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ExxonMobil

June 7, 2017

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, Second Quarter 2017
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, Second Quarter 2017* for the above-referenced site. The document, prepared by ETIC Engineering, Inc. of Pasadena, California, details the results of the April 2017 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 Second Quarter 2017 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:
Ms. Kate Lamb, ETIC Engineering, Inc.

Report of Groundwater Monitoring

Second Quarter 2017

Former Exxon Service Station 70234

3450 35th Avenue Oakland, California

Prepared for

ExxonMobil Oil Corporation

Prepared by

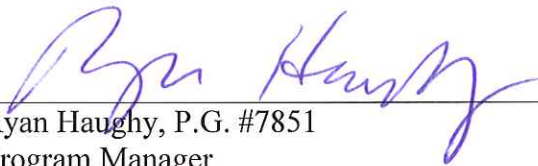
ETIC Engineering, Inc.
898 North Fair Oaks Avenue, Suite A
Pasadena, California 91103
(626) 432-5999



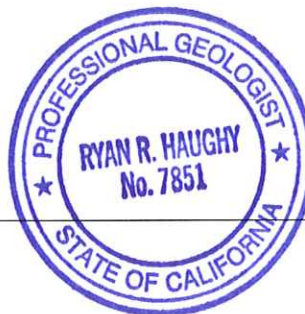
Kate Lamb
Senior Project Manager

6/7/17

Date



Ryan Haughey, P.G. #7851
Program Manager



6/7/17

Date

June 2017

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: Kate Lamb

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 20 December 2016, the date of the previous monitoring event, and 27 April 2017, 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 Former Exxon Service Station 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:	27 April 2017
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:	0.025
Well screens submerged:	MW4, MW5, MW6, MW7, MW8, MW9, and RW1
Well screens not submerged:	None
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:	Arcadis, Seattle, Washington

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:

- 72 gallons of purge water was stored in a 55-gallon drum and was then delivered to Instrat, Inc. of Rio Vista, California on 27 April 2017.

ADDITIONAL ACTIVITIES PERFORMED

Unocal No. 6129 wells were gauged and sampled on 6 April 2017.

WORK PROPOSED FOR NEXT QUARTER

In accordance with ACHCSA directives, groundwater monitoring will not be conducted in the third quarter of 2017. The next semiannual groundwater monitoring event will be conducted in the fourth quarter of 2017.

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: Natural Attenuation Parameter Analytical Results

Table 5: Groundwater Monitoring Plan

Appendix A: Field Protocols

Appendix B: Field Documents

Appendix C: Waste Manifest

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

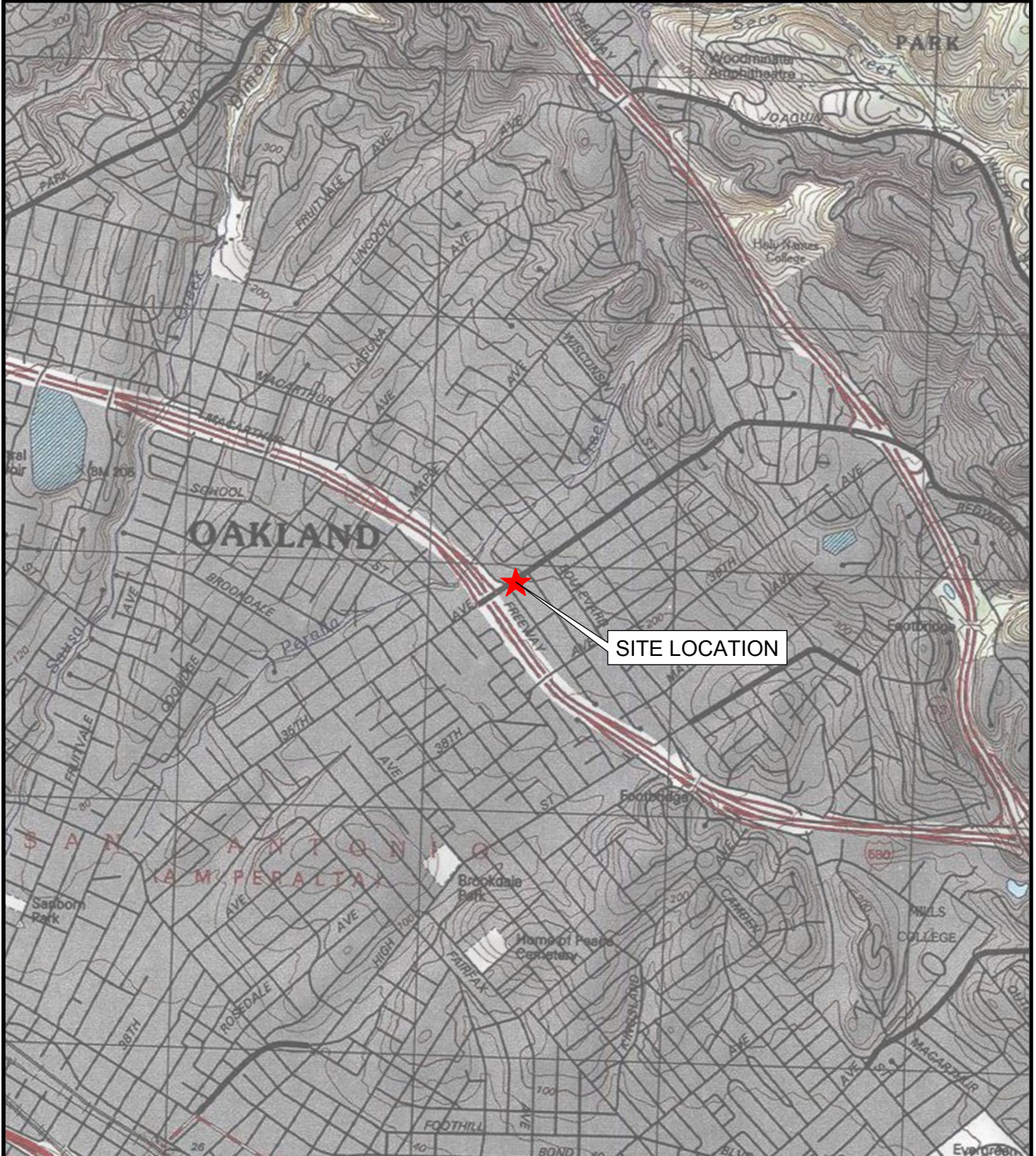
Appendix E: Groundwater Monitoring and Sampling Data for Unocal No. 6129

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

0 1000 2000
 Feet
 1 inch = 2,000 feet



SITE LOCATION

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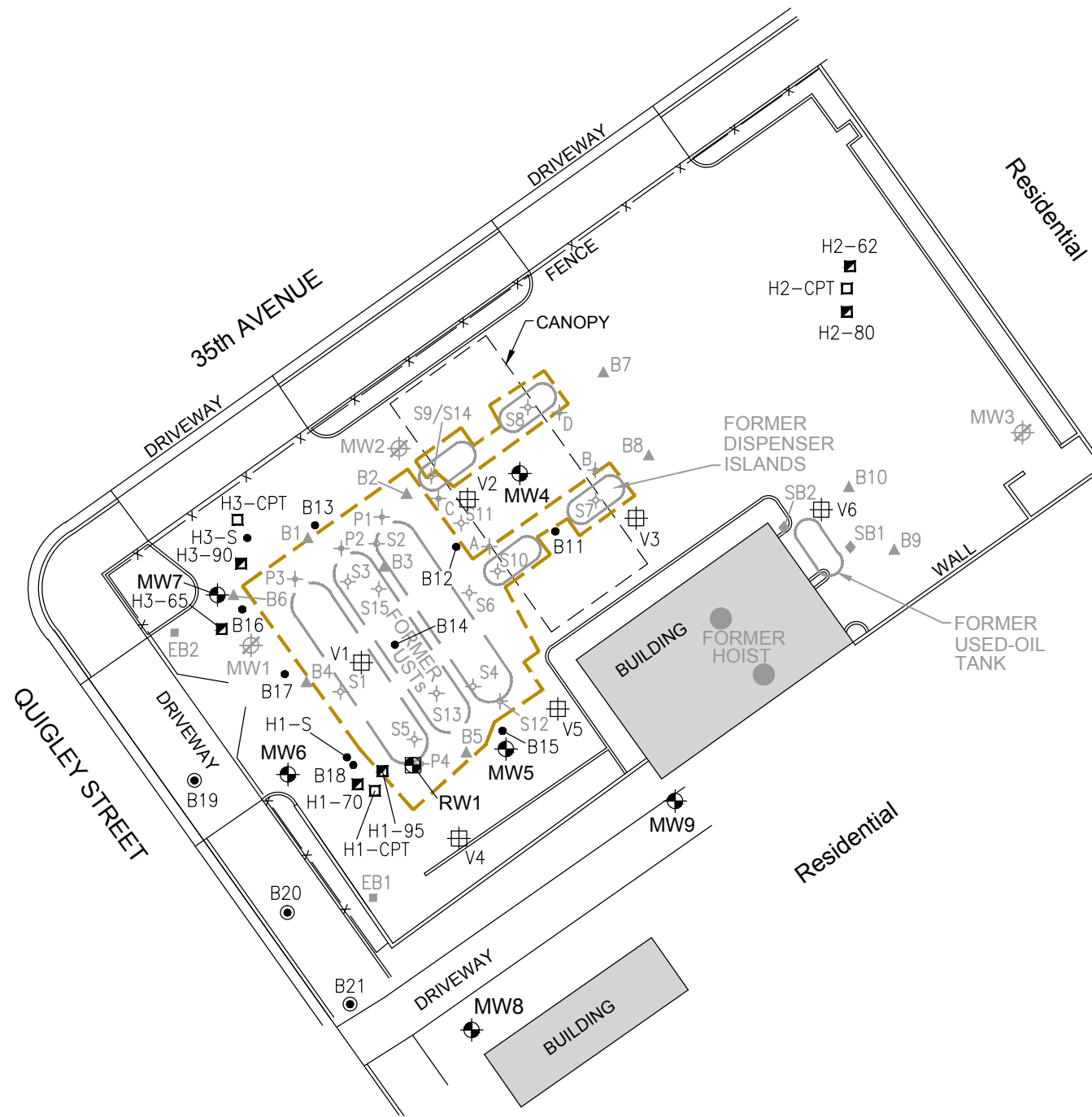
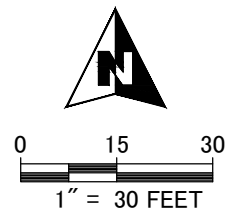
2285 MORELLO AVENUE
 PLEASANT HILL, CA 94523
 (925) 602-4710
 eticeng.com

17-070234-UP
 OR: RW
 DR: AJW
 CK:
 FR:

EXXONMOBIL OIL CORPORATION
 SITE LOCATION AND TOPOGRAPHIC MAP
 FORMER EXXON SERVICE STATION 70234
 3450 35th AVENUE
 OAKLAND, CALIFORNIA

FIGURE:
 1

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- 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)
 - SOIL BORING (Conoco Phillips 76 Site)

17-070234-UP	EXXONMOBIL OIL CORPORATION	
OR: RW	SITE MAP	
DR: AJW	FORMER EXXON SERVICE STATION 70234	
CK:	3450 35th AVENUE	FIGURE:
FR:	OAKLAND, CALIFORNIA	2

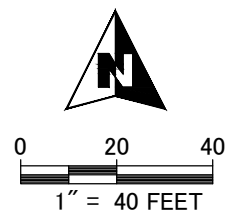
2285 MORELLO AVENUE
PLEASANT HILL, CA 94523
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eticeng.com

LEGEND:

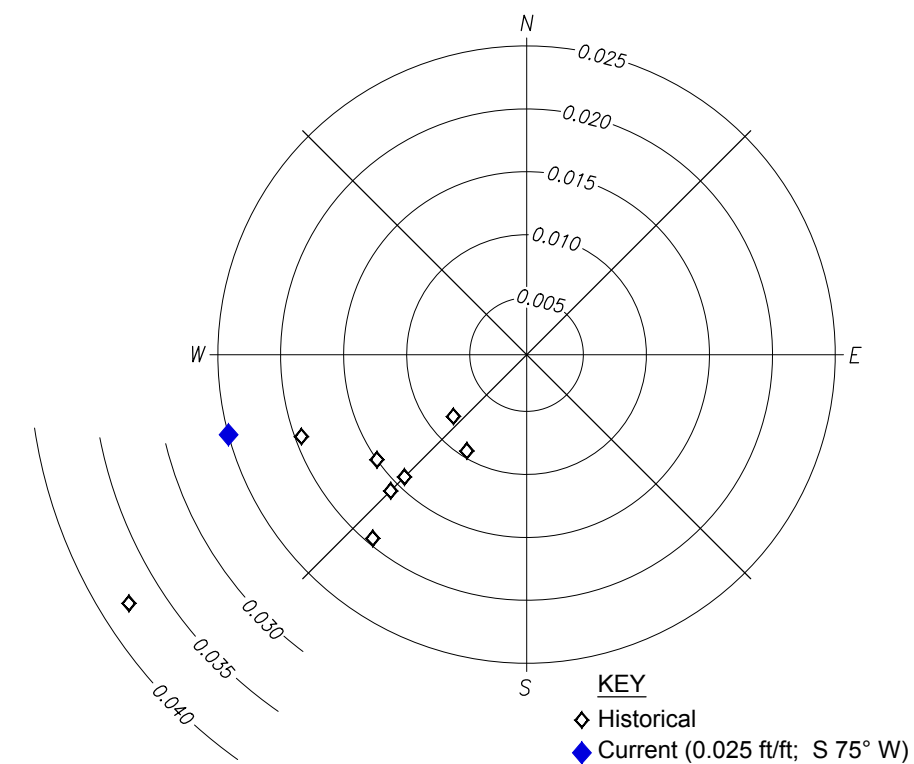
-  EXCAVATED AREA
-  GROUNDWATER MONITORING WELL
-  GROUNDWATER MONITORING WELL (by others)
-  DESTROYED GROUNDWATER MONITORING WELL
-  GROUNDWATER RECOVERY WELL
- (169.33) GROUNDWATER ELEVATION (ft msl)
- 169.0  GROUNDWATER ELEVATION CONTOUR (ft msl)
- ft msl FEET ABOVE MEAN SEA LEVEL
-  GENERAL DIRECTION OF GROUNDWATER FLOW
- NS NOT SAMPLED

NOTES:

1. UNOCAL No. 6129 GROUNDWATER SAMPLING CONDUCTED ON 6 APRIL 2017.



GROUNDWATER FLOW DIRECTION AND HYDRAULIC GRADIENT



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17-070234-UP	EXXONMOBIL OIL CORPORATION		
	GROUNDWATER ELEVATION CONTOUR MAP		
	27 APRIL 2017		
OR: RW	FORMER EXXON SERVICE STATION 70234		FIGURE:
DR: AJW	3450 35th AVENUE		3
CK:	OAKLAND, CALIFORNIA		
FR:			

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

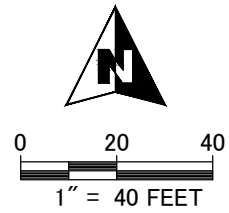
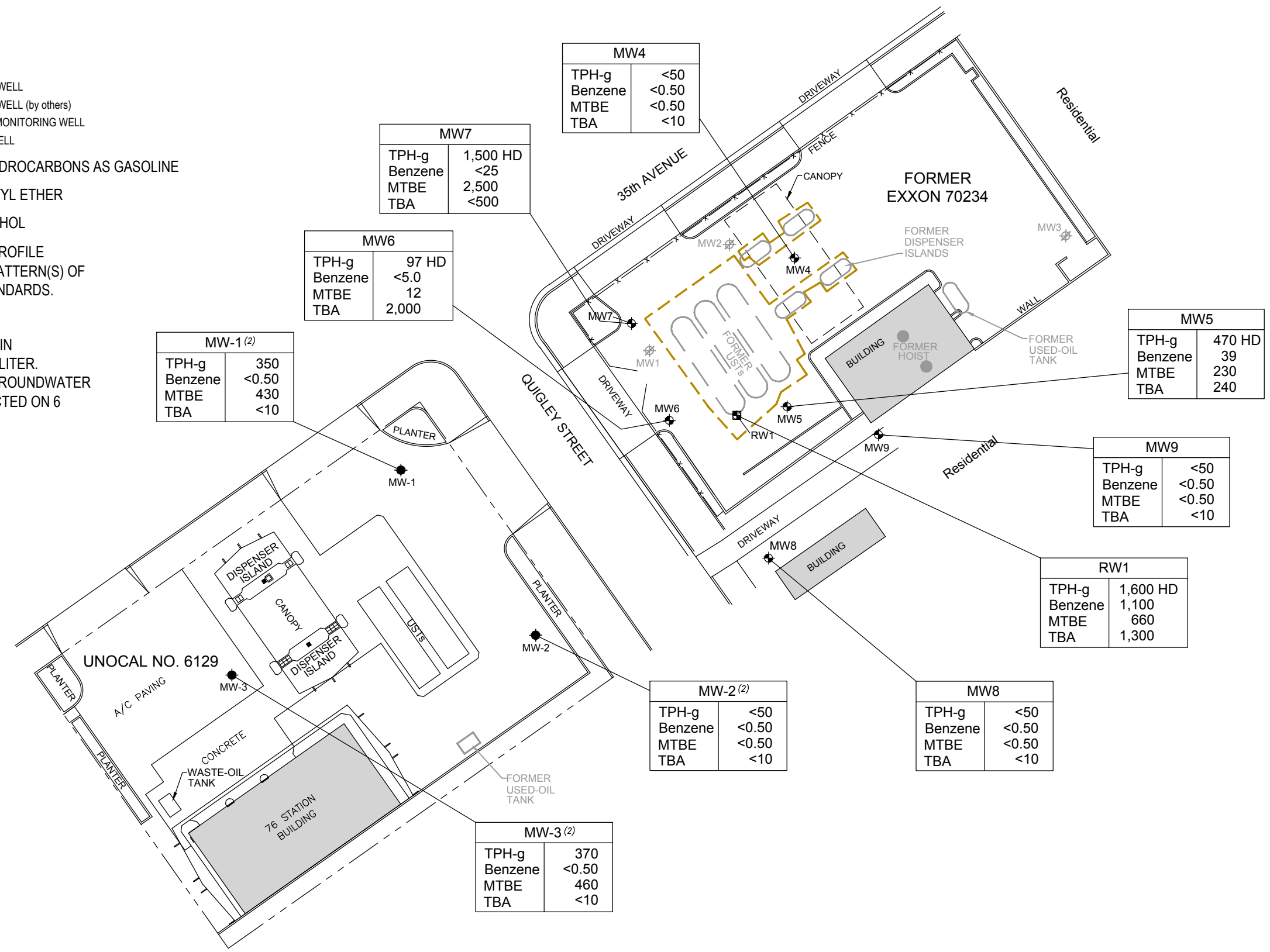
TPH-g TOTAL PETROLEUM HYDROCARBONS AS GASOLINE

MTBE METHYL TERTIARY BUTYL ETHER

TBA TERTIARY BUTYL ALCOHOL

HD CHROMATOGRAPHIC PROFILE
INCONSISTENT WITH PATTERN(S) OF
REFERENCE FUEL STANDARDS.

- NOTES:**
- CONCENTRATIONS IN MICROGRAMS PER LITER.
 - UNOCAL No. 6129 GROUNDWATER SAMPLING CONDUCTED ON 6 APRIL 2017.



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17-070234-UP	EXXONMOBIL OIL CORPORATION	
	GROUNDWATER ANALYTICAL DATA	
OR: RW	27 APRIL 2017	
DR: AJW	FORMER EXXON SERVICE STATION 70234	FIGURE:
CK:	3450 35th AVENUE	4
FR:	OAKLAND, CALIFORNIA	

Tables

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	04/27/17 a	197.62	28.29	169.33	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50
MW5	SCREEN INTERVAL (feet bgs)	30-40									
MW5	04/27/17 a	196.35	27.54	168.81	0.00	470 HD	39	<5.0	<5.0	<5.0	230
MW6	SCREEN INTERVAL (feet bgs)	29-39									
MW6	04/27/17 a	192.41	24.46	167.95	0.00	97 HD	<5.0	<5.0	<5.0	<5.0	12
MW7	SCREEN INTERVAL (feet bgs)	30-40									
MW7	04/27/17 a	194.34	26.64	167.70	0.00	1,500 HD	<25	<25	<25	<25	2,500
MW8	SCREEN INTERVAL (feet bgs)	30-40									
MW8	04/27/17 a	192.96	24.74	168.22	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50
MW9	SCREEN INTERVAL (feet bgs)	30-40									
MW9	04/27/17 a	195.16	25.79	169.37	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50
RW1	SCREEN INTERVAL (feet bgs)	29-39.5									
RW1	04/27/17 a	195.15	26.62	168.53	0.00	1,600 HD	1,100	<20	41	21	660

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.

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

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	---

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	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	---
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	---	---
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	---	---
MW4	11/19/14	a	197.62	36.96	160.66	0.00	<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	---	---
MW4	12/16/15	a	197.62	37.31	160.31	0.00	<50	<0.50	<0.50	<0.50	<0.50	---	---
MW4	06/15/16	a	197.62	34.13	163.49	0.00	<50	<0.50	<0.50	<0.50	<0.50	---	---
MW4	12/20/16	a	197.62	34.03	163.59	0.00	<50	<0.50	<0.50	<0.50	<0.50	---	---
MW4	04/27/17	a	197.62	28.29	169.33	0.00	<50	<0.50	<0.50	<0.50	<0.50	---	---

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	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	---	---
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	---	---
MW5	06/15/16	a 196.35	33.63	162.72	0.00	840 HD	150	1.4 J	1.8 J	4.1	300	---	---
MW5	12/20/16	a 196.35	32.8	163.55	0.00	1,000 HD	160	<5.0	<5.0	<5.0	230	---	---
MW5	04/27/17	a 196.35	27.54	168.81	0.00	470 HD	39	<5.0	<5.0	<5.0	230	---	---
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	---	---

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 TOC (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)
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	---	---
MW6	06/15/16	a 192.41	30.01	162.40	0.00	120 HD	<0.50	<0.50	<0.50	<0.50	13	---	---
MW6	12/20/16	a 192.41	29.29	163.12	0.00	71 HD	<0.50	<0.50	<0.50	<0.50	7	---	---
MW6	04/27/17	a 192.41	24.46	167.95	0.00	97 HD	<5.0	<5.0	<5.0	<5.0	12	---	---
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	---	---
MW7	12/16/15	a 194.34	34.62	159.72	0.00	110 HD	<4.0	<4.0	<4.0	<4.0	220	---	---
MW7	06/15/16	a 194.34	31.96	162.38	0.00	740 HD	<4.0	<4.0	<4.0	<4.0	1,200	---	---
MW7	12/20/16	a 194.34	31.67	162.67	0.00	1,200 HD	<25	<25	<25	<25	1,500	---	---
MW7	04/27/17	a 194.34	26.64	167.70	0.00	1,500 HD	<25	<25	<25	<25	2,500	---	---
MW8	SCREEN INTERVAL (feet bgs) 30-40												

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)
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	---	---
MW8	06/15/16	a 192.96	30.68	162.28	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW8	12/20/16	a 192.96	29.38	163.58	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW8	04/27/17	a 192.96	24.74	168.22	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	---	---

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)
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	---	---
MW9	06/15/16	a 195.16	31.98	163.18	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW9	12/20/16	b 195.16	Well inaccessible.										
MW9	04/27/17	a 195.16	25.79	169.37	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
RW1	SCREEN INTERVAL (feet bgs) 29-39.5												
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	---	---
RW1	06/15/16	a 195.15	32.4	162.75	0.00	1,300	850	3.6 J	17	5.5	450	---	---
RW1	12/20/16	a 195.15	31.54	163.61	0.00	2,400 HD	1,100	<20	18 J	<20	540	---	---
RW1	04/27/17	a 195.15	26.62	168.53	0.00	1,600 HD	1,100	<20	41	21	660	---	---
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	---	---

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 TOC (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)
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.
 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	b	---	---	---	---	---	---	---	---	
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	---	---	
MW4	06/15/16	---	<0.50	<0.50	<0.50	<10	<0.50	<0.50	---	---	
MW4	12/20/16	---	<0.50	<0.50	<0.50	<10	<0.50	<0.50	---	---	
MW4	04/27/17	--	<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	b	---	---	---	---	---	---	---	---	
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	---	---	
MW5	06/15/16	---	<2.5	<2.5	<2.5	720	<2.5	<2.5	---	---	
MW5	12/20/16	---	<5.0	4.7 J	<5.0	680	<5.0	<5.0	---	---	
MW5	04/27/17	--	<5.0	<5.0	<5.0	240	<5.0	<5.0	---	---	
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	b	---	---	---	---	---	---	---	---	

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	11/23/11	---	<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
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	---	---
MW6	06/15/16	---	<0.50	<0.50	<0.50	<10	<0.50	<0.50	---	---
MW6	12/20/16	---	<0.50	<0.50	<0.50	2,400	<0.50	<0.50	---	---
MW6	04/27/17	--	<5.0	<5.0	<5.0	2,000	<5.0	<5.0	---	---
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	b	---	---	---	---	---	---	---	---
MW7	11/23/11	---	<5.0	<5.0	<5.0	<50	<5.0	<5.0	---	---
MW7	05/24/12	b	---	---	---	---	---	---	---	---
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	---	---
MW7	06/15/16	---	<4.0	<4.0	<4.0	380	<4.0	<4.0	---	---
MW7	12/20/16	---	<25	<25	<25	210 J	<25	<25	---	---
MW7	04/27/17	--	<25	<25	<25	<500	<25	<25	---	---
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	---	---
MW8	06/15/16	---	<0.50	<0.50	<0.50	<10	<0.50	<0.50	---	---
MW8	12/20/16	---	<0.50	<0.50	<0.50	<10	<0.50	<0.50	---	---
MW8	04/27/17	--	<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	---	---

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)
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	b	---	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	---	---
MW9	06/15/16	---	<0.50	<0.50	<0.50	<10	<0.50	<0.50	---	---
MW9	12/20/16	b	---	Well inaccessible.		---	---	---	---	---
MW9	04/27/17	--	<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	b	---	---	---	---	---	---	---	---
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	---	---
RW1	06/15/16	---	<5.0	<5.0	<5.0	1,300	<5.0	<5.0	---	---
RW1	12/20/16	---	<20	32	<20	1,600	<20	<20	---	---
RW1	04/27/17	--	<20	<20	<20	1,300	<20	<20	---	---
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.

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)
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- a Approximate depth to groundwater surface at time of sampling.
- b 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 CaCO3 (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	--	--
MW4	06/15/16	a	170	<0.100	63	2.2	0.0470 J	18.8	6.97	545.9	371.6	--	--
MW4	12/20/16	a	175	<0.100	63	2.5	0.0650 J	18.2	7.05	534.7	366.4	--	--
MW4	04/27/17	a	172	<0.100	63	2.6	0.0530 J	19.3	7.23	546.6	373.6	--	--
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	--	--
MW5	06/15/16	a	356	1.97	30	0.59	28.1	18.5	6.45	861.8	599.3	--	--
MW5	12/20/16	a	382	2.14	26	0.22	37.7	18.2	6.58	877.6	589.7	--	--
MW5	04/27/17	a	308	2.80	43	0.54	53.4	18.5	6.59	735.0	507.6	--	--
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	--	--
MW6	06/15/16	a	471	<0.100	38	0.26	7.05	19.4	6.65	972.4	681.4	--	--
MW6	12/20/16	a	501	<0.100	35	0.31	10.2	18.5	6.90	1,010	709.2	--	--
MW6	04/27/17	a	428	<0.100	36	0.43	7.10	19.3	7.04	911.1	634.8	--	--
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	--	--
MW7	06/15/16	a	270	<0.100	58	1.3	7.54	19.8	6.71	726.0	499.3	--	--
MW7	12/20/16	a	276	<0.100	63	1.5	3.72	19.5	6.74	727.0	500.4	--	--
MW7	04/27/17	a	342	<0.100	56	1.3	0.796 J	19.9	6.95	830.3	575.4	--	--
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	--	--
MW8	06/15/16	a	198	<0.100	38	7.5	0.152 J	18.0	6.74	573.2	396.4	--	--
MW8	12/20/16	a	214	<0.100	45	9.2	0.0710 J	17.7	7.16	614.4	425.5	--	--
MW8	04/27/17	a	158	<0.100	34	8.2	0.241 J	18.0	7.54	528.1	359.0	--	--
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	--	--
MW9	06/15/16	a	257	<0.100	39	6.3	0.0610 J	18.5	7.02	824.2	572.3	--	--

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)
MW9	12/20/16	b	--	--	--	--	--	--	--	--	--	--	--
MW9	04/27/17	a	250	<0.100	42	7.0	<1.00	18.6	7.45	804.5	557.9	--	--
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	--	--
RW1	06/15/16	a	379	<0.100	37	0.64	3.26	18.6	6.92	873.4	608.0	--	--
RW1	12/20/16	a	372	<0.100	38	0.67	6.73	18.0	7.02	895.9	625.1	--	--
RW1	04/27/17	a	427	<0.100	38	0.82	6.72	19.1	7.52	993.3	694.9	--	--

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. b Well inaccessible.
 <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.

TABLE 6 GROUNDWATER MONITORING PLAN,
 FORMER EXXON SERVICE STATION 70234,
 3450 35TH AVENUE, OAKLAND, CALIFORNIA

Well Number	Groundwater Gauging Frequency	Groundwater Sampling and Analysis Frequency			
		BTEX	TPH-g	MTBE	TBA
MW4	SA	SA	SA	SA	SA
MW5	SA	SA	SA	SA	SA
MW6	SA	SA	SA	SA	SA
MW7	SA	SA	SA	SA	SA
MW8	SA	SA	SA	SA	SA
MW9	SA	SA	SA	SA	SA
RW1	SA	SA	SA	SA	SA

Notes:

- BTEX Benzene, toluene, ethylbenzene, and xylenes.
- TPH-g Total Petroleum Hydrocarbons as gasoline.
- MTBE Methyl tertiary butyl ether.
- TBA Tertiary butyl alcohol.
- SA Semiannually (performed during the second and fourth quarters of each year).

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: 17-070234-UV Task Number: 4.1, 4.2
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 0800
- Opened and purged wells MW4 + two MW9, and RW1 with WLM.
- Purged and sampled some wells with disposable bailers.
- Pumped about 80 gal of purge water and decay water in two 55 gal drums.
- Dilled on site 12:00
- Dilled removed both drums from the site.
- Dilled off site 13:00
- closed all wells
- off site 13:30

Preparer Name: C. Mitchell Date: 4/27/17

Office Location: PH [/] MRTZ [/] PAS [/] CM [/]
FRE [/] ROS [/] BAR [/] SD [/]



MONITORING WELL DATA FORM

Client: ExxonMobil

Date: 4/27/17

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 PROPERTY (FEET)	APRASEL PROBE THICKNESS (FEET)	AMOUNT OF PRODUCT REMOVED	SCREEN (Y/N)	MONITORING WELL INTEGRITY	DEPTH TO BOTTOM (FEET)	WELL CASING DIAMETER
# MW4	28.29	—	—	—	N		44.88	2"
# MW5	27.54	—	—	—	N		39.96	2"
# MW6	24.46	—	—	—	N		39.38	2"
# MW7	26.64	—	—	—	N		39.34	2"
# MW8	24.74	—	—	—	N		39.82	2"
# MW9	25.79	—	—	—	N	39.81	40.35	2"
# RW1	26.62	—	—	—	N		40.35	4"



GROUNDWATER PURGE AND SAMPLE

Project Name: ExxonMobil Well No: MW4 Date: 4/27/17

Project No: 17-070234-UP Personnel: C.M. Fisher

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)
	44.88	29.29	16.59	3/4	2	4	6	2.65	7.96
			0.03	0.18	0.64	1.44			

PURGING DATA

Purge Method: Disp. Balow Purge Depth: Purge Rate: (gpm)

Time	08:24	08:31	08:38			
Volume Purge (gal)	3	6	9			
Temperature (C)	18.9	19.3	19.3			
pH	7.45	7.32	7.23			
Spec. Cond. (umhos)	527.4	544.2	546.6			
Turbidity/Color	1.5/10	1.5/10	1.5/10			
TDS (g/L)	361.3	372.8	373.6			
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: 29 (feet)

Comments:

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

Total Purge Volume: 9 (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: 4/27/17

Project No: 17-070234-UP Personnel: C. Mitchell

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)
	...	39.96	27.57	12.42	3/4	2	4	6	1.99
				0.03	0.16	0.64	1.44		

PURGING DATA

Purge Method: Disp. Balun Purge Depth: Purge Rate: (gpm)

Time	10:43	10:48	10:45		
Volume Purge (gal)	2	4	6		
Temperature (C)	18.7	18.6	18.5		
pH	7.13	6.55	6.59		
Spec. Cond. (umhos)	745.4	733.3	735.0		
Turbidity/Color	1.5 NTU 6.2 NTU	1.8 NTU 6.2 NTU	1.7 NTU 6.2 NTU		
TDS (g/L)	514.9	506.2	507.6		
ORP	-	-	-		
DO (mg/L)	-	-	-		
Odor (Y/N)	Y	Y	Y		
Casing Volumes	1	2	3		
Dewatered (Y/N)	N	N	N		

Comments/Observations:

SAMPLING DATA

Time Sampled: 1245 Approximate Depth to Water During Sampling: 28 (feet)

Comments:

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

Total Purge Volume: 6 (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: MW6 Date: 4/27/17
 Project No: 17-070234-UP Personnel: C. Mitchell
 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)
	38.38	24.46	13.92	3/4	2	4	6	2.23	6.68
			0.03	0.16	0.64	1.44			

PURGING DATA						
Purge Method:	Purge Depth:			Purge Rate: (gpm)		
Time	10:03	10:09	10:15			
Volume Purge (gal)	2.5	5.0	7.5			
Temperature (C)	19.3	19.4	19.3			
pH	7.06	7.04	7.04			
Spec. Cond. (umhos)	937.7	913.5	911.1			
Turbidity/Color	Very light brown	Very light brown	light brown			
TDS (g/L)	654.4	636.2	634.8			
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: 1230 Approximate Depth to Water During Sampling: 25 (feet)
 Comments:

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

Total Purge Volume: 7.5 (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: None



GROUNDWATER PURGE AND SAMPLE

Project Name: ExxonMobil Well No: MW 2 Date: 4/27/17
 Project No: 17-070234-UP Personnel: C. Mitchell
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)
	...	39.34	26.64	12.7	3/4	2	4	6	2.03
				0.03	0.15	0.64	1.44		

PURGING DATA
 Purge Method: Dis/ Bailev Purge Depth: _____ Purge Rate: _____ (gpm)

Time	08:52	08:58	09:04		
Volume Purge (gal)	2.5	5.0	7.5		
Temperature (C)	19.8	19.9	19.9		
pH	7.02	6.87	6.95		
Spec. Cond. (umhos)	802.6	822.7	830.3		
Turbidity/Color	light brown	light brown	light brown		
TDS (g/L)	555.6	570.1	575.4		
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: 1145 Approximate Depth to Water During Sampling: 27 (feet)

Comments: _____

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

Total Purge Volume: 7.5 (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: None



GROUNDWATER PURGE AND SAMPLE

Project Name: ExxonMobil Well No: MW8 Date: 4/27/17

Project No: 17-020234-UP Personnel: C. Mitchell

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)
	...	39.62	24.74	15.08	3/4	2	4	6	2.41
				0.08	0.16	0.64	1.44		

PURGING DATA

Purge Method: Disp Hailer Purge Depth: Purge Rate: (gpm)

Time	07:57	08:02	08:07		
Volume Purge (gal)	2.5	5.0	7.5		
Temperature (C)	17.6	16.0	16.0		
pH	8.37	7.63	7.54		
Spec. Cond. (umhos)	482.9	519.2	528.1		
Turbidity/Color	1.80 0/1	1.80 6/4	1.80 6/4		
TDS (g/L)	331.6	356.6	359.0		
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: 11:15 Approximate Depth to Water During Sampling: 25 (feet)

Comments:

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

Total Purge Volume: 7.5 (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:

Problems Encountered During Purging and Sampling: None



GROUNDWATER PURGE AND SAMPLE

Project Name: ExxonMobil Well No: MW9 Date: 4/27/17

Project No: 17-070234-4 Personnel: C. Mitchell

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)
	39.81	25.79	14.02	3/4	2	4	6	2.24	6.73
			0.03	0.16	0.64	1.44			

PURGING DATA

Purge Method: Disp barrel Purge Depth: Purge Rate: (gpm)

Time	09:36	09:42	09:48		
Volume Purge (gal)	2.5	5.0	7.5		
Temperature (C)	18.6	18.5	18.6		
pH	7.88	7.58	7.45		
Spec. Cond. (umhos)	834.9	808.1	804.5		
Turbidity/Color	Very light brown	Very light brown	Very light brown		
TDS (g/L)	835.1	560.9	557.9		
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: 11:00 Approximate Depth to Water During Sampling: 26 (feet)

Comments:

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

Total Purge Volume: 7.5 (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: None



GROUNDWATER PURGE AND SAMPLE

Project Name: ExxonMobil Well No: RW1 Date: 4/13/17

Project No: 17-070234-98 Personnel: C. Mitchell

GAUGING DATA
 Water Level Measuring Method: WLM Measuring Point Description: JOC 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)
		40.35	26.62	13.73	3/4	2	4	6	8.79
				0.03	0.16	0.64	1.44		

PURGING DATA

Purge Method:	Disp. Bailer			Purge Depth:	Purge Rate:	(gpm)
Time	12:01	12:11	12:22			
Volume Purge (gal)	9	18	27			
Temperature (C)	19.2	19.3	19.1			
pH	7.27	7.33	7.52			
Spec. Cond. (umhos)	988.8	988.5	993.3			
Turbidity/Color	Heavy B.S.	Heavy B.S.	Heavy B.S.			
TDS (g/L)	691.6	690.9	694.9			
ORP	—	—	—			
DO (mg/L)	—	—	—			
Odor (Y/N)	N	Y	Y			
Casing Volumes	1	2	3			
Dewatered (Y/N)	N	N	N			

Comments/Observations:

SAMPLING DATA

Time Sampled: 1300 Approximate Depth to Water During Sampling: 27 (feet)

Comments:

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

Total Purge Volume: 27 (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

Appendix C
Waste Manifest

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number

N/A

2. Page 1 of

3. Emergency Response Phone

800-675-1055

4. Waste Tracking Number

04192017CAM-5

5. Generator's Name and Mailing Address

ExxonMobil Oil Corp (70234)
888 N. FAIR OAKS AVENUE SUITE A
PASADENA, CA 91103 USA

Generator's Site Address (if different than mailing address)

3450 35TH AVENUE
OAKLAND, CA USA

Generator's Phone

925-602-4710

U.S. EPA ID Number

CAD882523433

6. Transporter 1 Company Name

DILLARD ENVIRONMENTAL SERVICES #1715

U.S. EPA ID Number

8. Designated Facility Name and Site Address

InStrat Inc
1405 Airport Road
Rio Vista, CA 94571 USA

U.S. EPA ID Number

Facility's Phone

925-753-1620

9. Waste Shipping Name and Description

10. Containers

No.

Type

11. Total Quantity

12. Unit Wt./Vol.

1. NON-HAZARDOUS INDUSTRIAL WASTE LIQUID (PURGE WATER)

2

DM

180

Gal

13. Special Handling Instructions and Additional Information

DES JOB # 9M-212

MONITORING WELL PURGE WATER

ON BEHALF OF EXXON MOBIL 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/Officer's Printed/Typed Name

John Haberland

Signature

John Haberland

Month Day Year
4 27 17

15. International Shipments

Import to U.S.

Export from U.S.

Port of entry/exit:

Date leaving U.S.:

Transporter Signature (for exports only):

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name

Ken Wilson

Signature

Ken Wilson

Month Day Year
4 27 17

Transporter 2 Printed/Typed Name

Signature

Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space

Quantity

Type

Residue

Partial Rejection

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)

InStrat Inc

Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in item 17a

Printed/Typed Name

Ruben Gonzalez

Signature

Rubén González

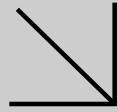
Month Day Year
4 28 17

Appendix D

Laboratory Analytical Reports and Chain-of-Custody Documentation



Calscience



WORK ORDER NUMBER: 17-04-2175

The difference is service



AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: ETIC Engineering, Inc.

Client Project Name: ExxonMobil 70234

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

Cecile deGuia

Approved for release on 05/11/2017 by:
Cecile deGuia
Project Manager

ResultLink ▶

Email your PM ▶

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 Work Order Number: 17-04-2175

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	3.2 EPA 300.0 Anions (Aqueous).	7
	3.3 SM 2320B Alkalinity (Aqueous).	9
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Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 04/28/17. They were assigned to Work Order 17-04-2175.

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.

SM 3500-FeB Ferrous Iron

Please note that the all the containers for Ferrous Iron analysis were received with headspace. Client was notified via email on May 01, 2017.



Calscience

Sample Summary

Client: ETIC Engineering, Inc. 898 N. Fair Oaks Avenue, Suite A Pasadena, CA 91103-3065	Work Order: 17-04-2175 Project Name: ExxonMobil 70234 PO Number: 4410478821 Date/Time Received: 04/28/17 08:10 Number of Containers: 70
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Attn: Kate Lamb

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
MW4	17-04-2175-1	04/27/17 11:30	10	Aqueous
MW5	17-04-2175-2	04/27/17 12:45	10	Aqueous
MW6	17-04-2175-3	04/27/17 12:30	10	Aqueous
MW7	17-04-2175-4	04/27/17 11:45	10	Aqueous
MW8	17-04-2175-5	04/27/17 11:15	10	Aqueous
MW9	17-04-2175-6	04/27/17 11:00	10	Aqueous
RW1	17-04-2175-7	04/27/17 13:00	10	Aqueous



Calscience

Analytical Report

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

Date Received: 04/28/17
Work Order: 17-04-2175
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	17-04-2175-1-H	04/27/17 11:30	Aqueous	GC 61	N/A	05/02/17 12:51	170502L01

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	0.0530	1.00	0.0400	1.00	J

MW5	17-04-2175-2-H	04/27/17 12:45	Aqueous	GC 61	N/A	05/02/17 13:18	170502L01
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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	53.4	1.00	0.0400	1.00	

MW6	17-04-2175-3-H	04/27/17 12:30	Aqueous	GC 61	N/A	05/02/17 13:54	170502L01
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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	7.10	1.00	0.0400	1.00	

MW7	17-04-2175-4-H	04/27/17 11:45	Aqueous	GC 61	N/A	05/02/17 14:32	170502L01
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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	0.796	1.00	0.0400	1.00	J

MW8	17-04-2175-5-H	04/27/17 11:15	Aqueous	GC 61	N/A	05/02/17 15:19	170502L01
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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	0.241	1.00	0.0400	1.00	J

MW9	17-04-2175-6-H	04/27/17 11:00	Aqueous	GC 61	N/A	05/02/17 15:59	170502L01
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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	ND	1.00	0.0400	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: 04/28/17
Work Order: 17-04-2175
Preparation: N/A
Method: RSK-175M
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	17-04-2175-7-H	04/27/17 13:00	Aqueous	GC 61	N/A	05/02/17 16:23	170502L01

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	6.72	1.00	0.0400	1.00	

Method Blank	099-12-663-2690	N/A	Aqueous	GC 61	N/A	05/02/17 10:29	170502L01
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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.



Calscience

Analytical Report

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

Date Received: 04/28/17
Work Order: 17-04-2175
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	17-04-2175-1-I	04/27/17 11:30	Aqueous	IC 10	N/A	04/29/17 02:10	170428L01

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
Nitrate (as N)	2.6	0.10	0.053	1.00	
Sulfate	63	1.0	0.27	1.00	

MW5	17-04-2175-2-I	04/27/17 12:45	Aqueous	IC 10	N/A	04/29/17 02:29	170428L01
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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
Nitrate (as N)	0.54	0.10	0.053	1.00	
Sulfate	43	1.0	0.27	1.00	

MW6	17-04-2175-3-I	04/27/17 12:30	Aqueous	IC 10	N/A	04/29/17 02:48	170428L01
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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
Nitrate (as N)	0.43	0.10	0.053	1.00	
Sulfate	36	1.0	0.27	1.00	

MW7	17-04-2175-4-I	04/27/17 11:45	Aqueous	IC 10	N/A	04/29/17 03:06	170428L01
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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
Nitrate (as N)	1.3	0.10	0.053	1.00	
Sulfate	56	1.0	0.27	1.00	

MW8	17-04-2175-5-I	04/27/17 11:15	Aqueous	IC 10	N/A	04/29/17 03:25	170428L01
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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
Nitrate (as N)	8.2	0.10	0.053	1.00	
Sulfate	34	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: 04/28/17
Work Order: 17-04-2175
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	17-04-2175-6-I	04/27/17 11:00	Aqueous	IC 10	N/A	04/29/17 03:44	170428L01

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)	7.0	0.10	0.053	1.00	
Sulfate	42	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	17-04-2175-7-I	04/27/17 13:00	Aqueous	IC 10	N/A	04/29/17 04:03	170428L01

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)	0.82	0.10	0.053	1.00	
Sulfate	38	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	099-12-906-7531	N/A	Aqueous	IC 10	N/A	04/28/17 20:06	170428L01

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.

Analytical Report

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

Date Received: 04/28/17
 Work Order: 17-04-2175
 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	17-04-2175-1-I	04/27/17 11:30	Aqueous	PH1/BUR03	N/A	05/05/17 21:00	H0505ALKB1

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)	172	5.00	0.848	1.00	

MW5	17-04-2175-2-I	04/27/17 12:45	Aqueous	PH1/BUR03	N/A	05/05/17 21:00	H0505ALKB1
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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)	308	5.00	0.848	1.00	

MW6	17-04-2175-3-I	04/27/17 12:30	Aqueous	PH1/BUR03	N/A	05/05/17 21:00	H0505ALKB1
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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)	428	5.00	0.848	1.00	

MW7	17-04-2175-4-I	04/27/17 11:45	Aqueous	PH1/BUR03	N/A	05/05/17 21:00	H0505ALKB1
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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)	342	5.00	0.848	1.00	

MW8	17-04-2175-5-I	04/27/17 11:15	Aqueous	PH1/BUR03	N/A	05/05/17 21:00	H0505ALKB1
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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)	158	5.00	0.848	1.00	

MW9	17-04-2175-6-I	04/27/17 11:00	Aqueous	PH1/BUR03	N/A	05/05/17 21:00	H0505ALKB1
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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)	250	5.00	0.848	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: 04/28/17
Work Order: 17-04-2175
Preparation: N/A
Method: SM 2320B
Units: mg/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	17-04-2175-7-I	04/27/17 13:00	Aqueous	PH1/BUR03	N/A	05/05/17 21:00	H0505ALKB1

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)	427	5.00	0.848	1.00	

Method Blank	099-15-859-1206	N/A	Aqueous	PH1/BUR03	N/A	05/05/17 21:00	H0505ALKB1
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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.



Calscience

Analytical Report

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

Date Received: 04/28/17
Work Order: 17-04-2175
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	17-04-2175-1-J	04/27/17 11:30	Aqueous	UV 9	04/28/17	04/28/17 10:00	H0428FEL1

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	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW5	17-04-2175-2-J	04/27/17 12:45	Aqueous	UV 9	04/28/17	04/28/17 10:00	H0428FEL1

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)	2.80	0.100	0.0413	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW6	17-04-2175-3-J	04/27/17 12:30	Aqueous	UV 9	04/28/17	04/28/17 10:00	H0428FEL1

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	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW7	17-04-2175-4-J	04/27/17 11:45	Aqueous	UV 9	04/28/17	04/28/17 10:00	H0428FEL1

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	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW8	17-04-2175-5-J	04/27/17 11:15	Aqueous	UV 9	04/28/17	04/28/17 10:00	H0428FEL1

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	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW9	17-04-2175-6-J	04/27/17 11:00	Aqueous	UV 9	04/28/17	04/28/17 10:00	H0428FEL1

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.



Calscience

Analytical Report

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

Date Received: 04/28/17
 Work Order: 17-04-2175
 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	17-04-2175-7-J	04/27/17 13:00	Aqueous	UV 9	04/28/17	04/28/17 10:00	H0428FEL1

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= 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	099-05-111-5611	N/A	Aqueous	UV 9	04/28/17	04/28/17 10:00	H0428FEL1
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Comment(s): - Results were evaluated to the MDL (DL), concentrations >= 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.



Calscience

Analytical Report

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

Date Received: 04/28/17
Work Order: 17-04-2175
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	17-04-2175-1-D	04/27/17 11:30	Aqueous	GC 25	05/06/17	05/07/17 03:46	170506L038

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	73	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW5	17-04-2175-2-D	04/27/17 12:45	Aqueous	GC 25	05/06/17	05/07/17 07:07	170506L038

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	470	50	48	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	76	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW6	17-04-2175-3-D	04/27/17 12:30	Aqueous	GC 25	05/06/17	05/07/17 05:27	170506L038

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	97	50	48	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	74	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW7	17-04-2175-4-D	04/27/17 11:45	Aqueous	GC 25	05/06/17	05/07/17 07:41	170506L038

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	1500	50	48	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	74	38-134	

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: 04/28/17
Work Order: 17-04-2175
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	17-04-2175-5-D	04/27/17 11:15	Aqueous	GC 25	05/06/17	05/07/17 06:00	170506L038

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	73	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW9	17-04-2175-6-D	04/27/17 11:00	Aqueous	GC 25	05/06/17	05/07/17 06:34	170506L038

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	77	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
RW1	17-04-2175-7-D	04/27/17 13:00	Aqueous	GC 25	05/06/17	05/07/17 08:48	170506L038

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	1600	50	48	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	77	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-436-11423	N/A	Aqueous	GC 25	05/06/17	05/07/17 03:13	170506L038

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	74	38-134	

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: 04/28/17
Work Order: 17-04-2175
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	17-04-2175-1-B	04/27/17 11:30	Aqueous	GC/MS FFF	05/06/17	05/06/17 19:49	170506L033

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	0.20	1.00	
Ethylbenzene	ND	0.50	0.20	1.00	
Toluene	ND	0.50	0.20	1.00	
p/m-Xylene	ND	0.50	0.20	1.00	
o-Xylene	ND	0.50	0.32	1.00	
Xylenes (total)	ND	0.50	0.20	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	0.20	1.00	
Tert-Butyl Alcohol (TBA)	ND	10	4.0	1.00	
Diisopropyl Ether (DIPE)	ND	0.50	0.20	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.50	0.20	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.50	0.20	1.00	
1,2-Dibromoethane	ND	0.50	0.20	1.00	
1,2-Dichloroethane	ND	0.50	0.20	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	91	68-120	
Dibromofluoromethane	110	80-127	
1,2-Dichloroethane-d4	108	80-128	
Toluene-d8	101	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: 04/28/17
Work Order: 17-04-2175
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	17-04-2175-2-B	04/27/17 12:45	Aqueous	GC/MS FFF	05/06/17	05/06/17 20:21	170506L033

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	39	5.0	2.0	10.0	
Ethylbenzene	ND	5.0	2.0	10.0	
Toluene	ND	5.0	2.0	10.0	
p/m-Xylene	ND	5.0	2.0	10.0	
o-Xylene	ND	5.0	3.2	10.0	
Xylenes (total)	ND	5.0	2.0	1.00	
Methyl-t-Butyl Ether (MTBE)	230	5.0	2.0	10.0	
Tert-Butyl Alcohol (TBA)	240	100	40	10.0	
Diisopropyl Ether (DIPE)	ND	5.0	2.0	10.0	
Ethyl-t-Butyl Ether (ETBE)	ND	5.0	2.0	10.0	
Tert-Amyl-Methyl Ether (TAME)	ND	5.0	2.0	10.0	
1,2-Dibromoethane	ND	5.0	2.0	10.0	
1,2-Dichloroethane	ND	5.0	2.0	10.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	91	68-120	
Dibromofluoromethane	108	80-127	
1,2-Dichloroethane-d4	108	80-128	
Toluene-d8	100	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: 04/28/17
Work Order: 17-04-2175
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	17-04-2175-3-B	04/27/17 12:30	Aqueous	GC/MS FFF	05/06/17	05/06/17 20:52	170506L033

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	5.0	2.0	10.0	
Ethylbenzene	ND	5.0	2.0	10.0	
Toluene	ND	5.0	2.0	10.0	
p/m-Xylene	ND	5.0	2.0	10.0	
o-Xylene	ND	5.0	3.2	10.0	
Xylenes (total)	ND	5.0	2.0	1.00	
Methyl-t-Butyl Ether (MTBE)	12	5.0	2.0	10.0	
Tert-Butyl Alcohol (TBA)	2000	100	40	10.0	
Diisopropyl Ether (DIPE)	ND	5.0	2.0	10.0	
Ethyl-t-Butyl Ether (ETBE)	ND	5.0	2.0	10.0	
Tert-Amyl-Methyl Ether (TAME)	ND	5.0	2.0	10.0	
1,2-Dibromoethane	ND	5.0	2.0	10.0	
1,2-Dichloroethane	ND	5.0	2.0	10.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	89	68-120	
Dibromofluoromethane	108	80-127	
1,2-Dichloroethane-d4	106	80-128	
Toluene-d8	100	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: 04/28/17
Work Order: 17-04-2175
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	17-04-2175-4-B	04/27/17 11:45	Aqueous	GC/MS FFF	05/06/17	05/06/17 21:23	170506L033

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	25	10	50.0	
Ethylbenzene	ND	25	10	50.0	
Toluene	ND	25	10	50.0	
p/m-Xylene	ND	25	10	50.0	
o-Xylene	ND	25	16	50.0	
Xylenes (total)	ND	25	10	1.00	
Tert-Butyl Alcohol (TBA)	ND	500	200	50.0	
Diisopropyl Ether (DIPE)	ND	25	10	50.0	
Ethyl-t-Butyl Ether (ETBE)	ND	25	10	50.0	
Tert-Amyl-Methyl Ether (TAME)	ND	25	10	50.0	
1,2-Dibromoethane	ND	25	10	50.0	
1,2-Dichloroethane	ND	25	10	50.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	90	68-120	
Dibromofluoromethane	109	80-127	
1,2-Dichloroethane-d4	107	80-128	
Toluene-d8	101	80-120	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW7	17-04-2175-4-C	04/27/17 11:45	Aqueous	GC/MS FFF	05/08/17	05/09/17 01:04	170508L069

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
Methyl-t-Butyl Ether (MTBE)	2500	50	20	100	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	88	68-120	
Dibromofluoromethane	108	80-127	
1,2-Dichloroethane-d4	110	80-128	
Toluene-d8	99	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: 04/28/17
Work Order: 17-04-2175
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	17-04-2175-5-C	04/27/17 11:15	Aqueous	GC/MS FFF	05/08/17	05/09/17 01:35	170508L069

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	0.20	1.00	
Ethylbenzene	ND	0.50	0.20	1.00	
Toluene	ND	0.50	0.20	1.00	
p/m-Xylene	ND	0.50	0.20	1.00	
o-Xylene	ND	0.50	0.32	1.00	
Xylenes (total)	ND	0.50	0.20	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	0.20	1.00	
Tert-Butyl Alcohol (TBA)	ND	10	4.0	1.00	
Diisopropyl Ether (DIPE)	ND	0.50	0.20	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.50	0.20	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.50	0.20	1.00	
1,2-Dibromoethane	ND	0.50	0.20	1.00	
1,2-Dichloroethane	ND	0.50	0.20	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	90	68-120	
Dibromofluoromethane	108	80-127	
1,2-Dichloroethane-d4	110	80-128	
Toluene-d8	101	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: 04/28/17
Work Order: 17-04-2175
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	17-04-2175-6-C	04/27/17 11:00	Aqueous	GC/MS FFF	05/08/17	05/09/17 02:07	170508L069

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	0.20	1.00	
Ethylbenzene	ND	0.50	0.20	1.00	
Toluene	ND	0.50	0.20	1.00	
p/m-Xylene	ND	0.50	0.20	1.00	
o-Xylene	ND	0.50	0.32	1.00	
Xylenes (total)	ND	0.50	0.20	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	0.20	1.00	
Tert-Butyl Alcohol (TBA)	ND	10	4.0	1.00	
Diisopropyl Ether (DIPE)	ND	0.50	0.20	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.50	0.20	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.50	0.20	1.00	
1,2-Dibromoethane	ND	0.50	0.20	1.00	
1,2-Dichloroethane	ND	0.50	0.20	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	90	68-120	
Dibromofluoromethane	107	80-127	
1,2-Dichloroethane-d4	109	80-128	
Toluene-d8	100	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: 04/28/17
Work Order: 17-04-2175
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	17-04-2175-7-C	04/27/17 13:00	Aqueous	GC/MS FFF	05/08/17	05/09/17 02:38	170508L069

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	1100	20	8.0	40.0	
Ethylbenzene	41	20	8.0	40.0	
Toluene	ND	20	8.0	40.0	
p/m-Xylene	21	20	8.0	40.0	
o-Xylene	ND	20	13	40.0	
Xylenes (total)	21	20	8.0	1.00	
Methyl-t-Butyl Ether (MTBE)	660	20	8.0	40.0	
Tert-Butyl Alcohol (TBA)	1300	400	160	40.0	
Diisopropyl Ether (DIPE)	ND	20	8.0	40.0	
Ethyl-t-Butyl Ether (ETBE)	ND	20	8.0	40.0	
Tert-Amyl-Methyl Ether (TAME)	ND	20	8.0	40.0	
1,2-Dibromoethane	ND	20	8.0	40.0	
1,2-Dichloroethane	ND	20	8.0	40.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	91	68-120	
Dibromofluoromethane	110	80-127	
1,2-Dichloroethane-d4	111	80-128	
Toluene-d8	96	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: 04/28/17
Work Order: 17-04-2175
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	099-10-025-4693	N/A	Aqueous	GC/MS FFF	05/06/17	05/06/17 11:23	170506L033

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	0.20	1.00	
Ethylbenzene	ND	0.50	0.20	1.00	
Toluene	ND	0.50	0.20	1.00	
p/m-Xylene	ND	0.50	0.20	1.00	
o-Xylene	ND	0.50	0.32	1.00	
Xylenes (total)	ND	0.50	0.20	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	0.20	1.00	
Tert-Butyl Alcohol (TBA)	ND	10	4.0	1.00	
Diisopropyl Ether (DIPE)	ND	0.50	0.20	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.50	0.20	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.50	0.20	1.00	
1,2-Dibromoethane	ND	0.50	0.20	1.00	
1,2-Dichloroethane	ND	0.50	0.20	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	91	68-120	
Dibromofluoromethane	102	80-127	
1,2-Dichloroethane-d4	103	80-128	
Toluene-d8	100	80-120	

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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: 04/28/17
Work Order: 17-04-2175
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	099-10-025-4698	N/A	Aqueous	GC/MS FFF	05/08/17	05/08/17 21:56	170508L069

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	0.20	1.00	
1,2-Dibromoethane	ND	0.50	0.20	1.00	
1,2-Dichloroethane	ND	0.50	0.20	1.00	
Ethylbenzene	ND	0.50	0.20	1.00	
Toluene	ND	0.50	0.20	1.00	
p/m-Xylene	ND	0.50	0.20	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	0.20	1.00	
o-Xylene	ND	0.50	0.32	1.00	
Xylenes (total)	ND	0.50	0.20	1.00	
Tert-Butyl Alcohol (TBA)	ND	10	4.0	1.00	
Diisopropyl Ether (DIPE)	ND	0.50	0.20	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.50	0.20	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.50	0.20	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	90	68-120	
Dibromofluoromethane	107	80-127	
1,2-Dichloroethane-d4	109	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: 04/28/17
Work Order: 17-04-2175
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
17-04-2159-2	Sample	Aqueous	IC 10	N/A	04/28/17 21:03	170428S01
17-04-2159-2	Matrix Spike	Aqueous	IC 10	N/A	04/28/17 23:53	170428S01
17-04-2159-2	Matrix Spike Duplicate	Aqueous	IC 10	N/A	04/29/17 00:12	170428S01

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Nitrate (as N)	ND	5.000	4.894	98	4.908	98	80-120	0	0-20	
Sulfate	ND	50.00	50.74	101	50.62	101	80-120	0	0-20	

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RPD: Relative Percent Difference. CL: Control Limits



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Quality Control - Spike/Spike Duplicate

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

Date Received: 04/28/17
Work Order: 17-04-2175
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
17-04-2161-2	Sample	Aqueous	UV 9	04/28/17	04/28/17 10:00	H0428FES1
17-04-2161-2	Matrix Spike	Aqueous	UV 9	04/28/17	04/28/17 10:00	H0428FES1
17-04-2161-2	Matrix Spike Duplicate	Aqueous	UV 9	04/28/17	04/28/17 10:00	H0428FES1

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Iron (II)	ND	1.000	0.9460	95	0.9324	93	70-130	1	0-25	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



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Quality Control - Spike/Spike Duplicate

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

Date Received: 04/28/17
Work Order: 17-04-2175
Preparation: EPA 5030C
Method: EPA 8015B (M)

Project: ExxonMobil 70234

Page 3 of 5

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW4	Sample	Aqueous	GC 25	05/06/17	05/07/17 03:46	170506S016
MW4	Matrix Spike	Aqueous	GC 25	05/06/17	05/07/17 04:20	170506S016
MW4	Matrix Spike Duplicate	Aqueous	GC 25	05/06/17	05/07/17 04:53	170506S016

<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>
TPH as Gasoline	ND	2000	1954	98	1844	92	68-122	6	0-18	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



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Quality Control - Spike/Spike Duplicate

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

Date Received: 04/28/17
Work Order: 17-04-2175
Preparation: EPA 5030C
Method: EPA 8260B

Project: ExxonMobil 70234

Page 4 of 5

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number				
17-04-2192-3	Sample	Aqueous	GC/MS FFF	05/06/17	05/06/17 11:54	170506S001				
17-04-2192-3	Matrix Spike	Aqueous	GC/MS FFF	05/06/17	05/06/17 12:26	170506S001				
17-04-2192-3	Matrix Spike Duplicate	Aqueous	GC/MS FFF	05/06/17	05/06/17 12:57	170506S001				
Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	11.86	10.00	20.55	87	21.49	96	75-125	4	0-20	
Ethylbenzene	1.582	10.00	11.37	98	11.53	99	75-125	1	0-20	
Toluene	ND	10.00	9.547	95	9.653	97	75-125	1	0-20	
p/m-Xylene	ND	20.00	19.59	98	19.88	99	75-125	1	0-20	
o-Xylene	ND	10.00	9.878	99	10.07	101	75-127	2	0-20	
Methyl-t-Butyl Ether (MTBE)	46.12	10.00	53.32	72	54.24	81	71-131	2	0-20	
Tert-Butyl Alcohol (TBA)	6940	50.00	6949	20	6436	0	20-180	8	0-40	HX
Diisopropyl Ether (DIPE)	31.22	10.00	34.43	32	38.73	75	64-136	12	0-20	HX
Ethyl-t-Butyl Ether (ETBE)	ND	10.00	9.237	92	8.799	88	73-133	5	0-20	
Tert-Amyl-Methyl Ether (TAME)	ND	10.00	9.447	94	9.304	93	75-125	2	0-20	
1,2-Dibromoethane	ND	10.00	9.505	95	9.330	93	75-126	2	0-20	
1,2-Dichloroethane	15.54	10.00	24.12	86	24.53	90	75-127	2	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: 04/28/17
Work Order: 17-04-2175
Preparation: EPA 5030C
Method: EPA 8260B

Project: ExxonMobil 70234

Page 5 of 5

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number				
17-05-0107-4	Sample	Aqueous	GC/MS FFF	05/08/17	05/08/17 22:27	170508S029				
17-05-0107-4	Matrix Spike	Aqueous	GC/MS FFF	05/08/17	05/08/17 22:59	170508S029				
17-05-0107-4	Matrix Spike Duplicate	Aqueous	GC/MS FFF	05/08/17	05/08/17 23:30	170508S029				
Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	ND	10.00	10.79	108	10.61	106	75-125	2	0-20	
1,2-Dibromoethane	ND	10.00	10.35	104	10.34	103	75-126	0	0-20	
1,2-Dichloroethane	ND	10.00	10.13	101	9.948	99	75-127	2	0-20	
Ethylbenzene	ND	10.00	11.03	110	10.96	110	75-125	1	0-20	
Toluene	ND	10.00	10.12	101	10.05	101	75-125	1	0-20	
p/m-Xylene	ND	20.00	21.40	107	21.29	106	75-125	1	0-20	
Methyl-t-Butyl Ether (MTBE)	ND	10.00	10.49	105	10.13	101	71-131	4	0-20	
o-Xylene	ND	10.00	10.75	107	10.71	107	75-127	0	0-20	
Tert-Butyl Alcohol (TBA)	ND	50.00	66.11	132	66.61	133	20-180	1	0-40	
Diisopropyl Ether (DIPE)	ND	10.00	10.50	105	10.75	108	64-136	2	0-20	
Ethyl-t-Butyl Ether (ETBE)	ND	10.00	10.43	104	10.18	102	73-133	2	0-20	
Tert-Amyl-Methyl Ether (TAME)	ND	10.00	10.07	101	10.22	102	75-125	1	0-20	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



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Quality Control - Sample Duplicate

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

Date Received: 04/28/17
Work Order: 17-04-2175
Preparation: N/A
Method: SM 2320B

Project: ExxonMobil 70234

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
17-05-0473-1	Sample	Aqueous	PH1/BUR03	N/A	05/05/17 21:00	H0505ALKD1
17-05-0473-1	Sample Duplicate	Aqueous	PH1/BUR03	N/A	05/05/17 21:00	H0505ALKD1

Parameter	Sample Conc.	DUP Conc.	RPD	RPD CL	Qualifiers
Alkalinity, Total (as CaCO ₃)	3000	2930	2	0-25	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



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Quality Control - LCS/LCSD

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

Date Received: 04/28/17
Work Order: 17-04-2175
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			
099-12-663-2690	LCS	Aqueous	GC 61	N/A	05/02/17 09:33	170502L01			
099-12-663-2690	LCSD	Aqueous	GC 61	N/A	05/02/17 09:56	170502L01			
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Methane	102.0	96.63	95	97.09	95	80-120	0	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: 04/28/17
Work Order: 17-04-2175
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/LCSD Batch Number			
099-12-906-7531	LCS	Aqueous	IC 10	N/A	04/28/17 20:25	170428L01			
099-12-906-7531	LCSD	Aqueous	IC 10	N/A	04/28/17 20:44	170428L01			
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Nitrate (as N)	5.000	4.917	98	5.245	105	90-110	6	0-15	
Sulfate	50.00	50.08	100	51.76	104	90-110	3	0-15	

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: 04/28/17
Work Order: 17-04-2175
Preparation: N/A
Method: SM 2320B

Project: ExxonMobil 70234

Page 3 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number			
099-15-859-1206	LCS	Aqueous	PH1/BUR03	N/A	05/05/17 21:00	H0505ALKB1			
099-15-859-1206	LCSD	Aqueous	PH1/BUR03	N/A	05/05/17 21:00	H0505ALKB1			
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Alkalinity, Total (as CaCO ₃)	100.0	98.00	98	100.0	100	80-120	2	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: 04/28/17
Work Order: 17-04-2175
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
099-05-111-5611	LCS	Aqueous	UV 9	04/28/17	04/28/17 10:00	H0428FEL1
099-05-111-5611	LCSD	Aqueous	UV 9	04/28/17	04/28/17 10:00	H0428FEL1

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Iron (II)	1.000	1.066	107	1.037	104	80-120	3	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: 04/28/17
Work Order: 17-04-2175
Preparation: EPA 5030C
Method: EPA 8015B (M)

Project: ExxonMobil 70234

Page 5 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-436-11423	LCS	Aqueous	GC 25	05/06/17	05/07/17 02:39	170506L038
<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	1939	97	78-120	



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RPD: Relative Percent Difference. CL: Control Limits



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Quality Control - LCS

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

Date Received: 04/28/17
Work Order: 17-04-2175
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	
099-10-025-4693	LCS	Aqueous	GC/MS FFF	05/06/17	05/06/17 10:49	170506L033	
<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	8.838	88	80-120	73-127	
Ethylbenzene		10.00	9.093	91	80-120	73-127	
Toluene		10.00	8.821	88	80-120	73-127	
p/m-Xylene		20.00	18.54	93	80-120	73-127	
o-Xylene		10.00	9.357	94	80-120	73-127	
Methyl-t-Butyl Ether (MTBE)		10.00	9.051	91	75-123	67-131	
Tert-Butyl Alcohol (TBA)		50.00	46.94	94	80-120	73-127	
Diisopropyl Ether (DIPE)		10.00	9.548	95	73-121	65-129	
Ethyl-t-Butyl Ether (ETBE)		10.00	9.348	93	76-124	68-132	
Tert-Amyl-Methyl Ether (TAME)		10.00	9.146	91	80-120	73-127	
1,2-Dibromoethane		10.00	9.395	94	80-120	73-127	
1,2-Dichloroethane		10.00	8.976	90	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: 04/28/17
Work Order: 17-04-2175
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	
099-10-025-4698	LCS	Aqueous	GC/MS FFF	05/08/17	05/08/17 20:43	170508L069	
<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	10.12	101	80-120	73-127	
1,2-Dibromoethane		10.00	9.659	97	80-120	73-127	
1,2-Dichloroethane		10.00	9.624	96	80-122	73-129	
Ethylbenzene		10.00	10.65	107	80-120	73-127	
Toluene		10.00	10.21	102	80-120	73-127	
p/m-Xylene		20.00	21.68	108	80-120	73-127	
Methyl-t-Butyl Ether (MTBE)		10.00	9.690	97	75-123	67-131	
o-Xylene		10.00	10.84	108	80-120	73-127	
Tert-Butyl Alcohol (TBA)		50.00	51.15	102	80-120	73-127	
Diisopropyl Ether (DIPE)		10.00	9.839	98	73-121	65-129	
Ethyl-t-Butyl Ether (ETBE)		10.00	9.846	98	76-124	68-132	
Tert-Amyl-Methyl Ether (TAME)		10.00	9.572	96	80-120	73-127	

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: 17-04-2175

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	1065	IC 10	1
EPA 8015B (M)	EPA 5030C	1063	GC 25	2
EPA 8260B	EPA 5030C	849	GC/MS FFF	2
RSK-175M	N/A	1074	GC 61	2
SM 2320B	N/A	650	PH1/BUR03	1
SM 3500-FeB	N/A	735	UV 9	1


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

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

<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 stnds.
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.



Calscience

7440 LINCOLN WAY

GARDEN GROVE, CA 92841-1432

TEL: (714) 895-5494 . FAX: (714) 894-7501

Site Name

Provide MRN for retail or AFE for major projects

Retail Project (MRN)

Major Project (AFE)

Project Name

Former Retail Site 70234

CHAIN OF CUSTODY RECORD

DATE: 4/27/17

PAGE: 1 OF 1

ExxonMobil PM: Jennifer Sedlachek

LABORATORY CLIENT: ExxonMobil C/O ETIC Engineering, Inc.							GLOBAL ID #/COELT LOG CODE: T06019757161							P.O. 4410478821																																				
ADDRESS: 898 N. Fair Oaks Ave, #A							PROJECT CONTACT: Kate Lamb, ETIC Engineering, Inc.							LAB USE ONLY 17-04-2175																																				
CITY: Pasadena, CA							SAMPLE(S) SIGNATURE: <i>[Signature]</i>							COOLER RECEIPT Temp: 20 C																																				
TEL: 626-432-5999 x 2507		FAX: 626-432-5998		EMAIL: klamb@eticeng.com			<p align="center">REQUESTED ANALYSIS</p> <table border="1"> <tr> <td rowspan="2">TPH-g BY 8015B(M)</td> <td rowspan="2">BTEX/5 Oxys, EDB, 1,2-DCA BY 8260B</td> <td rowspan="2">Alkalinity</td> <td rowspan="2">Ferrous Iron</td> <td rowspan="2">Nitrate</td> <td rowspan="2">Sulfates</td> <td rowspan="2">Methane</td> <td colspan="11"> </td> <td rowspan="2">CONTAINER TYPE</td> </tr> <tr> <td colspan="11"> </td> </tr> </table>														TPH-g BY 8015B(M)	BTEX/5 Oxys, EDB, 1,2-DCA BY 8260B	Alkalinity	Ferrous Iron	Nitrate	Sulfates	Methane												CONTAINER TYPE											
TPH-g BY 8015B(M)	BTEX/5 Oxys, EDB, 1,2-DCA BY 8260B	Alkalinity	Ferrous Iron	Nitrate	Sulfates	Methane																																		CONTAINER TYPE										
TURNAROUND TIME <input type="checkbox"/> SAME DAY <input type="checkbox"/> 24 HR <input type="checkbox"/> 48 HR <input type="checkbox"/> 72 HR <input type="checkbox"/> 5 DAYS <input checked="" type="checkbox"/> 10 DAYS																					SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY) <input type="checkbox"/> RWQCB REPORTING <input type="checkbox"/> ARCHIVE SAMPLES UNTIL ___/___/___																													
SPECIAL INSTRUCTIONS: edf file required, Global ID #T06019757161 email report to: rwoods@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.																																																		
LAB USE ONLY	SAMPLE ID	LOCATION/ DESCRIPTION	SAMPLING DATE TIME		MATRIX	No. OF CONT.	TPH-g BY 8015B(M)	BTEX/5 Oxys, EDB, 1,2-DCA BY 8260B	Alkalinity	Ferrous Iron	Nitrate	Sulfates	Methane												CONTAINER TYPE																									
1	MW4	MW4	4/27/17	1130	water	10	X	X	X	X	X	X	X												8 Voas, 1-250ml HDPE, 1-250ml Amber																									
2	MW5	MW5	4/27/17	1245	water	10	X	X	X	X	X	X	X												8 Voas, 1-250ml HDPE, 1-250ml Amber																									
3	MW6	MW6	4/27/17	1230	water	10	X	X	X	X	X	X	X												8 Voas, 1-250ml HDPE, 1-250ml Amber																									
4	MW7	MW7	4/27/17	1145	water	10	X	X	X	X	X	X	X												8 Voas, 1-250ml HDPE, 1-250ml Amber																									
5	MW8	MW8	4/27/17	1115	water	10	X	X	X	X	X	X	X												8 Voas, 1-250ml HDPE, 1-250ml Amber																									
6	MW9	MW9	4/27/17	1100	water	10	X	X	X	X	X	X	X												8 Voas, 1-250ml HDPE, 1-250ml Amber																									
7	RW1	RW1	4/27/17	1300	water	10	X	X	X	X	X	X	X												8 Voas, 1-250ml HDPE, 1-250ml Amber																									
Relinquished by: (Signature) <i>[Signature]</i>							Received by: (Signature) <i>[Signature]</i> ECI							Date, & Time: 4/27/17 1440																																				
Relinquished by: (Signature) <i>[Signature]</i> to GSD 4/27/17 1730							Received by: (Signature) <i>[Signature]</i> Wodach ECI							Date, & Time: 4/28/17 0810																																				
Relinquished by: (Signature)							Received by: (Signature)							Date, & Time:																																				



800-322-5555 www.gso.com

2175

Ship From
CAL SCIENCE- CONCORD
ALAN KEMP
5063 COMMERCIAL CIRCLE
#H
CONCORD, CA 94520

Tracking #: 535915058

EPS



Ship To
CEL
SAMPLE RECEIVING
7440 LINCOLN WAY
GARDEN GROVE, CA 92841

ORC
GARDEN GROVE

A

COD: \$0.00
Weight: 0 lb(s)
Reference:
ETIC, PORT COSTA
Delivery Instructions:

D92845A



Signature Type: REQUIRED

66080753

Print Date: 4/27/2017 3:05 PM

LABEL INSTRUCTIONS:

Do not copy or reprint this label for additional shipments - each package must have a unique barcode.

Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer. Securely attach this label to your package, do not cover the barcode.

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: ETC

DATE: 04/28/2017

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC (CF: 0.0°C); Temperature (w/o CF): 2.5 °C (w/ CF): 2.5 °C; [x] 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: ALU

CUSTODY SEAL:

Cooler [] Present and Intact [] Present but Not Intact [] Not Present [] N/A

Checked by: ALU

Sample(s) [] Present and Intact [] Present but Not Intact [x] Not Present [] N/A

Checked by: 826

SAMPLE CONDITION:

Chain-of-Custody (COC) document(s) received with samples [x] Yes [] No [] N/A

COC document(s) received complete [x] Yes [] No [] N/A

[] Sampling date [] Sampling time [] Matrix [] Number of containers

[] No analysis requested [] Not relinquished [] No relinquished date [] No relinquished time

Sampler's name indicated on COC [x] Yes [] No [] N/A

Sample container label(s) consistent with COC [x] Yes [] No [] N/A

Sample container(s) intact and in good condition [x] Yes [] No [] N/A

Proper containers for analyses requested [x] Yes [] No [] N/A

Sufficient volume/mass for analyses requested [x] Yes [] No [] N/A

Samples received within holding time [x] Yes [] No [] N/A

Aqueous samples for certain analyses received within 15-minute holding time

[] pH [] Residual Chlorine [] Dissolved Sulfide [] Dissolved Oxygen [] Yes [] No [x] N/A

Proper preservation chemical(s) noted on COC and/or sample container [x] Yes [] No [] N/A

Unpreserved aqueous sample(s) received for certain analyses

[] Volatile Organics [] Total Metals [] Dissolved Metals

Container(s) for certain analysis free of headspace [] Yes [x] No [] N/A

[] Volatile Organics [] Dissolved Gases (RSK-175) [] Dissolved Oxygen (SM 4500)

[] Carbon Dioxide (SM 4500) [x] Ferrous Iron (SM 3500) [] Hydrogen Sulfide (Hach)

Tedlar™ bag(s) free of condensation [] Yes [] No [x] N/A

CONTAINER TYPE:

(Trip Blank Lot Number: _____)

Aqueous: [] VOA [x] VOAh [] VOAna2 [] 100PJ [] 100PJna2 [] 125AGB [] 125AGBh [] 125AGBp [] 125PB

[] 125PBzanna [x] 250AGB [] 250CGB [] 250CGBs [x] 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: 826/826

s = H2SO4, u = ultra-pure, x = Na2SO3+NaHSO4.H2O, zanna = Zn (CH3CO2)2 + NaOH

Reviewed by: 826

SAMPLE ANOMALY REPORT

DATE: **04/28/2017**

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.

Comments

MISCELLANEOUS: (Describe)

Comments

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
1 to 7	J	1	Ferrous Iron

Comments: _____

Reported by: *[Signature]*

Reviewed by: *[Signature]*

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



Appendix E

Groundwater Monitoring and Sampling Data for Unocal No. 6129

Table 1. Current Groundwater Gauging and Analytical Results

Union Oil Company of California
 Unocal No. 6129 (351639)
 3420 35th Avenue, Oakland, California

Well ID	Sample Date	Screen Interval (ft bTOC)	TOC (ft amsl)	DTW bTOC)	GW Elev (ft amsl)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	EDB (µg/L)	EDC (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	Comments
MW-1	4/6/2017	24-44	190.79	25.65	165.14	350	<0.50	<0.50	<0.50	<1.0	430	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-2	4/6/2017	24-44	190.80	24.63	166.17	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	2.0	<0.50	<0.50	<250	
MW-3	4/6/2017	23-43	188.58	25.27	163.31	370	<0.50	<0.50	<0.50	<1.0	460	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	

Notes:

MW = Groundwater monitoring well
 TOC = Top of casing
 ft amsl = Feet above mean sea level
 DTW = Depth to groundwater
 ft bTOC = Feet below top of casing
 -- = Not sampled/not measured
 ft = Feet
 GW Elev = Groundwater elevation
 µg/L = Micrograms per liter
Bold = Value exceeds laboratory reporting limits
 <0.50 = Not detected at or above the stated limit

TPH-g = Total petroleum hydrocarbons, gasoline range by LUFT GC/MS according to Environmental Protection Agency (EPA) Method 8260B
 Samples analyzed by EPA Method 8260B:
 Benzene, toluene, ethylbenzene and total xylenes (collectively BTEX)
 MTBE = Methyl tert-butyl ether
 TBA = Tert-butanol or tertiary butyl alcohol
 EDB = 1,2-Dibromoethane
 EDC = 1,2-Dichloroethane
 DIPE = Di-isopropyl ether
 ETBE = Ethyl tert-butyl ether
 TAME = Tert-amyl methyl ether
 Ethanol
 Data QA/QC by: IC 5/18/2017

**Table 2. Historical Groundwater Gauging and Analytical Results
First Quarter 1990 to Current**
Union Oil Company of California
Unocal No. 6129 (351639)
3420 35th Avenue, Oakland, California

Well ID	Sample Date	Screen Interval (ft bTOC)	TOC (ft amsl)	DTW (ft bTOC)	GW Elev (ft amsl)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	EDB (µg/L)	EDC (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	Comments
MW-1	1/5/1990	24 - 44	190.79	32.80	157.99	<30	<0.30	<0.30	<0.30	<0.30	--	--	--	--	--	--	--	--	
MW-1	5/11/1990	24 - 44	190.79	31.80	158.99	<30	<0.30	7.1	<0.30	<0.30	--	--	--	--	--	--	--	--	
MW-1	8/9/1990	24 - 44	190.79	32.37	158.42	<30	<0.30	<0.30	<0.30	<0.30	--	--	--	--	--	--	--	--	
MW-1	11/14/1990	24 - 44	190.79	33.32	157.47	<30	<0.30	<0.30	<0.30	<0.30	--	--	--	--	--	--	--	--	
MW-1	2/12/1991	24 - 44	190.79	33.02	157.77	<30	0.32	<0.30	<0.30	<0.30	--	--	--	--	--	--	--	--	
MW-1	5/9/1991	24 - 44	190.79	30.95	159.84	<30	<0.30	<0.30	<0.30	<0.30	--	--	--	--	--	--	--	--	
MW-1	11/13/2003	24 - 44	190.79	--	--	180	<1.0	<1.0	<1.0	<2.0	240	<200	<4.0	<4.0	<4.0	<4.0	<4.0	<1,000	
MW-1	8/27/2004	24 - 44	190.79	30.65	160.14	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<50
MW-1	11/23/2004	24 - 44	190.79	29.35	161.44	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<50
MW-1	2/9/2005	24 - 44	190.79	26.89	163.90	<50	<0.50	<0.50	<0.50	<1.0	9.3	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<50
MW-1	5/17/2005	24 - 44	190.79	26.56	164.23	<50	<0.50	<0.50	<0.50	<1.0	1.9	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<50
MW-1	7/27/2005	24 - 44	190.79	27.33	163.46	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<50
MW-1	12/6/2005	24 - 44	190.79	29.59	161.20	<50	<0.50	0.93	<0.50	1.80	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<250
MW-1	2/21/2006	24 - 44	190.79	28.27	162.52	<50	<0.50	<0.50	<0.50	<1.0	2.6	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<250
MW-1	6/8/2006	24 - 44	190.79	26.07	164.72	<50	<0.50	<0.50	<0.50	<1.0	11	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<250
MW-1	9/15/2006	24 - 44	190.79	28.86	161.93	<50	<0.50	<0.50	<0.50	<0.50	1.4	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<250
MW-1	12/14/2006	24 - 44	190.79	29.49	161.30	<50	<0.50	<0.50	<0.50	<0.50	3.5	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<250
MW-1	3/28/2007	24 - 44	190.79	27.24	163.55	<50	<0.50	<0.50	<0.50	<0.50	0.64	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<250
MW-1	6/25/2007	24 - 44	190.79	28.30	162.49	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<250
MW-1	9/22/2007	24 - 44	190.79	30.61	160.18	<50	<0.50	<0.50	<0.50	<0.50	4.1	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<250
MW-1	12/14/2007	24 - 44	190.79	30.30	160.49	<50	<0.50	<0.50	<0.50	<1.0	0.65	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<250
MW-1	3/17/2008	24 - 44	190.79	27.22	163.57	<50	<0.50	<0.50	<0.50	<1.0	14	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-1	6/20/2008	24 - 44	190.79	30.10	160.69	<50	<0.50	<0.50	<0.50	<1.0	11	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-1	9/11/2008	24 - 44	190.79	31.04	159.75	<51	<0.50	<0.50	<0.50	<1.0	1.3	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-1	11/25/2008	24 - 44	190.79	30.88	159.91	<50	<0.50	<0.50	<0.50	<1.0	5.8	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<250
MW-1	3/9/2009	24 - 44	190.79	27.50	163.29	<50	<0.50	<0.50	<0.50	<1.0	25	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<250
MW-1	5/28/2009	24 - 44	190.79	28.25	162.54	<50	<0.50	<0.50	<0.50	<1.0	17	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<250
MW-1	12/11/2009	24 - 44	190.79	30.60	160.19	<50	<0.50	<0.50	<0.50	<1.0	18	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<250
MW-1	5/7/2010	24 - 44	190.79	26.06	164.73	67	<0.50	<0.50	<0.50	<1.0	64	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<250
MW-1	11/11/2010	24 - 44	190.79	30.18	160.61	<50	<0.50	<0.50	<0.50	<1.0	92	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<250
MW-1	5/27/2011	24 - 44	190.79	26.87	163.92	110	<0.50	<0.50	<0.50	<1.0	220	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<250
MW-1	11/23/2011	24 - 44	190.79	29.14	161.65	1,101	<0.50	<0.50	<0.50	<1.0	150	41	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<250
MW-1	5/24/2012	24 - 44	190.79	26.58	164.21	140	<0.50	<0.50	<0.50	<1.0	190	66	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<250
MW-1	10/23/2012	24 - 44	190.79	30.51	160.28	130	<0.50	<0.50	<0.50	<1.0	140	47	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<250
MW-1	5/2/2013	24 - 44	190.79	28.30	162.49	150	<0.50	<0.50	<0.50	<1.0	270	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<250
MW-1	11/13/2013	24 - 44	190.79	31.65	159.14	240	<0.50	<0.50	<0.50	<1.0	270	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<250
MW-1	5/12/2014	24 - 44	190.79	28.95	161.84	98	<0.50	<0.50	<0.50	<1.0	170	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<250
MW-1	11/19/2014	24 - 44	190.79	31.50	159.29	130	<0.50	<0.50	<0.50	<1.0	180	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<250
MW-1	6/17/2015	24 - 44	190.79	29.27	161.52	52	<0.50	<0.50	<0.50	<1.0	100	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<250
MW-1	12/15/2015	24 - 44	190.79	31.76	159.03	60	<0.50	<0.50	<0.50	<1.0	48	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<250
MW-1	6/15/2016	24 - 44	190.79	29.64	161.15	89	<0.50	<0.50	<0.50	<1.0	600	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<250
MW-1	11/21/2016	24 - 44	190.79	30.81	159.98	<50	<0.50	<0.50	<0.50	<1.0	73	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<250
MW-1	4/6/2017	24 - 44	190.79	25.65	165.14	350	<0.50	<0.50	<0.50	<1.0	430	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<250

Table 2. Historical Groundwater Gauging and Analytical Results**First Quarter 1990 to Current**

Union Oil Company of California

Unocal No. 6129 (351639)

3420 35th Avenue, Oakland, California

Well ID	Sample Date	Screen Interval (ft bTOC)	TOC (ft amsl)	DTW (ft bTOC)	GW Elev (ft amsl)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	EDB (µg/L)	EDC (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	Comments
MW-2	1/5/1990	24 - 44	190.80	33.02	157.78	<30	<0.30	<0.30	<0.30	<0.30	--	--	--	--	--	--	--	--	
MW-2	5/11/1990	24 - 44	190.80	31.98	158.82	<30	<0.30	<0.30	<0.30	<0.30	--	--	--	--	--	--	--	--	
MW-2	8/9/1990	24 - 44	190.80	32.45	158.35	<30	<0.30	<0.30	<0.30	<0.30	--	--	--	--	--	--	--	--	
MW-2	11/14/1990	24 - 44	190.80	33.47	157.33	<30	<0.30	<0.30	<0.30	<0.30	--	--	--	--	--	--	--	--	
MW-2	2/12/1991	24 - 44	190.80	33.15	157.65	<30	<0.30	0.42	<0.30	0.51	--	--	--	--	--	--	--	--	
MW-2	5/9/1991	24 - 44	190.80	30.88	159.92	<30	<0.30	>0.30	<0.30	<0.30	--	--	--	--	--	--	--	--	
MW-2	11/13/2003	24 - 44	190.80	--	--	<2,000	<20	<20	<20	<40	2,100	<4,000	<80	<80	<80	<80	<80	<20,000	
MW-2	8/27/2004	24 - 44	190.80	30.28	160.52	950	<5.0	<5.0	<5.0	<10	1,400	<5.0	<5.0	<5.0	<5.0	24	<5.0	<500	
MW-2	11/23/2004	24 - 44	190.80	28.75	162.05	53	<0.50	<0.50	<0.50	<1.0	4	<5.0	<0.50	<0.50	<0.50	18	<0.50	<50	
MW-2	2/9/2005	24 - 44	190.80	26.08	164.72	<500	<0.50	<0.50	<0.50	<1.0	400	<5.0	<5.0	<5.0	<5.0	19	<5.0	<500	
MW-2	5/17/2005	24 - 44	190.80	24.53	166.27	<50	<0.50	<0.50	<0.50	<1.0	330	<5.0	<0.50	<0.50	<0.50	12	<0.50	<50	
MW-2	7/27/2005	24 - 44	190.80	27.51	163.29	<500	<5.0	<5.0	<5.0	<1.0	580	140	<5.0	<5.0	<5.0	16	<5.0	<500	
MW-2	12/6/2005	24 - 44	190.80	29.13	161.67	340	<0.50	<0.50	<0.50	<1.0	780	61	<0.50	<0.50	<0.50	15	<0.50	<250	
MW-2	2/21/2006	24 - 44	190.80	29.23	161.57	190	<0.50	<0.50	<0.50	<1.0	340	<10	<0.50	<0.50	<0.50	18	<0.50	<250	
MW-2	6/8/2006	24 - 44	190.80	25.76	165.04	<500	<5.0	<5.0	<5.0	<10	440	<100	<5.0	<5.0	<5.0	14	<5.0	<2,500	
MW-2	9/15/2006	24 - 44	190.80	29.17	161.63	<500	<5.0	<5.0	<5.0	<5.0	570	<100	<5.0	<5.0	<5.0	17	<5.0	<2,500	
MW-2	12/14/2006	24 - 44	190.80	29.11	161.69	520	<0.50	<0.50	<0.50	<0.50	770	27	<0.50	<0.50	<0.50	20	<0.50	<250	
MW-2	3/28/2007	24 - 44	190.80	26.68	164.12	290	<0.50	<0.50	<0.50	<0.50	460	260	<0.50	<0.50	<0.50	23	<0.50	<250	
MW-2	6/25/2007	24 - 44	190.80	25.91	164.89	<50	<0.50	<0.50	<0.50	<0.50	1.2	<10	<0.50	<0.50	<0.50	23	<0.50	<250	
MW-2	9/22/2007	24 - 44	190.80	30.18	160.62	400	<0.50	<0.50	<0.50	<0.50	530	<10	<0.50	<0.50	<0.50	35	<0.50	<250	
MW-2	12/14/2007	24 - 44	190.80	29.96	160.84	400	<0.50	<0.50	<0.50	<1.0	930	48	<0.50	<0.50	<0.50	24	<0.50	<250	
MW-2	3/17/2008	24 - 44	190.80	26.74	164.06	570	<5.0	<5.0	<5.0	<10	630	<100	<5.0	<5.0	<5.0	18	<5.0	<2,500	
MW-2	6/20/2008	24 - 44	190.80	29.78	161.02	580	<0.50	<0.50	<0.50	<1.0	1,200	<10	<0.50	<0.50	<0.50	16	<0.50	<250	
MW-2	9/11/2008	24 - 44	190.80	30.62	160.18	220	<0.50	<0.50	<0.50	<1.0	29	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-2	11/25/2008	24 - 44	190.80	30.48	160.32	500	<0.50	<0.50	<0.50	<1.0	1,500	<10	<0.50	<0.50	<0.50	19	<0.50	<250	
MW-2	3/9/2009	24 - 44	190.80	25.75	165.05	910	<5.0	<5.0	<5.0	<10	1,400	<100	<5.0	<5.0	<5.0	15	<5.0	<2,500	
MW-2	5/28/2009	24 - 44	190.80	27.71	163.09	460	<0.50	<0.50	<0.50	<1.0	740	<10	<0.50	<0.50	<0.50	20	<0.50	<250	
MW-2	12/11/2009	24 - 44	190.80	29.80	161.00	640	<5.0	<5.0	<5.0	<10	1,300	<100	<5.0	<5.0	<5.0	19	<5.0	<2,500	
MW-2	5/7/2010	24 - 44	190.80	25.11	165.69	600	<1.0	<1.0	<1.0	<2.0	940	<20	<1.0	<1.0	<1.0	14	<1.0	<500	
MW-2	11/1/2010	24 - 44	190.80	29.90	160.90	140	<0.50	<0.50	<0.50	<1.0	730	<10	<0.50	<0.50	<0.50	28	<0.50	<250	
MW-2	5/27/2011	24 - 44	190.80	26.44	164.36	560	<0.50	<0.50	<0.50	<1.0	1,100	210	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-2	11/23/2011	24 - 44	190.80	28.53	162.27	830	<0.50	<0.50	<0.50	<1.0	1,500	400	<0.50	<0.50	<0.50	9	<0.50	<250	
MW-2	5/24/2012	24 - 44	190.80	25.97	164.83	1,000	<0.50	<0.50	<0.50	<1.0	1,200	430	<0.50	<0.50	<0.50	8.8	<0.50	<250	
MW-2	10/23/2012	24 - 44	190.80	30.14	160.66	750	<0.50	<0.50	<0.50	<1.0	1,300	420	<0.50	<0.50	<0.50	14	<0.50	<250	
MW-2	5/2/2013	24 - 44	190.80	27.14	163.66	290	<0.50	<0.50	<0.50	<1.0	460	<10	<0.50	<0.50	<0.50	6.2	<0.50	<250	
MW-2	11/13/2013	24 - 44	190.80	31.37	159.43	1,200	<0.50	<0.50	<0.50	<1.0	1,300	<10	<0.50	<0.50	17	<0.50	<0.50	<250	
MW-2	5/12/2014	24 - 44	190.80	28.49	162.31	260	<0.50	<0.50	<0.50	<1.0	510	44	<0.50	<0.50	12	<0.50	<0.50	<250	
MW-2	11/19/2014	24 - 44	190.80	31.46	159.34	430	<0.50	<0.50	<0.50	<1.0	980	<10	<0.50	<0.50	31	<0.50	<0.50	<250	
MW-2	6/17/2015	24 - 44	190.80	29.70	161.10	<50	<0.50	<0.50	<0.50	<1.0	25	<10	<0.50	<0.50	3.1	<0.50	<0.50	<250	
MW-2	12/15/2015	24 - 44	190.80	31.71	159.09	680	<0.50	<0.50	<0.50	<1.0	1,300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-2	6/15/2016	24 - 44	190.80	29.35	161.45	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-2	11/21/2016	24 - 44	190.80	30.58	160.22	140	<0.50	<0.50	<0.50	<1.0	270	<10	<0.50	<0.50	17	<0.50	<0.50	<250	
MW-2	4/6/2017	24 - 44	190.80	24.63	166.17	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	2.0	<0.50	<0.50	<250	
MW-3	1/5/1990	23 - 43	188.58	31.88	156.70	<30	<0.30	<0.30	<0.30	<0.30	--	--	--	--	--	--	--	--	

Table 2. Historical Groundwater Gauging and Analytical Results

First Quarter 1990 to Current

Union Oil Company of California

Unocal No. 6129 (351639)

3420 35th Avenue, Oakland, California

Well ID	Sample Date	Screen Interval (ft bTOC)	TOC (ft amsl)	DTW (ft bTOC)	GW Elev (ft amsl)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	EDB (µg/L)	EDC (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	Comments
MW-3	5/11/1990	23 - 43	188.58	31.25	157.33	<30	<0.30	<0.30	<0.30	<0.30	--	--	--	--	--	--	--	--	
MW-3	8/9/1990	23 - 43	188.58	31.53	157.05	<30	<0.30	<0.30	<0.30	<0.30	--	--	--	--	--	--	--	--	
MW-3	11/14/1990	23 - 43	188.58	33.30	155.28	<30	<0.30	<0.30	<0.30	<0.30	--	--	--	--	--	--	--	--	
MW-3	2/12/1991	23 - 43	188.58	32.05	156.53	<30	<0.30	<0.30	<0.30	<0.30	--	--	--	--	--	--	--	--	
MW-3	5/9/1991	23 - 43	188.58	30.37	158.21	<30	<0.30	<0.30	<0.30	<0.30	--	--	--	--	--	--	--	--	
MW-3	11/13/2003	23 - 43	188.58	--	--	2,600	<20	<20	<20	<40	3,700	<4,000	<80	<80	<80	<80	<80	<20,000	
MW-3	8/27/2004	23 - 43	188.58	29.61	158.97	1,700	<10	<10	<10	<20	2,600	<100	<10	<10	<10	<20	<10	<1,000	
MW-3	11/23/2004	23 - 43	188.58	28.48	160.10	1,500	<10	<10	<10	<20	1,800	<100	<10	<10	<10	<20	<10	<1,000	
MW-3	2/9/2005	23 - 43	188.58	26.45	162.13	<1,000	<0.50	<0.50	<0.50	<1.0	2,100	130	<10	<10	<10	<10	<10	<1,000	
MW-3	5/17/2005	23 - 43	188.58	25.61	162.97	<1,000	<0.50	<0.50	<0.50	<1.0	1,200	<100	<10	<10	<10	<10	<10	<1,000	
MW-3	7/27/2005	23 - 43	188.58	27.35	161.23	<1,000	<10	<10	<10	<20	1,400	360	<10	<10	<10	<10	<10	<1,000	
MW-3	12/6/2005	23 - 43	188.58	28.78	159.80	430	<0.50	1.6	<0.50	3.6	1,800	160	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	2/21/2006	23 - 43	188.58	28.91	159.67	420	<0.50	<0.50	<0.50	<1.0	1,100	88	<0.50	<0.50	<0.50	<0.50	0.58	<250	
MW-3	6/8/2006	23 - 43	188.58	25.97	162.61	<1,200	<12	<12	<12	<25	1,000	<250	<12	<12	<12	<12	<12	<6,200	
MW-3	9/15/2006	23 - 43	188.58	28.73	159.85	<1,200	<12	<12	<12	<12	1,200	<250	<12	<12	<12	<12	<12	<6,200	
MW-3	12/14/2006	23 - 43	188.58	28.62	159.96	<1,000	<10	<10	<10	<10	1,300	<200	<10	<10	<10	<10	<10	<5,000	
MW-3	3/28/2007	23 - 43	188.58	26.69	161.89	500	<1.0	<1.0	<1.0	<1.0	860	500	<1.0	<1.0	<1.0	<1.0	<1.0	<500	
MW-3	6/25/2007	23 - 43	188.58	26.74	161.84	270	<0.50	<0.50	<0.50	<0.50	570	11	<0.50	0.65	<0.50	<0.50	<0.50	<250	
MW-3	9/22/2007	23 - 43	188.58	29.57	159.01	500	<0.50	<0.50	<0.50	<0.50	980	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	12/14/2007	23 - 43	188.58	29.30	159.28	270	<0.50	<0.50	<0.50	<1.0	570	26	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	3/17/2008	23 - 43	188.58	26.82	161.76	220	<0.50	<0.50	<0.50	<1.0	520	<10	<0.50	0.65	<0.50	<0.50	<0.50	<250	
MW-3	6/20/2008	23 - 43	188.58	29.10	159.48	490	<0.50	<0.50	<0.50	<1.0	1,300	49	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	9/11/2008	23 - 43	188.58	29.89	158.69	630	<5.0	<5.0	<5.0	<10	1,200	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<2,500	
MW-3	11/25/2008	23 - 43	188.58	29.74	158.84	380	<0.50	<0.50	<0.50	<1.0	870	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	3/9/2009	23 - 43	188.58	25.56	163.02	310	<0.50	<0.50	<0.50	<1.0	720	15	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	5/28/2009	23 - 43	188.58	27.55	161.03	410	<0.50	<0.50	<0.50	<1.0	750	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	12/11/2009	23 - 43	188.58	29.10	159.48	220	<0.50	<0.50	<0.50	<1.0	620	63	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	5/7/2010	23 - 43	188.58	25.72	162.86	360	<0.50	<0.50	<0.50	<1.0	660	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	11/1/2010	23 - 43	188.58	29.29	159.29	120	<0.50	<0.50	<0.50	<1.0	490	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	5/27/2011	23 - 43	188.58	26.53	162.05	340	<0.50	<0.50	<0.50	<1.0	890	73	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	5/24/2012	23 - 43	188.58	25.95	162.63	660	<0.50	<0.50	<0.50	<1.0	1,100	300	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	10/23/2012	23 - 43	188.58	29.39	159.19	480	<0.50	<0.50	<0.50	<1.0	500	160	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	5/2/2013	23 - 43	188.58	26.98	161.60	130	<0.50	<0.50	<0.50	<1.0	220	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	11/13/2013	23 - 43	188.58	30.28	158.30	110	<0.50	<0.50	<0.50	<1.0	100	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	5/12/2014	23 - 43	188.58	27.93	160.65	98	<0.50	<0.50	<0.50	<1.0	160	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	11/19/2014	23 - 43	188.58	30.22	158.36	180	<0.50	<0.50	<0.50	<1.0	250	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	6/17/2015	23 - 43	188.58	28.75	159.83	220	<0.50	<0.50	<0.50	<1.0	570	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	12/15/2015	23 - 43	188.58	30.45	158.13	220	<0.50	<0.50	<0.50	<1.0	240	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	6/15/2016	23 - 43	188.58	28.64	159.94	550	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	11/21/2016	23 - 43	188.58	29.58	159.00	130	<0.50	<0.50	<0.50	<1.0	430	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	
MW-3	4/6/2017	23 - 43	188.58	25.27	163.31	370	<0.50	<0.50	<0.50	<1.0	460	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<250	

Notes: MW = Groundwater monitoring well
 TOC = Top of casing
 ft amsl = Feet above mean sea level

TPH-g = Total petroleum hydrocarbons, gasoline range by LUFT GC/MS according to Environmental Protection Agency (EPA) Method 8260B
 Samples analyzed by EPA Method 8260B:
 Benzene, toluene, ethylbenzene, and total xylenes (collectively BTEX)

Table 2. Historical Groundwater Gauging and Analytical Results

First Quarter 1990 to Current

Union Oil Company of California

Unocal No. 6129 (351639)

3420 35th Avenue, Oakland, California

Well ID	Sample Date	Screen Interval (ft bTOC)	TOC (ft amsl)	DTW (ft bTOC)	GW Elev (ft amsl)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	EDB (µg/L)	EDC (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	Comments
DTW = Depth to groundwater						MTBE = Methyl tert-butyl ether													
ft bTOC = Feet below top of casing						TBA = Tert-butanol or tertiary butyl alcohol													
PSH = Phase separate hydrocarbons						EDB = 1,2-Dibromoethane													
ft = Feet						EDC = 1,2-Dichloroethane													
-- = Not sampled/not measured						DIPE = Di-isopropyl ether													
GW Elev = Groundwater elevation						ETBE = Ethyl tert-butyl ether													
µg/L = Micrograms per liter						TAME = Tert-amyl methyl ether													
Bold = Value exceeds laboratory reporting limits						Ethanol													
<0.50 = Not detected at or above the stated limit						J = Estimated value (between laboratory reporting limit and method detection liData QA/QC by: IC 5/18/17													