

ExxonMobil
Environmental Services Company
4096 Piedmont Avenue #194
Oakland, California 94611
510 547 8196 Telephone
510 547 8706 Facsimile

Jennifer C. Sedlachek
Project Manager

RECEIVED

By Alameda County Environmental Health 2:25 pm, Jan 26, 2016

ExxonMobil

25 January 2016

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

Subject: Report of Groundwater Monitoring, Fourth Quarter 2015
Former Exxon RAS #70234
3450 35th Avenue, Oakland, California
ACHCSA File No. RO0002515

Dear Mr. Nowell:

Attached for your review and comment is a copy of the *Report of Groundwater Monitoring, Fourth Quarter 2015* for the above-referenced site. The document, prepared by ETIC Engineering, Inc. of Pasadena, California, details the results of the December 2015 sampling event.

Upon information and belief, I declare, under penalty of perjury, that the information contained in the attached document is true and correct.

If you have any questions or comments, please contact me at (510) 547-8196.

Sincerely,



Jennifer C. Sedlachek
Project Manager

Attachment: ETIC's Fourth Quarter 2015 Groundwater Monitoring Report

- c: w/ attachment:
Mr. Zack Spencer, FWS Highland LLC, 99 South Hill Drive, Brisbane, CA 94005
Mr. Shay Wideman, The Valero Companies, Environ. Liability Mgt., P.O. Box 696000, San Antonio, TX 78269
- c: w/o attachment:
Mr. Sean Bowen, ETIC Engineering, Inc.

**Report of Groundwater Monitoring
Fourth Quarter 2015**

**Former Exxon Service Station 70234
3450 35th Avenue
Oakland, California**

Prepared for

ExxonMobil Oil Corporation

Prepared by

ETIC Engineering, Inc.
898 North Fair Oaks Avenue, Suite A
Pasadena, California 91103
(626) 432-5999



Sean Bowen
Project Manager

1-25-16

Date



Ryan Haughey, P.G. #7851
Senior Project Manager

1-25-16

Date



January 2016

SITE CONTACTS

Site Name: Former Exxon Service Station 70234

Site Address: 3450 35th Avenue
Oakland, California

ExxonMobil Project Manager: Jennifer C. Sedlachek
ExxonMobil Environmental Services Company
4096 Piedmont Avenue #194
Oakland, California 94611
(510) 547-8196

Consultant to ExxonMobil: ETIC Engineering, Inc.
898 North Fair Oaks Avenue, Suite A
Pasadena, California 91103
(626) 432-5999

ETIC Project Manager: Sean Bowen

Regulatory Oversight: Keith Nowell
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577
(510) 567-6764

INTRODUCTION

ETIC Engineering, Inc. (ETIC) has prepared this semiannual groundwater monitoring report for ExxonMobil Environmental Services Company on behalf of ExxonMobil Oil Corporation (ExxonMobil) for Former Exxon Service Station 70234. This report presents the results for the most recent groundwater monitoring conducted at the site and summarizes recent site activities. This report covers site activities conducted between 13 May 2015, the date of the previous monitoring event, and 16 December 2015, the date of the most recent monitoring event. Groundwater monitoring results, well construction details, and a groundwater monitoring plan are provided in the attached figures and tables. Groundwater monitoring protocols, field data, and analytical results are provided in the attached appendixes, including groundwater data for Unocal No. 6129, located across Quigley Street southwest of site 70234.

GENERAL SITE INFORMATION

Site name:	Former Exxon Service Station 70234
Site address:	3450 35 th Avenue, Oakland, California
Current property owner:	Mr. Zack Spencer
Current site use:	Vacant
Current phase of project:	Groundwater monitoring
Number of groundwater monitoring wells:	7

GROUNDWATER MONITORING SUMMARY

Gauging and sampling date:	16 December 2015
Wells gauged and sampled:	MW4, MW5, MW6, MW7, MW8, MW9, and RW1
Wells gauged only:	None
Wells inaccessible:	None
Groundwater flow direction:	Southwest
Hydraulic gradient:	0.008
Well screens submerged:	None
Well screens not submerged:	MW4, MW5, MW6, MW7, MW8, MW9, and RW1
Liquid-phase hydrocarbons:	Not observed or detected
Laboratory:	Eurofins Calscience Environmental Laboratories, Inc., Garden Grove, California
Concurrently sampled:	Unocal No. 6129, 3420 35 th Avenue
Unocal Data provided by:	AECOM, Sacramento, California

Analyses performed:

- Total Petroleum Hydrocarbons as gasoline by EPA Method 8015B (M)
- Benzene, toluene, ethylbenzene, and xylenes by EPA Method 8260B
- Methyl tertiary butyl ether, tertiary butyl alcohol, diisopropyl ether, ethyl tertiary butyl ether, tertiary amyl methyl ether, 1,2-dibromoethane, and 1,2-dichloroethane by EPA Method 8260B

Waste disposal:

- 25 gallons of purge water was stored in a 55-gallon drum and was then delivered to Instrat, Inc. of Rio Vista, California on 16 December 2015.

ADDITIONAL ACTIVITIES PERFORMED

Submitted Addendum to the Soil and Water Investigation and Focused SCM Report documenting the installation and sampling of V6 and attempted sampling efforts.

WORK PROPOSED FOR NEXT QUARTER

In accordance with ACHCSA directives, groundwater monitoring will not be conducted in the first quarter of 2016. The next semiannual groundwater monitoring event will be conducted in the second quarter of 2016.

Attachments:

Figure 1: Site Location and Topographic Map

Figure 2: Site Map

Figure 3: Groundwater Elevation Contour Map

Figure 4: Groundwater Analytical Data

Table 1: Well Construction Details

Table 2: Current Groundwater Monitoring Data

Table 3: Historical Groundwater Monitoring Data

Table 4: Groundwater Analytical Results for Detected VOCs

Table 5: Groundwater Monitoring Plan

Appendix A: Field Protocols

Appendix B: Field Documents

Appendix C: Waste Manifests

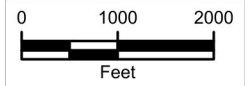
Appendix D: Laboratory Analytical Reports and Chain-of-Custody Documentation

Appendix E: Groundwater Monitoring and Sampling Data for Unocal No. 6129

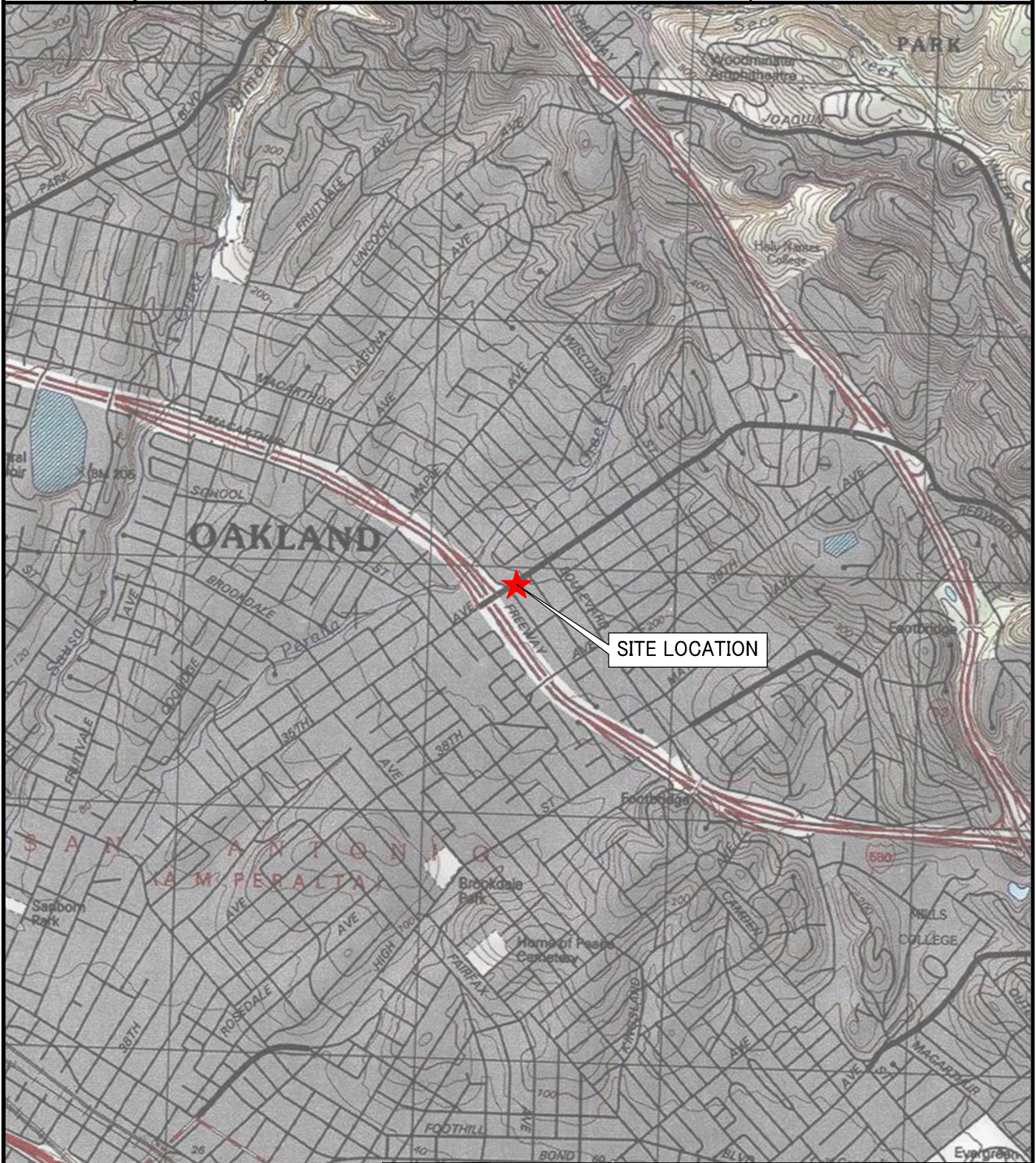
Figures




COORDINATE SYSTEM: NAD 1983 HARN CALIFORNIA TEALE ALBERS
 PROJECTION: ALBERS
 DATUM: NORTH AMERICAN 1983 HARN
 FALSE EASTING: 0.0000
 FALSE NORTHING: -4,000,000.0000
 CENTRAL MERIDIAN: -120.0000
 STANDARD PARALLEL 1: 34.0000
 STANDARD PARALLEL 2: 40.5000
 LATITUDE OF ORIGIN: 0.0000
 UNITS: METER

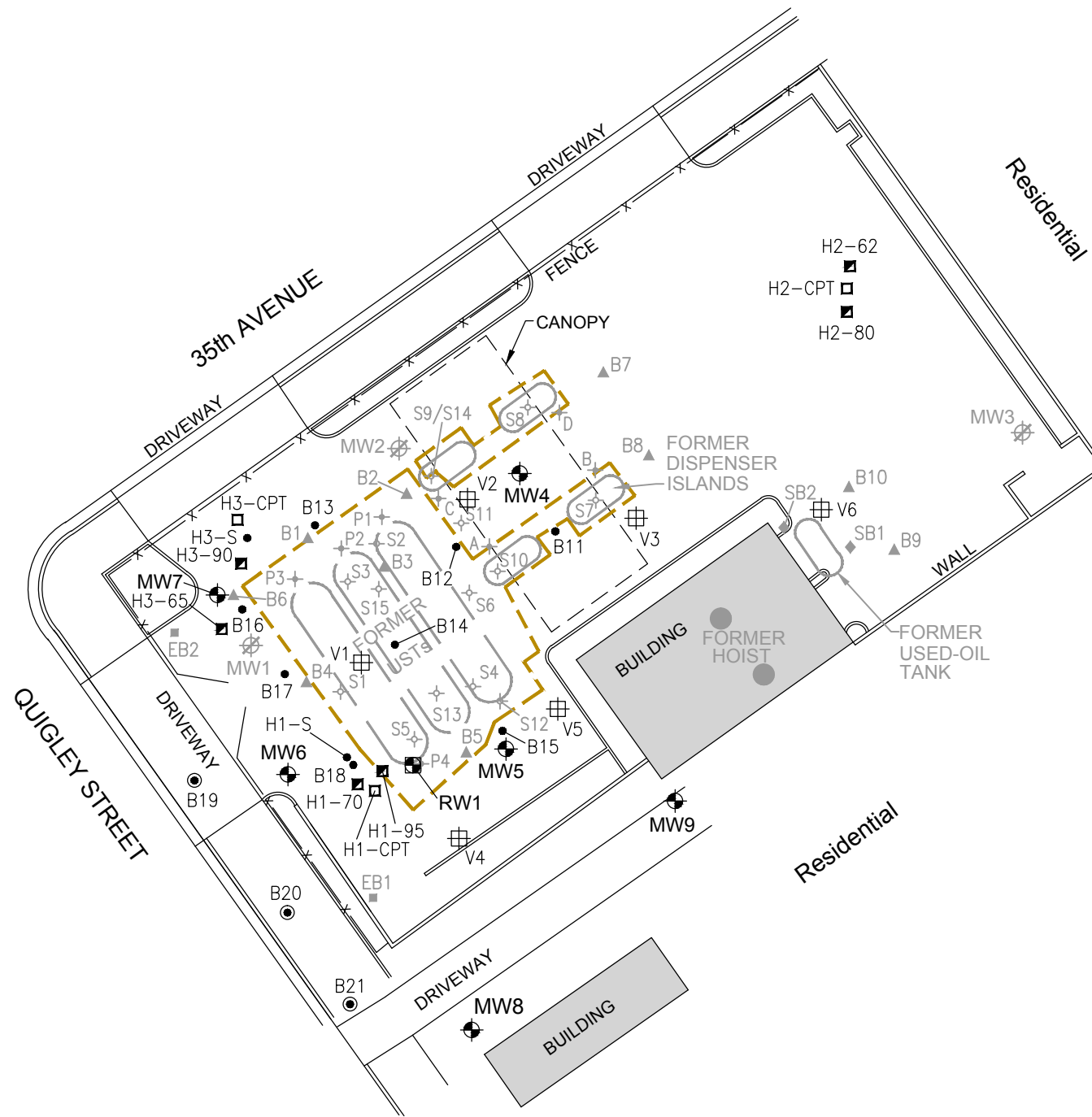


1 inch = 2,000 feet

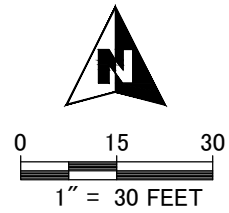


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 <p> 2285 MORELLO AVENUE PLEASANT HILL, CA 94523 (925) 602-4710 eticeng.com </p>	15-070234-UP	EXXONMOBIL OIL CORPORATION		FIGURE: 1
	OR: AF	SITE LOCATION AND TOPOGRAPHIC MAP		
	DR: AJW	FORMER EXXON SERVICE STATION 70234		
	CK:	3450 35th AVENUE		
	FR:	OAKLAND, CALIFORNIA		



- LEGEND:**
- EXCAVATED AREA
 - GROUNDWATER MONITORING WELL
 - GROUNDWATER MONITORING WELL (by others)
 - DESTROYED GROUNDWATER MONITORING WELL
 - GROUNDWATER RECOVERY WELL
 - V1 SOIL VAPOR MONITORING WELL
 - H3-CPT CONE PENETROMETER TESTING BORING
 - H3-65 HYDROPUNCH GROUNDWATER SAMPLING LOCATION (WITH DEPTH BELOW GROUND SURFACE NOTED)
 - H3-S SOIL BORING
 - SOIL BORING (GTI, 1986)
 - SOIL BORING (HLA, 1988)
 - SOIL BORING (Alton, 1991)
 - SOIL SAMPLE (Alton, 1991)
 - SOIL SAMPLE (TRC, 2002)
 - SOIL BORING (ERI, 2007)
 - SOIL BORING (ERI, 2009)

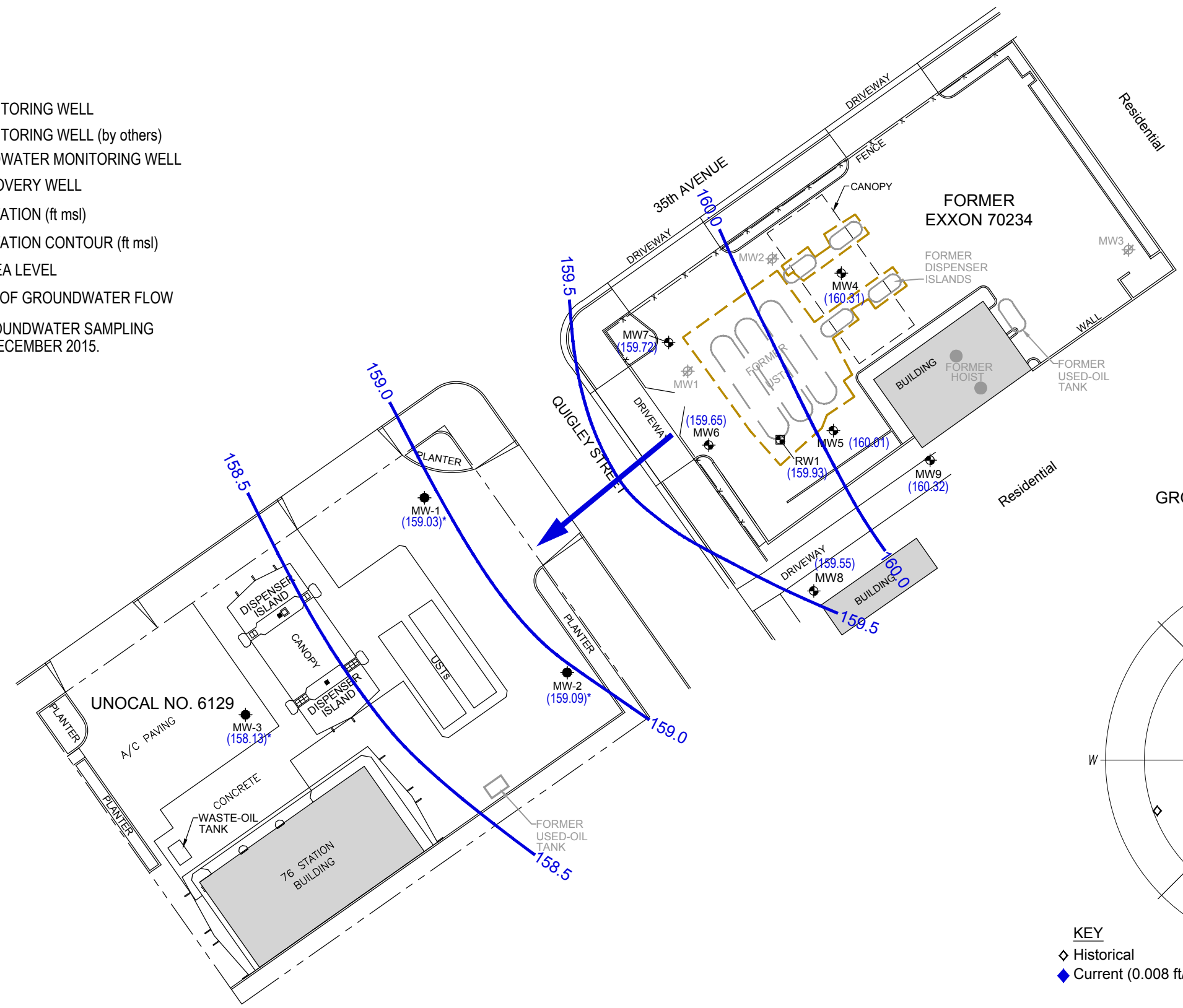


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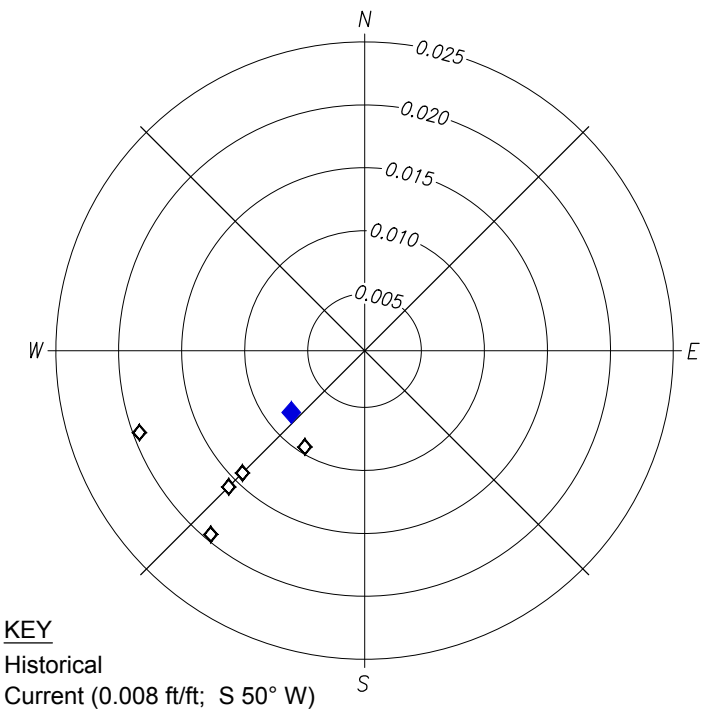
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 PLEASANT HILL, CA 94523
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 eticeng.com

15-070234-UP	EXXONMOBIL OIL CORPORATION		
OR: AF	SITE MAP FORMER EXXON SERVICE STATION 70234 3450 35th AVENUE		FIGURE: 2
DR: AJW			
CK:	OAKLAND, CALIFORNIA		
FR:			

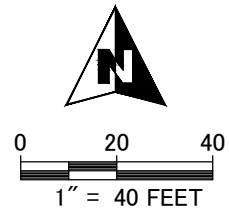
- LEGEND:**
- EXCAVATED AREA
 - GROUNDWATER MONITORING WELL
 - GROUNDWATER MONITORING WELL (by others)
 - DESTROYED GROUNDWATER MONITORING WELL
 - GROUNDWATER RECOVERY WELL
 - (160.31) GROUNDWATER ELEVATION (ft msl)
 - 159.0 GROUNDWATER ELEVATION CONTOUR (ft msl)
 - ft msl FEET ABOVE MEAN SEA LEVEL
 - GENERAL DIRECTION OF GROUNDWATER FLOW
 - * UNOCAL No. 6129 GROUNDWATER SAMPLING CONDUCTED ON 15 DECEMBER 2015.



GROUNDWATER FLOW DIRECTION AND HYDRAULIC GRADIENT



- KEY**
- Historical
 - Current (0.008 ft/ft; S 50° W)



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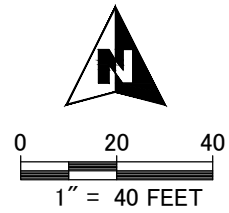
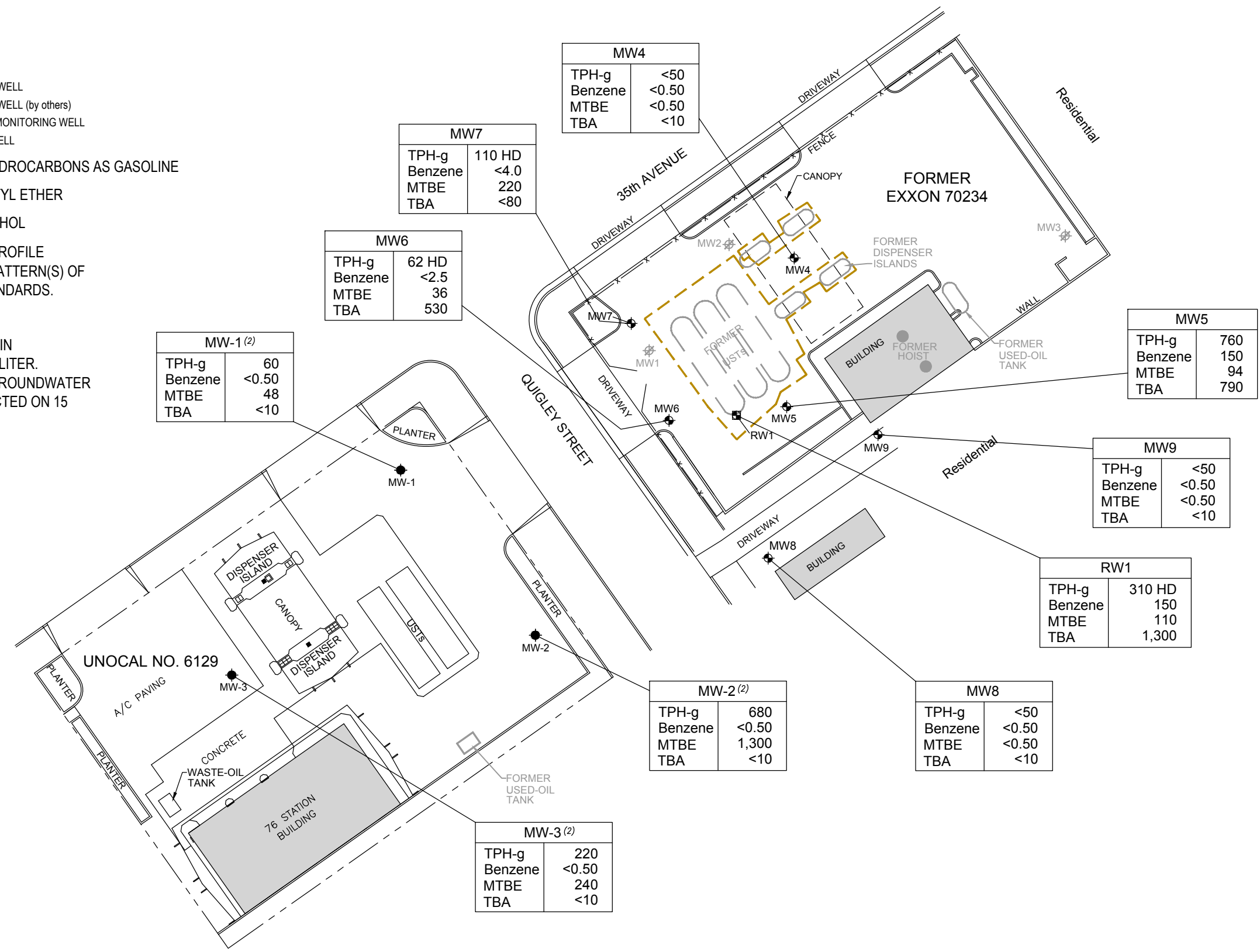
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15-070234-UP	EXXONMOBIL OIL CORPORATION	FIGURE: 3
OR: AF	GROUNDWATER ELEVATION CONTOUR MAP	
DR: AJW	16 DECEMBER 2015	
CK:	FORMER EXXON SERVICE STATION 70234	
FR:	3450 35th AVENUE	
OAKLAND, CALIFORNIA		

- LEGEND:**
- EXCAVATED AREA
 - GROUNDWATER MONITORING WELL
 - GROUNDWATER MONITORING WELL (by others)
 - DESTROYED GROUNDWATER MONITORING WELL
 - GROUNDWATER RECOVERY WELL

TPH-g TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
 MTBE METHYL TERTIARY BUTYL ETHER
 TBA TERTIARY BUTYL ALCOHOL
 HD CHROMATOGRAPHIC PROFILE INCONSISTENT WITH PATTERN(S) OF REFERENCE FUEL STANDARDS.

- NOTE:**
- CONCENTRATIONS IN MICROGRAMS PER LITER.
 - UNOCAL No. 6129 GROUNDWATER SAMPLING CONDUCTED ON 15 DECEMBER 2015.



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15-070234-UP	EXXONMOBIL OIL CORPORATION	FIGURE: 4
OR: AF	GROUNDWATER ANALYTICAL DATA	
DR: AJW	16 DECEMBER 2015	
CK:	FORMER EXXON SERVICE STATION 70234	
FR:	3450 35th AVENUE	
	OAKLAND, CALIFORNIA	

Table

TABLE 1 WELL CONSTRUCTION DETAILS,
FORMER EXXON SERVICE STATION 70234,
3450 35TH AVENUE, OAKLAND, CALIFORNIA

Well Number	Date Installed	Date Destroyed	Elevation TOC (feet)	Borehole Diameter (inches)	Total Depth of Boring (feet bgs)	Well Depth (feet bgs)	Casing Diameter (inches)	Casing Material	Screened Interval (feet bgs)	Slot Size (inches)	Filter Pack Interval (feet bgs)	Filter Pack Material
MW1	07/15/92	06/00	192.00	11	45	45	4	Sch. 40 PVC	25-45	0.010	23-45	2/12 Lonestar Sand
MW2	07/15/92	06/00	194.85	11	45	45	4	Sch. 40 PVC	25-45	0.010	23-45	2/12 Lonestar Sand
MW3	07/15/92	06/00	196.90	11	45	45	4	Sch. 40 PVC	25-45	0.010	23-45	2/12 Lonestar Sand
MW4	03/02/09	---	197.62	8	45	45	2	Sch. 40 PVC	35-45	0.020	33-45	#3 Sand
MW5	03/06/09	---	196.35	8	40	40	2	Sch. 40 PVC	30-40	0.020	28-40	#3 Sand
MW6	03/09/09	---	192.41	8	40	39	2	Sch. 40 PVC	29-39	0.020	27-39	#3 Sand
MW7	03/09/09	---	194.34	8	40	40	2	Sch. 40 PVC	30-40	0.020	28-40	#3 Sand
MW8	03/04/09	---	192.96	8	40	40	2	Sch. 40 PVC	30-40	0.020	28-40	#3 Sand
MW9	03/05/09	---	195.16	8	40	40	2	Sch. 40 PVC	30-40	0.020	28-40	#3 Sand
RW1	12/22/11	---	195.15	10	40	40	4	Stainless Steel	25-39.5	0.020	23-40	#2/12 Sand

TOC Top of well casing elevation; datum is mean sea level.

PVC Polyvinyl chloride.

feet bgs Feet below ground surface.

--- Not applicable.

Notes: Data prior to 2013 provided by Cardno ERI.

TABLE 2 CURRENT GROUNDWATER MONITORING DATA,
FORMER EXXON SERVICE STATION 70234,
3450 35TH AVENUE, OAKLAND, CALIFORNIA

Well Number	Date	Elevation TOC (feet)	Depth to Water (feet below TOC)	Groundwater Elevation (feet)	LPH Thickness (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8260B (µg/l)
MW4	SCREEN INTERVAL (feet bgs) 35-45										
MW4	12/16/15 a	197.62	37.31	160.31	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50
MW5	SCREEN INTERVAL (feet bgs) 30-40										
MW5	12/16/15 a	196.35	36.34	160.01	0.00	760	150	2.0 J	1.8 J	4.6	94
MW6	SCREEN INTERVAL (feet bgs) 29-39										
MW6	12/16/15 a	192.41	32.76	159.65	0.00	62 HD	<2.5	<2.5	<2.5	<2.5	36
MW7	SCREEN INTERVAL (feet bgs) 30-40										
MW7	12/16/15 a	194.34	34.62	159.72	0.00	110 HD	<4.0	<4.0	<4.0	<4.0	220
MW8	SCREEN INTERVAL (feet bgs) 30-40										
MW8	12/16/15 a	192.96	33.41	159.55	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50
MW9	SCREEN INTERVAL (feet bgs) 30-40										
MW9	12/16/15 a	195.16	34.84	160.32	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50
RW1	SCREEN INTERVAL (feet bgs) 29-39.5										
RW1	12/16/15 a	195.15	35.22	159.93	0.00	310 HD	150	<5.0	<5.0	<5.0	110

TOC	Top of casing.	bgs	Below ground surface.
LPH	Liquid-phase hydrocarbons.	µg/L	Micrograms per liter.
TPH-g	Total Petroleum Hydrocarbons as gasoline.	---	Not sampled or not analyzed.
MTBE	Methyl tertiary butyl ether.	NA	Not available.
NM	Not measured.	NC	Not calculated.

a Well purged prior to sampling.
b Well inaccessible.
HD Chromat. profile inconsistent with the ref. fuel stnds.
J Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA Analyte positively identified but quantitation is an estimate.

TABLE 2 CURRENT GROUNDWATER MONITORING DATA,
FORMER EXXON SERVICE STATION 70234,
3450 35TH AVENUE, OAKLAND, CALIFORNIA

Well Number	Date	Elevation TOC (feet)	Depth to Water (feet below TOC)	Groundwater Elevation (feet)	LPH Thickness (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8260B (µg/l)
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Notes: Data prior to 1999 provided by EA Engineering, Science, and Technology. Data prior to 2013 provided by Cardno ERI.

TABLE 3 HISTORICAL GROUNDWATER MONITORING DATA,
FORMER EXXON SERVICE STATION 70234,
3450 35TH AVENUE, OAKLAND, CALIFORNIA

Well Number	Date	Elevation TOC (feet)	Depth to Water (feet below TOC)	Groundwater Elevation (feet)	LPH Thickness (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8260B (µg/l)	Total Pb (µg/L)	Organic Pb (mg/L)
MW1	SCREEN INTERVAL (feet bgs) 25-45												
MW1	07/15/92	---	Well installed.										
MW1	07/17/92	192.00	33.02	158.98	0.00	67	6.6	6.9	2.0	4.5	---	17	---
MW1	10/22/92	192.00	34.07	157.93	0.00	<50	2.9	<0.5	<0.5	<0.5	---	16	---
MW1	02/04/93	192.00	29.43	162.57	0.00	<50	0.8	<0.5	<0.5	<0.5	---	4	---
MW1	05/03/93	192.00	29.72	162.28	0.00	71	2.8	7.2	2.2	22	---	40	---
MW1	07/30/93	192.00	32.95	159.05	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	5	---
MW1	10/19/93	192.00	34.34	157.66	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	12	---
MW1	02/23/94	192.00	31.72	160.28	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	4	---
MW1	06/06/94	192.00	31.77	160.23	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	<3	---
MW1	08/18/94	192.00	33.76	158.24	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	130	---
MW1	11/15/94	192.00	34.08	157.92	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	<3.0	<100
MW1	02/06/95	192.00	28.50	163.50	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
MW1	05/10/95	192.00	29.30	162.70	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
MW1	09/20/99	192.00	33.30	158.70	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<75	<50
MW1	Well destroyed in June 2000.												
MW2	SCREEN INTERVAL (feet bgs) 25-45												
MW2	07/15/92	---	Well installed.										
MW2	07/17/92	194.85	34.65	160.20	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	<3	---
MW2	10/22/92	194.85	35.64	159.21	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	--	---
MW2	02/04/93	194.85	31.13	163.72	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	<3	---
MW2	05/03/93	194.85	31.08	163.77	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	3	---
MW2	07/30/93	194.85	34.34	160.51	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	14	---
MW2	10/19/93	194.85	36.00	158.85	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	<3	---
MW2	02/23/94	194.85	33.92	160.93	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	<3	---
MW2	06/06/94	194.85	33.50	161.35	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	<3	---
MW2	08/18/94	194.85	35.38	159.47	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	<3.0	---
MW2	11/15/94	194.85	35.93	158.92	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	<3.0	<100
MW2	02/06/95	194.85	30.38	164.47	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
MW2	05/10/95	194.85	30.77	164.08	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
MW2	09/20/99	194.85	35.15	159.70	0.00	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<75	<0.5
MW2	Well destroyed in June 2000.												
MW3	SCREEN INTERVAL (feet bgs) 25-45												
MW3	07/15/92	---	Well installed.										
MW3	07/17/92	196.90	37.24	159.66	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	50	---
MW3	10/22/92	196.90	35.95	160.95	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	9	---
MW3	02/04/93	196.90	29.85	167.05	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	<3	---
MW3	05/03/93	196.90	29.87	167.03	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	3	---
MW3	07/30/93	196.90	33.85	163.05	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	22	---
MW3	10/19/93	196.90	35.89	161.01	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	12	---
MW3	02/23/94	196.90	32.88	164.02	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	25	---

TABLE 3 HISTORICAL GROUNDWATER MONITORING DATA,
FORMER EXXON SERVICE STATION 70234,
3450 35TH AVENUE, OAKLAND, CALIFORNIA

Well Number	Date	Elevation TOC (feet)	Depth to Water (feet below TOC)	Groundwater Elevation (feet)	LPH Thickness (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8260B (µg/l)	Total Pb (µg/L)	Organic Pb (mg/L)
MW3	06/06/94	196.90	32.40	164.50	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	<3	---
MW3	08/18/94	196.90	35.07	161.83	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	<3.0	---
MW3	11/15/94	196.90	35.97	160.93	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	<3.0	<100
MW3	02/06/95	196.90	28.39	168.51	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
MW3	05/10/95	196.90	28.90	168.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
MW3	09/20/99	196.90	34.68	162.22	0.00	75.0	<0.5	11.5	1.8	18.0	1.87	<75	<0.5
MW3	Well destroyed in June 2000.												
MW4	SCREEN INTERVAL (feet bgs) 35-45												
MW4	03/02/09	---	Well installed.										
MW4	03/30/09	197.62	30.94	166.68	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW4	04/02/09	197.62	Well surveyed.										
MW4	05/28/09	197.62	32.00	165.62	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW4	08/31/09	197.62	35.43	162.19	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW4	12/11/09	197.62	35.01	162.61	0.00	<50	<0.50	0.83	<0.50	1.1	<0.50	---	---
MW4	05/07/10	197.62	29.11	168.51	0.00	<50	<0.50	<0.50	<0.50	<1.0	<0.50	---	---
MW4	11/01/10	197.62	34.95	162.67	0.00	<50	<0.50	<0.50	<0.50	<1.0	<0.50	---	---
MW4	05/27/11 a	197.62	30.65	166.97	0.00	---	---	---	---	---	---	---	---
MW4	11/23/11	197.62	33.49	164.13	0.00	<50	<0.50	<0.50	<0.50	<1.0	<0.50	---	---
MW4	05/24/12	197.62	30.02	167.60	0.00	58	0.84	4.4	0.64c	3.5	<0.50	---	---
MW4	10/31/12	197.62	35.14	162.48	0.00	110	5.3	45	4.2	21	<0.50	---	---
MW4	05/02/13 e	197.62	32.03	165.59	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW4	11/09/13	197.62	36.53	161.09	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW4	05/12/14 a	197.62	33.51	164.11	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW4	11/19/14 a	197.62	36.96	160.66	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW4	05/13/15 a	197.62	34.01	163.61	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW4	12/16/15 a	197.62	37.31	160.31	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW5	SCREEN INTERVAL (feet bgs) 30-40												
MW5	03/06/09	---	Well installed.										
MW5	03/30/09	196.35	30.05	166.30	0.00	4,200	540	140	<12	310	1,900	---	---
MW5	04/02/09	196.35	Well surveyed.										
MW5	05/28/09	196.35	31.45	164.90	0.00	5,300	890	150	<25	140	3,600	---	---
MW5	08/31/09	196.35	34.70	161.65	0.00	5,800	550	<100	<100	<100	3,500	---	---
MW5	12/11/09	196.35	34.52	161.83	0.00	4,000b	230	<100	<100	<100	3,800	---	---
MW5	05/07/10	196.35	30.84	165.51	0.00	2,700b	73	5.3	3.6	6.5	1,700	---	---
MW5	11/01/10	196.35	33.93	162.42	0.00	2,400b	320	71	21	40	3,400	---	---
MW5	05/27/11 a	196.35	31.65	164.70	0.00	---	---	---	---	---	---	---	---
MW5	11/23/11	196.35	32.58	163.77	0.00	1,900b	72	2.7	3.1	8.1	3,200	---	---
MW5	05/24/12	196.35	30.26	166.09	0.00	2,900b	54	31	5.2	17	1,700	---	---
MW5	10/31/12	196.35	33.94	162.41	0.00	2,200b	220	72	8.7	47	2,700	---	---
MW5	05/02/13 c	196.35	31.33	165.02	0.00	2,200b	61	<0.50	3.8	7.9	1,300	---	---
MW5	11/09/13	196.35	35.69	160.66	0.00	1,300b	120	<5.0	<5.0	8.8	370	---	---

TABLE 3 HISTORICAL GROUNDWATER MONITORING DATA,
FORMER EXXON SERVICE STATION 70234,
3450 35TH AVENUE, OAKLAND, CALIFORNIA

Well Number	Date		Elevation TOC (feet)	Depth to Water (feet below TOC)	Groundwater Elevation (feet)	LPH Thickness (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8260B (µg/l)	Total Pb (µg/L)	Organic Pb (mg/L)
MW5	05/12/14	a	196.35	32.64	163.71	0.00	1,200	120	<5.0	<5.0	<5.0	490	---	---
MW5	11/19/14	a	196.35	36.05	160.30	0.00	1,400 HD	140	2.0 J	<2.5	4.7	120	---	---
MW5	05/13/15	a	196.35	33.31	163.04	0.00	1,100 HD	74	<2.5	<2.5	2.7	310	---	---
MW5	12/16/15	a	196.35	36.34	160.01	0.00	760	150	2.0 J	1.8 J	4.6	94	---	---
MW6	SCREEN INTERVAL (feet bgs) 29-39													
MW6	03/09/09		---	Well installed.										
MW6	03/30/09		192.41	26.94	165.47	0.00	2,800	0.91	<0.50	<0.50	<0.50	4,800	---	---
MW6	04/02/09		192.41	Well surveyed.										
MW6	05/28/09		192.41	28.04	164.37	0.00	2,800	<100	<100	<100	<100	6,000	---	---
MW6	08/31/09		192.41	30.57	161.84	0.00	4,900	<100	<100	<100	<100	6,600	---	---
MW6	12/11/09		192.41	30.78	161.63	0.00	4,900b	<100	<100	<100	<100	6,200	---	---
MW6	05/07/10		192.41	25.42	166.99	0.00	2,900b	2.7	<0.50	0.74c	<1.0	3,700	---	---
MW6	11/01/10		192.41	30.68	161.73	0.00	850b	2.1	<0.50	<0.50	<1.0	6,100	---	---
MW6	05/27/11	a	192.41	27.07	165.34	0.00	---	---	---	---	---	---	---	---
MW6	11/23/11		192.41	29.25	163.16	0.00	1,600b	<0.50	<0.50	<0.50	<1.0	6,400	---	---
MW6	05/24/12		192.41	26.36	166.05	0.00	2,000b	1.3c	9.7	0.97c	5.5	3,400	---	---
MW6	10/31/12		192.41	30.74	161.67	0.00	1,400b	3.8	28	2.2	11	5,400	---	---
MW6	05/02/13		192.41	27.91	164.50	0.00	1,900b	<0.50	<0.50	<0.50	<0.50	2,600	---	---
MW6	11/09/13		192.41	32.15	160.26	0.00	3,600b	<40	<40	<40	<40	4,800	---	---
MW6	05/12/14	a	192.41	29.28	163.13	0.00	190 HD	<5.0	<5.0	<5.0	<5.0	280	---	---
MW6	11/19/14	a	192.41	32.49	159.92	0.00	420 HD	<10	<10	<10	<10	530	---	---
MW6	05/13/15	a	192.41	29.81	162.60	0.00	200 HD	<10	<10	<10	<10	26	---	---
MW6	12/16/15	a	192.41	32.76	159.65	0.00	62 HD	<2.5	<2.5	<2.5	<2.5	36	---	---
MW7	SCREEN INTERVAL (feet bgs) 30-40													
MW7	03/09/09		---	Well installed.										
MW7	03/30/09		194.34	29.15	165.19	0.00	55	<0.50	<0.50	<0.50	<0.50	66	---	---
MW7	04/02/09		194.34	Well surveyed.										
MW7	05/28/09		194.34	30.16	164.18	0.00	50	<1.0	<1.0	<1.0	<1.0	67	---	---
MW7	08/31/09		194.34	33.31	161.03	0.00	<50	<0.50	0.60	<0.50	<0.50	12	---	---
MW7	12/11/09		194.34	32.71	161.63	0.00	<50	0.78	1.7	0.62	2.4	31	---	---
MW7	05/07/10		194.34	27.54	166.80	0.00	510b	<0.50	<0.50	<0.50	<1.0	700	---	---
MW7	11/01/10		194.34	32.82	161.52	0.00	68b	<0.50	<0.50	<0.50	<1.0	140	---	---
MW7	05/27/11	a	194.34	28.85	165.49	0.00	---	---	---	---	---	---	---	---
MW7	11/23/11		194.34	31.39	162.95	0.00	190b	<0.50	<0.50	<0.50	<1.0	300	---	---
MW7	05/24/12	a	194.34	28.31	166.03	0.00	---	---	---	---	---	---	---	---
MW7	10/31/12		194.34	32.86	161.48	0.00	230b	2.9	21	1.8	9.2	290	---	---
MW7	05/02/13		194.34	29.93	164.41	0.00	570b	<0.50	<0.50	<0.50	<0.50	790	---	---
MW7	11/09/13		194.34	34.23	160.11	0.00	370b	<10	<10	<10	<10	460	---	---
MW7	05/12/14	a	194.34	31.33	163.01	0.00	310 HD	<10	<10	<10	<10	980	---	---
MW7	11/19/14	a	194.34	34.31	160.03	0.00	400 HD	<12	<12	<12	<12	660	---	---
MW7	05/13/15	a	194.34	31.65	162.69	0.00	660 HD	<20	<20	<20	<20	870	---	---

TABLE 3 HISTORICAL GROUNDWATER MONITORING DATA,
FORMER EXXON SERVICE STATION 70234,
3450 35TH AVENUE, OAKLAND, CALIFORNIA

Well Number	Date		Elevation TOC (feet)	Depth to Water (feet below TOC)	Groundwater Elevation (feet)	LPH Thickness (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8260B (µg/l)	Total Pb (µg/L)	Organic Pb (mg/L)
MW7	12/16/15	a	194.34	34.62	159.72	0.00	110 HD	<4.0	<4.0	<4.0	<4.0	220	---	---
MW8	SCREEN INTERVAL (feet bgs) 30-40													
MW8	03/04/09		---	Well installed.										
MW8	03/30/09		192.96	27.35	165.61	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW8	04/02/09		192.96	Well surveyed.										
MW8	05/28/09		192.96	28.72	164.24	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW8	08/31/09		192.96	31.93	161.03	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW8	12/11/09		192.96	31.24	161.72	0.00	<50	0.74	1.6	0.59	2.3	<0.50	---	---
MW8	05/07/10		192.96	25.68	167.28	0.00	<50	<0.50	<0.50	<0.50	<1.0	<0.50	---	---
MW8	11/01/10		192.96	31.18	161.78	0.00	<50	<0.50	<0.50	<0.50	<1.0	<0.50	---	---
MW8	05/27/11		192.96	27.55	165.41	0.00	<50	<0.50	<0.50	<0.50	<1.0	<0.50	---	---
MW8	11/23/11		192.96	29.74	163.22	0.00	<50	<0.50	<0.50	<0.50	<1.0	<0.50	---	---
MW8	05/24/12		192.96	26.93	166.03	0.00	<50	<0.50	<0.50	<0.50	<1.0	<0.50	---	---
MW8	10/31/12		192.96	31.35	161.61	0.00	75	2.5	19	1.7	8.7	<0.50	---	---
MW8	05/02/13		192.96	28.44	164.52	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW8	11/09/13		192.96	32.89	160.07	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW8	05/12/14	a	192.96	30.27	162.69	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW8	11/19/14	a	192.96	33.16	159.80	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW8	05/13/15	a	192.96	30.35	162.61	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW8	12/16/15	a	192.96	33.41	159.55	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW9	SCREEN INTERVAL (feet bgs) 30-40													
MW9	03/05/09		---	Well installed.										
MW9	03/30/09		195.16	28.31	166.85	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW9	04/02/09		195.16	Well surveyed.										
MW9	05/28/09		195.16	29.69	165.47	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW9	08/31/09		195.16	33.20	161.96	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW9	12/11/09		195.16	32.62	162.54	0.00	<50	0.73	1.7	0.54	2.2	<0.50	---	---
MW9	05/07/10		195.16	26.59	168.57	0.00	<50	<0.50	<0.50	<0.50	<1.0	<0.50	---	---
MW9	11/01/10		195.16	32.45	162.71	0.00	<50	<0.50	<0.50	<0.50	<1.0	<0.50	---	---
MW9	05/27/11		195.16	29.62	165.54	0.00	<50	<0.50	<0.50	<0.50	<1.0	<0.50	---	---
MW9	11/23/11		195.16	30.56	164.60	0.00	<50	<0.50	<0.50	<0.50	<1.0	<0.50	---	---
MW9	05/24/12		195.16	27.94	167.22	0.00	<50	<0.50	<0.50	<0.50	<1.0	<0.50	---	---
MW9	10/31/12		195.16	32.66	162.50	0.00	140	6.9	38	2.7	13	<0.50	---	---
MW9	05/02/13		195.16	29.58	165.58	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW9	11/09/13		195.16	Well inaccessible.										
MW9	05/12/14	b	195.16	Well inaccessible.										
MW9	11/19/14	a	195.16	34.60	160.56	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW9	05/13/15	a	195.16	31.66	163.50	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW9	12/16/15	a	195.16	34.84	160.32	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
RW1	SCREEN INTERVAL (feet bgs) 29-39.5													

TABLE 3 HISTORICAL GROUNDWATER MONITORING DATA,
FORMER EXXON SERVICE STATION 70234,
3450 35TH AVENUE, OAKLAND, CALIFORNIA

Well Number	Date	Elevation TOC (feet)	Depth to Water (feet below TOC)	Groundwater Elevation (feet)	LPH Thickness (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8260B (µg/l)	Total Pb (µg/L)	Organic Pb (mg/L)
RW1	12/22/11	---	Well installed.										
RW1	12/30/11	195.15	Well surveyed.										
RW1	05/24/12	195.15	28.55	166.60	0.00	5,500b	920	5.9c	51	14	2,500	---	---
RW1	10/31/12	a 195.15	---	---	---	---	---	---	---	---	---	---	---
RW1	05/02/13	c 195.15	30.27	164.88	0.00	4,300b	1,200	<2.5	41	14	2,300	---	---
RW1	11/09/13	195.15	34.64	160.51	0.00	810b	210	<10	<10	<10	520	---	---
RW1	05/12/14	a 195.15	31.54	163.61	0.00	830 HD	450	<10	13	<10	490	---	---
RW1	11/19/14	a 195.15	34.94	160.21	0.00	910 HD	450	<10	<10	<10	590	---	---
RW1	05/13/15	a 195.15	32.26	162.89	0.00	1,300 HD	560	<5.0	8.1	2.4 JA	480	---	---
RW1	12/16/15	a 195.15	35.22	159.93	0.00	310 HD	150	<5.0	<5.0	<5.0	110	---	---

Grab Groundwater Samples

Pit Water	06/14/02	---	---	---	---	5,600	140	840	100	530	12,000	---	---
UST Pit	06/19/02	---	---	---	---	680	2.7	36	18	130	640	---	---
W-38-B11	11/14/07	---	---	---	---	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
W-15-B12	11/13/07	---	---	---	---	8,400	67	<5.0	140	150	78	---	---
W-40-B13	11/12/07	---	---	---	---	<50	<0.50	<0.50	<0.50	<0.50	0.53	---	---
W-15-B14	11/13/07	---	---	---	---	2,500	1.7	3.0	26	13	16	---	---
W-38-B15	11/15/07	---	---	---	---	18,000	3,400	2,500	330	2,000	12,000	---	---
W-40-B16	11/15/07	---	---	---	---	<50	<0.50	<0.50	<0.50	<0.50	7.7	---	---
W-37-B17	11/13/07	---	---	---	---	630	1.8	<0.50	4.1	1.4	2,200	---	---
W-38-B18	11/12/07	---	---	---	---	4,300	52	<12	56	96	1,400	---	---
W-35-B19	03/03/09	---	---	---	---	4,400	<0.50	<0.50	<0.50	<1.0	7,100	---	---
W-35-B20	03/03/09	---	---	---	---	640	<0.50	<0.50	<0.50	<1.0	440	---	---
W-35-B21	03/03/09	---	---	---	---	<50	<0.50	<0.50	<0.50	<1.0	1.4	---	---

TOC Top of casing. bgs Below ground surface.
 LPH Liquid-phase hydrocarbons. µg/L Micrograms per liter.
 TPH-g Total Petroleum Hydrocarbons as gasoline. -- Not sampled or not analyzed.
 MTBE Methyl tertiary butyl ether. NA Not available.
 NM Not measured. NC Not calculated.

Total Pb Total lead analyzed using EPA Method 6010.

Organic Pb Organic lead analyzed using CA DHS LUFT method.

a Well purged prior to sampling.

b Well inaccessible.

c Well sampled the following day.

HD Chromat. profile inconsistent with the ref. fuel stnds.

J Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.

TABLE 3 HISTORICAL GROUNDWATER MONITORING DATA,
FORMER EXXON SERVICE STATION 70234,
3450 35TH AVENUE, OAKLAND, CALIFORNIA

Well Number	Date	Elevation TOC (feet)	Depth to Water (feet below TOC)	Groundwater Elevation (feet)	LPH Thickness (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8260B (µg/l)	Total Pb (µg/L)	Organic Pb (mg/L)
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JA Analyte positively identified but quantitation is an estimate.

Notes: Data prior to 1999 provided by EA Engineering, Science, and Technology. Data prior to 2013 provided by Cardno ERI.

TABLE 4 GROUNDWATER ANALYTICAL RESULTS FOR DETECTED VOCs,
FORMER EXXON SERVICE STATION 70234,
3450 35TH AVENUE, OAKLAND, CALIFORNIA

Well Number	Date	Depth (feet)	EDB (µg/L)	1,2-DCA (µg/L)	TAME (µg/L)	TBA (µg/L)	ETBE (µg/L)	DIPE (µg/L)	Ethanol (µg/L)	Naphthalene (µg/L)	
MW1	7/17/1992 - 09/20/1999		Not analyzed for these analytes.								
MW1	Well destroyed in June 2000.										
MW2	7/17/1992 - 09/20/1999		Not analyzed for these analytes.								
MW2	Well destroyed in June 2000.										
MW3	7/17/1992 - 09/20/1999		Not analyzed for these analytes.								
MW3	Well destroyed in June 2000.										
MW4	03/30/09	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---	
MW4	05/28/09	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---	
MW4	08/31/09	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---	
MW4	12/11/09	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---	
MW4	05/07/10	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---	
MW4	11/01/10	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---	
MW4	05/27/11	d	---	---	---	---	---	---	---	---	
MW4	11/23/11	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---	
MW4	05/24/12	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---	
MW4	10/31/12	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---	
MW4	05/03/13	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---	
MW4	11/09/13	---	<0.50	<0.50	<0.50	<10	<0.50	<0.50	---	---	
MW4	05/12/14	---	<0.50	<0.50	<0.50	<10	<0.50	<0.50	---	<1.0	
MW4	11/19/14	---	<0.50	<0.50	<0.50	<10	<0.50	<0.50	---	---	
MW4	05/13/15	---	<0.50	<0.50	<0.50	<10	<0.50	<0.50	---	---	
MW4	12/16/15	---	<0.50	<0.50	<0.50	<10	<0.50	<0.50	---	---	
MW5	03/30/09	---	<12	17	<12	450	<12	<12	---	---	
MW5	05/28/09	---	<25	<25	<25	530	<25	<25	---	---	
MW5	08/31/09	---	<100	<100	<100	<1,000	<100	<100	---	---	
MW5	12/11/09	---	<100	<100	<100	2,000	<100	<100	---	---	
MW5	05/07/10	---	<25	<25	<25	400	<25	<25	---	---	
MW5	11/01/10	---	<50	<50	<50	1,500	<50	<50	---	---	
MW5	05/27/11	d	---	---	---	---	---	---	---	---	
MW5	11/23/11	---	<50	<50	<50	<500	<50	<50	---	---	
MW5	05/24/12	---	<50	<50	<50	1,400	<50	<50	---	---	
MW5	10/31/12	---	<50	<50	<50	730	<50	<50	---	---	
MW5	05/03/13	---	<20	<20	<20	590	<20	<20	---	---	
MW5	11/09/13	---	<5.0	<5.0	<5.0	1,100	<5.0	<5.0	---	---	
MW5	05/12/14	---	<5.0	<5.0	<5.0	1,000	<5.0	<5.0	---	<10	
MW5	11/19/14	---	<2.5	<2.5	<2.5	600	<2.5	<2.5	---	---	
MW5	05/13/15	---	<2.5	<2.5	<2.5	950	<2.5	<2.5	---	---	
MW5	12/16/15	---	<2.5	<2.5	<2.5	790	<2.5	<2.5	---	---	
MW6	03/30/09	---	<0.50	<0.50	1.3	410	<0.50	0.82	---	---	
MW6	05/28/09	---	<100	<100	<100	<1,000	<100	<100	---	---	
MW6	08/31/09	---	<100	<100	<100	1,100	<100	<100	---	---	
MW6	12/11/09	---	<100	<100	<100	2,600	<100	<100	---	---	
MW6	05/07/10	---	<100	<100	<100	<1,000	<100	<100	---	---	
MW6	11/01/10	---	<50	<50	<50	2,400	<50	<50	---	---	
MW6	05/27/11	d	---	---	---	---	---	---	---	---	
MW6	11/23/11	---	<100	<100	<100	<1,000	<100	<100	---	---	
MW6	05/24/12	---	<100	<100	<100	2,700	<100	<100	---	---	
MW6	10/31/12	---	<100	<100	<100	<1,000	<100	<100	---	---	
MW6	05/02/13	---	<40	<40	<40	570	<40	<40	---	---	
MW6	11/09/13	---	<40	<40	<40	2,100	<40	<40	---	---	
MW6	05/12/14	---	<5.0	<5.0	<5.0	1,700	<5.0	<5.0	---	<10	

TABLE 4 GROUNDWATER ANALYTICAL RESULTS FOR DETECTED VOCs,
FORMER EXXON SERVICE STATION 70234,
3450 35TH AVENUE, OAKLAND, CALIFORNIA

Well Number	Date	Depth (feet)	EDB (µg/L)	1,2-DCA (µg/L)	TAME (µg/L)	TBA (µg/L)	ETBE (µg/L)	DIPE (µg/L)	Ethanol (µg/L)	Naphthalene (µg/L)
MW6	11/19/14	---	<10	<10	<10	2,100	<10	<10	---	---
MW6	05/13/15	---	<10	<10	<10	2,400	<10	<10	---	---
MW6	12/16/15	---	<2.5	<2.5	<2.5	530	<2.5	<2.5	---	---
MW7	03/30/09	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW7	05/28/09	---	<1.0	<1.0	<1.0	<10	<1.0	<1.0	---	---
MW7	08/31/09	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW7	12/11/09	---	<0.50	<0.50	<0.50	12	<0.50	<0.50	---	---
MW7	05/07/10	---	<0.50	<0.50	<0.50	130	<0.50	<0.50	---	---
MW7	11/01/10	---	<2.5	<2.5	<2.5	27	<2.5	<2.5	---	---
MW7	05/27/11	d	---	---	---	---	---	---	---	---
MW7	11/23/11	---	<5.0	<5.0	<5.0	<50	<5.0	<5.0	---	---
MW7	05/24/12	d	---	---	---	---	---	---	---	---
MW7	10/31/12	---	<5.0	<5.0	<5.0	<50	<5.0	<5.0	---	---
MW7	05/02/13	---	<5.0	<5.0	<5.0	57	<5.0	<5.0	---	---
MW7	11/09/13	---	<10	<10	<10	<200	<10	<10	---	---
MW7	05/12/14	---	<10	<10	<10	<200	<10	<10	---	<20
MW7	11/19/14	---	<12	<12	<12	<250	<12	<12	---	---
MW7	05/13/15	---	<20	<20	<20	<400	<20	<20	---	---
MW7	12/16/15	---	<4.0	<4.0	<4.0	<80	<4.0	<4.0	---	---
MW8	03/30/09	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW8	05/28/09	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW8	08/31/09	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW8	12/11/09	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW8	05/07/10	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW8	11/01/10	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW8	05/27/11	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW8	11/23/11	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW8	05/24/12	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW8	10/31/12	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW8	05/02/13	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW8	11/09/13	---	<0.50	<0.50	<0.50	<10	<0.50	<0.50	---	---
MW8	05/12/14	---	<0.50	<0.50	<0.50	<10	<0.50	<0.50	---	<1.0
MW8	11/19/14	---	<0.50	<0.50	<0.50	<10	<0.50	<0.50	---	---
MW8	05/13/15	---	<0.50	<0.50	<0.50	<10	<0.50	<0.50	---	---
MW8	12/16/15	---	<0.50	<0.50	<0.50	<10	<0.50	<0.50	---	---
MW9	03/30/09	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW9	05/28/09	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW9	08/31/09	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW9	12/11/09	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW9	05/07/10	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW9	11/01/10	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW9	05/27/11	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW9	11/23/11	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW9	05/24/12	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW9	10/31/12	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW9	05/02/13	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW9	11/09/13	d	Well inaccessible.							
MW9	11/19/14	---	<0.50	<0.50	<0.50	<10	<0.50	<0.50	---	---
MW9	05/13/15	---	<0.50	<0.50	<0.50	<10	<0.50	<0.50	---	---
MW9	12/16/15	---	<0.50	<0.50	<0.50	<10	<0.50	<0.50	---	---
RW1	05/24/12	---	<50	<50	<50	1,900	<50	<50	---	---
RW1	10/31/12	d	---	---	---	---	---	---	---	---

TABLE 4 GROUNDWATER ANALYTICAL RESULTS FOR DETECTED VOCs,
FORMER EXXON SERVICE STATION 70234,
3450 35TH AVENUE, OAKLAND, CALIFORNIA

Well Number	Date	Depth (feet)	EDB (µg/L)	1,2-DCA (µg/L)	TAME (µg/L)	TBA (µg/L)	ETBE (µg/L)	DIPE (µg/L)	Ethanol (µg/L)	Naphthalene (µg/L)
RW1	05/03/13	---	<40	<40	<40	880	<40	<40	---	---
RW1	11/09/13	---	<10	<10	<10	1,100	<10	<10	---	---
RW1	05/12/14	---	<10	<10	<10	840	<10	<10	---	<20
RW1	11/19/14	---	<10	<10	<10	1,300	<10	<10	---	<20
RW1	05/13/15	---	<5.0	<5.0	<5.0	880	<5.0	<5.0	---	---
RW1	12/16/15	---	<5.0	<5.0	<5.0	1,300	<5.0	<5.0	---	---
Grab Groundwater Samples										
Pit Water	06/14/02	11.5a	---	---	---	---	---	---	---	---
UST Pit	06/19/02	13.5a	---	---	---	---	---	---	---	---
W-38-B11	11/14/07	38	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<50	---
W-15-B12	11/13/07	15	<5.0	<5.0	<5.0	<100	<5.0	<5.0	<500	---
W-40-B13	11/12/07	40	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<50	---
W-15-B14	11/13/07	15	<1.0	<1.0	<1.0	<20	<1.0	<1.0	<100	---
W-38-B15	11/15/07	38	<25	<25	<25	1,900	<25	<25	<2,500	---
W-40-B16	11/15/07	40	<0.50	<0.50	<0.50	<10	<0.50	<0.50	85	---
W-37-B17	11/13/07	37	<0.50	<0.50	<0.50	58	<0.50	<0.50	<50	---
W-38-B18	11/12/07	38	<12	<12	<12	<250	<12	<12	<1,200	---
W-35-B19	03/03/09	35	<50	<50	<50	<500	<50	<50	<5,000	---
W-35-B20	03/03/09	35	<0.50	<0.50	<0.50	12	<0.50	<0.50	<50	---
W-35-B21	03/03/09	35	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<50	---

- EDB 1,2-Dibromoethane analyzed using EPA Method 8260B.
- 1,2-DCA 1,2-Dichloroethane analyzed using EPA Method 8260B.
- TBA Tertiary butyl alcohol analyzed using EPA Method 8260B.
- TAME Tertiary amyl methyl ether analyzed using EPA Method 8260B.
- ETBE Ethyl tertiary butyl ether analyzed using EPA Method 8260B.
- DIPE Di-isopropyl ether analyzed using EPA Method 8260B.
- Ethanol Ethanol analyzed using EPA Method 8260B.
- µg/L Micrograms per liter.
- Not sampled/Not analyzed/Not measured/Not applicable.
- a Approximate depth to groundwater surface at time of sampling.
- d Well inaccessible.

Notes: Data prior to 1999 provided by EA Engineering, Science, and Technology, data prior to 2013 provided by Cardno ERI.

- B Analyte was present in the associated method blank.
- J Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
- QO Compound did not meet method-described identification guidelines. Identification was based on additional GC/MS characteristics.

TABLE 5 NATURAL ATTENUATION PARAMETER ANALYTICAL RESULTS,
FORMER MOBIL SERVICE STATION 70234,
3450 35TH AVENUE, OAKLAND, CALIFORNIA

Well Number	Date		Laboratory Parameters					Field Parameters					
			Alkalinity as CaCO ₃ (mg/L)	Ferrous Iron (mg/L)	Sulfate (mg/L)	Nitrate-N (mg/L)	Methane (µg/L)	Temperature (Celsius)	pH	EC (µS/cm)	Total Dissolved Solids (mg/L)	ORP (mV)	DO (mg/L)
MW4	05/13/15	a	172	<0.100	68	2.4	0.173 J	18.1	7.12	584.1	645.6	--	5.11
MW4	12/16/15	a	169	<0.100	65	2.5	0.358 J	18.4	7.18	540.2	365.7	--	--
MW5	05/13/15	a	324	2.15	32	0.76	28.1	17.8	7.03	870.1	593.8	--	3.98
MW5	12/16/15	a	352	2.69	28	0.36	25.0	17.5	6.66	839.2	584.1	--	--
MW6	05/13/15	a	427	<0.100	42	0.35	5.09	18.0	7.00	945.4	660.1	--	4.32
MW6	12/16/15	a	484	<0.100	43	0.14	2.71	18.4	6.89	963.5	669.3	--	--
MW7	05/13/15	a	254	<0.100	61	1.6	1.67	18.5	7.16	719.1	510.2	--	4.34
MW7	12/16/15	a	222	<0.100	64	1.8	8.51	19.4	6.72	637.0	437.9	--	--
MW8	05/13/15	a	208	<0.100	42	7.3	0.983 J	17.7	7.16	595.3	410.1	--	5.07
MW8	12/16/15	a	229	<0.100	42	8.3	0.182	17.5	7.09	769.7	533.4	--	--
MW9	05/13/15	a	252	<0.100	41	6.0	0.0530	17.9	7.09	835.3	582.4	--	4.79
MW9	12/16/15	a	258	<0.100	39	5.6	0.0510	17.4	6.89	876.9	605.8	--	--
RW1	05/13/15	a	359	<0.100	43	0.77	1.85	18.4	7.05	849.1	590.7	--	4.11
RW1	12/16/15	a	301	<0.100	40	0.85	1.62	17.4	6.98	819.0	569.2	--	--

DO Dissolved oxygen. mg/L Milligrams per liter.
 ORP Oxidation/reduction potential. mV Millivolts.
 EC Conductivity. -- Not sampled or not analyzed.
 µS/cm MicroSiemens per centimeter. a Well purged prior to sampling.
 µg/L Micrograms per liter. <0.100 Concentration not detected above reporting limit (e.g. Reporting limit is 0.100 µg/L).

J Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.

Appendix A
Field Protocols

PROTOCOLS FOR QUARTERLY GROUNDWATER MONITORING

GROUNDWATER GAUGING

Wells are opened prior to gauging to allow the groundwater level in the wells to equilibrate with atmospheric pressure. The depth to groundwater and depth to liquid-phase hydrocarbons, if present, are then measured to the nearest 0.01 foot using an electronic water level meter or optical interface probe. The measurements are made from a permanent reference point at the top of the well casing. If less than 1 foot of water is measured in a well, or if the water is bailed from the well and, if the well does not recover, the well is considered “functionally dry.” Wells with a sheen or measurable liquid-phase hydrocarbons are generally not purged or sampled.

WELL PURGING

After the wells are gauged, each well is purged of approximately 3 well casing volumes of water to provide representative groundwater samples for analysis. Field parameters of pH, temperature, and electrical conductance are measured during purging to ensure that these parameters have stabilized before groundwater in a well is sampled. Groundwater in each well is purged using an inertial pump (WaTerra), an electric submersible pump, or a bailer. After the well is purged, the water level is checked to ensure that the well has recharged to at least 80 percent of its original water level.

GROUNDWATER SAMPLING

After purging, groundwater in each well is sampled using dedicated tubing and an inertial pump (WaTerra) or a factory-cleaned disposable bailer. Samples from extraction wells are typically collected from sample ports associated with the groundwater remediation system. Samples collected for volatile organic analysis are placed in Teflon septum-sealed 40-milliliter glass vials. Samples collected for diesel analysis are placed in 1-liter amber glass bottles. Each sample bottle is labeled with the site name, well number, date, sampler’s initials, and preservative. The samples are placed in a cooler with ice for delivery to a state-certified laboratory. The information for each sample is entered on a chain-of-custody form prior to transport to the laboratory.

Appendix B
Field Documents



FIELD SUMMARY REPORT

Client: Exxon Mobil Site Location: Oakland CA
Project Number: 15-07234-UP Task Number: 4.1A, 4.2D
On-Site Field Personnel: C. Mitchell

Number of Waste Drums/Containers on Site: Water Soil Empty Container Size/Number of Total Drums/Containers:

SUMMARY:

- On site 06:30
- Opened and gauged wells MW4 thru MW9 and RW1 with WLM.
- Purged & sampled wells MW4 thru MW9 and RW1 with disposable bailers. Wells MW5 and RW1 dewatered wells sampled after recharging 80+%.
- Closed all wells
- D-11ard on site 13:00
- 55 gal. drum with ~25 gal. of purge water removed from site.
- Off site 13:30

Preparer Name: [Signature] Date: 12/16/15
Office Location: PH [] MRTZ [] PAS [] CM [] SD []



MONITORING WELL DATA FORM

Client: ExxonMobil

Date: 12/16/15

Project Number: UP70234, Activity 4

Station Number: 70234

Site Location: 3450 35th Avenue, Oakland, CA

Sampler: *C. Mitchell*

MONITORING WELL NUMBER	DEPTH TO WATER (FEET)	DEPTH TO PRODUCT (FEET)	APPARENT PRODUCT THICKNESS (FEET)	AMOUNT OF PRODUCT REMOVED	WELLS OWN	MONITORING WELL INTEGRITY	DEPTH TO BOTTOM (FEET)	WELL CASING DIAMETER
MW4	37.31	—	—	—	N	Good	44.61	2"
MW5	36.34	—	—	—	N	Good	39.69	2"
MW6	32.76	—	—	—	N	Good	38.14	2"
MW7	34.62	—	—	—	N	Made up New Good	39.14	2"
MW8	33.41	—	—	—	N	Good	39.56	2"
MW9	39.58	—	—	—	N	Good	39.58	2"
RW1	35.37	—	—	—	N	Good	40.08	4"

GROUNDWATER PURGE AND SAMPLE

Project Name: ExxonMobil Well No: MW4 Date: 12/16/15

Project No: 15-070234-UP

Personnel: L. M. Schell

GAUGING DATA

Water Level Measuring Method: WLM

Measuring Point Description: TOC North

WELL PURGE VOLUME CALCULATION	Total Depth (feet)	Depth to Water (feet)	Water Column (feet)	Multiplier for Casing Diameter				Casing Volume (gal)	Total Purge Volume (gal)
	...	44.61	37.31	7.30	3/4	2	4	6	1.17
				0.03	0.16	0.64	1.44		

PURGING DATA

Purge Method: Bailed Purge Depth: Purge Rate: (gpm)

Time	09:59	10:05	10:10			
Volume Purge (gal)	1.5	3.0	4.5			
Temperature (C)	17.4	18.3	18.4			
pH	7.19	7.10	7.18			
Spec. Cond. (umhos)	536.8	532.3	540.2			
Turbidity/Color	1.5 NTU B.M.	light B.M.	1.5 NTU B.M.	/		
TDS (g/L) (ppm)	364.2	364.2	365.7			
ORP	—	—	—			
DO (mg/L)	—	—	—			
Odor (Y/N)	N	N	N			
Casing Volumes	1	2	3			
Dewatered (Y/N)	N	N	N			

Comments/Observations:

SAMPLING DATA

Time Sampled: 10:15 Approximate Depth to Water During Sampling: 38 (feet)

Comments:

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method
					/	
					/	
					/	

Total Purge Volume: 45 (gallons) Disposal: Onsite Drum(s) No.

Weather Conditions: Good

Condition of Well Box and Casing at Time of Sampling: Good

Well Head Conditions Requiring Correction: None

Problems Encountered During Purging and Sampling: None



GROUNDWATER PURGE AND SAMPLE

Project Name: ExxonMobil Well No: MW5 Date: 12/11/15

Project No: 15-070234-WP Personnel: M. F. J. J. J.

GAUGING DATA

Water Level Measuring Method: WLM Measuring Point Description: North

WELL PURGE VOLUME CALCULATION	Total Depth (feet)	Depth to Water (feet)	Water Column (feet)	Multiplier for Casing Diameter				Casing Volume (gal)	Total Purge Volume (gal)
	...	39.69	36.34	3.35	3/4	2	4	6	0.54
				0.03	0.16	0.64	1.44		

PURGING DATA

Purge Method: Boiled Purge Depth: Purge Rate: (gpm)

Time	1	2	3			
Volume Purge (gal)	1	2	3			
Temperature (C)	17.5					
pH	6.66					
Spec. Cond. (umhos)	439.2					
Turbidity/Color	11 NT					
TDS (mg/L)	544.1					
ORP	-					
DO (mg/L)	-					
Odor (Y/N)	Y					
Casing Volumes	1	2	3			
Dewatered (Y/N)	N	Y				

Comments/Observations: Dewatered at 1.5 gal

SAMPLING DATA

Time Sampled: 1245 Approximate Depth to Water During Sampling: 37 (feet)

Comments:

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method

Total Purge Volume: 21.5 (gallons) Disposal: Onsite Drum(s) No.

Weather Conditions: Good

Condition of Well Box and Casing at Time of Sampling: Good

Well Head Conditions Requiring Correction: None

Problems Encountered During Purging and Sampling: Well dewatered

GROUNDWATER PURGE AND SAMPLE

Project Name: ExxonMobil Well No: MW6 Date: 12/16/15
 Project No: 15-070234-4P Personnel: C. Mitchell

GAUGING DATA

Water Level Measuring Method: WLM Measuring Point Description: TEX North

WELL PURGE VOLUME CALCULATION	Total Depth (feet)	Depth to Water (feet)	Water Column (feet)	Multiplier for Casing Diameter				Casing Volume (gal)	Total Purge Volume (gal)
	...	38.14	32.76	5.38	3/4	2	4	6	0.96
				0.03	0.16	0.64	1.44		

PURGING DATA

Purge Method: *bailed* Purge Depth: Purge Rate: (gpm)

Time	11:13	11:17	11:21			
Volume Purge (gal)	1	2	3			
Temperature (C)	18.0	18.5	18.4			
pH	6.85	6.82	6.89			
Spec. Cond. (umhos)	993.5	968.1	963.5 963.5			
Turbidity/Color	1.0 NT 0.5 NT	0.5 NT 0.5 NT	0.5 NT 0.5 NT			
TDS (g/L)	695.5	677.1	669.3			
ORP	—	—	—			
DO (mg/L)	—	—	—			
Odor (Y/N)	N	N	N			
Casing Volumes	1	2	3			
Dewatered (Y/N)	N	N	N			

Comments/Observations:

SAMPLING DATA

Time Sampled: 1130 Approximate Depth to Water During Sampling: 33 (feet)

Comments:

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method

Total Purge Volume: 3 (gallons) Disposal: Onsite Drum(s) No.

Weather Conditions: *good*

Condition of Well Box and Casing at Time of Sampling: *good*

Well Head Conditions Requiring Correction: *None*

Problems Encountered During Purging and Sampling: *None*

GROUNDWATER PURGE AND SAMPLE

Project Name: ExxonMobil Well No: MW 7 Date: 12/16/15
 Project No: 15-070234-UP Personnel: C. Mitchell

GAUGING DATA

Water Level Measuring Method: WLM Measuring Point Description: POC North

WELL PURGE VOLUME CALCULATION	Total Depth (feet)	Depth to Water (feet)	Water Column (feet)	Multiplier for Casing Diameter				Casing Volume (gal)	Total Purge Volume (gal)
	...	39.14	34.67	4.52	3/4 0.03	2 0.16	4 0.64	6 1.44	0.72

PURGING DATA

Purge Method: Bailer Purge Depth: Purge Rate: (gpm)

Time	10:35	10:38	10:43			
Volume Purge (gal)	1	2	3			
Temperature (C)	18.5	19.4	19.4			
pH	6.96	6.78	6.72			
Spec. Cond. (umhos)	652.4	642.1	637.0			
Turbidity/Color	light brown	light brown	light brown			
TDS (mg/L)	448.5	440.9	437.9			
ORP	—	—	—			
DO (mg/L)	—	—	—			
Odor (Y/N)	N	N	N			
Casing Volumes	1	2	3			
Dewatered (Y/N)	N	N	N			

Comments/Observations: Roots in well casing

SAMPLING DATA

Time Sampled: 1050 Approximate Depth to Water During Sampling: 35 (feet)

Comments: Made repairs to well lid retained

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method

Total Purge Volume: 3 (gallons) Disposal: Onsite Drum(s) No.

Weather Conditions: good

Condition of Well Box and Casing at Time of Sampling: roots in well casing

Well Head Conditions Requiring Correction: at or just below water level

Problems Encountered During Purging and Sampling: water level



GROUNDWATER PURGE AND SAMPLE

Project Name: ExxonMobil Well No: *IAW 5* Date: *12/16/15*
 Project No: *15-070234-UP* Personnel: *C. Mitchell*
GAUGING DATA
 Water Level Measuring Method: *WLM* Measuring Point Description: *FOL North*

WELL PURGE VOLUME CALCULATION	Total Depth (feet)	Depth to Water (feet)	Water Column (feet)	Multiplier for Casing Diameter				Casing Volume (gal)	Total Purge Volume (gal)
	...	<i>39.56</i>	<i>33.41</i>	<i>6.15</i>	<i>3/4</i>	<i>2</i>	<i>4</i>	<i>6</i>	<i>0.95</i>
				0.03	0.16	0.64	1.44		

PURGING DATA
 Purge Method: *Boiled* Purge Depth: _____ Purge Rate: _____ (gpm)

Time	09:25	09:29	09:32			
Volume Purge (gal)	<i>1</i>	<i>2</i>	<i>3</i>			
Temperature (C)	<i>17.2</i>	<i>17.5</i>	<i>17.5</i>			
pH	<i>7.24</i>	<i>7.07</i>	<i>7.09</i>			
Spec. Cond. (umhos)	<i>739.3</i>	<i>776.5</i>	<i>769.7</i>			
Turbidity/Color	<i>light blue</i>	<i>light blue</i>	<i>light blue</i>			
TDS (g/L) <i>ppm</i>	<i>513.7</i>	<i>535.4</i>	<i>533.4</i>			
ORP	<i>—</i>	<i>—</i>	<i>—</i>			
DO (mg/L)	<i>—</i>	<i>—</i>	<i>—</i>			
Odor (Y/N)	<i>N</i>	<i>N</i>	<i>N</i>			
Casing Volumes	<i>1</i>	<i>2</i>	<i>3</i>			
Dewatered (Y/N)	<i>N</i>	<i>N</i>	<i>N</i>			

Comments/Observations:

SAMPLING DATA
 Time Sampled: *0940* Approximate Depth to Water During Sampling: *34* (feet)
 Comments:

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method

Total Purge Volume: *3* (gallons) Disposal: _____ Onsite Drum(s) No. _____
 Weather Conditions: *good*
 Condition of Well Box and Casing at Time of Sampling: *good*
 Well Head Conditions Requiring Correction: *None*
 Problems Encountered During Purging and Sampling: *None*

GROUNDWATER PURGE AND SAMPLE

Project Name: ExxonMobil Well No: *NW4* Date: *12/06/15*

Project No: *15-070734-UP* Personnel: *C. M. Farrell*

GAUGING DATA

Water Level Measuring Method: *WLM* Measuring Point Description: *TEL North*

WELL PURGE VOLUME CALCULATION	Total Depth (feet)	Depth to Water (feet)	Water Column (feet)	Multiplier for Casing Diameter				Casing Volume (gal)	Total Purge Volume (gal)
	$39.58 \times 0.76 = 30.08$ $34.54 \times 0.76 = 26.25$ $4.74 \times 0.76 = 3.60$ 60.93	<i>39.58</i>	<i>34.54</i>	<i>4.74</i>	<i>2</i>	<i>4</i>	<i>6</i>	<i>0.76</i>	<i>2.28</i>
				0.03	0.16	0.64	1.44		

PURGING DATA

Purge Method: *Boiler* Purge Depth: _____ Purge Rate: _____ (gpm)

Time	08:45	08:49	08:54			
Volume Purge (gal)	<i>1</i>	<i>2</i>	<i>3</i>			
Temperature (C)	<i>17.0</i>	<i>17.3</i>	<i>17.4</i>			
pH	<i>6.35</i>	<i>6.58</i>	<i>6.59</i>			
Spec. Cond. (umhos)	<i>912.6</i>	<i>850.1</i>	<i>876.9</i>			
Turbidity/Color	<i>light blue</i>	<i>light blue</i>	<i>light blue</i>			
TDS (mg/L)	<i>642.4</i>	<i>614.6</i>	<i>605.8</i>			
ORP	<i>—</i>	<i>—</i>	<i>—</i>			
DO (mg/L)	<i>—</i>	<i>—</i>	<i>—</i>			
Odor (Y/N)	<i>N</i>	<i>N</i>	<i>N</i>			
Casing Volumes	<i>1</i>	<i>2</i>	<i>3</i>			
Dewatered (Y/N)	<i>N</i>	<i>N</i>	<i>N</i>			

Comments/Observations:

SAMPLING DATA

Time Sampled: *0905* Approximate Depth to Water During Sampling: *3* (feet)

Comments:

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method
					/	
					/	
					/	

Total Purge Volume: *3* (gallons) Disposal: _____ Onsite Drum(s) No. _____

Weather Conditions: *good*

Condition of Well Box and Casing at Time of Sampling: *Good*

Well Head Conditions Requiring Correction: *None*

Problems Encountered During Purging and Sampling: *None*



GROUNDWATER PURGE AND SAMPLE

Project Name: ExxonMobil Well No: RW1 Date: 12/16/15
 Project No: 15-070734-UP Personnel: C. White 1/1
GAUGING DATA
 Water Level Measuring Method: WLM Measuring Point Description: TPC North

WELL PURGE VOLUME CALCULATION ...	Total Depth (feet)	Depth to Water (feet)	Water Column (feet)	Multiplier for Casing Diameter				Casing Volume (gal)	Total Purge Volume (gal)
	40.04	35.22	4.86	3/4	2	A	6	3.11	9.33
			0.03	0.18	0.64	1.44			

PURGING DATA

Purge Method: *Boiler* Purge Depth: _____ Purge Rate: _____ (gpm)

Time	11:59	12:07			
Volume Purge (gal)	3.5	7.0	10.5		
Temperature (C)	17.7	17.4			
pH	6.98	6.98			
Spec. Cond. (umhos)	826.1	819.0			
Turbidity/Color	Value <i>light blue</i>	Value <i>light blue</i>			
TDS (mg/L)	575.9	569.2			
ORP	—	—			
DO (mg/L)	—	—			
Odor (Y/N)	N	N			
Casing Volumes	1	2	3		
Dewatered (Y/N)	N	Y			

Comments/Observations: *Well dewatered at ~ 7 gal.*

SAMPLING DATA
 Time Sampled: 1305 Approximate Depth to Water During Sampling: 36 (feet)

Comments: _____

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method

Total Purge Volume: *~ 7* (gallons) Disposal: _____ Onsite Drum(s) No. _____

Weather Conditions: *Good*

Condition of Well Box and Casing at Time of Sampling: *Good*

Well Head Conditions Requiring Correction: *None*

Problems Encountered During Purging and Sampling: *None Well dewatered*

Appendix C
Waste Manifest

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number N/A	2. Page 1 of 1	3. Emergency Response Phone 800-675-1066	4. Waste Tracking Number 1109201SCM	
	5. Generator's Name and Mailing Address EXXON MOBIL OIL CORPORATION (70234) 6655 W. 190TH Street; # 1106 Torrance, CA 90504 USA		Generator's Site Address (if different than mailing address) 3450 35th Ave Oakland, CA 94604 USA		
6. Transporter 1 Company Name DILLARD ENVIRONMENTAL SERVICES			U.S. EPA ID Number CAD982523433		
7. Transporter 2 Company Name			U.S. EPA ID Number		
8. Designated Facility Name and Site Address INSTIKAT INC. 1105 AIRPORT DRIVE RIO VISTA, CA 94571			U.S. EPA ID Number		
Facility's Phone: 520-753-1829					
9. Waste Shipping Name and Description		10. Containers		11. Total Quantity	12. Unit W/L Vol.
		No.	Type		
1. Non Hazardous Waste Liquid (Monitoring Well Purge Water)		1	DM	25	G
2.					
3.					
4.					
13. Special Handling Instructions and Additional Information DES JOB #911-233 XSS DM					
ON BEHALF OF EXXONMOBIL OIL CORPORATION:					
14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.					
Generator's/Offeror's Printed/Typed Name John Haberland			Signature <i>John Haberland</i>		Month Day Year 12/16/15
15. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: Date leaving U.S.:					
16. Transporter Acknowledgment of Receipt of Materials					
Transporter 1 Printed/Typed Name KEN WILSON			Signature <i>Ken Wilson</i>		Month Day Year 12/16/15
Transporter 2 Printed/Typed Name			Signature		Month Day Year
17. Discrepancy					
17a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection					
Manifest Reference Number: U.S. EPA ID Number:					
17b. Alternate Facility (or Generator)					
Facility's Phone:					
17c. Signature of Alternate Facility (or Generator)					
18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in item 17a					
Printed/Typed Name MICHAEL WHITEHEAD			Signature <i>Michael Whitehead</i>		Month Day Year 12/16/15

GENERATOR

TRANSPORTER INTL

DESIGNATED FACILITY

Appendix D

Laboratory Analytical Reports and Chain-of-Custody Documentation



Calscience



WORK ORDER NUMBER: 15-12-1337

The difference is service



AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: ETIC Engineering, Inc.

Client Project Name: ExxonMobil 70234

Attention: Sean Bowen
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Cecile de Guia

Approved for release on 01/04/2016 by:
Cecile deGuia
Project Manager

ResultLink ▶

Email your PM ▶



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 Work Order Number: 15-12-1337

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Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 12/17/15. They were assigned to Work Order 15-12-1337.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of ≤ 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

Sample Summary

Client: ETIC Engineering, Inc. 898 N. Fair Oaks Avenue, Suite A Pasadena, CA 91103-3065	Work Order: 15-12-1337 Project Name: ExxonMobil 70234 PO Number: 4410274216 Date/Time Received: 12/17/15 08:10 Number of Containers: 70
---	---

Attn: Sean Bowen

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
MW4	15-12-1337-1	12/16/15 10:15	10	Aqueous
MW5	15-12-1337-2	12/16/15 12:45	10	Aqueous
MW6	15-12-1337-3	12/16/15 11:30	10	Aqueous
MW7	15-12-1337-4	12/16/15 10:50	10	Aqueous
MW8	15-12-1337-5	12/16/15 09:40	10	Aqueous
MW9	15-12-1337-6	12/16/15 09:05	10	Aqueous
RW1	15-12-1337-7	12/16/15 13:05	10	Aqueous



Calscience

Analytical Report

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: N/A
Method: RSK-175M
Units: ug/L

Project: ExxonMobil 70234

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW4	15-12-1337-1-H	12/16/15 10:15	Aqueous	GC 61	N/A	12/18/15 11:28	151218L01

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Methane	0.358	1.00	0.0400	1.00	J

MW5	15-12-1337-2-H	12/16/15 12:45	Aqueous	GC 61	N/A	12/18/15 11:52	151218L01
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Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Methane	25.0	1.00	0.0400	1.00	

MW6	15-12-1337-3-H	12/16/15 11:30	Aqueous	GC 61	N/A	12/18/15 12:29	151218L01
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Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Methane	2.71	1.00	0.0400	1.00	

MW7	15-12-1337-4-H	12/16/15 10:50	Aqueous	GC 61	N/A	12/18/15 13:01	151218L01
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Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Methane	8.51	1.00	0.0400	1.00	

MW8	15-12-1337-5-H	12/16/15 09:40	Aqueous	GC 61	N/A	12/18/15 13:30	151218L01
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Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Methane	0.182	1.00	0.0400	1.00	J

MW9	15-12-1337-6-H	12/16/15 09:05	Aqueous	GC 61	N/A	12/18/15 13:58	151218L01
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Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Methane	0.0510	1.00	0.0400	1.00	J

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

Analytical Report

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: N/A
Method: RSK-175M
Units: ug/L

Project: ExxonMobil 70234

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
RW1	15-12-1337-7-H	12/16/15 13:05	Aqueous	GC 61	N/A	12/18/15 14:20	151218L01

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qualifiers</u>
Methane	1.62	1.00	0.0400	1.00	

Method Blank	099-12-663-2529	N/A	Aqueous	GC 61	N/A	12/18/15 10:57	151218L01
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Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qualifiers</u>
Methane	ND	1.00	0.0400	1.00	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: N/A
Method: EPA 300.0
Units: mg/L

Project: ExxonMobil 70234

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW4	15-12-1337-1-I	12/16/15 10:15	Aqueous	IC 7	N/A	12/17/15 17:36	151217L01

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qualifiers</u>
Nitrate (as N)	2.5	0.10	0.053	1.00	
Sulfate	65	1.0	0.27	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW5	15-12-1337-2-I	12/16/15 12:45	Aqueous	IC 7	N/A	12/17/15 17:53	151217L01

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qualifiers</u>
Nitrate (as N)	0.36	0.10	0.053	1.00	
Sulfate	28	1.0	0.27	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW6	15-12-1337-3-I	12/16/15 11:30	Aqueous	IC 7	N/A	12/17/15 18:09	151217L01

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qualifiers</u>
Nitrate (as N)	0.14	0.10	0.053	1.00	
Sulfate	43	1.0	0.27	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW7	15-12-1337-4-I	12/16/15 10:50	Aqueous	IC 7	N/A	12/17/15 18:25	151217L01

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qualifiers</u>
Nitrate (as N)	1.8	0.10	0.053	1.00	
Sulfate	64	1.0	0.27	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW8	15-12-1337-5-I	12/16/15 09:40	Aqueous	IC 7	N/A	12/17/15 18:42	151217L01

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qualifiers</u>
Nitrate (as N)	8.3	0.10	0.053	1.00	
Sulfate	42	1.0	0.27	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

Analytical Report

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: N/A
Method: EPA 300.0
Units: mg/L

Project: ExxonMobil 70234

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW9	15-12-1337-6-I	12/16/15 09:05	Aqueous	IC 7	N/A	12/17/15 18:58	151217L01

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qualifiers</u>
Nitrate (as N)	5.6	0.10	0.053	1.00	
Sulfate	39	1.0	0.27	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
RW1	15-12-1337-7-I	12/16/15 13:05	Aqueous	IC 7	N/A	12/17/15 19:15	151217L01

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qualifiers</u>
Nitrate (as N)	0.85	0.10	0.053	1.00	
Sulfate	40	1.0	0.27	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-906-6338	N/A	Aqueous	IC 7	N/A	12/17/15 07:44	151217L01

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qualifiers</u>
Nitrate (as N)	ND	0.10	0.053	1.00	
Sulfate	ND	1.0	0.27	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

Analytical Report

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: N/A
Method: SM 2320B
Units: mg/L

Project: ExxonMobil 70234

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW4	15-12-1337-1-I	12/16/15 10:15	Aqueous	PH1/BUR03	N/A	12/21/15 15:35	F1221ALKB2

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Alkalinity, Total (as CaCO ₃)	169	5.00	0.848	1.00	

MW5	15-12-1337-2-I	12/16/15 12:45	Aqueous	PH1/BUR03	N/A	12/21/15 15:35	F1221ALKB2
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Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Alkalinity, Total (as CaCO ₃)	352	5.00	0.848	1.00	

MW6	15-12-1337-3-I	12/16/15 11:30	Aqueous	PH1/BUR03	N/A	12/21/15 15:35	F1221ALKB2
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Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Alkalinity, Total (as CaCO ₃)	484	5.00	0.848	1.00	

MW7	15-12-1337-4-I	12/16/15 10:50	Aqueous	PH1/BUR03	N/A	12/21/15 15:35	F1221ALKB2
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Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Alkalinity, Total (as CaCO ₃)	222	5.00	0.848	1.00	

MW8	15-12-1337-5-I	12/16/15 09:40	Aqueous	PH1/BUR03	N/A	12/21/15 15:35	F1221ALKB2
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Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Alkalinity, Total (as CaCO ₃)	229	5.00	0.848	1.00	

MW9	15-12-1337-6-I	12/16/15 09:05	Aqueous	PH1/BUR03	N/A	12/21/15 15:35	F1221ALKB2
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Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Alkalinity, Total (as CaCO ₃)	258	5.00	0.848	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



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Analytical Report

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: N/A
Method: SM 2320B
Units: mg/L

Project: ExxonMobil 70234

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
RW1	15-12-1337-7-I	12/16/15 13:05	Aqueous	PH1/BUR03	N/A	12/21/15 15:35	F1221ALKB2

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Alkalinity, Total (as CaCO ₃)	301	5.00	0.848	1.00	

Method Blank	099-15-859-900	N/A	Aqueous	PH1/BUR03	N/A	12/21/15 15:35	F1221ALKB2
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Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Alkalinity, Total (as CaCO ₃)	ND	1.0	0.85	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



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Analytical Report

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: N/A
Method: SM 3500-FeB
Units: mg/L

Project: ExxonMobil 70234

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW4	15-12-1337-1-J	12/16/15 10:15	Aqueous	UV 8	12/17/15	12/17/15 08:53	F1217FEL3

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Iron (II)	ND	0.100	0.0413	1.00	

MW5	15-12-1337-2-J	12/16/15 12:45	Aqueous	UV 8	12/17/15	12/17/15 10:49	F1217FEL2
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Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Iron (II)	2.69	0.100	0.0413	1.00	

MW6	15-12-1337-3-J	12/16/15 11:30	Aqueous	UV 8	12/17/15	12/17/15 10:49	F1217FEL2
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Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Iron (II)	ND	0.100	0.0413	1.00	

MW7	15-12-1337-4-J	12/16/15 10:50	Aqueous	UV 8	12/17/15	12/17/15 10:49	F1217FEL2
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Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Iron (II)	ND	0.100	0.0413	1.00	

MW8	15-12-1337-5-J	12/16/15 09:40	Aqueous	UV 8	12/17/15	12/17/15 08:53	F1217FEL3
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Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Iron (II)	ND	0.100	0.0413	1.00	

MW9	15-12-1337-6-J	12/16/15 09:05	Aqueous	UV 8	12/17/15	12/17/15 08:53	F1217FEL3
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Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Iron (II)	ND	0.100	0.0413	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



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Analytical Report

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: N/A
Method: SM 3500-FeB
Units: mg/L

Project: ExxonMobil 70234

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
RW1	15-12-1337-7-J	12/16/15 13:05	Aqueous	UV 8	12/17/15	12/17/15 10:49	F1217FEL2

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Iron (II)	ND	0.100	0.0413	1.00	

Method Blank	099-05-111-5248	N/A	Aqueous	UV 8	12/17/15	12/17/15 10:49	F1217FEL2
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Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Iron (II)	ND	0.100	0.0413	1.00	

Method Blank	099-05-111-5251	N/A	Aqueous	UV 8	12/17/15	12/17/15 08:53	F1217FEL3
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Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Iron (II)	ND	0.100	0.0413	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



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Analytical Report

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: EPA 5030C
Method: EPA 8015B (M)
Units: ug/L

Project: ExxonMobil 70234

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW4	15-12-1337-1-F	12/16/15 10:15	Aqueous	GC 56	12/22/15	12/22/15 23:07	151222L036

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
TPH as Gasoline	ND	50	48	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	69	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW5	15-12-1337-2-F	12/16/15 12:45	Aqueous	GC 56	12/22/15	12/23/15 08:50	151222L036

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
TPH as Gasoline	760	50	48	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	70	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW6	15-12-1337-3-F	12/16/15 11:30	Aqueous	GC 56	12/22/15	12/23/15 09:22	151222L036

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
TPH as Gasoline	62	50	48	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	67	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW7	15-12-1337-4-F	12/16/15 10:50	Aqueous	GC 56	12/22/15	12/23/15 09:53	151222L036

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
TPH as Gasoline	110	50	48	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	68	38-134	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

Analytical Report

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: EPA 5030C
Method: EPA 8015B (M)
Units: ug/L

Project: ExxonMobil 70234

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW8	15-12-1337-5-F	12/16/15 09:40	Aqueous	GC 56	12/22/15	12/23/15 10:25	151222L036

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
TPH as Gasoline	ND	50	48	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	67	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW9	15-12-1337-6-F	12/16/15 09:05	Aqueous	GC 56	12/22/15	12/23/15 10:56	151222L036

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
TPH as Gasoline	ND	50	48	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	66	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
RW1	15-12-1337-7-F	12/16/15 13:05	Aqueous	GC 56	12/22/15	12/23/15 11:28	151222L036

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
TPH as Gasoline	310	50	48	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	69	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-436-10529	N/A	Aqueous	GC 56	12/22/15	12/22/15 13:06	151222L036

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
TPH as Gasoline	ND	50	48	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	68	38-134	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

Analytical Report

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 70234

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW4	15-12-1337-1-A	12/16/15 10:15	Aqueous	GC/MS L	12/18/15	12/19/15 03:21	151218L041

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Benzene	ND	0.50	0.32	1.00	
Ethylbenzene	ND	0.50	0.32	1.00	
Toluene	ND	0.50	0.26	1.00	
p/m-Xylene	ND	0.50	0.24	1.00	
o-Xylene	ND	0.50	0.39	1.00	
Xylenes (total)	ND	0.50	0.24	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	0.29	1.00	
Tert-Butyl Alcohol (TBA)	ND	10	4.1	1.00	
Diisopropyl Ether (DIPE)	ND	0.50	0.24	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.50	0.22	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.50	0.24	1.00	
1,2-Dibromoethane	ND	0.50	0.34	1.00	
1,2-Dichloroethane	ND	0.50	0.18	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	102	68-120	
Dibromofluoromethane	98	80-127	
1,2-Dichloroethane-d4	99	80-128	
Toluene-d8	99	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

Analytical Report

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 70234

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW5	15-12-1337-2-B	12/16/15 12:45	Aqueous	GC/MS L	12/22/15	12/22/15 15:06	151222L019

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Benzene	150	2.5	1.6	5.00	
Ethylbenzene	1.8	2.5	1.6	5.00	J
Toluene	2.0	2.5	1.3	5.00	J
p/m-Xylene	4.6	2.5	1.2	5.00	
o-Xylene	ND	2.5	2.0	5.00	
Xylenes (total)	4.6	2.5	1.2	1.00	
Methyl-t-Butyl Ether (MTBE)	94	2.5	1.4	5.00	
Tert-Butyl Alcohol (TBA)	790	50	20	5.00	
Diisopropyl Ether (DIPE)	ND	2.5	1.2	5.00	
Ethyl-t-Butyl Ether (ETBE)	ND	2.5	1.1	5.00	
Tert-Amyl-Methyl Ether (TAME)	ND	2.5	1.2	5.00	
1,2-Dibromoethane	ND	2.5	1.7	5.00	
1,2-Dichloroethane	ND	2.5	0.92	5.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	101	68-120	
Dibromofluoromethane	101	80-127	
1,2-Dichloroethane-d4	101	80-128	
Toluene-d8	101	80-120	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



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Analytical Report

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 70234

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW6	15-12-1337-3-A	12/16/15 11:30	Aqueous	GC/MS L	12/18/15	12/18/15 18:50	151218L005

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Benzene	ND	2.5	1.6	5.00	
Ethylbenzene	ND	2.5	1.6	5.00	
Toluene	ND	2.5	1.3	5.00	
p/m-Xylene	ND	2.5	1.2	5.00	
o-Xylene	ND	2.5	2.0	5.00	
Xylenes (total)	ND	2.5	1.2	1.00	
Methyl-t-Butyl Ether (MTBE)	36	2.5	1.4	5.00	
Tert-Butyl Alcohol (TBA)	530	50	20	5.00	
Diisopropyl Ether (DIPE)	ND	2.5	1.2	5.00	
Ethyl-t-Butyl Ether (ETBE)	ND	2.5	1.1	5.00	
Tert-Amyl-Methyl Ether (TAME)	ND	2.5	1.2	5.00	
1,2-Dibromoethane	ND	2.5	1.7	5.00	
1,2-Dichloroethane	ND	2.5	0.92	5.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	98	68-120	
Dibromofluoromethane	97	80-127	
1,2-Dichloroethane-d4	102	80-128	
Toluene-d8	100	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

Analytical Report

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 70234

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW7	15-12-1337-4-B	12/16/15 10:50	Aqueous	GC/MS L	12/22/15	12/22/15 15:35	151222L019

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Benzene	ND	4.0	2.6	8.00	
Ethylbenzene	ND	4.0	2.5	8.00	
Toluene	ND	4.0	2.1	8.00	
p/m-Xylene	ND	4.0	1.9	8.00	
o-Xylene	ND	4.0	3.1	8.00	
Xylenes (total)	ND	4.0	1.9	1.00	
Methyl-t-Butyl Ether (MTBE)	220	4.0	2.3	8.00	
Tert-Butyl Alcohol (TBA)	ND	80	33	8.00	
Diisopropyl Ether (DIPE)	ND	4.0	1.9	8.00	
Ethyl-t-Butyl Ether (ETBE)	ND	4.0	1.7	8.00	
Tert-Amyl-Methyl Ether (TAME)	ND	4.0	1.9	8.00	
1,2-Dibromoethane	ND	4.0	2.7	8.00	
1,2-Dichloroethane	ND	4.0	1.5	8.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	101	68-120	
Dibromofluoromethane	101	80-127	
1,2-Dichloroethane-d4	102	80-128	
Toluene-d8	101	80-120	



Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

Analytical Report

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 70234

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW8	15-12-1337-5-A	12/16/15 09:40	Aqueous	GC/MS L	12/18/15	12/19/15 03:50	151218L041

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Benzene	ND	0.50	0.32	1.00	
Ethylbenzene	ND	0.50	0.32	1.00	
Toluene	ND	0.50	0.26	1.00	
p/m-Xylene	ND	0.50	0.24	1.00	
o-Xylene	ND	0.50	0.39	1.00	
Xylenes (total)	ND	0.50	0.24	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	0.29	1.00	
Tert-Butyl Alcohol (TBA)	ND	10	4.1	1.00	
Diisopropyl Ether (DIPE)	ND	0.50	0.24	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.50	0.22	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.50	0.24	1.00	
1,2-Dibromoethane	ND	0.50	0.34	1.00	
1,2-Dichloroethane	ND	0.50	0.18	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	101	68-120	
Dibromofluoromethane	97	80-127	
1,2-Dichloroethane-d4	99	80-128	
Toluene-d8	98	80-120	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

Analytical Report

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 70234

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW9	15-12-1337-6-A	12/16/15 09:05	Aqueous	GC/MS L	12/18/15	12/19/15 04:19	151218L041

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Benzene	ND	0.50	0.32	1.00	
Ethylbenzene	ND	0.50	0.32	1.00	
Toluene	ND	0.50	0.26	1.00	
p/m-Xylene	ND	0.50	0.24	1.00	
o-Xylene	ND	0.50	0.39	1.00	
Xylenes (total)	ND	0.50	0.24	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	0.29	1.00	
Tert-Butyl Alcohol (TBA)	ND	10	4.1	1.00	
Diisopropyl Ether (DIPE)	ND	0.50	0.24	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.50	0.22	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.50	0.24	1.00	
1,2-Dibromoethane	ND	0.50	0.34	1.00	
1,2-Dichloroethane	ND	0.50	0.18	1.00	
Surrogate	Rec. (%)	Control Limits	Qualifiers		
1,4-Bromofluorobenzene	102	68-120			
Dibromofluoromethane	99	80-127			
1,2-Dichloroethane-d4	102	80-128			
Toluene-d8	97	80-120			

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 70234

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
RW1	15-12-1337-7-B	12/16/15 13:05	Aqueous	GC/MS L	12/22/15	12/22/15 16:04	151222L019

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Benzene	150	5.0	3.2	10.0	
Ethylbenzene	ND	5.0	3.2	10.0	
Toluene	ND	5.0	2.6	10.0	
p/m-Xylene	ND	5.0	2.4	10.0	
o-Xylene	ND	5.0	3.9	10.0	
Xylenes (total)	ND	5.0	2.4	1.00	
Methyl-t-Butyl Ether (MTBE)	110	5.0	2.9	10.0	
Tert-Butyl Alcohol (TBA)	1300	100	41	10.0	
Diisopropyl Ether (DIPE)	ND	5.0	2.4	10.0	
Ethyl-t-Butyl Ether (ETBE)	ND	5.0	2.2	10.0	
Tert-Amyl-Methyl Ether (TAME)	ND	5.0	2.4	10.0	
1,2-Dibromoethane	ND	5.0	3.4	10.0	
1,2-Dichloroethane	ND	5.0	1.8	10.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	101	68-120	
Dibromofluoromethane	101	80-127	
1,2-Dichloroethane-d4	104	80-128	
Toluene-d8	101	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



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Analytical Report

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 70234

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-10-025-3808	N/A	Aqueous	GC/MS L	12/18/15	12/18/15 12:04	151218L005

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Benzene	ND	0.50	0.32	1.00	
Ethylbenzene	ND	0.50	0.32	1.00	
Toluene	ND	0.50	0.26	1.00	
p/m-Xylene	ND	0.50	0.24	1.00	
o-Xylene	ND	0.50	0.39	1.00	
Xylenes (total)	ND	0.50	0.24	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	0.29	1.00	
Tert-Butyl Alcohol (TBA)	ND	10	4.1	1.00	
Diisopropyl Ether (DIPE)	ND	0.50	0.24	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.50	0.22	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.50	0.24	1.00	
1,2-Dibromoethane	ND	0.50	0.34	1.00	
1,2-Dichloroethane	ND	0.50	0.18	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	100	68-120	
Dibromofluoromethane	93	80-127	
1,2-Dichloroethane-d4	97	80-128	
Toluene-d8	100	80-120	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 70234

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-10-025-3809	N/A	Aqueous	GC/MS L	12/18/15	12/18/15 23:32	151218L041

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qualifiers</u>
Benzene	ND	0.50	0.32	1.00	
Ethylbenzene	ND	0.50	0.32	1.00	
Toluene	ND	0.50	0.26	1.00	
p/m-Xylene	ND	0.50	0.24	1.00	
o-Xylene	ND	0.50	0.39	1.00	
Xylenes (total)	ND	0.50	0.24	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	0.29	1.00	
Tert-Butyl Alcohol (TBA)	ND	10	4.1	1.00	
Diisopropyl Ether (DIPE)	ND	0.50	0.24	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.50	0.22	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.50	0.24	1.00	
1,2-Dibromoethane	ND	0.50	0.34	1.00	
1,2-Dichloroethane	ND	0.50	0.18	1.00	

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
1,4-Bromofluorobenzene	97	68-120	
Dibromofluoromethane	100	80-127	
1,2-Dichloroethane-d4	104	80-128	
Toluene-d8	99	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 70234

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-10-025-3811	N/A	Aqueous	GC/MS L	12/22/15	12/22/15 11:02	151222L019

Comment(s): - Results were evaluated to the MDL (DL), concentrations \geq to the MDL (DL) but $<$ RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Benzene	ND	0.50	0.32	1.00	
Ethylbenzene	ND	0.50	0.32	1.00	
Toluene	ND	0.50	0.26	1.00	
p/m-Xylene	ND	0.50	0.24	1.00	
o-Xylene	ND	0.50	0.39	1.00	
Xylenes (total)	ND	0.50	0.24	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	0.29	1.00	
Tert-Butyl Alcohol (TBA)	ND	10	4.1	1.00	
Diisopropyl Ether (DIPE)	ND	0.50	0.24	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.50	0.22	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.50	0.24	1.00	
1,2-Dibromoethane	ND	0.50	0.34	1.00	
1,2-Dichloroethane	ND	0.50	0.18	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	98	68-120	
Dibromofluoromethane	102	80-127	
1,2-Dichloroethane-d4	96	80-128	
Toluene-d8	99	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

Quality Control - Spike/Spike Duplicate

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: N/A
Method: EPA 300.0

Project: ExxonMobil 70234

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
RW1	Sample	Aqueous	IC 7	N/A	12/17/15 19:15	151217S01
RW1	Matrix Spike	Aqueous	IC 7	N/A	12/17/15 19:31	151217S01
RW1	Matrix Spike Duplicate	Aqueous	IC 7	N/A	12/17/15 19:48	151217S01

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Nitrate (as N)	0.8530	5.000	5.824	99	5.812	99	80-120	0	0-20	
Sulfate	39.82	50.00	93.16	107	92.88	106	80-120	0	0-20	


 Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - Spike/Spike Duplicate

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: N/A
Method: SM 3500-FeB

Project: ExxonMobil 70234

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number				
MW5	Sample	Aqueous	UV 8	12/17/15	12/17/15 10:49	F1217FES2				
MW5	Matrix Spike	Aqueous	UV 8	12/17/15	12/17/15 10:49	F1217FES2				
MW5	Matrix Spike Duplicate	Aqueous	UV 8	12/17/15	12/17/15 10:49	F1217FES2				
<u>Parameter</u>	<u>Sample Conc.</u>	<u>Spike Added</u>	<u>MS Conc.</u>	<u>MS %Rec.</u>	<u>MSD Conc.</u>	<u>MSD %Rec.</u>	<u>%Rec. CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Iron (II)	2.690	1.000	3.590	90	3.520	83	70-130	2	0-25	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - Spike/Spike Duplicate

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: N/A
Method: SM 3500-FeB

Project: ExxonMobil 70234

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number				
MW4	Sample	Aqueous	UV 8	12/17/15	12/17/15 08:53	F1217FES3				
MW4	Matrix Spike	Aqueous	UV 8	12/17/15	12/17/15 08:53	F1217FES3				
MW4	Matrix Spike Duplicate	Aqueous	UV 8	12/17/15	12/17/15 08:53	F1217FES3				
<u>Parameter</u>	<u>Sample Conc.</u>	<u>Spike Added</u>	<u>MS Conc.</u>	<u>MS %Rec.</u>	<u>MSD Conc.</u>	<u>MSD %Rec.</u>	<u>%Rec. CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Iron (II)	ND	1.000	0.9200	92	0.9300	93	70-130	1	0-25	


 Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - Spike/Spike Duplicate

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: EPA 5030C
Method: EPA 8015B (M)

Project: ExxonMobil 70234

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
15-12-1338-1	Sample	Aqueous	GC 56	12/22/15	12/22/15 13:37	151222S022
15-12-1338-1	Matrix Spike	Aqueous	GC 56	12/22/15	12/22/15 14:09	151222S022
15-12-1338-1	Matrix Spike Duplicate	Aqueous	GC 56	12/22/15	12/22/15 14:41	151222S022

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	ND	2000	1843	92	2044	102	68-122	10	0-18	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - Spike/Spike Duplicate

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: EPA 5030C
Method: EPA 8260B

Project: ExxonMobil 70234

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
15-12-1216-11	Sample	Aqueous	GC/MS L	12/18/15	12/18/15 12:36	151218S004
15-12-1216-11	Matrix Spike	Aqueous	GC/MS L	12/18/15	12/18/15 11:07	151218S004
15-12-1216-11	Matrix Spike Duplicate	Aqueous	GC/MS L	12/18/15	12/18/15 11:35	151218S004

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	23.58	10.00	34.03	104	32.70	91	75-125	4	0-20	
Ethylbenzene	0.6379	10.00	11.32	107	10.50	99	75-125	7	0-20	
Toluene	2.543	10.00	12.98	104	12.06	95	75-125	7	0-20	
p/m-Xylene	8.115	20.00	29.77	108	27.80	98	75-125	7	0-20	
o-Xylene	1.600	10.00	12.15	106	11.33	97	75-127	7	0-20	
Methyl-t-Butyl Ether (MTBE)	ND	10.00	9.773	98	9.882	99	71-131	1	0-20	
Tert-Butyl Alcohol (TBA)	ND	50.00	47.71	95	48.24	96	20-180	1	0-40	
Diisopropyl Ether (DIPE)	ND	10.00	9.608	96	9.314	93	64-136	3	0-20	
Ethyl-t-Butyl Ether (ETBE)	ND	10.00	9.673	97	9.555	96	73-133	1	0-20	
Tert-Amyl-Methyl Ether (TAME)	ND	10.00	9.694	97	9.741	97	75-125	0	0-20	
1,2-Dibromoethane	ND	10.00	10.52	105	10.16	102	75-126	3	0-20	
1,2-Dichloroethane	ND	10.00	11.34	113	10.38	104	75-127	9	0-20	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - Spike/Spike Duplicate

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: EPA 5030C
Method: EPA 8260B

Project: ExxonMobil 70234

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number				
15-12-1338-1	Sample	Aqueous	GC/MS L	12/18/15	12/19/15 00:01	151218S017				
15-12-1338-1	Matrix Spike	Aqueous	GC/MS L	12/18/15	12/18/15 22:35	151218S017				
15-12-1338-1	Matrix Spike Duplicate	Aqueous	GC/MS L	12/18/15	12/18/15 23:04	151218S017				
Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	ND	10.00	9.662	97	9.615	96	75-125	0	0-20	
Ethylbenzene	ND	10.00	10.47	105	10.78	108	75-125	3	0-20	
Toluene	ND	10.00	9.732	97	9.804	98	75-125	1	0-20	
p/m-Xylene	ND	20.00	20.85	104	21.37	107	75-125	2	0-20	
o-Xylene	ND	10.00	10.16	102	10.42	104	75-127	3	0-20	
Methyl-t-Butyl Ether (MTBE)	ND	10.00	9.344	93	9.568	96	71-131	2	0-20	
Tert-Butyl Alcohol (TBA)	ND	50.00	53.32	107	49.77	100	20-180	7	0-40	
Diisopropyl Ether (DIPE)	ND	10.00	8.916	89	9.098	91	64-136	2	0-20	
Ethyl-t-Butyl Ether (ETBE)	ND	10.00	9.173	92	9.271	93	73-133	1	0-20	
Tert-Amyl-Methyl Ether (TAME)	ND	10.00	9.251	93	9.476	95	75-125	2	0-20	
1,2-Dibromoethane	ND	10.00	9.630	96	9.888	99	75-126	3	0-20	
1,2-Dichloroethane	ND	10.00	9.967	100	10.04	100	75-127	1	0-20	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - Spike/Spike Duplicate

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: EPA 5030C
Method: EPA 8260B

Project: ExxonMobil 70234

Page 7 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
15-12-1577-1	Sample	Aqueous	GC/MS L	12/22/15	12/22/15 11:48	151222S007
15-12-1577-1	Matrix Spike	Aqueous	GC/MS L	12/22/15	12/22/15 12:24	151222S007
15-12-1577-1	Matrix Spike Duplicate	Aqueous	GC/MS L	12/22/15	12/22/15 12:53	151222S007

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	ND	10.00	11.54	115	11.71	117	75-125	1	0-20	
Ethylbenzene	ND	10.00	11.95	120	11.83	118	75-125	1	0-20	
Toluene	ND	10.00	11.66	117	11.77	118	75-125	1	0-20	
p/m-Xylene	ND	20.00	23.75	119	23.47	117	75-125	1	0-20	
o-Xylene	ND	10.00	11.38	114	11.29	113	75-127	1	0-20	
Methyl-t-Butyl Ether (MTBE)	ND	10.00	10.30	103	11.20	112	71-131	8	0-20	
Tert-Butyl Alcohol (TBA)	ND	50.00	60.72	121	56.79	114	20-180	7	0-40	
Diisopropyl Ether (DIPE)	ND	10.00	11.08	111	11.33	113	64-136	2	0-20	
Ethyl-t-Butyl Ether (ETBE)	ND	10.00	10.59	106	11.22	112	73-133	6	0-20	
Tert-Amyl-Methyl Ether (TAME)	ND	10.00	10.12	101	11.05	110	75-125	9	0-20	
1,2-Dibromoethane	ND	10.00	10.20	102	10.74	107	75-126	5	0-20	
1,2-Dichloroethane	ND	10.00	10.42	104	11.08	111	75-127	6	0-20	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - Sample Duplicate

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: N/A
Method: SM 2320B

Project: ExxonMobil 70234

Page 1 of 1

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
15-12-1091-1	Sample	Aqueous	PH1/BUR03	N/A	12/21/15 15:35	F1221ALKD2
15-12-1091-1	Sample Duplicate	Aqueous	PH1/BUR03	N/A	12/21/15 15:35	F1221ALKD2
<u>Parameter</u>		<u>Sample Conc.</u>	<u>DUP Conc.</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Alkalinity, Total (as CaCO ₃)		297.0	296.0	0	0-25	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - LCS/LCSD

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: N/A
Method: RSK-175M

Project: ExxonMobil 70234

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-663-2529	LCS	Aqueous	GC 61	N/A	12/18/15 10:08	151218L01
099-12-663-2529	LCSD	Aqueous	GC 61	N/A	12/18/15 10:32	151218L01

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Methane	102.0	97.61	96	98.41	96	80-120	1	0-20	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - LCS

ETIC Engineering, Inc.
 898 N. Fair Oaks Avenue, Suite A
 Pasadena, CA 91103-3065

Date Received: 12/17/15
 Work Order: 15-12-1337
 Preparation: N/A
 Method: EPA 300.0

Project: ExxonMobil 70234

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-906-6338	LCS	Aqueous	IC 7	N/A	12/17/15 08:01	151217L01

<u>Parameter</u>	<u>Spike Added</u>	<u>Conc. Recovered</u>	<u>LCS %Rec.</u>	<u>%Rec. CL</u>	<u>Qualifiers</u>
Nitrate (as N)	5.000	5.073	101	90-110	
Sulfate	50.00	50.25	100	90-110	

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RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - LCS/LCSD

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: N/A
Method: SM 2320B

Project: ExxonMobil 70234

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-15-859-900	LCS	Aqueous	PH1/BUR03	N/A	12/21/15 15:35	F1221ALKB2
099-15-859-900	LCSD	Aqueous	PH1/BUR03	N/A	12/21/15 15:35	F1221ALKB2

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Alkalinity, Total (as CaCO3)	100.0	100.0	100	101.0	101	80-120	1	0-20	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - LCS/LCSD

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: N/A
Method: SM 3500-FeB

Project: ExxonMobil 70234

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-05-111-5248	LCS	Aqueous	UV 8	12/17/15	12/17/15 10:49	F1217FEL2
099-05-111-5248	LCSD	Aqueous	UV 8	12/17/15	12/17/15 10:49	F1217FEL2

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Iron (II)	1.000	0.9300	93	0.9400	94	80-120	1	0-20	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - LCS/LCSD

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: N/A
Method: SM 3500-FeB

Project: ExxonMobil 70234

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number			
099-05-111-5251	LCS	Aqueous	UV 8	12/17/15	12/17/15 08:53	F1217FEL3			
099-05-111-5251	LCSD	Aqueous	UV 8	12/17/15	12/17/15 08:53	F1217FEL3			
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Iron (II)	1.000	0.9800	98	0.9000	90	80-120	9	0-20	

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RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - LCS

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: EPA 5030C
Method: EPA 8015B (M)

Project: ExxonMobil 70234

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-436-10529	LCS	Aqueous	GC 56	12/22/15	12/22/15 12:34	151222L036
<u>Parameter</u>		<u>Spike Added</u>	<u>Conc. Recovered</u>	<u>LCS %Rec.</u>	<u>%Rec. CL</u>	<u>Qualifiers</u>
TPH as Gasoline		2000	2022	101	78-120	

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RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - LCS

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: EPA 5030C
Method: EPA 8260B

Project: ExxonMobil 70234

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number	
099-10-025-3808	LCS	Aqueous	GC/MS L	12/18/15	12/18/15 10:33	151218L005	
<u>Parameter</u>		<u>Spike Added</u>	<u>Conc. Recovered</u>	<u>LCS %Rec.</u>	<u>%Rec. CL</u>	<u>ME CL</u>	<u>Qualifiers</u>
Benzene		10.00	9.060	91	80-120	73-127	
Ethylbenzene		10.00	9.724	97	80-120	73-127	
Toluene		10.00	9.346	93	80-120	73-127	
p/m-Xylene		20.00	19.64	98	80-120	73-127	
o-Xylene		10.00	9.556	96	80-120	73-127	
Methyl-t-Butyl Ether (MTBE)		10.00	9.692	97	75-123	67-131	
Tert-Butyl Alcohol (TBA)		50.00	51.99	104	80-120	73-127	
Diisopropyl Ether (DIPE)		10.00	8.859	89	73-121	65-129	
Ethyl-t-Butyl Ether (ETBE)		10.00	8.885	89	76-124	68-132	
Tert-Amyl-Methyl Ether (TAME)		10.00	9.651	97	80-120	73-127	
1,2-Dibromoethane		10.00	10.22	102	80-120	73-127	
1,2-Dichloroethane		10.00	10.12	101	80-122	73-129	

Total number of LCS compounds: 12

Total number of ME compounds: 0

Total number of ME compounds allowed: 1

LCS ME CL validation result: Pass

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - LCS

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: EPA 5030C
Method: EPA 8260B

Project: ExxonMobil 70234

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number	
099-10-025-3809	LCS	Aqueous	GC/MS L	12/18/15	12/18/15 22:06	151218L041	
<u>Parameter</u>		<u>Spike Added</u>	<u>Conc. Recovered</u>	<u>LCS %Rec.</u>	<u>%Rec. CL</u>	<u>ME CL</u>	<u>Qualifiers</u>
Benzene		10.00	9.211	92	80-120	73-127	
Ethylbenzene		10.00	10.27	103	80-120	73-127	
Toluene		10.00	9.249	92	80-120	73-127	
p/m-Xylene		20.00	20.58	103	80-120	73-127	
o-Xylene		10.00	10.08	101	80-120	73-127	
Methyl-t-Butyl Ether (MTBE)		10.00	8.348	83	75-123	67-131	
Tert-Butyl Alcohol (TBA)		50.00	48.03	96	80-120	73-127	
Diisopropyl Ether (DIPE)		10.00	8.371	84	73-121	65-129	
Ethyl-t-Butyl Ether (ETBE)		10.00	8.332	83	76-124	68-132	
Tert-Amyl-Methyl Ether (TAME)		10.00	8.250	82	80-120	73-127	
1,2-Dibromoethane		10.00	8.855	89	80-120	73-127	
1,2-Dichloroethane		10.00	9.264	93	80-122	73-129	

Total number of LCS compounds: 12

Total number of ME compounds: 0

Total number of ME compounds allowed: 1

LCS ME CL validation result: Pass

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - LCS

ETIC Engineering, Inc.
898 N. Fair Oaks Avenue, Suite A
Pasadena, CA 91103-3065

Date Received: 12/17/15
Work Order: 15-12-1337
Preparation: EPA 5030C
Method: EPA 8260B

Project: ExxonMobil 70234

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number	
099-10-025-3811	LCS	Aqueous	GC/MS L	12/22/15	12/22/15 09:26	151222L019	
<u>Parameter</u>		<u>Spike Added</u>	<u>Conc. Recovered</u>	<u>LCS %Rec.</u>	<u>%Rec. CL</u>	<u>ME CL</u>	<u>Qualifiers</u>
Benzene		10.00	11.04	110	80-120	73-127	
Ethylbenzene		10.00	11.22	112	80-120	73-127	
Toluene		10.00	11.15	111	80-120	73-127	
p/m-Xylene		20.00	22.53	113	80-120	73-127	
o-Xylene		10.00	10.84	108	80-120	73-127	
Methyl-t-Butyl Ether (MTBE)		10.00	10.21	102	75-123	67-131	
Tert-Butyl Alcohol (TBA)		50.00	51.42	103	80-120	73-127	
Diisopropyl Ether (DIPE)		10.00	10.64	106	73-121	65-129	
Ethyl-t-Butyl Ether (ETBE)		10.00	10.33	103	76-124	68-132	
Tert-Amyl-Methyl Ether (TAME)		10.00	10.04	100	80-120	73-127	
1,2-Dibromoethane		10.00	10.16	102	80-120	73-127	
1,2-Dichloroethane		10.00	10.56	106	80-122	73-129	

Total number of LCS compounds: 12

Total number of ME compounds: 0

Total number of ME compounds allowed: 1

LCS ME CL validation result: Pass

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits

Sample Analysis Summary Report

Work Order: 15-12-1337

Page 1 of 1

<u>Method</u>	<u>Extraction</u>	<u>Chemist ID</u>	<u>Instrument</u>	<u>Analytical Location</u>
EPA 300.0	N/A	1027	IC 7	1
EPA 8015B (M)	EPA 5030C	933	GC 56	2
EPA 8260B	EPA 5030C	986	GC/MS L	2
RSK-175M	N/A	929	GC 61	2
RSK-175M	N/A	982	GC 61	2
SM 2320B	N/A	688	PH1/BUR03	1
SM 3500-FeB	N/A	990	UV 8	1


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Location 1: 7440 Lincoln Way, Garden Grove, CA 92841

Location 2: 7445 Lampson Avenue, Garden Grove, CA 92841

Glossary of Terms and Qualifiers

Work Order: 15-12-1337

Page 1 of 1

<u>Qualifiers</u>	<u>Definition</u>
AZ	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
B	Analyte was present in the associated method blank.
BA	The MS/MSD RPD was out of control due to suspected matrix interference.
BB	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
DF	Reporting limits elevated due to matrix interferences.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
GE	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
HD	Chromat. profile inconsistent with pattern(s) of ref. fuel stdns.
HO	High concentration matrix spike recovery out of limits
HT	Analytical value calculated using results from associated tests.
HX	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS was in control.
IL	Relative percent difference out of control.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
LD	Analyte presence was not confirmed by second column or GC/MS analysis.
LP	The LCS and/or LCSD recoveries for this analyte were above the upper control limit. The associated sample was non-detected. Therefore, the sample data was reported without further clarification.
LQ	LCS recovery above method control limits.
LR	LCS recovery below method control limits.
ND	Parameter not detected at the indicated reporting limit.
QO	Compound did not meet method-described identification guidelines. Identification was based on additional GC/MS characteristics.
RU	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
SG	A silica gel cleanup procedure was performed.
SN	See applicable analysis comment.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of ≤ 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

Cecile L de Guia

From: Sean Bowen [sbowen@eticeng.com]
Sent: Friday, December 18, 2015 11:36 AM
To: Cecile L de Guia
Cc: Christopher Mitchell
Subject: RE: ExxonMobil 70234; 15-12-1337 Headspace

Cecile,
Please proceed with analysis.

Thank you,

Sean Bowen
Project Manager

sbowen@eticeng.com
www.eticeng.com
ETIC Engineering, Inc.
898 North Fair Oaks Ave.
Suite A
Pasadena, CA 91103
Tel: 626-432-5999 x2507
Fax: 626-432-5998
Mobile: 626-688-0563

From: Cecile L de Guia [<mailto:CecileLdeGuia@eurofinsUS.com>]
Sent: Friday, December 18, 2015 11:35 AM
To: Sean Bowen <sbowen@eticeng.com>
Cc: Christopher Mitchell <cmitchell@eticeng.com>
Subject: ExxonMobil 70234; 15-12-1337 Headspace
Importance: High

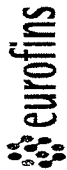
Good Morning,
Please note that the containers for Ferrous Iron for samples MW5, MW6, MW7 and RW1 were received with headspace. Please advise if you would like us to proceed with the analysis?
Thank you.

Best regards,
Cecile de Guia
Project Manager
Eurofins Calscience
7440 Lincoln Way
Garden Grove, CA 92841-1427
(714) 895-5494
Email: ceciledeguia@eurofinsUS.com
Website: www.eurofinsus.com

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7440 LINCOLN WAY
GARDEN GROVE, CA 92841-1432
CalScience, TEL: (714) 896-5494 . FAX: (714) 894-7501

Site Name	[REDACTED]
Retail Project (MRN)	[REDACTED]
Major Project (AFE)	[REDACTED]
Project Name	Former Retail Site 70234

CHAIN OF CUSTODY RECORD
DATE: 12/16/15
PAGE: 1 OF 1

ExxonMobil PM: Jennifer Sedlachek

LABORATORY CLIENT:
ExxonMobil C/O ETIC Engineering, Inc.
ADDRESS: 898 N. Fair Oaks Ave, #A
CITY: Pasadena, CA
TEL: 626-432-5999 x 2507 FAX: 626-432-5998
TURNAROUND TIME: SAME DAY 24 HR 48 HR 72 HR 10 DAYS
SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
 RAWQCB REPORTING ARCHIVE SAMPLES UNTIL _____

GLOBAL ID # CORELT LOG CODE: T06019757161
PROJECT CONTACT: Sean Bowden, ETIC Engineering, Inc.
SAMPLER(S) SIGNATURE: [Signature]

SAMPLE ID	LOCATION/ DESCRIPTION	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	REQUESTED ANALYSIS					
						Alkalinity	Ferrous Iron	Nitrates	Sulfates	Methane	
1	MW4	12/16/15	1015	water	10	X	X	X	X	X	8 Voas, 1-250ml HDPE, 1-250ml Amber
2	MW5		1245	water	10	X	X	X	X	X	8 Voas, 1-250ml HDPE, 1-250ml Amber
3	MW6		1130	water	10	X	X	X	X	X	8 Voas, 1-250ml HDPE, 1-250ml Amber
4	MW7		1050	water	10	X	X	X	X	X	8 Voas, 1-250ml HDPE, 1-250ml Amber
5	MW8		0940	water	10	X	X	X	X	X	8 Voas, 1-250ml HDPE, 1-250ml Amber
6	MW9		0905	water	10	X	X	X	X	X	8 Voas, 1-250ml HDPE, 1-250ml Amber
7	RW1		1305	water	10	X	X	X	X	X	8 Voas, 1-250ml HDPE, 1-250ml Amber

Special Instructions:
edf file required, Global ID #T06019757161
email report to eticlabreports@eticeng.com, aforman@eticeng.com
Fuel Oxygenates and Additives include: MTBE, TBA, ETBE, DIPE, TAME, 1,2-DCA and 1,2-DBA.
Set TBA detection limit at or below 12 ug/L.

TPH-g BY 8015B(M) X
BTEX/Oxys, EDB, 1,2-DCA BY 8260B X

Received by: (Signature) [Signature] Date, & Time: 12/16/15 14:20
Received by: (Signature) [Signature] Date, & Time: 12/15 08:10
Received by: (Signature) [Signature] Date, & Time: [Signature] [Signature]

SAMPLE RECEIPT CHECKLIST

COOLER ___ OF ___

CLIENT: ETC

DATE: 12/17/2015

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)
 Thermometer ID: SC2 (CF:-0.4°C); Temperature (w/o CF): 2.4 °C (w/ CF): 2.0 °C; Blank Sample
 Sample(s) outside temperature criteria (PM/APM contacted by: _____)
 Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling
 Sample(s) received at ambient temperature; placed on ice for transport by courier
 Ambient Temperature: Air Filter Checked by: AKU

CUSTODY SEAL:
 Cooler Present and Intact Present but Not Intact Not Present N/A Checked by: AKU
 Sample(s) Present and Intact Present but Not Intact Not Present N/A Checked by: 1058

SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Sampling date <input type="checkbox"/> Sampling time <input type="checkbox"/> Matrix <input type="checkbox"/> Number of containers <input type="checkbox"/> No analysis requested <input type="checkbox"/> Not relinquished <input type="checkbox"/> No relinquished date <input type="checkbox"/> No relinquished time			
Sampler's name indicated on COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and in good condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper containers for analyses requested	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sufficient volume/mass for analyses requested	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Samples received within holding time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aqueous samples for certain analyses received within 15-minute holding time			
<input type="checkbox"/> pH <input type="checkbox"/> Residual Chlorine <input type="checkbox"/> Dissolved Sulfide <input type="checkbox"/> Dissolved Oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Proper preservation chemical(s) noted on COC and/or sample container	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unpreserved aqueous sample(s) received for certain analyses			
<input type="checkbox"/> Volatile Organics <input type="checkbox"/> Total Metals <input type="checkbox"/> Dissolved Metals			
Container(s) for certain analysis free of headspace	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Volatile Organics <input type="checkbox"/> Dissolved Gases (RSK-175) <input type="checkbox"/> Dissolved Oxygen (SM 4500)			
<input type="checkbox"/> Carbon Dioxide (SM 4500) <input checked="" type="checkbox"/> Ferrous Iron (SM 3500) <input type="checkbox"/> Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CONTAINER TYPE: g (Trip Blank Lot Number: _____)
Aqueous: VOA VOAh VOAna₂ 100PJ 100PJna₂ 125AGB 125AGBh 125AGBp 125PB
 125PBz_{na} 250AGB 250CGB 250CGBs 250PB 250PBn 500AGB 500AGJ 500AGJs
 500PB 1AGB 1AGBna₂ 1AGBs 1PB 1PBna _____ _____ _____
Solid: 4ozCGJ 8ozCGJ 16ozCGJ Sleeve (_____) EnCores® (_____) TerraCores® (_____) _____
Air: Tedlar™ Canister Sorbent Tube PUF _____ **Other Matrix** (____): _____ _____
 Container: A = Amber, B = Bottle, C = Clear, E = Envelope, G = Glass, J = Jar, P = Plastic, and Z = Ziploc/Resealable Bag
 Preservative: b = buffered, f = filtered, h = HCl, n = HNO₃, na = NaOH, na₂ = Na₂S₂O₃, p = H₃PO₄, Labeled/Checked by AKU/1058
 s = H₂SO₄, u = ultra-pure, z_{na} = Zn(CH₃CO₂)₂ + NaOH Reviewed by: 836

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SAMPLE ANOMALY REPORT

DATE: 12 / 17 / 2015

SAMPLES, CONTAINERS, AND LABELS:

- Sample(s) NOT RECEIVED but listed on COC
- Sample(s) received but NOT LISTED on COC
- Holding time expired (list client or ECI sample ID and analysis)
- Insufficient sample amount for requested analysis (list analysis)
- Improper container(s) used (list analysis)
- Improper preservative used (list analysis)
- No preservative noted on COC or label (list analysis and notify lab)
- Sample container(s) not labeled
- Client sample label(s) illegible (list container type and analysis)
- Client sample label(s) do not match COC (comment)
 - Project information
 - Client sample ID
 - Sampling date and/or time
 - Number of container(s)
 - Requested analysis
- Sample container(s) compromised (comment)
 - Broken
 - Water present in sample container
- Air sample container(s) compromised (comment)
 - Flat
 - Very low in volume
 - Leaking (not transferred; duplicate bag submitted)
 - Leaking (transferred into ECI Tedlar™ bags*)
 - Leaking (transferred into client's Tedlar™ bags*)

* Transferred at client's request.

MISCELLANEOUS: (Describe)**HEADSPACE:**

(Containers with bubble > 6 mm or ¼ inch for volatile organic or dissolved gas analysis)

ECI Sample ID	ECI Container ID	Total Number**	ECI Sample ID	ECI Container ID	Total Number**

(Containers with bubble for other analysis)

ECI Sample ID	ECI Container ID	Total Number**	Requested Analysis
2,3,4,7	J	1	Ferrous Iron

Comments: _____

Comments

Reported by: 1058

Reviewed by: 826

** Record the total number of containers (i.e., vials or bottles) for the affected sample.

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Appendix E

Groundwater Monitoring and Sampling Data for Unocal No. 6129

Table 1
Current Groundwater Monitoring Data and Analytical Results
Unocal No. 6129 (351639)
3420 35th Avenue
Oakland, California

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL THICKNESS (ft)	TPH-g (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	COMMENTS
MW-1	190.79	12/15/2015	31.76	159.03	0	60	<0.50	<0.50	<0.50	<1.0	
MW-2	190.80	12/15/2015	31.71	159.09	0	680	<0.50	<0.50	<0.50	<1.0	
MW-3	188.58	12/15/2015	30.45	158.13	0	220	<0.50	<0.50	<0.50	<1.0	
QA	--	12/15/2015	--	--	--	<50	<0.50	<0.50	<0.50	<1.0	

NOTES:

* TOC and GWE are in feet above mean sea level.

BTEX compounds analyzed by Environmental Protection Agency Method 8260B

TPH-g analyzed by Luft-GC/MS method

µg/L = Micrograms per liter

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

-- = Not available

B = Benzene

DTW = Depth to water below TOC

E = Ethylbenzene

ft = Feet

GWE = Groundwater elevation

ID = Identification

LNAPL = Light Non-Aqueous Phase Liquid

QA = Quality assurance/trip blank

T = Toluene

TOC = Top of casing

TPH-g = Total petroleum hydrocarbons as gasoline; reported as TPPH (total purgeable petroleum hydrocarbons) by laboratory

X = Total Xylenes

Table 2
Current Groundwater Analytical Results - Oxygenate Compounds
Unocal No. 6129 (351639)
3420 35th Avenue
Oakland, California

WELL ID	DATE	MTBE (µg/L)	TBA (µg/L)	ETHANOL (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	EDB (µg/L)	EDC (µg/L)
MW-1	12/15/2015	48	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
MW-2	12/15/2015	1,300	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
MW-3	12/15/2015	240	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
QA	12/15/2015	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50

NOTES:

Oxygenate compounds analyzed by Environmental Protection Agency Method 8260B

µg/L = Micrograms per liter

<# = Analyte not detected at or above indicated laboratory practical c ID = Identification

DIPE = Diisopropyl ether

EDB = 1,2-Dibromoethane

EDC = 1,2-Dichloroethane

ETBE = Ethyl t-butyl ether

MTBE = Methyl t-butyl ether

QA = Quality assurance/trip blank

TAME = T-amyl methyl ether

TBA = T-butyl alcohol

Table 3
Historical Groundwater Monitoring Data and Analytical Results
Unocal No. 6129 (351639)
3420 35th Avenue
Oakland, California

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL THICKNESS (ft)	TPH-g (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	COMMENTS
MW-1	190.79	1/5/1990	32.80	157.99	--	<30	<0.30	<0.30	<0.30	<0.30	
screened	190.79	5/11/1990	31.80	158.99	--	<30	<0.30	7.1	<0.30	<0.30	
24 to 44' bgs	190.79	8/9/1990	32.37	158.42	--	<30	<0.30	<0.30	<0.30	<0.30	
	190.79	11/14/1990	33.32	157.47	--	<30	<0.30	<0.30	<0.30	<0.30	
	190.79	2/12/1991	33.02	157.77	--	<30	0.32	<0.30	<0.30	<0.30	
	190.79	5/9/1991	30.95	159.84	--	<30	<0.30	<0.30	<0.30	<0.30	
	190.79	11/13/2003	--	--	--	180	<1.0	<1.0	<1.0	<2.0	
	190.79	8/27/2004	30.65	160.14	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	11/23/2004	29.35	161.44	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	2/9/2005	26.89	163.90	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	5/17/2005	26.56	164.23	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	7/27/2005	27.33	163.46	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	12/6/2005	29.59	161.20	0	<50	<0.50	0.93	<0.50	1.80	
	190.79	2/21/2006	28.27	162.52	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	6/8/2006	26.07	164.72	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	9/15/2006	28.86	161.93	0	<50	<0.50	<0.50	<0.50	<0.50	
	190.79	12/14/2006	29.49	161.30	0	<50	<0.50	<0.50	<0.50	<0.50	
	190.79	3/28/2007	27.24	163.55	0	<50	<0.50	<0.50	<0.50	<0.50	
	190.79	6/25/2007	28.30	162.49	0	<50	<0.50	<0.50	<0.50	<0.50	
	190.79	9/22/2007	30.61	160.18	0	<50	<0.50	<0.50	<0.50	<0.50	
	190.79	12/14/2007	30.30	160.49	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	3/17/2008	27.22	163.57	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	6/20/2008	30.10	160.69	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	9/11/2008	31.04	159.75	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	11/25/2008	30.88	159.91	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	3/9/2009	27.50	163.29	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	5/28/2009	28.25	162.54	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	12/11/2009	30.60	160.19	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	5/7/2010	26.06	164.73	0	67	<0.50	<0.50	<0.50	<1.0	
	190.79	11/1/2010	30.18	160.61	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	5/27/2011	26.87	163.92	0	110	<0.50	<0.50	<0.50	<1.0	
	190.79	11/23/2011	29.14	161.65	0	1,101	<0.50	<0.50	<0.50	<1.0	

Table 3
Historical Groundwater Monitoring Data and Analytical Results
Unocal No. 6129 (351639)
3420 35th Avenue
Oakland, California

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL THICKNESS (ft)	TPH-g (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	COMMENTS
	190.79	5/24/2012	26.58	164.21	0	140	<0.50	<0.50	<0.50	<1.0	
	190.79	10/23/2012	30.51	160.28	0	130	<0.50	<0.50	<0.50	<1.0	
	190.79	5/2/2013	28.30	162.49	0	150	<0.50	<0.50	<0.50	<1.0	
	190.79	11/13/2013	31.65	159.14	0	240	<0.50	<0.50	<0.50	<1.0	
	190.79	5/12/2014	28.95	161.84	0	98	<0.50	<0.50	<0.50	<1.0	
	190.79	11/19/2014	31.50	159.29	0	130	<0.50	<0.50	<0.50	<1.0	
	190.79	6/17/2015	29.27	161.52	0	52	<0.50	<0.50	<0.50	<1.0	
	190.79	12/15/2015	31.76	159.03	0	60	<0.50	<0.50	<0.50	<1.0	
MW-2	190.80	1/5/1990	33.02	157.78	--	<30	<0.30	<0.30	<0.30	<0.30	
screened	190.80	5/11/1990	31.98	158.82	--	<30	<0.30	<0.30	<0.30	<0.30	
24 to 44' bgs	190.80	8/9/1990	32.45	158.35	--	<30	<0.30	<0.30	<0.30	<0.30	
	190.80	11/14/1990	33.47	157.33	--	<30	<0.30	<0.30	<0.30	<0.30	
	190.80	2/12/1991	33.15	157.65	--	<30	<0.30	0.42	<0.30	0.51	
	190.80	5/9/1991	30.88	159.92	--	<30	<0.30	<0.30	<0.30	<0.30	
	190.80	11/13/2003	--	--	--	<2,000	<20	<20	<20	<40	
	190.80	8/27/2004	30.28	160.52	0	950	<5.0	<5.0	<5.0	<10	
	190.80	11/23/2004	28.75	162.05	0	53	<0.50	<0.50	<0.50	<1.0	
	190.80	2/9/2005	26.08	164.72	0	<500	<0.50	<0.50	<0.50	<1.0	
	190.80	5/17/2005	24.53	166.27	0	<50	<0.50	<0.50	<0.50	<1.0	
	190.80	7/27/2005	27.51	163.29	0	<500	<5.0	<5.0	<5.0	<10	
	190.80	12/6/2005	29.13	161.67	0	340	<0.50	<0.50	<0.50	<1.0	
	190.80	2/21/2006	29.23	161.57	0	190	<0.50	<0.50	<0.50	<1.0	
	190.80	6/8/2006	25.76	165.04	0	<500	<5.0	<5.0	<5.0	<10	
	190.80	9/15/2006	29.17	161.63	0	<500	<5.0	<5.0	<5.0	<5.0	
	190.80	12/14/2006	29.11	161.69	0	520	<0.50	<0.50	<0.50	<0.50	
	190.80	3/28/2007	26.68	164.12	0	290	<0.50	<0.50	<0.50	<0.50	
	190.80	6/25/2007	25.91	164.89	0	<50	<0.50	<0.50	<0.50	<0.50	
	190.80	9/22/2007	30.18	160.62	0	400	<0.50	<0.50	<0.50	<0.50	
	190.80	12/14/2007	29.96	160.84	0	400	<0.50	<0.50	<0.50	<1.0	
	190.80	3/17/2008	26.74	164.06	0	570	<5.0	<5.0	<5.0	<10	
	190.80	6/20/2008	29.78	161.02	0	580	<0.50	<0.50	<0.50	<1.0	

Table 3
Historical Groundwater Monitoring Data and Analytical Results
Unocal No. 6129 (351639)
3420 35th Avenue
Oakland, California

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL THICKNESS (ft)	TPH-g (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	COMMENTS
190.80		9/11/2008	30.62	160.18	0	220	<0.50	<0.50	<0.50	<1.0	
190.80		11/25/2008	30.48	160.32	0	500	<0.50	<0.50	<0.50	<1.0	
190.80		3/9/2009	25.75	165.05	0	910	<5.0	<5.0	<5.0	<10	
190.80		5/28/2009	27.71	163.09	0	460	<0.50	<0.50	<0.50	<1.0	
190.80		12/11/2009	29.80	161.00	0	640	<5.0	<5.0	<5.0	<10	
190.80		5/7/2010	25.11	165.69	0	600	<1.0	<1.0	<1.0	<2.0	
190.80		11/1/2010	29.90	160.90	0	140	<0.50	<0.50	<0.50	<1.0	
190.80		5/27/2011	26.44	164.36	0	560	<0.50	<0.50	<0.50	<1.0	
190.80		11/23/2011	28.53	162.27	0	830	<0.50	<0.50	<0.50	<1.0	
190.80		5/24/2012	25.97	164.83	0	1,000	<0.50	<0.50	<0.50	<1.0	
190.80		10/23/2012	30.14	160.66	0	750	<0.50	<0.50	<0.50	<1.0	
190.80		5/2/2013	27.14	163.66	0	290	<0.50	<0.50	<0.50	<1.0	
190.80		11/13/2013	31.37	159.43	0	1,200	<0.50	<0.50	<0.50	<1.0	
190.80		5/12/2014	28.49	162.31	0	260	<0.50	<0.50	<0.50	<1.0	
190.80		11/19/2014	31.46	159.34	0	430	<0.50	<0.50	<0.50	<1.0	
190.80		6/17/2015	29.70	161.10	0	<50	<0.50	<0.50	<0.50	<1.0	
190.80		12/15/2015	31.71	159.09	0	680	<0.50	<0.50	<0.50	<1.0	
MW-3 screened 23 to 43' bgs	188.58	1/5/1990	31.88	156.70	--	<30	<0.30	<0.30	<0.30	<0.30	
	188.58	5/11/1990	31.25	157.33	--	<30	<0.30	<0.30	<0.30	<0.30	
	188.58	8/9/1990	31.53	157.05	--	<30	<0.30	<0.30	<0.30	<0.30	
	188.58	11/14/1990	33.30	155.28	--	<30	<0.30	<0.30	<0.30	<0.30	
	188.58	2/12/1991	32.05	156.53	--	<30	<0.30	<0.30	<0.30	<0.30	
	188.58	5/9/1991	30.37	158.21	--	<30	<0.30	<0.30	<0.30	<0.30	
	188.58	11/13/2003	--	--	--	2,600	<20	<20	<20	<40	
	188.58	8/27/2004	29.61	158.97	0	1,700	<10	<10	<10	<20	
	188.58	11/23/2004	28.48	160.10	0	1,500	<10	<10	<10	<20	
	188.58	2/9/2005	26.45	162.13	0	<1,000	<0.50	<0.50	<0.50	<1.0	
	188.58	5/17/2005	25.61	162.97	0	<1,000	<0.50	<0.50	<0.50	<1.0	
	188.58	7/27/2005	27.35	161.23	0	<1,000	<10	<10	<10	<20	
	188.58	12/6/2005	28.78	159.80	0	430	<0.50	1.6	<0.50	3.6	
188.58	2/21/2006	28.91	159.67	0	420	<0.50	<0.50	<0.50	<1.0		

Table 3
Historical Groundwater Monitoring Data and Analytical Results
Unocal No. 6129 (351639)
3420 35th Avenue
Oakland, California

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL THICKNESS (ft)	TPH-g (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	COMMENTS
188.58		6/8/2006	25.97	162.61	0	<1,200	<12	<12	<12	<25	
188.58		9/15/2006	28.73	159.85	0	<1,200	<12	<12	<12	<12	
188.58		12/14/2006	28.62	159.96	0	<1,000	<10	<10	<10	<10	
188.58		3/28/2007	26.69	161.89	0	500	<1.0	<1.0	<1.0	<1.0	
188.58		6/25/2007	26.74	161.84	0	270	<0.50	<0.50	<0.50	<0.50	
188.58		9/22/2007	29.57	159.01	0	500	<0.50	<0.50	<0.50	<0.50	
188.58		12/14/2007	29.30	159.28	0	270	<0.50	<0.50	<0.50	<1.0	
188.58		3/17/2008	26.82	161.76	0	220	<0.50	<0.50	<0.50	<1.0	
188.58		6/20/2008	29.10	159.48	0	490	<0.50	<0.50	<0.50	<1.0	
188.58		9/11/2008	29.89	158.69	0	630	<5.0	<5.0	<5.0	<10	
188.58		11/25/2008	29.74	158.84	0	380	<0.50	<0.50	<0.50	<1.0	
188.58		3/9/2009	25.56	163.02	0	310	<0.50	<0.50	<0.50	<1.0	
188.58		5/28/2009	27.55	161.03	0	410	<0.50	<0.50	<0.50	<1.0	
188.58		12/11/2009	29.10	159.48	0	220	<0.50	<0.50	<0.50	<1.0	
188.58		5/7/2010	25.72	162.86	0	360	<0.50	<0.50	<0.50	<1.0	
188.58		11/1/2010	29.29	159.29	0	120	<0.50	<0.50	<0.50	<1.0	
188.58		5/27/2011	26.53	162.05	0	340	<0.50	<0.50	<0.50	<1.0	
188.58		5/24/2012	25.95	162.63	0	660	<0.50	<0.50	<0.50	<1.0	
188.58		10/23/2012	29.39	159.19	0	480	<0.50	<0.50	<0.50	<1.0	
188.58		5/2/2013	26.98	161.60	0	130	<0.50	<0.50	<0.50	<1.0	
188.58		11/13/2013	30.28	158.30	0	110	<0.50	<0.50	<0.50	<1.0	
188.58		5/12/2014	27.93	160.65	0	98	<0.50	<0.50	<0.50	<1.0	
188.58		11/19/2014	30.22	158.36	0	180	<0.50	<0.50	<0.50	<1.0	
188.58		6/17/2015	28.75	159.83	0	220	<0.50	<0.50	<0.50	<1.0	
188.58		12/15/2015	30.45	158.13	0	220	<0.50	<0.50	<0.50	<1.0	
QA	--	12/15/2015	--	--	--	--	<50	<0.50	<0.50	<0.50	<1.0

Table 3
Historical Groundwater Monitoring Data and Analytical Results
Unocal No. 6129 (351639)
3420 35th Avenue
Oakland, California

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL THICKNESS (ft)	TPH-g (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	COMMENTS
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NOTES:

* TOC and GWE are in feet above mean sea level.

µg/L = Micrograms per liter

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

-- = Not available

B = Benzene

bgs = Below ground surface

DTW = Depth to water below TOC

E = Ethylbenzene

ft = Feet

GWE = Groundwater elevation

ID = Identification

LNAPL = Light Non-Aqueous Phase Liquid

QA = Quality assurance/trip blank

T = Toluene

TOC = Top of casing

TPH-g = Total petroleum hydrocarbons as gasoline; reported as TPPH (total purgeable petroleum hydrocarbons) by laboratory

X = Total Xylenes

Table 4
Historical Groundwater Analytical Results - Oxygenate Compounds
Unocal No. 6129 (351639)
3420 35th Avenue
Oakland, California

WELL ID	DATE	MTBE (µg/L)	TBA (µg/L)	ETHANOL (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	EDB (µg/L)	EDC (µg/L)
MW-1	1/5/1990	--	--	--	--	--	--	--	--
	5/11/1990	--	--	--	--	--	--	--	--
	8/9/1990	--	--	--	--	--	--	--	--
	11/14/1990	--	--	--	--	--	--	--	--
	2/12/1991	--	--	--	--	--	--	--	--
	5/9/1991	--	--	--	--	--	--	--	--
	11/13/2003	240	<200	<1,000	<4.0	<4.0	<4.0	<4.0	<4.0
	8/27/2004	<0.50	<5.0	<50	<0.50	<1.0	<0.50	<0.50	<0.50
	11/23/2004	<0.50	<5.0	<50	<0.50	<1.0	<0.50	<0.50	<0.50
	2/9/2005	9.3	<5.0	<50	<0.50	<0.50	<0.50	<0.50	<0.50
	5/17/2005	1.9	<5.0	<50	<0.50	<0.50	<0.50	<0.50	<0.50
	7/27/2005	<0.50	<5.0	<50	<0.50	<0.50	<0.50	<0.50	<0.50
	12/6/2005	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	2/21/2006	2.6	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	6/8/2006	11	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	9/15/2006	1.4	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	12/14/2006	3.5	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	3/28/2007	0.64	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	6/25/2007	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	9/22/2007	4.10	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	12/14/2007	0.65	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	3/17/2008	14	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	6/20/2008	11	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	9/11/2008	1.3	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	11/25/2008	5.8	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	3/9/2009	25	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	5/28/2009	17	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
12/11/2009	18	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	
5/7/2010	64	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	
11/1/2010	92	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	
5/27/2011	220	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	

Table 4
Historical Groundwater Analytical Results - Oxygenate Compounds
Unocal No. 6129 (351639)
3420 35th Avenue
Oakland, California

WELL ID	DATE	MTBE (µg/L)	TBA (µg/L)	ETHANOL (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	EDB (µg/L)	EDC (µg/L)
	11/23/2011	150	41	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	5/24/2012	190	66	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	10/23/2012	140	47	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	5/2/2013	270	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	11/13/2013	270	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	5/12/2014	170	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	11/19/2014	180	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	6/17/2015	100	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	12/15/2015	48	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
MW-2	1/5/1990	--	--	--	--	--	--	--	--
	5/11/1990	--	--	--	--	--	--	--	--
	8/9/1990	--	--	--	--	--	--	--	--
	11/14/1990	--	--	--	--	--	--	--	--
	2/12/1991	--	--	--	--	--	--	--	--
	5/9/1991	--	--	--	--	--	--	--	--
	11/13/2003	2,100	<4,000	<20,000	<80	<80	<80	<80	<80
	8/27/2004	1,400	<5.0	<500	<5.0	24	<5.0	<5.0	<5.0
	11/23/2004	4.2	<5.0	<50	<0.50	18	<0.50	<0.50	<0.50
	2/9/2005	400	<5.0	<500	<5.0	19	<5.0	<5.0	<5.0
	5/17/2005	330	<5.0	<50	<0.50	12	<0.50	<0.50	<0.50
	7/27/2005	580	140	<500	<5.0	16	<5.0	<5.0	<5.0
	12/6/2005	780	61	<250	<0.50	15	<0.50	<0.50	<0.50
	2/21/2006	340	<10	<250	<0.50	18	<0.50	<0.50	<0.50
	6/8/2006	440	<100	<2,500	<5.0	14	<5.0	<5.0	<5.0
	9/15/2006	570	<100	<2,500	<5.0	17	<5.0	<5.0	<5.0
	12/14/2006	770	27	<250	<0.50	20	<0.50	<0.50	<0.50
	3/28/2007	460	260	<250	<0.50	23	<0.50	<0.50	<0.50
	6/25/2007	1.2	<10	<250	<0.50	23	<0.50	<0.50	<0.50
	9/22/2007	530	<10	<250	<0.50	35	<0.50	<0.50	<0.50
	12/14/2007	930	48	<250	<0.50	24	<0.50	<0.50	<0.50

Table 4
Historical Groundwater Analytical Results - Oxygenate Compounds
Unocal No. 6129 (351639)
3420 35th Avenue
Oakland, California

WELL ID	DATE	MTBE (µg/L)	TBA (µg/L)	ETHANOL (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	EDB (µg/L)	EDC (µg/L)
	3/17/2008	630	<100	<2,500	<5.0	18	<5.0	<5.0	<5.0
	6/20/2008	1,200	<10	<250	<0.50	16	<0.50	<0.50	<0.50
	9/11/2008	29	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	11/25/2008	1,500	<10	<250	<0.50	19	<0.50	<0.50	<0.50
	3/9/2009	1,400	<100	<2,500	<5.0	15	<5.0	<5.0	<5.0
	5/28/2009	740	<10	<250	<0.50	20	<0.50	<0.50	<0.50
	12/11/2009	1,300	<100	<2,500	<5.0	19	<5.0	<5.0	<5.0
	5/7/2010	940	<20	<500	<1.0	14	<1.0	<1.0	<1.0
	11/1/2010	730	<10	<250	<0.50	28	<0.50	<0.50	<0.50
	5/27/2011	1,100	210	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	11/23/2011	1,500	400	<250	<0.50	9.00	<0.50	<0.50	<0.50
	5/24/2012	1,200	430	<250	<0.50	8.8	<0.50	<0.50	<0.50
	10/23/2012	1,300	420	<250	<0.50	14	<0.50	<0.50	<0.50
	5/2/2013	460	<10	<250	6.2	<0.50	<0.50	<0.50	<0.50
	11/13/2013	1,300	<10	<250	17	<0.50	<0.50	<0.50	<0.50
	5/12/2014	510	44	<250	12	<0.50	<0.50	<0.50	<0.50
	11/19/2014	980	<10	<250	31	<0.50	<0.50	<0.50	<0.50
	6/17/2015	25	<10	<250	3.1	<0.50	<0.50	<0.50	<0.50
	12/15/2015	1,300	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
MW-3	1/5/1990	--	--	--	--	--	--	--	--
	5/11/1990	--	--	--	--	--	--	--	--
	8/9/1990	--	--	--	--	--	--	--	--
	11/14/1990	--	--	--	--	--	--	--	--
	2/12/1991	--	--	--	--	--	--	--	--
	5/9/1991	--	--	--	--	--	--	--	--
	11/13/2003	3,700	<4,000	<20,000	<80	<80	<80	<80	<80
	8/27/2004	2,600	<100	<1,000	<10	<20	<10	<10	<10
	11/23/2004	1,800	<100	<1,000	<10	<20	<10	<10	<10
	2/9/2005	2,100	130	<1,000	<10	<10	<10	<10	<10
	5/17/2005	1,200	<100	<1,000	<10	<10	<10	<10	<10

Table 4
Historical Groundwater Analytical Results - Oxygenate Compounds
Unocal No. 6129 (351639)
3420 35th Avenue
Oakland, California

WELL ID	DATE	MTBE (µg/L)	TBA (µg/L)	ETHANOL (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	EDB (µg/L)	EDC (µg/L)
	7/27/2005	1,400	360	<1,000	<10	<10	<10	<10	<10
	12/6/2005	1,800	160	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	2/21/2006	1,100	88	<250	<0.50	<0.50	0.58	<0.50	<0.50
	6/8/2006	1,000	<250	<6,200	<12	<12	<12	<12	<12
	9/15/2006	1,200	<250	<6,200	<12	<12	<12	<12	<12
	12/14/2006	1,300	<200	<5,000	<10	<10	<10	<10	<10
	3/28/2007	860	500	<500	<1.0	<1.0	<1.0	<1.0	<1.0
	6/25/2007	570	11	<250	<0.50	<0.50	<0.50	<0.50	0.65
	9/22/2007	980	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	12/14/2007	570	26	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	3/17/2008	520	<10	<250	<0.50	<0.50	<0.50	<0.50	0.65
	6/20/2008	1,300	49	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	9/11/2008	1,200	<100	<2,500	<5.0	<5.0	<5.0	<5.0	<5.0
	11/25/2008	870	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	3/9/2009	720	15	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	5/28/2009	750	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	12/11/2009	620	63	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	5/7/2010	660	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	11/1/2010	490	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	5/27/2011	890	73	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	5/24/2012	1,100	300	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	10/23/2012	500	160	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	5/2/2013	220	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	11/13/2013	100	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	5/12/2014	160	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	11/19/2014	250	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	6/17/2015	570	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	12/15/2015	240	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
QA	12/15/2015	<0.50	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50

Table 4
Historical Groundwater Analytical Results - Oxygenate Compounds
Unocal No. 6129 (351639)
3420 35th Avenue
Oakland, California

WELL ID	DATE	MTBE (µg/L)	TBA (µg/L)	ETHANOL (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	EDB (µg/L)	EDC (µg/L)
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NOTES:

µg/L = Micrograms per liter

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

-- = Not available/not sampled

DIPE = Diisopropyl ether

EDB = 1,2-Dibromoethane

EDC = 1,2-Dichloroethane

ETBE = Ethyl t-butyl ether

MTBE = Methyl t-butyl ether

QA = Quality assurance/trip blank

TAME = T-amyl methyl ether

TBA = T-butyl alcohol