Nicole M. Arceneaux
Project Manager
Marketing Business Unit

Chevron Environmental Management Company
6101 Bollinger Canyon Road
San Ramon, CA 94583
Tel (925) 790-6912
Nicole.arceneaux@chevron.com

RECEIVED
By Alameda County Environmental Health at 3:33 pm, Sep 24, 2014

September 23, 2014

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

Re: **Unocal No. 3538 (351642)**
411 West MacArthur Boulevard, Oakland, California
Fuel Leak Case No. RO0000251
GeoTracker Global ID # T0600101472

I have reviewed the attached report dated September 23, 2014.

I agree with the conclusions and recommendations presented in the referenced report. 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,

Nicole Arceneaux
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

September 23, 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**
First Semi-Annual 2014 Groundwater Monitoring Report
Unocal No. 3538 (351642)
411 West MacArthur Boulevard, Oakland, California
Fuel Leak Case No. RO0000251
Geotracker Global ID # T0600101472

Dear Mr. Nowell,

On behalf of Chevron Environmental Management Company's (EMC's) affiliate, Union Oil Company of California ("Union Oil"), AECOM has prepared this Case Closure Summary for the Unocal No.3538 site located at 411 West MacArthur Boulevard in Oakland, California.

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) 414-5800.

Sincerely,

James Harms
Project Manager

Jessica Law, PG No. 8840
Project Geologist
Stamped: 09/23/2014

cc: Nicole Arceneaux EMC (via electronic copy)
Mr. Kevin Ma and Mr. Arthur Yu, property owner (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: September 23, 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 #3538		
Site Facility Address: 411 West MacArthur Boulevard, Oakland, California		
RB Case No.: 01-1597	STiD No.	LOP Case No.: RO0000251
GeoTracker ID: T0600101472		APN: 12-945-45-1
Current Land Use: Commercial		

Responsible Parties	Addresses	Phone Numbers
Nicole M. Arceneaux Chevron Environmental Management Company	6101 Bollinger Canyon Road, Room 5119, San Ramon, California, 94583	(925) 790-6912

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.		
Number of monitoring wells installed: 6	Number of monitoring wells destroyed: 6	Number of monitoring wells remaining: 0
Highest Groundwater Depth Below Ground Surface: 14' (13.66 ft btoc)	Lowest Depth: 18; (17.98 feet btoc)	Flow Direction: South/Southwest
Most Sensitive Current Groundwater Use: Potential drinking water source		

Summary of Production Wells in Vicinity: No wells were identified within ½ mile of the site. The nearest well identified was a private well located approximately 2,700 feet north of the site (up-gradient).	
Are drinking water wells affected? No	Aquifer Name: East Bay Plain
Is surface water affected? No	Nearest Surface Water Name: Glen Echo Creek 1,800 feet east (cross-gradient) 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	Undefined		<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	1,800 feet east		>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	1,300	<0.30	No criteria	3,000	No criteria	1,000
MTBE	4,800	5.1	No criteria	1,000	No criteria	1,000
TPHg	21,000	<50	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*:* Scenario 3A							
Active Fueling Station	No, currently a commercial automotive repair/distribution facility						
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	≥10 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	<0.30 ppb	No criteria	No criteria	<100 ppb	≥100 and <1,000 ppb	<1,000 ppb	No criteria
Oxygen Data within Bioattenuation Zone	No oxygen data	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	No vapor data	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	----	----	<85	<280	<85,000	<280,000
Ethylbenzene	----	----	<1,100	<3,600	<1,100,000	<3,600,000
Naphthalene	----	----	<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: Maximum concentrations of petroleum hydrocarbons are less than or equal to those in Table 1 below						
Are maximum concentrations less than those in Table 1 below?				Yes		
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	<0.05	0.29	<0.05	0.29	0.29
LTCP Criteria	Benzene	≤1.9	≤2.8	≤8.2	≤12	≤14
Site Maximum	Ethylbenzene	0.10	0.069	0.10	0.069	0.10
LTCP Criteria	Ethylbenzene	≤21	≤32	≤89	≤134	≤314
Site Maximum	Naphthalene	----	----	----	----	----
LTCP Criteria	Naphthalene	≤9.7	≤9.7	≤45	≤45	≤219
Site Maximum	PAHs	----	----	----	----	----
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?				--		

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) NO RESTRICTIONS** This fuel leak case has been evaluated for closure consistent with the State Water Resource Control Board Low-Threat Underground Storage Tank Closure Policy (LTCP). Based on this evaluation, no site management requirements appear to be necessary. However, 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:

PAHs and naphthalene have not been analyzed at this site. Because no impacts or evidence of a leak were observed below the used-oil UST, which would have been the only potential PAH and naphthalene source, the presence of PAHs or naphthalene above LTCP criteria is unlikely.

Scenario 5 for Groundwater Criteria: 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.

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	

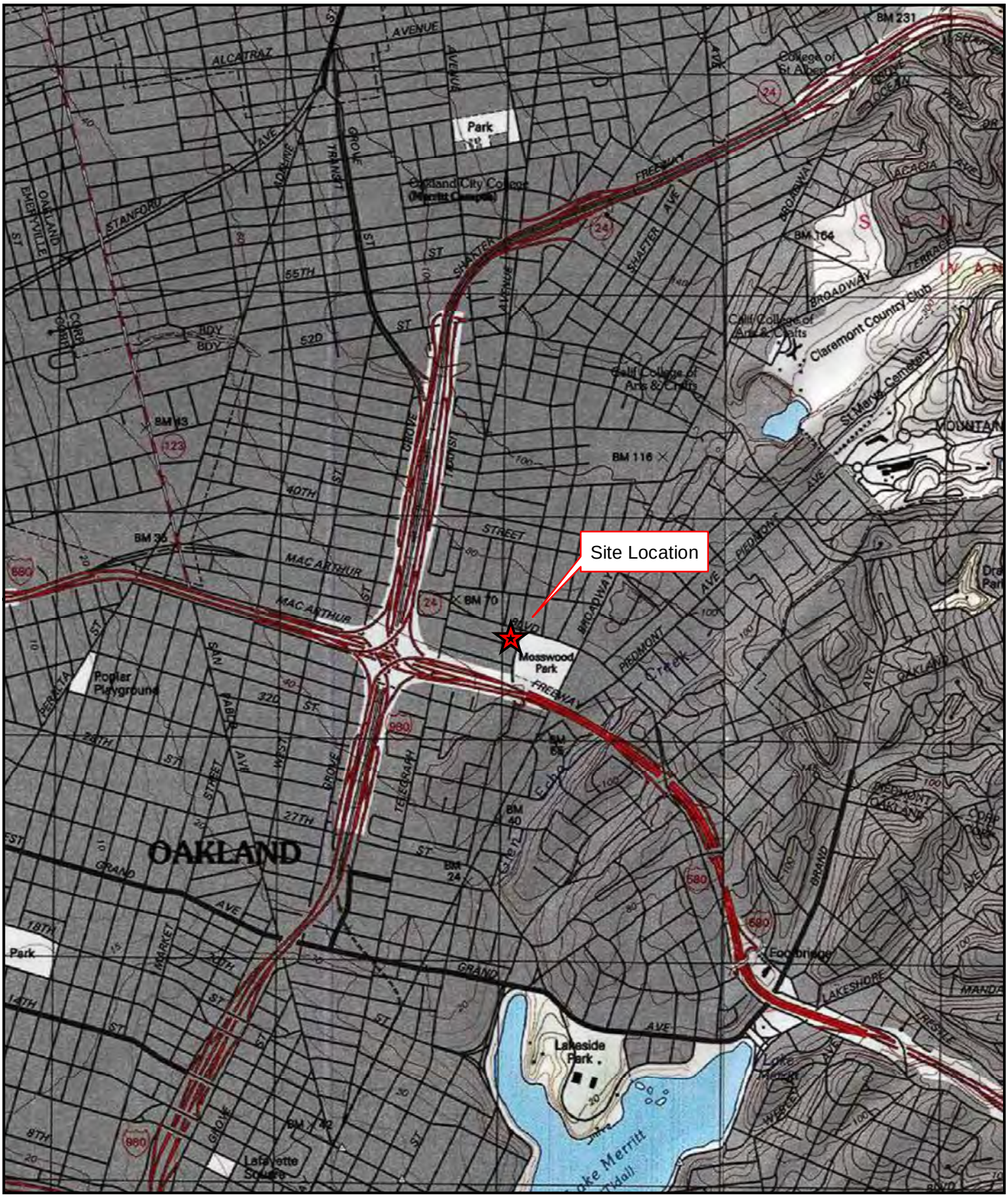
VIII. MONITORING WELL DESTRUCTION

Date Requested by ACEH: tbd	Date of Well Decommissioning Report: tbd	
All Monitoring Wells Destroyed: Yes	Number Destroyed: 6	Number Retained: 0
Reason Wells Retained: ----		
Additional requirements for submittal of groundwater data from retained wells: ----		
ACEH Concurrence - Signature:		Date:

Attachments:

1. Site Vicinity Map and Aerial Photo (2 pp)
2. Site Plan (1 p)
3. Groundwater Contour and Chemical Concentration Maps (2 pp)
4. Soil Analytical Data and Maximum Soil Concentration Map (3 pp)
5. Groundwater Analytical Data (10 pp)
6. Cross Sections (3 pp)
7. Concentration Graphs (2 pp)
8. Boring Logs (22 pp)
9. List of Landowners Form (1pp)

1. Site Vicinity Map and Aerial Photo (2pp)



0.5 0.25 0 0.5 Miles

AECOM
2020 L Street
Sacramento, CA 95811
916.414.5800

RO251, Unocal No.3538 (351642)
411 West MacArthur Boulevard,
Oakland, California

Site Location Map

DATE:9/9/13 | DRWN: JH | Revision: 0

Figure 1

Path: P:\ENV\01231-Chevron\76Products_transfer_sites\351642_3538_Oakland\7.0 Deliverables\7.2_CADD\GIS\Figure 1_site_location_351642.mxd

Map Source: ESRI Data Resource Center 2013.

0 75 150 Feet

AECOM
2020 L Street
Sacramento, CA 95811
916.414.5800

RO251, Unocal No.3538 (351642)
411 West MacArthur Boulevard,
Oakland, California

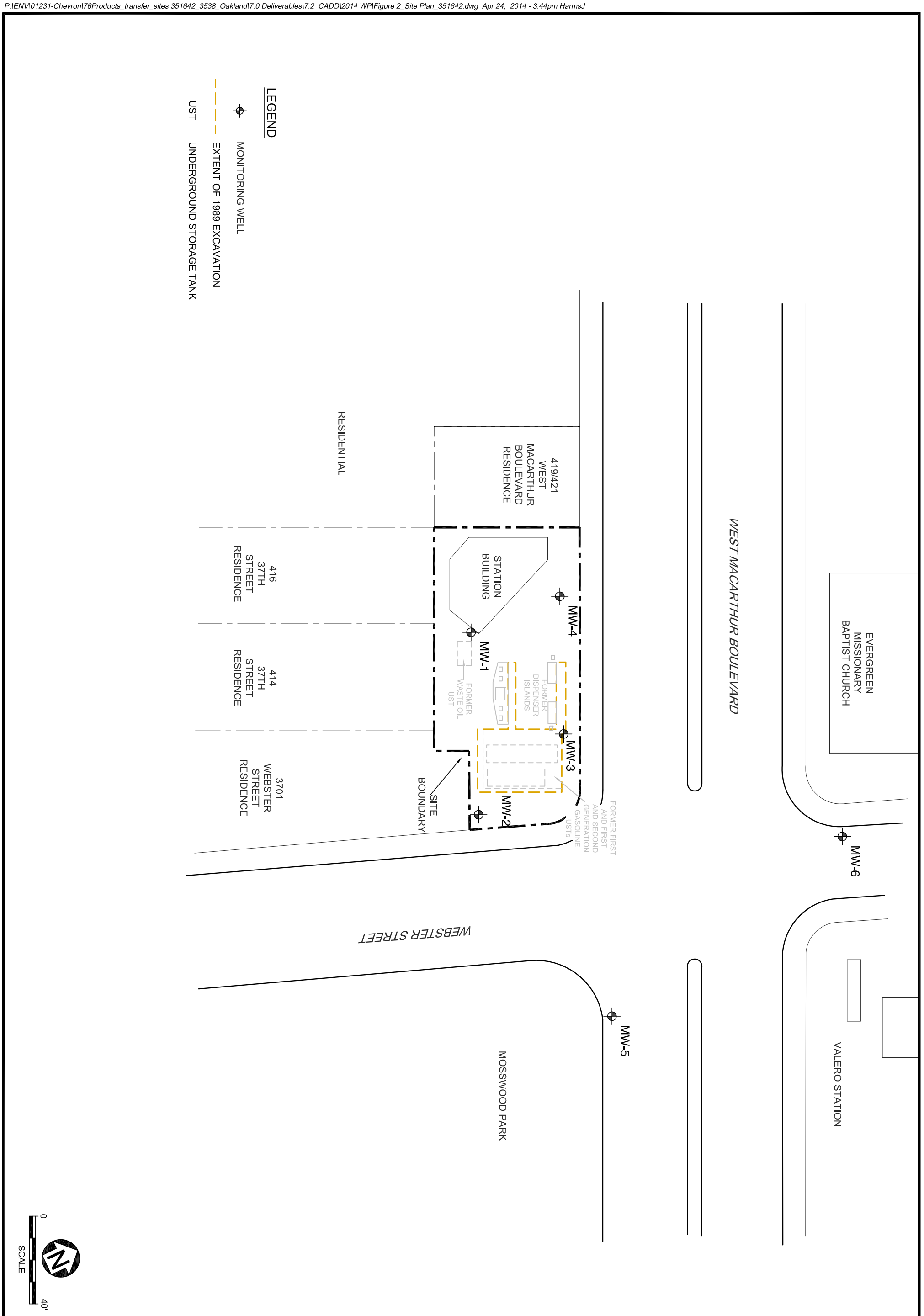
Site Map

DATE:4/24/14 | DRWN: JH | Revision: 0

Figure 3

Path: \\ussrc1fs001\prod\Projects\ENV\01231-Chevron\76Products_transfer_sites\351642_3538_Oakland\7.0 Deliverables\7.2 CADD\GIS\Figure C1_proposed_MW_location_351642.mxd

2. Site Plan (1p)



Site Plan

Unocal No. 3538 (351642)
411 West MacArthur Blvd., Oakland, California

SCALE:	DATE:	PROJECT NUMBER:
1" = 40'	4/24/2014	60284077

FIGURE NUMBER: 2

SHEET NUMBER: 1 of 1

AECOM TECHNICAL SERVICES
2020 L STREET, SUITE 400
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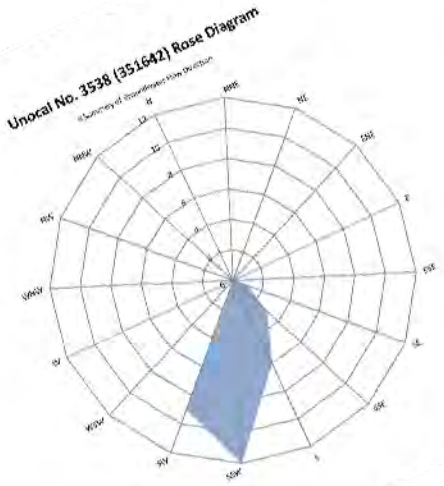
PHONE: (916) 414-5800
FAX: (916) 414-5850
WEB: HTTP://WWW.AECOM.COM

DESIGNED BY:	REVISIONS			
	NO.:	DESCRIPTION:	DATE:	BY:
DRAWN BY: JH				
CHECKED BY: TC				
APPROVED BY: JH				

3. Groundwater Contour and Chemical Concentration Maps (2pp)



HISTORICAL GROUNDWATER
FLOW DIRECTION
1990 TO 1SA14

EVERGREEN
MISSIONARY
BAPTIST CHURCH

MW-6
55.68

VALERO STATION

[55.0]

WEST MACARTHUR BOULEVARD

[54.0]

MW-5
53.20

[53.0]

FORMER FIRST
AND FIRST
AND SECOND
GENERATION
GASOLINE
USTs

MW-4
NA

MW-3
53.16

419/421
WEST
MACARTHUR
BOULEVARD

FORMER
DISPENSER
ISLANDS

STATION
BUILDING

MW-1
53.37

MW-2
53.00

FORMER
WASTE OIL
UST

MOSSWOOD PARK

WEBSTER STREET

SITE
BOUNDARY

416
37TH
STREET

414
37TH
STREET

3701
WEBSTER
STREET

LEGEND

- MONITORING WELL
- 53.20 — GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- [54.0] — GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEAL LEVEL (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION
- EXTENT OF 1989 EXCAVATION
- HYDRAULIC GRADIENT = 0.01 FT/FT

Notes:
NA = Not Accessible
UST = Underground Storage Tank
FT/FT = feet per foot

0 40'
SCALE

REVISIONS			
NO.:	DESCRIPTION:	DATE:	BY:
1	Internal Tech Review	4/16/14	JH

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

AECOM TECHNICAL SERVICES
2020 L STREET, SUITE 400
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GROUNDWATER ELEVATION CONTOUR MAP

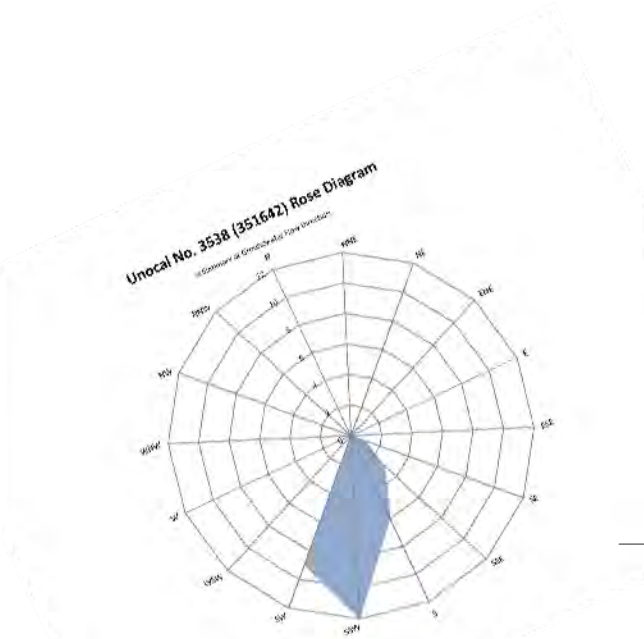
First Semi-Annual 2014
Groundwater Monitoring Event
Unocal No. 3538 (351642)
411 West MacArthur Boulevard, Oakland, California

SCALE: 1" = 40'
DATE: 04/16/2014
PROJECT NUMBER: 60314297

FIGURE NUMBER:
2

SHEET NUMBER:
1 of 1

P:\ENV\01231-Chevron\76Products_transfer_sites\351642_3538_Oakland\7.0 Deliverables\7.2 CADD\1SA14\Figures2_3_351642_1SA14.dwg Apr 18, 2014 - 2:27pm HarmsJ



HISTORICAL GROUNDWATER
FLOW DIRECTION
1990 TO 1SA14

EVERGREEN
MISSIONARY
BAPTIST CHURCH

MW-6
NS
NS
NS

VALERO STATION

WEST MACARTHUR BOULEVARD

NS
NS
NS

<50
<0.30
7.2

FORMER FIRST
AND FIRST
AND SECOND
GENERATION
GASOLINE
USTs

MW-4
MW-3

419/421
WEST
MACARTHUR
BOULEVARD

FORMER
DISPENSER
ISLANDS

STATION
BUILDING

MW-1

MW-2

FORMER
WASTE OIL
UST

NS
NS
NS

<50
<0.30
1.7

SITE
BOUNDARY

MW-5
NS
NS
NS

MOSSWOOD PARK

WEBSTER STREET

416
37TH
STREET

414
37TH
STREET

3701
WEBSTER
STREET

Legend

- Monitoring Well
- Groundwater Flow Direction
- UST — Underground Storage Tank
- TPH-GRO / Benzene / MTBE — TPH-GRO = Total Petroleum Hydrocarbons as Gasoline Range Organics
- MTBE = Methyl T-Butyl Ether
- Extent of 1989 Excavation
- <# = Analyte not detected at or above indicated laboratory practical quantitation limit
- NS = Not Sampled
- Hydraulic Gradient = 0.01 ft/ft
- FT/FT = feet per foot
- Analyte Results Expressed in Micrograms per Liter

0 40'
SCALE

REVISIONS			
NO.:	DESCRIPTION:	DATE:	BY:
1	Internal Tech Review	4/16/14	JH

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

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GROUNDWATER CONCENTRATION MAP

First Semi-Annual 2014
Groundwater Monitoring Event
Unocal No. 3538 (351642)
411 West MacArthur Boulevard, Oakland, California

SCALE: 1" = 40'
DATE: 04/16/2014
PROJECT NUMBER: 60314297

FIGURE NUMBER:
3

SHEET NUMBER:
1 of 1

P:\ENV\01231-Chevron\76Products_transfer_sites\351642_3538_Oakland\7.0 Deliverables\7.2 CADD\1SA14\Figures2_3_351642_1SA14.dwg Apr 18, 2014 - 2:31pm HarmsJ

4. Soil Analytical Data and Maximum Soil Concentration Map (3pp)

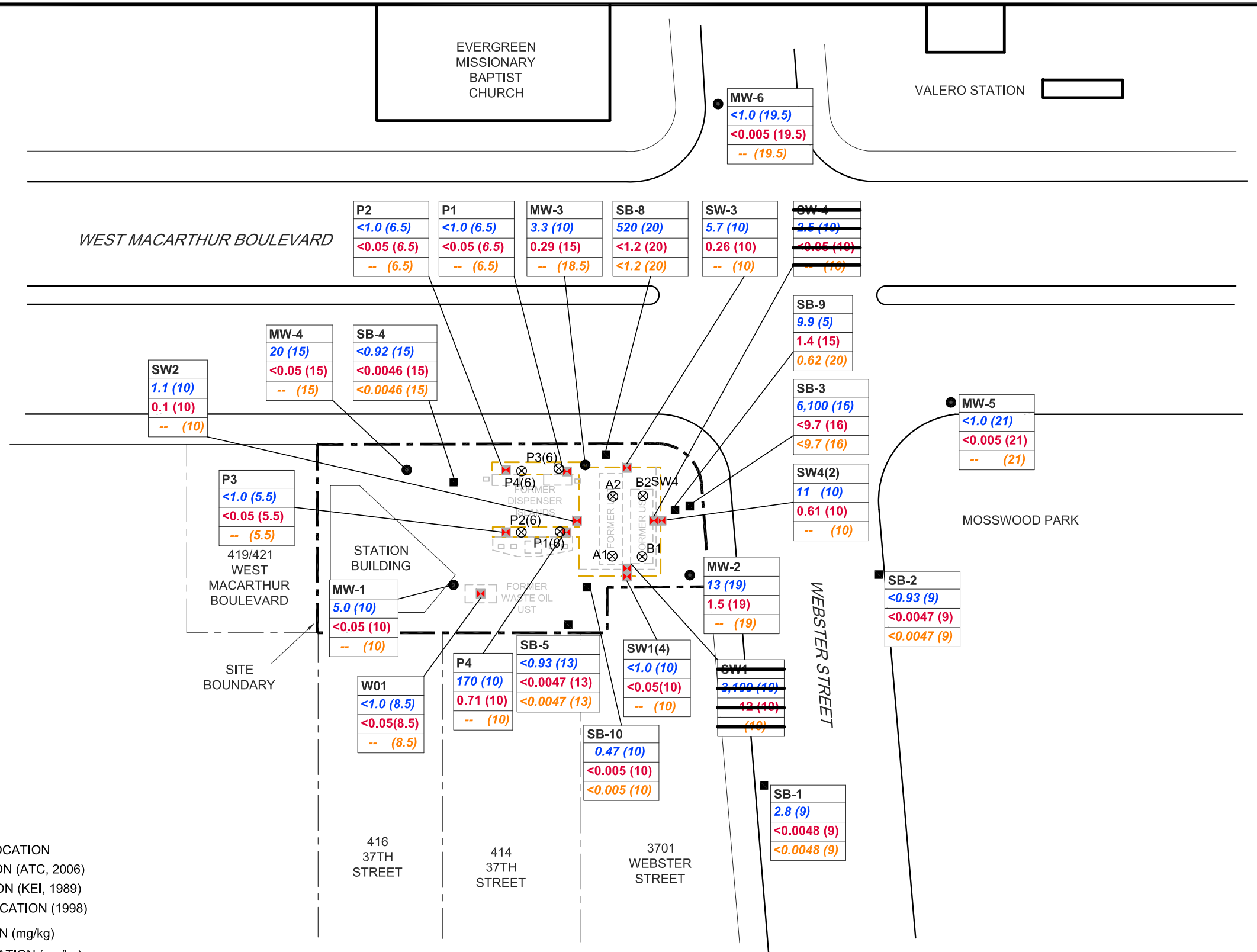
Table 3
Historical Soil Analytical Results
Former 76 Service Station No. 3538
411 W. MacArthur Blvd
Oakland, CA

Sample ID	Date	Depth (ft)	TPHg (mg/kg)	TPHd (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	TBA (mg/kg)	TAME (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	EDB (mg/kg)	1-2,DCA (mg/kg)	Ethanol (mg/kg)	TOG (mg/kg)	Lead (mg/kg)
SW-1	6/12/1989	10	**3100**	--	**12**	**300**	**730**	**110**	--	--	--	--	--	--	--	--	--	--
SW-1 (4)	6/12/1989	10	<1.0	--	<0.050	<0.10	<0.10	<0.10	--	--	--	--	--	--	--	--	--	--
SW2	6/12/1989	10	**1.1**	--	**0.1**	<0.10	**0.18**	<0.10	--	--	--	--	--	--	--	--	--	--
SW3	6/12/1989	10	**5.7**	--	**0.26**	<0.10	**0.45**	**0.23**	--	--	--	--	--	--	--	--	--	--
SW4	6/12/1989	10	**2.5**	--	<0.050	<0.10	**0.24**	<0.10	--	--	--	--	--	--	--	--	--	--
SW4 (2)	6/12/1989	10	**11**	--	**0.61**	**0.51**	**1.3**	**0.44**	--	--	--	--	--	--	--	--	--	--
P1	6/12/1989	6.5	<1.0	--	<0.050	<0.10	<0.10	<0.10	--	--	--	--	--	--	--	--	--	--
P2	6/12/1989	6.5	<1.0	--	<0.050	<0.10	<0.10	<0.10	--	--	--	--	--	--	--	--	--	--
P3	6/12/1989	5.5	<1.0	--	<0.050	<0.10	<0.10	<0.10	--	--	--	--	--	--	--	--	--	--
P4	6/12/1989	10	**170**	--	**0.71**	**12**	**47**	**6.8**	--	--	--	--	--	--	--	--	--	--
WO1	6/12/1989	8.5	<1.0	--	<0.050	<0.10	<0.10	<0.10	--	--	--	--	--	--	--	--	--	--
MW-1 (5)	9/6/1989	5	**3.4**	<1.0	<0.050	<0.010	<0.010	<0.010	--	--	--	--	--	--	<5.0	--	<50	--
MW1 (10)	9/6/1989	10	**5**	<1.0	<0.050	<0.010	<0.010	<0.010	--	--	--	--	--	--	<5.0	--	<50	--
MW1 (15)	9/6/1989	15	**2.2**	<1.0	<0.050	<0.010	<0.010	<0.010	--	--	--	--	--	--	<5.0	--	<50	--
MW1 (19)	9/6/1989	19	<1.0	<1.0	<0.050	<0.010	<0.010	<0.010	--	--	--	--	--	--	<5.0	--	<50	--
MW2 (5)	9/6/1989	5	**1.4**	--	<0.050	<0.010	<0.010	<0.010	--	--	--	--	--	--	--	--	--	--
MW2 (10)	9/6/1989	10	<1.0	--	<0.050	<0.010	<0.010	<0.010	--	--	--	--	--	--	--	--	--	--
MW2 (15)	9/6/1989	15	**1.8**	--	<0.050	<0.010	<0.010	<0.010	--	--	--	--	--	--	--	--	--	--
MW2 (19)	9/6/1989	19	**13**	--	**1.5**	**2.1**	**0.34**	**1.8**	--	--	--	--	--	--	--	--	--	--
MW3 (5)	9/6/1989	5	**1.3**	--	<0.050	<0.010	<0.010	<0.010	--	--	--	--	--	--	--	--	--	--
MW3 (10)	9/6/1989	10	**1.8**	--	**0.29**	<0.010	<0.010	<0.010	--	--	--	--	--	--	--	--	--	--
MW3 (15)	9/6/1989	15	**3.3**	--	<0.050	<0.010	<0.010	<0.010	--	--	--	--	--	--	--	--	--	--
MW3 (18.5)	9/6/1989	18.5	<1.0	--	<0.050	<0.010	<0.010	<0.010	--	--	--	--	--	--	--	--	--	--
MW4 (5)	9/6/1989	5	**3.1**	--	<0.050	<0.010	<0.010	<0.010	--	--	--	--	--	--	--	--	--	--
MW4 (10)	9/6/1989	10	**17**	--	<0.050	<0.010	<0.010	**0.1**	--	--	--	--	--	--	--	--	--	--
MW4 (15)	9/6/1989	15	**20**	--	<0.050	<0.010	<0.010	**0.27**	--	--	--	--	--	--	--	--	--	--
MW4 (18.5)	9/6/1989	18.5	**2.1**	--	<0.050	<0.010	<0.010	<0.010	--	--	--	--	--	--	--	--	--	--
MW5 (5)	11/18/1992	5	<1.0	--	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--	--	--	--	--	--
MW5 (10)	11/18/1992	10	<1.0	--	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--	--	--	--	--	--
MW5 (15)	11/18/1992	15	<1.0	--	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--	--	--	--	--	--
MW5 (21)	11/18/1992	21	<1.0	--	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--	--	--	--	--	--
MW6 (5)	11/18/1992	5	<1.0	--	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--	--	--	--	--	--
MW6 (10)	11/18/1992	10	<1.0	--	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--	--	--	--	--	--
MW6 (15)	11/18/1992	15	<1.0	--	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--	--	--	--	--	--
MW6 (19.5)	11/18/1992	19.5	<1.0	--	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--	--	--	--	--	--
A1 (19)	9/14/1998	19	**3.5**	--	**0.53**	**0.36**	**0.069**	**0.40**	<0.050	--	--	--	--	--	--	--	--	**26**
A2 (18)	9/14/1998	18	**12**	--	**0.050**	**0.075**	<0.0050	**0.026**	<0.050	--	--	--	--	--	--	--	--	<1.0
B1 (19.5)	9/14/1998	19.5	**360**	--	**1.5**	**15**	**7.0**	**44**	<0.050	--	--	--	--	--	--	--	--	**1.7**
B2 (19.5)	9/14/1998	19.5	**6.7**	--	**0.017**	**1.8**	**0.24**	**1.4**	<0.050	--	--	--	--	--	--	--	--	**2.7**
P1 (6)	9/14/1998	6	<1.0	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	--	--	--	--	--	--	--	--	**11**
P2 (6)	9/14/1998	6	<1.0	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	--	--	--	--	--	--	--	--	**1.3**
P3 (6)	9/14/1998	6	<1.0	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	--	--	--	--	--	--	--	--	<1.0
P4 (6)	9/14/1998	6	<1.0	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	--	--	--	--	--	--	--	--	<1.0

Table 3
Historical Soil Analytical Results
Former 76 Service Station No. 3538
411 W. MacArthur Blvd
Oakland, CA

Sample ID	Date	Depth (ft)	TPHg (mg/kg)	TPHd (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	TBA (mg/kg)	TAME (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	EDB (mg/kg)	1-2,DCA (mg/kg)	Ethanol (mg/kg)	TOG (mg/kg)	Lead (mg/kg)
SB-1@5	3/27/2006	5	<0.97	--	<0.0049	<0.0049	<0.0049	<0.0097	<0.0049	<0.0097	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.49	--	--
SB-1@9	3/27/2006	9	**2.8**	--	<0.0048	<0.0048	<0.0048	<0.0097	<0.0048	<0.0097	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.48	--	--
SB-2@5	3/27/2006	5	<0.97	--	<0.0049	<0.0049	<0.0049	<0.0097	<0.0049	<0.0097	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.49	--	--
SB-2@9	3/27/2006	9	<0.93	--	<0.0047	<0.0047	<0.0047	<0.0093	<0.0047	<0.0093	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.47	--	--
SB-3@14	3/27/2006	14	**1.3**	--	**0.11**	<0.0046	**0.061**	**0.055**	**0.64**	**0.19**	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.46	--	--
SB-3@16	3/27/2006	16	**6100**	--	<9.7	**53**	**86**	**420**	<9.7	<19	<9.7	<9.7	<9.7	<9.7	<9.7	<190	--	--
SB-4@5	3/27/2006	5	<0.93	--	<0.0047	<0.0047	<0.0047	<0.0093	<0.0047	<0.0093	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.47	--	--
SB-4@15	3/27/2006	15	<0.92	--	<0.0046	<0.0046	<0.0046	<0.0092	<0.0046	<0.0092	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.46	--	--
SB-5@9	3/27/2006	9	<0.93	--	<0.0046	<0.0046	<0.0046	<0.0093	<0.0046	<0.0093	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.46	--	--
SB-5@13	3/27/2006	13	<0.93	--	<0.0047	<0.0047	<0.0047	<0.0093	<0.0047	<0.0093	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.47	--	--
SB-8@5	12/20/10	5	<0.20	--	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	--	--
SB-8@10	12/20/10	10	**0.30**	--	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	--	--
SB-8@15	12/20/10	15	<10	--	<0.025	<0.025	<0.025	<0.050	<0.025	<0.25	<0.025	<0.025	<0.025	<0.025	<0.025	<5.0	--	--
SB-8@20	12/20/10	20	**520**	--	<1.2	**19**	**19**	**86**	<1.2	<12	<1.2	<1.2	<1.2	<1.2	<1.2	<250	--	--
SB-9@5	12/20/10	5	**9.9**	--	<0.025	<0.025	**0.10**	**0.059**	<0.025	<0.25	<0.025	<0.025	<0.025	<0.025	<0.025	<5.0	--	--
SB-9@10	12/20/10	10	**3.0**	--	<0.0050	**0.011**	**0.069**	**0.28**	**0.014**	**0.40**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	--	--
SB-9@15	12/20/10	15	<10	--	**1.4**	**0.28**	**0.14**	**0.66**	**0.04**	<0.25	<0.025	<0.025	<0.025	<0.025	<0.025	<5.0	--	--
SB-9@20	12/20/10	20	**4.5**	--	**0.17**	**0.10**	**0.067**	**0.37**	**0.62**	**0.58**	<0.025	<0.025	<0.025	<0.025	<0.025	<5.0	--	--
SB-9@25	12/20/10	25	**0.30**	--	<0.0050	**0.014**	**0.0050**	**0.028**	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	--	--
SB-9@30	12/20/10	30	**0.28**	--	<0.0050	**0.02**	**0.011**	**0.043**	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	--	--
SB-10@5	12/21/10	5	<0.20	--	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	--	--
SB-10@10	12/21/10	10	**0.28**	--	<0.0050	<0.0050	<0.0050	**0.017**	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	--	--
SB-10@15	12/21/10	15	**0.47**	--	<0.0050	<0.0050	**0.0055**	**0.024**	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	--	--
SB-10@20	12/21/10	20	**0.31**	--	<0.0050	<0.0050	**0.047**	<0.010	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	--	--
SB-10@25	12/21/10	25	<0.20	--	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	--	--
SB-10@30	12/21/10	30	<0.20	--	<0.0050	<0.0050	<0.0050	**0.012**	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	--	--

TPHg = total petroleum hydrocarbons as gasoline TPHd = total petroleum hydrocarbons as diesel MTBE = metyl tert butyl ether TBA = tert butyl alcohol TAME = tert amyl methyl ether DIPE = diisopropyl ether
ETBE = ethyl tert butyl ether EDB = ethylene dibromide 1,2-DCA = 1,2 dicholorethane TOG = total oil and grease **bold** = value above reporting limit mg/kg = milligrams per kilogram



LEGEND

- MONITORING WELL LOCATION
- SOIL BORING LOCATION (ATC, 2006)
- SOIL SAMPLE LOCATION (KEI, 1989)
- NEW SOIL SAMPLE LOCATION (1998)

17 TPHg CONCENTRATION (mg/kg)

0.23 BENZENE CONCENTRATION (mg/kg)

<0.0050 MTBE CONCENTRATION (mg/kg)

EXTENT OF 1989 EXCAVATION

NOTE:
ONLY MAXIMUM CONCENTRATIONS ARE SHOWN. FOR SAMPLES WITHOUT CONCENTRATIONS, ONLY THE DEEPEST SAMPLE IS SHOWN. SAMPLE DEPTH IN FEET FOLLOW THE CONCENTRATIONS IN PARENTHESES.

-- = NOT DETECTED

~~STRIKETHROUGH~~ = EXCAVATED SAMPLE

0 40'
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
FAX: (916) 361-6401
WEB: HTTP://WWW.AECOM.COM

Maximum Soil Concentration Map

Chevron Site #351642 Former Unocal #3538
411 West MacArthur Blvd., Oakland, California

PROJECT NUMBER: 60284077
DATE: 2/12/2013
SCALE: 1" = 40'

FIGURE NUMBER: B5

SHEET NUMBER: 1 of 1

5. Groundwater Analytical Data (10pp)

TABLE 1

GROUNDWATER MONITORING AND SAMPLING DATA
UNOCAL No. 3538 (351642)
411 W MACARTHUR BLVD
OAKLAND, CALIFORNIA

					HYDROCARBONS	PRIMARY VOCS							
Location	Date	TOC	DTW	GWE	TPH Gasoline	Benzene	Toluene	Ethylbenzene	Total Xylene	MTBE by SW8021	Ethanol	EDB	EDC
	Units	ft	ft	ft-amsl	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
	Environmental Screening Level (ESL)[1]				100	1	40	30	20	5	--	--	--
MW-1	screened from 5 to 29 feet bgs												
	9/15/1989	--	--	--	ND	ND	**0.61**	ND	ND	--	--	--	--
	1/23/1990	--	--	--	ND	**1.5**	**2.3**	ND	**4.3**	--	--	--	--
	4/19/1990	--	--	--	ND	ND	ND	ND	ND	--	--	--	--
	7/17/1990	--	--	--	ND	ND	ND	ND	ND	--	--	--	--
	10/16/1990	--	--	--	ND	ND	ND	ND	ND	--	--	--	--
	1/15/1991	--	--	--	ND	ND	ND	ND	ND	--	--	--	--
	4/12/1991	--	--	--	ND	ND	ND	ND	ND	--	--	--	--
	7/15/1991	--	--	--	ND	ND	ND	ND	ND	--	--	--	--
	7/14/1992	--	--	--	ND	ND	ND	ND	ND	--	--	--	--
	4/13/1993	72.43	17.70	54.73	Sampled Annually in the Third Quarter								
	7/14/1993	72.43	18.49	53.94	ND	**2.2**	**2.1**	**1.1**	**6.2**	--	--	--	--
	10/14/1993	72.10	18.32	53.78	Sampled Annually in the Third Quarter								
	1/12/1994	72.10	18.18	53.92	Sampled Annually in the Third Quarter								
	4/11/1994	72.10	17.80	54.30	Sampled Annually in the Third Quarter								
	7/7/1994	72.10	18.28	53.82	ND	ND	ND	ND	ND	--	--	--	--
	10/5/1994	72.10	18.55	53.55	Sampled Annually in the Third Quarter								
	1/9/1995	72.10	17.90	54.20	Sampled Annually in the Third Quarter								
	4/17/1995	72.10	17.22	54.88	Sampled Annually in the Third Quarter								
	7/19/1995	72.10	18.03	54.07	ND	ND	ND	ND	ND	--	--	--	--
	10/26/1995	72.10	18.67	53.43	Sampled Annually in the Third Quarter								
	1/16/1996	72.10	17.20	54.90	Sampled Annually in the Third Quarter								
	4/15/1996	72.10	17.40	54.70	Sampled Annually in the Third Quarter								
	7/11/1996	72.10	18.03	54.07	ND	ND	ND	ND	ND	ND	--	--	--
	1/17/1997	72.10	16.54	55.56	Sampled Annually in the Third Quarter								
	7/21/1997	72.10	18.16	53.94	ND	ND	ND	ND	ND	ND	--	--	--
	1/14/1998	72.10	16.05	56.05	Sampled Annually in the Third Quarter								
	7/6/1998	72.10	16.46	55.64	ND	ND	ND	ND	ND	ND	--	--	--
	1/13/1999	72.10	17.37	54.73	Sampled Annually in the Third Quarter								
	8/31/1999	72.12	17.00	55.12	ND	ND	ND	ND	ND	ND	--	--	--
	1/21/2000	72.12	17.04	55.08	Sampled Annually in the Third Quarter								
	7/10/2000	72.12	18.10	54.02	ND	ND	ND	ND	ND	ND	--	--	--
	1/4/2001	72.12	17.95	54.17	Sampled Annually in the Third Quarter								
	7/16/2001	72.12	18.03	54.09	ND	ND	ND	ND	ND	ND	--	--	--
	1/28/2002	72.12	17.31	54.81	Sampled Annually in the Third Quarter								
	7/12/2002	72.12	18.15	53.97	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	--
	1/14/2003	72.12	17.66	54.46	Sampled Annually in the Third Quarter								
	7/10/2003	72.12	17.86	54.26	<50	<0.50	<0.50	<0.50	<0.50	<2.0	--	--	--
	2/4/2004	72.12	17.43	54.69	Sampled Annually in the Third Quarter								
	7/29/2004	72.12	18.12	54.00	<50	<0.30	0.38	<0.30	<0.6	<1	--	--	--
	3/2/2005	72.12	16.15	55.97	Sampled Annually in the Third Quarter								
	9/30/2005	72.12	18.04	54.08	<50	<0.30	<0.30	<0.30	<0.6	<1.0	--	--	--
	3/23/2006	72.12	--	--	Sampled Annually in the Third Quarter								
	9/26/2006	72.12	17.90	54.22	<50	<0.30	<0.30	<0.30	<0.6	<1.0	--	--	--
	3/15/2007	72.12	17.22	54.90	Sampled Annually in the Third Quarter								
	9/27/2007	72.12	18.49	53.63	<50	<0.30	<0.30	<0.30	<0.6	<1.0	--	--	--
	3/27/2008	72.12	17.57	54.55	Sampled Annually in the Third Quarter								
	9/17/2008	72.12	18.20	53.92	<50	<0.30	<0.30	<0.30	<0.6	<1.0	--	--	--
	3/27/2009	72.12	16.75	55.37	Sampled Annually in the Third Quarter								
	9/17/2009	72.12	18.18	53.94	<50	<0.30	<0.30	<0.30	<0.6	<1.0	--	--	--
	3/23/2010	72.12	17.34	54.78	Sampled Annually in the Third Quarter								
	9/21/2010	72.12	18.74	53.38	<50	<0.30	<0.30	<0.30	<0.6	<1.0	--	--	--
	3/30/2011	72.12	16.68	55.44	Sampled Annually in the Third Quarter								
	09/06/2011	72.12	18.36	53.76	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	<0.50	--
	02/03/2012	72.12	18.02	54.10	Sampled Annually in the Third Quarter								
	08/17/2012	72.12	18.50	53.62	<50	<0.30	<0.30	<0.30	<0.60	<1.0	<250	<0.50	<0.50
	2/14/2013	72.12	17.98	54.14	Sampled Annually in the Third Quarter								
MW-2	screened from 3.5 to 28.5 feet bgs												
	9/15/1989	--	--	--	290	ND	**12**	ND	ND	--	--	--	--
	1/23/1990	--	--	--	400	**73**	**36**	**10**	**40**	--	--	--	--
	4/19/1990	--	--	--	3900	**550**	**5.1**	**91**	**390**	--	--	--	--
	7/17/1990	--	--	--	490	**76**	**0.59**	**11**	**46**	--	--	--	--
	10/16/1990	--	--	--	1400	**430**	**2.0**	**48**	**240**	--	--	--	--
	1/15/1991	--	--	--	680	**170**	**0.7**	**19**	**81**	--	--	--	--
	4/12/1991	--	--	--	2200	**160**	**4.3**	**23**	**62**	--	--	--	--
	7/15/1991	--	--	--	2200	**770**	**12**	**72**	**370**	--	--	--	--
	10/15/1991	--	--	--	140	**44**	**0.56**	**1.5**	**12**	--	--	--	--
	1/15/1992	--	--	--	220	**37**	**0.52**	**1.1**	**7**	--	--	--	--
	4/14/1992	--	--	--	150	**6.2**	ND	ND	**1.4**	--	--	--	--
	7/14/1992	--	--	--	130	**3.7**	ND	ND	ND	--	--	--	--
	10/12/1992	--	--	--	370	**3.4**	**0.56**	ND	**11**	--	--	--	--
	1/8/1993	--	--	--	510	ND	ND	ND	ND	--	--	--	--
	4/13/1993	71.63	17.86	53.77	410	**42**	**7.7**	**6.4**	**28**	**200**	--	--	--
	7/14/1993	71.63	18.38	53.25	110	**6.5**	ND	ND	**1.1**	**250**	--	--	--

GROUNDWATER MONITORING AND SAMPLING DATA
UNOCAL No. 3538 (351642)
411 W MACARTHUR BLVD
OAKLAND, CALIFORNIA

					HYDROCARBONS	*PRIMARY VOCS*								
Location	**Date**	***TOC***	***DTW***	***GWE***	***TPH Gasoline***	***Benzene***	***Toluene***	***Ethylbenzene***	***Total Xylene***	***MTBE by SW8021***	***Ethanol***	***EDB***	***EDC***
	Units	***ft***	***ft***	***ft-amsl***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***
MW-2	10/14/1993	71.38	18.20	53.18	230	**5.3**	ND	ND	**2.1**	--	--	--	--
	1/12/1994	71.38	18.08	53.30	300	**7.8**	**3.8**	**1.8**	**10**	--	--	--	--
	4/9/1994	71.38	17.97	53.41	120	**10**	**0.88**	**1.1**	**4.9**	--	--	--	--
	4/11/1994	71.38	17.88	53.50	--	--	--	--	--	--	--	--	--
	7/7/1994	71.38	17.81	53.57	110	**4.4**	ND	ND	ND	--	--	--	--
	10/5/1994	71.38	18.33	53.05	720	**20**	ND	ND	3.1	--	--	--	--
	1/9/1995	71.38	17.40	53.98	ND	ND	ND	ND	ND	--	--	--	--
	4/17/1995	71.38	17.50	53.88	93	**5.6**	**0.62**	**1.7**	**5.5**	--	--	--	--
	7/19/1995	71.38	18.01	53.37	77	**32**	**0.58**	**1.7**	**4.1**	--	--	--	--
	10/26/1995	71.38	18.21	53.17	54	**13**	ND	ND	**0.72**	**220**	--	--	--
	1/16/1996	71.38	16.58	54.80	120	**23**	ND	ND	**0.99**	--	--	--	--
	4/15/1996	71.38	17.61	53.77	340	**21**	ND	**2.2**	**3.7**	**45**	--	--	--
	7/11/1996	71.38	17.98	53.40	540	**34**	ND	**4.3**	**12**	**150**	--	--	--
	1/17/1997	71.38	17.08	54.30	320	**63**	**2.4**	**9.4**	**26**	**260**	--	--	--
	7/21/1997	71.38	18.06	53.32	160	**13**	ND	**1.3**	**1.6**	**180**	--	--	--
	1/14/1998	71.38	16.52	54.86	66	**6.3**	ND	ND	**0.98**	**100**	--	--	--
	7/6/1998	71.38	16.87	54.51	ND	**2.3**	ND	ND	ND	**11**	--	--	--
	1/13/1999	71.38	17.88	53.50	53	**24**	ND	**0.52**	**0.98**	**120**	--	--	--
	8/31/1999	71.34	18.45	52.89	86	**14**	ND	**0.63**	ND	**21**	--	--	--
	1/21/2000	71.34	17.73	53.61	ND	**1.94**	ND	ND	ND	**10.1**	--	--	--
	7/10/2000	71.34	18.14	53.20	ND	ND	ND	ND	ND	**46.6**	--	--	--
	1/4/2001	71.34	18.02	53.32	ND	**0.925**	ND	ND	ND	ND	--	--	--
	7/16/2001	71.34	18.02	53.32	ND	ND	ND	ND	ND	ND	--	--	--
	1/28/2002	71.34	17.57	53.77	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	--
	7/12/2002	71.34	18.05	53.29	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	--
	1/14/2003	71.34	17.44	53.90	<50	<0.50	<0.50	<0.50	<0.50	<2.0	--	--	--
	7/10/2003	71.34	--	--	--	--	--	--	--	--	--	--	--
	2/4/2004	71.34	17.22	54.12	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--	--
	7/29/2004	71.34	--	--	--	--	--	--	--	--	--	--	--
	3/2/2005	71.34	16.63	54.71	**99**	**26**	<0.50	3.5	2.8	<5.0	--	--	--
	9/30/2005	71.34	17.94	53.40	<50	**1.2**	<0.30	<0.30	<0.60	**1.6**	--	--	--
	3/23/2006	71.34	16.74	54.60	<50	**3.6**	<0.30	0.35	<0.60	**2.5**	--	--	--
	9/26/2006	71.34	17.91	53.43	<50	**1.2**	<0.30	<0.30	<0.60	<1.0	--	--	--
	3/15/2007	71.34	17.45	53.89	**110**	**6.5**	<0.30	**0.70**	<0.60	**1.7**	--	--	--
	9/27/2007	71.34	18.23	53.11	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	--	--
	3/27/2008	71.34	17.77	53.57	<50	1.8	<0.30	<0.30	<0.60	**1.3**	--	--	--
	9/17/2008	71.34	18.06	53.28	<50	1.6	<0.30	<0.30	<0.60	**3.1**	--	--	--
	3/27/2009	71.34	17.43	53.91	<50	3.5	<0.30	<0.30	<0.60	<1.0	--	--	--
	9/17/2009	71.34	18.01	53.33	<50	2.7	<0.30	<0.30	<0.60	**1.1**	--	--	--
	3/23/2010	71.34	17.47	53.87	<50	0.68	<0.30	<0.30	<0.60	<1.0	--	--	--
	9/21/2010	71.34	18.41	52.93	**69**	1.6	<0.30	<0.30	<0.60	1.6	--	--	--
	3/30/2011	71.34	16.58	54.76	<50	<0.30	<0.30	<0.30	<0.60	1.6	--	--	--
	09/06/2011	71.34	18.14	53.20	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	<0.50	--
	02/03/2012	71.34	17.97	53.37	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	<0.50	--
	08/17/2012	71.34	18.20	53.14	**57**	**1.2**	<0.30	<0.30	<0.60	<1.0	<250	<0.50	<0.50
	2/14/2013	71.34	17.88	53.46	<50	<0.30	<0.30	<0.30	<0.60	<1.0	<250	<0.50	<0.50
MW-3	**screened from 5 to 29 feet bgs**												
	9/15/1989	--	--	--	**32**	ND	ND	ND	ND	--	--	--	--
	1/23/1990	--	--	--	**450**	**110**	**1.2**	**4.4**	**11**	--	--	--	--
	4/19/1990	--	--	--	**3100**	**600**	**27**	**54**	**220**	--	--	--	--
	7/17/1990	--	--	--	**4000**	**270**	**48**	**130**	**250**	--	--	--	--
	10/16/1990	--	--	--	**740**	**210**	**1.4**	**2.5**	**82**	--	--	--	--
	1/15/1991	--	--	--	**3200**	**460**	**1.5**	**120**	**270**	--	--	--	--
	4/12/1991	--	--	--	**880**	**170**	**1.1**	**34**	**110**	--	--	--	--
	7/15/1991	--	--	--	**9200**	**1300**	**230**	**490**	**1900**	--	--	--	--
	10/15/1991	--	--	--	**3100**	**390**	**34**	**150**	**390**	--	--	--	--
	1/15/1992	--	--	--	**3000**	**590**	**14**	**310**	**750**	--	--	--	--
	4/14/1992	--	--	--	**14000**	**660**	**48**	**560**	**2000**	--	--	--	--
	7/14/1992	--	--	--	**21000**	**890**	**200**	**1200**	**4300**	--	--	--	--
	10/12/1992	--	--	--	**3200**	**160**	**10**	**230**	**540**	--	--	--	--
	1/8/1993	--	--	--	**1100**	**48**	**0.99**	**0.9**	**93**	--	--	--	--
	4/13/1993	72.06	17.96	54.10	**12000**	**290**	**38**	**760**	**2300**	**1400**	--	--	--
	7/14/1993	72.06	18.54	53.52	**6300**	**190**	ND	**430**	**1000**	**860**	--	--	--
	10/14/1993	71.86	18.45	53.41	**2500**	**52**	ND	**110**	**250**	--	--	--	--
	1/12/1994	71.86	18.34	53.52	**3800**	**78**	ND	**180**	**390**	--	--	--	--
	4/9/1994	71.86	18.19	53.67	**1800**	**22**	ND	**140**	**280**	--	--	--	--
	4/11/1994	71.86	18.12	53.74	--	--	--	--	--	--	--	--	--
	7/7/1994	71.86	18.21	53.65	**110**	**4.5**	ND	ND	ND	--	--	--	--
	10/5/1994	71.86	18.58	53.28	ND	ND	ND	ND	ND	--	--	--	--
	1/9/1995	71.86	17.69	54.17	ND	**0.68**	ND	ND	ND	--	--	--	--
	4/17/1995	71.86	17.68	54.18	**3700**	**80**	**10**	**270**	**510**	--	--	--	--
	7/19/1995	71.86	18.20	53.66	**15000**	**330**	**27**	**990**	**2400**	--	--	--	--
	10/26/1995	71.86	18.32	53.54	**14000**	**420**	**180**	**750**	**1600**	**4800**	--	--	--
	1/16/1996	71.86	17.95	53.91	**920**	**38**	ND	**30**	**57**	--	--	--	--
	4/15/1996	71.86	17.78	54.08	**9700**	**240**	ND	**570**	**860**	**3200**	--	--	--

TABLE 1

GROUNDWATER MONITORING AND SAMPLING DATA
UNOCAL No. 3538 (351642)
411 W MACARTHUR BLVD
OAKLAND, CALIFORNIA

					HYDROCARBONS	*PRIMARY VOCS*							
Location	**Date**	***TOC***	***DTW***	***GWE***	***TPH Gasoline***	***Benzene***	***Toluene***	***Ethylbenzene***	***Total Xylene***	***MTBE by SW8021***	***Ethanol***	***EDB***	***EDC***
	Units	***ft***	***ft***	***ft-amsl***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***
MW-3	7/11/1996	71.86	18.19	53.67	**13000**	**69**	**5.5**	**430**	**900**	**740**	--	--	--
	1/17/1997	71.86	17.23	54.63	**4400**	**25**	ND	**270**	**580**	**1600**	--	--	--
	7/21/1997	71.86	18.29	53.57	**9000**	**36**	ND	**450**	**800**	**950**	--	--	--
	1/14/1998	71.86	16.71	55.15	**7100**	**40**	ND	**380**	**360**	**930**	--	--	--
	7/6/1998	71.86	17.03	54.83	**6800**	**39**	ND	**320**	**360**	**370**	--	--	--
	1/13/1999	71.86	18.00	53.86	**1800**	**9.4**	ND	**58**	**36**	**180**	--	--	--
	8/31/1999	71.40	--	--	--	--	--	--	--	--	--	--	--
	1/21/2000	71.40	17.58	53.82	ND	ND	ND	ND	ND	**21.4**	--	--	--
	7/10/2000	71.40	18.05	53.35	ND	ND	ND	ND	ND	**162**	--	--	--
	8/25/2000	71.40	17.82	53.58	--	--	--	--	--	**180**	--	--	--
	1/4/2001	71.40	18.16	53.24	ND	ND	ND	ND	ND	**193**	--	--	--
	7/16/2001	71.40	17.98	53.42	ND	ND	ND	ND	ND	**660**	--	--	--
	1/28/2002	71.40	17.84	53.56	<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	**34**	--	--	--
	7/12/2002	71.40	17.87	53.53	<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	**11**	--	--	--
	1/14/2003	71.40	17.28	54.12	<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	**12**	--	--	--
	7/10/2003	71.40	17.64	53.76	<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	**23**	--	--	--
	2/4/2004	71.40	17.05	54.35	<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	**26**	--	--	--
	7/29/2004	71.40	17.82	53.58	<50	<0.30	<0.30	<0.30	<0.60	ND<1	--	--	--
	3/2/2005	71.40	16.47	54.93	**93**	<0.50	<0.50	<0.50	<0.50	140	--	--	--
	9/30/2005	71.40	17.79	53.61	**65**	<0.30	<0.30	<0.30	<0.60	61	--	--	--
	3/23/2006	71.40	16.61	54.79	**54**	<0.30	**0.41**	ND<0.30	**0.98**	**63**	--	--	--
	9/26/2006	71.40	17.77	53.63	**51**	<0.30	<0.30	<0.30	<0.60	**41**	--	--	--
	3/15/2007	71.40	17.27	54.13	**140**	<0.30	<0.30	<0.30	<0.60	**110**	--	--	--
	9/27/2007	71.40	18.48	52.92	<50	<0.30	<0.30	<0.30	<0.60	**20**	--	--	--
	3/27/2008	71.40	17.67	53.73	<50	<0.30	<0.30	<0.30	<0.60	**19**	--	--	--
	9/17/2008	71.40	17.91	53.49	**56**	<0.30	<0.30	<0.30	<0.60	**43**	--	--	--
	3/27/2009	71.40	17.34	54.06	<50	<0.30	<0.30	<0.30	<0.60	**15**	--	--	--
	9/17/2009	71.40	17.88	53.52	<50	<0.30	<0.30	<0.30	<0.60	**30**	--	--	--
	3/23/2010	71.40	17.33	54.07	<50	<0.30	<0.30	<0.30	<0.60	**22**	--	--	--
	9/21/2010	71.40	18.28	53.12	**69**	<0.30	<0.30	<0.30	<0.60	**48**	--	--	--
	3/30/2011	71.40	16.50	54.90	**110**	<0.30	<0.30	<0.30	<0.60	**73**	--	--	--
	09/06/2011	71.40	18.03	53.37	<50	<0.30	<0.30	<0.30	<0.60	**4.7**	--	<0.50	--
	02/03/2012	71.40	17.83	53.57	<50	<0.30	<0.30	<0.30	<0.60	**8.2**	--	<0.50	--
	08/17/2012	71.40	18.07	53.33	<50	<0.30	<0.30	<0.30	<0.60	**4.7**	<250	<0.50	<0.50
	2/14/2013	71.40	17.72	53.68	<50	<0.30	<0.30	<0.30	<0.60	**5.1**	<250	<0.50	<0.50
MW-4	**screened from 5 to 29 feet bgs**												
	9/15/1989	--	--	--	ND	ND	ND	ND	ND	--	--	--	--
	1/23/1990	--	--	--	ND	ND	0.4	ND	ND	--	--	--	--
	4/19/1990	--	--	--	ND	ND	0.48	ND	ND	--	--	--	--
	7/17/1990	--	--	--	ND	ND	ND	ND	ND	--	--	--	--
	10/16/1990	--	--	--	ND	ND	ND	ND	ND	--	--	--	--
	1/15/1991	--	--	--	ND	ND	ND	--	ND	--	--	--	--
	4/12/1991	--	--	--	ND	ND	ND	ND	ND	--	--	--	--
	7/15/1991	--	--	--	ND	ND	ND	ND	ND	--	--	--	--
	7/14/1992	--	--	--	ND	**1.3**	**2.5**	ND	**1.0**	--	--	--	--
	4/13/1993	71.98	17.67	54.31	Sampled Annually in the Third Quarter								
	7/14/1993	71.98	18.31	53.67	ND	ND	ND	ND	ND	--	--	--	--
	10/14/1993	71.64	18.08	53.56	Sampled Annually in the Third Quarter								
	1/12/1994	71.64	17.97	53.67	Sampled Annually in the Third Quarter								
	4/11/1994	71.64	17.70	53.94	Sampled Annually in the Third Quarter								
	7/7/1994	71.64	17.80	53.84	ND	ND	ND	ND	ND	--	--	--	--
	10/5/1994	71.64	18.28	53.36	Sampled Annually in the Third Quarter								
	1/9/1995	71.64	17.38	54.26	Sampled Annually in the Third Quarter								
	4/17/1995	71.64	17.21	54.43	Sampled Annually in the Third Quarter								
	7/19/1995	71.64	17.82	53.82	ND	ND	ND	ND	ND	--	--	--	--
	10/26/1995	71.64	18.17	53.47	Sampled Annually in the Third Quarter								
	1/16/1996	71.64	16.45	55.19	Sampled Annually in the Third Quarter								
	4/15/1996	71.64	17.35	54.29	Sampled Annually in the Third Quarter								
	7/11/1996	71.64	17.81	53.83	ND	ND	ND	ND	ND	ND	--	--	--
	1/17/1997	71.64	16.73	54.91	Sampled Annually in the Third Quarter								
	7/21/1997	71.64	17.91	53.73	ND	ND	ND	ND	ND	ND	--	--	--
	1/14/1998	71.64	16.18	55.46	Sampled Annually in the Third Quarter								
	7/6/1998	71.64	16.49	55.15	ND	ND	ND	ND	ND	ND	--	--	--
	1/13/1999	71.64	17.29	54.35	Sampled Annually in the Third Quarter								
	8/31/1999	71.54	--	--	Sampled Annually in the Third Quarter								
	1/21/2000	71.54	17.51	54.03	Sampled Annually in the Third Quarter								
	7/10/2000	71.54	17.93	53.61	ND	ND	ND	ND	ND	ND	--	--	--
	1/4/2001	71.54	18.10	53.44	Sampled Annually in the Third Quarter								
	7/16/2001	71.54	17.76	53.78	ND	ND	ND	ND	ND	ND	--	--	--
	1/28/2002	71.54	17.20	54.34	Sampled Annually in the Third Quarter								
	7/12/2002	71.54	17.81	53.73	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	--
	1/14/2003	71.54	17.30	54.24	Sampled Annually in the Third Quarter								
	7/10/2003	71.54	17.58	53.96	<50	<0.50	<0.50	<0.50	<0.50	<2.0	--	--	--
	2/4/2004	71.54	17.07	54.47	Sampled Annually in the Third Quarter								
	7/29/2004	71.54	17.81	53.73	<50	<0.30	<0.30	<0.30	<0.60	<1	--	--	--

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GROUNDWATER MONITORING AND SAMPLING DATA
UNOCAL No. 3538 (351642)
411 W MACARTHUR BLVD
OAKLAND, CALIFORNIA

					HYDROCARBONS	*PRIMARY VOCS*							
Location	**Date**	***TOC***	***DTW***	***GWE***	***TPH Gasoline***	***Benzene***	***Toluene***	***Ethylbenzene***	***Total Xylene***	***MTBE by SW8021***	***Ethanol***	***EDB***	***EDC***
	Units	***ft***	***ft***	***ft-amsl***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***
MW-4	3/2/2005	71.54	16.25	55.29				Sampled Annually in the Third Quarter					
	9/30/2005	71.54	17.74	53.80	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	--	--
	3/23/2006	71.54	--	--				Sampled Annually in the Third Quarter					
	9/26/2006	71.54	17.71	53.83	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	--	--
	3/15/2007	71.54	17.56	53.98				Sampled Annually in the Third Quarter					
	9/27/2007	71.54	18.16	53.38	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	--	--
	3/27/2008	71.54	17.58	53.96				Sampled Annually in the Third Quarter					
	9/17/2008	71.54	17.87	53.67	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	--	--
	3/27/2009	71.54	17.17	54.37				Sampled Annually in the Third Quarter					
	9/17/2009	71.54	17.86	53.68	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	--	--
	3/23/2010	71.54	17.25	54.29				Sampled Annually in the Third Quarter					
	9/21/2010	71.54	18.31	53.23	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	--	--
	3/30/2011	71.54	16.35	55.19				Sampled Annually in the Third Quarter					
	09/06/2011	71.54	18.00	53.54	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	<0.50	--
	02/03/2012	71.54	17.81	53.73				Sampled Annually in the Third Quarter					
	08/17/2012	71.54	18.09	53.45	<50	<0.30	<0.30	<0.30	<0.60	<1.0	<250	<0.50	<0.50
	2/14/2013	71.54	17.68	53.86				Sampled Annually in the Third Quarter					
MW-5	**screened from 13 to 30 feet bgs**												
	11/30/1992	--	--	--	ND	ND	ND	ND	ND	--	--	--	--
	1/8/1993	--	--	--	ND	ND	ND	ND	ND	--	--	--	--
	4/13/1993	71.51	17.49	54.02	ND	ND	ND	ND	ND	--	--	--	--
	7/14/1993	71.51	18.02	53.49	ND	ND	**0.57**	ND	ND	--	--	--	--
	10/14/1993	71.23	17.82	53.41	ND	ND	ND	ND	ND	--	--	--	--
	1/12/1994	71.23	17.74	53.49	ND	ND	**0.84**	ND	**1.6**	--	--	--	--
	4/11/1994	71.23	17.56	53.67				Sampled Annually in the Third Quarter					
	7/7/1994	71.23	17.50	53.73	ND	ND	ND	ND	ND	--	--	--	--
	10/5/1994	71.23	17.98	53.25				Sampled Annually in the Third Quarter					
	1/9/1995	71.23	17.13	54.10				Sampled Annually in the Third Quarter					
	4/17/1995	71.23	17.05	54.18				Sampled Annually in the Third Quarter					
	7/19/1995	71.23	17.59	53.64	ND	ND	ND	ND	ND	--	--	--	--
	10/26/1995	71.23	18.10	53.13				Sampled Annually in the Third Quarter					
	1/16/1996	71.23	17.11	54.12				Sampled Annually in the Third Quarter					
	4/15/1996	71.23	17.22	54.01				Sampled Annually in the Third Quarter					
	7/11/1996	71.23	17.59	53.64	ND	ND	ND	ND	ND	ND	--	--	--
	1/17/1997	71.23	16.75	54.48				Sampled Annually in the Third Quarter					
	7/21/1997	71.23	17.59	53.64	ND	ND	ND	ND	ND	ND	--	--	--
	1/14/1998	71.23	16.16	55.07				Sampled Annually in the Third Quarter					
	7/6/1998	71.23	16.52	54.71	ND	ND	ND	ND	ND	ND	--	--	--
	1/13/1999	71.23	17.62	53.61				Sampled Annually in the Third Quarter					
	8/31/1999	71.16	17.76	53.40	ND	ND	ND	ND	ND	ND	--	--	--
	1/21/2000	71.16	16.83	54.33				Sampled Annually in the Third Quarter					
	7/10/2000	71.16	17.46	53.70	ND	ND	ND	ND	ND	ND	--	--	--
	1/4/2001	71.16	17.51	53.65				Sampled Annually in the Third Quarter					
	7/16/2001	71.16	17.32	53.84	ND	ND	ND	ND	ND	ND	--	--	--
	1/28/2002	71.16	17.12	54.04				Sampled Annually in the Third Quarter					
	7/12/2002	71.16	17.12	54.04	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	--
	1/14/2003	71.16	16.67	54.49				Sampled Annually in the Third Quarter					
	7/10/2003	71.16	17.39	53.77	<50	<0.50	<0.50	<0.50	<0.50	<2.0	--	--	--
	2/4/2004	71.16	16.23	54.93				Sampled Annually in the Third Quarter					
	7/29/2004	71.16	16.02	55.14	<50	<0.30	0.64	<0.30	0.79	<1	--	--	--
	3/2/2005	71.16	16.43	54.73				Sampled Annually in the Third Quarter					
	9/30/2005	71.16	17.41	53.75	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	--	--
	3/23/2006	71.16	16.37	54.79				Sampled Annually in the Third Quarter					
	9/26/2006	71.16	15.54	55.62	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	--	--
	3/15/2007	71.16	17.20	53.96				Sampled Annually in the Third Quarter					
	9/27/2007	71.16	18.01	53.15	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	--	--
	3/27/2008	71.16	17.57	53.59				Sampled Annually in the Third Quarter					
	9/17/2008	71.16	17.68	53.48	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	--	--
	3/27/2009	71.16	17.14	54.02				Sampled Annually in the Third Quarter					
	9/17/2009	71.16	17.60	53.56	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	--	--
	3/23/2010	71.16	17.84	53.32				Sampled Annually in the Third Quarter					
	9/21/2010	71.16	17.92	53.24	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	--	--
	3/30/2011	71.16	15.87	55.29				Sampled Annually in the Third Quarter					
	09/06/2011	71.16	17.74	53.42	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	<0.50	--
	02/03/2012	71.16	17.69	53.47				Sampled Annually in the Third Quarter					
	08/17/2012	71.16	17.75	53.41	<50	<0.30	<0.30	<0.30	<0.60	<1.0	<250	<0.50	<0.50
	2/14/2013	71.16	17.51	53.65				Sampled Annually in the Third Quarter					
MW-6	**screened from 13 to 30 feet bgs**												
	11/30/1992	--	--	--	ND	ND	ND	ND	ND	--	--	--	--
	1/8/1993	--	--	--	ND	ND	ND	ND	ND	--	--	--	--
	4/13/1993	71.79	11.94	59.85	ND	ND	ND	ND	ND	--	--	--	--
	7/14/1993	71.79	17.20	54.59	ND	**0.99**	**2.4**	ND	**1.9**	--	--	--	--
	10/14/1993	71.44	17.21	54.23	ND	ND	**0.64**	ND	ND	--	--	--	--
	1/12/1994	71.44	17.44	54.00	ND	ND	**1.2**	ND	**2.9**	--	--	--	--
	4/11/1994	71.44	13.66	57.78				Sampled Annually in the Third Quarter					

TABLE 1

GROUNDWATER MONITORING AND SAMPLING DATA
UNOCAL No. 3538 (351642)
411 W MACARTHUR BLVD
OAKLAND, CALIFORNIA

					HYDROCARBONS	*PRIMARY VOCS*								
Location	**Date**	***TOC***	***DTW***	***GWE***	***TPH Gasoline***	***Benzene***	***Toluene***	***Ethylbenzene***	***Total Xylene***	***MTBE by SW8021***	***Ethanol***	***EDB***	***EDC***
	Units	***ft***	***ft***	***ft-amsl***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***	***µg/L***
MW-6	7/7/1994	71.44	14.05	57.39	ND	ND	ND	ND	ND	--	--	--	--
	10/5/1994	71.44	14.16	57.28	Sampled Annually in the Third Quarter								
	1/9/1995	71.44	13.73	57.71	Sampled Annually in the Third Quarter								
	4/17/1995	71.44	11.30	60.14	Sampled Annually in the Third Quarter								
	7/19/1995	71.44	12.32	59.12	ND	ND	ND	ND	ND	--	--	--	--
	10/26/1995	71.44	17.88	53.56	Sampled Annually in the Third Quarter								
	1/16/1996	71.44	16.38	55.06	Sampled Annually in the Third Quarter								
	4/15/1996	71.44	14.00	57.44	Sampled Annually in the Third Quarter								
	7/11/1996	71.44	13.58	57.86	ND	ND	ND	ND	ND	ND	--	--	--
	1/17/1997	71.44	15.42	56.02	Sampled Annually in the Third Quarter								
	7/21/1997	71.44	13.78	57.66	ND	ND	ND	ND	ND	ND	--	--	--
	1/14/1998	71.44	13.65	57.79	Sampled Annually in the Third Quarter								
	7/6/1998	71.44	13.90	57.54	ND	ND	ND	ND	ND	ND	--	--	--
	1/13/1999	71.44	14.93	56.51	Sampled Annually in the Third Quarter								
	8/31/1999	71.37	15.81	55.56	ND	ND	ND	ND	ND	ND	--	--	--
	1/21/2000	71.37	16.13	55.24	Sampled Annually in the Third Quarter								
	7/10/2000	71.37	16.95	54.42	ND	ND	ND	ND	ND	ND	--	--	--
	1/4/2001	71.37	17.09	54.28	Sampled Annually in the Third Quarter								
	7/16/2001	71.37	16.83	54.54	ND	ND	ND	ND	ND	ND	--	--	--
	1/28/2002	71.37	14.58	56.79	Sampled Annually in the Third Quarter								
	7/12/2002	71.37	16.76	54.61	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	--
	1/14/2003	71.37	16.25	55.12	Sampled Annually in the Third Quarter								
	7/10/2003	71.37	12.97	58.40	<50	<0.50	<0.50	<0.50	<0.50	<2.0	--	--	--
	2/4/2004	71.37	16.20	55.17	Sampled Annually in the Third Quarter								
	7/29/2004	71.37	14.98	56.39	<50	<0.30	<0.30	<0.30	<0.6	**1.3**	--	--	--
	3/2/2005	71.37	14.51	56.86	Sampled Annually in the Third Quarter								
	9/30/2005	71.37	14.45	56.92	<50	<0.30	<0.30	<0.30	<0.6	**1.7**	--	--	--
	3/23/2006	71.37	16.55	54.82	Sampled Annually in the Third Quarter								
	9/26/2006	71.37	17.58	53.79	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	--	--
	3/15/2007	71.37	13.72	57.65	Sampled Annually in the Third Quarter								
	9/27/2007	71.37	14.18	57.19	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	--	--
	3/27/2008	71.37	14.83	56.54	Sampled Annually in the Third Quarter								
	9/17/2008	71.37	14.70	56.67	<50	<0.30	<0.30	<0.30	<0.6	**2.8**	--	--	--
	3/27/2009	71.37	15.66	55.71	Sampled Annually in the Third Quarter								
	9/17/2009	71.37	15.31	56.06	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	--	--
	3/23/2010	71.37	15.42	55.95	Sampled Annually in the Third Quarter								
	9/21/2010	71.37	15.62	55.75	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	--	--
	3/30/2011	71.37	14.12	57.25	Sampled Annually in the Third Quarter								
	09/06/2011	71.37	15.07	56.30	<50	<0.30	<0.30	<0.30	<0.60	<1.0	--	<0.50	--
	02/03/2012	71.37	14.88	56.49	Sampled Annually in the Third Quarter								
	08/17/2012	71.37	16.08	55.29	<50	<0.30	<0.30	<0.30	<0.60	<1.0	<250	<0.50	<0.50
	2/14/2013	71.37	13.66	57.71	Sampled Annually in the Third Quarter								

Abbreviations and Notes:

TOC = Top of Casing
DTW = Depth to Water
GWE = Groundwater elevation
(ft-amsl) = Feet Above Mean sea level
ft = Feet
µg/L = Micrograms per Liter
TPH - Total Petroleum Hydrocarbons
VOCS = Volatile Organic Compounds
MTBE = Methyl tert butyl ether
EDB = 1,2-Dibromoethane (Ethylene dibromide)
1,2-DCA = 1,2-Dichloroethane

-- = Not available / not applicable
<x = Not detected above laboratory reported practical quantitation level.
shaded = exceeds ESL
bold = detected
[1] = Environmental Screening Level (Table F-1a) for groundwater that is a current or potential drinking water resource; *Screening for Environmental Concerns at site with Contaminated Soil and Groundwate*r; California Regional Water Quality Control Board - San Francisco Bay Region; Interim Final November 2007; revised May 2008.

Attachment C
ADDITIONAL HISTORIC ANALYTICAL RESULTS
UNOCAL No. 3538 (351642)
411 W MACARTHUR BLVD
OAKLAND, CALIFORNIA

Date Sampled	TPH-D (µg/l)	TBA (µg/l)	Ethanol (8260B) (µg/l)	Ethylene-dibromide (EDB) (µg/l)	1,2-DCA (EDC) (µg/l)	DIPE (µg/l)	ETBE (µg/l)	TAME (µg/l)	Total Oil and Grease (mg/l)	Bromo-dichloro-methane (µg/l)	Bromo-form (µg/l)	Bromo-methane (µg/l)	Comments
MW-1													
9/15/1989	ND	--	--	--	--	--	--	--	ND	--	--	--	
1/23/1990	ND	--	--	--	--	--	--	--	1.5	--	--	--	
4/19/1990	ND	--	--	--	--	--	--	--	ND	--	--	--	
7/17/1990	ND	--	--	--	--	--	--	--	ND	--	--	--	
10/16/1990	ND	--	--	--	--	--	--	--	ND	--	--	--	
1/15/1991	ND	--	--	--	--	--	--	--	ND	--	--	--	
4/12/1991	ND	--	--	--	--	--	--	--	ND	--	--	--	
7/15/1991	ND	--	--	--	--	--	--	--	ND	--	--	--	
7/14/1992	--	--	--	--	--	--	--	--	--	--	--	--	
7/14/1993	--	--	--	--	--	--	--	--	--	--	--	--	
7/7/1994	--	--	--	--	--	--	--	--	--	--	--	--	
7/19/1995	--	--	--	--	--	--	--	--	--	--	--	--	
7/11/1996	--	--	--	--	--	--	--	--	--	--	--	--	
7/21/1997	--	--	--	--	--	--	--	--	--	--	--	--	
8/31/1999	--	--	--	--	--	--	--	--	--	--	--	--	
7/16/2001	--	--	--	--	--	--	--	--	--	1.7	--	--	
7/12/2002	--	--	--	--	--	--	--	--	--	--	--	--	
7/10/2003	--	--	--	--	--	--	--	--	--	--	--	--	
7/29/2004	--	--	--	--	ND<0.5	--	--	--	--	ND<0.5	ND<0.5	ND<1	
9/30/2005	--	--	--	--	ND<0.50	--	--	--	--	ND<0.50	ND<0.50	ND<1.0	
9/26/2006	--	--	--	--	ND<0.50	--	--	--	--	ND<0.50	ND<0.50	ND<1.0	
9/27/2007	--	--	--	--	ND<0.50	--	--	--	--	ND<0.50	ND<0.50	ND<1.0	
9/17/2008	--	--	--	--	ND<0.50	--	--	--	--	ND<0.50	ND<0.50	ND<1.0	
MW-3													
8/25/2000	--	ND	--	ND	ND	ND	ND	ND	--	--	--	--	
7/12/2002	--	ND<20	ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	--	--	--	--	

Attachment C
ADDITIONAL HISTORIC ANALYTICAL RESULTS
UNOCAL No. 3538 (351642)

Date Sampled	Carbon Tetra-chloride (µg/l)	Chloro-benzene (µg/l)	Chloro-ethane (µg/l)	Chloroform (µg/l)	Chloro-methane (µg/l)	Dibromo-chloro-methane (µg/l)	1,2-Dichloro-benzene (µg/l)	1,3-Dichloro-benzene (µg/l)	1,4-Dichloro-benzene (µg/l)	Dichloro-difluoro-methane (µg/l)	1,1-DCA (µg/l)	1,1-DCE (µg/l)	Comments
MW-1													
9/15/1989	--	--	--	--	--	--	--	--	--	--	--	--	
1/23/1990	--	--	--	--	--	--	--	--	--	--	--	--	
4/19/1990	--	--	--	--	--	--	--	--	--	--	--	--	
7/17/1990	--	--	--	--	--	--	--	--	--	--	--	--	
10/16/1990	--	--	--	--	--	--	--	--	--	--	--	--	
1/15/1991	--	--	--	--	--	--	--	--	--	--	--	--	
4/12/1991	--	--	--	--	--	--	--	--	--	--	--	--	
7/15/1991	--	--	--	--	--	--	--	--	--	--	--	--	
7/14/1992	--	--	--	--	--	--	--	--	--	--	--	--	
7/14/1993	--	--	--	--	--	--	--	--	--	--	--	--	
7/7/1994	--	--	--	--	--	--	--	--	--	--	--	--	
7/19/1995	--	--	--	--	--	--	--	--	--	--	--	--	
7/11/1996	--	--	--	0.96	--	--	--	--	--	--	--	--	
7/21/1997	--	--	--	1.0	--	--	--	--	--	--	--	--	
8/31/1999	--	--	--	--	--	--	--	--	--	--	--	--	
7/16/2001	--	--	--	45	--	--	--	--	--	--	--	--	
7/12/2002	--	--	--	--	--	--	--	--	--	--	--	1.8	
7/10/2003	--	--	--	--	--	--	--	--	--	--	--	0.89	
7/29/2004	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.2	
9/30/2005	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	0.52	
9/26/2006	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	0.60	
9/27/2007	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
9/17/2008	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	
MW-3													
8/25/2000	--	--	--	--	--	--	--	--	--	--	--	--	
7/12/2002	--	--	--	--	--	--	--	--	--	--	--	--	

Attachment C
ADDITIONAL HISTORIC ANALYTICAL RESULTS
UNOCAL No. 3538 (351642)

Date Sampled	cis-1,2-DCE (µg/l)	trans-1,2-DCE (µg/l)	1,2-Dichloro-propane (µg/l)	cis-1,3-Dichloro-propene (µg/l)	trans-1,3-Dichloro-propene (µg/l)	Methylene chloride (µg/l)	1,1,2,2-Tetrachloro-ethane (µg/l)	Tetrachloro-ethene (PCE) (µg/l)	Trichloro-trifluoro-ethane (µg/l)	1,1,1-Trichloro-ethane (µg/l)	1,1,2-Trichloro-ethane (µg/l)	Trichloro-ethene (TCE) (µg/l)	Comments
MW-1													
9/15/1989	--	--	--	--	--	--	--	2.7	--	--	--	--	
1/23/1990	--	--	--	--	--	--	--	2.1	--	--	--	--	
4/19/1990	--	--	--	--	--	--	--	2.2	--	--	--	--	
7/17/1990	--	--	--	--	--	--	--	1.7	--	--	--	--	
10/16/1990	--	--	--	--	--	--	--	2.0	--	--	--	--	
1/15/1991	--	--	--	--	--	--	--	2.1	--	--	--	--	
4/12/1991	--	--	--	--	--	--	--	2.0	--	--	--	--	
7/15/1991	--	--	--	--	--	--	--	1.8	--	--	--	--	
7/14/1992	--	--	--	--	--	--	--	1.4	--	--	--	--	
7/14/1993	--	--	--	--	--	--	--	0.95	--	--	--	--	
7/7/1994	--	--	--	--	--	--	--	0.83	--	--	--	--	
7/19/1995	--	--	--	--	--	--	--	0.52	--	--	--	--	
7/11/1996	--	--	--	--	--	--	--	0.73	--	--	--	--	
7/21/1997	--	--	--	--	--	--	--	0.70	--	--	--	--	
8/31/1999	--	--	--	--	--	--	--	ND	--	--	--	--	
7/16/2001	--	--	--	--	--	--	--	ND	--	--	--	--	
7/12/2002	--	--	--	--	--	--	--	ND<0.60	--	--	--	--	
7/10/2003	--	--	--	--	--	--	--	ND<0.50	--	--	--	--	
7/29/2004	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<1	ND<0.5	ND<0.5	13	ND<0.5	ND<0.5	ND<0.5	
9/30/2005	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	9.1	ND<0.50	ND<0.50	ND<0.50	
9/26/2006	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	7.0	ND<0.50	ND<0.50	ND<0.50	
9/27/2007	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	4.3	ND<0.50	ND<0.50	ND<0.50	
9/17/2008	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	5.4	ND<0.50	ND<0.50	ND<0.50	
MW-3													
8/25/2000	--	--	--	--	--	--	--	--	--	--	--	--	
7/12/2002	--	--	--	--	--	--	--	--	--	--	--	--	

Attachment C
ADDITIONAL HISTORIC ANALYTICAL RESULTS
UNOCAL No. 3538 (351642)

Date Sampled	Trichloro-fluoro-methane (µg/l)	Vinyl chloride (µg/l)	Comments
MW-1			
9/15/1989	--	--	
1/23/1990	--	--	
4/19/1990	--	--	
7/17/1990	--	--	
10/16/1990	--	--	
1/15/1991	--	--	
4/12/1991	--	--	
7/15/1991	--	--	
7/14/1992	--	--	
7/14/1993	--	--	
7/7/1994	--	--	
7/19/1995	--	--	
7/11/1996	--	--	
7/21/1997	--	--	
8/31/1999	--	--	
7/16/2001	--	--	
7/12/2002	--	--	
7/10/2003	--	--	
7/29/2004	ND<0.5	ND<0.5	
9/30/2005	ND<0.50	ND<0.50	
9/26/2006	ND<0.50	ND<0.50	
9/27/2007	ND<0.50	ND<0.50	
9/17/2008	ND<0.50	ND<0.50	
MW-3			
8/25/2000	--	--	
7/12/2002	--	--	

Table 4
Historical Grab Groundwater Analytical Results
Former 76 Service Station No. 3538
411 W. MacArthur Blvd
Oakland, CA

Sample ID	Date	Depth (ft)	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (ug/L)	TBA (ug/L)	TAME (ug/L)	DIPE (ug/L)	ETBE (ug/L)	EDB (ug/L)	1-2,DCA (ug/L)	Ethanol (ug/L)
SB-1W	3/27/2006	--	**120**	**11**	<0.050	<0.050	<1.0	**130**	**28**	<0.050	<0.050	<0.050	<0.050	<0.050	<100
SB-2W	3/27/2006	--	<50	<0.050	<0.050	<0.050	<1.0	<0.050	<5.0	<0.050	<0.050	<0.050	<0.050	<0.050	<100
SB-3W	3/27/2006	--	**13000**	**510**	**470**	**1400**	**2600**	**340**	**57**	<0.050	<0.050	<0.050	<0.050	<0.050	<100
SB-4W	3/27/2006	--	<50	<0.050	<0.050	<0.050	<1.0	**3.4**	<5.0	<0.050	<0.050	<0.050	<0.050	<0.050	<100
SB-5W	3/27/2006	--	**3000**	**44**	**63**	**1.2**	**30**	**53**	**17**	<0.050	<0.050	<0.050	<0.050	<0.050	<100
SB-8@20-25	12/20/10	20-25	**2000**	<0.50	**48**	**98**	**340**	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250
SB-9@17-22	12/20/10	17-22	**9500**	**430**	**2000**	**330**	**2100**	**190**	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<2500
SB-9@24-29	12/20/10	24-29	**2900**	**79**	**470**	**100**	**540**	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<2500
SB-10@17-22	12/20/10	17-22	**1500**	**20**	**0.96**	**75**	**8.3**	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250
SB-10@24-29	12/20/10	24-29	**310**	**1.8**	**25**	**12**	**63**	**5.8**	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250

TPHg = total petroelum hydrocarbons as gasoline TPHd = total petroleum hydrocarbons as diesel MTBE = metyl tert butyl ether TBA = tert butyl alcohol TAME = tert amyl methyl ether
DIPE = diisopropyl ether ETBE = ethyl tert butyl ether EDB = ethylene dibromide 1,2-DCA = 1,2 dicholorethane TOG = total oil and grease ND = non detect, where reporting limit is not known
bold = value above reporting limit ug/L = micrograms per liter

6. Cross Sections (3pp)

EVERGREEN
BAPTIST
CHURCH

B

BP
STATION

DISPENSER ISLANDS
& CANOPIES

MW-6

WEST MACARTHUR BOULEVARD

MW-5

A

MW-4

MW-3

A'

SB-4

SB-3

RESIDENTIAL
419/421
WEST
MACARTHUR

FORMER
DISPENSER
ISLANDS

FORMER UST

FORMER UST

STATION
BUILDING

MW-1

CANOPY

SHED

MW-2

SB-5

SB-2

WEBSTER STREET

PLAYGROUND

FORMER
WASTE OIL UST

SHED

LOT

SB-1

B

RESIDENTIAL
430
37TH
STREET

RESIDENTIAL
428
37TH
STREET

RESIDENTIAL
424
37TH
STREET

RESIDENTIAL
420
37TH
STREET

RESIDENTIAL
416
37TH
STREET

RESIDENTIAL
412
37TH
STREET

RESIDENTIAL
402
37TH
STREET

LEGEND

Approximate property line

Groundwater monitoring well

Soil Boring by TRC, March 2006

N

0 30 FT

SCALE

SOURCE: Site plan by Gettler-Ryan, August 2000.

FIGURE 2
SITE PLAN

FORMER 76 STATION 3538
411 WEST MACARTUR BOULEVARD
OAKLAND, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY
C103538	NP	JH
DATE	REVIEWED BY	FILE NAME
10/22/08	TP	76-3538

DELTA®

NORTHEAST

B

SOUTHWEST

B'

MW-4 SB-4 MW-3 SB-3 SB-2 MW-5

0 5 10 15 20 25 30

31,ND,NA
<0.93,<0.0047,<0.0047
17,ND,NA
20,ND,NA
<0.92,<0.0046,<0.0046
2.1,ND,NA
9/07 Q
ND<50/ND<0.3/ND<1
ND<50/ND<0.50/3.4
1.3,ND,NA
1.3,0.29,NA
3.3,ND,NA
3/08 Q
ND<50/ND<0.3/19
ND,ND,NA
1.3,0.64,0.11
6400,<9.7,<9.7
13000/340/510
ND<0.97,ND<0.0049,ND<0.0049
ND<0.93,ND<0.0047,ND<0.0047
ND<50/ND<0.50/ND<0.50
ND,ND,NA
ND,ND,NA
ND,ND,NA
ND,ND,NA
9/07 Q
ND<50/ND<0.3/ND<1

LEGEND

MW-7 — MONITORING WELL/BORING NAME

WELL CASING/EXPLORATORY BORING

SOIL SAMPLE LOCATION

WELL SCREEN

6400,<9.7,<9.7 — SOIL SAMPLE LOCATION WITH ANALYTICAL DATA: TPHg, BENZENE, MTBE (mg/kg)

120/130/11 — GROUNDWATER SAMPLE LOCATION WITH ANALYTICAL DATA: TPHg, BENZENE, MTBE (ug/L)

(3/08 Q) — MONITORING WELL QUARTERLY GROUNDWATER SAMPLE DATE

DEPTH TO FIRST ENCOUNTERED GROUNDWATER

DEPTH TO STATIC GROUNDWATER

LOW PERMEABILITY
SILT (ML), CLAY (CL)

MEDIUM PERMEABILITY
CLAYEY SAND (SC), CLAYEY GRAVEL (GC)

HIGH PERMEABILITY WITH
WELL GRADED GRAVEL (SP, SW)

APPROXIMATE STRATIGRAPHIC BOUNDARY

NOTES:

1) ND<50=NOT DETECTED AT LABORATORY DETECTION LIMIT
NA=NOT ANALYZED
TPHg=TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
MTBE=METHYL TERT BUTYL ETHER
mg/kg=MILLIGRAMS PER KILOGRAM
ug/L=MICROGRAMS PER LITER

2) STRATIGRAPHY BETWEEN BORINGS IS INTERPRETIVE.

3) GROUNDWATER SAMPLES FROM BORINGS WERE COLLECTED ON THE DRILLING DATE.

0 40
SCALE IN FEET
5

FIGURE 4
GEOLOGIC CROSS SECTION A–A'

FORMER 76 SERVICE STATION #3538
411 WEST MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY
C103538	NP	JH
DATE	REVIEWED BY	FILE NAME
10/22/08	DD	3538-CrosA

DELTA®

NORTHEAST

B

SOUTHWEST

B'

MW-6

SB-3

MW-2

SB-1

0

5

10

15

20

25

30

31

NA,ND,NA

NA,ND,NA

NA,ND,NA

9/07 Q
ND<50/ND<0.3/ND<1

NA,ND,NA

1.4,ND,NA

ND,ND,NA

1.3,0.64,0.11

6400,<9.7,<9.7

1.8,ND,NA

13,1.5,NA

(3/08 Q)
ND<50/1.8/1.3

13000/340/510

<0.97,<0.0049,<0.0049

2.8,<0.0048,<0.0048

120/130/11

?

?

?

0

40

SCALE IN FEET

5

LEGEND

MW-7

MONITORING WELL/BORING NAME

WELL CASING/EXPLORATORY BORING

SOIL SAMPLE LOCATION

WELL SCREEN

6400,<9.7,<9.7 — SOIL SAMPLE LOCATION WITH ANALYTICAL DATA: TPHg, BENZENE, MTBE (mg/kg)

120/130/11 — GROUNDWATER SAMPLE LOCATION WITH ANALYTICAL DATA: TPHg, BENZENE, MTBE (ug/L)

(3/08 Q) — MONITORING WELL QUARTERLY GROUNDWATER SAMPLE DATE

DEPTH TO FIRST ENCOUNTERED GROUNDWATER

DEPTH TO STATIC GROUNDWATER

LOW PERMEABILITY
SILT (ML), CLAY (CL)

MEDIUM PERMEABILITY
CLAYEY SAND (SC), CLAYEY GRAVEL (GC)

HIGH PERMEABILITY WITH
WELL GRADED GRAVEL (SP, SW)

APPROXIMATE STRATIGRAPHIC BOUNDARY

NOTES:

1) ND<50=NOT DETECTED AT LABORATORY DETECTION LIMIT
NA=NOT ANALYZED
TPHg=TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
MTBE=METHYL TERT BUTYL ETHER
mg/kg=MILLIGRAMS PER KILOGRAM
ug/L=MICROGRAMS PER LITER

2) STRATIGRAPHY BETWEEN BORINGS IS INTERPRETIVE.

3) GROUNDWATER SAMPLES FROM BORINGS WERE COLLECTED ON THE DRILLING DATE.

FIGURE 5
GEOLOGIC CROSS SECTION B–B'

FORMER 76 SERVICE STATION #3538
411 WEST MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY
C103538	NP	JH
DATE	REVIEWED BY	FILE NAME
10/21/08	DD	3538-CrosB

DELTA®

7. Concentration Graphs (2pp)

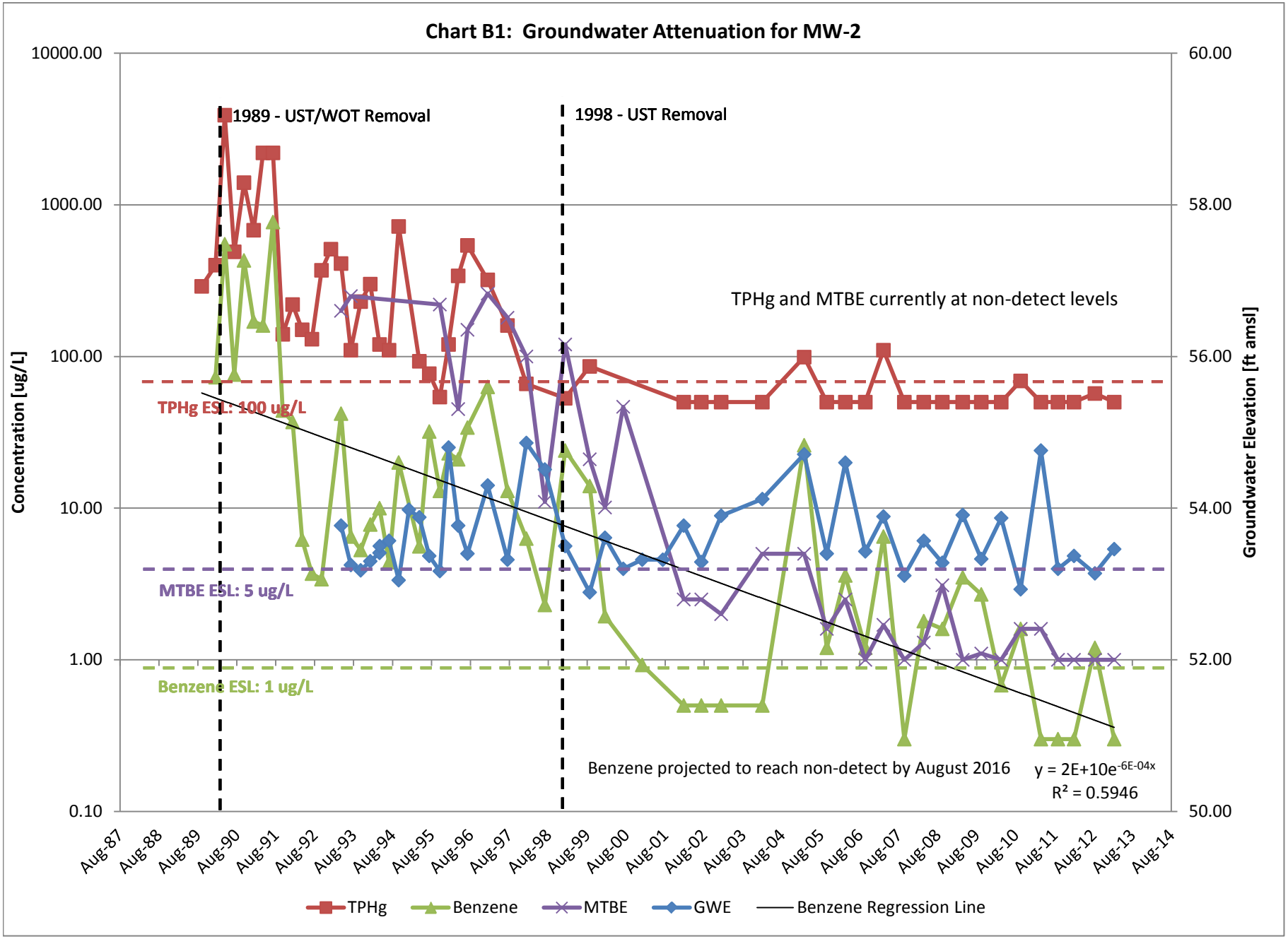


Chart B1: Groundwater Attenuation for MW-2
10000.00
1000.00
100.00
10.00
1.00
0.10
60.00
58.00
56.00
54.00
52.00
50.00
Concentration [ug/L]
Groundwater Elevation [ft amsl]
1989 - UST/WOT Removal
1998 - UST Removal
TPHg and MTBE currently at non-detect levels
TPHg ESL: 100 ug/L
MTBE ESL: 5 ug/L
Benzene ESL: 1 ug/L
Benzene projected to reach non-detect by August 2016
y = 2E+10e-6E-04x
R² = 0.5946
Aug-87
Aug-88
Aug-89
Aug-90
Aug-91
Aug-92
Aug-93
Aug-94
Aug-95
Aug-96
Aug-97
Aug-98
Aug-99
Aug-00
Aug-01
Aug-02
Aug-03
Aug-04
Aug-05
Aug-06
Aug-07
Aug-08
Aug-09
Aug-10
Aug-11
Aug-12
Aug-13
Aug-14
TPHg
Benzene
MTBE
GWE
Benzene Regression Line

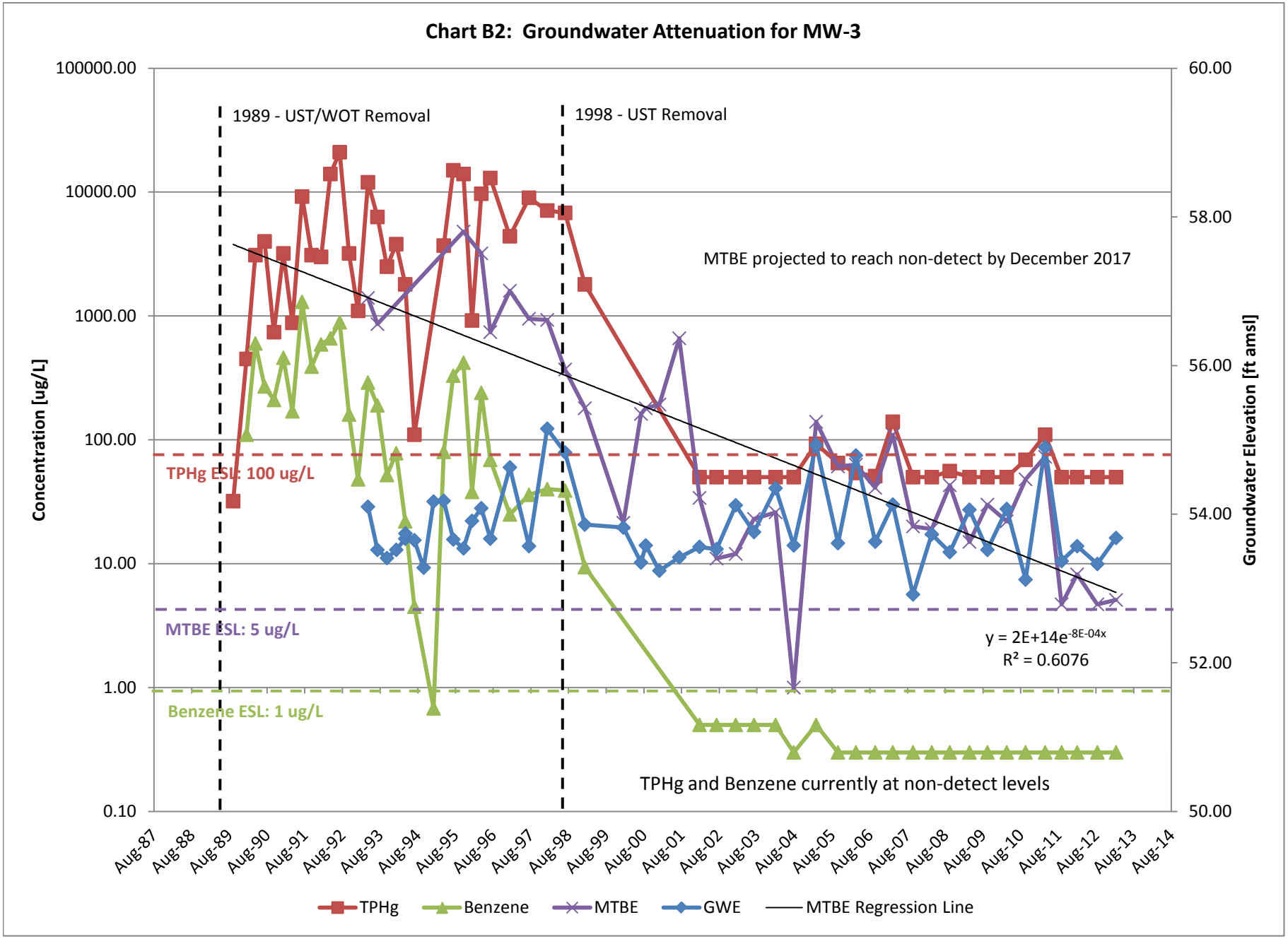


Chart B2: Groundwater Attenuation for MW-3
100000.00
10000.00
1000.00
100.00
10.00
1.00
0.10
Concentration [ug/L]
60.00
58.00
56.00
54.00
52.00
50.00
Groundwater Elevation [ft amsl]
1989 - UST/WOT Removal
1998 - UST Removal
MTBE projected to reach non-detect by December 2017
TPHg ESL: 100 ug/L
MTBE ESL: 5 ug/L
Benzene ESL: 1 ug/L
y = 2E+14e-8E-04x
R² = 0.6076
TPHg and Benzene currently at non-detect levels
Aug-87
Aug-88
Aug-89
Aug-90
Aug-91
Aug-92
Aug-93
Aug-94
Aug-95
Aug-96
Aug-97
Aug-98
Aug-99
Aug-00
Aug-01
Aug-02
Aug-03
Aug-04
Aug-05
Aug-06
Aug-07
Aug-08
Aug-09
Aug-10
Aug-11
Aug-12
Aug-13
Aug-14
TPHg
Benzene
MTBE
GWE
MTBE Regression Line

8. Boring Logs (22pp)

BORING LOG

Project No. KEI-P89-0703	Boring & Casing Diameter 9" 2"	Logged By D.L.
Project Name Unocal, Oakland/MacArthur	Well Head Elevation N/A	Date Drilled 9/7/89
Boring No. MW1	Drilling Method Hollow-stem Auger	Drilling Company EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Stratigraphy USCS	Description
		0		A.C. Pavement Sand and Gravel: fill.
11/17/22		5		Clay, high plasticity, stiff, moist, very dark grayish brown.
				Gravelly clay with sand, stiff, moist, dark yellowish brown.
32/17/20		10		Sand clay, high plasticity, stiff, moist, olive, trace gravel.
			CH	Clay, high plasticity, very stiff, moist, pale olive, with greenish gray stained root holes.
13/17/19		15		Sandy clay, moderate to high plasticity, stiff, moist, olive to light yellowish brown.
10/17/20	▼		SC	Clayey sand, dense, very moist to wet, yellowish brown.
		20		

BORING LOG

Project No. KEI-P89-0703	Boring & Casing Diameter 9" 2"	Logged By D.L.
Project Name Unocal, Oakland/MacArthur	Well Head Elevation N/A	Date Drilled 9/7/89
Boring No. MW1	Drilling Method Hollow-stem Auger	Drilling Company EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Stratigraphy USCS	Description
			SC	Clayey sand, as above.
		25	SP	Poorly graded sand, yellowish brown.
			CH	Clay, high plasticity, very stiff, moist, yellowish brown.
		30		
		35		
		40		TOTAL DEPTH 29'

BORING LOG

Project No. KEI-P89-0703	Boring & Casing Diameter 9" 2"	Logged By D.L.
Project Name Unocal, Oakland/MacArthur	Well Head Elevation N/A	Date Drilled 9/6/89
Boring No. MW2	Drilling Method Hollow-stem Auger	Drilling Company EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Stratigraphy USCS	Description
		0		Concrete Pavement Sand and Gravel: Fill
9/14/21		5	CH	Clay, high plasticity, with silt, firm to stiff, moist, dark olive gray, black from 1.5 to 4 feet.
13/15/28		10	GC	Clayey gravel with sand, dense, moist, yellowish brown, gravel to 3/4".
9/15/19			CH	Sandy clay, high plasticity, 15-45% sand, stiff, moist, light yellowish brown and greenish gray, mottled, lensed with clayey sand.
10/15/23			SC	Clayey sand, dense to very dense, moist, olive and greenish gray.
8/10/15		15		
9/12/16			CH	Silty clay, moderate to high plasticity, firm, moist, olive.
13/37/46	▼	20	SW	Well graded sand with gravel, dense, wet, brown, silty from 19.5 feet.

BORING LOG

Project No.	Boring & Casing Diameter	Logged By
KEI-P89-0703	9" 2"	D.L.
Project Name Unocal, Oakland/MacArthur	**Well Head Elevation** N/A	**Date Drilled** 9/6/89
Boring No. MW2	**Drilling Method** Hollow-stem Auger	**Drilling Company** EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Stratigraphy USCS	Description
			GP-GM	Poorly graded gravel with silt and sand, very dense, wet, dark yellowish brown.
25/37/45		25	GP	Poorly graded gravel with sand, very dense, wet, dark, yellowish brown.
			CH	Clay, high plasticity, trace sand, very stiff, moist, yellowish brown.
25/29/35		30		
		35		
		40		TOTAL DEPTH 30.5'

BORING LOG

Project No. KEI-P89-0703	Boring & Casing Diameter 9" 2"	Logged By D.L.
Project Name Unocal, Oakland/MacArthur	Well Head Elevation N/A	Date Drilled 9/7/89
Boring No. MW3	Drilling Method Hollow-stem Auger	Drilling Company EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Stratigraphy USCS	Description
		0		Concrete Pavement
9/15/21		5	CH	Clay, high plasticity, with silt, stiff, moist, dark olive gray, very dark grayish brown above 4'.
14/17/23		10		Clay, high plasticity, very stiff, moist, pale olive, with dark greenish gray stained root holes.
15/23/33		15	CL	Sandy clay, low to moderate plasticity, 25-40% sand, stiff, moist, olive and greenish gray, mottled, lensed with clayey sand.
10/17/24	▼		CH	Sandy clay, moderate to high plasticity, stiff, moist, olive.
		20		

BORING LOG

Project No. KEI-P89-0703	Boring & Casing Diameter 9" 2"	Logged By D.L.
Project Name Unocal, Oakland/MacArthur	Well Head Elevation N/A	Date Drilled 9/7/89
Boring No. MW3	Drilling Method Hollow-stem Auger	Drilling Company EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Stratigraphy USCS	Description
				Sandy clay, as above.
37/50-5-1/2"			GP-GC	Poorly graded gravel with clay and sand, very dense, wet, dark yellowish brown.
		25	GC	Clayey gravel, very dense, moist, yellowish brown.
		30		
		35		
		40		TOTAL DEPTH 29'

BORING LOG

Project No. KEI-P89-0703	Boring & Casing Diameter 9" 2"	Logged By D.L.
Project Name Unocal, Oakland/MacArthur	Well Head Elevation N/A	Date Drilled 9/6/89
Boring No. MW4	Drilling Method Hollow-stem Auger	Drilling Company EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Stratigraphy USCS	Description
		0		A.C. Pavement Sand and Gravel: Fill
12/16/25		5		Clay, high plasticity, very stiff, moist, very dark grayish brown, brown below 5'.
				Gravelly clay with sand, very stiff, moist, dark yellowish brown.
19/25/30		10	CH	Clay, high plasticity, very stiff, slightly moist, light yellowish brown.
14/17/29		15		Silty clay, high plasticity, 10-15%, fine sand, very stiff, moist, pale olive.
15/15/23	▼		SM	Silty sand, dense to very dense, very moist to wet, light yellowish brown.
		20	SW	Well graded sand, trace to 10%

BORING LOG

Project No. KEI-P89-0703	Boring & Casing Diameter 9" 2"	Logged By D.L.
Project Name Unocal, Oakland/MacArthur	Well Head Elevation N/A	Date Drilled 9/6/89
Boring No. MW4	Drilling Method Hollow-stem Auger	Drilling Company EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Stratigraphy USCS	Description
			SW	fines, dense, wet, dark yellowish brown.
		25	GP-GC	Poorly graded gravel with clay and sand, dense, wet, dark yellowish brown, clay content, increasing with depth.
			CH	Gravelly clay, high plasticity, 5-10% sand, very stiff, moist, dark yellowish brown.
		30		
		35		
		40		TOTAL DEPTH 29'

BORING LOG

Project No. KEI-P89-0703	**Boring Diameter** 9" / **Casing Diameter** 2"	**Logged By** JGG W.W. CEG 1633
Project Name Unocal S/S #3538 411 West MacArthur Blvd., Oakland	**Well Cover Elevation**	**Date Drilled** 11/18/92
Boring No. MW5	**Drilling Method** Hollow-stem Auger	**Drilling Company** Woodward Drilling Co.

Penetration blows/6"	G. W. level	Depth (feet) Samples	Strati-graphy USCS	Description
		0		Six inches of concrete pavement over sand and gravel base.
			CL	Silty clay, estimated at 35% silt, moist, black, strong brown staining in pores.
8/13/17		5		Silty clay, estimated at 15% silt, 5% sand, and trace gravel to 3/8 inch in diameter, hard, moist, yellowish brown (10YR 5/4) and light brownish gray (10YR 6/2) mottled, trace pores.
8/11/16		10		Clayey silt, estimated at 15-20% clay and 5% fine-grained sand, very stiff, moist, pale yellow (2.5Y 7/3), trace pores.
			ML	
6/10/17		15		Silt, estimated at 5-10% clay, very stiff, moist to very moist, pale yellow (2.5Y 7/3) with slight yellowish brown (10YR 5/6) mottling, trace sand and pores.
				Silt, trace clay, hard, very moist, very pale brown (10YR 7/3) and strong brown (7.5YR 5/6) mottled, slightly micaceous.
10/20/24		20	CL	Silty clay, estimated at 35-40% silt, hard, moist, very pale brown (10YR 5/4) mottled.
8/13/25	▼		ML	Clayey silt, estimated at 15% clay and 5-10% sand, hard, very moist, pale yellow (2.5Y 7/3).

BORING LOG

Project No. KEI-P89-0703	**Boring Diameter** 9" / **Casing Diameter** 2"	**Logged By** JGG W.W. CEG 1633
Project Name Unocal S/S #3538 411 West MacArthur Blvd., Oakland	**Well Cover Elevation**	**Date Drilled** 11/18/92
Boring No. MW5	**Drilling Method** Hollow-stem Auger	**Drilling Company** Woodward Drilling Co.

Penetration blows/6"	G. W. level	Depth (feet) Samples	Strati-graphy USCS	Description
9/20/36		25	ML	Clayey silt, estimated at 15% clay and 5-10% sand, hard, very moist, pale yellow (2.5Y 7/3). Clayey silt, estimated at 20-25% clay and 5% sand, hard, moist, very pale brown (10YR 7/3).
13/19/28		30	CL	Silty clay, estimated at 15-20% fine-grained silt and 5% sand, hard, moist, very pale brown (10YR 7/3), trace organic matter. Silty clay, estimated at 15% silt, 5-10% sand, and trace gravel, hard, moist, very pale brown (10YR 7/3).
		35		TOTAL DEPTH: 30'
		40		

BORING LOG

Project No. KEI-P89-0703	**Boring Diameter** 9" **Casing Diameter** 2"	**Logged By** JGG W.W. CEG 1633
Project Name Unocal S/S #3538 411 West MacArthur Blvd., Oakland	**Well Cover Elevation**	**Date Drilled** 11/18/92
Boring No. MW6	**Drilling Method** Hollow-stem Auger	**Drilling Company** Woodward Drilling Co.

Penetration blows/6"	G. W. level	Depth (feet) Samples	Strati-graphy USCS	Description
		0		Fifteen inches of asphalt pavement.
				Silty clay, estimated at 20% silt and trace sand, moist, very dark gray.
18/30/34		5		Silty clay, estimated at 20-25% silt and 5% sand, hard, moist, greenish gray (5GY 5/1).
				Silty clay with sand and gravel, estimated at 15-20% silt, 15% gravel to 2 inches in diameter, and 10-15% sand, hard, moist, greenish gray (5GY 5/1) with strong brown (7.5YR 4/6) staining.
			CL	
19/23/35		10		Silty clay, estimated at 15% silt and trace sand, hard, moist, greenish gray (5GY 6/1) with slight light yellowish brown (10YR 6/4) mottling.
				Silty clay, estimated at 20% silt, hard, moist, light yellowish brown (10YR 6/4) with slight light gray (5Y 7/1) staining in pores, trace organic matter.
13/22/27		15		
				Clayey silt, estimated at 15% clay and 5-10% very fine-grained sand, hard, very moist, light yellowish brown (10YR 6/4).
12/18/20	▼	20	ML	

BORING LOG

Project No. KEI-P89-0703	**Boring Diameter** 9" / **Casing Diameter** 2"	**Logged By** JGG W.W. CEG1633
Project Name Unocal S/S #3538 411 West MacArthur Blvd., Oakland	**Well Cover Elevation**	**Date Drilled** 11/18/92
Boring No. MW6	**Drilling Method** Hollow-stem Auger	**Drilling Company** Woodward Drilling Co.

Penetration blows/6"	G. W. level	Depth (feet) Samples	Strati-graphy USCS	Description
7/10/13		25	ML	Clayey silt, estimated at 15% clay and trace sand, very stiff, very moist, light yellowish brown.
			CL	Silty clay, estimated at 20-30% slightly elastic silt, very stiff, moist, very pale brown.
8/15/21		30		Silty clay, estimated at 20-25% silt and trace gravel, hard, moist, light yellowish brown (10YR 6/4).
				TOTAL DEPTH: 30'
		35		
		40		

PROJECT NO.: 42-0142-09
LOCATION: 76 Station #3538
411 W. MacArthur Blvd.
Oakland, California

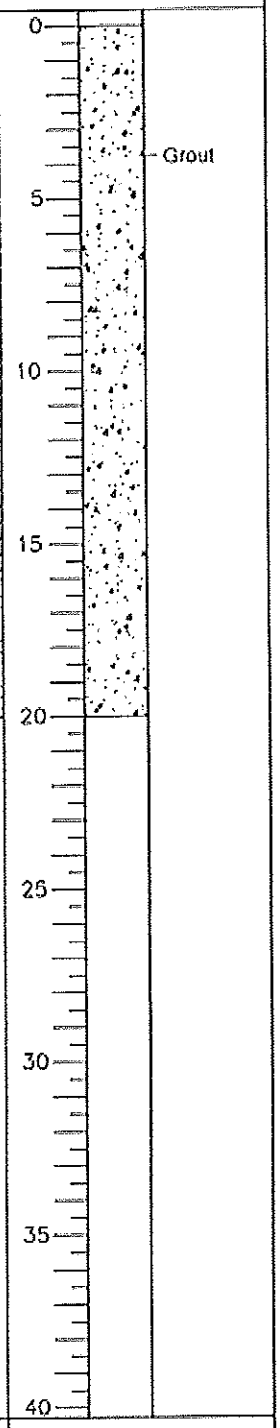
DATE DRILLED: 3/27/06
LOGGED BY: J. Kearns
APPROVED BY: K. Woodburne, RG
DRILLING CO.: Woodward Drilling

NORTHING: NOT SURVEYED
EASTING: NOT SURVEYED
ELEVATION: NOT SURVEYED

DRILLING METHOD: 2-inch Direct Push
SAMPLER TYPE: 4-foot Continuous Core
TOTAL DEPTH: 20.00 feet
DEPTH TO WATER: 16.25 feet

PID/FID (ppm)	BLOWS PER 6 INCHES	RECOVERY	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
				0	Asphalt concrete.	Asphalt	
4.0		3.0/3.0		5	CLAY (CL): Dark brown (10YR 3/3), 90% fines, 10% fine- to coarse-grained sand, medium plasticity, dry. - @ 6': color change to black (2.5/2.5/1), moist.	CL	
12.0		4.0/4.0		10	- @ 9': color change to dark gray (5Y 4/1), 95% fines, 5% fine-grained sand. - @ 10': color change to olive gray (5Y 5/2).		
0.2		2.0/4.0		15	SAND (SW): Olive (5Y 4/3), 10% fines, 90% fine- to coarse-grained sand, loose, moist. CLAY (CL): Light olive brown (2.5Y 5/6), 90% fines, 10% fine- to coarse-grained sand, medium plasticity, moist.	SW CL	
1.1		4.0/4.0		20	SAND (SW): Dark grayish brown (2.5Y 4/2), 10% fines, 90% fine- to coarse-grained sand, loose, wet.	SW	
				25			
				30			
				35			
				40			

BORING BACKFILL DETAIL



TRC

LOG OF EXPLORATORY BORING

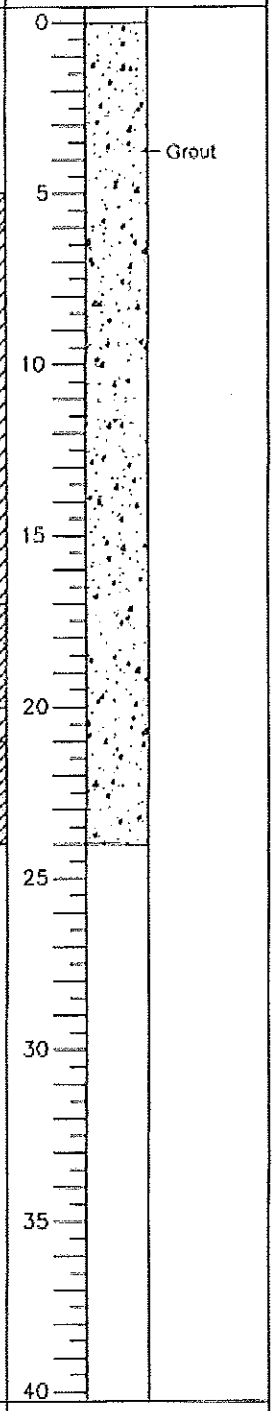
SB-1
PAGE 1 OF 1

PROJECT NO.: 42-0142-09	DATE DRILLED: 3/27/06	NORTHING: NOT SURVEYED
LOCATION: 76 Station #3538	LOGGED BY: J. Kearns	EASTING: NOT SURVEYED
411 W. MacArthur Blvd.	APPROVED BY: K. Woodburne, RG	ELEVATION: NOT SURVEYED
Oakland, California	DRILLING CO.: Woodward Drilling	

DRILLING METHOD: 2-inch Direct Push
SAMPLER TYPE: 4-foot Continuous Core
TOTAL DEPTH: 24.00 feet
DEPTH TO WATER: 16.25 feet

PID/FID (ppm)	BLOWS PER 6 INCHES	RECOVERY	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
1.8		3.0/3.0		5	CLAYEY SAND (SC): Brown (10YR 4/3), 20% fines, 80% fine- to coarse-grained sand, loose, moist.	SC	
0.2		4.0/4.0		10	CLAY (CL): Light olive brown (2.5Y 5/6), 90% fines, 10% fine- to coarse-grained sand, medium plasticity, moist. - @ 9': color change to mottled light yellowish brown (2.5Y 6/3) and very dark gray (10YR 3/1). - @ 11': color change to mottled brown (10YR 3/3) and very dark grayish brown (10YR 3/2).	CL	
0.0		4.0/4.0		15			
		2.0/2.0			CLAYEY SAND (SC): Yellowish brown (10YR 5/8), 30% fines, 72% fine- to coarse-grained sand, loose, dry.	SC	
		2.0/2.0		20			
0.0		4.0/4.0			CLAY (CL): Yellowish brown (10YR 5/4), 90% fines, 10% fine- to coarse-grained sand, medium plasticity, wet.	CL	
					SAND (SC): 10% fines, 90% fine- to coarse-grained sand, loose.	SC	
				25			
				30			
				35			
				40			

BORING BACKFILL DETAIL



TRC

LOG OF EXPLORATORY BORING

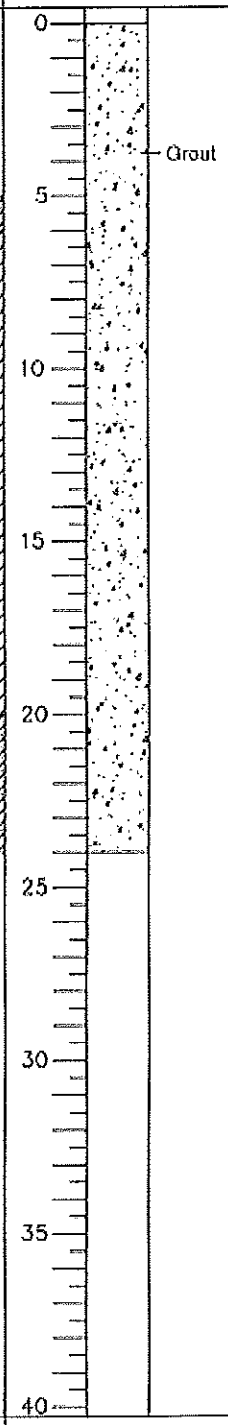
SB-2
PAGE 1 OF 1

PROJECT NO.: 42-0142-09	DATE DRILLED: 3/27/06	NORTHING: NOT SURVEYED
LOCATION: 76 Station #3538	LOGGED BY: J. Kearns	EASTING: NOT SURVEYED
411 W. MacArthur Blvd.	APPROVED BY: K. Woodburne, RG	ELEVATION: NOT SURVEYED
Oakland, California	DRILLING CO.: Woodward Drilling	

DRILLING METHOD: 2-inch Direct Push
SAMPLER TYPE: 4-foot Continuous Core
TOTAL DEPTH: 24.00 feet
DEPTH TO WATER: 16.69 feet

PID/FID (ppm)	BLOWS PER 6 INCHES	RECOVERY	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
				0			
13.3		3.0/3.0		5	CLAYEY SAND (SC): Brown (10YR 3/3), 10% fines, 90% fine- to coarse-grained sand, loose, dry.	SC	
6.9		4.0/4.0		10	CLAY (CL): Dark brown (10YR 3/3), 90% fines, 10% fine- to coarse-grained sand, medium plasticity, moist. - @ 9': color change to mottled light yellowish brown (10YR 4/4) and dark yellowish brown (10YR 4/6), high plasticity. - @ 11': low plasticity.	CL	
105		2.5/4.0		15	- @ 14': hydrocarbon odor.		
1595		3.0/4.0					
0.0		4.0/4.0		20	- @ 19': color change to mottled dusky red (10YR 3/2) and dark brown, hydrocarbon odor. CLAYEY SAND (SC): Mottled dark greenish gray (GLEY1 6/1) and yellowish brown (10YR 5/6).	SC	
				25			
				30			
				35			
				40			

BORING BACKFILL DETAIL



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LOG OF EXPLORATORY BORING

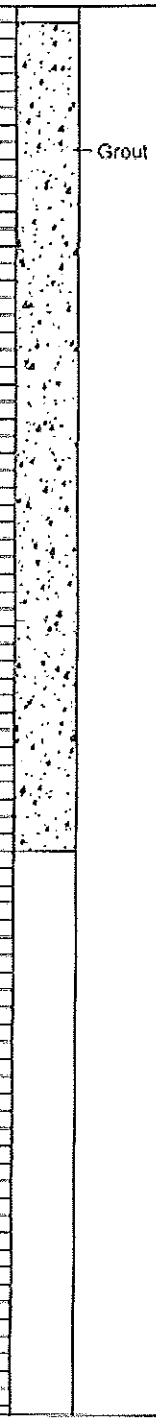
SB-3
PAGE 1 OF 1

PROJECT NO.: 42-0142-09	DATE DRILLED: 3/28/06	NORTHING: NOT SURVEYED
LOCATION: 76 Station #3538	LOGGED BY: J. Kearns	EASTING: NOT SURVEYED
411 W. MacArthur Blvd.	APPROVED BY: K. Woodburne, RG	ELEVATION: NOT SURVEYED
Oakland, California	DRILLING CO.: Woodward Drilling	

DRILLING METHOD: 2-inch Direct Push
SAMPLER TYPE: 4-foot Continuous Core
TOTAL DEPTH: 24.00 feet
DEPTH TO WATER: 16.39 feet

PID/FID (ppm)	BLOWS PER 6 INCHES	RECOVERY	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
				0			
8.3		3.0/3.0		5	CLAY (CL): Mottled brown (10YR 4/3) and black (10YR 2/1), 90% fines, 10% fine- to coarse-grained sand, medium plasticity, moist.	CL	
4.0		3.5/4.0			- @ 9': color change to mottled dark gray (5Y 4/1) and dark yellowish brown (10YR 3/4).		
				10	SAND (SW): Very pale brown (10YR 7/3), 5% fines, 95% fine- to coarse-grained sand, loose, dry.	SW	
3.7		2.5/4.0			CLAY (CL): Brown (10YR 4/3), 90% fines, 10% fine- to coarse-grained sand, medium plasticity, moist. - @ 12': color change to grayish brown (10YR 5/2). - @ 14': color change to mottled pale brown (10YR 6/3) and yellowish brown (10YR 5/6).	CL	
3.7		2.0/4.0		15			
2.7		2.0/4.0		20	CLAYEY SAND (SC): Mottled pale brown (10YR 6/3) and yellowish brown (10YR 5/6), 15% fines, 85% fine- to medium-grained sand, wet.	SC	
				25			
				30			
				35			
				40			

BORING BACKFILL DETAIL



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LOG OF EXPLORATORY BORING

SB-4
PAGE 1 OF 1

PROJECT NO.: 42-0142-09
LOCATION: 76 Station #3538
411 W. MacArthur Blvd.
Oakland, California

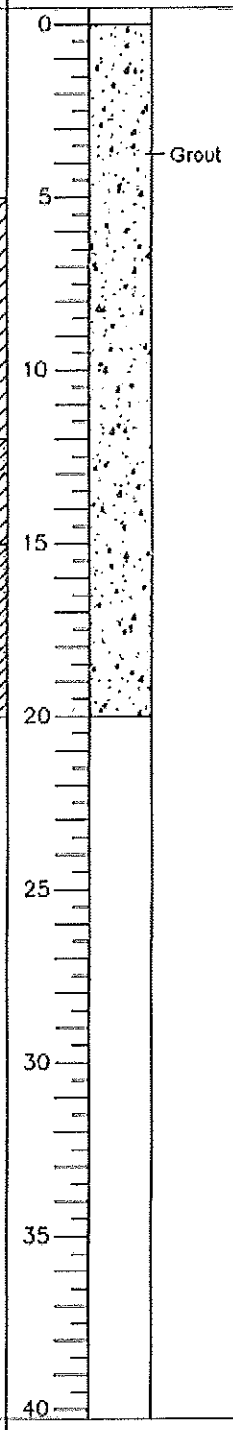
DATE DRILLED: 3/28/06
LOGGED BY: J. Kearns
APPROVED BY: K. Woodburne, RG
DRILLING CO.: Woodward Drilling

NORTHING: NOT SURVEYED
EASTING: NOT SURVEYED
ELEVATION: NOT SURVEYED

DRILLING METHOD: 2-Inch Direct Push
SAMPLER TYPE: 4-foot Continuous Core
TOTAL DEPTH: 20.00 feet
DEPTH TO WATER: 18.00 feet

PID/FID (ppm)	BLOWS PER 6 INCHES	RECOVERY	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
				0			
1.1		3.0/3.0		5	CLAY (CL): Brown (10YR 4/3), 90% fines, 10% fine- to coarse-grained sand, medium plasticity, wet.		
2.4		3.0/4.0			- @ 9': color change to dark grayish brown (2.5Y 4/2).	CL	
				10	- @ 10': color change to dark olive gray (5Y 3/2).		
1.6		4.0/4.0			CLAYEY SAND (SC): Dark olive gray (5Y 3/2), 15% fines, 85% fine- to coarse-grained sand, loose, wet.	SC	
					CLAY (CL): Mottled grayish brown (2.5Y 5/2) and dark yellowish brown (10YR 5/6), 90% fines, 10% fine- to medium- grained sand, wet.	CL	
				15	CLAYEY SAND (SC): Mottled grayish brown (2.5Y 5/2) and dark yellowish brown (10YR 5/6), 15% fines, 85% fine- to medium-grained sand, wet.		
2.3		3.0/4.0				SC	
					- @ 19': color change to greenish gray (GLEY1 5/5GY).		
				20			
				25			
				30			
				35			
				40			

BORING BACKFILL DETAIL



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LOG OF EXPLORATORY BORING

SB-5
PAGE 1 OF 1

anteagroup

Project No: C103535061
Logged By: A. Buehler
Driller: Cascade Drilling
Drilling Method: Direct Push
Sampling Method: Acetate Liner
Casing Type: N/A
Slot Size: N/A
Gravel Pack: N/A

Client: ConocoPhillips
Location: Oakland, CA
Date Drilled: 12/20/10
Hole Diameter: 2"
Hole Depth: 20'
Well Diameter: N/A
Well Depth: N/A
First Water Depth:
Static Water Depth:

Elevation:
Northing:
Easting:

Boring/Well No: **SB-8**
Page 1 of 1

Site Address:
411 W. MacArthur Blvd, Oakland, CA

Well Completion (Backfill / Casing)	Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Neat Cement Grout									Air-knife clearance to 5 ft.
			0.6	SB-8 @5	5			CL	brown/green mottled, sandy lean clay with gravel, 20% sand, 10% gravel, damp
					7			ML	Brown/black mottled, sandy silt, 30% sand, trace gravel, mild odor, damp
			5.8	SB-8 @10	10				
					13			GM	Brown/gray, silty gravel with sand, 10% silt, 30% gravel, moist
			0.7	SB-8 @15	15			CL	Brown/gray, lean clay, 5% sand, moist
					16			GC	Brown, clayey gravel with sand, 10% clay, 20% sand, moist to wet
					18			ML	Brown/gray mottles, sandy silt, 30% sand, very dense, damp
			440	SB-8 @20	20				
									Total Depth = 20 ft

Project No:	5697	Client:	COP	Boring/Well No: **SB-9**	
Logged By:	A Buehler	Location:	Oakland	Page 1 of	2
Driller:	Cascade	Date Drilled:	12/20/2010		
Drilling Method:	Direct Push	Hole Diameter:	2 in		
Sampling Method:	Acetate	Hole Depth:	20 ft		
Casing Type:	N/A	Well Diameter:	N/A		
Slot Size:	N/A	Well Depth:	N/A		
Gravel Pack:	N/A	▼ First Water Depth:			
		▽ Static Water Depth:			
Elevation:		Northing:		Easting:	

Well Completion (Backfill / Casing)	Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Neat Cement Grout					1				Air-knife clearance to 5 ft
					2				
					3				
					4				
					5				
			6.7	SB-9 @5	6				Gray, gravelly lean clay, 20% gravel, moist, no odor
					7				
					8			ML	Brown/black mottled, sandy silt with gravel, 20% sand, 10% gravel
					9				
			7.5	SB-9 @10	10			CL	Brown/gray mottled, gravelly lean clay, 10% gravel, moist, slight odor
					11				
					12			SP	Dark brown, sand, fine sand, wet
					13			ML	Brown/orange/gray mottled, sandy silt, 40% sand, damp
					14				
			910	SB-9 @15	15				
	▼				16				Dark brown/gray layered, sandy silt, 35% sand, saturated
					17				
					18				
					19				
			37	SB-9 @20	20			SM	Gray, Silty sand, fine sand, 25% silt, saturated
					21				
					22				

Project No: C103535061
Logged By: A. Buehler
Driller: Cascade Drilling
Drilling Method: Direct Push
Sampling Method: Acetate Liner
Casing Type: N/A
Slot Size: N/A
Gravel Pack: N/A

Client: ConocoPhillips
Location: Oakland, CA
Date Drilled: 12/20/10
Hole Diameter: 2"
Hole Depth: 20'
Well Diameter: N/A
Well Depth: N/A
▼ First Water Depth:
▽ Static Water Depth:

Boring/Well No: **SB-9**
Page 2 of 2

Elevation:
Northing:
Easting:

Well Completion (Backfill / Casing)	Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Neat Cement Grout					23			ML	Gray/green sandy silt, 30% sand, very dense, dry
					24				
			12.5	SB-9 @25	25				
		▼							Same as above, saturated
					26			CL	Brown/gray mottled, lean clay, very dense, moist
					27				
					28				
					29				
			4.6	SB-9 @30	30				Total Depth = 30 ft
					31				
					32				
					33				
					34				
					35				
					36				
					37				
					38				
					39				
					40				
					41				
					42				
					43				
					44				

Project No:	5697	Client:	COP	Boring/Well No: **SB-9**	
Logged By:	A Buehler	Location:	Oakland	Page 2 of	2
Driller:	Cascade	Date Drilled:	12/21/2010		
Drilling Method:	Direct Push	Hole Diameter:	2 in		
Sampling Method:	Acetate	Hole Depth:	20 ft		
Casing Type:	N/A	Well Diameter:	N/A		
Slot Size:	N/A	Well Depth:	N/A		
Gravel Pack:	N/A	First Water Depth:			
		Static Water Depth:			
Elevation:		Northing:		Easting:	

Well Completion: Backfill	Well Completion: Casing	Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample: Recovery	Sample: Interval	Soil Type	LITHOLOGY / DESCRIPTION
						1				Air-knife cleared to 5 ft
						2				
						3				
						4				
						5				
				0	SB-10 @5	6			CL	Brown, Gravelly lean clay with sand, 20% gravel, 10% sand, saturated
						7			CL	Brown/gray/green layered sandy lean clay, 15% sand, moist, no odor
						8				
						9				
				0.5	SB-10 @10	10				
						11				
						12			SW	Brown, gravelly sand, 20% gravel, moist
						13				
						14			CL	Brown/oraange/green mottled, sandy lean clay, 25% sand, dense
				0.6	SB-10 @15	15			ML	Brown/gray layered, sandy silt, 40% sand
						16				
						17				
						18				
						19				
Neat Cement Grout				9.3	SB-10 @20	20				Gray, sandy silt, 40% sand, moist
						21				
						22			GM	Brown, sandy silt with gravel, 25% sand, 40% gravel, moist

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Project No: C103535061
Logged By: A. Buehler
Driller: Cascade Drilling
Drilling Method: Direct Push
Sampling Method: Acetate Liner
Casing Type: N/A
Slot Size: N/A
Gravel Pack: N/A

Client: ConocoPhillips
Location: Oakland, CA
Date Drilled: 12/21/10
Hole Diameter: 2"
Hole Depth: 20'
Well Diameter: N/A
Well Depth: N/A
First Water Depth:
Static Water Depth:

Boring/Well No: **SB-10**

Elevation:
Northing:
Easting:

Well Completion (Backfill / Casing)	Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Neat Cement Grout			0	SB-10 @25	23			ML	Brown/gray, sandy silt, 40% sand, moist
					24				
					25			SM	Brown silty sand, 50% sand, saturated
					26				
					27			CL	Brown, sandy lean clay, 10% sand, moist, very dense
					28				
					29				
			0	SB-10 @30	30				Total Depth = 30 ft
					31				
					32				
					33				
					34				
					35				
					36				
					37				
					38				
					39				
					40				
					41				
					42				
					43				
					44				

9. List of Landowners Form (1p)

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 #3538

Address: 411 WEST MACARTHUR BOULEVARD

City, State, Zip: OAKLAND, CA 94609

Record ID #: RO0000251

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, Nicole M. Arceneaux (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: Arthur Yu

   Address: 398 West MacArthur Blvd

   City, State, Zip: Oakland, CA 94609

   E-mail Address:

   Name: Kevin Ma

   Address: 398 West MacArthur Blvd

   City, State, Zip: Oakland, CA 94609

   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,

Signature of Primary Responsible Party	Printed Name	Date	E-mail Address
	Nicole Arceneaux	8/28/14	nhmz@chevron.com