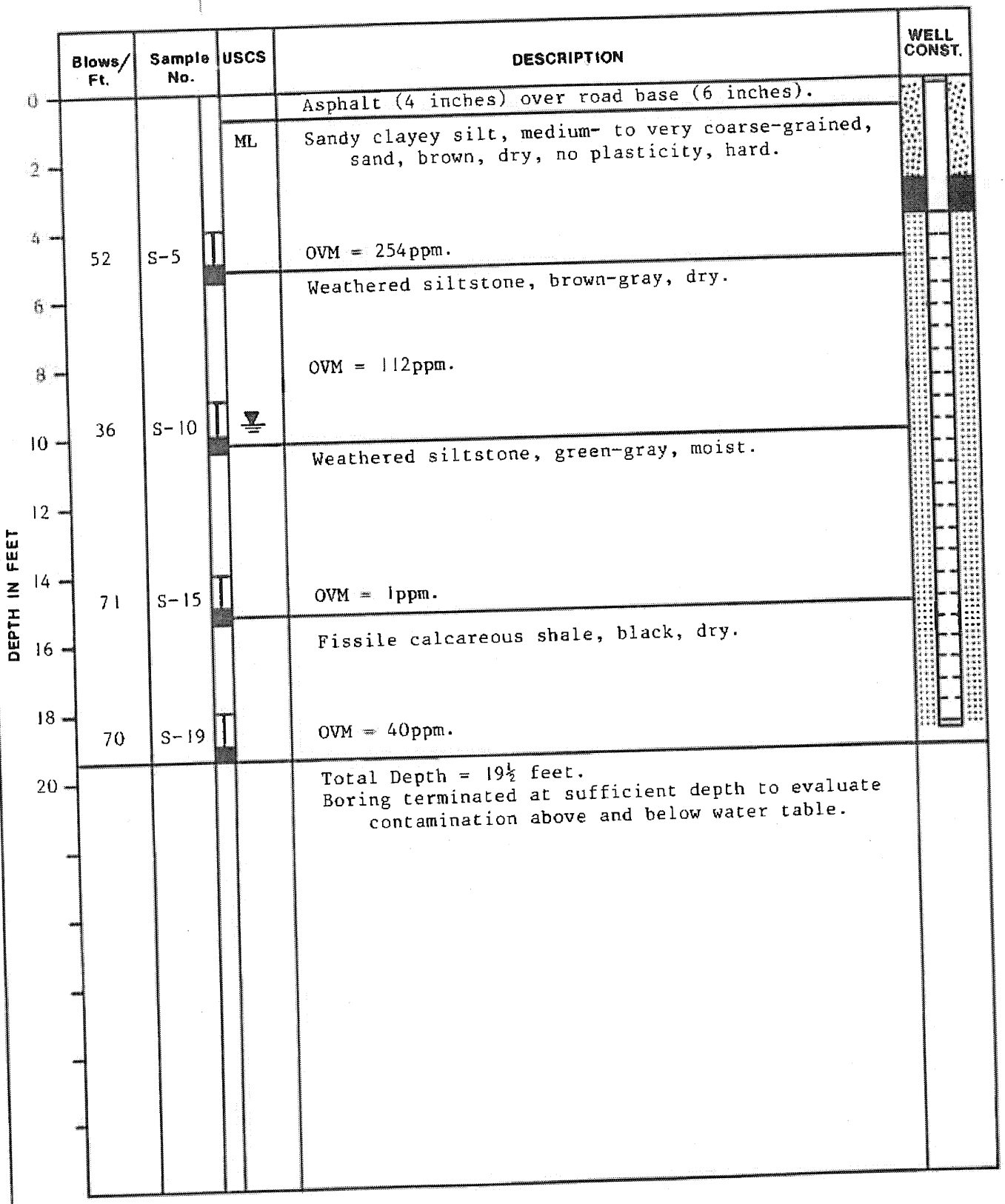
Applied GeoSystems

PROJECT NO. 018061-1

LOG OF BORING B-1/MW-1

UNOCAL Station No. 5484
18950 Lake Chabot Road
Castro Valley, California

PLATE
P - 4



Applied GeoSystems
43255 Mission Blvd Suite B Fremont, CA 94539 (415) 651-3906

PROJECT NO. 018061-1

LOG OF BORING B-2/MW-2

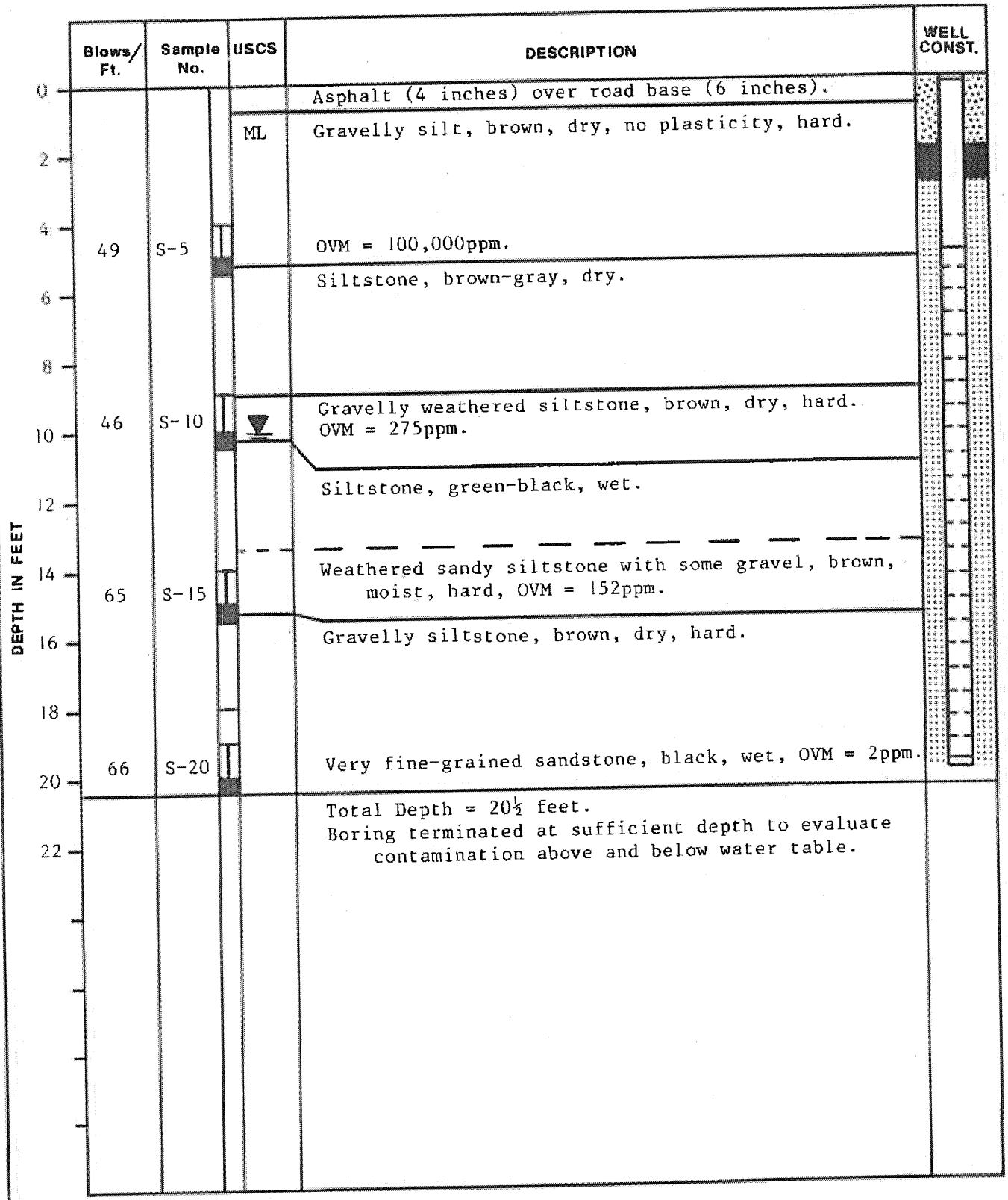
UNOCAL Station No. 5484

18950 Lake Chabot Road

Castro Valley, California

PLATE

P - 5



Applied GeoSystems
1255 Mission Blvd Suite B Fremont CA 94539 (415) 651-1906

PROJECT NO. 018061-1

LOG OF BORING B-3/MW-3

UNOCAL Station No. 5484
18950 Lake Chabot Road
Castro Valley, California

PLATE P - 6

Total depth of boring: 29 feet **Diameter of boring:** 10 inches **Date drilled:** 5-24-89

Casing diameter: 4 inches **Length:** 27-1/2 feet **Slot size:** 0.020-inch

Screen diameter: 4 inches **Length:** 20 feet **Material type:** Sch 40 PVC

Drilling Company: Kvilhaug Well Drilling **Driller:** Rod and Tony

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				CL	Sandy clay, with minor gravel and fine- to coarse-grained sand, tan-brown, dry, medium plasticity, hard.	
4	S-3.5	30	0.5		Weathered, mottled mudstone, green-brown, damp, very fractured with clay in fractures.	
8	S-8.5	25 50	0.5			
10					Weathered mottled siltstone, green-brown, damp, very fractured.	
12		20				
14	S-13.5	35 40	0.1			
16						
18	S-18.5	20 40 80	0.5		Siltstone with gray clay and some roots.	
20					Weathered mudstone, black, damp, fractured.	

(Section continues downward)

Applied GeoSystems

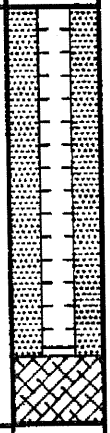
PROJECT NO. 18061-3

LOG OF BORING B-4/MW-4

UNOCAL Station No. 5484
18950 Lake Chabot Road
Castro Valley, California

PLATE

P - 4

Depth	Sample No.	BLOWS	P.I.D.	USCS Code	Description	Well Const.
22					Weathered mudstone, black, damp, fractured.	
24	S–23.5	80	0.7			
26						
28	S–28.5	80	0.5		Unweathered mudstone, dry.	
					Total Depth = 29 feet.	
30						
32						
34						
36						
38						
40						
42						
44						
46						
48						
50						

Applied GeoSystems

PROJECT NO. 18061-3

LOG OF BORING B-4/MW-4

UNOCAL Station No. 5484
18950 Lake Valley Road
Castro Valley, California

PLATE
P - 5

Total depth of boring: 24 feet **Diameter of boring:** 10 inches **Date drilled:** 6-5-89

Casing diameter: 4 inches **Length:** 24 feet **Slot size:** 0.020-inch

Screen diameter: 4 inches **Length:** 15 feet **Material type:** Sch 40 PVC

Drilling Company: Kvilhaug Well Drilling **Driller:** Rod and Dan

Method Used: Hollow-Stem Auger **Field Geologist:** Leigh Beem

Signature of Registered Professional: _____

Registration No.: G.E. 2023 **State:** CA

DEPTH	SAMPLE NO.	BLOWS	P.I.D.	USCS CODE	DESCRIPTION	WELL CONST.
0					Concrete (3 inches) over baserock (6 inches).	
2				GC	Clayey gravel, with very fine-grained sandstone, brown-black, highly fractured, some rootlets.	
4	S-3.5	24/50	0			
6					Weathered mudstone, gray-black, damp, very fractured, with clay in fractures.	
8	S-8.5	50	0	▼		
10						
12						
14	S-13.5	50	17		Weathered siltstone, brown-black, fractured, slightly wet in fractures.	
16					Moderately weathered siltstone, black-gray, damp.	
18						
20	S-18.5	50	0			

(Section continues downward)

Applied GeoSystems

PROJECT NO. 18061-3

LOG OF BORING B-5/MW-5

UNOCAL Station No. 5484
18950 Lake Chabot Road
Castro Valley, California

PLATE

P - 6

Depth	Sample No.	BLOWS	P.I.D.	USCS Code	Description	Well Const.
22					Moderately weathered siltstone, black–gray, dry to damp, calcite in fractures.	
24	S–23.5	50	0		Total Depth = 24 feet.	
26						
28						
30						
32						
34						
36						
38						
40						
42						
44						
46						
48						
50						

Applied GeoSystems

PROJECT NO. 18061-3

LOG OF BORING B-5/MW-5

UNOCAL Station No. 5484
18950 Lake Chabot Road
Castro Valley, California

PLATE

P - 7

Total depth of boring: 29 feet **Diameter of boring:** 10 inches **Date drilled:** 5-24-89

Casing diameter: 4 inches **Length:** 27-1/2 feet **Slot size:** 0.020-inch

Screen diameter: 4 inches **Length:** 20 feet **Material type:** Sch 40 PVC

Drilling Company: Kvilhaug Well Drilling **Driller:** Rod and Tony

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 baserock (6 inches).	
2				CH	Clay, brown, damp, high plasticity, medium stiff.	
		20				
4	S-3.5	35	0.5		Very weathered mudstone/siltstone, with green-brown mottling, damp, very fractured with clay in fractures.	
6					Very weathered siltstone, green-brown, damp, fractured.	
		10				
8	S-8.5	18	0.3			
10						
12		6				
		12				
14	S-13.5	25	0.1			
16						
		10				
18		30				
	S-18.5	50	0.1			
20					Sandstone, fine-grained, gray, fractured.	
					(Section continues downward)	

Applied GeoSystems

PROJECT NO. 18061-3

LOG OF BORING B-6/MW-6

UNOCAL Station No. 5484
18950 Lake Chabot Road
Castro Valley, California

PLATE

P - 8

Depth	Sample No.	BLOWS	P.I.D.	USCS Code	Description	Well Const.
22					Sandstone, fine-grained, gray, fractured.	
24	S-23.5	50	0.1			
26					Unweathered mudstone, black, damp.	
28	S-28.5	50	0			
					Total Depth = 29 feet.	
30						
32						
34						
36						
38						
40						
42						
44						
46						
48						
50						

Applied GeoSystems

PROJECT NO. 18061-3

LOG OF BORING B-6/MW-6

UNOCAL Station No. 5484
18950 Lake Chabot Road
Castro Valley, California

PLATE

P - 9

Delta
Consultants

Project No:	5484	Client:	COP
Logged By:	E. Weyrens	Location:	Castro Valley
Driller:	Gregg	Date Drilled:	2/18/2009
Drilling Method:	HAS	Hole Diameter:	8"
Sampling Method:	Geoprobe	Hole Depth:	10'
Casing Type:	PVC	Well Diameter:	2"
Slot Size:	0.02	Well Depth:	10'
Gravel Pack:	#3	▼ First Water Depth:	
		▽ Static Water Depth:	
Elevation:		Northing:	Easting:

Boring/Well No: 4A
Page 1 of 1

Location Map

Well Completion (Backfill / Casing)	Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
								Fill	Grass on top of fill down to 1 foot below grade
		Moist			1			CL	Sandy Lean Clay
					2				Brown in color, moist, fine grained sand
									Moist, no odors
		Wet			3				Water coming in at 3 fbg, possibly due to the rain or irrigation for the grass
					4				
									Increase in Gravel content at 4.5 fbg
					5				subangular to angular gravel, up to .5 of an inch in diameter.
					6				
					7				
		wet			8	X			Increase in Density at 8 fbg
			0	MW-4A@9	9	X	O		
		dry							At 9 fbg hit hard material, possibly a large rock, hard pan or bedrock, judging by the angular pieces of gravel, it is bedrock
					10				
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				
					21				
					22				

Delta
Consultants

Project No:	5484	Client:	COP
Logged By:	E. Weyrens	Location:	Castro Valley
Driller:	Gregg	Date Drilled:	2/18/2009
Drilling Method:	HAS	Hole Diameter:	8"
Sampling Method:	Geoprobe	Hole Depth:	14'
Casing Type:	PVC	Well Diameter:	2"
Slot Size:	0.02	Well Depth:	14'
Gravel Pack:	#3	▼ First Water Depth:	
		▽ Static Water Depth:	
Elevation:		Northing:	Easting:

Boring/Well No: 4B
Page 1 of 1

Location Map

Well Completion (Backfill / Casing)	Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
					1			Fill	Grass on top of fill down to 1 foot below grade
		Moist			2			CL	Sandy Lean Clay
									Brown in color, moist, fine grained sand
					3				Moist, no odors
		Wet							Water coming in at 3 fbg, possibly due to the rain or irrigation for the grass
					4				
					5				Increase in Gravel content at 4.5 fbg
									subangular to angular gravel, up to .5 of an inch in diameter.
					6				
					7				Fractured bedrock at 7 fbg (Switch to split spoon)
					8				
					9	X			Weathered bedrock
						X			Yellowish brown 10YR 5/4
		dry	0.6	MW-4B@10	10	X	O		Hard, No odor
					11				
					12				
					13	X			Same as above
						X			
		dry	0.8	MW-4B@14	14	X	O		
					15				
					16				
					17				
					18				
					19				
					20				
					21				
					22				

BORING LOG

Project No. KEI-P90-0806	**Boring Diameter** 8"	**Logged By** W.W.
Project Name Unocal Castr. Val. Lake Chab	**Well Cover Elevation** N/A	**Date Drilled** 5/7/91
Boring No. EB1	**Drilling Method** Hollow-stem Auger	**Drilling Company** EGI

Penetration blows/6"	G. W. level	Depth (feet) Samples	Strati-graphy USCS	Description
		0		Asphalt pavement over sand and gravel.
			ML	Silt, trace sand and gravel, moist, grayish brown.
10/30/45			CH	Clay, trace fine-grained sand, moist, hard, olive gray and strong brown mottled, trace rootlets.
		5	N/A	Bedrock - shale, highly sheared, variably weathered, dry, gray to olive gray, with strong brown staining, waxy.
88				Bedrock, as above, less weathered, moist, gray to olive gray with olive brown staining.
		10		
		15		
		20		TOTAL DEPTH: 7'

BORING LOG

Project No. KEI-P90-0806	**Boring & Casing Diameter** 9" 2"	**Logged By** W.W.
Project Name Unocal Castr. Val. Lake Chab	**Well Cover Elevation**	**Date Drilled** 5/7/91
Boring No. MW7	**Drilling Method** Hollow-stem Auger	**Drilling Company** EGI

Penetration blows/6"	G. W. level	Depth (feet) Samples	Strati-graphy USCS	Description
		0		Asphalt pavement over silty gravel.
				Silt, trace sand, trace clay, moist, firm, trace rootlets, dark brown.
			ML	Clayey silt, with clay and sand, moist, stiff, pale brown.
45/59-4"				Bedrock-
		5		Shale, moderately weathered to highly weathered, highly sheared, slightly moist, gray with dark yellowish brown staining.
80-3"				
70-4"			N/A	
80-5"		10		Shale, highly sheared, variably weathered, slightly moist, gray with dark yellowish brown staining. yellowish brown staining.
35/60-5"				Shale, highly sheared, waxy appearance, slightly moist, dark yellowish brown.
	▽ After 4 hours			
		15		
42/50-5"				
				Shale, highly sheared, variably weathered, slight waxy appearance, very moist, gray to olive gray.
60-5"				
		20		TOTAL DEPTH: 19.8'

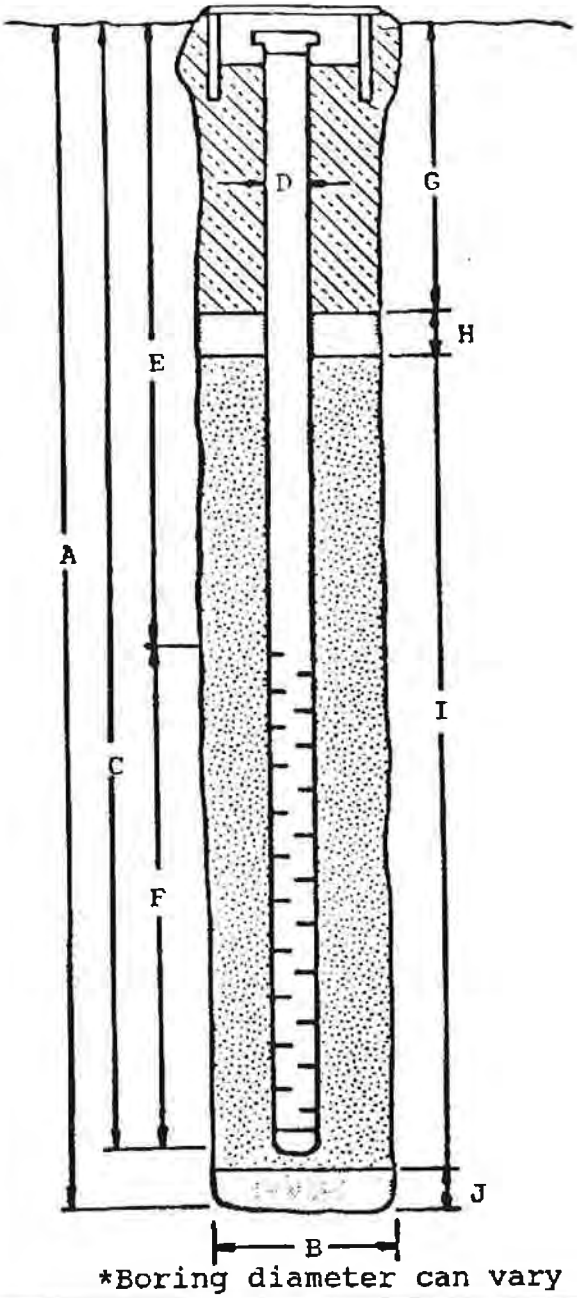
WELL COMPLETION DIAGRAM

PROJECT NAME: Unocal Castro Valley, 18950 Lake Ch BORING/WELL NO. MW7

PROJECT NUMBER: KEI-P90-0806

WELL PERMIT NO.:

Flush-mounted Well Cover



A. Total Depth: 19.8'

B. Boring Diameter*: 9"

Drilling Method: Hollow Stem Auger

C. Casing Length: 19.8'

Material: Schedule 40 PVC

D. Casing Diameter: OD = 2.375" ID = 2.067"

E. Depth to Perforations: 4.8'

F. Perforated Length: 15'

Perforation Type: Machined Slot

Perforation Size: 0.020"

G. Surface Seal: 1.8'

Seal Material: Concrete

H. Seal: 2'

Seal Material: Bentonite

I. Gravel Pack: 16'

Pack Material: RMC Lonestar Sand

Size: #3

J. Bottom Seal: None

Seal Material: N/A

*Boring diameter can vary from 8-1/4" to 9" depending on bit wear.

Total depth of boring: 20–1/2 feet **Diameter of boring:** 4 inches **Date drilled:** 11–17–89

Casing diameter: N/A **Length:** N/A **Slot size:** N/A

Screen diameter: N/A **Length:** N/A **Material type:** N/A

Drilling Company: Environmental Exploration, Inc. **Driller:** Tom, Tim and Tom

Method Used: Hollow–Stem Auger **Field Geologist:** Mark Armstrong

Signature of Registered Professional:

Registration No.: **State:** CA

Depth	Sample No.	Blows	P.I.D.	USCS Code	Description	Well Const.
0					Asphalt underlain by baserock.	
				CL	Silty clay, with gravel, tan, damp, medium plasticity, stiff.	
2						
4						
	S–5	50	120		Green and brown mottled, hard.	
6						
	S–7.5	50	220		Grades more gravelly	
8						
	S–10	50	210			
10						
12					Siltstone; brown and green, hard, sandy, weathered.	
		18				
14	S–15	45	230		Green–tan, damp, clayey.	
16						
18					Shale, black, dry, hard.	
	S–20	50	18			
20					Total Depth = 20–1/2 feet.	

Applied GeoSystems

PROJECT NO. 18061-5

LOG OF BORING B-7

Unocal Station No. 5484
18950 Lake Chabot Road
Castro Valley, California

PLATE

P - 4

Total depth of boring: 15-1/2 feet **Diameter of boring:** 4 inches **Date drilled:** 11-17-89

Casing diameter: N/A **Length:** N/A **Slot size:** N/A

Screen diameter: N/A **Length:** N/A **Material type:** N/A

Drilling Company: Environmental Exploration, Inc. **Driller:** Tom, Tim and Tom

Method Used: Hollow-Stem Auger **Field Geologist:** Mark Armstrong

Signature of Registered Professional:

Registration No.: **State:** CA

Depth	Sample No.	Blows	P.I.D.	USCS Code	Description	Well Const.
0					Asphalt underlain by baserock.	
				CL	Silty clay, with gravel, tan, slightly damp, medium plasticity, hard.	
2						
4		30				
	S-5.5	35	1.0		Silty gravelly clay.	
		35				
6						
8						
10		31				
	S-10	35	74			
		35				
12					Siltstone, gray-brown to tan, hard, weathered.	
14						
	S-14.5	50	18		Shale, black, hard.	
16					Total Depth = 15-1/2 feet.	
18						
20						

Applied GeoSystems

PROJECT NO. 18061-5

LOG OF BORING B-8

Unocal Station No. 5484
18950 Lake Chabot Road
Castro Valley, California

PLATE

P - 5

Total depth of boring: 18 feet **Diameter of boring:** 4 inches **Date drilled:** 11-17-89

Casing diameter: N/A **Length:** N/A **Slot size:** N/A

Screen diameter: N/A **Length:** N/A **Material type:** N/A

Drilling Company: Environmental Exploration, Inc. **Driller:** Tom, Tim and Tom

Method Used: Hollow-Stem Auger **Field Geologist:** Mark Armstrong

Signature of Registered Professional:

Registration No.: **State:** CA

Depth	Sample No.	Blows	P.I.D.	USCS Code	Description	Well Const.
0					Asphalt underlain by baserock.	
2				CL	Silty sandy clay, with trace gravel, tan, dry, medium plasticity, very stiff.	
4	S-4.5	17 28 15	1.1		Green and brown mottled, hard.	
6						
8						
10	S-10	18 33 50			Siltstone, gray-brown, hard, weathered and fractured, green-gray in fractures.	
12						
14	S-14.5	23 50			Clayey, brown, with fragments of gray siltstone/mudstone.	
16						
18	S-17	32 50	5.1		Shale, black.	
					Total Depth = 18 feet.	
20						

Applied GeoSystems

PROJECT NO. 18061-5

LOG OF BORING B-9

Unocal Station No. 5484
18950 Lake Chabot Road
Castro Valley, California

PLATE

P - 6

Total depth of boring: 20 feet **Diameter of boring:** 4 inches **Date drilled:** 11-16-89

Casing diameter: N/A **Length:** N/A **Slot size:** N/A

Screen diameter: N/A **Length:** N/A **Material type:** N/A

Drilling Company: Environmental Exploration, Inc. **Driller:** Tom, Tim and Tom

Method Used: Hollow-Stem Auger **Field Geologist:** Mark Armstrong

Signature of Registered Professional: _____

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

Depth	Sample No.	Blows	P.I.D.	USCS Code	Description	Well Const.
0					Asphalt underlain by baserock.	
					Gravel fill.	
2				CL	Silty sandy clay, with gravel, yellow-brown, damp, medium plasticity, hard, organics.	
4	S-4.5	9 18 27	0			
6						
8					Siltstone, dark gray and green mottled, hard, weathered and fractured.	
10	S-9.5	17 20 22	143			
12						
14						
16					Clayey, brown, with fragments of gray and brown siltstone/mudstone.	
18	S-17	21 24 28	224		Brown-black.	
20	S-19.5	80	8.0		Shale, black, dry.	
					Total Depth = 20 feet.	

Applied GeoSystems

PROJECT NO. 18061-5

LOG OF BORING B-10

Unocal Station No. 5484
18950 Lake Chabot Road
Castro Valley, California

PLATE

P - 7

Total depth of boring: 18 feet **Diameter of boring:** 4 inches **Date drilled:** 11-16-89

Casing diameter: N/A **Length:** N/A **Slot size:** N/A

Screen diameter: N/A **Length:** N/A **Material type:** N/A

Drilling Company: Environmental Exploration, Inc. **Driller:** Tom, Tim and Tom

Method Used: Hollow-Stem Auger **Field Geologist:** Mark Armstrong

Signature of Registered Professional:

Registration No.: **State:** CA

Depth	Sample No.	Blows	[illegible]	USCS Code	Description	Well Const.
0					Asphalt underlain by baserock.	
				CL	Sandy clay, with gravel, gray-green, dry, medium plasticity, hard.	
2						
4	S-4.5	12 20 44	3.8			
6						
8						
10	S-9.5	50	[illegible]		Siltstone, dark gray, hard, very weathered and fractured. Grades more sandy.	
12						
14	S-14.5	30 50	[illegible]		Clayey, brown, with fragments of gray-brown siltstone/ mudstone.	
16						
18	S-17	50	.2		Shale, black, slightly damp.	
					Total Depth = 18 feet.	
20						

Applied GeoSystems

PROJECT NO. 18061-5

LOG OF BORING B-11

Unocal Station No. 5484
18950 Lake Chabot Road
Castro Valley, California

PLATE

P - 8

Delta

Environmental Consultants, Inc.

Project No:	C1D54-8401-1	Client:	ConocoPhillips	Well No: B-1
Logged By:	Lia Holden	Location:	18950 Lake Chabot Rd., Castro V	Page 1 of 1
Driller:	Gregg Drilling	Date Drilled:	1/13/2005	
Drilling Method:	Geoprobe	Hole Diameter:	2 inches	
Sampling Method:	direct push	Hole Depth:	4.5 feet	
Casing Type:	NA	Well Diameter:	NA	
Slot Size:	NA	Well Depth:	NA	
Gravel Pack:	NA	Casing Stickup:	NA	

Location Map

Please See Site Map

Elevation	Northing	Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Concrete / Neat cement grout	▽	Moist wet	0.1 0.9 0.6	Cleared to 5 feet — Adjacent Probe	1–22	AF	↑ ↓	CL	Approximately 6 inches of asphalt ~3-4" of angular mixed gravel fill and clay **Sandy Lean CLAY**; medium to dark brown; 20-30% fine sand; minor coarse and medium sand; 70-80% fines; medium plasticity. Clay is lighter near grade and gradually changes to dark brown at bottom of boring. **Bottom of boring at 4.5 feet**

Delta

Environmental Consultants, Inc.

Project No:	C1D54-8401-1	Client:	ConocoPhillips	Well No: B-2
Logged By:	Lia Holden	Location:	18950 Lake Chabot Rd., Castro Valley, CA	Page 1 of 1
Driller:	Gregg Drilling	Date Drilled:	1/13/2005	
Drilling Method:	Geoprobe	Hole Diameter:	2 inches	
Sampling Method:	direct push	Hole Depth:	20 feet	
Casing Type:	NA	Well Diameter:	NA	
Slot Size:	NA	Well Depth:	NA	
Gravel Pack:	NA	Casing Stickup:	NA	

Location Map

Please See Site Map

Elevation | Northing | Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery / Interval	Soil Type	LITHOLOGY / DESCRIPTION
Concrete						AF		Approximately 4 inches of asphalt
		moist	10.2	Cleared to 5 feet'	1–5		CL	**Lean CLAY with sand**; medium to light orange-brown; 15-25% fine to medium sand; minor coarse sand; 75-85% fines; medium to high plasticity; slow dilatancy.
		damp						soil becomes green discolored, more friable, and less moist with depth (saprolite).
			2195		5			
			>4000		6			
			2583		7			**Sandy lean CLAY**; medium olive brown to green-brown (silty sandy clay); 20-30% coarse sand 10-20% fine and medium sand; 60-70% fines (friable when dry, plastic when wet).
		damp						
			2823		8–9			
								Color change to light brown at 9.5 feet.
			3427		10			
								As above
			1919		11–12			from 10-14 feet below grade: abundant iron oxide staining and caliche deposits.
		damp						
			2212		13			
			486		14			
								As above
			872		15–16			
	17.2 ft	damp	114		17			As above color becomes light brown to tan at 17.5 feet and ash gray at 19.5 feet; caliche deposits still abundant but no iron oxide stains.
			119		18			
			10.5		19			
		damp			20			**Bottom of boring at 20 feet**
					21–22			

Neat Cement Grout

Delta

Environmental Consultants, Inc.

Project No:	C1D54-8401-1	Client:	ConocoPhillips	Well No: B-4
Logged By:	Lia Holden	Location:	18950 Lake Chabot Rd., Castro V	Page 1 of 1
Driller:	Gregg Drilling	Date Drilled:	1/13/2005	
Drilling Method:	Geoprobe	Hole Diameter:	2 inches	
Sampling Method:	direct push	Hole Depth:	20 feet	
Casing Type:	NA	Well Diameter:	NA	
Slot Size:	NA	Well Depth:	NA	
Gravel Pack:	NA	Casing Stickup:	NA	

Location Map: Please See Site Map

Elevation | Northing | Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Concrete				Cleared to 5 feet		AF			Approximately 4 inches of asphalt
		damp	0.6		1				
					2	x		GC	**Clayey GRAVEL with sand**; medium orange-brown; 30-40% gravel (clasts up to 2 cm in diameter); 15-25% coarse to medium sand; 15-25% fine sand; 35-45% fines; low
			2.4		3				
		damp			4	x			
		moist			5				
		wet	14.1		6				As above Saturated pocket at 6 feet (3" thick)
		moist	47.9		7				gravel layer (4" thick) at 7 feet with clasts up to 4 cm diameter.
			77.9		8				
			5.3						As above
		moist			9				
					10				At 10 feet below grade: 7" section of well indurated yet fractured mudrock; iron oxide stains along parallel joints.
			4.0		11				
					12				From 11 to 14 feet:
			0.9						**Gravelly lean CLAY with sand**; light to medium orange-brown; 20-30% angular fine gravel; 15 -25% fine to medium sand; 10-20% coarse sand; 40-50% fines; low plasticity; slow to moderate dilatancy (clasts up to 4 cm diameter).
		moist			13			CL	
			1.1		14				
			0.8		15				
					16				As above Saturated pocket (3-4" thick) at 16 feet.
		wet	8.6		17				
		moist	1.4		18				Color change to medium ash brown at 18 feet.
		moist-wet	0.7		19				As above Color change last 6 inches of this interval: dark brown-black with orange mottling.
Neat Cement Grout	After reaching 19.5 feet, water level quickly rose to 4.5 feet				20				
					21				**Bottom of boring at 20 feet**
					22				

Delta

Environmental Consultants, Inc.

Project No:	C1D54-8401-1	Client:	ConocoPhillips	Well No: B-5
Logged By:	Lia Holden	Location:	18950 Lake Chabot Rd., Castro V	Page 1 of 2
Driller:	Gregg Drilling	Date Drilled:	1/13/2005	
Drilling Method:	direct push	Hole Diameter:	2 inches	
Sampling Method:	continuous core	Hole Depth:	4.5 feet	
Casing Type:	NA	Well Diameter:	NA	
Slot Size:	NA	Well Depth:	NA	
Gravel Pack:	NA	Casing Stickup:	NA	
Elevation		Northing		Easting

Location Map

Please See Site Map

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Concrete				Cleared to 5'		CNR			Aproximately 4 inches concrete
					1				
					2	x		CL	**Sandy Lean CLAY with Gravel**; medium orange-brown; 10-20% angular gravel up to 1.5 cm diameter; 15-25% coarse to medium sand; 10-20% fine sand.
			2		3				
					4				
			2.4		5				
					6				**Gravelly lean CLAY with sand**; medium orange brown; 20-30% angular gravel clasts; 15-25% coarse to medium sand; 10-20% fine sand; 40-50% fines; moderate plasticity; slow dilatancy; hard gravel clasts from 0.5 to 2.5 cm diameter.
		damp	3.2		7			CL	
			4.1		8				
			0.1		9				As above
			0.1		10				Color change at 10 feet to medium ash-brown
		damp			11				Color change at 11.5 feet to dark brown
			2.4		12				
			3.1		13				As above
		damp			14				
			2.8		15				
			1.4		16			GC	**Clayey GRAVEL with Sand**; medium ash-brown; 30-40% fine gravel; 15-25% medium to fine sand; 20-30% coarse sand; 20-30% fines;
			2.2		17				
		damp			18				Color change at 18 feet to ash gray
			0.1		19				
		damp			20			CL	**Gravelly lean CLAY with sand;** ash gray; 20-30% angular gravel; 15-25% coarse to medim sand 10-20% fine sand; 40-50% fines; moderate plasticity.
			0.9		21				saturated zone from 20.5 feet to 21 feet.
		wet			22				3 inch thick cravel layer at 22 feet.
			2.1						
		moist							

Neat cement grout

Delta
Environmental Consultants, Inc.

Project No:	C1D54-8401-1	Client:	ConocoPhillips	Well No: B-5
Logged By:	Lia Holden	Location:	18950 Lake Chabot Rd., Castro V	Page 2 of 2
Driller:	Gregg Drilling	Date Drilled:	1/13/2005	
Drilling Method:	Geoprobe	Hole Diameter:	2 inches	
Sampling Method:	direct push	Hole Depth:	4.5 feet	
Casing Type:	NA	Well Diameter:	NA	
Slot Size:	NA	Well Depth:	NA	
Gravel Pack:	NA	Casing Stickup:	NA	
Elevation		Northing		Easting

Location Map

Please See Site Map

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
	22.4	damp	3 2.1		23			CL	**Gravelly lean CLAY with sand** continued
					24				Abundant caliche deposits from 19 feet to bottom of boring.
					25				Met refusal at 23 feet
					26				**Bottom of boring at 23 feet**
					27				
					28				
					29				
					30				

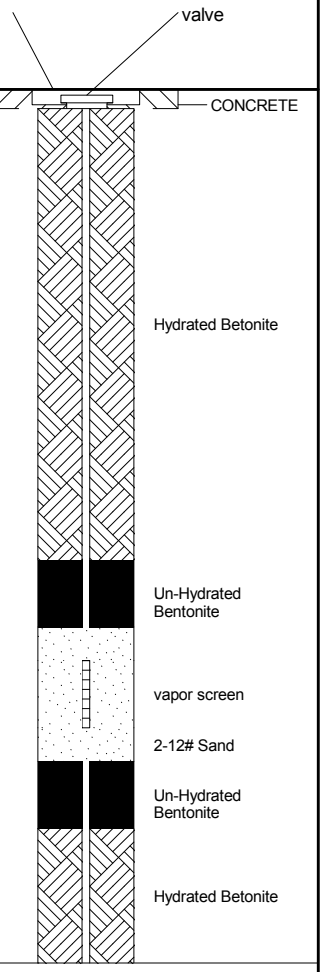
AECOM
10461 Old Placerville Road
Sacramento, CA 95827
(916) 361-6400
www.aecom.com

Client: Chevron		**Boring No. SV-1**
Project Number: 60318102 351812		
Site Description/Location: 18950 Lake Chabot Road, Castro Valley, CA		*Project Manager:* Jim Harms
Coordinates: Not Surveyed	*Elevation:* *Datum:*	*Sheet:* 1 *of* 1
Drilling Equipment/Method: Hand Auger		*Well Installed:* No
Sample Type(s): Grab	*Boring Diameter:* 3 IN.	*Screened Interval:* 4.25 - 4.75 feet bgs
Approved By: Jessica Law	*Logged By:* Jim Harms / *Date/Time Started:* 08-20-14	*Depth of Boring:* 6.5 ft bgs
Drilling Contractor: Confluence / Jesus Morales	*Backfill:* / *Date/Time Finished:* 08-20-14	*Water Level:* Not Encountered

Depth (ft)	Sample ID	Sample Depth (ft)	Sample Time	Recovery (ft)	Blow Counts/PSI	PID Reading (ppm)	USCS	Graphic Log	Soil Boundary (ft bgs)	Visual Description Soil Type (USCS Class) - [gr%,sd%,st%,cl%]
									0.3	Asphalt.
									1.0	SILTY GRAVEL Fill.
							ML		3.0	SILT (ML) - [5,5,90,0] dark brown (7.5YR 3/2); dry; very stiff; fine sand; fine gravel no odor.
						0.2				SILTY WITH GRAVEL (ML) - [15,0,80,5] brown (7.5YR 5/3); dry; stiff; non-plastic; subangular; fine gravel no odor.
5	SV-1-S-N-5-20140820			0.5		1.6	ML			
	SV-1-S-N-6.5-20140820			0.5		3.4			6.5	

Geologist terminated boring due to refusal.

Well Diagram



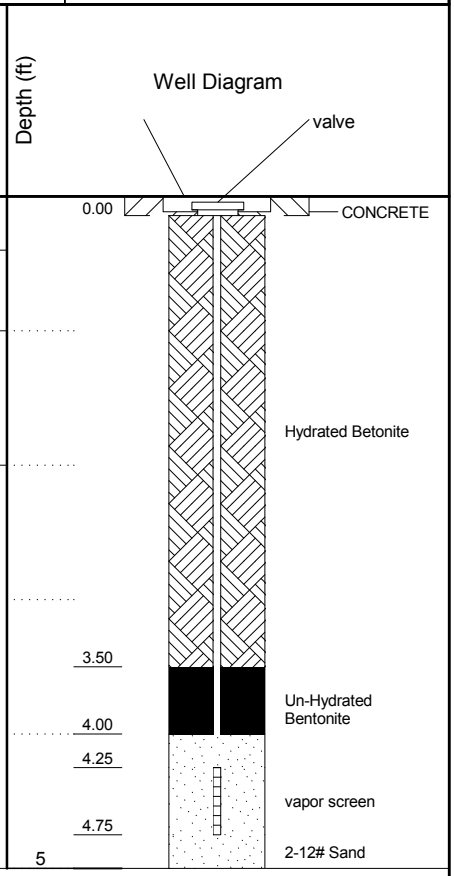
Notes:

AECOM
10461 Old Placerville Road
Sacramento, CA 95827
(916) 361-6400
www.aecom.com

Client: Chevron		**Boring No. SV-2**
Project Number: 60318102 351812		
Site Description/Location: 18950 Lake Chabot Road, Castro Valley, CA		*Project Manager:* Jim Harms
Coordinates: Not Surveyed	*Elevation:* *Datum:*	*Sheet:* 1 *of* 1
Drilling Equipment/Method: Hand Auger		*Well Installed:* No
Sample Type(s): Grab	*Boring Diameter:* 3 IN.	*Screened Interval:* 4.25 - 4.75 feet bgs
Approved By: Jessica Law	*Logged By:* Jim Harms *Date/Time Started:* 08-20-14	*Depth of Boring:* 5 ft bgs
Drilling Contractor: Confluence / Jesus Morales	*Backfill:* *Date/Time Finished:* 08-20-14	*Water Level:* Not Encountered

Depth (ft)	Sample ID	Sample Depth (ft)	Sample Time	Recovery (ft)	Blow Counts/PSI	PID Reading (ppm)	USCS	Graphic Log	Soil Boundary (ft bgs)	Visual Description Soil Type (USCS Class) - [gr%,sd%,st%,cl%]
									0.4	Asphalt.
									1.0	SILTY GRAVEL dry; Fill.
							ML		2.0	SILT WITH CLAY (ML) - [0,0,80,20] dark brown (7.5YR 3/2); dry; very stiff; non-plastic; no odor.
						7.8	ML			SILT WITH GRAVEL (ML) - [25,0,75,0] brown (7.5YR 5/3); dry; stiff; subangular; fine to coarse gravel no odor.
5	SV-2-S-N-5-20140820			0.5		1.8			5.0	

Geologist terminated boring due to refusal.



Notes:

List of Landowners Form (1pp)

LIST OF LANDOWNERS FORM

County of Alameda
Environmental Health Services
Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

CERTIFIED LIST OF RECORD FEE TITLE OWNERS FOR:

Site Name: UNOCAL #5484

Address: 18950 Lake Chabot Road

City, State, Zip: Castro Valley, California 94546

Record ID #: RO0000352

Please fill out item 1 if there are multiple site landowners (attach an extra sheet if necessary). If you are the sole site landowner, skip item 1 and fill out item 2.

1. In accordance with Section 25297.15(a) of Chapter 6.7 of the California Health & Safety Code, I, Jillian Holloway (name of primary responsible party), certify that the following is a complete list of current record fee title owners and their mailing addresses for the above site:

   Name: Abdi Fugfusosh & Shukri Noor

   Address: 18950 Lake Chabot Road

   City, State, Zip: Castro Valley, California 94546

   E-mail Address:

   Name:

   Address:

   City, State, Zip:

   E-mail Address:

   Name:

   Address:

   City, State, Zip:

   E-mail Address:

2. In accordance with Section 25297.15(a) of Chapter 6.7 of the California Health & Safety Code, I _____, certify that I am the sole landowner for the above site.

   Sincerely,

Jillian Holloway — Jillian Holloway — 10/9/2014 — JillianHolloway@chevron.com

Signature of Primary Responsible Party | Printed Name | Date | E-mail Address