

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Director



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

August 19, 2015

Ms. Nicole Arceneaux
Chevron Environmental Management Co.
Dba Chevron Corp.
6101 Bollinger Canyon Rd.
San Ramon, CA 94583
(Sent via electronic mail to:
Nicole.Arceneaux@Chevron.com)

Mr. Ed Ralston
Phillips 66 Company/
ConocoPhillips
76 Broadway
Sacramento, CA 95818
(Sent via electronic mail to
Ed.C.Ralston@p66.com)

Arthur Yu and Kevin Ma
398 West MacArthur Blvd.
Oakland, CA 94609
411 W MacArthur LLC
650 "B" Fremont Ave., #375
Los Altos, CA 94024

Subject: Case Closure for Fuel Leak Case No. RO0000251; Unocal #3538 (Chevron #351642) (Global ID # T0600101472), 411 West MacArthur Boulevard, Oakland, CA 94609

Dear Ms. Arceneaux, and Messrs. Ralston, Yu, and Ma:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25296.10[g]). The State Water Resources Control Board adopted this letter on February 20, 1997. As of March 1, 1997, the Alameda County Environmental Health (ACEH) is required to use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site. The subject fuel leak case is closed. This case closure letter and the case closure summary can also be viewed on the State Water Resources Control Board's Geotracker website (<http://geotracker.waterboards.ca.gov>) and the Alameda County Environmental Health website (<http://www.acgov.org/aceh/index.htm>).

Due to residual contamination, the site is closed with Site Management Requirements that limit future land use to the current commercial land use. Site Management Requirements are further described on Page 2 of the attached Case Closure Summary.

If you have any questions, please call Keith Nowell at (510) 567-6764. Thank you.

Sincerely,

Dilan Roe, P.E.
LOP and SCP Program Manager

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

Cc w/enc.: Susan Hugo, Alameda County Environmental Health, 1131 Harbor Bay Parkway, Alameda, CA 94502 (Sent via electronic mail to: susan.hugo@acgov.org)

Alameda County Public Works, Building Inspection Division, 399 Elmhurst Street, Room 141,
Hayward, CA 94544

Sandra Rivera, Alameda County Community Development Agency, Planning Department, 224 West
Winton Avenue, Room 111, Hayward, CA 94544 (Sent via E-mail to: sandra.rivera@acgov.org)

Mark J. Arniola, City of Oakland Public Works Environmental Services, 250 Frank H. Ogawa Plaza,
Suite 4314, Oakland, CA 94612 (Sent via E-mail to: marniola@oaklandnet.com)

Jim Harms, AECOM, 2020 L Street, Suite 400, Sacramento, CA 95811 (Sent via E-mail to:
James.Harms@aecom.com)

Case Worker (Sent via E-mail to: keith.nowell@acgov.org)
e-File, GeoTracker

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY

ALEX BRISCOE, Agency Director



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

REMEDIAL ACTION COMPLETION CERTIFICATION

August 19, 2015

Ms. Nicole Arceneaux
Chevron Environmental Management Co.
Db a Chevron Corp.
6101 Bollinger Canyon Rd.
San Ramon, CA 94583
(Sent via electronic mail to:
Nicole.Arceneaux@Chevron.com)

Mr. Ed Ralston
Phillips 66 Company/
ConocoPhillips
76 Broadway
Sacramento, CA 95818
(Sent via electronic mail to
Ed.C.Ralston@p66.com)

Arthur Yu and Kevin Ma
398 West MacArthur Blvd.
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650 "B" Fremont Ave., #375
Los Altos, CA 94024

Subject: Case Closure for Fuel Leak Case No. RO0000251; Unocal #3538 (Chevron #351642) (Global ID # T0600101472), 411 West MacArthur Boulevard, Oakland, CA 94609

Dear Responsible Parties:

This letter confirms the completion of a site investigation and remedial action for the underground storage tanks formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tank(s) are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, this agency finds that the site investigation and corrective action carried out at your underground storage tank(s) site is in compliance with the requirements of subdivisions (a) and (b) of Section 25296.10 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.3 of the Health and Safety Code and that no further action related to the petroleum release(s) at the site is required.

Please be aware that claims for reimbursement of corrective action costs submitted to the Underground Storage Tank Cleanup Fund more than 365 days after the date of this letter or issuance or activation of the Fund's Letter of Commitment, whichever occurs later, will not be reimbursed unless one of the following exceptions applies:

- Claims are submitted pursuant to Section 25299.57, subdivision (k) (reopened UST case); or
- Submission within the timeframe was beyond the claimant's reasonable control, ongoing work is required for closure that will result in the submission of claims beyond that time period, or that under the circumstances of the case, it would be unreasonable or inequitable to impose the 365-day time period.

This notice is issued pursuant to subdivision (g) of Section 25296.10 of the Health and Safety Code. Please contact our office if you have any questions regarding this matter.

Sincerely,

A handwritten signature in black ink that reads "Ronald Browder". The signature is written in a cursive, flowing style.

Ronald Browder
Acting Director

UST Case Closure Summary Form

Agency Information

Date: August 19, 2015

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

Case Information

Site Facility Name: Unocal #3538		
Site Facility Address: 411 West MacArthur Boulevard, Oakland, California 94609-2808		
RB LUSTIS Case No: 01-1597	Local Case No.: STID # 3627	LOP Case No.: RO0000251
URF Filing Date: July 21, 1989	GeoTracker Global ID: T0600101472	
APN: 12-945-46-1	Current Land Use: Commercial	
Responsible Party(s):	Address:	Phone:
411 W MacArthur LLC	650 "B" Fremont Ave., #375 Los Altos, CA 94024	----
ConocoPhillips Company / Phillips 66	76 Broadway Street Sacramento, CA 95818	916 / 558 - 7633
Arthur Yu & Kevin Ma	398 West MacArthur Blvd. Oakland, CA 94609-2808	510 / 658 - 0611
Chevron Corporation dba Chevron Environmental Management Company	6101 Bollinger Canyon Rd. San Ramon, CA 94583	925 / 790 - 6912

Tank Information

Tank No.	Size (gal)	Contents	Closed in-Place/ Removed/Active	Date
----	10,000	Gasoline	Removed	July 12, 1989
----	12,000	Gasoline	Removed	July 12, 1989
----	550	Waste oil	Removed	July 12, 1989
----	12,000	Gasoline	Removed	September 14, 1998
----	12,000	Gasoline	Removed	September 14, 1998

Conceptual Site Model (Attachment 1, 2 pages)
LTCP Checklist (Attachment 2, 2 pages)
LTCP Groundwater Specific Criteria (Attachment 3, 1 page)

UST Case Closure Summary Form

LTCP Vapor Specific Criteria (Attachment 4, 1 page)

LTCP Direct Contact and Outdoor Air Exposure Criteria (Attachment 5, 1 page)

Optional Site Map(s) (Attachment 6, 7 pages)

Analytical Data (Attachment 7, 28 pages)

Additional Information:

Site Management Requirements: 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). The case does not meet the Media Specific Criteria: Groundwater as the nearest surface water body, Broadway Branch of Glen Echo Creek, approaches to within 900 feet up gradient of the site prior to entering an underground culvert. The leading edge of the plume has not been defined; however, using the maximum plume length for TPHg as presented in the Technical Justification for Groundwater Plume Length, Indicator Constituents, Concentrations, Buffer Distances (Separation Distances) to Receptors (LTCP Guidance; SWRCB 2012), the plume length is estimated to be <1,000 feet.

No supply wells have been identified within 2,000 feet of the site.

The case does not meet the Media Specific Criteria: Direct Contact and Outdoor Air Exposure as no samples have been collected in the 0- to 5-foot zone.

Therefore, case closure is granted for the current commercial land use. If a change in land use to any residential or conservative land use, or if any redevelopment occurs, Alameda County Environmental health (ACEH) must be notified as required by Government Code Section 65850.2.2.

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.

This site is to be entered into the City of Oakland Permit Tracking System due to the residual contamination on site.

RWQCB Notification

Notification Date: 10/21/2014

RWQCB Staff Name: Cherie McCaulou	Title: Engineering Geologist
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Local Agency Representative

Prepared by: Keith Nowell	Title: Hazardous Materials Specialist
Signature: <i>Keith Nowell</i>	Date: <i>8/19/2015</i>
Approved by: Dilan Roe	Title: LOP and SCP Program Manager
Signature: <i>Dylan Roe</i>	Date: <i>8/19/2015</i>

UST Case Closure Summary Form

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. The Conceptual Site Model may not contain all available data. 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.

ATTACHMENT 1

CSM Report

[GEOTRACKER HOME](#) | [MANAGE PROJECTS](#) | [REPORTS](#) | [SEARCH](#) | [LOGOUT](#)

UNOCAL #3538 (T0600101472) - [MAP THIS SITE](#)

OPEN - ELIGIBLE FOR CLOSURE

411 WEST MACARTHUR BOULEVARD
OAKLAND, CA 94609
ALAMEDA COUNTY

[ACTIVITIES REPORT](#)
[PUBLIC WEBPAGE](#)

[VIEW PRINTABLE CASE SUMMARY FOR THIS SITE](#)

CLEANUP OVERSIGHT AGENCIES

ALAMEDA COUNTY LOP (LEAD) - CASE #: RO0000251
CASEWORKER: [KEITH NOWELL](#) - SUPERVISOR: DILAN ROE
SAN FRANCISCO BAY RWQCB (REGION 2) - CASE #: 01-1597
CASEWORKER: [Cherie McCaulou](#) - SUPERVISOR: Cheryl L. Prowell

CUF Claim #: 6707 CUF Priority Assigned: D CUF Amount Paid: \$0

CR Site ID #: NOT SPECIFIED

THIS PROJECT WAS LAST MODIFIED BY [KEITH NOWELL](#) ON 8/19/2015 5:40:36 PM - [HISTORY](#)

THIS SITE HAS SUBMITTALS. CLICK [HERE](#) TO OPEN A NEW WINDOW WITH THE SUBMITTAL APPROVAL PAGE FOR THIS SITE.

CSM REPORT - [VIEW PUBLIC NOTICING VERSION OF THIS REPORT](#)

UST CLEANUP FUND CLAIM INFORMATION (DATA PULLED FROM SCUFIIS)

CLAIM NO	PRIORITY	CLAIMANT	SITE ADDRESS	AMT REIMB TO DATE	AGE OF LOC	IMPACTED WELLS?	FIVE YEAR REVIEW INFORMATION				
							REVIEW NUM	REVIEWER	FUND RECOMMENDATION	TO OVERSIGHT DATE	TO CLAIMANT DATE
6707	D	UNION OIL COMPANY OF CALIFORNIA CHVPPK/K2232, SAN RAMON CA 94583-2324	411 MACARTHUR BLVD W OAKLAND, CA 94609				1	walter bahm	Recommended Case Closure	4/15/2014	7/14/2014

PROJECT INFORMATION (DATA PULLED FROM GEOTRACKER) - [MAP THIS SITE](#)

SITE NAME / ADDRESS	STATUS	STATUS DATE	RELEASE REPORT DATE	AGE OF CASE	CLEANUP OVERSIGHT AGENCIES
UNOCAL #3538 (Global ID: T0600101472) 411 WEST MACARTHUR BOULEVARD OAKLAND, CA 94609	Open - Eligible for Closure	12/23/2014	7/17/1989	26	ALAMEDA COUNTY LOP (LEAD) - CASE #: RO0000251 CASEWORKER: KEITH NOWELL - SUPERVISOR: DILAN ROE SAN FRANCISCO BAY RWQCB (REGION 2) - CASE #: 01-1597 CASEWORKER: Cherie McCaulou - SUPERVISOR: Cheryl L. Prowell

STAFF NOTES (INTERNAL)

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 Alameda County Environmental Health website at <https://ehgis.acgov.org/dehpublic/dehpublic.jsp>.

SITE HISTORY

The site is a former service station property. The property has perimeter fencing and the vacant service station building remains. Due to residual contamination, the site is closed with Site Management Requirements that limit future land use to the current commercial land use.

In July 1989 one 10,000-gallon and one 12,000-gallon gasoline USTs removed and replaced. One 550-gallon waste-oil UST was also removed. Soil samples were collected from 450 yd3 of stockpiled soil that were present at the site. September 6 and 7, 1989 four monitoring wells were installed on-site.

In September 1998, two 12,000-gallon gasoline USTs and associated dispensers and product piping were removed from the site. Soil samples collected indicated petroleum hydrocarbon impact. Groundwater was not encountered during the tank removal.

Groundwater samples collected from the March 2006 borings had maximum detected concentrations of 13,000 ppb TPHg, 510 ppb benzene and 340 ppb MTBE. Grab groundwater samples reported up to 9,500 ug/L TPHg and 430 ug/L benzene in a 2011 investigation.

Based on the bioattenuation zone thickness and the distance to nearby receptors, a determination has been made the site meets the LTCP closure criteria.

RESPONSIBLE PARTIES

NAME	ORGANIZATION	ADDRESS	CITY	EMAIL
411 W MACARTHUR LLC	411 W MACARTHUR LLC	650 FREMONT AVE., #375	LOS ALTOS	
ARTHUR & KEVIN YU & MA	NA	398 West MacArthur Blvd.	Oakland	
ED RALSTON	PHILIPS 66	76 BROADWAY	SACRAMENTO	ed.c.ralston@p66.com
ED RALSTON	CONOCO PHILLUPS	76 BROADWAY	SACRAMENTO	
NICOLE ARCENEUX	CHEVRON ENV. MANAGEMENT CO.	6101 BOLLINGER CANYON RD., RM 5303	SAN RAMON	nicole.arceneux@chevron.com

CLEANUP ACTION INFO

ACTION TYPE	BEGIN DATE	END DATE	PHASE	CONTAMINANT MASS REMOVED	DESCRIPTION
EXCAVATION	10/1/1998	10/31/1998	Soil		
EXCAVATION	9/14/1998	9/14/1998	Soil		380 cu yds soil excavated and disposed at an offsite location.
EXCAVATION	7/12/1989	7/18/1989	Soil		

RISK INFORMATION		VIEW LTCP CHECKLIST	VIEW PATH TO CLOSURE PLAN	VIEW CASE REVIEWS				
CONTAMINANTS OF CONCERN	CURRENT LAND USE	BENEFICIAL USE	DISCHARGE SOURCE	DATE REPORTED	STOP METHOD	NEARBY / IMPACTED WELLS		
Gasoline	Commercial	GW - Municipal and Domestic Supply		7/17/1989	Other Means	0		
FREE PRODUCT	OTHER CONSTITUENTS	NAME OF WATER SYSTEM	LAST REGULATORY ACTIVITY	LAST ESI UPLOAD	LAST EDF UPLOAD	EXPECTED CLOSURE DATE	MOST RECENT CLOSURE REQUEST	
NO	NO	EBMUD	5/11/2015	5/11/2015	10/29/2013	5/24/2015	9/24/2014	
CDPH WELLS WITHIN 1500 FEET OF THIS SITE								
NONE								
CALCULATED FIELDS (BASED ON LATITUDE / LONGITUDE)								
APN	GW BASIN NAME		WATERSHED NAME					
012 094504601	Santa Clara Valley - East Bay Plain (2-9.04)		South Bay - East Bay Cities (204.20)					
COUNTY	PUBLIC WATER SYSTEM(S)							
Alameda	• EAST BAY MUD - 375 ELEVENTH STREET, OAKLAND, CA 94607							
MOST RECENT CONCENTRATIONS OF PETROLEUM CONSTITUENTS IN GROUNDWATER - HIDE								
FIELD PT NAME	DATE	TPHq	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	MTBE	TBA
COMP	12/21/2010	490 UG/L	1.7 UG/L	14 UG/L	11 UG/L	43 UG/L	ND	ND
MW-1	8/1/2013	OTHER	ND	ND	ND	ND	ND	ND
MW-2	8/1/2013	OTHER	ND	ND	ND	ND	ND	ND
MW-3	8/1/2013	OTHER	ND	ND	ND	ND	5.5 UG/L	ND
MW-4	8/1/2013	OTHER	ND	ND	ND	ND	ND	ND
MW-5	8/1/2013	OTHER	ND	ND	ND	ND	1.9 UG/L	ND
MW-6	8/1/2013	OTHER	ND	ND	ND	ND	ND	ND
QA	8/1/2013	OTHER	ND	ND	ND	ND	ND	ND
SB-1	3/27/2006	OTHER	11 UG/L	ND	ND	ND	130 UG/L	28 UG/L
SB-10	12/21/2010	310 UG/L	1.8 UG/L	0.96 UG/L	12 UG/L	8.3 UG/L	ND	ND
SB-2	3/27/2006	OTHER	ND	ND	ND	ND	ND	ND
SB-3	3/27/2006	OTHER	510 UG/L	1400 UG/L	470 UG/L	2600 UG/L	340 UG/L	57 UG/L
SB-4	3/28/2006	OTHER	ND	ND	ND	ND	3.4 UG/L	ND
SB-5	3/28/2006	OTHER	44 UG/L	1.2 UG/L	63 UG/L	30 UG/L	53 UG/L	17 UG/L
SB-8	12/20/2010	2000 UG/L	ND	48 UG/L	98 UG/L	340 UG/L	ND	ND
SB-9	12/20/2010	2900 UG/L	76 UG/L	470 UG/L	100 UG/L	540 UG/L	ND	ND
TB-LB	1/28/2002	OTHER	ND	ND	ND	ND	ND	ND
MOST RECENT CONCENTRATIONS OF PETROLEUM CONSTITUENTS IN SOIL - HIDE								
FIELD PT NAME	DATE	TPHq	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	MTBE	TBA
COMP	12/21/2010	0.2 MG/KG	ND	ND	ND	ND	ND	ND
SB-1	3/27/2006	ND	ND	ND	ND	ND	ND	ND
SB-10	12/21/2010	0.47 MG/KG	ND	ND	0.047 MG/KG	0.024 MG/KG	ND	ND
SB-2	3/27/2006	ND	ND	ND	ND	ND	ND	ND
SB-3	3/27/2006	ND	0.11 MG/KG	53 MG/KG	86 MG/KG	420 MG/KG	0.64 MG/KG	0.19 MG/KG
SB-4	3/28/2006	ND	ND	ND	ND	ND	ND	ND
SB-5	3/28/2006	ND	ND	ND	ND	ND	ND	ND
SB-8	12/20/2010	520 MG/KG	ND	19 MG/KG	19 MG/KG	86 MG/KG	ND	ND
SB-9	12/20/2010	9.9 MG/KG	1.4 MG/KG	0.28 MG/KG	0.1 MG/KG	0.66 MG/KG	0.62 MG/KG	0.58 MG/KG
MOST RECENT GEO_WELL DATA - HIDE								
FIELD PT NAME	DATE	DEPTH TO WATER (FT)	SHEEN	DEPTH TO FREE PRODUCT (FT)				
MW-1	8/1/2013	18.45	N					
MW-2	8/1/2013	16.3	N					
MW-3	8/1/2013	18.02	N					
MW-4	8/1/2013	18.05	N					
MW-5	8/1/2013	17.71	N					
MW-6	8/1/2013	13.58	N					

LOGGED IN AS KNOWELL

[CONTACT GEOTRACKER HELP](#)

ATTACHMENT 2

UNOCAL #3538 (T0600101472) - [MAP THIS SITE](#)

OPEN - ELIGIBLE FOR CLOSURE

411 WEST MACARTHUR BOULEVARD
OAKLAND, CA 94609
ALAMEDA COUNTY

[ACTIVITIES REPORT](#)
[PUBLIC WEBPAGE](#)

CLEANUP OVERSIGHT AGENCIES

ALAMEDA COUNTY LOP (LEAD) - CASE #: R00000251
CASEWORKER: [KEITH NOWELL](#) - SUPERVISOR: DILAN ROE
SAN FRANCISCO BAY RWQCB (REGION 2) - CASE #: 01-1597
CASEWORKER: [Cherie McCauley](#) - SUPERVISOR: Cheryl L. Prowell

CUF Claim #: 6707 CUF Priority Assigned: D CUF Amount Paid: \$0
CR Site ID #: NOT SPECIFIED

THIS PROJECT WAS LAST MODIFIED BY [KEITH NOWELL](#) ON 8/19/2015 5:51:32 PM - [HISTORY](#)

THIS SITE HAS SUBMITTALS. CLICK [HERE](#) TO OPEN A NEW WINDOW WITH THE SUBMITTAL APPROVAL PAGE FOR THIS SITE.

CLOSURE POLICY

THIS VERSION IS FINAL AS OF 8/19/2015

CHECKLIST INITIATED ON 11/7/2013

[CLOSURE POLICY HISTORY](#)

General Criteria - The site satisfies the policy general criteria - [CLEAR SECTION ANSWERS](#)

YES

a. Is the unauthorized release located within the service area of a public water system?

Name of Water System :

EBMUD

YES NO

b. The unauthorized release consists only of petroleum ([info](#)).

YES NO

c. The unauthorized ("primary") release from the UST system has been stopped.

YES NO

d. Free product has been removed to the maximum extent practicable ([info](#)).

FP Not Encountered YES NO

e. A conceptual site model that assesses the nature, extent, and mobility of the release has been developed ([info](#)).

YES NO

f. Secondary source has been removed to the extent practicable ([info](#)).

YES NO

g. Soil or groundwater has been tested for MTBE and results reported in accordance with Health and Safety Code Section 25296.15.

Not Required YES NO

h. Does a nuisance exist, as defined by [Water Code section 13050](#).

YES NO

1. Media-Specific Criteria: Groundwater - The contaminant plume that exceeds water quality objectives is stable or decreasing in areal extent, and meets all of the additional characteristics of one of the five classes of sites listed below. - [CLEAR SECTION ANSWERS](#)

YES

EXEMPTION - Soil Only Case (Release has not Affected Groundwater - [Info](#))

YES NO

Does the site meet any of the Groundwater specific criteria scenarios?

YES NO

1.3 - The contaminant plume that exceeds water quality objectives is <250 feet in length. Free product has been removed to the maximum extent practicable, may still be present below the site where the release originated, but does not extend off-site. The plume has been stable or decreasing for a minimum of five years. The nearest existing water supply well and/or surface water body is >1,000 feet from the defined plume boundary. The property owner is willing to accept a land use restriction if the regulatory agency requires a land use restriction as a condition for closure.

YES NO

2. Media Specific Criteria: Petroleum Vapor Intrusion to Indoor Air - The site is considered low-threat for the vapor-intrusion-to-air pathway if site-specific conditions satisfy items 2a, 2b, or 2c - [CLEAR SECTION ANSWERS](#)

NO

EXEMPTION - Active Commercial Petroleum Fueling Facility

YES NO

Does the site meet any of the Petroleum Vapor Intrusion to Indoor Air specific criteria scenarios?

YES NO

ADDITIONAL QUESTIONS - Please indicate only those conditions that do not meet the policy criteria:

Soil Gas Samples :

No Soil Gas Samples Taken Incorrectly

Exposure Type :

Residential Commercial

Free Product :

In Groundwater In Soil Unknown

TPH in the Bioattenuation Zone :

≥ 100 mg/kg Unknown Soil samples not taken at two depths within 5 ft. zone (only for Scenario 4 with BioZone)

Bioattenuation Zone Thickness :

< 5 Feet (No BioZone) ≥ 5 Feet and < 10 Feet ≥ 10 Feet and < 30 Feet ≥ 30 Feet 30ft BioZone Compromised TPH > 100mg/kg Unknown

O2 Data in Bioattenuation Zone :

No O2 Data O2 < 4% O2 ≥ 4%

Benzene in Groundwater :

≥ 100 µg/l and < 1,000 µg/l ≥ 1,000 µg/l Unknown

Soil Gas Benzene :

≥ 85 µg/m³ and < 280 µg/m³ ≥ 280 µg/m³ and < 85,000 µg/m³ ≥ 85,000 µg/m³ and < 280,000 µg/m³ ≥ 280,000 µg/m³ Unknown

Soil Gas EthylBenzene :

≥ 1,100 µg/m³ and < 3,600 µg/m³ ≥ 3,600 µg/m³ and < 1,100,000 µg/m³ ≥ 1,100,000 µg/m³ and < 3,600,000 µg/m³ ≥ 3,600,000 µg/m³ Unknown

Soil Gas Naphthalene :

≥ 93 µg/m³ and < 310 µg/m³ ≥ 310 µg/m³ and < 93,000 µg/m³ ≥ 93,000 µg/m³ and < 310,000 µg/m³ ≥ 310,000 µg/m³ Unknown

3. Media Specific Criteria: Direct Contact and Outdoor Air Exposure - The site is considered low-threat for direct contact and outdoor air exposure if it meets 1, 2, or 3 below. - [CLEAR SECTION ANSWERS](#)

EXEMPTION - The upper 10 feet of soil is free of petroleum contamination YES NO

Does the site meet any of the Direct Contact and Outdoor Air Exposure criteria scenarios? YES NO

ADDITIONAL QUESTIONS - Please indicate only those conditions that do not meet the policy criteria:

Exposure Type :
 Residential Commercial Utility Worker

Petroleum Constituents in Soil :
 ≤ 5 Feet bgs >5 Feet bgs and ≤10 Feet bgs Unknown

Soil Concentrations of Benzene :
 > 1.9 mg/kg and ≤ 2.8 mg/kg > 2.8 mg/kg and ≤ 8.2 mg/kg > 8.2 mg/kg and ≤ 12 mg/kg > 12 mg/kg and ≤ 14 mg/kg > 14 mg/kg Unknown

Soil Concentrations of EthylBenzene :
 > 21 mg/kg and ≤ 32 mg/kg > 32 mg/kg and ≤ 89 mg/kg > 89 mg/kg and ≤ 134 mg/kg > 134 mg/kg and ≤ 314 mg/kg > 314 mg/kg Unknown

Soil Concentrations of Naphthalene :
 > 9.7 mg/kg and ≤ 45 mg/kg > 45 mg/kg and ≤ 219 mg/kg > 219 mg/kg Unknown

Soil Concentrations of PAH :
 > 0.063 mg/kg and ≤ 0.68 mg/kg > 0.68 mg/kg and ≤ 4.5 mg/kg > 4.5 mg/kg Unknown

Area of Impacted Soil :
 Area of Impacted Soil > 82 by 82 Feet Unknown

Additional Information

Should this case be closed in spite of NOT meeting policy criteria?
Explain:

The case does not meet the Media-Specific Criteria: Groundwater as the nearest surface water body, Broadway Branch of Glen Echo Creek, approaches to within 900 feet up gradient of the site prior to entering an underground culvert. The leading edge of the plume has not been defined; however, using the maximum plume length for TPHg as presented in the Technical Justification for Groundwater Plume Length, Indicator Constituents, Concentrations, Buffer Distances (Separation Distances) to Receptors (LTCP Guidance: SWRCB 2012), the plume length is estimated to be <1,000 feet. No supply wells have been identified within 2,000 feet of the site.

The case does not meet the Media Specific Criteria: Direct Contact and Outdoor Air Exposure as 1. no samples have been collected in the 0- to 5-foot zone and 2. one soil sample was analyzed for PAHs. However, a soil sample collected from beneath the WO UST did not reveal a release from the UST. Hence, the presence of PAHs is unlikely at the site. As the WO UST did not experience a release, the most likely source of naphthalene, if any, at the site would be from fuel formulation. Based on the residual benzene concentrations and the ratio of benzene to naphthalene in fuel formulations, it is unlikely residual concentrations of naphthalene would be present at levels to pose a health risk.

YES NO

Has this LTCP Checklist been updated for FY 15/16? YES NO

[SPELL CHECK](#)

LOGGED IN AS KNOWELL

[CONTACT GEOTRACKER HELP](#)

ATTACHMENT 3

ATTACHMENT 3
LTCP GROUNDWATER SPECIFIC CRITERIA

LTCP Groundwater Specific Scenario under which case was closed: Scenario 5

Site Data		LTCP Scenario 1 Criteria	LTCP Scenario 2 Criteria	LTCP Scenario 3 Criteria	LTCP Scenario 4 Criteria
Plume Length	Unknown	<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	>1,000 feet	>250 feet	>1,000 feet	>1,000 feet	>1,000 feet
Distance to Nearest Surface Water and Direction	900 feet up gradient >1,000 feet down gradient	>250 feet	>1,000 feet	>1,000 feet	>1,000 feet
Property Owner Willing to Accept a Land Use Restriction?	Not applicable	Not applicable	Not applicable	Yes	Not applicable

GROUNDWATER CONCENTRATIONS

Constituent	Historic Site Maximum (µg/L)	Current Site Maximum (µg/L)	LTCP Scenario 1 Criteria (µg/L)	LTCP Scenario 2 Criteria (µg/L)	LTCP Scenario 3 Criteria (µg/L)	LTCP Scenario 4 Criteria (µg/L)
Benzene	1,300	0.30	No criteria	<3,000	No criteria	<1,000
MTBE	4,800	7.2	No criteria	<1,000	No criteria	<1,000
Gasoline	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

Attachment 3 Comments: This case does not meet the Media-Specific Criteria- Groundwater: as the nearest surface water body, the Broadway Branch of Glen Echo Creek, approaches to within 900 feet up gradient of the site prior to entering an underground culvert. ACEH has made a determination that the more than 800-foot buffer between the contaminant plume and the creek would be protective of the surface water body. The leading edge of the plume has not been defined. However, using the maximum plume length for TPHg as presented in the Technical Justification for Groundwater Plume Length, Indicator Constituents, Concentrations, Buffer Distances (Separation Distances) to Receptors (LTCP Guidance; SWRCB 2012), the plume length is estimated to be <1,000 feet and no supply wells have been identified within 2,000 feet of the site.

ATTACHMENT 4

**ATTACHMENT 4
LTCP VAPOR SPECIFIC CRITERIA**

LTCP Vapor Specific Scenario under which case was closed: 3A

Active Fueling Station	Not applicable						
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 LNAPL	No LNAPL	LNAPL in groundwater	LNAPL in soil	No LNAPL	No LNAPL	No LNAPL	No criteria
Thickness of Bioattenuation Zone Beneath Foundation	> 5 feet	≥30 feet	≥30 feet	≥5 feet	≥10 feet	≥5 feet	≥5 feet
Total TPH in Soil in Bioattenuation Zone	<100 mg/kg	<100 mg/kg	<100 mg/kg	<100 mg/kg	<100 mg/kg	<100 mg/kg	<100 mg/kg
Maximum Current Benzene Concentration in Groundwater	< 0.30 µg/L	No criteria	No criteria	<100 µg/L	≥100 and <1,000 µg/L	<1,000 µg/L	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 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 (µg/m ³)	Current Maximum (µg/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?

Attachment 4 Comments: ----

ATTACHMENT 5

**ATTACHMENT 5
LTCP DIRECT CONTACT AND OUTDOOR AIR EXPOSURE CRITERIA**

LTCP Direct Contact and Outdoor Air Exposure Specific Scenario under which case was closed: This case should be closed in spite of not meeting the vapor specific media criteria.

Are maximum concentrations less than those in Table 1 below?

No

Constituent		Residential		Commercial/Industrial		Utility Worker
		0 to 5 feet bgs (mg/kg)	Volatilization to outdoor air (5 to 10 feet bgs) mg/kg	0 to 5 feet bgs (mg/kg)	Volatilization to outdoor air (5 to 10 feet bgs) mg/kg	0 to 10 feet bgs (mg/kg)
Site Maximum	Benzene	----	0.71 (P4 @ 10')	----	0.71 (P4 @ 10')	0.71 (P4 @ 10')
LTCP Criteria	Benzene	≤1.9	≤2.8	≤8.2	≤12	≤14
Site Maximum	Ethylbenzene	----	6.8 (P4 @ 10')	----	6.8 (P4 @ 10')	6.8 (P4 @ 10')
LTCP Criteria	Ethylbenzene	≤21	≤32	≤89	≤134	≤314
Site Maximum	Naphthalene	----	<0.10 (WO1)	----	<0.10 (WO1)	<0.10 (WO1)
LTCP Criteria	Naphthalene	≤9.7	≤9.7	≤45	≤45	≤219
Site Maximum	PAHs	----	<0.10 (WO1)	----	<0.10 (WO1)	<0.10 (WO1)
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?

Attachment 5 Comments: The case does not meet the Media Specific Criteria: Direct Contact and Outdoor Air Exposure as no samples have been collected in the 0- to 5-foot zone. One soil sample, collected from beneath the WO UST (WO1 at 8.5'), was analyzed for PAHs. WO1 analytical results did not reveal a release from the WO UST. Hence, the presence of significant concentrations of PAHs is unlikely at the site. Additionally, as the WO UST did not experience a release, the most likely potential source of naphthalene, if any, at the site would be from fuel formulation. Based on the residual benzene concentrations and the ratio of benzene to naphthalene in fuel formulations, it is unlikely residual concentrations of naphthalene would be present at levels that would pose a health risk.

ATTACHMENT 6

GEOTRACKER

MAP LAYERS

- Leaking Underground Tank (LUST) Cleanup Sites
- Other Cleanup Sites
- Land Disposal Sites
- Military Sites
- WDR Sites
- Non-Case Information
- Irrigated Lands Regulatory Program
- Permitted Underground Storage Tank (UST) Facilities
- Injection Wells
- Sampling Points
- Field Points
- DTSC Cleanup Sites
- DTSC Haz Waste Permit
- DWR Groundwater Basins - [INFO](#)
- Public Water Systems - [INFO](#)

SIGNIFIES A CLOSED SITE

CLEANUP STATUS FILTER

All Cleanup Statuses

ONLY SHOW SITES WITH LAND USE RESTRICTIONS

[Measure a Distance](#)

Enter an address

Map Address

UNOCAL #3538 (T0600101472)
411 WEST MACARTHUR BOULEVARD
Oakland, CA 94609

LUST Cleanup Site

Cleanup Status: Open - Eligible for Closure

RB Case #: 01-1597

Loc Case #: R00000251

[HIGHLIGHT FIELD POINTS](#)

SITES CURRENTLY VISIBLE ON MAP

Map data ©2015 Google Imagery ©2015 DigitalGlobe, U.S. Geological Survey, USDA, Farm Service Agency, 100 m

100%

AECOM
AECOM
2020 L Street
Sacramento, CA 95811
916.414.5800

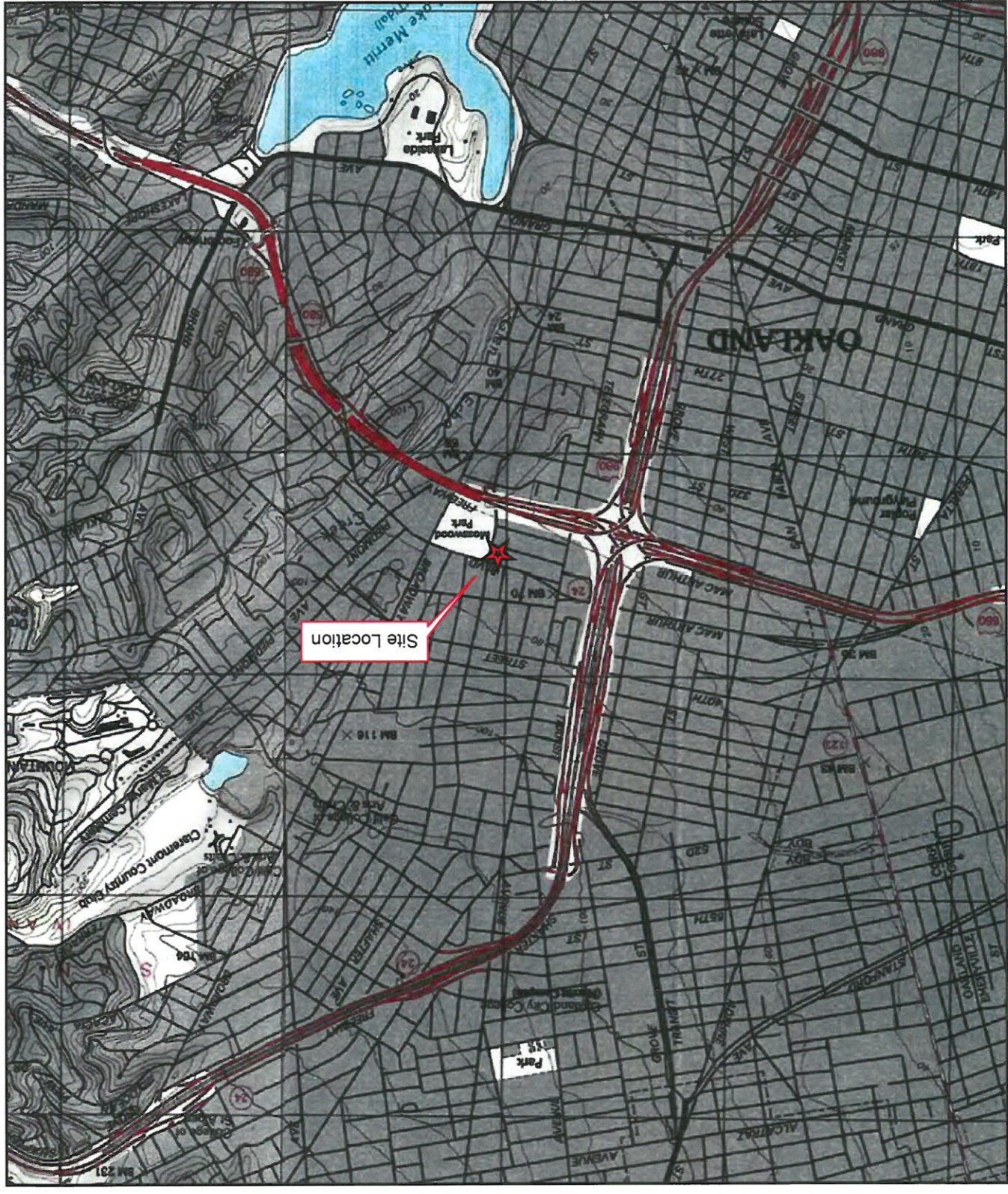


DATE: 9/9/13
DRWN: JH
Revision: 0
R0251, Unocal No. 3538 (351642)
411 West MacArthur Boulevard,
Oakland, California

Figure 1
Site Location Map



Map Source: ESRI Data Resource Center 2013.



Path: \\usscrt1fs001prod\Projects\ENV\01231-Chevron\76Products_transfer_sites\351642_3538_Oakland\7.0 Deliverables\7.2 CADD\GIS\Figure C1_proposed_MW_location_351642.mxd



AECOM
2020 L Street
Sacramento, CA 95811
916.414.5800

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

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

Site Map

Figure 3

EVERGREEN
BAPTIST
CHURCH

WEST MACARTHUR BOULEVARD

BP
STATION

DISPENSER ISLANDS
&
CANOPIES

⊕ MW-6

LEG
APP
GRO
SOIL
SOIL
SOIL
SOIL

⊕
●
●
⊗
⊕

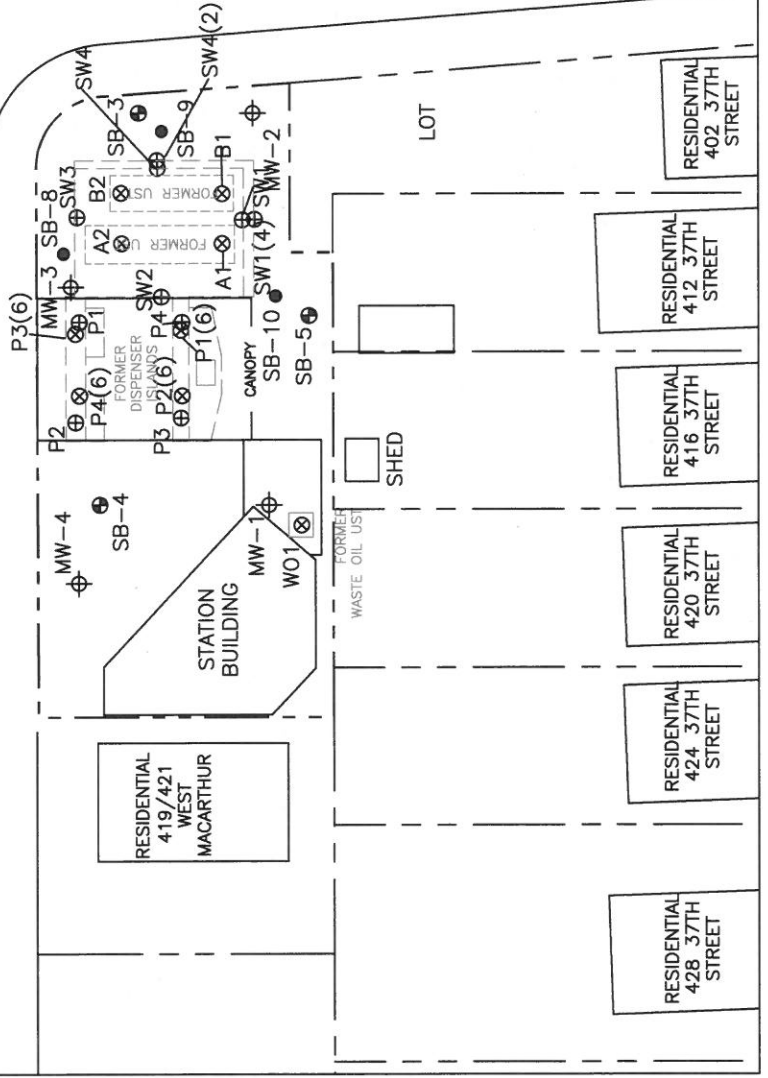
⊕ MW-5

WEBSTER STREET

PLAYGROUND

● SB-2

● SB-1

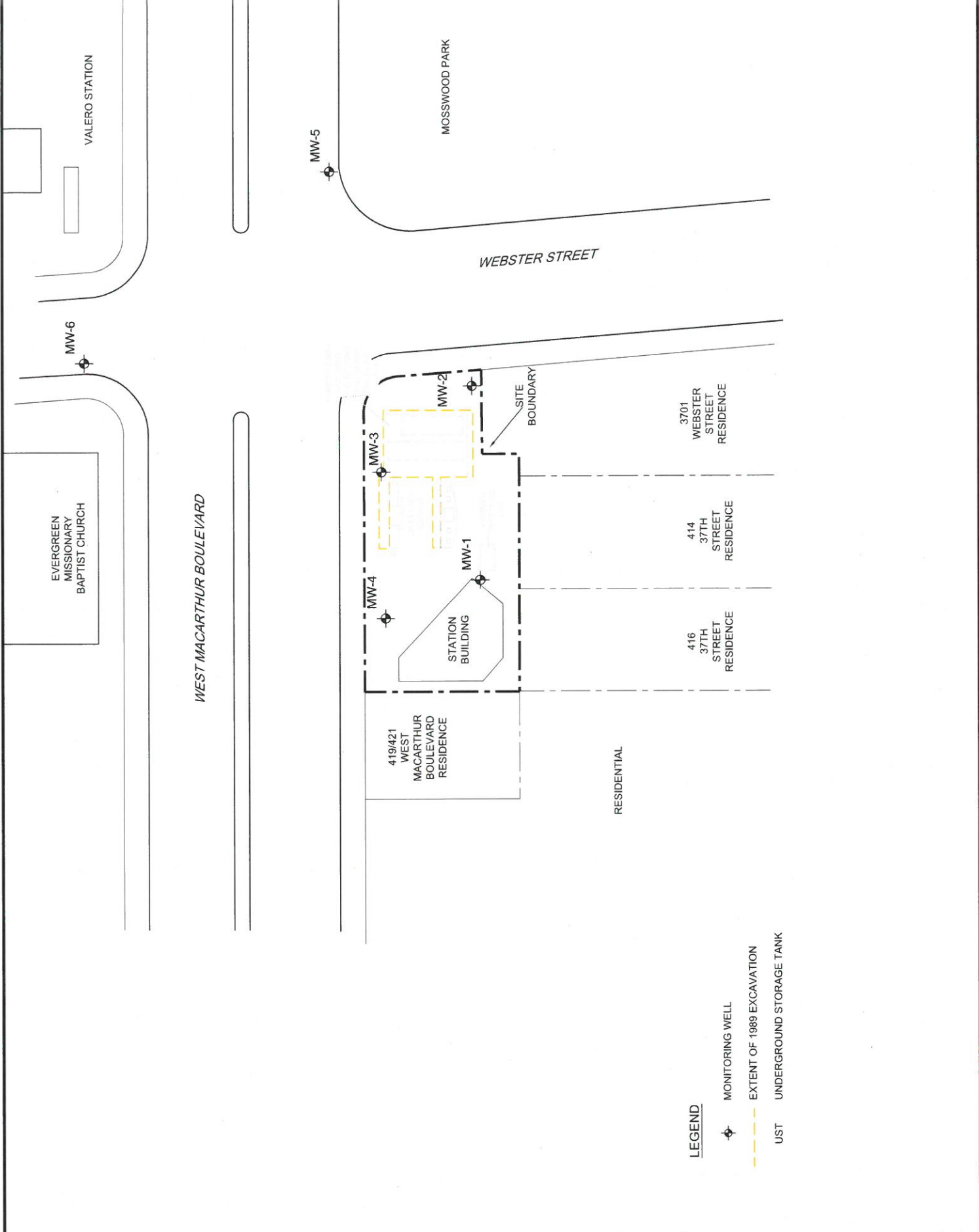


SOURCE: SF

SITE PLAN WITH

FOR
411 W

PROJECT NO. C103538	PREPARED BY CM
DATE 2/16/11	REVIEWED BY JW



LEGEND

- ✕ MONITORING WELL
- EXTENT OF 1989 EXCAVATION
- UST UNDERGROUND STORAGE TANK

WEST MACARTHUR BOULEVARD

WEBSTER STREET

MOSSWOOD PARK

VALERO STATION

EVERGREEN
MISSIONARY
BAPTIST CHURCH

419/421
WEST
MACARTHUR
BOULEVARD
RESIDENCE

STATION
BUILDING

RESIDENTIAL

3701
WEBSTER
STREET
RESIDENCE

414
37TH
STREET
RESIDENCE

416
37TH
STREET
RESIDENCE

MW-5

MW-6

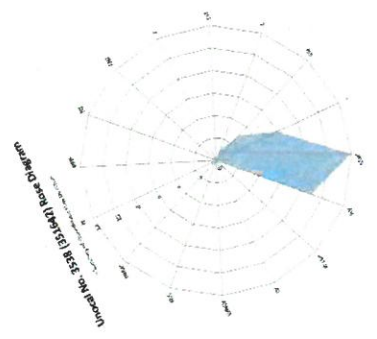
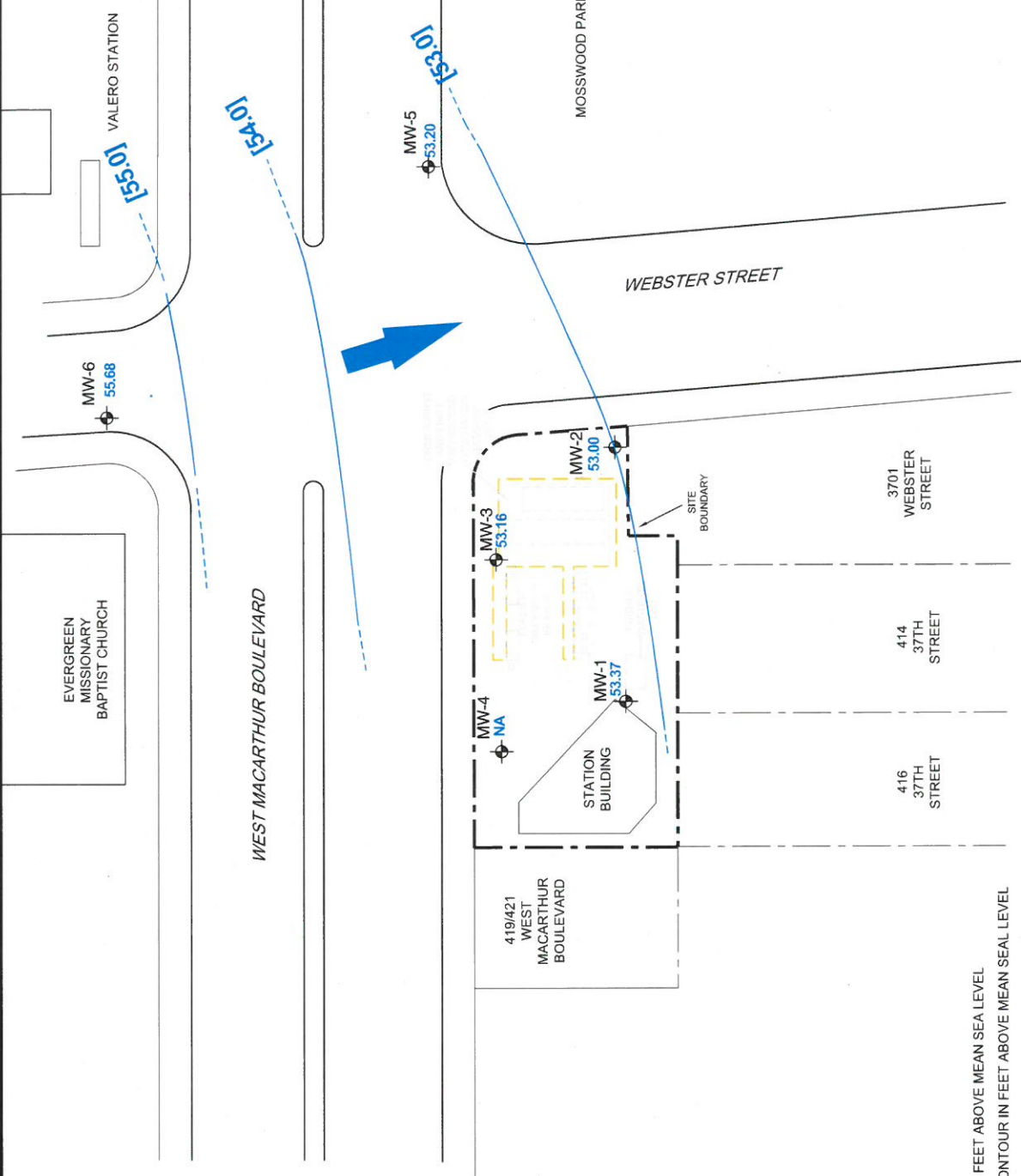
MW-3

MW-2

MW-4

MW-1

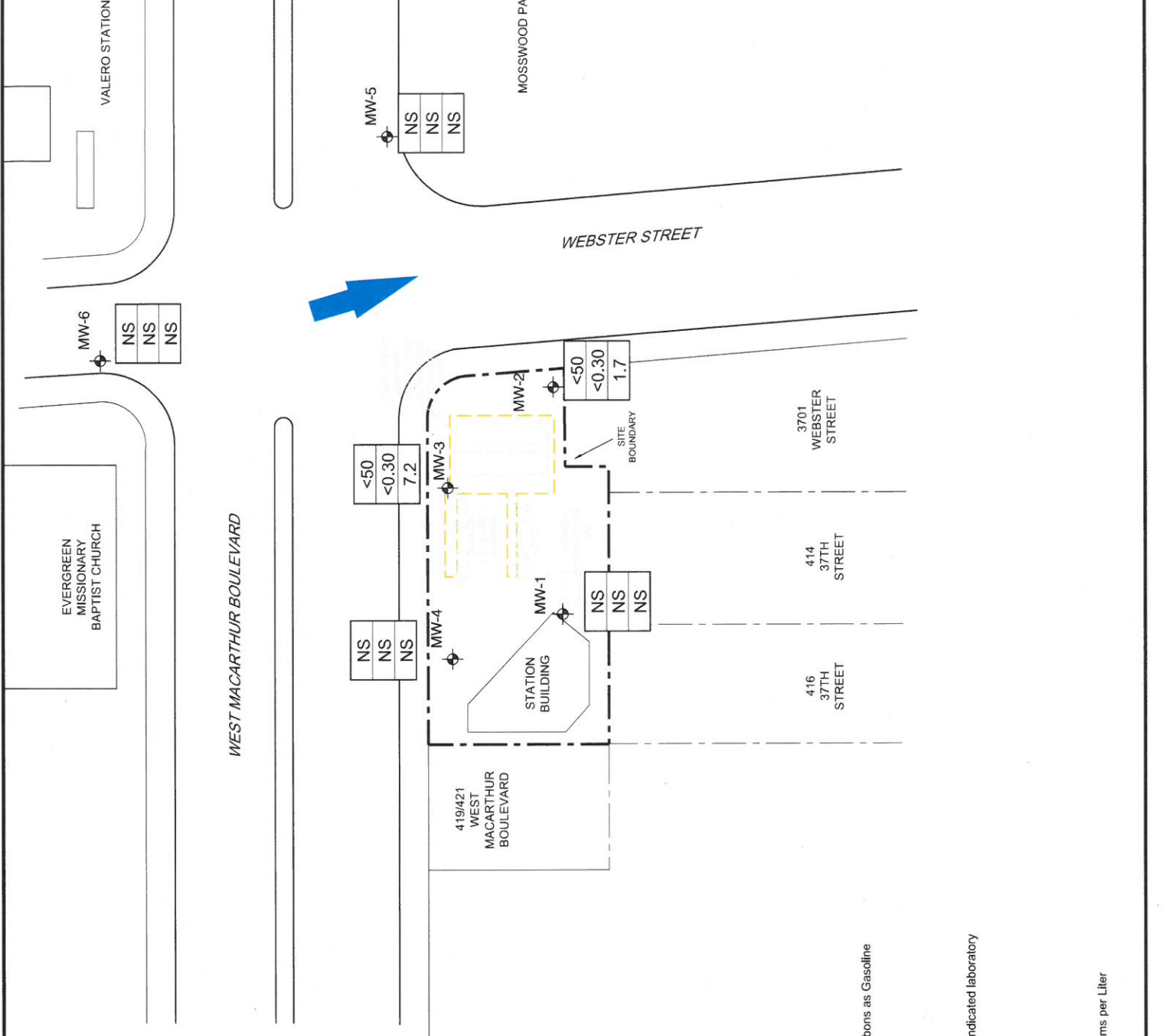
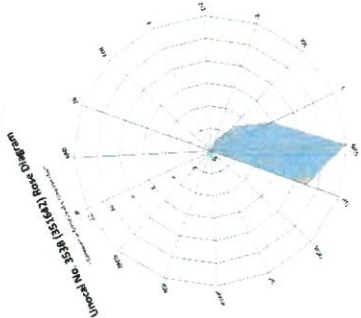
SITE
BOUNDARY



LEGEND

- ⊕ MONITORING WELL
- 53.20 GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- [54.0] GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA 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
 F/FT = feet per foot



Legend

- Monitoring Well
- Groundwater Flow Direction
- 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

ATTACHMENT 7

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	--	<0.0047	53	86	420	<0.0047	<0.0093	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.47	--	--
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	<1.0	--	<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	<1.0	--	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 = methyl 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 dichloroethane TOG = total oil and grease bold = value above reporting limit mg/kg = milligrams per kilogram



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Kaprealian Engineering, Inc.	Client Project ID: Unocal-Oakland, MacArthur & Webster	Sampled: Jul 12, 1989
P.O. Box 913	Sample Descript: Soll, WO1	Received: Jul 12, 1989
Benicia, CA 94510	Analysis Method: EPA 8270	Extracted: Jul 12, 1989
Attention: Mardo Kaprealian, P.E.	Lab Number: 907-1004	Analyzed: Jul 13, 1989
		Reported: Jul 14, 1989

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Acenaphthene.....	100.0	N.D.
Acenaphthylene.....	100.0	N.D.
Aniline.....	100.0	N.D.
Anthracene.....	100.0	N.D.
Benzidine.....	2,500.0	N.D.
Benzoic Acid.....	500.0	N.D.
Benzo(a)anthracene.....	100.0	N.D.
Benzo(b)fluoranthene.....	100.0	N.D.
Benzo(k)fluoranthene.....	100.0	N.D.
Benzo(g,h,i)perylene.....	100.0	N.D.
Benzo(a)pyrene.....	100.0	N.D.
Benzyl alcohol.....	100.0	N.D.
Bis(2-chloroethoxy)methane.....	100.0	N.D.
Bis(2-chloroethyl) ether.....	100.0	N.D.
Bis(2-chloroisopropyl) ether.....	100.0	N.D.
Bis(2-ethylhexyl) phthalate.....	500.0	N.D.
4-Bromophenyl ether.....	100.0	N.D.
Butyl benzyl phthalate.....	100.0	N.D.
4-Chloroaniline.....	100.0	N.D.
2-Chloronaphthalene.....	100.0	N.D.
4-Chloro-3-methylphenol.....	100.0	N.D.
2-Chlorophenol.....	100.0	N.D.
4-Chlorophenyl phenyl ether.....	100.0	N.D.
Chrysene.....	100.0	N.D.
Dibenz(a,h)anthracene.....	100.0	N.D.
Dibenzofuran.....	100.0	N.D.
Di-N-butyl phthalate.....	500.0	N.D.
1,3-Dichlorobenzene.....	100.0	N.D.
1,4-Dichlorobenzene.....	100.0	N.D.
1,2-Dichlorobenzene.....	100.0	N.D.
3,3-Dichlorobenzidine.....	500.0	N.D.
2,4-Dichlorophenol.....	100.0	N.D.
Diethyl phthalate.....	100.0	N.D.
2,4-Dimethylphenol.....	100.0	N.D.
Dimethyl phthalate.....	100.0	N.D.
4,6-Dinitro-2-methylphenol.....	500.0	N.D.
2,4-Dinitrophenol.....	500.0	N.D.



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Kaprealian Engineering, Inc.	Client Project ID: Unocal-Oakland, MacArthur & Webster	Sampled: Jul 12, 1989
P.O. Box 913	Sample Descript: Soil, WO1	Received: Jul 12, 1989
Benicia, CA 94510	Analysis Method: EPA 8270	Extracted: Jul 12, 1989
Attention: Mardo Kaprealian, P.E.	Lab Number: 907-1004	Analyzed: Jul 13, 1989
		Reported: Jul 14, 1989

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
2,4-Dinitrotoluene.....	100.0	N.D.
2,6-Dinitrotoluene.....	100.0	N.D.
Di-N-octyl phthalate.....	100.0	N.D.
Fluoranthene.....	100.0	N.D.
Fluorene.....	100.0	N.D.
Hexachlorobenzene.....	100.0	N.D.
Hexachlorobutadiene.....	100.0	N.D.
Hexachlorocyclopentadiene.....	100.0	N.D.
Hexachloroethane.....	100.0	N.D.
Indeno(1,2,3-cd)pyrene.....	100.0	N.D.
Isophorone.....	100.0	N.D.
2-Methylnaphthalene.....	100.0	N.D.
2-Methylphenol.....	100.0	N.D.
4-Methylphenol.....	100.0	N.D.
Naphthalene.....	100.0	N.D.
2-Nitroaniline.....	100.0	N.D.
3-Nitroaniline.....	100.0	N.D.
4-Nitroaniline.....	100.0	N.D.
Nitrobenzene.....	100.0	N.D.
2-Nitrophenol.....	100.0	N.D.
4-Nitrophenol.....	500.0	N.D.
N-Nitrosodiphenylamine.....	100.0	N.D.
N-Nitroso-di-N-propylamine.....	100.0	N.D.
Pentachlorophenol.....	500.0	N.D.
Phenathrene.....	100.0	N.D.
Phenol.....	100.0	N.D.
Pyrene.....	100.0	N.D.
1,2,4-Trichlorobenzene.....	100.0	N.D.
2,4,5-Trichlorophenol.....	100.0	N.D.
2,4,6-Trichlorophenol.....	100.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL


Arthur G. Burton
Laboratory Director



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Kaprealian Engineering, Inc.	Client Project ID: Unocal-Oakland, MacArthur & Webster	Sampled: Jul 12, 1989
P.O. Box 913	Sample Descript: Soil, WO1	Received: Jul 12, 1989
Benicia, CA 94510	Analysis Method: EPA 8270 & "Open Scan"	Extracted: Jul 12, 1989
Attention: Mardo Kaprealian, P.E.	Lab Number: 907-1004	Analyzed: Jul 13, 1989
		Reported: Jul 14, 1989

SEMI-VOLATILE ORGANICS by GC/MS, TENTATIVELY IDENTIFIED COMPOUNDS

Analyte	Detection Limit $\mu\text{g}/\text{kg}$	Sample Results $\mu\text{g}/\text{kg}$
---------	--	---

No additional peaks > 250 $\mu\text{g}/\text{kg}$ were identified by the Mass Spectral Library.

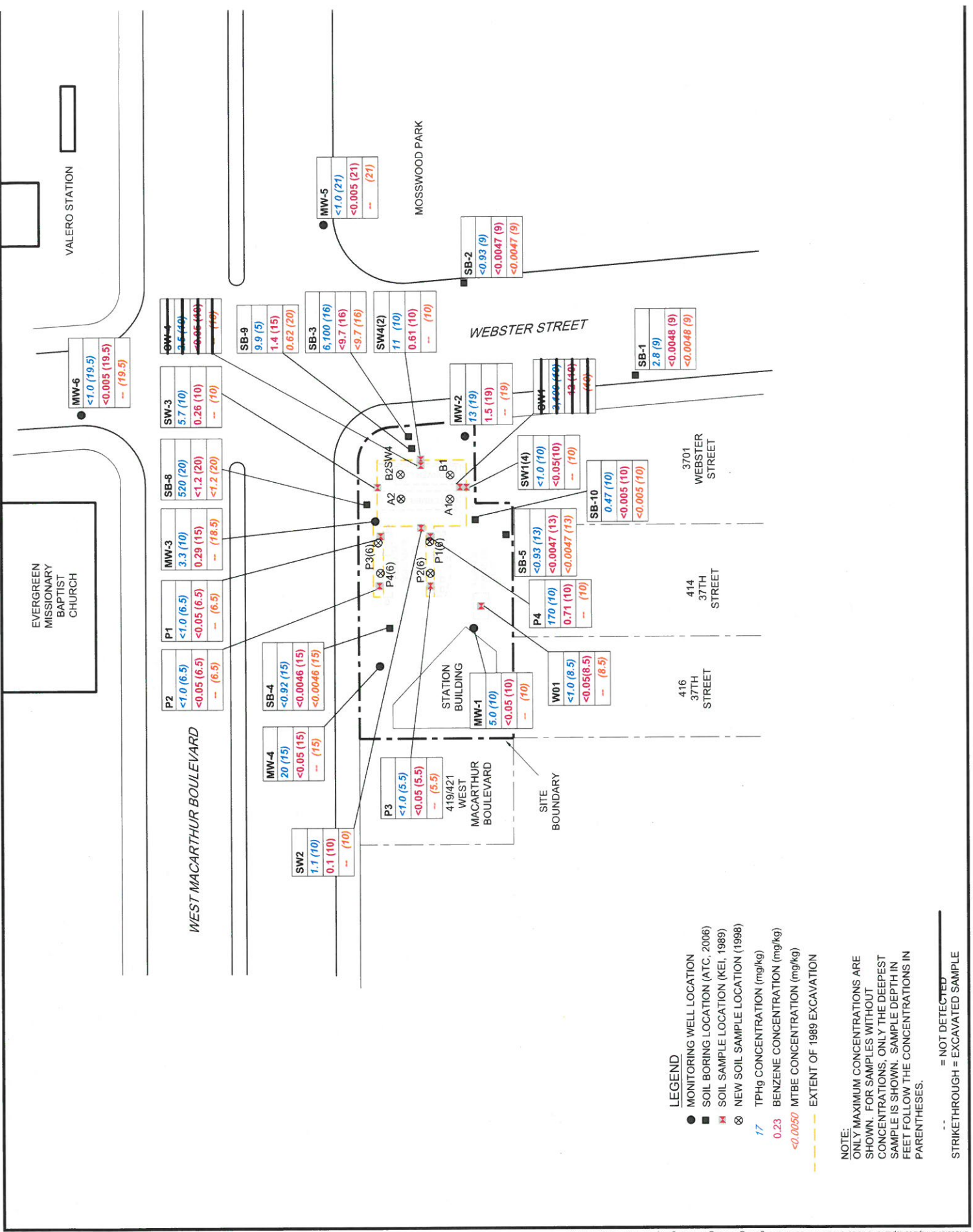
SEQUOIA ANALYTICAL


Arthur G. Burton
Laboratory Director

Please Note:

All identifications are tentative and concentrations are estimates based upon spectral comparison to the EPA/NIH library. Positive identification or specification between isomers cannot be made without retention time standards.

9071004.KEI <7>



- 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

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 petroleum hydrocarbons as gasoline TPHd = total petroleum hydrocarbons as diesel MTBE = methyl 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 dichloroethane TOG = total oil and grease ND = non detect, where reporting limit is not known
bold = value above reporting limit ug/L = micrograms per liter

Table 3
Historical Groundwater Monitoring Data and Analytical Results
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	TOC* (ft)	DTW (ft)	GWE* (ft)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
MW-1	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	ND	Sampled Annually in the Third Quarter	2.2	2.1	1.1
	7/14/1993	72.43	18.49	53.94	ND	Sampled Annually in the Third Quarter	2.2	2.1	1.1
	10/14/1993	72.10	18.32	53.78	ND	Sampled Annually in the Third Quarter	2.2	2.1	1.1
	1/12/1994	72.10	18.18	53.92	ND	Sampled Annually in the Third Quarter	2.2	2.1	1.1
	4/11/1994	72.10	17.80	54.30	ND	Sampled Annually in the Third Quarter	2.2	2.1	1.1
	7/7/1994	72.10	18.28	53.82	ND	Sampled Annually in the Third Quarter	2.2	2.1	1.1
	10/5/1994	72.10	18.55	53.55	ND	Sampled Annually in the Third Quarter	2.2	2.1	1.1
	1/9/1995	72.10	17.90	54.20	ND	Sampled Annually in the Third Quarter	2.2	2.1	1.1
	4/17/1995	72.10	17.22	54.88	ND	Sampled Annually in the Third Quarter	2.2	2.1	1.1
	7/19/1995	72.10	18.03	54.07	ND	Sampled Annually in the Third Quarter	2.2	2.1	1.1
	10/26/1995	72.10	18.67	53.43	ND	Sampled Annually in the Third Quarter	2.2	2.1	1.1
	1/16/1996	72.10	17.20	54.90	ND	Sampled Annually in the Third Quarter	2.2	2.1	1.1
	4/15/1996	72.10	17.40	54.70	ND	Sampled Annually in the Third Quarter	2.2	2.1	1.1
	7/11/1996	72.10	18.03	54.07	ND	Sampled Annually in the Third Quarter	2.2	2.1	1.1
	1/17/1997	72.10	16.54	55.56	ND	Sampled Annually in the Third Quarter	2.2	2.1	1.1
	7/21/1997	72.10	18.16	53.94	ND	Sampled Annually in the Third Quarter	2.2	2.1	1.1
	1/14/1998	72.10	16.05	56.05	ND	Sampled Annually in the Third Quarter	2.2	2.1	1.1
	7/6/1998	72.10	16.46	55.64	ND	Sampled Annually in the Third Quarter	2.2	2.1	1.1
	1/13/1999	72.10	17.37	54.73	ND	Sampled Annually in the Third Quarter	2.2	2.1	1.1
	8/31/1999	72.12	17.00	55.12	ND	Sampled Annually in the Third Quarter	2.2	2.1	1.1
	1/21/2000	72.12	17.04	55.08	ND	Sampled Annually in the Third Quarter	2.2	2.1	1.1
	7/10/2000	72.12	18.10	54.02	ND	Sampled Annually in the Third Quarter	2.2	2.1	1.1

Table 3
Historical Groundwater Monitoring Data and Analytical Results
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	TOC* (ft)	DTW (ft)	GWE* (ft)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
MW-1 cont.	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
	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
	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
	2/4/2004	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
	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
	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
	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
	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
	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
	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
3/30/2011	72.12	16.68	55.44	Sampled Annually in the Third Quarter					
9/6/2011	72.12	18.36	53.76	<50	<0.30	<0.30	<0.30	<0.60	
02/03/2012	72.12	18.02	54.10	Sampled Annually in the Third Quarter					
8/17/2012	72.12	18.50	53.62	<50	<0.30	<0.30	<0.30	<0.60	
2/14/2013	72.12	17.98	54.14	Sampled Annually in the Third Quarter					
8/1/2013	72.12	18.45	53.67	<50	<0.30	<0.30	<0.30	<0.60	
2/5/2014	72.12	18.75	53.37	Sampled Annually in the Third Quarter					
MW-2	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

Table 3
Historical Groundwater Monitoring Data and Analytical Results
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	TOC* (ft)	DTW (ft)	GWE* (ft)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
	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
	7/14/1993	71.63	18.38	53.25	110	6.5	ND	ND	1.1
	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
	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
	7/11/1996	71.38	17.98	53.40	540	34	ND	4.3	12
	1/17/1997	71.38	17.08	54.30	320	63	2.4	9.4	26
	7/21/1997	71.38	18.06	53.32	160	13	ND	1.3	1.6
	1/14/1998	71.38	16.52	54.86	66	6.3	ND	ND	0.98
	7/6/1998	71.38	16.87	54.51	ND	2.3	ND	ND	ND
MW-2 cont.	1/13/1999	71.38	17.88	53.50	53	24	ND	0.52	0.98

Table 3
Historical Groundwater Monitoring Data and Analytical Results
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	TOC* (ft)	DTW (ft)	GWE* (ft)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
	8/31/1999	71.34	18.45	52.89	86	14	ND	0.63	ND
	1/21/2000	71.34	17.73	53.61	ND	1.94	ND	ND	ND
	7/10/2000	71.34	18.14	53.20	ND	ND	ND	ND	ND
	1/4/2001	71.34	18.02	53.32	ND	0.925	ND	ND	ND
	7/16/2001	71.34	18.02	53.32	ND	ND	ND	ND	ND
	1/28/2002	71.34	17.57	53.77	<50	<0.50	<0.50	<0.50	<0.50
	7/12/2002	71.34	18.05	53.29	<50	<0.50	<0.50	<0.50	<0.50
	1/14/2003	71.34	17.44	53.90	<50	<0.50	<0.50	<0.50	<0.50
	7/10/2003	71.34	--	--	--	--	--	--	--
	2/4/2004	71.34	17.22	54.12	<50	<0.50	<0.50	<0.50	<0.50
	7/29/2004	71.34	--	--	--	--	--	--	--
	3/2/2005	71.34	16.63	54.71	99	26	<0.50	3.5	2.8
	9/30/2005	71.34	17.94	53.40	<50	1.2	<0.30	<0.30	<0.60
	3/23/2006	71.34	16.74	54.60	<50	3.6	<0.30	0.35	<0.60
	9/26/2006	71.34	17.91	53.43	<50	1.2	<0.30	<0.30	<0.60
	3/15/2007	71.34	17.45	53.89	110	6.5	<0.30	0.70	<0.60
	9/27/2007	71.34	18.23	53.11	<50	<0.30	<0.30	<0.30	<0.60
	3/27/2008	71.34	17.77	53.57	<50	1.8	<0.30	<0.30	<0.60
	9/17/2008	71.34	18.06	53.28	<50	1.6	<0.30	<0.30	<0.60
	3/27/2009	71.34	17.43	53.91	<50	3.5	<0.30	<0.30	<0.60
	9/17/2009	71.34	18.01	53.33	<50	2.7	<0.30	<0.30	<0.60
	3/23/2010	71.34	17.47	53.87	<50	0.68	<0.30	<0.30	<0.60
	9/21/2010	71.34	18.41	52.93	69	1.6	<0.30	<0.30	<0.60
	3/30/2011	71.34	16.58	54.76	<50	<0.30	<0.30	<0.30	<0.60
	9/6/2011	71.34	18.14	53.20	<50	<0.30	<0.30	<0.30	<0.60
	2/3/2012	71.34	17.97	53.37	<50	<0.30	<0.30	<0.30	<0.60
	8/17/2012	71.34	18.20	53.14	57	1.2	<0.30	<0.30	<0.60
	2/14/2013	71.34	17.88	53.46	<50	<0.30	<0.30	<0.30	<0.60
	8/1/2013	71.34	16.30	55.04	<50	<0.30	<0.30	<0.30	<0.60
MW-2 cont.	2/5/2014	71.34	18.34	53.00	<50	<0.30	<0.30	<0.30	<0.60

Table 3
Historical Groundwater Monitoring Data and Analytical Results
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	TOC* (ft)	DTW (ft)	GWE* (ft)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
MW-3	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
	7/14/1993	72.06	18.54	53.52	6300	190	ND	430	1000
	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	
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	
7/11/1996	71.86	18.19	53.67	13000	69	5.5	430	900	
1/17/1997	71.86	17.23	54.63	4400	25	ND	270	580	
7/21/1997	71.86	18.29	53.57	9000	36	ND	450	800	

MW-3 cont.

Table 3
Historical Groundwater Monitoring Data and Analytical Results
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	TOC* (ft)	DTW (ft)	GWE* (ft)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
	1/14/1998	71.86	16.71	55.15	7100	40	ND	380	360
	7/6/1998	71.86	17.03	54.83	6800	39	ND	320	360
	1/13/1999	71.86	18.00	53.86	1800	9.4	ND	58	36
	8/31/1999	71.40	--	--	--	--	--	--	--
	1/21/2000	71.40	17.58	53.82	ND	ND	ND	ND	ND
	7/10/2000	71.40	18.05	53.35	ND	ND	ND	ND	ND
	8/25/2000	71.40	17.82	53.58	--	--	--	--	--
	1/4/2001	71.40	18.16	53.24	ND	ND	ND	ND	ND
	7/16/2001	71.40	17.98	53.42	ND	ND	ND	ND	ND
	1/28/2002	71.40	17.84	53.56	<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	7/12/2002	71.40	17.87	53.53	<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	1/14/2003	71.40	17.28	54.12	<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	7/10/2003	71.40	17.64	53.76	<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	2/4/2004	71.40	17.05	54.35	<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	7/29/2004	71.40	17.82	53.58	<50	<0.30	<0.30	<0.30	<0.60
	3/2/2005	71.40	16.47	54.93	93	<0.50	<0.50	<0.50	<0.50
	9/30/2005	71.40	17.79	53.61	65	<0.30	<0.30	<0.30	<0.60
	3/23/2006	71.40	16.61	54.79	54	<0.30	0.41	ND<0.30	0.98
	9/26/2006	71.40	17.77	53.63	51	<0.30	<0.30	<0.30	<0.60
	3/15/2007	71.40	17.27	54.13	140	<0.30	<0.30	<0.30	<0.60
	9/27/2007	71.40	18.48	52.92	<50	<0.30	<0.30	<0.30	<0.60
	3/27/2008	71.40	17.67	53.73	<50	<0.30	<0.30	<0.30	<0.60
	9/17/2008	71.40	17.91	53.49	56	<0.30	<0.30	<0.30	<0.60
	3/27/2009	71.40	17.34	54.06	<50	<0.30	<0.30	<0.30	<0.60
	9/17/2009	71.40	17.88	53.52	<50	<0.30	<0.30	<0.30	<0.60
	3/23/2010	71.40	17.33	54.07	<50	<0.30	<0.30	<0.30	<0.60
	9/21/2010	71.40	18.28	53.12	69	<0.30	<0.30	<0.30	<0.60
	3/30/2011	71.40	16.50	54.90	110	<0.30	<0.30	<0.30	<0.60
	9/6/2011	71.40	18.03	53.37	<50	<0.30	<0.30	<0.30	<0.60
	2/3/2012	71.40	17.83	53.57	<50	<0.30	<0.30	<0.30	<0.60
	8/17/2012	71.40	18.07	53.33	<50	<0.30	<0.30	<0.30	<0.60

MW-3 cont.

Table 3
Historical Groundwater Monitoring Data and Analytical Results
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	TOC* (ft)	DTW (ft)	GWE* (ft)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
	2/14/2013	71.40	17.72	53.68	<50	<0.30	<0.30	<0.30	<0.60
	8/1/2013	71.40	18.02	53.38	<50	<0.30	<0.30	<0.30	<0.60
	2/5/2014	71.40	18.24	53.16	<50	<0.30	<0.30	<0.30	<0.60
MW-4	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	ND	Sampled Annually in the Third Quarter	ND	ND	ND
	7/14/1993	71.98	18.31	53.67	ND	ND	ND	ND	ND
	10/14/1993	71.64	18.08	53.56	ND	Sampled Annually in the Third Quarter	ND	ND	ND
	1/12/1994	71.64	17.97	53.67	ND	Sampled Annually in the Third Quarter	ND	ND	ND
	4/11/1994	71.64	17.70	53.94	ND	Sampled Annually in the Third Quarter	ND	ND	ND
	7/7/1994	71.64	17.80	53.84	ND	ND	ND	ND	ND
	10/5/1994	71.64	18.28	53.36	ND	Sampled Annually in the Third Quarter	ND	ND	ND
	1/9/1995	71.64	17.38	54.26	ND	Sampled Annually in the Third Quarter	ND	ND	ND
	4/17/1995	71.64	17.21	54.43	ND	Sampled Annually in the Third Quarter	ND	ND	ND
	7/19/1995	71.64	17.82	53.82	ND	ND	ND	ND	ND
	10/26/1995	71.64	18.17	53.47	ND	Sampled Annually in the Third Quarter	ND	ND	ND
	1/16/1996	71.64	16.45	55.19	ND	Sampled Annually in the Third Quarter	ND	ND	ND
	4/15/1996	71.64	17.35	54.29	ND	Sampled Annually in the Third Quarter	ND	ND	ND
MW-4 cont.	7/11/1996	71.64	17.81	53.83	ND	ND	ND	ND	ND
	1/17/1997	71.64	16.73	54.91	ND	Sampled Annually in the Third Quarter	ND	ND	ND
	7/21/1997	71.64	17.91	53.73	ND	ND	ND	ND	ND
	1/14/1998	71.64	16.18	55.46	ND	Sampled Annually in the Third Quarter	ND	ND	ND
	7/6/1998	71.64	16.49	55.15	ND	ND	ND	ND	ND

Table 3
Historical Groundwater Monitoring Data and Analytical Results
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	TOC* (ft)	DTW (ft)	GWE* (ft)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
	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
	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
	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
	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
	2/4/2004	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
	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
	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
	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
	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
	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
	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
	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
	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
	2/14/2013	71.54	17.68	53.86		Sampled Annually in the Third Quarter			
	8/1/2013	71.54	18.05	53.49	<50	<0.30	<0.30	<0.30	<0.60
	2/5/2014	--	--	--		Sampled Annually in the Third Quarter			

MW-4 cont.

Table 3
Historical Groundwater Monitoring Data and Analytical Results
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	TOC* (ft)	DTW (ft)	GWE* (ft)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
MW-5	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	ND	ND	ND	ND
	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	ND	ND	ND	ND
	1/9/1995	71.23	17.13	53.25	Sampled Annually in the Third Quarter	ND	ND	ND	ND
	4/17/1995	71.23	17.05	53.25	Sampled Annually in the Third Quarter	ND	ND	ND	ND
	7/19/1995	71.23	17.59	53.25	ND	ND	ND	ND	ND
	10/26/1995	71.23	18.10	53.25	Sampled Annually in the Third Quarter	ND	ND	ND	ND
	1/16/1996	71.23	17.11	53.25	Sampled Annually in the Third Quarter	ND	ND	ND	ND
	4/15/1996	71.23	17.22	53.25	Sampled Annually in the Third Quarter	ND	ND	ND	ND
	7/11/1996	71.23	17.59	53.25	ND	ND	ND	ND	ND
	1/17/1997	71.23	16.75	53.25	Sampled Annually in the Third Quarter	ND	ND	ND	ND
7/21/1997	71.23	17.59	53.25	Sampled Annually in the Third Quarter	ND	ND	ND	ND	
1/14/1998	71.23	16.16	53.25	Sampled Annually in the Third Quarter	ND	ND	ND	ND	
7/6/1998	71.23	16.52	53.25	ND	ND	ND	ND	ND	
1/13/1999	71.23	17.62	53.25	Sampled Annually in the Third Quarter	ND	ND	ND	ND	
8/31/1999	71.16	17.76	53.25	ND	ND	ND	ND	ND	
1/21/2000	71.16	16.83	53.25	Sampled Annually in the Third Quarter	ND	ND	ND	ND	
7/10/2000	71.16	17.46	53.25	ND	ND	ND	ND	ND	
1/4/2001	71.16	17.51	53.25	Sampled Annually in the Third Quarter	ND	ND	ND	ND	
7/16/2001	71.16	17.32	53.25	ND	ND	ND	ND	ND	
1/28/2002	71.16	17.12	53.25	Sampled Annually in the Third Quarter	ND	ND	ND	ND	
7/12/2002	71.16	17.12	53.25	<50	<50	<0.50	<0.50	<0.50	
1/14/2003	71.16	16.67	53.25	Sampled Annually in the Third Quarter	<50	<0.50	<0.50	<0.50	
7/10/2003	71.16	17.39	53.25	<50	<0.50	<0.50	<0.50	<0.50	

MW-5 cont.

Table 3
Historical Groundwater Monitoring Data and Analytical Results
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	TOC* (ft)	DTW (ft)	GWE* (ft)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
	2/4/2004	71.16	16.23	53.25	Sampled Annually in the Third Quarter				
	7/29/2004	71.16	16.02	53.25	<50	<0.30	0.64	<0.30	0.79
	3/2/2005	71.16	16.43	53.25	Sampled Annually in the Third Quarter				
	9/30/2005	71.16	17.41	53.25	<50	<0.30	<0.30	<0.30	<0.60
	3/23/2006	71.16	16.37	53.25	Sampled Annually in the Third Quarter				
	9/26/2006	71.16	15.54	53.25	<50	<0.30	<0.30	<0.30	<0.60
	3/15/2007	71.16	17.20	53.25	Sampled Annually in the Third Quarter				
	9/27/2007	71.16	18.01	53.25	<50	<0.30	<0.30	<0.30	<0.60
	3/27/2008	71.16	17.57	53.25	Sampled Annually in the Third Quarter				
	9/17/2008	71.16	17.68	53.25	<50	<0.30	<0.30	<0.30	<0.60
	3/27/2009	71.16	17.14	53.25	Sampled Annually in the Third Quarter				
	9/17/2009	71.16	17.60	53.25	<50	<0.30	<0.30	<0.30	<0.60
	3/23/2010	71.16	17.84	53.25	Sampled Annually in the Third Quarter				
	9/21/2010	71.16	17.92	53.25	<50	<0.30	<0.30	<0.30	<0.60
	3/30/2011	71.16	15.87	53.25	Sampled Annually in the Third Quarter				
	9/6/2011	71.16	17.74	53.25	<50	<0.30	<0.30	<0.30	<0.60
	2/3/2012	71.16	17.69	53.25	Sampled Annually in the Third Quarter				
	8/17/2012	71.16	17.75	53.25	<50	<0.30	<0.30	<0.30	<0.60
	2/14/2013	71.16	17.51	53.25	Sampled Annually in the Third Quarter				
	8/1/2013	71.16	17.71	53.25	<50	<0.30	<0.30	<0.30	<0.60
	2/5/2014	71.16	17.96	53.25	Sampled Annually in the Third Quarter				
MW-6	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				
	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				

Table 3
Historical Groundwater Monitoring Data and Analytical Results
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	TOC* (ft)	DTW (ft)	GWE* (ft)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
	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
	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
	1/14/1998	71.44	13.65	57.79	ND	ND	ND	ND	ND
	7/6/1998	71.44	13.90	57.54	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
	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
	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
	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
	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
	2/4/2004	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
	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
	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
	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
	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

MW-6 cont.

Table 3
Historical Groundwater Monitoring Data and Analytical Results
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	TOC* (ft)	DTW (ft)	GWE* (ft)	TPH-GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
	3/27/2009	71.37	15.66	55.71	<50	Sampled Annually in the Third Quarter			
	9/17/2009	71.37	15.31	56.06	<50	<0.30	<0.30	<0.30	<0.60
	3/23/2010	71.37	15.42	55.95	<50	Sampled Annually in the Third Quarter			
	9/21/2010	71.37	15.62	55.75	<50	<0.30	<0.30	<0.30	<0.60
	3/30/2011	71.37	14.12	57.25	<50	Sampled Annually in the Third Quarter			
	09/06/2011	71.37	15.07	56.30	<50	<0.30	<0.30	<0.30	<0.60
	02/03/2012	71.37	14.88	56.49	<50	Sampled Annually in the Third Quarter			
	08/17/2012	71.37	16.08	55.29	<50	<0.30	<0.30	<0.30	<0.60
	2/14/2013	71.37	13.66	57.71	<50	Sampled Annually in the Third Quarter			
	8/1/2013	71.37	13.58	57.79	<50	<0.30	<0.30	<0.30	<0.60
	2/14/2013	71.37	15.69	55.68	Sampled Annually in the Third Quarter				

NOTES:

* TOC and GWE are in feet above mean sea level

TPH-GRO analyzed by Environmental Protection Agency Method 8015B

BTEX analyzed by Environmental Protection Agency Method 8021B

<# = Analyte not detected at or above indicated laboratory practical quantitation limit

TOC = Top of casing

ft = Feet

DTW = Depth to water

GWE = Groundwater elevation

µg/L = Micrograms per liter

ID = Identification

-- = Not available/applicable

TPH-GRO = Total Petroleum Hydrocarbons as

Gasoline/Gasoline Range Organics

B = Benzene

T = Toluene

E = Ethylbenzene

X = Total xylenes

Table 4
Historical Groundwater Analytical Results - Oxygenate Compounds
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	MTBE (µg/L)	ETHANOL (µg/L)	EDB (µg/L)	EDC (µg/L)	
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	--	--	--	--	
	4/13/1993		Sampled Annually in the Third Quarter			
	7/14/1993	--	--	--	--	
	10/14/1993		Sampled Annually in the Third Quarter			
	1/12/1994		Sampled Annually in the Third Quarter			
	4/11/1994		Sampled Annually in the Third Quarter			
	7/7/1994	--	--	--	--	
	10/5/1994		Sampled Annually in the Third Quarter			
	1/9/1995		Sampled Annually in the Third Quarter			
	4/17/1995		Sampled Annually in the Third Quarter			
	7/19/1995	--	--	--	--	
	10/26/1995		Sampled Annually in the Third Quarter			
	1/16/1996		Sampled Annually in the Third Quarter			
	4/15/1996		Sampled Annually in the Third Quarter			
	7/11/1996	ND	--	--	--	
	1/17/1997		Sampled Annually in the Third Quarter			
	7/21/1997	ND	--	--	--	
	1/14/1998		Sampled Annually in the Third Quarter			
	7/6/1998	ND	--	--	--	
	1/13/1999		Sampled Annually in the Third Quarter			
	8/31/1999	ND	--	--	--	
	1/21/2000		Sampled Annually in the Third Quarter			
	7/10/2000	ND	--	--	--	
	1/4/2001		Sampled Annually in the Third Quarter			
	7/16/2001	ND	--	--	--	
	1/28/2002		Sampled Annually in the Third Quarter			
	7/12/2002	<2.5	--	--	--	
	1/14/2003		Sampled Annually in the Third Quarter			
	7/10/2003	<2.0	--	--	--	
	2/4/2004		Sampled Annually in the Third Quarter			
	7/29/2004	<1	--	--	--	
	3/2/2005		Sampled Annually in the Third Quarter			
	9/30/2005	<1.0	--	--	--	
	3/23/2006		Sampled Annually in the Third Quarter			
9/26/2006	<1.0	--	--	--		
MW-1 cont.	3/15/2007		Sampled Annually in the Third Quarter			
	9/27/2007	<1.0	--	--	--	

Table 4
Historical Groundwater Analytical Results - Oxygenate Compounds
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	MTBE (µg/L)	ETHANOL (µg/L)	EDB (µg/L)	EDC (µg/L)
	3/27/2008		Sampled Annually in the Third Quarter		
	9/17/2008	<1.0	--	--	--
	3/27/2009		Sampled Annually in the Third Quarter		
	9/17/2009	<1.0	--	--	--
	3/23/2010		Sampled Annually in the Third Quarter		
	9/21/2010	<1.0	--	--	--
	3/30/2011		Sampled Annually in the Third Quarter		
	9/6/2011	<1.0	--	<0.50	--
	02/03/2012		Sampled Annually in the Third Quarter		
	8/17/2012	<1.0	<250	<0.50	<0.50
	2/14/2013		Sampled Annually in the Third Quarter		
	8/1/2013	<1.0	<250	<0.50	<0.50
	2/5/2014	Sampled Annually in the Third Quarter			
MW-2	9/15/1989	--	--	--	--
	1/23/1990	--	--	--	--
	4/19/1990	--	--	--	--
	7/17/1990	--	--	--	--
	10/16/1990	--	--	--	--
	1/15/1991	--	--	--	--
	4/12/1991	--	--	--	--
	7/15/1991	--	--	--	--
	10/15/1991	--	--	--	--
	1/15/1992	--	--	--	--
	4/14/1992	--	--	--	--
	7/14/1992	--	--	--	--
	10/12/1992	--	--	--	--
	1/8/1993	--	--	--	--
	4/13/1993	200	--	--	--
	7/14/1993	250	--	--	--
	10/14/1993	--	--	--	--
	1/12/1994	--	--	--	--
	4/9/1994	--	--	--	--
	4/11/1994	--	--	--	--
	7/7/1994	--	--	--	--
	10/5/1994	--	--	--	--
	1/9/1995	--	--	--	--
	4/17/1995	--	--	--	--
	7/19/1995	--	--	--	--
	10/26/1995	220	--	--	--
	1/16/1996	--	--	--	--
MW-2 cont.	4/15/1996	45	--	--	--
	7/11/1996	150	--	--	--
	1/17/1997	260	--	--	--
	7/21/1997	180	--	--	--

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WELL ID	DATE	MTBE (µg/L)	ETHANOL (µg/L)	EDB (µg/L)	EDC (µg/L)
	1/14/1998	100	--	--	--
	7/6/1998	11	--	--	--
	1/13/1999	120	--	--	--
	8/31/1999	21	--	--	--
	1/21/2000	10.1	--	--	--
	7/10/2000	46.6	--	--	--
	1/4/2001	ND	--	--	--
	7/16/2001	ND	--	--	--
	1/28/2002	<2.5	--	--	--
	7/12/2002	<2.5	--	--	--
	1/14/2003	<2.0	--	--	--
	7/10/2003	--	--	--	--
	2/4/2004	<5.0	--	--	--
	7/29/2004	--	--	--	--
	3/2/2005	<5.0	--	--	--
	9/30/2005	1.6	--	--	--
	3/23/2006	2.5	--	--	--
	9/26/2006	<1.0	--	--	--
	3/15/2007	1.7	--	--	--
	9/27/2007	<1.0	--	--	--
	3/27/2008	1.3	--	--	--
	9/17/2008	3.1	--	--	--
	3/27/2009	<1.0	--	--	--
	9/17/2009	1.1	--	--	--
	3/23/2010	<1.0	--	--	--
	9/21/2010	1.6	--	--	--
	3/30/2011	1.6	--	--	--
	9/6/2011	<1.0	--	<0.50	--
	2/3/2012	<1.0	--	<0.50	--
	8/17/2012	<1.0	<250	<0.50	<0.50
	2/14/2013	<1.0	<250	<0.50	<0.50
	8/1/2013	<1.0	<250	<0.50	<0.50
	2/5/2014	1.7	<250	<0.50	<0.50
MW-3	9/15/1989	--	--	--	--
	1/23/1990	--	--	--	--
	4/19/1990	--	--	--	--
	7/17/1990	--	--	--	--
	10/16/1990	--	--	--	--
MW-3 cont.	1/15/1991	--	--	--	--
	4/12/1991	--	--	--	--
	7/15/1991	--	--	--	--
	10/15/1991	--	--	--	--
	1/15/1992	--	--	--	--
	4/14/1992	--	--	--	--

Table 4
Historical Groundwater Analytical Results - Oxygenate Compounds
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	MTBE (µg/L)	ETHANOL (µg/L)	EDB (µg/L)	EDC (µg/L)
	7/14/1992	--	--	--	--
	10/12/1992	--	--	--	--
	1/8/1993	--	--	--	--
	4/13/1993	1400	--	--	--
	7/14/1993	860	--	--	--
	10/14/1993	--	--	--	--
	1/12/1994	--	--	--	--
	4/9/1994	--	--	--	--
	4/11/1994	--	--	--	--
	7/7/1994	--	--	--	--
	10/5/1994	--	--	--	--
	1/9/1995	--	--	--	--
	4/17/1995	--	--	--	--
	7/19/1995	--	--	--	--
	10/26/1995	4800	--	--	--
	1/16/1996	--	--	--	--
	4/15/1996	3200	--	--	--
	7/11/1996	740	--	--	--
	1/17/1997	1600	--	--	--
	7/21/1997	950	--	--	--
	1/14/1998	930	--	--	--
	7/6/1998	370	--	--	--
	1/13/1999	180	--	--	--
	8/31/1999	--	--	--	--
	1/21/2000	21.4	--	--	--
	7/10/2000	162	--	--	--
	8/25/2000	180	--	--	--
	1/4/2001	193	--	--	--
	7/16/2001	660	--	--	--
	1/28/2002	34	--	--	--
	7/12/2002	11	--	--	--
	1/14/2003	12	--	--	--
	7/10/2003	23	--	--	--
	2/4/2004	26	--	--	--
	7/29/2004	<1	--	--	--
	3/2/2005	140	--	--	--
	9/30/2005	61	--	--	--
MW-3 cont.	3/23/2006	63	--	--	--
	9/26/2006	41	--	--	--
	3/15/2007	110	--	--	--
	9/27/2007	20	--	--	--
	3/27/2008	19	--	--	--
	9/17/2008	43	--	--	--
	3/27/2009	15	--	--	--
	9/17/2009	30	--	--	--

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Historical Groundwater Analytical Results - Oxygenate Compounds
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	MTBE (µg/L)	ETHANOL (µg/L)	EDB (µg/L)	EDC (µg/L)
	3/23/2010	22	--	--	--
	9/21/2010	48	--	--	--
	3/30/2011	73	--	--	--
	9/6/2011	4.7	--	<0.50	--
	2/3/2012	8.2	--	<0.50	--
	8/17/2012	4.7	<250	<0.50	<0.50
	2/14/2013	5.1	<250	<0.50	<0.50
	8/1/2013	5.5	<250	<0.50	<0.50
	2/5/2014	7.2	<250	<0.50	<0.50
MW-4	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	--	--	--	--
	4/13/1993		Sampled Annually in the Third Quarter		
	7/14/1993	--	--	--	--
	10/14/1993		Sampled Annually in the Third Quarter		
	1/12/1994		Sampled Annually in the Third Quarter		
	4/11/1994		Sampled Annually in the Third Quarter		
	7/7/1994	--	--	--	--
	10/5/1994		Sampled Annually in the Third Quarter		
	1/9/1995		Sampled Annually in the Third Quarter		
	4/17/1995		Sampled Annually in the Third Quarter		
	7/19/1995	--	--	--	--
	10/26/1995		Sampled Annually in the Third Quarter		
	1/16/1996		Sampled Annually in the Third Quarter		
	4/15/1996		Sampled Annually in the Third Quarter		
	7/11/1996	ND	--	--	--
	1/17/1997		Sampled Annually in the Third Quarter		
	7/21/1997	ND	--	--	--
MW-4 cont.	1/14/1998		Sampled Annually in the Third Quarter		
	7/6/1998	ND	--	--	--
	1/13/1999		Sampled Annually in the Third Quarter		
	8/31/1999		Sampled Annually in the Third Quarter		
	1/21/2000		Sampled Annually in the Third Quarter		
	7/10/2000	ND	--	--	--
	1/4/2001		Sampled Annually in the Third Quarter		
	7/16/2001	ND	--	--	--
	1/28/2002		Sampled Annually in the Third Quarter		
	7/12/2002	<2.5	--	--	--

Table 4
Historical Groundwater Analytical Results - Oxygenate Compounds
Unocal No. 3538 (351642)
411 West MacArthur Boulevard
Oakland, California

WELL ID	DATE	MTBE (µg/L)	ETHANOL (µg/L)	EDB (µg/L)	EDC (µg/L)
	1/14/2003		Sampled Annually in the Third Quarter		
	7/10/2003	<2.0	--	--	--
	2/4/2004		Sampled Annually in the Third Quarter		
	7/29/2004	<1	--	--	--
	3/2/2005		Sampled Annually in the Third Quarter		
	9/30/2005	<1.0	--	--	--
	3/23/2006		Sampled Annually in the Third Quarter		
	9/26/2006	<1.0	--	--	--
	3/15/2007		Sampled Annually in the Third Quarter		
	9/27/2007	<1.0	--	--	--
	3/27/2008		Sampled Annually in the Third Quarter		
	9/17/2008	<1.0	--	--	--
	3/27/2009		Sampled Annually in the Third Quarter		
	9/17/2009	<1.0	--	--	--
	3/23/2010		Sampled Annually in the Third Quarter		
	9/21/2010	<1.0	--	--	--
	3/30/2011		Sampled Annually in the Third Quarter		
	09/06/2011	<1.0	--	<0.50	--
	02/03/2012		Sampled Annually in the Third Quarter		
	08/17/2012	<1.0	<250	<0.50	<0.50
	2/14/2013		Sampled Annually in the Third Quarter		
	8/1/2013	<1.0	<250	<0.50	<0.50
	2/5/2014	Sampled Annually in the Third Quarter			
MW-5	11/30/1992	--	--	--	--
	1/8/1993	--	--	--	--
	4/13/1993	--	--	--	--
	7/14/1993	--	--	--	--
	10/14/1993	--	--	--	--
	1/12/1994	--	--	--	--
	4/11/1994		Sampled Annually in the Third Quarter		
	7/7/1994	--	--	--	--
	10/5/1994		Sampled Annually in the Third Quarter		
MW-5 cont.	1/9/1995		Sampled Annually in the Third Quarter		
	4/17/1995		Sampled Annually in the Third Quarter		
	7/19/1995	--	--	--	--
	10/26/1995		Sampled Annually in the Third Quarter		
	1/16/1996		Sampled Annually in the Third Quarter		
	4/15/1996		Sampled Annually in the Third Quarter		
	7/11/1996	ND	--	--	--
	1/17/1997		Sampled Annually in the Third Quarter		
	7/21/1997	ND	--	--	--
	1/14/1998		Sampled Annually in the Third Quarter		
	7/6/1998	ND	--	--	--
	1/13/1999		Sampled Annually in the Third Quarter		

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Oakland, California

WELL ID	DATE	MTBE (µg/L)	ETHANOL (µg/L)	EDB (µg/L)	EDC (µg/L)
	8/31/1999	ND	--	--	--
	1/21/2000		Sampled Annually in the Third Quarter		
	7/10/2000	ND	--	--	--
	1/4/2001		Sampled Annually in the Third Quarter		
	7/16/2001	ND	--	--	--
	1/28/2002		Sampled Annually in the Third Quarter		
	7/12/2002	<2.5	--	--	--
	1/14/2003		Sampled Annually in the Third Quarter		
	7/10/2003	<2.0	--	--	--
	2/4/2004		Sampled Annually in the Third Quarter		
	7/29/2004	<1	--	--	--
	3/2/2005		Sampled Annually in the Third Quarter		
	9/30/2005	<1.0	--	--	--
	3/23/2006		Sampled Annually in the Third Quarter		
	9/26/2006	<1.0	--	--	--
	3/15/2007		Sampled Annually in the Third Quarter		
	9/27/2007	<1.0	--	--	--
	3/27/2008		Sampled Annually in the Third Quarter		
	9/17/2008	<1.0	--	--	--
	3/27/2009		Sampled Annually in the Third Quarter		
	9/17/2009	<1.0	--	--	--
	3/23/2010		Sampled Annually in the Third Quarter		
	9/21/2010	<1.0	--	--	--
	3/30/2011		Sampled Annually in the Third Quarter		
	9/6/2011	<1.0	--	<0.50	--
	2/3/2012		Sampled Annually in the Third Quarter		
	8/17/2012	<1.0	<250	<0.50	<0.50
	2/14/2013		Sampled Annually in the Third Quarter		
	8/1/2013	1.9	<250	<0.50	<0.50
	2/5/2014		Sampled Annually in the Third Quarter		
MW-6	11/30/1992	--	--	--	--
	1/8/1993	--	--	--	--
	4/13/1993	--	--	--	--
	7/14/1993	--	--	--	--
	10/14/1993	--	--	--	--
	1/12/1994	--	--	--	--
	4/11/1994		Sampled Annually in the Third Quarter		
	7/7/1994	--	--	--	--
	10/5/1994		Sampled Annually in the Third Quarter		
	1/9/1995		Sampled Annually in the Third Quarter		
	4/17/1995		Sampled Annually in the Third Quarter		
	7/19/1995	--	--	--	--
	10/26/1995		Sampled Annually in the Third Quarter		
	1/16/1996		Sampled Annually in the Third Quarter		

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	4/15/1996		Sampled Annually in the Third Quarter		
	7/11/1996	ND	--	--	--
	1/17/1997		Sampled Annually in the Third Quarter		
	7/21/1997	ND	--	--	--
	1/14/1998		Sampled Annually in the Third Quarter		
	7/6/1998	ND	--	--	--
	1/13/1999		Sampled Annually in the Third Quarter		
	8/31/1999	ND	--	--	--
	1/21/2000		Sampled Annually in the Third Quarter		
	7/10/2000	ND	--	--	--
	1/4/2001		Sampled Annually in the Third Quarter		
	7/16/2001	ND	--	--	--
	1/28/2002		Sampled Annually in the Third Quarter		
	7/12/2002	<2.5	--	--	--
	1/14/2003		Sampled Annually in the Third Quarter		
	7/10/2003	<2.0	--	--	--
	2/4/2004		Sampled Annually in the Third Quarter		
	7/29/2004	1.3	--	--	--
	3/2/2005		Sampled Annually in the Third Quarter		
	9/30/2005	1.7	--	--	--
	3/23/2006		Sampled Annually in the Third Quarter		
	9/26/2006	<1.0	--	--	--
	3/15/2007		Sampled Annually in the Third Quarter		
	9/27/2007	<1.0	--	--	--
	3/27/2008		Sampled Annually in the Third Quarter		
	9/17/2008	2.8	--	--	--
	3/27/2009		Sampled Annually in the Third Quarter		
	9/17/2009	<1.0	--	--	--
	3/23/2010		Sampled Annually in the Third Quarter		
MW-6 cont.	9/21/2010	<1.0	--	--	--
	3/30/2011		Sampled Annually in the Third Quarter		
	09/06/2011	<1.0	--	<0.50	--
	02/03/2012		Sampled Annually in the Third Quarter		
	08/17/2012	<1.0	<250	<0.50	<0.50
	2/14/2013		Sampled Annually in the Third Quarter		
	8/1/2013	<1.0	<250	<0.50	<0.50
	2/5/2014		Sampled Annually in the Third Quarter		

NOTES:

MTBE analyzed by Environmental Protection Agency Method 8021B

Ethanol, EDB, and EDC analyzed by Environmental Protection Agency Method 8260B

<# = Analyte not detected at or above indicated laboratory practical quantitation limit

-- = Not available/applicable

µg/L = Micrograms per liter

MTBE = Methyl t-butyl ether

EDB = 1,2-Dibromoethane

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WELL ID	DATE	MTBE (µg/L)	ETHANOL (µg/L)	EDB (µg/L)	EDC (µg/L)
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EDC = 1,2-Dichloroethane

ID = Identification

ND = Not detected