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ExxonMobil

December 15, 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, Fourth 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, Fourth Quarter 2017* for the above-referenced site. The document, prepared by ETIC of Arcadia, California, details the results of the November 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 Fourth 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

ETIC
CONSULT | ENGINEER | CONSTRUCT

250 W. Colorado Boulevard | Suite 110 | Arcadia, CA 91007
Phone 626.432.5999 | Fax 626.432.5998
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Report of Groundwater Monitoring

Fourth Quarter 2017

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

Prepared for

ExxonMobil Oil Corporation

Prepared by

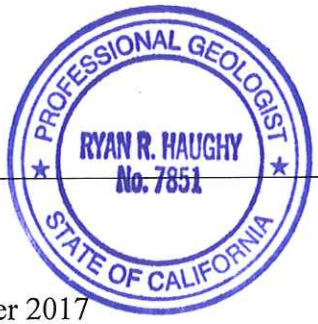
ETIC
250 W. Colorado Blvd, Suite 110
Arcadia, CA 91007

(626) 432-5999

12/12/17

Kate Lamb
Senior Project Manager

Date



12/12/17

Ryan Haughy, P.G. #7851
Program Manager

Date

December 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 250 W. Colorado Blvd, Suite 110 Arcadia, CA 91007 (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 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 28 April 2017, the date of the previous monitoring event, and 1 November 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 appendices, 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 35th 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:	1 November 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:	0.013
Well screens submerged:	None
Well screens not submerged:	MW4, MW5, MW6, MW7, MW8, MW9, and RW1
Liquid-phase hydrocarbons:	Not observed or detected
Laboratory:	Eurofins Calscience Environmental Laboratories, Inc., Garden Grove, California
Concurrently sampled:	Unocal No. 6129, 3420 35th Avenue was gauged and sampled on 18 October 2017
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:

- 28 gallons of purge water was stored in a 55-gallon drum and was then delivered to Instrat, Inc. of Rio Vista, California on 1 November 2017.

ADDITIONAL ACTIVITIES PERFORMED

Unocal No. 6129 wells were gauged and sampled on 18 October 2017.

On 19 October 2017, representatives from ExxonMobil, ETIC, ACHCSA, and property owners met to discuss Low Threat Closure Criteria for the site.

WORK PROPOSED FOR NEXT QUARTER

Submit Agency Meeting Response letter.

Submit Request for Closure.

In accordance with ACHCSA directives, groundwater monitoring will not be conducted in the first quarter of 2018. The next semiannual groundwater monitoring event will be conducted in the second quarter of 2018.

Attachments:

Figure 1: Site Location and Topographic Map
Figure 2: Site Map
Figure 3: Groundwater Elevation Contour Map
Figure 4: Groundwater Analytical Data

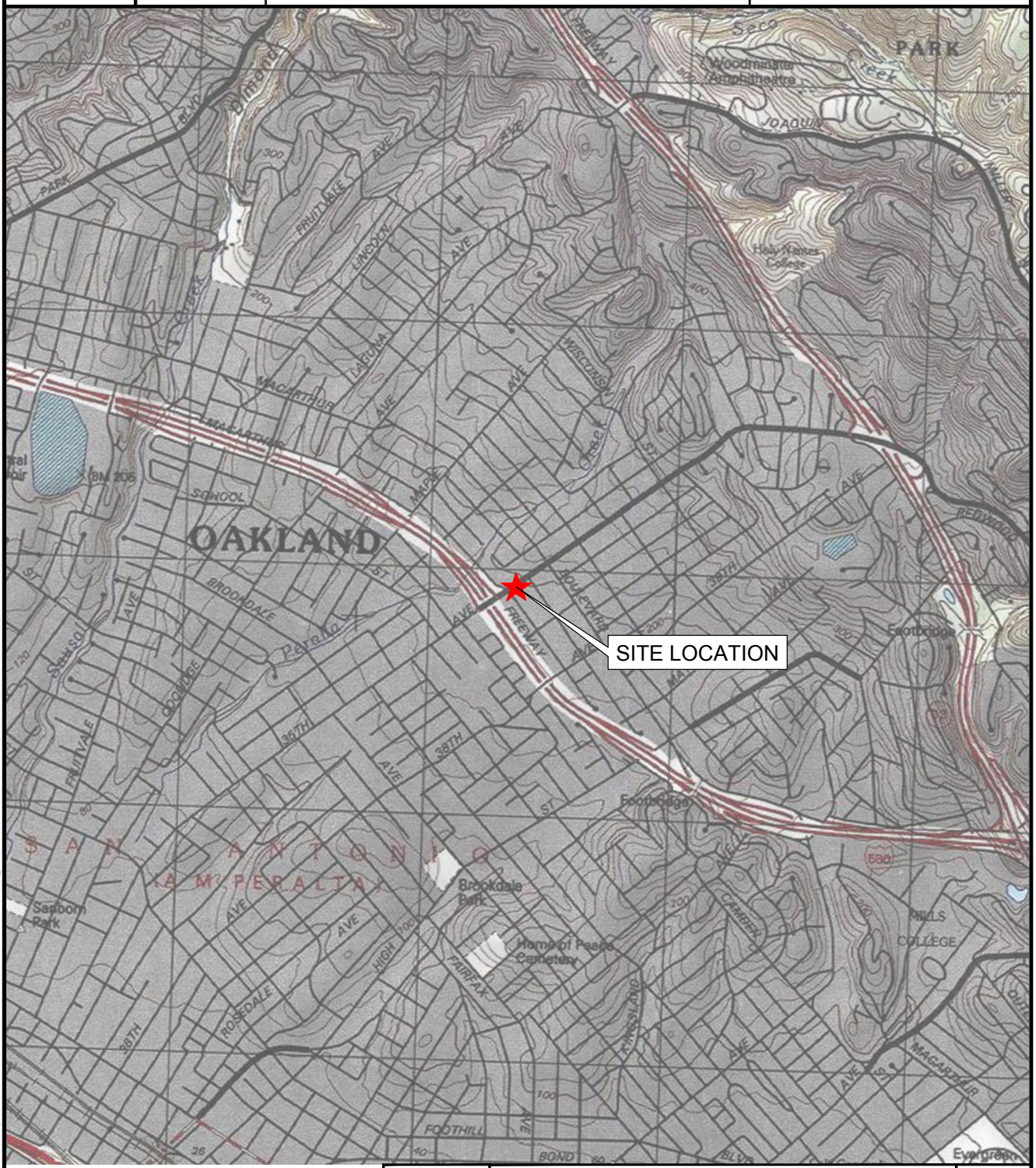
Table 1: Well Construction Details
Table 2: Current Groundwater Monitoring Data
Table 3: Historical Groundwater Monitoring Data
Table 4: Groundwater Analytical Results for Detected VOCs
Table 5: Natural Attenuation Parameter Analytical Results
Table 5: Groundwater Monitoring Plan

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



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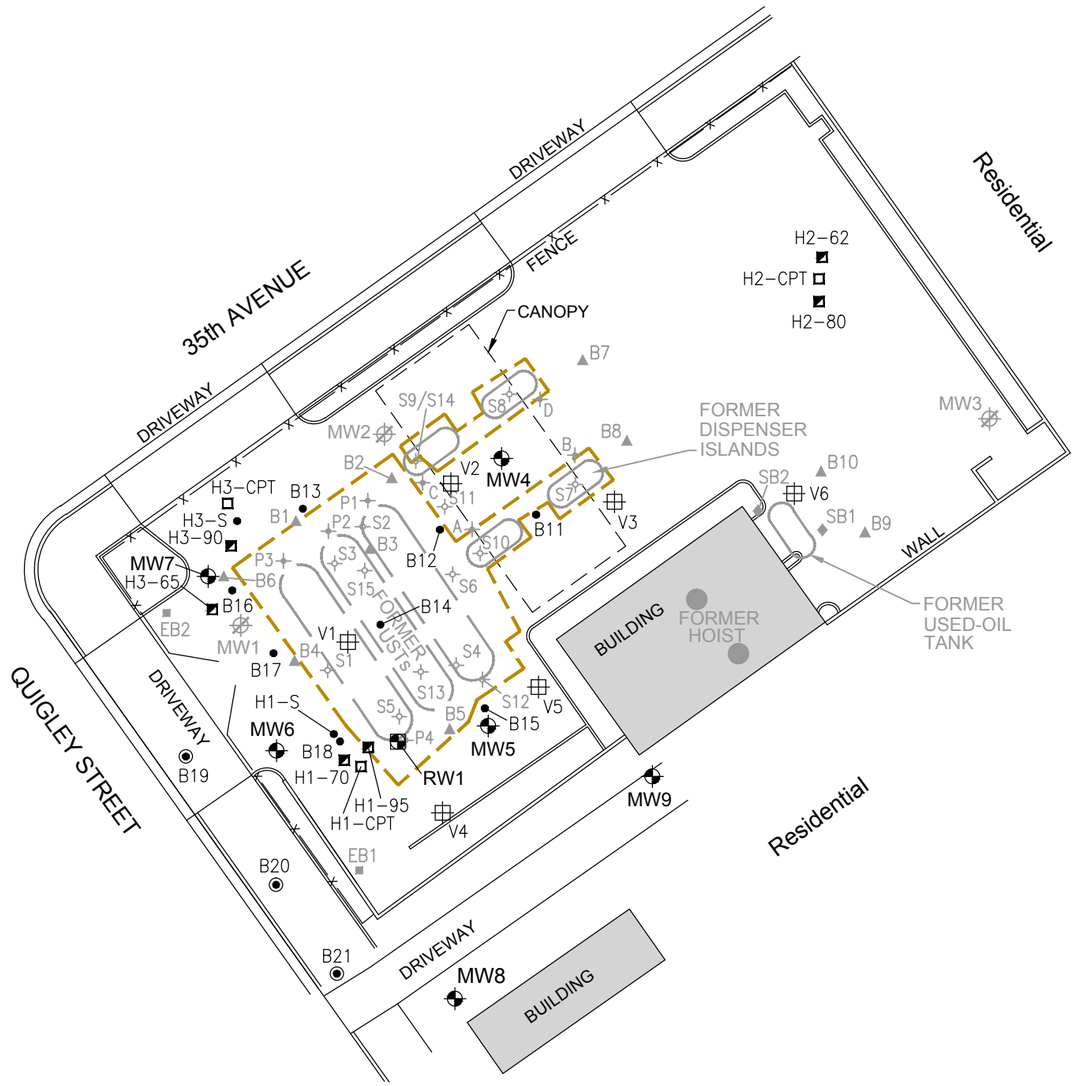
17-070234-UP	
OR:	RW
DR:	AJW
CK:	
FR:	

EXXONMOBIL OIL CORPORATION

SITE LOCATION AND TOPOGRAPHIC MAP
FORMER EXXON SERVICE STATION 70234
3450 35th AVENUE

OAKLAND, CALIFORNIA

FIGURE:
1



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)

N

0 15 30

1″ = 30 FEET

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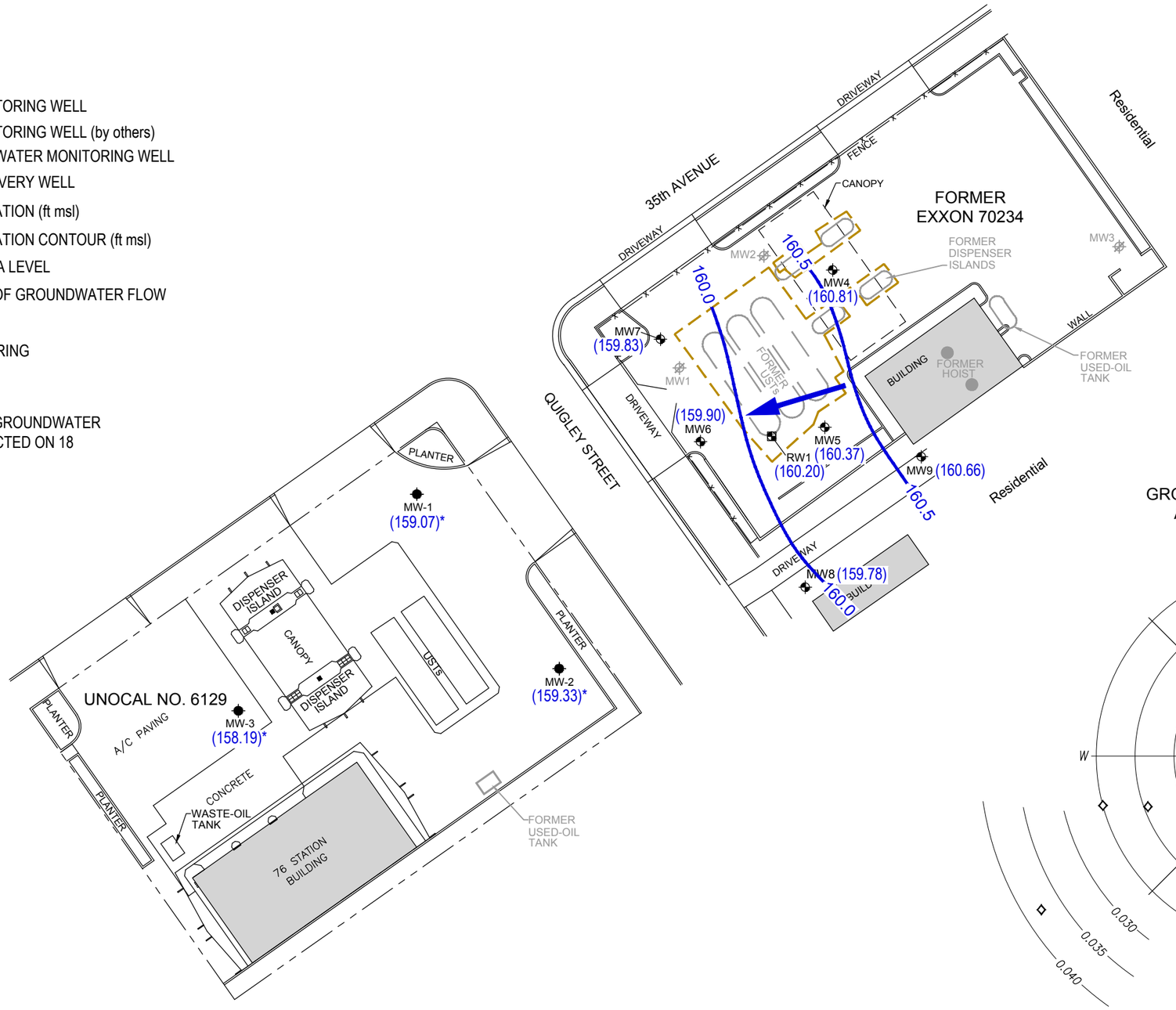
17-070234-UP	EXXONMOBIL OIL CORPORATION
OR: RW	SITE MAP
DR: AJW	FORMER EXXON SERVICE STATION 70234
CK:	3450 35th AVENUE
FR:	OAKLAND, CALIFORNIA
	FIGURE: 2

LEGEND:

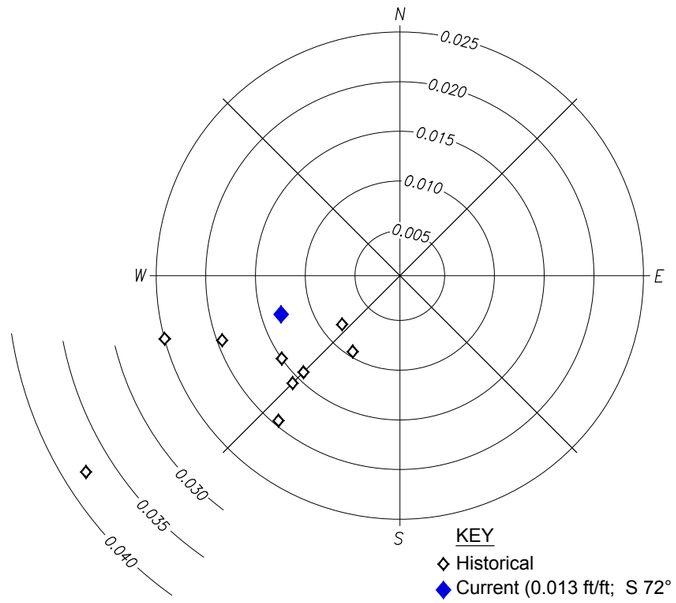
- EXCAVATED AREA
- GROUNDWATER MONITORING WELL
- GROUNDWATER MONITORING WELL (by others)
- DESTROYED GROUNDWATER MONITORING WELL
- GROUNDWATER RECOVERY WELL
- (160.81) GROUNDWATER ELEVATION (ft msl)
- 160.0 GROUNDWATER ELEVATION CONTOUR (ft msl)
- ft msl FEET ABOVE MEAN SEA LEVEL
- GENERAL DIRECTION OF GROUNDWATER FLOW
- NS NOT SAMPLED
- * NOT USED IN CONTOURING

NOTES:
1. UNOCAL NO. 6129 GROUNDWATER SAMPLING CONDUCTED ON 18 OCTOBER 2017.



0 20 40
1″ = 40 FEET

GROUNDWATER FLOW DIRECTION AND HYDRAULIC GRADIENT



KEY
- ◇ Historical
- ◆ Current (0.013 ft/ft; S 72° W)

17-070234-UP	EXXONMOBIL OIL CORPORATION	
	GROUNDWATER ELEVATION CONTOUR MAP 1 NOVEMBER 2017	
OR: RW DR: AJW CK: FR:	FORMER EXXON SERVICE STATION 70234 3450 35th AVENUE OAKLAND, CALIFORNIA	FIGURE: 3

ETIC ENGINEERING CONSULT ENGINEER CONSTRUCT
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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

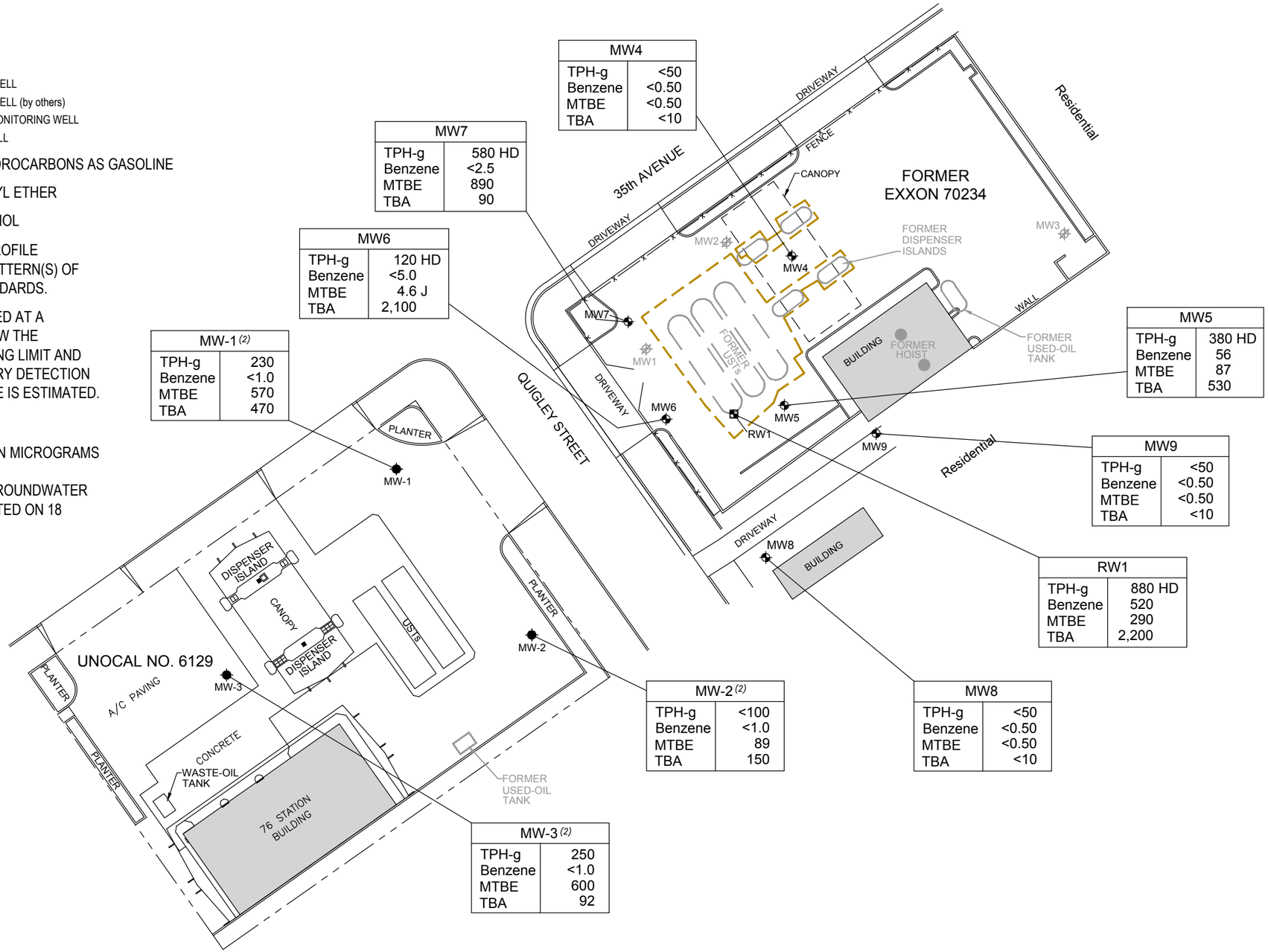
TBA TERTIARY BUTYL ALCOHOL

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

J ANALYTE WAS DETECTED AT A CONCENTRATION BELOW THE LABORATORY REPORTING LIMIT AND ABOVE THE LABORATORY DETECTION LIMIT. REPORTED VALUE IS ESTIMATED.

NOTES:

1. CONCENTRATIONS IN MICROGRAMS PER LITER.
2. UNOCAL NO. 6129 GROUNDWATER SAMPLING CONDUCTED ON 18 OCTOBER 2017.



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1″ = 40 FEET

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DR:	AJW
CK:	
FR:	

EXXONMOBIL OIL CORPORATION
GROUNDWATER ANALYTICAL DATA
1 NOVEMBER 2017
FORMER EXXON SERVICE STATION 70234
3450 35th AVENUE
OAKLAND, CALIFORNIA

FIGURE: 4

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	11/01/17	a	197.62	36.81	160.81	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50
MW5	SCREEN INTERVAL (feet bgs) 30-40											
MW5	11/01/17	a	196.35	35.98	160.37	0.00	380 HD	56	<2.5	<2.5	1.4 JA	87
MW6	SCREEN INTERVAL (feet bgs) 29-39											
MW6	11/01/17	a	192.41	32.51	159.90	0.00	120 HD	<5.0	<5.0	<5.0	<5.0	4.6 J
MW7	SCREEN INTERVAL (feet bgs) 30-40											
MW7	11/01/17	a	194.34	34.51	159.83	0.00	580 HD	<2.5	<2.5	<2.5	<2.5	890
MW8	SCREEN INTERVAL (feet bgs) 30-40											
MW8	11/01/17	a	192.96	33.18	159.78	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50
MW9	SCREEN INTERVAL (feet bgs) 30-40											
MW9	11/01/17	a	195.16	34.50	160.66	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50
RW1	SCREEN INTERVAL (feet bgs) 29-39.5											
RW1	11/01/17	a	195.15	34.95	160.20	0.00	880 HD	520	5.2 J	11 J	9.8 JA	290

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.		

a Well purged prior to sampling.

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 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	<0.50	---	---
MW4	11/09/13		197.62	36.53	161.09	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW4	05/12/14	a	197.62	33.51	164.11	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW4	11/19/14	a	197.62	36.96	160.66	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW4	05/13/15	a	197.62	34.01	163.61	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW4	12/16/15	a	197.62	37.31	160.31	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW4	06/15/16	a	197.62	34.13	163.49	0.00	<50	<0.50	<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	<0.50	---	---
MW4	04/27/17	a	197.62	28.29	169.33	0.00	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW4	**11/01/17**	**a**	**197.62**	**36.81**	**160.81**	**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)
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	---	---
MW5	**11/01/17**	**a**	**196.35**	**35.98**	**160.37**	**0.00**	**380 HD**	**56**	**<2.5**	**<2.5**	**1.4 JA**	**87**	---	---
MW6	SCREEN INTERVAL (feet bgs) 29-39													
MW6	03/09/09		---	Well installed.										
MW6	03/30/09		192.41	26.94	165.47	0.00	2,800	0.91	<0.50	<0.50	<0.50	4,800	---	---
MW6	04/02/09		192.41	Well surveyed.									---	---
MW6	05/28/09		192.41	28.04	164.37	0.00	2,800	<100	<100	<100	<100	6,000	---	---
MW6	08/31/09		192.41	30.57	161.84	0.00	4,900	<100	<100	<100	<100	6,600	---	---
MW6	12/11/09		192.41	30.78	161.63	0.00	4,900b	<100	<100	<100	<100	6,200	---	---
MW6	05/07/10		192.41	25.42	166.99	0.00	2,900b	2.7	<0.50	0.74c	<1.0	3,700	---	---
MW6	11/01/10		192.41	30.68	161.73	0.00	850b	2.1	<0.50	<0.50	<1.0	6,100	---	---
MW6	05/27/11	a	192.41	27.07	165.34	0.00	---	---	---	---	---	---	---	---
MW6	11/23/11		192.41	29.25	163.16	0.00	1,600b	<0.50	<0.50	<0.50	<1.0	6,400	---	---
MW6	05/24/12		192.41	26.36	166.05	0.00	2,000b	1.3c	9.7	0.97c	5.5	3,400	---	---

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)
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	---	---
MW6	**11/01/17**	**a**	**192.41**	**32.51**	**159.90**	**0.00**	**120 HD**	**<5.0**	**<5.0**	**<5.0**	**<5.0**	**4.6 J**	---	---
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	---	---
MW7	**11/01/17**	**a**	**194.34**	**34.51**	**159.83**	**0.00**	**580 HD**	**<2.5**	**<2.5**	**<2.5**	**<2.5**	**890**	---	---
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	---	---
MW8	**11/01/17**	**a**	**192.96**	**33.18**	**159.78**	**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	---	---
MW9	**11/01/17**	**a**	**195.16**	**34.50**	**160.66**	**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	---	---
RW1	**11/01/17**	**a**	**195.15**	**34.95**	**160.20**	**0.00**	**880 HD**	**520**	**5.2 J**	**11 J**	**9.8 JA**	**290**	**---**	**---**
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	---	---

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)
W-37-B17	11/13/07	---	---	---	---	630	1.8	<0.50	4.1	1.4	2,200	---	---
W-38-B18	11/12/07	---	---	---	---	4,300	52	<12	56	96	1,400	---	---
W-35-B19	03/03/09	---	---	---	---	4,400	<0.50	<0.50	<0.50	<1.0	7,100	---	---
W-35-B20	03/03/09	---	---	---	---	640	<0.50	<0.50	<0.50	<1.0	440	---	---
W-35-B21	03/03/09	---	---	---	---	<50	<0.50	<0.50	<0.50	<1.0	1.4	---	---

TOC Top of casing.
LPH Liquid-phase hydrocarbons.
TPH-g Total Petroleum Hydrocarbons as gasoline.
MTBE Methyl tertiary butyl ether.

bgs Below ground surface.
µg/L Micrograms per liter.
-- Not sampled or not analyzed.

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	---	---
MW4	**11/01/17**		**--**	**<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	---	---
MW5	**11/01/17**		**--**	**<2.5**	**1.8 J**	**<2.5**	**530**	**<2.5**	**<2.5**	**---**	**---**
MW6	03/30/09		---	<0.50	<0.50	1.3	410	<0.50	0.82	---	---
MW6	05/28/09		---	<100	<100	<100	<1,000	<100	<100	---	---
MW6	08/31/09		---	<100	<100	<100	1,100	<100	<100	---	---
MW6	12/11/09		---	<100	<100	<100	2,600	<100	<100	---	---
MW6	05/07/10		---	<100	<100	<100	<1,000	<100	<100	---	---

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	11/01/10		---	<50	<50	<50	2,400	<50	<50	---	---
MW6	05/27/11	b	---	---	---	---	---	---	---	---	---
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	---	---
MW6	**11/01/17**		**--**	**<5.0**	**<5.0**	**<5.0**	**2,100**	**<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	---	---
MW7	**11/01/17**		**--**	**<2.5**	**<2.5**	**<2.5**	**90**	**<2.5**	**<2.5**	**---**	**---**
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	---	---

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)
MW8	**11/01/17**		**--**	**<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	---	---
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	---	---
MW9	**11/01/17**		**--**	**<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	---	---
RW1	**11/01/17**		**--**	**<12**	**14**	**<12**	**2,200**	**<12**	**<12**	**---**	**---**
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.

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)

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

			Laboratory Parameters					Field Parameters					
Well Number	Date		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	--	--
MW4	**11/01/17**	**a**	**163**	**<0.100**	**64**	**2.8**	**0.0500 J**	**19.0**	**6.88**	**553.1**	**378.9**	**--**	**--**
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	--	--
MW5	**11/01/17**	**a**	**336**	**1.54**	**29**	**0.29**	**35.1**	**18.0**	**6.31**	**729.0**	**503.4**	**--**	**--**
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	--	--
MW6	**11/01/17**	**a**	**513**	**0.0713 J**	**35**	**0.22**	**7.90**	**18.7**	**6.50**	**1,003**	**702.9**	**--**	**--**
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	--	--
MW7	**11/01/17**	**a**	**251**	**<0.100**	**60**	**2.0**	**2.66**	**19.5**	**6.60**	**656.1**	**450.5**	**--**	**--**
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	--	--

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

			Laboratory Parameters					Field Parameters					
Well Number	Date		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)
MW8	**11/01/17**	**a**	**248**	**<0.100**	**46**	**9.3**	**0.183 J**	**17.7**	**7.29**	**762.2**	**528.2**	**--**	**--**
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	--	--
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	--	--
MW9	**11/01/17**	**a**	**254**	**<0.100**	**38**	**6.2**	**0.0400 J**	**17.9**	**6.82**	**751.3**	**519.9**	**--**	**--**
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	--	--
RW1	**11/01/17**	**a**	**385**	**<0.100**	**34**	**0.74**	**6.24**	**18.4**	**6.59**	**856.7**	**596.3**	**--**	**--**

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

ETIC ENGINEERING

FIELD SUMMARY REPORT

Client: ExxonMobil **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:
	—	—	—	55 gal drums

SUMMARY:

- On Site 05:30
- Opened and Gauged Wells MW4 thru MW9 and RW1 with WLM
- Purged and Sampled Wells MW4 and MW6 thru MW9 with Disposable bailers.
- Purged wells MW5 and RW1 with disposable bailers. Wells dewatered. Same wells were sampled with disposable bailers after recharging over 80%.
- Closed all wells.
- 28 gal. of purge water removed from Site by Pillard.
- Off Site 1300

Preparer Name: [signature] Date: 11/1/17

Office Location: PH ☒ MRTZ ☐ PAS ☐ CM ☐ SD ☐

ETIC ENGINEERING

MONITORING WELL DATA FORM

Client: ExxonMobil	**Date:** 11/1/17
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 PRODUCT (FEET)	APPARENT PRODUCT THICKNESS (FEET)	AMOUNT OF PRODUCT REMOVED	SHEEN (Y/N)	MONITORING WELL INTEGRITY	DEPTH TO BOTTOM (FEET)	WELL CASING DIAMETER
MW4	36.81	—	—	—	N	Good	44.58	2"
MW5	35.98	—	—	—	N	Good	39.96	2"
MW6	32.51	—	—	—	N	Good	38.38	2"
MW7	34.51	—	—	—	N	Good	39.34	2"
MW8	33.18	—	—	—	N	Good	39.87	2"
MW9	34.50	—	—	—	N	Good	39.81	2"
RW1	34.95	—	—	—	N	Good	40.35	4"

G:\Projects\ExxonMobil\Sites\70234\Public\70234 GW\Field Folder_05_Well Monitoring Form

ETIC ENGINEERING

GROUNDWATER PURGE AND SAMPLE

Project Name: ExxonMobil | Well No: MW-4 | Date: 11/1/17

Project No: 17-070234-UP | Personnel: L. Mitchell

GAUGING DATA

Water Level Measuring Method: W L M | 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)
				3/4	2	4	6		
	44.68	36.81	8.07	0.03	0.16	0.64	1.44	1.29	3.87

PURGING DATA

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

Time	07:35	07:40	07:44			
Volume Purge (gal)	1.5	3.0	4.5			
Temperature (C)	16.7	18.9	19.0			
pH	7.07	6.59	6.88			
Spec.Cond. (umhos)	520.8	547.0	553.1			
Turbidity/Color	Light Brn	Light Brn	Light Brn			
TDS (g/L)	356.0	374.2	379.9			
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: 1100 | Approximate Depth to Water During Sampling: 37 (feet)

Comments:

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

Total Purge Volume: 4.5 (gallons) | Disposal: | Onsite Drum(s) No.

Weather Conditions: Clear / Dry

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

Well Head Conditions Requiring Correction: None

Problems Encountered During Purging and Sampling: None

ETIC ENGINEERING

GROUNDWATER PURGE AND SAMPLE

Project Name: ExxonMobil | Well No: MW5 | Date: 11/1/17

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

GAUGING DATA

Water Level Measuring Method: Water Level | 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)
	39.96	35.98	3.98	3/4: 0.03 / 2": 0.16 / 4: 0.64 / 6: 1.44	0.64	1.91

PURGING DATA

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

Time	08:27	08:32				
Volume Purge (gal)	1	2	3			
Temperature (C)	16.1	15.0				
pH	6.46	6.31				
Spec.Cond. (umhos)	725.3	729.0				
Turbidity/Color	Very Light Gray	Light Gray				
TDS (g/L)	500.9	503.4				
ORP	—	—	—			
DO (mg/L)	—	—	—			
Odor (Y/N)	N	N				
Casing Volumes	1	2	3			
Dewatered (Y/N)	N	Y				

Comments/Observations: Dewatered at ~2 gal.

SAMPLING DATA

Time Sampled: 1145 | Approximate Depth to Water During Sampling: 36 (feet)

Comments:

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

Total Purge Volume: 2 (gallons) | Disposal: | Onsite Drum(s) No.

Weather Conditions: Clear / Dry

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

Well Head Conditions Requiring Correction: None

Problems Encountered During Purging and Sampling: None

ETIC ENGINEERING

GROUNDWATER PURGE AND SAMPLE

Project Name: ExxonMobil | Well No: MW6 | Date: 11/1/17

Project No: 17-070234-UB | 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)
	39.38	32.51	5.87	3/4 / 2 / 4 / 6 : 0.03 / 0.16 / 0.64 / 1.44	0.94	2.82

PURGING DATA

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

Time	08:13	08:16	08:19
Volume Purge (gal)	1	2	3
Temperature (C)	18.3	18.5	18.7
pH	6.61	6.55	6.50
Spec.Cond. (umhos)	1005	1003	1003
Turbidity/Color	light Brn	light Brn	light Brn
TDS (g/L)	705.1	703.0	702.9
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: 1130 | Approximate Depth to Water During Sampling: 33 (feet)

Comments:

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

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

Weather Conditions: Clear / Dry

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

Well Head Conditions Requiring Correction: None

Problems Encountered During Purging and Sampling: None

ETIC ENGINEERING

GROUNDWATER PURGE AND SAMPLE

Project Name: ExxonMobil | Well No: MW2 | Date: 11/1/17

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)
				3/4	2	4	6		
	39.34	34.51	4.83	0.03	0.16	0.64	1.44	0.77	2.32

PURGING DATA

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

Time	07:54	07:57	0800			
Volume Purge (gal)	1	2	3			
Temperature (C)	19.2	19.3	19.5			
pH	6.82	6.66	6.60			
Spec.Cond. (umhos)	678.6	660.1	656.1			
Turbidity/Color	1 brn	1 brn	1 brn			
TDS (g/L)	466.5	459.2	450.5			
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: 1115 | Approximate Depth to Water During Sampling: 35 (feet)

Comments:

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

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

Weather Conditions: Clear / Dry

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

Well Head Conditions Requiring Correction: None

Problems Encountered During Purging and Sampling: None

ETIC ENGINEERING

GROUNDWATER PURGE AND SAMPLE

Project Name: ExxonMobil | Well No: MW8 | Date: 11/1/17

Project No: 17-070234-UF | 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)
	39.82 −	33.18 =	6.64 ×	3/4 (0.03) / 1 (0.16) / 4 (0.64) / 6 (1.44)	1.06 =	3.19

PURGING DATA

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

Time	07:12	07:17	07:22			
Volume Purge (gal)	1.5	3.0	4.5			
Temperature (C)	16.8	17.7	17.7			
pH	7.85	7.39	7.29			
Spec.Cond. (umhos)	766.1	767.6	762.2			
Turbidity/Color	Light Brn	Med Brn	Med Brn			
TDS (g / L)	530.0	532.2	528.2			
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: 1050 | Approximate Depth to Water During Sampling: 33.5 (feet)

Comments:

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

Total Purge Volume: 4.5 (gallons) | Disposal: | Onsite Drum(s) No.

Weather Conditions: Clear / Dry

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

Well Head Conditions Requiring Correction: None

Problems Encountered During Purging and Sampling: None

ETIC ENGINEERING

GROUNDWATER PURGE AND SAMPLE

Project Name: ExxonMobil | Well No: MW9 | Date: 11/1/17

Project No: 17-070234-MP | 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 −	34.50 =	5.31 ×	3/4: 0.03 / 2: 0.16 / 4: 0.64 / 6: 1.44	0.85 ×	2.55

PURGING DATA

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

Time	09:24	09:28	09:32			
Volume Purge (gal)	1	2	3			
Temperature (C)	17.1	17.8	17.9			
pH	6.82	6.82	6.82			
Spec.Cond. (umhos)	719.7	751.6	751.3			
Turbidity/Color	Very light brn	light brn	light brn			
TDS (g/L)	498.2	520.2	519.9			
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: 1030 | Approximate Depth to Water During Sampling: 35 (feet)

Comments:

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

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

Weather Conditions: Clear / Dry

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

Well Head Conditions Requiring Correction: None

Problems Encountered During Purging and Sampling: None

ETIC ENGINEERING

GROUNDWATER PURGE AND SAMPLE

Project Name: ExxonMobil | Well No: RW1 | Date: 11/1/17

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)
	40.35	34.95	5.40	3/4: 0.03; 2: 0.16; 4: 0.64; 6: 1.44	3.46	10.37

PURGING DATA

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

Time	09:46	09:51				
Volume Purge (gal)	3.5	7.0	10.5			
Temperature (C)	17.9	18.4				
pH	6.71	6.59				
Spec.Cond. (umhos)	459.9	856.7				
Turbidity/Color	very turbid brn	turbid brn				
TDS (g/L)	596.6	596.3				
ORP	—	—	—			
DO (mg/L)	—	—	—			
Odor (Y/N)	Y	Y				
Casing Volumes	1	2	3			
Dewatered (Y/N)	N	N	Y			

Comments/Observations: Dewatered at 10.5 gal

SAMPLING DATA

Time Sampled: 1205 | Approximate Depth to Water During Sampling: 35 (feet)

Comments:

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

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

Weather Conditions: Clear/Dry

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	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
	N/A	1	800-575-1056	04192017CAM-5 CM

GENERATOR

5. Generator's Name and Mailing Address
ExxonMobil Oil Corp (70234)
250 W. Colorado Blvd Suite 410
Arcadia, CA 91007
Generator's Phone:

Generator's Site Address (if different than mailing address)
3450 35TH AVENUE
OAKLAND, CA, USA

6. Transporter 1 Company Name: DILLARD ENVIRONMENTAL SERVICES #1715
U.S. EPA ID Number: CAD982523433

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Integrated
1405 Airport Road
Rio Vista, CA 94571 USA
Facility's Phone: 530-793-1920
U.S. EPA ID Number

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	NON-HAZARDOUS INDUSTRIAL WASTE, LIQUID (PURGE WATER)	1	DM	40	G	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
DES JOB #214-248 1x40DM
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/Offeror's Printed/Typed Name: John Haberland | Signature | Month 11 | Day 1 | Year 17

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name | Signature | Month | Day | Year

Transporter 2 Printed/Typed Name: KEN WILSON | Signature: K Wilson | Month 11 | Day 1 | Year 17

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) | U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) | Month | Day | Year

FD

RECEIVED NOV 02 2017 BY

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

Printed/Typed Name: Patrick McLaughlin | Signature | Month 11 | Day 1 | Year 17

Appendix D

Laboratory Analytical Reports and Chain-of-Custody Documentation

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WORK ORDER NUMBER: 17-11-0093

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: ETIC Engineering, Inc.

Client Project Name: ExxonMobil 70234

Attention: Kate Lamb
250 W Colorado Blvd.
Suite 110
Arcadia, CA 91007-2664

Approved for release on 11/16/2017 by:
Cecile deGuia
Project Manager

ResultLink

Email your PM

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Contents

Client Project Name: ExxonMobil 70234
Work Order Number: 17-11-0093

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Work Order Narrative

Work Order: 17-11-0093 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 11/02/17. They were assigned to Work Order 17-11-0093.

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.

EPA 8260B:
LCS Batch Number 171110L055: All target analytes were within acceptance criteria with the exception of Diisopropyl Ether (DIPE). The LCS recovery for this analyte was above the upper control limit of 121%, but was below the NELAC-defined upper marginal exceedance (ME) limit of 129%. (ME = +/- 4 standard deviations.) Based upon the number of analytes spiked into the LCS, and per NELAC, the laboratory is allowed to report associated data when there is, in this case, one marginal exceedance in an LCS.
SM 3500-FeB Ferrous Iron
Note that all containers for Ferrous Iron were received with headspace. Client was notified on November 02, 2017. Calscience analyzes the samples for Ferrous Iron as soon after receipt at the laboratory as possible.

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Sample Summary

Client:	ETIC Engineering, Inc. 250 W Colorado Blvd., Suite 110 Arcadia, CA 91007-2664	Work Order:	17-11-0093
		Project Name:	ExxonMobil 70234
		PO Number:	37405
		Date/Time Received:	11/02/17 08:50
		Number of Containers:	72
Attn:	Kate Lamb		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
MW4	17-11-0093-1	11/01/17 11:00	10	Aqueous
MW5	17-11-0093-2	11/01/17 11:45	10	Aqueous
MW6	17-11-0093-3	11/01/17 11:30	10	Aqueous
MW7	17-11-0093-4	11/01/17 11:15	12	Aqueous
MW8	17-11-0093-5	11/01/17 10:50	10	Aqueous
MW9	17-11-0093-6	11/01/17 10:30	10	Aqueous
RW1	17-11-0093-7	11/01/17 12:05	10	Aqueous

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Analytical Report

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Project: ExxonMobil 70234

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: N/A
Method: RSK-175M
Units: ug/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW4	**17-11-0093-1-F**	**11/01/17 11:00**	**Aqueous**	**GC 61**	**N/A**	**11/14/17 14:06**	**171114L01**

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
Methane	0.0500	1.00	0.0400	1.00	J

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW5	**17-11-0093-2-F**	**11/01/17 11:45**	**Aqueous**	**GC 61**	**N/A**	**11/14/17 14:32**	**171114L01**

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
Methane	35.1	1.00	0.0400	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW6	**17-11-0093-3-F**	**11/01/17 11:30**	**Aqueous**	**GC 61**	**N/A**	**11/14/17 15:22**	**171114L01**

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
Methane	7.90	1.00	0.0400	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW7	**17-11-0093-4-F**	**11/01/17 11:15**	**Aqueous**	**GC 61**	**N/A**	**11/14/17 16:33**	**171114L01**

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
Methane	2.66	1.00	0.0400	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW8	**17-11-0093-5-F**	**11/01/17 10:50**	**Aqueous**	**GC 61**	**N/A**	**11/14/17 17:07**	**171114L01**

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
Methane	0.183	1.00	0.0400	1.00	J

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW9	**17-11-0093-6-F**	**11/01/17 10:30**	**Aqueous**	**GC 61**	**N/A**	**11/14/17 17:31**	**171114L01**

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
Methane	0.0400	1.00	0.0400	1.00	J

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

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Analytical Report

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Project: ExxonMobil 70234

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: N/A
Method: RSK-175M
Units: ug/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
RW1	**17-11-0093-7-F**	**11/01/17 12:05**	**Aqueous**	**GC 61**	**N/A**	**11/14/17 18:08**	**171114L01**

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
Methane	6.24	1.00	0.0400	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-663-2783**	**N/A**	**Aqueous**	**GC 61**	**N/A**	**11/14/17 13:36**	**171114L01**

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
Methane	ND	1.00	0.0400	1.00	

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

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Analytical Report

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Project: ExxonMobil 70234

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: N/A
Method: EPA 300.0
Units: mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW4	**17-11-0093-1-I**	**11/01/17 11:00**	**Aqueous**	**IC 10**	**N/A**	**11/02/17 12:13**	**171102L01**

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
Nitrate (as N)	2.8	0.10	0.053	1.00	
Sulfate	64	1.0	0.27	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW5	**17-11-0093-2-I**	**11/01/17 11:45**	**Aqueous**	**IC 10**	**N/A**	**11/02/17 12:32**	**171102L01**

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
Nitrate (as N)	0.29	0.10	0.053	1.00	
Sulfate	29	1.0	0.27	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW6	**17-11-0093-3-I**	**11/01/17 11:30**	**Aqueous**	**IC 10**	**N/A**	**11/02/17 12:51**	**171102L01**

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
Nitrate (as N)	0.22	0.10	0.053	1.00	
Sulfate	35	1.0	0.27	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW7	**17-11-0093-4-K**	**11/01/17 11:15**	**Aqueous**	**IC 10**	**N/A**	**11/02/17 13:10**	**171102L01**

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
Nitrate (as N)	2.0	0.10	0.053	1.00	
Sulfate	60	1.0	0.27	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW8	**17-11-0093-5-I**	**11/01/17 10:50**	**Aqueous**	**IC 10**	**N/A**	**11/02/17 13:29**	**171102L01**

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
Nitrate (as N)	9.3	0.10	0.053	1.00	
Sulfate	46	1.0	0.27	1.00	

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

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Analytical Report

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Project: ExxonMobil 70234

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: N/A
Method: EPA 300.0
Units: mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW9	**17-11-0093-6-I**	**11/01/17 10:30**	**Aqueous**	**IC 10**	**N/A**	**11/02/17 13:47**	**171102L01**

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
Nitrate (as N)	6.2	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
RW1	**17-11-0093-7-I**	**11/01/17 12:05**	**Aqueous**	**IC 10**	**N/A**	**11/02/17 14:06**	**171102L01**

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
Nitrate (as N)	0.74	0.10	0.053	1.00	
Sulfate	34	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	**099-12-906-8064**	**N/A**	**Aqueous**	**IC 10**	**N/A**	**11/02/17 10:03**	**171102L01**

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
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.

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Analytical Report

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Project: ExxonMobil 70234

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: N/A
Method: SM 2320B
Units: mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW4	**17-11-0093-1-I**	**11/01/17 11:00**	**Aqueous**	**PH1/BUR03**	**N/A**	**11/07/17 15:30**	**H1107ALKB1**

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
Alkalinity, Total (as CaCO3)	163	5.00	0.848	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW5	**17-11-0093-2-I**	**11/01/17 11:45**	**Aqueous**	**PH1/BUR03**	**N/A**	**11/07/17 15:30**	**H1107ALKB1**

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
Alkalinity, Total (as CaCO3)	336	5.00	0.848	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW6	**17-11-0093-3-I**	**11/01/17 11:30**	**Aqueous**	**PH1/BUR03**	**N/A**	**11/07/17 15:30**	**H1107ALKB1**

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
Alkalinity, Total (as CaCO3)	513	5.00	0.848	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW7	**17-11-0093-4-K**	**11/01/17 11:15**	**Aqueous**	**PH1/BUR03**	**N/A**	**11/07/17 15:30**	**H1107ALKB1**

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
Alkalinity, Total (as CaCO3)	251	5.00	0.848	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW8	**17-11-0093-5-I**	**11/01/17 10:50**	**Aqueous**	**PH1/BUR03**	**N/A**	**11/07/17 15:30**	**H1107ALKB1**

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
Alkalinity, Total (as CaCO3)	248	5.00	0.848	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW9	**17-11-0093-6-I**	**11/01/17 10:30**	**Aqueous**	**PH1/BUR03**	**N/A**	**11/07/17 15:30**	**H1107ALKB1**

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
Alkalinity, Total (as CaCO3)	254	5.00	0.848	1.00	

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

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Analytical Report

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: N/A
Method: SM 2320B
Units: mg/L

Project: ExxonMobil 70234

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
RW1	**17-11-0093-7-I**	**11/01/17 12:05**	**Aqueous**	**PH1/BUR03**	**N/A**	**11/07/17 15:30**	**H1107ALKB1**

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
Alkalinity, Total (as CaCO3)	385	5.00	0.848	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-859-1361**	**N/A**	**Aqueous**	**PH1/BUR03**	**N/A**	**11/07/17 15:30**	**H1107ALKB1**

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
Alkalinity, Total (as CaCO3)	ND	1.0	0.85	1.00	

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

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Analytical Report

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Project: ExxonMobil 70234

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: N/A
Method: SM 3500-FeB
Units: mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW4	**17-11-0093-1-J**	**11/01/17 11:00**	**Aqueous**	**UV 9**	**11/02/17**	**11/02/17 10:02**	**H1102FEL1**

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	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW5	**17-11-0093-2-J**	**11/01/17 11:45**	**Aqueous**	**UV 9**	**11/02/17**	**11/02/17 10:02**	**H1102FEL1**

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)	1.54	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	**17-11-0093-3-J**	**11/01/17 11:30**	**Aqueous**	**UV 9**	**11/02/17**	**11/02/17 10:02**	**H1102FEL1**

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)	0.0713	0.100	0.0413	1.00	J

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW7	**17-11-0093-4-L**	**11/01/17 11:15**	**Aqueous**	**UV 9**	**11/02/17**	**11/02/17 10:02**	**H1102FEL1**

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	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW8	**17-11-0093-5-J**	**11/01/17 10:50**	**Aqueous**	**UV 9**	**11/02/17**	**11/02/17 10:02**	**H1102FEL1**

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	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW9	**17-11-0093-6-J**	**11/01/17 10:30**	**Aqueous**	**UV 9**	**11/02/17**	**11/02/17 10:02**	**H1102FEL1**

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.

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Analytical Report

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Project: ExxonMobil 70234

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: N/A
Method: SM 3500-FeB
Units: mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
RW1	**17-11-0093-7-J**	**11/01/17 12:05**	**Aqueous**	**UV 9**	**11/02/17**	**11/02/17 10:02**	**H1102FEL1**

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	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-05-111-5739**	**N/A**	**Aqueous**	**UV 9**	**11/02/17**	**11/02/17 10:02**	**H1102FEL1**

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.

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Analytical Report

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Project: ExxonMobil 70234

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: EPA 5030C
Method: EPA 8015B (M)
Units: ug/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW4	**17-11-0093-1-G**	**11/01/17 11:00**	**Aqueous**	**GC 22**	**11/07/17**	**11/07/17 22:31**	**171107L061**

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
TPH as Gasoline	ND	50	48	1.00	

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

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW5	**17-11-0093-2-G**	**11/01/17 11:45**	**Aqueous**	**GC 22**	**11/07/17**	**11/08/17 02:58**	**171107L061**

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
TPH as Gasoline	380	50	48	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	80	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW6	**17-11-0093-3-G**	**11/01/17 11:30**	**Aqueous**	**GC 22**	**11/07/17**	**11/08/17 00:11**	**171107L061**

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
TPH as Gasoline	120	50	48	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	62	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW7	**17-11-0093-4-G**	**11/01/17 11:15**	**Aqueous**	**GC 22**	**11/07/17**	**11/08/17 00:44**	**171107L061**

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
TPH as Gasoline	580	50	48	1.00	HD

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

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

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Analytical Report

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Project: ExxonMobil 70234

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: EPA 5030C
Method: EPA 8015B (M)
Units: ug/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW8	**17-11-0093-5-G**	**11/01/17 10:50**	**Aqueous**	**GC 22**	**11/07/17**	**11/07/17 23:04**	**171107L061**

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
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	**17-11-0093-6-G**	**11/01/17 10:30**	**Aqueous**	**GC 22**	**11/07/17**	**11/07/17 23:37**	**171107L061**

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
TPH as Gasoline	ND	50	48	1.00	

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

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
RW1	**17-11-0093-7-G**	**11/01/17 12:05**	**Aqueous**	**GC 22**	**11/07/17**	**11/08/17 06:51**	**171107L061**

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
TPH as Gasoline	880	50	48	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	75	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-436-11741**	**N/A**	**Aqueous**	**GC 22**	**11/07/17**	**11/07/17 19:38**	**171107L061**

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
TPH as Gasoline	ND	50	48	1.00	

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

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

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Analytical Report

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 70234

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW4	**17-11-0093-1-A**	**11/01/17 11:00**	**Aqueous**	**GC/MS UU**	**11/09/17**	**11/09/17 22:33**	**171109L046**

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
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	100	68-120	
Dibromofluoromethane	95	80-127	
1,2-Dichloroethane-d4	108	80-128	
Toluene-d8	99	80-120	

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

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Analytical Report

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 70234

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW5	**17-11-0093-2-B**	**11/01/17 11:45**	**Aqueous**	**GC/MS UU**	**11/11/17**	**11/11/17 13:49**	**171111L008**

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
Benzene	56	2.5	1.0	5.00	
Ethylbenzene	ND	2.5	1.0	5.00	
Toluene	ND	2.5	1.0	5.00	
p/m-Xylene	1.4	2.5	1.0	5.00	J
o-Xylene	ND	2.5	1.6	5.00	
Xylenes (total)	1.4	2.5	1.0	1.00	JA
Methyl-t-Butyl Ether (MTBE)	87	2.5	1.0	5.00	
Tert-Butyl Alcohol (TBA)	530	50	20	5.00	
Diisopropyl Ether (DIPE)	ND	2.5	1.0	5.00	
Ethyl-t-Butyl Ether (ETBE)	ND	2.5	1.0	5.00	
Tert-Amyl-Methyl Ether (TAME)	ND	2.5	1.0	5.00	
1,2-Dibromoethane	ND	2.5	1.0	5.00	
1,2-Dichloroethane	1.8	2.5	1.0	5.00	J

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	100	68-120	
Dibromofluoromethane	99	80-127	
1,2-Dichloroethane-d4	107	80-128	
Toluene-d8	100	80-120	

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

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Analytical Report

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 70234

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW6	**17-11-0093-3-A**	**11/01/17 11:30**	**Aqueous**	**GC/MS UU**	**11/09/17**	**11/09/17 23:32**	**171109L046**

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
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)	4.6	5.0	2.0	10.0	J
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	100	68-120	
Dibromofluoromethane	98	80-127	
1,2-Dichloroethane-d4	108	80-128	
Toluene-d8	102	80-120	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW6	**17-11-0093-3-B**	**11/01/17 11:30**	**Aqueous**	**GC/MS UU**	**11/10/17**	**11/11/17 08:08**	**171110L055**

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
Tert-Butyl Alcohol (TBA)	2100	200	80	20.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	98	68-120	
Dibromofluoromethane	99	80-127	
1,2-Dichloroethane-d4	109	80-128	
Toluene-d8	101	80-120	

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

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Analytical Report

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 70234

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW7	**17-11-0093-4-B**	**11/01/17 11:15**	**Aqueous**	**GC/MS UU**	**11/10/17**	**11/10/17 20:10**	**171110L004**

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
Benzene	ND	2.5	1.0	5.00	
Ethylbenzene	ND	2.5	1.0	5.00	
Toluene	ND	2.5	1.0	5.00	
p/m-Xylene	ND	2.5	1.0	5.00	
o-Xylene	ND	2.5	1.6	5.00	
Xylenes (total)	ND	2.5	1.0	1.00	
Tert-Butyl Alcohol (TBA)	90	50	20	5.00	
Diisopropyl Ether (DIPE)	ND	2.5	1.0	5.00	
Ethyl-t-Butyl Ether (ETBE)	ND	2.5	1.0	5.00	
Tert-Amyl-Methyl Ether (TAME)	ND	2.5	1.0	5.00	
1,2-Dibromoethane	ND	2.5	1.0	5.00	
1,2-Dichloroethane	ND	2.5	1.0	5.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	98	68-120	
Dibromofluoromethane	99	80-127	
1,2-Dichloroethane-d4	107	80-128	
Toluene-d8	99	80-120	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW7	**17-11-0093-4-A**	**11/01/17 11:15**	**Aqueous**	**GC/MS UU**	**11/09/17**	**11/10/17 00:32**	**171109L046**

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
Methyl-t-Butyl Ether (MTBE)	890	50	20	100	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	98	68-120	
Dibromofluoromethane	102	80-127	
1,2-Dichloroethane-d4	109	80-128	
Toluene-d8	100	80-120	

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

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Analytical Report

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 70234

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW8	**17-11-0093-5-A**	**11/01/17 10:50**	**Aqueous**	**GC/MS UU**	**11/09/17**	**11/10/17 01:02**	**171109L046**

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
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	101	68-120	
Dibromofluoromethane	97	80-127	
1,2-Dichloroethane-d4	110	80-128	
Toluene-d8	100	80-120	

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

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Analytical Report

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 70234

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW9	**17-11-0093-6-A**	**11/01/17 10:30**	**Aqueous**	**GC/MS UU**	**11/09/17**	**11/10/17 01:32**	**171109L046**

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
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	98	68-120	
Dibromofluoromethane	97	80-127	
1,2-Dichloroethane-d4	114	80-128	
Toluene-d8	101	80-120	

Return to Contents

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

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Analytical Report

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 70234

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
RW1	**17-11-0093-7-B**	**11/01/17 12:05**	**Aqueous**	**GC/MS UU**	**11/10/17**	**11/10/17 20:40**	**171110L004**

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
Benzene	520	12	5.0	25.0	
Ethylbenzene	11	12	5.0	25.0	J
Toluene	5.2	12	5.0	25.0	J
p/m-Xylene	9.8	12	5.0	25.0	J
o-Xylene	ND	12	7.9	25.0	
Xylenes (total)	9.8	12	5.0	1.00	JA
Methyl-t-Butyl Ether (MTBE)	290	12	5.0	25.0	
Tert-Butyl Alcohol (TBA)	2200	250	100	25.0	
Diisopropyl Ether (DIPE)	ND	12	5.0	25.0	
Ethyl-t-Butyl Ether (ETBE)	ND	12	5.0	25.0	
Tert-Amyl-Methyl Ether (TAME)	ND	12	5.0	25.0	
1,2-Dibromoethane	ND	12	5.0	25.0	
1,2-Dichloroethane	14	12	5.0	25.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	101	68-120	
Dibromofluoromethane	102	80-127	
1,2-Dichloroethane-d4	109	80-128	
Toluene-d8	99	80-120	

Return to Contents

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

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Analytical Report

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 70234

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-10-025-4936**	**N/A**	**Aqueous**	**GC/MS UU**	**11/09/17**	**11/09/17 22:03**	**171109L046**

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
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	98	68-120	
Dibromofluoromethane	101	80-127	
1,2-Dichloroethane-d4	107	80-128	
Toluene-d8	100	80-120	

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

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Analytical Report

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 70234

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-10-025-4938**	**N/A**	**Aqueous**	**GC/MS UU**	**11/10/17**	**11/10/17 10:14**	**171110L004**

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
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	
Tert-Butyl Alcohol (TBA)	ND	10	4.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	0.20	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	96	68-120	
Dibromofluoromethane	102	80-127	
1,2-Dichloroethane-d4	109	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
Method Blank	**099-10-025-4942**	**N/A**	**Aqueous**	**GC/MS UU**	**11/10/17**	**11/11/17 00:10**	**171110L055**

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
Tert-Butyl Alcohol (TBA)	ND	10	4.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	97	68-120	
Dibromofluoromethane	100	80-127	
1,2-Dichloroethane-d4	108	80-128	
Toluene-d8	100	80-120	

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

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Analytical Report

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 70234

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-10-025-4941**	**N/A**	**Aqueous**	**GC/MS UU**	**11/11/17**	**11/11/17 11:27**	**171111L008**

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
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	98	68-120	
Dibromofluoromethane	101	80-127	
1,2-Dichloroethane-d4	104	80-128	
Toluene-d8	101	80-120	

Return to Contents

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

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Quality Control - Spike/Spike Duplicate

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Project: ExxonMobil 70234

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: N/A
Method: EPA 300.0

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW4	**Sample**	**Aqueous**	**IC 10**	**N/A**	**11/02/17 12:13**	**171102S01**
MW4	**Matrix Spike**	**Aqueous**	**IC 10**	**N/A**	**11/02/17 14:25**	**171102S01**
MW4	**Matrix Spike Duplicate**	**Aqueous**	**IC 10**	**N/A**	**11/02/17 14:44**	**171102S01**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Nitrate (as N)	2.828	5.000	8.105	106	8.129	106	80-120	0	0-20	
Sulfate	63.65	50.00	125.0	123	125.4	124	80-120	0	0-20	HX

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Project: ExxonMobil 70234

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: N/A
Method: SM 3500-FeB

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW4	**Sample**	**Aqueous**	**UV 9**	**11/02/17**	**11/02/17 10:02**	**H1102FES1**
MW4	**Matrix Spike**	**Aqueous**	**UV 9**	**11/02/17**	**11/02/17 10:02**	**H1102FES1**
MW4	**Matrix Spike Duplicate**	**Aqueous**	**UV 9**	**11/02/17**	**11/02/17 10:02**	**H1102FES1**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Iron (II)	ND	1.000	0.9293	93	0.9195	92	70-130	1	0-25	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ETIC Engineering, Inc.		Date Received:	11/02/17
250 W Colorado Blvd., Suite 110		Work Order:	17-11-0093
Arcadia, CA 91007-2664		Preparation:	EPA 5030C
		Method:	EPA 8015B (M)
Project: ExxonMobil 70234			Page 3 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
17-11-0144-1	**Sample**	**Aqueous**	**GC 22**	**11/07/17**	**11/07/17 20:17**	**171107S029**
17-11-0144-1	**Matrix Spike**	**Aqueous**	**GC 22**	**11/07/17**	**11/07/17 20:50**	**171107S029**
17-11-0144-1	**Matrix Spike Duplicate**	**Aqueous**	**GC 22**	**11/07/17**	**11/07/17 21:24**	**171107S029**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	ND	2000	2030	102	1990	99	68-122	2	0-18	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Project: ExxonMobil 70234

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: EPA 5030C
Method: EPA 8260B

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW4	**Sample**	**Aqueous**	**GC/MS UU**	**11/09/17**	**11/09/17 22:33**	**171109S022**
MW4	**Matrix Spike**	**Aqueous**	**GC/MS UU**	**11/09/17**	**11/09/17 20:33**	**171109S022**
MW4	**Matrix Spike Duplicate**	**Aqueous**	**GC/MS UU**	**11/09/17**	**11/09/17 21:03**	**171109S022**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	ND	10.00	9.549	95	9.508	95	75-125	0	0-20	
Ethylbenzene	ND	10.00	9.431	94	9.110	91	75-125	3	0-20	
Toluene	ND	10.00	9.390	94	9.312	93	75-125	1	0-20	
p/m-Xylene	ND	20.00	18.09	90	17.57	88	75-125	3	0-20	
o-Xylene	ND	10.00	9.272	93	8.939	89	75-127	4	0-20	
Methyl-t-Butyl Ether (MTBE)	ND	10.00	10.66	107	10.37	104	71-131	3	0-20	
Tert-Butyl Alcohol (TBA)	ND	50.00	67.04	134	66.08	132	20-180	1	0-40	
Diisopropyl Ether (DIPE)	ND	10.00	10.53	105	10.17	102	64-136	4	0-20	
Ethyl-t-Butyl Ether (ETBE)	ND	10.00	10.46	105	10.05	101	73-133	4	0-20	
Tert-Amyl-Methyl Ether (TAME)	ND	10.00	10.12	101	10.10	101	75-125	0	0-20	
1,2-Dibromoethane	ND	10.00	10.03	100	9.677	97	75-126	4	0-20	
1,2-Dichloroethane	ND	10.00	10.09	101	9.767	98	75-127	3	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.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Project: ExxonMobil 70234

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: EPA 5030C
Method: EPA 8260B

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
17-11-0550-6	**Sample**	**Aqueous**	**GC/MS UU**	**11/10/17**	**11/10/17 10:47**	**171110S002**
17-11-0550-6	**Matrix Spike**	**Aqueous**	**GC/MS UU**	**11/10/17**	**11/10/17 11:17**	**171110S002**
17-11-0550-6	**Matrix Spike Duplicate**	**Aqueous**	**GC/MS UU**	**11/10/17**	**11/10/17 11:47**	**171110S002**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	ND	10.00	8.854	89	9.140	91	75-125	3	0-20	
Ethylbenzene	ND	10.00	8.860	89	9.293	93	75-125	5	0-20	
Toluene	ND	10.00	8.895	89	9.106	91	75-125	2	0-20	
p/m-Xylene	ND	20.00	17.53	88	18.12	91	75-125	3	0-20	
o-Xylene	ND	10.00	8.830	88	9.160	92	75-127	4	0-20	
Tert-Butyl Alcohol (TBA)	ND	50.00	142.9	286	138.0	276	20-180	4	0-40	HX
Methyl-t-Butyl Ether (MTBE)	ND	10.00	10.04	100	10.17	102	71-131	1	0-20	
Diisopropyl Ether (DIPE)	ND	10.00	10.25	103	10.37	104	64-136	1	0-20	
Ethyl-t-Butyl Ether (ETBE)	ND	10.00	10.03	100	10.15	101	73-133	1	0-20	
Tert-Amyl-Methyl Ether (TAME)	ND	10.00	9.828	98	9.901	99	75-125	1	0-20	
1,2-Dibromoethane	ND	10.00	9.721	97	10.13	101	75-126	4	0-20	
1,2-Dichloroethane	ND	10.00	9.394	94	9.878	99	75-127	5	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.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Project: ExxonMobil 70234

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: EPA 5030C
Method: EPA 8260B

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
17-11-0690-3	**Sample**	**Aqueous**	**GC/MS UU**	**11/10/17**	**11/11/17 02:09**	**171110S019**
17-11-0690-3	**Matrix Spike**	**Aqueous**	**GC/MS UU**	**11/10/17**	**11/10/17 22:40**	**171110S019**
17-11-0690-3	**Matrix Spike Duplicate**	**Aqueous**	**GC/MS UU**	**11/10/17**	**11/10/17 23:10**	**171110S019**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	ND	10.00	10.59	106	9.377	94	75-125	12	0-20	
1,2-Dibromoethane	ND	10.00	10.73	107	10.31	103	75-126	4	0-20	
1,2-Dichloroethane	ND	10.00	10.96	110	10.05	101	75-127	9	0-20	
Ethylbenzene	ND	10.00	10.52	105	9.576	96	75-125	9	0-20	
Toluene	ND	10.00	10.52	105	9.318	93	75-125	12	0-20	
p/m-Xylene	ND	20.00	20.72	104	18.68	93	75-125	10	0-20	
o-Xylene	ND	10.00	10.59	106	9.534	95	75-127	10	0-20	
Tert-Butyl Alcohol (TBA)	ND	50.00	57.37	115	58.19	116	20-180	1	0-40	
Methyl-t-Butyl Ether (MTBE)	ND	10.00	11.34	113	10.83	108	71-131	5	0-20	
Diisopropyl Ether (DIPE)	ND	10.00	11.76	118	10.62	106	64-136	10	0-20	
Ethyl-t-Butyl Ether (ETBE)	ND	10.00	11.42	114	10.34	103	73-133	10	0-20	
Tert-Amyl-Methyl Ether (TAME)	ND	10.00	11.09	111	10.21	102	75-125	8	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.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Project: ExxonMobil 70234

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: EPA 5030C
Method: EPA 8260B

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
17-11-0849-2	**Sample**	**Aqueous**	**GC/MS UU**	**11/11/17**	**11/11/17 12:20**	**171111S005**
17-11-0849-2	**Matrix Spike**	**Aqueous**	**GC/MS UU**	**11/11/17**	**11/11/17 12:49**	**171111S005**
17-11-0849-2	**Matrix Spike Duplicate**	**Aqueous**	**GC/MS UU**	**11/11/17**	**11/11/17 13:19**	**171111S005**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	ND	10.00	10.09	101	9.629	96	75-125	5	0-20	
Ethylbenzene	ND	10.00	10.54	105	9.668	97	75-125	9	0-20	
Toluene	ND	10.00	10.07	101	9.660	97	75-125	4	0-20	
p/m-Xylene	ND	20.00	20.65	103	19.02	95	75-125	8	0-20	
o-Xylene	ND	10.00	10.34	103	9.498	95	75-127	9	0-20	
Methyl-t-Butyl Ether (MTBE)	ND	10.00	10.07	101	10.30	103	71-131	2	0-20	
Tert-Butyl Alcohol (TBA)	ND	50.00	113.3	227	112.1	224	20-180	1	0-40	HX
Diisopropyl Ether (DIPE)	ND	10.00	10.97	110	10.96	110	64-136	0	0-20	
Ethyl-t-Butyl Ether (ETBE)	ND	10.00	10.22	102	10.50	105	73-133	3	0-20	
Tert-Amyl-Methyl Ether (TAME)	ND	10.00	9.867	99	10.15	102	75-125	3	0-20	
1,2-Dibromoethane	ND	10.00	9.770	98	9.990	100	75-126	2	0-20	
1,2-Dichloroethane	ND	10.00	10.33	103	10.31	103	75-127	0	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Sample Duplicate

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Project: ExxonMobil 70234

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: N/A
Method: SM 2320B

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
MW4	**Sample**	**Aqueous**	**PH1/BUR03**	**N/A**	**11/07/17 15:30**	**H1107ALKD1**
MW4	**Sample Duplicate**	**Aqueous**	**PH1/BUR03**	**N/A**	**11/07/17 15:30**	**H1107ALKD1**

Parameter	Sample Conc.	DUP Conc.	RPD	RPD CL	Qualifiers
Alkalinity, Total (as CaCO3)	163.0	164.0	1	0-25	

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RPD: Relative Percent Difference. CL: Control Limits

eurofins | Calscience

Quality Control - LCS/LCSD

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Project: ExxonMobil 70234

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: N/A
Method: RSK-175M

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-663-2783	**LCS**	**Aqueous**	**GC 61**	**N/A**	**11/14/17 12:37**	**171114L01**
099-12-663-2783	**LCSD**	**Aqueous**	**GC 61**	**N/A**	**11/14/17 13:03**	**171114L01**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Methane	102.0	96.16	94	96.26	94	80-120	0	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Project: ExxonMobil 70234

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: N/A
Method: EPA 300.0

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-906-8064	**LCS**	**Aqueous**	**IC 10**	**N/A**	**11/02/17 10:21**	**171102L01**
099-12-906-8064	**LCSD**	**Aqueous**	**IC 10**	**N/A**	**11/02/17 10:40**	**171102L01**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Nitrate (as N)	5.000	4.849	97	4.849	97	90-110	0	0-15	
Sulfate	50.00	50.24	100	50.07	100	90-110	0	0-15	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Project: ExxonMobil 70234

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: N/A
Method: SM 2320B

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-15-859-1361	**LCS**	**Aqueous**	**PH1/BUR03**	**N/A**	**11/07/17 15:30**	**H1107ALKB1**
099-15-859-1361	**LCSD**	**Aqueous**	**PH1/BUR03**	**N/A**	**11/07/17 15:30**	**H1107ALKB1**

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

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Project: ExxonMobil 70234

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: N/A
Method: SM 3500-FeB
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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-05-111-5739	**LCS**	**Aqueous**	**UV 9**	**11/02/17**	**11/02/17 10:02**	**H1102FEL1**
099-05-111-5739	**LCSD**	**Aqueous**	**UV 9**	**11/02/17**	**11/02/17 10:02**	**H1102FEL1**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Iron (II)	1.000	0.9580	96	0.9320	93	80-120	3	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ETIC Engineering, Inc.		Date Received:	11/02/17
250 W Colorado Blvd., Suite 110		Work Order:	17-11-0093
Arcadia, CA 91007-2664		Preparation:	EPA 5030C
		Method:	EPA 8015B (M)
Project: ExxonMobil 70234			Page 5 of 9

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-436-11741	**LCS**	**Aqueous**	**GC 22**	**11/07/17**	**11/07/17 19:05**	**171107L061**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Gasoline	2000	2017	101	78-120	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ETIC Engineering, Inc.		Date Received:	11/02/17
250 W Colorado Blvd., Suite 110		Work Order:	17-11-0093
Arcadia, CA 91007-2664		Preparation:	EPA 5030C
		Method:	EPA 8260B
Project: ExxonMobil 70234			Page 6 of 9

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-10-025-4936	**LCS**	**Aqueous**	**GC/MS UU**	**11/09/17**	**11/09/17 20:03**	**171109L046**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Benzene	10.00	10.49	105	80-120	73-127	
Ethylbenzene	10.00	10.57	106	80-120	73-127	
Toluene	10.00	10.63	106	80-120	73-127	
p/m-Xylene	20.00	20.27	101	80-120	73-127	
o-Xylene	10.00	10.40	104	80-120	73-127	
Methyl-t-Butyl Ether (MTBE)	10.00	10.93	109	75-123	67-131	
Tert-Butyl Alcohol (TBA)	50.00	51.45	103	80-120	73-127	
Diisopropyl Ether (DIPE)	10.00	11.23	112	73-121	65-129	
Ethyl-t-Butyl Ether (ETBE)	10.00	10.80	108	76-124	68-132	
Tert-Amyl-Methyl Ether (TAME)	10.00	10.58	106	80-120	73-127	
1,2-Dibromoethane	10.00	10.89	109	80-120	73-127	
1,2-Dichloroethane	10.00	10.60	106	80-122	73-129	

Total number of LCS compounds: 12
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Project: ExxonMobil 70234

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: EPA 5030C
Method: EPA 8260B

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-10-025-4938	**LCS**	**Aqueous**	**GC/MS UU**	**11/10/17**	**11/10/17 09:14**	**171110L004**
099-10-025-4938	**LCSD**	**Aqueous**	**GC/MS UU**	**11/10/17**	**11/10/17 09:44**	**171110L004**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	10.00	10.58	106	10.71	107	80-120	73-127	1	0-22	
Ethylbenzene	10.00	10.74	107	10.61	106	80-120	73-127	1	0-25	
Toluene	10.00	10.63	106	10.91	109	80-120	73-127	3	0-28	
p/m-Xylene	20.00	20.72	104	20.83	104	80-120	73-127	1	0-30	
o-Xylene	10.00	10.58	106	10.52	105	80-120	73-127	1	0-30	
Tert-Butyl Alcohol (TBA)	50.00	56.04	112	55.30	111	80-120	73-127	1	0-30	
Methyl-t-Butyl Ether (MTBE)	10.00	10.91	109	11.06	111	75-123	67-131	1	0-27	
Diisopropyl Ether (DIPE)	10.00	11.34	113	11.31	113	73-121	65-129	0	0-26	
Ethyl-t-Butyl Ether (ETBE)	10.00	11.12	111	11.03	110	76-124	68-132	1	0-30	
Tert-Amyl-Methyl Ether (TAME)	10.00	10.57	106	10.79	108	80-120	73-127	2	0-24	
1,2-Dibromoethane	10.00	10.66	107	10.58	106	80-120	73-127	1	0-32	
1,2-Dichloroethane	10.00	10.64	106	11.08	111	80-122	73-129	4	0-23	

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

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ETIC Engineering, Inc.
250 W Colorado Blvd., Suite 110
Arcadia, CA 91007-2664

Project: ExxonMobil 70234

Date Received: 11/02/17
Work Order: 17-11-0093
Preparation: EPA 5030C
Method: EPA 8260B

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-10-025-4942	**LCS**	**Aqueous**	**GC/MS UU**	**11/10/17**	**11/10/17 22:10**	**171110L055**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Benzene	10.00	11.17	112	80-120	73-127	
1,2-Dibromoethane	10.00	11.12	111	80-120	73-127	
1,2-Dichloroethane	10.00	11.40	114	80-122	73-129	
Ethylbenzene	10.00	11.05	110	80-120	73-127	
Toluene	10.00	11.05	111	80-120	73-127	
p/m-Xylene	20.00	21.71	109	80-120	73-127	
o-Xylene	10.00	11.09	111	80-120	73-127	
Tert-Butyl Alcohol (TBA)	50.00	55.09	110	80-120	73-127	
Methyl-t-Butyl Ether (MTBE)	10.00	11.60	116	75-123	67-131	
Diisopropyl Ether (DIPE)	10.00	12.19	122	73-121	65-129	LQ,RU
Ethyl-t-Butyl Ether (ETBE)	10.00	11.73	117	76-124	68-132	
Tert-Amyl-Methyl Ether (TAME)	10.00	11.21	112	80-120	73-127	

Total number of LCS compounds: 12
Total number of ME compounds: 1
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

ETIC Engineering, Inc.		Date Received:	11/02/17
250 W Colorado Blvd., Suite 110		Work Order:	17-11-0093
Arcadia, CA 91007-2664		Preparation:	EPA 5030C
		Method:	EPA 8260B
Project: ExxonMobil 70234			Page 9 of 9

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-10-025-4941	**LCS**	**Aqueous**	**GC/MS UU**	**11/11/17**	**11/11/17 10:53**	**171111L008**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Benzene	10.00	10.49	105	80-120	73-127	
Ethylbenzene	10.00	10.85	109	80-120	73-127	
Toluene	10.00	10.74	107	80-120	73-127	
p/m-Xylene	20.00	20.90	105	80-120	73-127	
o-Xylene	10.00	10.61	106	80-120	73-127	
Methyl-t-Butyl Ether (MTBE)	10.00	10.60	106	75-123	67-131	
Tert-Butyl Alcohol (TBA)	50.00	53.83	108	80-120	73-127	
Diisopropyl Ether (DIPE)	10.00	11.52	115	73-121	65-129	
Ethyl-t-Butyl Ether (ETBE)	10.00	10.91	109	76-124	68-132	
Tert-Amyl-Methyl Ether (TAME)	10.00	10.42	104	80-120	73-127	
1,2-Dibromoethane	10.00	10.28	103	80-120	73-127	
1,2-Dichloroethane	10.00	11.00	110	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

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RPD: Relative Percent Difference. CL: Control Limits

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Sample Analysis Summary Report

Work Order: 17-11-0093 Page 1 of 1

Method	Extraction	Chemist ID	Instrument	Analytical Location
EPA 300.0	N/A	1027	IC 10	1
EPA 8015B (M)	EPA 5030C	1101	GC 22	2
EPA 8260B	EPA 5030C	996	GC/MS UU	2
RSK-175M	N/A	1144	GC 61	2
SM 2320B	N/A	1086	PH1/BUR03	1
SM 3500-FeB	N/A	990	UV 9	1

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Glossary of Terms and Qualifiers

Work Order: 17-11-0093 Page 1 of 1

Qualifiers	Definition
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.

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ExxonMobil Analysis Request/Chain of Custody

ECI WO# **17-11-0093**

7440 Lincoln Way, Garden Grove, CA 92841-1427
Office #: 714-895-5494

EMES Agreement #: A 2604415

PO #: 37405

Facility#/SID: 70234

Site Address: 3450 35th Street, Oakland, CA

ExxonMobil PM: Jennifer Sedlacheck Cost Center/AFE:

Consultant/Office: ETIC - Arcadia

Consultant PM and Phone #: Kate Lamb (626) 432-5999 x2506

Sampler: Christopher Mitchell

State of sample collection:

COC#:

Sample Identification		Geotracker Field Point Name	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water	Matrix: Other	Total # of Containers	8015B TPHg	8260B BTEX/5-Oxys,EDB,1,2-DCA	8260B Full Scan	Alkalinity	Ferrous Iron	Nitrates	Sulfates	Methane
MW4	1	MW4	11/1/17	1100	X			X		10	X	X		X	X	X	X	X
MW5	2	MW5	11/1/17	1145	X			X		10	X	X		X	X	X	X	X
MW6	3	MW6	11/1/17	1130	X			X		10	X	X		X	X	X	X	X
MW7	* see comment 4	MW7	11/1/17	1115	X			X		12	X	X		X	X	X	X	X
MW8	5	MW8	11/1/17	1050	X			X		10	X	X		X	X	X	X	X
MW9	6	MW9	11/1/17	1030	X			X		10	X	X		X	X	X	X	X
RW1	7	RW1	11/1/17	1205	X			X		10	X	X		X	X	X	X	X

Analyses Requested

Comments:

Set TBA detection limit at or below 12 ug/L.
Fuel Oxygenates and additives include: MTBE, TBA, ETBE, DIPE, TAME, 1,2-DCA and 1,2-DBA

* Use lowest detection limit for MW7 benzene analysis (0.5ug/L if possible).

Remarks:

Turnaround Time Requested (TAT) (please circle):
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)

Standard 5 day 4day 72hour 48hour 24hour

Data Package Options (please circle if required)

Full Validation (Level III) (Level IV)

Please check required EDD Format(s): Geotracker EDF (x) EIM ( ) EQUIS ( )

Geotracker Global ID: T06019757161 Log Code:

Other: Please send report to Klamb@eticeng.com and rwoods@eticeng.com

	Date	Time		Date	Time
Relinquished by:	11/1/17	1405	Received by: ECI	11/1/17	1405
Relinquished by: TO 1580	11/1/17	1730	Received by:		
Relinquished by:			Received by:	11/2/17	0850
Relinquished by Commercial Carrier:			Received by:		

UPS ____ FedEx ____ Other ____

Temperature upon receipt ____ °C

Custody Seals Intact? Yes No

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GSO

800-322-5555
www.gso.com

0093

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

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

COD: $0.00
Weight: 0 lb(s)
Reference:
ETIC, APTIM
Delivery Instructions:

Signature Type: REQUIRED

Tracking #: 538216350

EPS

ORC
GARDEN GROVE

A

D92845A

74540282

Print Date: 11/1/2017 3:03 PM

LABEL INSTRUCTIONS:

Do not copy or reprint this label for additional shipments - each package must have a unique barcode.
Step 1: Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer.
Step 2: Fold this page in half.
Step 3: Securely attach this label to your package and do not cover the barcode.

TERMS AND CONDITIONS:

By giving us your shipment to deliver, you agree to all of the GSO service terms & conditions including, but not limited to; limits of liability, declared value conditions, and claim procedures which are available on our website at www.gso.com.

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WORK ORDER NUMBER: 17-11-0093

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: ETC

DATE: 11/02/2017

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

Thermometer ID: SC6 (CF: -0.4°C); Temperature (w/o CF): 2.5 °C (w/ CF): 2.1 °C; ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter Checked by: 15

CUSTODY SEAL:

Cooler	☑ Present and Intact	☐ Present but Not Intact	☐ Not Present	☐ N/A	Checked by: 15
Sample(s)	☐ Present and Intact	☐ Present but Not Intact	☑ Not Present	☐ N/A	Checked by: BM

SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ 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	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☑	☐	☐
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Acid/base preserved samples - pH within acceptable range	☐	☐	☑
Container(s) for certain analysis free of headspace	☐	☑	☐
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☑ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☑ VOAh ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB ☐ 125PB**znna** (pH__9)

☑ 250AGB ☐ 250CGB ☐ 250CGB**s** (pH__2) ☑ 250PB ☐ 250PB**n** (pH__2) ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s** (pH__2) ☐ 500PB

☐ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** (pH__2) ☐ 1AGB**s** (O&G) ☐ 1PB ☐ 1PB**na** (pH__12) ☐ _____ ☐ _____ ☐ _____

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** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, **s** = H_2SO_4, **u** = ultra-pure, **x** = Na_2SO_3+$NaHSO_4.H_2O$, **znna** = Zn $(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: BM

Reviewed by: 15/JM

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WORK ORDER NUMBER: 17-11-0093

SAMPLE ANOMALY REPORT

DATE: 11/02/2017

SAMPLES, CONTAINERS, AND LABELS:

Comments

- ☐ 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)
- ☐ pH outside acceptable range (list analysis)
- ☐ No preservative noted on COC or label (list analysis and notify lab)
- ☐ Sample container(s) not labeled
- ☐ Client sample label(s) illegible (list container type and analysis)
- ☐ Client sample label(s) do not match COC (comment)
  - ☐ Project information
  - ☐ Client sample ID
  - ☐ Sampling date and/or time
  - ☐ Number of container(s)
  - ☐ Requested analysis
- ☐ Sample container(s) compromised (comment)
  - ☐ Broken
  - ☐ Water present in sample container
- ☐ Air sample container(s) compromised (comment)
  - ☐ Flat
  - ☐ Very low in volume
  - ☐ Leaking (not transferred; duplicate bag submitted)
  - ☐ Leaking (transferred into ECI Tedlar™ bags*)
  - ☐ Leaking (transferred into client's Tedlar™ bags*)

* Transferred at client's request.

MISCELLANEOUS: (Describe)

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
1,2,3	J	1	Ferrous Iron
4	L	1	〃 〃
5,6,7	J	1	〃 〃

Comments:

Reported by: 836

Reviewed by: 77

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

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Appendix E

Groundwater Monitoring and Sampling Data for Unocal No. 6129

Table 1. Current Groundwater 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)	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	10/18/2017	24-44	190.79	31.72	159.07	**230**	<1.0	<1.0	<1.0	<2.0	**570**	**470**	<1.0	<1.0	<1.0	<1.0	<1.0	<500	
MW-2	10/18/2017	24-44	190.8	31.47	159.33	<100	<1.0	<1.0	<1.0	<2.0	**89**	**150**	<1.0	<1.0	**8.9**	<1.0	<1.0	<500	
MW-3	10/18/2017	23-43	188.58	30.39	158.19	**250**	<1.0	<1.0	<1.0	<2.0	**600**	**92**	<1.0	<1.0	<1.0	<1.0	<1.0	<500	

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
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 11.06.2017