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

Jennifer C. Sedlachek
Project Manager

ExxonMobil

June 14, 2013

Ms. Barbara Jakub
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: **Report of Groundwater Monitoring, Second Quarter 2013**
Former Exxon RAS #70234
3450 35th Avenue, Oakland, California
ACHCSA File No. RO0002515

Dear Ms. Jakub:

Attached for your review and comment is a copy of the *Report of Groundwater Monitoring, Second Quarter 2013* for the above-referenced site. The document, prepared by ETIC Engineering, Inc. of Pleasant Hill, California, details the results of the May 2013 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 Groundwater Monitoring Report

c: w/ attachment:
Mr. William D. Spencer, FWS Highland LLC, 99 South Hill Drive, Brisbane, CA 94005
Mr. Shay Wideman, The Valero Companies, Environ. Liability Mgt., P.O. Box 696000, San Antonio, TX 78269

c: w/o attachment:
Mr. Thomas E. Neely, ETIC Engineering, Inc.

Report of Groundwater Monitoring
Second Quarter 2013

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

Prepared for

ExxonMobil Oil Corporation

Prepared by

ETIC Engineering, Inc.
2285 Morello Avenue
Pleasant Hill, California 94523
(925) 602-4710

Thomas E. Neely, PG, CHG, QSD
Senior Hydrogeologist

REGISTERED GEOLOGIST
THOMAS E. NEELY
Exp. 9.30.13
No. 7652
STATE OF CALIFORNIA

6/14/2013
Date

June 2013

SITE CONTACTS

Site Name:	Former Exxon Service Station 70234
Site Address:	3450 35th Avenue Oakland, California
ExxonMobil Project Manager:	Jennifer C. Sedlachek ExxonMobil Environmental Services Company 4096 Piedmont Avenue #194 Oakland, California 94611 (510) 547-8196
Consultant to ExxonMobil:	ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, California 94523 (925) 602-4710
ETIC Project Manager:	Joseph Muehleck
Regulatory Oversight:	Barbara Jakub Alameda County Health Care Services Agency 1131 Harbor Bay Parkway, Suite 250 Alameda, California 94502-6577 (510) 639-1287

INTRODUCTION

ETIC Engineering, Inc. (ETIC) has prepared this semiannual groundwater monitoring report for ExxonMobil Environmental Services Company on behalf of ExxonMobil Oil Corporation (ExxonMobil) for Former Exxon Service Station 70234. This report presents the results for the most recent groundwater monitoring conducted at the site and summarizes recent site activities. This report covers site activities conducted from 1 January 2013, when the site case was transferred from Cardno ERI to ETIC, until 2 and 3 May 2013, the dates of the most recent monitoring event. Groundwater monitoring results, well construction details, and a groundwater monitoring plan are provided in the attached figures and tables. Groundwater monitoring protocols, field data, and analytical results are provided in the attached appendixes, including groundwater data for Unocal No. 6129, located adjacent to site 70234.

GENERAL SITE INFORMATION

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

GROUNDWATER MONITORING SUMMARY

Gauging and sampling date:	2 and 3 May 2013
Wells gauged and sampled:	MW4, MW5, MW6, MW7, MW8, MW9, RW1
Wells gauged only:	None
Wells inaccessible:	None
Groundwater flow direction:	West-southwest
Hydraulic gradient:	0.02
Well screens submerged:	MW4, MW6, MW7, MW8, MW9
Well screens not submerged:	MW5, RW1
Liquid-phase hydrocarbons:	Not observed or detected
Laboratory:	Calscience Environmental Laboratories, Inc., Garden Grove, California
Concurrently sampled:	Unocal No. 6129, 3420 35th Avenue
Unocal Data provided by:	AECOM, Sacramento, California

Analyses performed:

- Total Petroleum Hydrocarbons as gasoline by EPA Method 8015B (M)
- Benzene, toluene, ethylbenzene, and xylenes by EPA Method 8021B
- 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

ADDITIONAL ACTIVITIES PERFORMED

In January 2013, ETIC replaced Cardno ERI as the consultant for ExxonMobil for this site.

On 9 May 2013, ETIC submitted the Alameda County Environmental Health Low Threat UST Case Closure Policy Compliance and Identification of Impediments to Case Closure Checklist and a Conceptual Site Model. A project plan and Work Plan for Subsurface Investigation were submitted on 24 May 2013. These documents were submitted in response to correspondence from the Alameda County Health Care Services Agency (ACHCSA).

WORK PROPOSED FOR NEXT QUARTER

In accordance with ACHCSA directives, groundwater monitoring will not be conducted in the third quarter of 2013. The next semiannual groundwater monitoring event will be conducted in the fourth quarter of 2013, and the results will be submitted under separate cover. Additional activities will be conducted in general accordance with the project plan, pending regulatory approval.

RECOMMENDATIONS

Based upon current and historical analytical data, it is recommended that analysis for diisopropyl ether, ethyl tertiary butyl ether, tertiary amyl methyl ether, 1,2-dibromoethane, and 1,2-dichloroethane be discontinued.

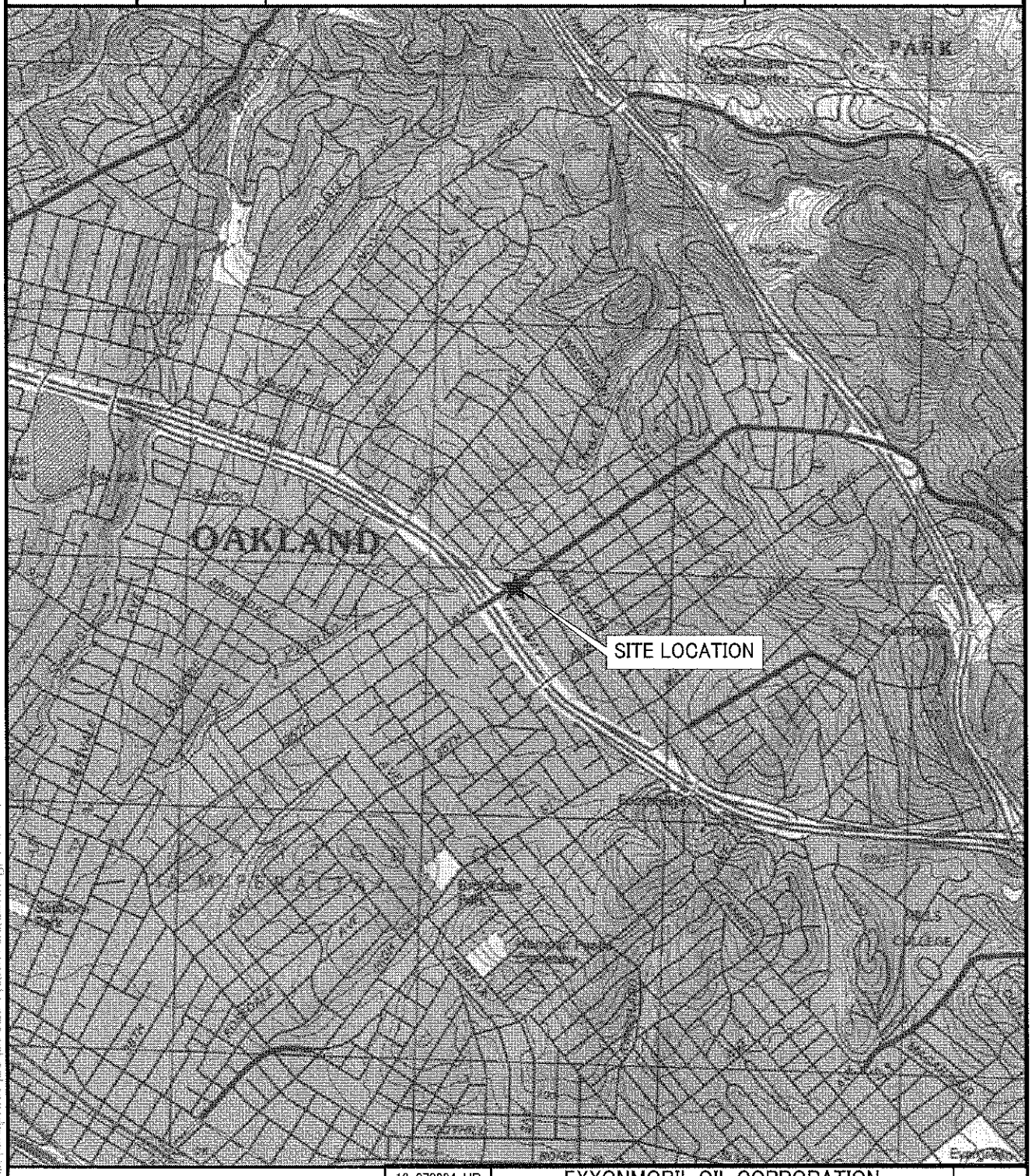
Attachments:

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: Groundwater Monitoring Data
Table 3: Additional Groundwater Monitoring Data
Table 4: Groundwater Monitoring Plan

Appendix A: Field Protocols
Appendix B: Field Documents
Appendix C: Laboratory Analytical Reports and Chain-of-Custody Documentation
Appendix D: Groundwater Monitoring and Sampling Data for Unocal No. 6129

Figures



	13-070234-UP	EXXONMOBIL OIL CORPORATION
	DR: TEN	SITE LOCATION AND TOPOGRAPHIC MAP FORMER EXXON SERVICE STATION 70234 3450 35th AVENUE
ETIC ENGINEERING 2285 MORELLO AVENUE PLEASANT HILL, CA 94523 (925) 602-4710 eticeng.com	DR: AJW CK: FR:	OAKLAND, CALIFORNIA

FIGURE: 1

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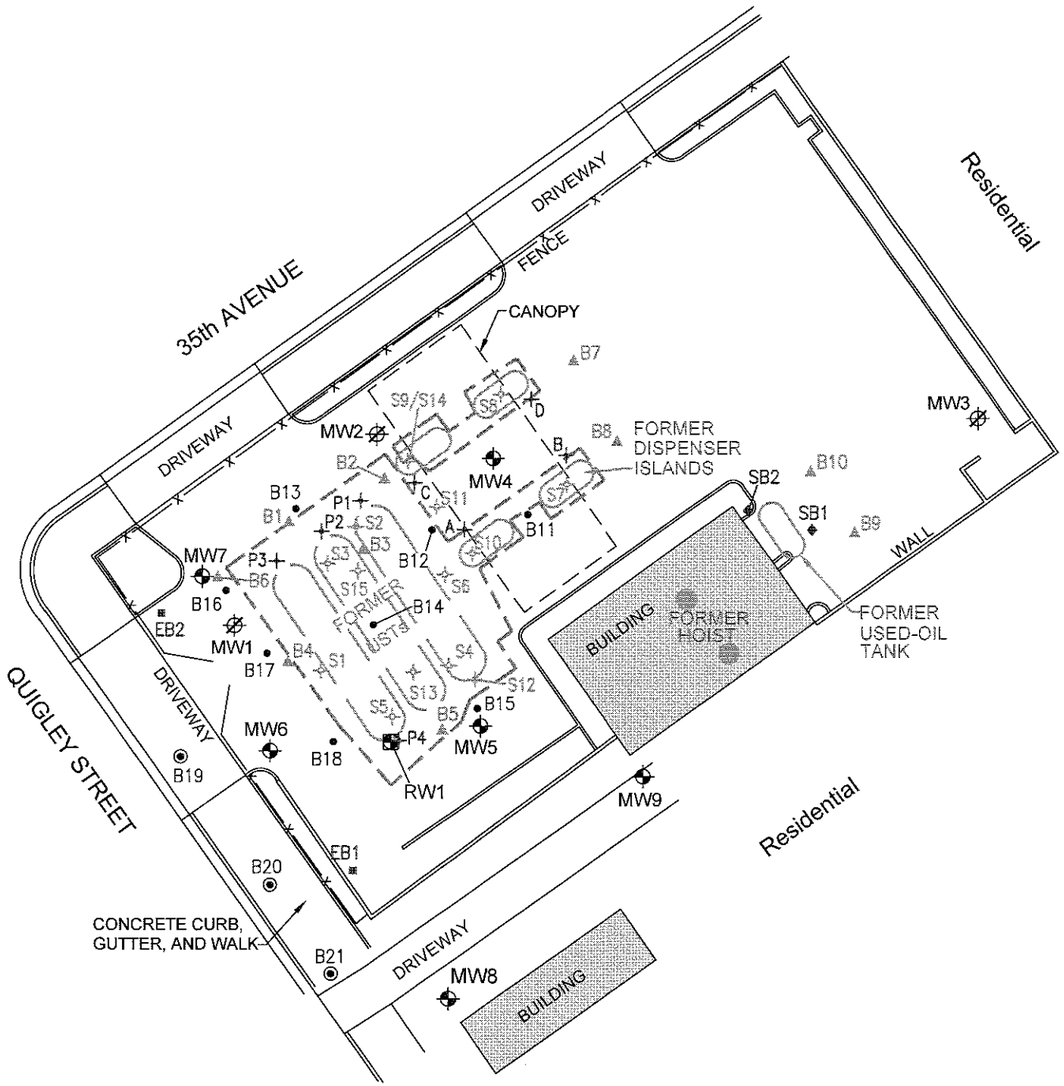

LEGEND:

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

N

0 15 30

1" = 30 FEET

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ETIC ENGINEERING

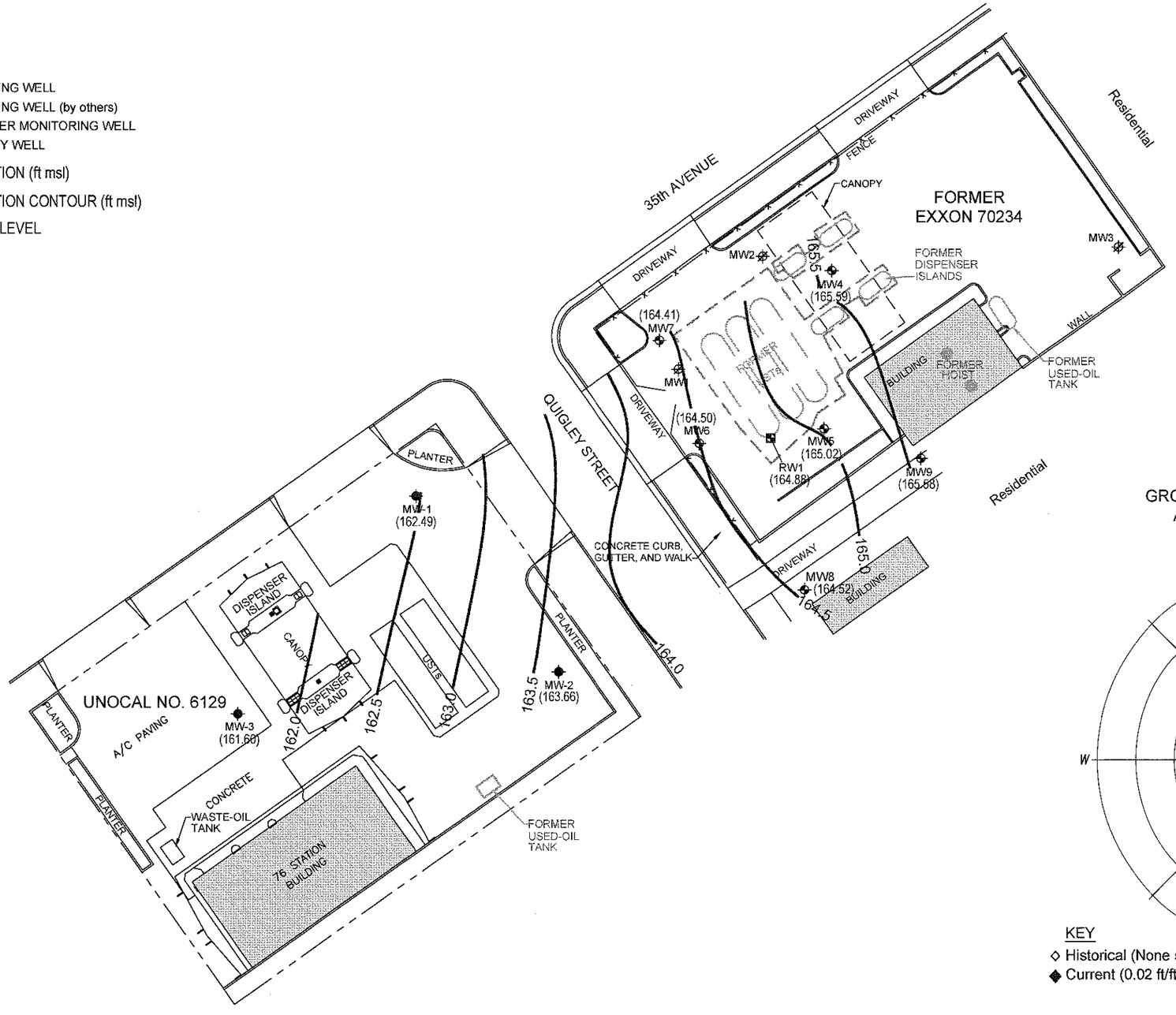
2285 MORELLO AVENUE
PLEASANT HILL, CA 94523
(925) 602-4710
eticeng.com

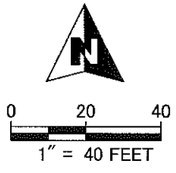
13-070234-UP	EXXONMOBIL OIL CORPORATION
OR: TEN	SITE MAP
DR: AJW	FORMER EXXON SERVICE STATION 70234
CK:	3450 35th AVENUE
FR:	OAKLAND, CALIFORNIA

FIGURE: 2

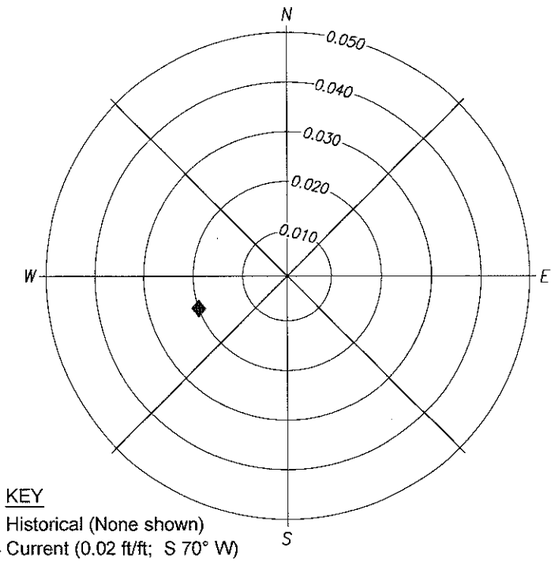
LEGEND:

- EXCAVATED AREA
- GROUNDWATER MONITORING WELL
- GROUNDWATER MONITORING WELL (by others)
- DESTROYED GROUNDWATER MONITORING WELL
- GROUNDWATER RECOVERY WELL
- (165.59) GROUNDWATER ELEVATION (ft msl)
- 165.5 GROUNDWATER ELEVATION CONTOUR (ft msl)
- ft msl FEET ABOVE MEAN SEA LEVEL





GROUNDWATER FLOW DIRECTION AND HYDRAULIC GRADIENT



KEY

- ◇ Historical (None shown)
- ◆ Current (0.02 ft/ft; S 70° W)

ETIC ENGINEERING 2285 MORELLO AVENUE PLEASANT HILL, CA 94523 (925) 602-4710 eticeng.com	13-070234-UP OR: TEN DR: AJW CK: FR:	EXXONMOBIL OIL CORPORATION GROUNDWATER ELEVATION CONTOUR MAP 2 MAY 2013 FORMER EXXON SERVICE STATION 70234 3450 35th AVENUE OAKLAND, CALIFORNIA	FIGURE: 3

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LEGEND:

EXCAVATED AREA

GROUNDWATER MONITORING WELL

GROUNDWATER MONITORING WELL (by others)

DESTROYED GROUNDWATER MONITORING WELL

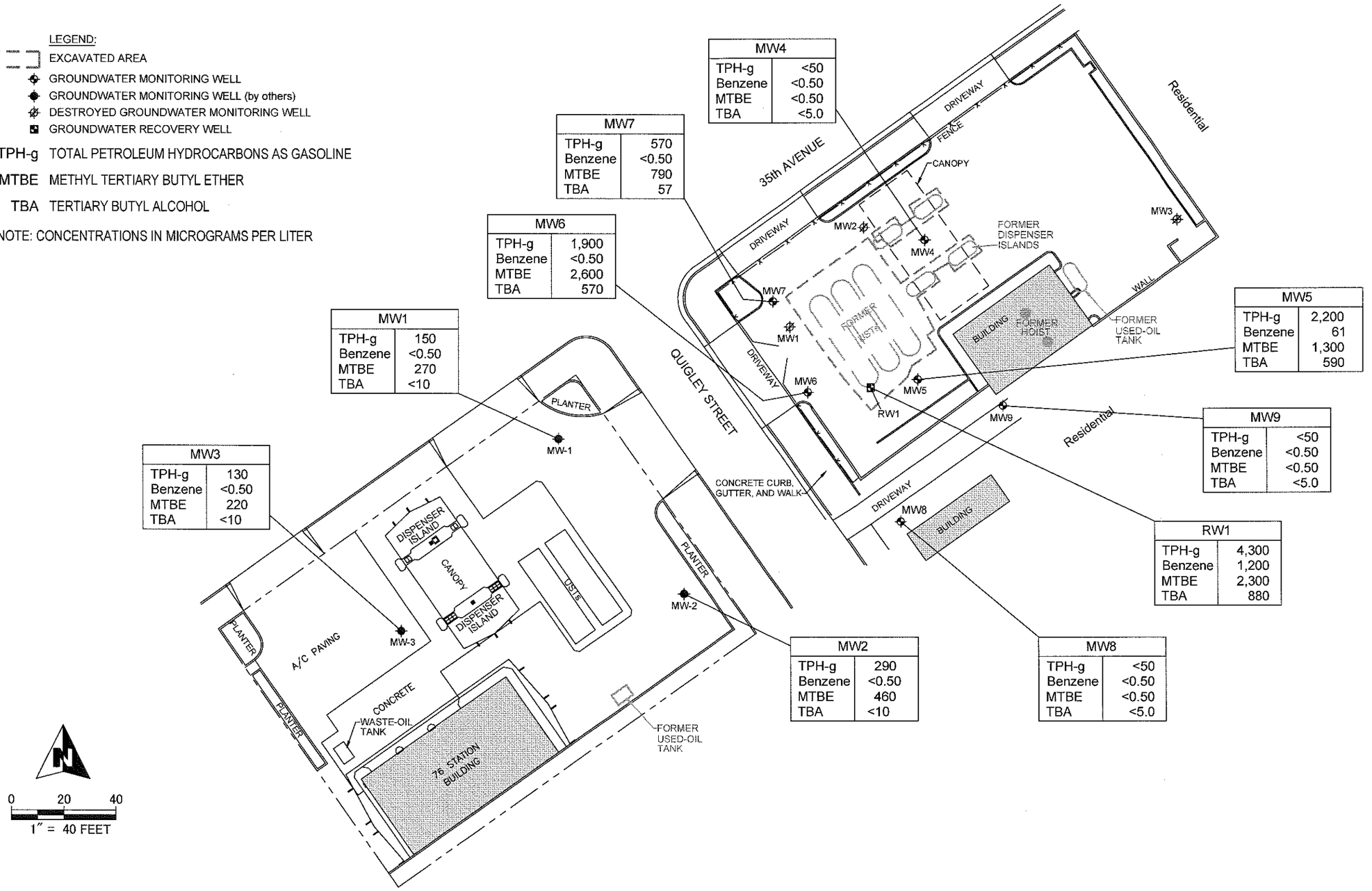
GROUNDWATER RECOVERY WELL

TPH-g TOTAL PETROLEUM HYDROCARBONS AS GASOLINE

MTBE METHYL TERTIARY BUTYL ETHER

TBA TERTIARY BUTYL ALCOHOL

NOTE: CONCENTRATIONS IN MICROGRAMS PER LITER



0 20 40

1" = 40 FEET

13-070234-UP	EXXONMOBIL OIL CORPORATION
	GROUNDWATER ANALYTICAL DATA
OR: TEN	2 AND 3 MAY 2013
DR: AJW	FORMER EXXON SERVICE STATION 70234
CK:	3450 35th AVENUE
FR:	OAKLAND, CALIFORNIA

FIGURE: 4

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

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	Jun-00	192.00	11	45	45	4	Schedule 40 PVC	25-45	0.010	23-45	2/12 Lonestar Sand
MW2	07/15/92	Jun-00	194.85	11	45	45	4	Schedule 40 PVC	25-45	0.010	23-45	2/12 Lonestar Sand
MW3	07/15/92	Jun-00	196.90	11	45	45	4	Schedule 40 PVC	25-45	0.010	23-45	2/12 Lonestar Sand
MW4	03/02/09	---	197.62	8	45	45	2	Schedule 40 PVC	35-45	0.020	33-45	#3 Sand
MW5	03/06/09	---	196.35	8	40	40	2	Schedule 40 PVC	30-40	0.020	28-40	#3 Sand
MW6	03/09/09	---	192.41	8	40	39	2	Schedule 40 PVC	29-39	0.020	27-39	#3 Sand
MW7	03/09/09	---	194.34	8	40	40	2	Schedule 40 PVC	30-40	0.020	28-40	#3 Sand
MW8	03/04/09	---	192.96	8	40	40	2	Schedule 40 PVC	30-40	0.020	28-40	#3 Sand
MW9	03/05/09	---	195.16	8	40	40	2	Schedule 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

Notes: Data prior to 2013 provided by Cardno ERI.

TOC Top of well casing elevation; datum is mean sea level.
PVC Polyvinyl chloride.
feet bgs Feet below ground surface.
--- Not applicable.

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

Well Number	Date	Depth (feet)	TOC Elev. (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	NAPL (feet)	Concentration (µg/L) TPH-g	MTBE 8260B	B	T	E	X	Total Pb (µg/L)	Organic Pb (mg/L)
Monitoring Well Samples														
MW1	07/15/92	---	---	Well installed.										
MW1	07/17/92	---	192.00	33.02	158.98	No	67	---	6.6	6.9	2.0	4.5	17	---
MW1	10/22/92	---	192.00	34.07	157.93	No	<50	---	2.9	<0.5	<0.5	<0.5	16	---
MW1	02/04/93	---	192.00	29.43	162.57	No	<50	---	0.8	<0.5	<0.5	<0.5	4	---
MW1	05/03/93	---	192.00	29.72	162.28	No	71	---	2.8	7.2	2.2	22	40	---
MW1	07/30/93	---	192.00	32.95	159.05	No	<50	---	<0.5	<0.5	<0.5	<0.5	5	---
MW1	10/19/93	---	192.00	34.34	157.66	No	<50	---	<0.5	<0.5	<0.5	<0.5	12	---
MW1	02/23/94	---	192.00	31.72	160.28	No	<50	---	<0.5	<0.5	<0.5	<0.5	4	---
MW1	06/06/94	---	192.00	31.77	160.23	No	<50	---	<0.5	<0.5	<0.5	<0.5	<3	---
MW1	08/18/94	---	192.00	33.76	158.24	No	<50	---	<0.5	<0.5	<0.5	<0.5	130	---
MW1	11/15/94	---	192.00	34.08	157.92	No	<50	---	<0.5	<0.5	<0.5	<0.5	<3.0	<100
MW1	02/06/95	---	192.00	28.50	163.50	No	<50	---	<0.5	<0.5	<0.5	<0.5	---	---
MW1	05/10/95	---	192.00	29.30	162.70	No	<50	---	<0.5	<0.5	<0.5	<0.5	---	---
MW1	09/20/99	---	192.00	33.30	158.70	No	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<75	<50
MW1		---	Well destroyed in June 2000.											
MW2	07/15/92	---	---	Well installed.										
MW2	07/17/92	---	194.85	34.65	160.20	No	<50	---	<0.5	<0.5	<0.5	<0.5	<3	---
MW2	10/22/92	---	194.85	35.64	159.21	No	<50	---	<0.5	<0.5	<0.5	<0.5	--	---
MW2	02/04/93	---	194.85	31.13	163.72	No	<50	---	<0.5	<0.5	<0.5	<0.5	<3	---
MW2	05/03/93	---	194.85	31.08	163.77	No	<50	---	<0.5	<0.5	<0.5	<0.5	3	---
MW2	07/30/93	---	194.85	34.34	160.51	No	<50	---	<0.5	<0.5	<0.5	<0.5	14	---
MW2	10/19/93	---	194.85	36.00	158.85	No	<50	---	<0.5	<0.5	<0.5	<0.5	<3	---
MW2	02/23/94	---	194.85	33.92	160.93	No	<50	---	<0.5	<0.5	<0.5	<0.5	<3	---
MW2	06/06/94	---	194.85	33.50	161.35	No	<50	---	<0.5	<0.5	<0.5	<0.5	<3	---
MW2	08/18/94	---	194.85	35.38	159.47	No	<50	---	<0.5	<0.5	<0.5	<0.5	<3.0	---
MW2	11/15/94	---	194.85	35.93	158.92	No	<50	---	<0.5	<0.5	<0.5	<0.5	<3.0	<100
MW2	02/06/95	---	194.85	30.38	164.47	No	<50	---	<0.5	<0.5	<0.5	<0.5	---	---
MW2	05/10/95	---	194.85	30.77	164.08	No	<50	---	<0.5	<0.5	<0.5	<0.5	---	---
MW2	09/20/99	---	194.85	35.15	159.70	No	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<75	<0.5
MW2		---	Well destroyed in June 2000.											

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

Well Number	Date		Depth (feet)	TOC Elev. (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	NAPL (feet)	Concentration (µg/L) TPH-g	MTBE 8260B	B	T	E	X	Total Pb (µg/L)	Organic Pb (mg/L)
MW3	07/15/92		---	---	Well installed.										
MW3	07/17/92		---	196.90	37.24	159.66	No	<50	---	<0.5	<0.5	<0.5	<0.5	50	---
MW3	10/22/92		---	196.90	35.95	160.95	No	<50	---	<0.5	<0.5	<0.5	<0.5	9	---
MW3	02/04/93		---	196.90	29.85	167.05	No	<50	---	<0.5	<0.5	<0.5	<0.5	<3	---
MW3	05/03/93		---	196.90	29.87	167.03	No	<50	---	<0.5	<0.5	<0.5	<0.5	3	---
MW3	07/30/93		---	196.90	33.85	163.05	No	<50	---	<0.5	<0.5	<0.5	<0.5	22	---
MW3	10/19/93		---	196.90	35.89	161.01	No	<50	---	<0.5	<0.5	<0.5	<0.5	12	---
MW3	02/23/94		---	196.90	32.88	164.02	No	<50	---	<0.5	<0.5	<0.5	<0.5	25	---
MW3	06/06/94		---	196.90	32.40	164.50	No	<50	---	<0.5	<0.5	<0.5	<0.5	<3	---
MW3	08/18/94		---	196.90	35.07	161.83	No	<50	---	<0.5	<0.5	<0.5	<0.5	<3.0	---
MW3	11/15/94		---	196.90	35.97	160.93	No	<50	---	<0.5	<0.5	<0.5	<0.5	<3.0	<100
MW3	02/06/95		---	196.90	28.39	168.51	No	<50	---	<0.5	<0.5	<0.5	<0.5	---	---
MW3	05/10/95		---	196.90	28.90	168.00	No	<50	---	<0.5	<0.5	<0.5	<0.5	---	---
MW3	09/20/99		---	196.90	34.68	162.22	No	75.0	1.87	<0.5	11.5	1.8	18.0	<75	<0.5
MW3			---	Well destroyed in June 2000.											
MW4	03/02/09		---	---	Well installed.										
MW4	03/30/09		---	197.62	30.94	166.68	No	<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	No	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW4	08/31/09		---	197.62	35.43	162.19	No	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW4	12/11/09		---	197.62	35.01	162.61	No	<50	<0.50	<0.50	0.83	<0.50	1.1	---	---
MW4	05/07/10		---	197.62	29.11	168.51	No	<50	<0.50	<0.50	<0.50	<0.50	<1.0	---	---
MW4	11/01/10		---	197.62	34.95	162.67	No	<50	<0.50	<0.50	<0.50	<0.50	<1.0	---	---
MW4	05/27/11	d	---	197.62	30.65	166.97	No	---	---	---	---	---	---	---	---
MW4	11/23/11		---	197.62	33.49	164.13	No	<50	<0.50	<0.50	<0.50	<0.50	<1.0	---	---
MW4	05/24/12		---	197.62	30.02	167.60	No	58	<0.50	0.84	4.4	0.64c	3.5	---	---
MW4	10/31/12		---	197.62	35.14	162.48	No	110	<0.50	5.3	45	4.2	21	---	---
MW4	**05/02/13**	**e**	**---**	**197.62**	**32.03**	**165.59**	**No**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**---**	**---**
MW5	03/06/09		---	---	Well installed.										
MW5	03/30/09		---	196.35	30.05	166.30	No	4,200	1,900	540	140	<12	310	---	---
MW5	04/02/09		---	196.35	Well surveyed.										
MW5	05/28/09		---	196.35	31.45	164.90	No	5,300	3,600	890	150	<25	140	---	---

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

Well Number	Date		Depth (feet)	TOC Elev. (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	NAPL (feet)	Concentration (µg/L) TPH-g	MTBE 8260B	B	T	E	X	Total Pb (µg/L)	Organic Pb (mg/L)
MW5	08/31/09		---	196.35	34.70	161.65	No	5,800	3,500	550	<100	<100	<100	---	---
MW5	12/11/09		---	196.35	34.52	161.83	No	4,000b	3,800	230	<100	<100	<100	---	---
MW5	05/07/10		---	196.35	30.84	165.51	No	2,700b	1,700	73	5.3	3.6	6.5	---	---
MW5	11/01/10		---	196.35	33.93	162.42	No	2,400b	3,400	320	71	21	40	---	---
MW5	05/27/11	d	---	196.35	31.65	164.70	No	---	---	---	---	---	---	---	---
MW5	11/23/11		---	196.35	32.58	163.77	No	1,900b	3,200	72	2.7	3.1	8.1	---	---
MW5	05/24/12		---	196.35	30.26	166.09	No	2,900b	1,700	54	31	5.2	17	---	---
MW5	10/31/12		---	196.35	33.94	162.41	No	2,200b	2,700	220	72	8.7	47	---	---
MW5	**05/02/13**	**e**	**---**	**196.35**	**31.33**	**165.02**	**No**	**2,200b**	**1,300**	**61**	**<0.50**	**3.8**	**7.9**	**---**	**---**
MW6	03/09/09		---	---	Well installed.										
MW6	03/30/09		---	192.41	26.94	165.47	No	2,800	4,800	0.91	<0.50	<0.50	<0.50	---	---
MW6	04/02/09		---	192.41	Well surveyed.										
MW6	05/28/09		---	192.41	28.04	164.37	No	2,800	6,000	<100	<100	<100	<100	---	---
MW6	08/31/09		---	192.41	30.57	161.84	No	4,900	6,600	<100	<100	<100	<100	---	---
MW6	12/11/09		---	192.41	30.78	161.63	No	4,900b	6,200	<100	<100	<100	<100	---	---
MW6	05/07/10		---	192.41	25.42	166.99	No	2,900b	3,700	2.7	<0.50	0.74c	<1.0	---	---
MW6	11/01/10		---	192.41	30.68	161.73	No	850b	6,100	2.1	<0.50	<0.50	<1.0	---	---
MW6	05/27/11	d	---	192.41	27.07	165.34	No	---	---	---	---	---	---	---	---
MW6	11/23/11		---	192.41	29.25	163.16	No	1,600b	6,400	<0.50	<0.50	<0.50	<1.0	---	---
MW6	05/24/12		---	192.41	26.36	166.05	No	2,000b	3,400	1.3c	9.7	0.97c	5.5	---	---
MW6	10/31/12		---	192.41	30.74	161.67	No	1,400b	5,400	3.8	28	2.2	11	---	---
MW6	**05/02/13**		**---**	**192.41**	**27.91**	**164.50**	**No**	**1,900b**	**2,600**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**---**	**---**
MW7	03/09/09		---	---	Well installed.										
MW7	03/30/09		---	194.34	29.15	165.19	No	55	66	<0.50	<0.50	<0.50	<0.50	---	---
MW7	04/02/09		---	194.34	Well surveyed.										
MW7	05/28/09		---	194.34	30.16	164.18	No	50	67	<1.0	<1.0	<1.0	<1.0	---	---
MW7	08/31/09		---	194.34	33.31	161.03	No	<50	12	<0.50	0.60	<0.50	<0.50	---	---
MW7	12/11/09		---	194.34	32.71	161.63	No	<50	31	0.78	1.7	0.62	2.4	---	---
MW7	05/07/10		---	194.34	27.54	166.80	No	510b	700	<0.50	<0.50	<0.50	<1.0	---	---
MW7	11/01/10		---	194.34	32.82	161.52	No	68b	140	<0.50	<0.50	<0.50	<1.0	---	---
MW7	05/27/11	d	---	194.34	28.85	165.49	No	---	---	---	---	---	---	---	---
MW7	11/23/11		---	194.34	31.39	162.95	No	190b	300	<0.50	<0.50	<0.50	<1.0	---	---

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

Well Number	Date		Depth (feet)	TOC Elev. (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	NAPL (feet)	Concentration (µg/L) TPH-g	MTBE 8260B	B	T	E	X	Total Pb (µg/L)	Organic Pb (mg/L)
MW7	05/24/12	d	---	194.34	28.31	166.03	No	---	---	---	---	---	---	---	---
MW7	10/31/12		---	194.34	32.86	161.48	No	230b	290	2.9	21	1.8	9.2	---	---
MW7	**05/02/13**		**---**	**194.34**	**29.93**	**164.41**	**No**	**570b**	**790**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**---**	**---**
MW8	03/04/09		---	---	Well installed.										
MW8	03/30/09		---	192.96	27.35	165.61	No	<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	No	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW8	08/31/09		---	192.96	31.93	161.03	No	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW8	12/11/09		---	192.96	31.24	161.72	No	<50	<0.50	0.74	1.6	0.59	2.3	---	---
MW8	05/07/10		---	192.96	25.68	167.28	No	<50	<0.50	<0.50	<0.50	<0.50	<1.0	---	---
MW8	11/01/10		---	192.96	31.18	161.78	No	<50	<0.50	<0.50	<0.50	<0.50	<1.0	---	---
MW8	05/27/11		---	192.96	27.55	165.41	No	<50	<0.50	<0.50	<0.50	<0.50	<1.0	---	---
MW8	11/23/11		---	192.96	29.74	163.22	No	<50	<0.50	<0.50	<0.50	<0.50	<1.0	---	---
MW8	05/24/12		---	192.96	26.93	166.03	No	<50	<0.50	<0.50	<0.50	<0.50	<1.0	---	---
MW8	10/31/12		---	192.96	31.35	161.61	No	75	<0.50	2.5	19	1.7	8.7	---	---
MW8	**05/02/13**		**---**	**192.96**	**28.44**	**164.52**	**No**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**---**	**---**
MW9	03/05/09		---	---	Well installed.										
MW9	03/30/09		---	195.16	28.31	166.85	No	<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	No	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW9	08/31/09		---	195.16	33.20	161.96	No	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
MW9	12/11/09		---	195.16	32.62	162.54	No	<50	<0.50	0.73	1.7	0.54	2.2	---	---
MW9	05/07/10		---	195.16	26.59	168.57	No	<50	<0.50	<0.50	<0.50	<0.50	<1.0	---	---
MW9	11/01/10		---	195.16	32.45	162.71	No	<50	<0.50	<0.50	<0.50	<0.50	<1.0	---	---
MW9	05/27/11		---	195.16	29.62	165.54	No	<50	<0.50	<0.50	<0.50	<0.50	<1.0	---	---
MW9	11/23/11		---	195.16	30.56	164.60	No	<50	<0.50	<0.50	<0.50	<0.50	<1.0	---	---
MW9	05/24/12		---	195.16	27.94	167.22	No	<50	<0.50	<0.50	<0.50	<0.50	<1.0	---	---
MW9	10/31/12		---	195.16	32.66	162.50	No	140	<0.50	6.9	38	2.7	13	---	---
MW9	**05/02/13**		**---**	**195.16**	**29.58**	**165.58**	**No**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**---**	**---**
RW1	12/22/11		---	---	Well installed.										
RW1	12/30/11		---	195.15	Well surveyed.										

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

Well Number	Date		Depth (feet)	TOC Elev. (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	NAPL (feet)	Concentration (µg/L) TPH-g	MTBE 8260B	B	T	E	X	Total Pb (µg/L)	Organic Pb (mg/L)
RW1	05/24/12		---	195.15	28.55	166.60	No	5,500b	2,500	920	5.9c	51	14	---	---
RW1	10/31/12	d	---	195.15	---	---	---	---	---	---	---	---	---	---	---
RW1	**05/02/13**	**e**	**---**	**195.15**	**30.27**	**164.88**	**No**	**4,300b**	**2,300**	**1,200**	**<2.5**	**41**	**14**	**---**	**---**
Grab Groundwater Samples															
Pit Water	06/14/02		11.5a	---	---	---	---	5,600	12,000	140	840	100	530	---	---
UST Pit	06/19/02		13.5a	---	---	---	---	680	640	2.7	36	18	130	---	---
W-38-B11	11/14/07		38	---	---	---	---	<50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---
W-15-B12	11/13/07		15	---	---	---	---	8,400	78	67	<5.0	140	150	---	---
W-40-B13	11/12/07		40	---	---	---	---	<50	0.53	<0.50	<0.50	<0.50	<0.50	---	---
W-15-B14	11/13/07		15	---	---	---	---	2,500	16	1.7	3.0	26	13	---	---
W-38-B15	11/15/07		38	---	---	---	---	18,000	12,000	3,400	2,500	330	2,000	---	---
W-40-B16	11/15/07		40	---	---	---	---	<50	7.7	<0.50	<0.50	<0.50	<0.50	---	---
W-37-B17	11/13/07		37	---	---	---	---	630	2,200	1.8	<0.50	4.1	1.4	---	---
W-38-B18	11/12/07		38	---	---	---	---	4,300	1,400	52	<12	56	96	---	---
W-35-B19	03/03/09		35	---	---	---	---	4,400	7,100	<0.50	<0.50	<0.50	<1.0	---	---
W-35-B20	03/03/09		35	---	---	---	---	640	440	<0.50	<0.50	<0.50	<1.0	---	---
W-35-B21	03/03/09		35	---	---	---	---	<50	1.4	<0.50	<0.50	<0.50	<1.0	---	---

Notes: Data prior to 1999 provided by EA Engineering, Science, and Technology. Data prior to 2013 provided by Cardno ERI.
TOC Elev. Top of well casing elevation; datum is NAVD88.
DTW Depth to water.
GW Elev. Groundwater elevation; datum is NAVD88.
NAPL Non-aqueous phase liquid.
TPH-g Total Petroleum Hydrocarbons as gasoline analyzed using EPA Method 8015B.
MTBE Methyl tertiary butyl ether analyzed using EPA Method 8260B.
BTEX Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8021B; from April 2009 to October 2010, analyzed using EPA Method 8260B.
Total Pb Total lead analyzed using EPA Method 6010.
Organic Pb Organic lead analyzed using CA DHS LUFT method.
EDB 1,2-Dibromoethane analyzed using EPA Method 8260B.

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

Well Number	Date	Depth (feet)	TOC Elev. (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	NAPL (feet)	Concentration (µg/L) TPH-g	MTBE 8260B	B	T	E	X	Total Pb (µg/L)	Organic Pb (mg/L)

1,2-DCA	1,2-Dichloroethane analyzed using EPA Method 8260B.
TBA	Tertiary butyl alcohol analyzed using EPA Method 8260B.
TAME	Tertiary amyl methyl ether analyzed using EPA Method 8260B.
ETBE	Ethyl tertiary butyl ether analyzed using EPA Method 8260B.
DIPE	Di-isopropyl ether analyzed using EPA Method 8260B.
Ethanol	Ethanol analyzed using EPA Method 8260B.
µg/L	Micrograms per liter.
mg/L	Milligrams per liter.
<	Less than the stated laboratory reporting limit.
---	Not sampled/Not analyzed/Not measured/Not applicable.
a	Approximate depth to groundwater surface at time of sampling.
b	Hydrocarbon pattern does not match that of the specified standard.
c	Analyte presence was not confirmed by second column or GC/MS analysis.
d	Well inaccessible.
e	Well sampled the following day.

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

Well Number	Date		Depth (feet)	Concentration (µg/L) EDB	1,2-DCA	TAME	TBA	ETBE	DIPE	Ethanol
MW1	07/17/92 - 09/20/99			Not analyzed for these analytes.						
MW1	Well destroyed in June 2000.									
MW2	07/17/92 - 09/20/99			Not analyzed for these analytes.						
MW2	Well destroyed in June 2000.									
MW3	07/17/92 - 09/20/99			Not analyzed for these analytes.						
MW3	Well destroyed in June 2000.									
MW4	03/30/09		---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW4	05/28/09		---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW4	08/31/09		---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW4	12/11/09		---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW4	05/07/10		---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW4	11/01/10		---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW4	05/27/11	d	---	---	---	---	---	---	---	---
MW4	11/23/11		---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW4	05/24/12		---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW4	10/31/12		---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW4	**05/03/13**		---	**<0.50**	**<0.50**	**<0.50**	**<5.0**	**<0.50**	**<0.50**	---
MW5	03/30/09		---	<12	17	<12	450	<12	<12	---
MW5	05/28/09		---	<25	<25	<25	530	<25	<25	---
MW5	08/31/09		---	<100	<100	<100	<1,000	<100	<100	---
MW5	12/11/09		---	<100	<100	<100	2,000	<100	<100	---
MW5	05/07/10		---	<25	<25	<25	400	<25	<25	---
MW5	11/01/10		---	<50	<50	<50	1,500	<50	<50	---
MW5	05/27/11	d	---	---	---	---	---	---	---	---
MW5	11/23/11		---	<50	<50	<50	<500	<50	<50	---
MW5	05/24/12		---	<50	<50	<50	1,400	<50	<50	---
MW5	10/31/12		---	<50	<50	<50	730	<50	<50	---
MW5	**05/03/13**		---	**<20**	**<20**	**<20**	**590**	**<20**	**<20**	---
MW6	03/30/09		---	<0.50	<0.50	1.3	410	<0.50	0.82	---
MW6	05/28/09		---	<100	<100	<100	<1,000	<100	<100	---
MW6	08/31/09		---	<100	<100	<100	1,100	<100	<100	---
MW6	12/11/09		---	<100	<100	<100	2,600	<100	<100	---
MW6	05/07/10		---	<100	<100	<100	<1,000	<100	<100	---
MW6	11/01/10		---	<50	<50	<50	2,400	<50	<50	---
MW6	05/27/11	d	---	---	---	---	---	---	---	---
MW6	11/23/11		---	<100	<100	<100	<1,000	<100	<100	---
MW6	05/24/12		---	<100	<100	<100	2,700	<100	<100	---
MW6	10/31/12		---	<100	<100	<100	<1,000	<100	<100	---
MW6	**05/02/13**		---	**<40**	**<40**	**<40**	**570**	**<40**	**<40**	---

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

Well Number	Date	Depth (feet)	Concentration (µg/L) EDB	1,2-DCA	TAME	TBA	ETBE	DIPE	Ethanol
MW7	03/30/09	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW7	05/28/09	---	<1.0	<1.0	<1.0	<10	<1.0	<1.0	---
MW7	08/31/09	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---
MW7	12/11/09	---	<0.50	<0.50	<0.50	12	<0.50	<0.50	---
MW7	05/07/10	---	<0.50	<0.50	<0.50	130	<0.50	<0.50	---
MW7	11/01/10	---	<2.5	<2.5	<2.5	27	<2.5	<2.5	---
MW7	05/27/11 d	---	---	---	---	---	---	---	---
MW7	11/23/11	---	<5.0	<5.0	<5.0	<50	<5.0	<5.0	---
MW7	05/24/12 d	---	---	---	---	---	---	---	---
MW7	10/31/12	---	<5.0	<5.0	<5.0	<50	<5.0	<5.0	---
MW7	**05/02/13**	**---**	**<5.0**	**<5.0**	**<5.0**	**57**	**<5.0**	**<5.0**	**---**
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**	**---**
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**	**---**
RW1	05/24/12	---	<50	<50	<50	1,900	<50	<50	---
RW1	10/31/12 d	---	---	---	---	---	---	---	---
RW1	**05/03/13**	**---**	**<40**	**<40**	**<40**	**880**	**<40**	**<40**	**---**
Grab Groundwater Samples									
Pit Water	06/14/02	11.5a	---	---	---	---	---	---	---
UST Pit	06/19/02	13.5a	---	---	---	---	---	---	---

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

Well Number	Date	Depth (feet)	Concentration (µg/L) EDB	1,2-DCA	TAME	TBA	ETBE	DIPE	Ethanol
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

Notes:
Data prior to 1999 provided by EA Engineering, Science, and Technology.
Data prior to 2013 provided by Cardno ERI.
TOC Elev. Top of well casing elevation; datum is NAVD88.
DTW Depth to water.
GW Elev. Groundwater elevation; datum is NAVD88.
NAPL Non-aqueous phase liquid.
TPH-g Total Petroleum Hydrocarbons as gasoline analyzed using EPA Method 8015B.
MTBE Methyl tertiary butyl ether analyzed using EPA Method 8260B.
BTEX Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8021B; from April 2009 to October 2010, analyzed using EPA Method 8260B.
Total Pb Total lead analyzed using EPA Method 6010.
Organic Pb Organic lead analyzed using CA DHS LUFT method.
EDB 1,2-Dibromoethane analyzed using EPA Method 8260B.
1,2-DCA 1,2-Dichloroethane analyzed using EPA Method 8260B.
TBA Tertiary butyl alcohol analyzed using EPA Method 8260B.
TAME Tertiary amyl methyl ether analyzed using EPA Method 8260B.
ETBE Ethyl tertiary butyl ether analyzed using EPA Method 8260B.
DIPE Di-isopropyl ether analyzed using EPA Method 8260B.
Ethanol Ethanol analyzed using EPA Method 8260B.
µg/L Micrograms per liter.
mg/L Milligrams per liter.
< Less than the stated laboratory reporting limit.
--- Not sampled/Not analyzed/Not measured/Not applicable.
a Approximate depth to groundwater surface at time of sampling.
b Hydrocarbon pattern does not match that of the specified standard.
c Analyte presence was not confirmed by second column or GC/MS analysis.
d Well inaccessible.

TABLE 4 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	Five Fuel Oxygenates*	EDB and 1,2-DCA
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.
*	DIPE, ETBE, MTBE, TAME, and TBA.
DIPE	Di-isopropyl ether.
ETBE	Ethyl tertiary butyl ether.
MTBE	Methyl tertiary butyl ether.
TAME	Tertiary amyl methyl ether.
TBA	Tertiary butyl alcohol.
EDB	1,2-Dibromoethane.
1,2-DCA	1,2-Dichloroethane.
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

:29

ETIC ENGINEERING

MONITORING WELL DATA FORM

Client: ExxonMobil

Date: 5/2/13

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	32.03	—	—	—	N	Good	44.64	2"
†MW5	31.33	—	—	—	N	Good	39.20	2"
†MW6	27.91	—	—	—	N	Good	38.16	2"
†MW7	29.93	—	—	—	N	Good	39.50	2"
†MW8	28.44	—	—	—	N	Good	39.63	2"
†MW9	29.58	—	—	—	N	Good	39.57	2"
†RW1	30.27	—	—	—	N	Good	~~30.27~~ 40.01	4"

ETIC ENGINEERING

GROUNDWATER PURGE AND SAMPLE

Project Name: Former Exxon 70234 Well No: MW4 Date: 5/13/13

Project No: UP70234. Activity 4 Monitoring and Sampling Personnel: C. Mitchell

GAUGING DATA

Water Level Measuring Method: (WLM) / IP Measuring Point Description: TOC

WELL PURGE VOLUME CALCULATION	Total Depth (feet)		Depth to Water (feet)		Water Column (feet)		Multiplier for Casing Diameter				Casing Volume (gal)		Total Purge Volume (gal)
	44.64	-	32.03	=	12.61	X	1	(2)	4	6	2.02	=	6.05
							0.04	0.16	0.64	1.44			

PURGING DATA

Purge Method: WATERRA / (BAILER) / SUB Purge Depth: Screen Purge Rate: (gpm)

Time 0958	10:04	10:10	10:16			
Volume Purge (gal)	2	4	6			
Temperature (C)	19.6	19.3	19.3			
pH	6.46	6.75	6.80			
Spec. Cond. (uS/cm)	556.3	617.9	624.1			
Turbidity/Color	Silty/ Brn	Silty/ Brn	Silty/ Brn			
Odor (Y/N)	N	N	N			
Casing Volumes	1	2	3			
Dewatered (Y/N)	N	N	N			

Comments/Observations:

SAMPLING DATA

Time Sampled: 10:20 Approximate Depth to Water During Sampling: 32 (feet)

Comments:

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method
MW4	6	VOA	HCL	40 ml		See COC

Total Purge Volume: 6 (gallons) Disposal: SYSTEM

Weather Conditions: Sunny / 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

Comments:

BOLTS	(Y)	/ N
CAP & LOCK	(Y)	/ N
GROUT	(Y)	/ N
WELL BOX	(Y)	/ N
SECURED	(Y)	/ N

ETIC ENGINEERING

GROUNDWATER PURGE AND SAMPLE

Project Name: Former Exxon 70234	Well No: MW5	Date: 5/3/13	
Project No: UP70234. Activity 4 Monitoring and Sampling	Personnel: C. Mitchell		

GAUGING DATA

Water Level Measuring Method: (WLM) / IP — Measuring Point Description: TOC

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)
	39.70	-	31.33	=	6.37	X	1: 0.04, (2): 0.16, 4: 0.64, 6: 1.44	1.34	=	4.02

PURGING DATA

Purge Method: WATERRA / (BAILER) / SUB — Purge Depth: Screen — Purge Rate: (gpm)

Time	10:41	10:46	10:52	10:59			
Volume Purge (gal)		2	4	6			
Temperature (C)	18.8		18.7	18.6			
pH	6.45		6.57	6.50			
Spec Cond (uS/cm)	667.9		692.1	693.3			
Turbidity/Color	S.Itty/Grey		Silty/Grey-Green	S.ilty/Grey Green			
Odor (Y/N)	N		N	N			
Casing Volumes	1		2	3			
Dewatered (Y/N)	N		N	N			

Comments/Observations:

SAMPLING DATA

Time Sampled: 11:05 — Approximate Depth to Water During Sampling: 31.5 (feet)

Comments:

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method
MW5	6	VOA	HCL	40 ml		See COC

Total Purge Volume: 6 (gallons)	Disposal: SYSTEM		
Weather Conditions: Sunny / Dry		BOLTS	(Y) / N
Condition of Well Box and Casing at Time of Sampling: Good		CAP & LOCK	(Y) / N
Well Head Conditions Requiring Correction: None		GROUT	(Y) / N
Problems Encountered During Purging and Sampling: None		WELL BOX	(Y) / N
Comments:		SECURED	(Y) / N

ETIC ENGINEERING

GROUNDWATER PURGE AND SAMPLE

Project Name: Former Exxon 70234 Well No: MW6 Date: 5/2/13

Project No: UP70234. Activity 4 Monitoring and Sampling Personnel: C. Mitchell

GAUGING DATA

Water Level Measuring Method: (WLM) / IP Measuring Point Description: TOC

	Total Depth (feet)		Depth to Water (feet)		Water Column (feet)		Multiplier for Casing Diameter				Casing Volume (gal)		Total Purge Volume (gal)
WELL PURGE VOLUME CALCULATION	38.16	-	27.91	=	10.25	X	1	(2)	4	6	1.64	=	4.92
							0.04	0.16	0.64	1.44			

PURGING DATA

Purge Method: WATERRA / (BAILER) / SUB Purge Depth: Screen Purge Rate: (gpm)

Time	12:48	12:54	13:00			
Volume Purge (gal)	2	4	6			
Temperature (C)	20.8	20.2	20.1			
pH	7.21	7.23	7.20			
Spec Cond (uS/cm)	875.7	874.9	880.6			
Turbidity/Color	s. tan brn	s. tan brn	s. tan brn			
Odor (Y/N)	N	N	N			
Casing Volumes	1	2	3			
Dewatered (Y/N)	N	N	N			

Comments/Observations:

SAMPLING DATA

Time Sampled: 13:05 Approximate Depth to Water During Sampling: 28 (feet)

Comments:

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method
MW6	6	VOA	HCL	40 ml		See COC

Total Purge Volume: 6 (gallons) Disposal: SYSTEM

Weather Conditions: Sunny / 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

Comments:

BOLTS	(Y) / N
CAP & LOCK	(Y) / N
GROUT	(Y) / N
WELL BOX	(Y) / N
SECURED	(Y) / N

ETIC ENGINEERING

GROUNDWATER PURGE AND SAMPLE

Project Name: Former Exxon 70234 Well No: MW7 Date: 5/2/13

Project No: UP70234. Activity 4 Monitoring and Sampling Personnel: C. McLeod

GAUGING DATA

Water Level Measuring Method: (WLM) / IP Measuring Point Description: TOC

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)
	39.50	-	29.93	=	9.57	X	1	(2)	4	6	1.53	=	4.59
							0.04	0.16	0.64	1.44			

PURGING DATA

Purge Method: WATERRA / (BAILER) / SUB Purge Depth: Screen Purge Rate: (gpm)

Time	11:56	12:02	12:08	12:14		
Volume Purge (gal)	2	4	6			
Temperature (C)	21.1	20.9	20.5			
pH	7.06	7.17	7.06			
Spec Cond (uS/cm)	675.4	697.5	707.9			
Turbidity/Color	Light Silt/ Brn	Light Silt/ Brn	Light Silt/ Brn			
Odor (Y/N)	N	N	N			
Casing Volumes	1	2	3			
Dewatered (Y/N)	N	N	N			

Comments/Observations:

SAMPLING DATA

Time Sampled: 12:20 Approximate Depth to Water During Sampling: 30 (feet)

Comments:

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method
MW-7	6	VOA	HCL	40 ml		See COC

Total Purge Volume: 6 (gallons) Disposal: SYSTEM

Weather Conditions: Sunny / Dry

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

Well Head Conditions Requiring Correction: Needs lock

Problems Encountered During Purging and Sampling: None

Comments:

BOLTS	(Y) / N
CAP & LOCK	(Y) / (N) Ok Ok lock
GROUT	(Y) / N
WELL BOX	(Y) / N
SECURED	(Y) / N

ETIC ENGINEERING

GROUNDWATER PURGE AND SAMPLE

Project Name: Former Exxon 70234 Well No: MW8 Date: 5/2/13

Project No: UP70234. Activity 4 Monitoring and Sampling Personnel: C. Mitchell

GAUGING DATA

Water Level Measuring Method: (WLM) / IP Measuring Point Description: TOC

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)
	39.63	-	28.44	=	11.19	X	1	(2)	4	6	1.80	=	5.37
							0.04	0.16	0.64	1.44			

PURGING DATA

Purge Method: WATERRA / (BAILER) / SUB Purge Depth: Screen Purge Rate: (gpm)

Time 11:05	11:10	11:16	11:22			
Volume Purge (gal)	2	4	6			
Temperature (°C)	19.4	18.5	18.3			
pH	7.25	6.90	6.89			
Spec Cond (uS/cm)	398.4	445.0	450.1			
Turbidity/Color	5 Hy/ Brn	5 Hy/ Brn	5 Hy/ Brn			
Odor (Y/N)	N	N	N			
Casing Volumes	1	2	3			
Dewatered (Y/N)	N	N	N			

Comments/Observations:

SAMPLING DATA

Time Sampled: 11:30 Approximate Depth to Water During Sampling: 28.6 (feet)

Comments:

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method
MW8	6	VOA	HCL	40 ml		See COC

Total Purge Volume: 6 (gallons) Disposal: SYSTEM

Weather Conditions: Sunny / 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

Comments:

BOLTS	(Y)	/ N
CAP & LOCK	(Y)	/ N
GROUT	(Y)	/ N
WELL BOX	(Y)	/ N
SECURED	(Y)	/ N

ETIC ENGINEERING

GROUNDWATER PURGE AND SAMPLE

Project Name: Former Exxon 70234 Well No: MW9 Date: 5/2/13

Project No: UP70234. Activity 4 Monitoring and Sampling Personnel: C. Mitchell

GAUGING DATA

Water Level Measuring Method: (WLM) / IP Measuring Point Description: TOC

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)
	39.57	-	29.58	=	9.99	X	1	(2)	4	6	1.60	=	4.80
							0.04	0.16	0.64	1.44			

PURGING DATA

Purge Method: WATERRA / (BAILER) / SUB Purge Depth: Screen Purge Rate: (gpm)

Time	10:18	10:24	10:29	10:36		
Volume Purge (gal)		2	4	6		
Temperature (C)		19.5	18.8	18.7		
pH		6.42	6.78	6.85		
Spec.Cond.(uS/cm)		788.7	792.8	807.3		
Turbidity/Color		Silty/ Brown	Silty/ Brn	Silty/ Brn		
Odor (Y/N)		N	N	N		
Casing Volumes		1	2	3		
Dewatered (Y/N)		N	N	N		

Comments/Observations:

SAMPLING DATA

Time Sampled: 10:45 Approximate Depth to Water During Sampling: 29.7 (feet)

Comments:

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method
MW9	6	VOA	HCL	40 ml		See COC

Total Purge Volume: 6 (gallons) Disposal: SYSTEM

Weather Conditions: Sunny / Dry

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

Well Head Conditions Requiring Correction: Needs lock

Problems Encountered During Purging and Sampling: None

Comments:

BOLTS (Y) / N

CAP & LOCK (Y) / (N) Gas Cap Needs lock

GROUT (Y) / N

WELL BOX (Y) / N

SECURED (Y) / N

ETIC ENGINEERING

GROUNDWATER PURGE AND SAMPLE

Project Name: Former Exxon 70234 Well No: RW1 Date: 5/3/13

Project No: UP70234. Activity 4 Monitoring and Sampling Personnel: C. M. Follett

GAUGING DATA

Water Level Measuring Method: (WLM) / IP Measuring Point Description: TOC

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)
	40.09	−	30.27	=	9.82	X	1	2	(4)	6	6.28	=	18.85
							0.04	0.16	0.64	1.44			

PURGING DATA

Purge Method: WATERRA / (BAILER) / SUB Purge Depth: Screen Purge Rate: (gpm)

Time	11:26	11:40	11:54	12:15		
Volume Purge (gal)	7	14	21			
Temperature (C)	19.3	19.1	19.3			
pH	6.97	6.91	6.95			
Spec.Cond (uS/cm)	904.5	956.7	960.4			
Turbidity/Color	Silty/ Brn	Silty/ Brn	Silty/ Brn			
Odor (Y/N)	N	N	N			
Casing Volumes	1	2	3			
Dewatered (Y/N)	N	N	N			

Comments/Observations:

See photos of TOC & Well cap.

SAMPLING DATA

Time Sampled: 12:20 Approximate Depth to Water During Sampling: 30.5 (feet)

Comments:

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method
RW1	6	VOA	HCL	40 ml		See COC

Total Purge Volume: 21 (gallons) Disposal: SYSTEM

Weather Conditions: Sunny / Dry

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

Well Head Conditions Requiring Correction: ~~None~~ No lock

Problems Encountered During Purging and Sampling: None

Comments:

BOLTS	(Y)	/ N
CAP & LOCK	(Y)	/ (N) No locking cap on
GROUT	(Y)	/ N
WELL BOX	(Y)	/ N
SECURED	(Y)	/ N

Appendix C

Laboratory Analytical Reports and Chain-of-Custody Documentation

Calscience Environmental Laboratories, Inc.

CALSCIENCE

WORK ORDER NUMBER: 13-05-0330

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: ETIC Engineering, Inc.

Client Project Name: ExxonMobil 70234

Attention: Hamidou Barry
2285 Morello Avenue
Pleasant Hill, CA 94523-1850

Cecile L deGuia

Approved for release on 05/16/2013 by:
Cecile deGuia
Project Manager

ResultLink ▸

Email your PM ▸

nelac

Calscience Environmental Laboratories, Inc.

Contents

Client Project Name: ExxonMobil 70234
Work Order Number: 13-05-0330

Calscience Environmental Laboratories, Inc.

Work Order Narrative

Work Order: 13-05-0330 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain of Custody (COC) on 05/04/13. They were assigned to Work Order 13-05-0330.

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 an immediate holding time (HT </= 15 minutes --40CFR-136.3 Table II footnote 4), is considered a "field" test and reported samples results are not flagged unless the analysis is performed beyond 24 hours of the time of collection.

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.

Additional Comments:

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.

Subcontractor Information:

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

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Calscience Environmental Laboratories, Inc.

Sample Summary

Client:	ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850	Work Order: Project Name: PO Number: Date Received:	13-05-0330 ExxonMobil 70234 4410075963 05/04/13
Attn:	Hamidou Barry		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
MW4	13-05-0330-1	05/03/13 10:20	6	Aqueous
MW5	13-05-0330-2	05/03/13 11:05	6	Aqueous
MW6	13-05-0330-3	05/02/13 13:05	6	Aqueous
MW7	13-05-0330-4	05/02/13 12:20	6	Aqueous
MW8	13-05-0330-5	05/02/13 11:30	6	Aqueous
MW9	13-05-0330-6	05/02/13 10:45	6	Aqueous
RW1	13-05-0330-7	05/03/13 12:20	6	Aqueous

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Calscience Environmental Laboratories, Inc.

Analytical Report

ETIC Engineering, Inc.
2285 Morello Avenue
Pleasant Hill, CA 94523-1850

Date Received: 05/04/13
Work Order: 13-05-0330
Preparation: EPA 5030C
Method: EPA 8015B (M)
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	**13-05-0330-1-E**	**05/03/13 10:20**	**Aqueous**	**GC 25**	**05/06/13**	**05/06/13 16:07**	**130506B01**

Parameter	Result	RL	DF	Qualifiers
TPH as Gasoline	ND	50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	81	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW5	**13-05-0330-2-E**	**05/03/13 11:05**	**Aqueous**	**GC 25**	**05/06/13**	**05/06/13 16:41**	**130506B01**

Parameter	Result	RL	DF	Qualifiers
TPH as Gasoline	2200	50	1	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	95	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW6	**13-05-0330-3-E**	**05/02/13 13:05**	**Aqueous**	**GC 25**	**05/06/13**	**05/06/13 17:14**	**130506B01**

Parameter	Result	RL	DF	Qualifiers
TPH as Gasoline	1900	50	1	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
MW7	**13-05-0330-4-E**	**05/02/13 12:20**	**Aqueous**	**GC 25**	**05/06/13**	**05/06/13 17:48**	**130506B01**

Parameter	Result	RL	DF	Qualifiers
TPH as Gasoline	570	50	1	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	79	38-134	

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

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Calscience Environmental Laboratories, Inc.

Analytical Report

ETIC Engineering, Inc.
2285 Morello Avenue
Pleasant Hill, CA 94523-1850

Date Received: 05/04/13
Work Order: 13-05-0330
Preparation: EPA 5030C
Method: EPA 8015B (M)
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	**13-05-0330-5-E**	**05/02/13 11:30**	**Aqueous**	**GC 25**	**05/06/13**	**05/06/13 18:21**	**130506B01**

Parameter	Result	RL	DF	Qualifiers
TPH as Gasoline	ND	50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	79	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW9	**13-05-0330-6-E**	**05/02/13 10:45**	**Aqueous**	**GC 25**	**05/06/13**	**05/06/13 18:55**	**130506B01**

Parameter	Result	RL	DF	Qualifiers
TPH as Gasoline	ND	50	1	

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

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
RW1	**13-05-0330-7-E**	**05/03/13 12:20**	**Aqueous**	**GC 25**	**05/06/13**	**05/06/13 19:28**	**130506B01**

Parameter	Result	RL	DF	Qualifiers
TPH as Gasoline	4300	50	1	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	85	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-436-8522**	**N/A**	**Aqueous**	**GC 25**	**05/06/13**	**05/06/13 11:38**	**130506B01**

Parameter	Result	RL	DF	Qualifiers
TPH as Gasoline	ND	50	1	

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

Return to Contents

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ETIC Engineering, Inc.
2285 Morello Avenue
Pleasant Hill, CA 94523-1850

Date Received: 05/04/13
Work Order: 13-05-0330
Preparation: EPA 5030C
Method: EPA 8021B
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	13-05-0330-1-F	05/03/13 10:20	Aqueous	GC 8	05/14/13	05/14/13 12:37	130514B01

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.50	1	
Toluene	ND	0.50	1	
Ethylbenzene	ND	0.50	1	
p/m-Xylene	ND	1.0	1	
o-Xylene	ND	0.50	1	
Xylenes (total)	ND	0.50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	87	70-130	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW5	13-05-0330-2-F	05/03/13 11:05	Aqueous	GC 8	05/14/13	05/14/13 13:13	130514B01

Parameter	Result	RL	DF	Qualifiers
Benzene	61	0.50	1	
Toluene	ND	0.50	1	
Ethylbenzene	3.8	0.50	1	
p/m-Xylene	7.9	1.0	1	
o-Xylene	ND	0.50	1	
Xylenes (total)	7.9	0.50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	89	70-130	

Reasons to Comments

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ETIC Engineering, Inc.	Date Received:	05/04/13
2285 Morello Avenue	Work Order:	13-05-0330
Pleasant Hill, CA 94523-1850	Preparation:	EPA 5030C
	Method:	EPA 8021B
	Units:	ug/L
Project: ExxonMobil 70234		Page 2 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW6	13-05-0330-3-F	05/02/13 13:05	Aqueous	GC 8	05/14/13	05/14/13 13:48	130514B01

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.50	1	
Toluene	ND	0.50	1	
Ethylbenzene	ND	0.50	1	
p/m-Xylene	ND	1.0	1	
o-Xylene	ND	0.50	1	
Xylenes (total)	ND	0.50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	72	70-130	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW7	13-05-0330-4-F	05/02/13 12:20	Aqueous	GC 8	05/14/13	05/14/13 14:24	130514B01

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.50	1	
Toluene	ND	0.50	1	
Ethylbenzene	ND	0.50	1	
p/m-Xylene	ND	1.0	1	
o-Xylene	ND	0.50	1	
Xylenes (total)	ND	0.50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	86	70-130	

Return to Contents

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ETIC Engineering, Inc.
2285 Morello Avenue
Pleasant Hill, CA 94523-1850

Date Received: 05/04/13
Work Order: 13-05-0330
Preparation: EPA 5030C
Method: EPA 8021B
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	**13-05-0330-5-F**	**05/02/13 11:30**	**Aqueous**	**GC 8**	**05/14/13**	**05/14/13 14:59**	**130514B01**

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.50	1	
Toluene	ND	0.50	1	
Ethylbenzene	ND	0.50	1	
p/m-Xylene	ND	1.0	1	
o-Xylene	ND	0.50	1	
Xylenes (total)	ND	0.50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	85	70-130	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW9	**13-05-0330-6-F**	**05/02/13 10:45**	**Aqueous**	**GC 8**	**05/14/13**	**05/14/13 15:35**	**130514B01**

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.50	1	
Toluene	ND	0.50	1	
Ethylbenzene	ND	0.50	1	
p/m-Xylene	ND	1.0	1	
o-Xylene	ND	0.50	1	
Xylenes (total)	ND	0.50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	85	70-130	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ETIC Engineering, Inc.	Date Received:	05/04/13
2285 Morello Avenue	Work Order:	13-05-0330
Pleasant Hill, CA 94523-1850	Preparation:	EPA 5030C
	Method:	EPA 8021B
	Units:	ug/L
Project: ExxonMobil 70234		Page 4 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
RW1	**13-05-0330-7-F**	**05/03/13 12:20**	**Aqueous**	**GC 8**	**05/14/13**	**05/14/13 16:10**	**130514B01**

Parameter	Result	RL	DF	Qualifiers
Benzene	1200	2.5	5	
Toluene	ND	2.5	5	
Ethylbenzene	41	2.5	5	
p/m-Xylene	14	5.0	5	
o-Xylene	ND	2.5	5	
Xylenes (total)	14	2.5	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	86	70-130	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-667-1765**	**N/A**	**Aqueous**	**GC 8**	**05/14/13**	**05/14/13 10:51**	**130514B01**

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.50	1	
Toluene	ND	0.50	1	
Ethylbenzene	ND	0.50	1	
p/m-Xylene	ND	1.0	1	
o-Xylene	ND	0.50	1	
Xylenes (total)	ND	0.50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	94	70-130	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ETIC Engineering, Inc.	Date Received:	05/04/13
2285 Morello Avenue	Work Order:	13-05-0330
Pleasant Hill, CA 94523-1850	Preparation:	EPA 5030C
	Method:	EPA 8260B
	Units:	ug/L
Project: ExxonMobil 70234		Page 1 of 5

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW4	**13-05-0330-1-A**	**05/03/13 10:20**	**Aqueous**	**GC/MS L**	**05/06/13**	**05/06/13 16:49**	**130506L01**

Parameter	Result	RL	DF	Qualifiers
1,2-Dibromoethane	ND	0.50	1	
1,2-Dichloroethane	ND	0.50	1	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	
Tert-Butyl Alcohol (TBA)	ND	5.0	1	
Diisopropyl Ether (DIPE)	ND	0.50	1	
Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	95	68-120	
Dibromofluoromethane	94	80-127	
1,2-Dichloroethane-d4	107	80-128	
Toluene-d8	101	80-120	

MW5	**13-05-0330-2-B**	**05/03/13 11:05**	**Aqueous**	**GC/MS L**	**05/07/13**	**05/07/13 12:36**	**130507L01**

Parameter	Result	RL	DF	Qualifiers
1,2-Dibromoethane	ND	20	40	
1,2-Dichloroethane	ND	20	40	
Methyl-t-Butyl Ether (MTBE)	1300	20	40	
Tert-Butyl Alcohol (TBA)	590	200	40	
Diisopropyl Ether (DIPE)	ND	20	40	
Ethyl-t-Butyl Ether (ETBE)	ND	20	40	
Tert-Amyl-Methyl Ether (TAME)	ND	20	40	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	94	68-120	
Dibromofluoromethane	99	80-127	
1,2-Dichloroethane-d4	103	80-128	
Toluene-d8	100	80-120	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ETIC Engineering, Inc.
2285 Morello Avenue
Pleasant Hill, CA 94523-1850

Date Received: 05/04/13
Work Order: 13-05-0330
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	13-05-0330-3-B	05/02/13 13:05	Aqueous	GC/MS L	05/07/13	05/07/13 13:04	130507L01

Parameter	Result	RL	DF	Qualifiers
1,2-Dibromoethane	ND	40	80	
1,2-Dichloroethane	ND	40	80	
Methyl-t-Butyl Ether (MTBE)	2600	40	80	
Tert-Butyl Alcohol (TBA)	570	400	80	
Diisopropyl Ether (DIPE)	ND	40	80	
Ethyl-t-Butyl Ether (ETBE)	ND	40	80	
Tert-Amyl-Methyl Ether (TAME)	ND	40	80	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	95	68-120	
Dibromofluoromethane	97	80-127	
1,2-Dichloroethane-d4	101	80-128	
Toluene-d8	100	80-120	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW7	13-05-0330-4-A	05/02/13 12:20	Aqueous	GC/MS L	05/06/13	05/06/13 19:11	130506L01

Parameter	Result	RL	DF	Qualifiers
1,2-Dibromoethane	ND	5.0	10	
1,2-Dichloroethane	ND	5.0	10	
Tert-Butyl Alcohol (TBA)	57	50	10	
Diisopropyl Ether (DIPE)	ND	5.0	10	
Ethyl-t-Butyl Ether (ETBE)	ND	5.0	10	
Tert-Amyl-Methyl Ether (TAME)	ND	5.0	10	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	95	68-120	
Dibromofluoromethane	97	80-127	
1,2-Dichloroethane-d4	104	80-128	
Toluene-d8	99	80-120	

Return to Contents

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ETIC Engineering, Inc.
2285 Morello Avenue
Pleasant Hill, CA 94523-1850

Date Received: 05/04/13
Work Order: 13-05-0330
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	**13-05-0330-4-B**	**05/02/13 12:20**	**Aqueous**	**GC/MS L**	**05/07/13**	**05/07/13 14:30**	**130507L01**

Parameter	Result	RL	DF	Qualifiers
Methyl-t-Butyl Ether (MTBE)	790	20	40	

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

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW8	**13-05-0330-5-A**	**05/02/13 11:30**	**Aqueous**	**GC/MS L**	**05/06/13**	**05/06/13 19:39**	**130506L01**

Parameter	Result	RL	DF	Qualifiers
1,2-Dibromoethane	ND	0.50	1	
1,2-Dichloroethane	ND	0.50	1	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	
Tert-Butyl Alcohol (TBA)	ND	5.0	1	
Diisopropyl Ether (DIPE)	ND	0.50	1	
Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	95	68-120	
Dibromofluoromethane	96	80-127	
1,2-Dichloroethane-d4	102	80-128	
Toluene-d8	99	80-120	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ETIC Engineering, Inc.
2285 Morello Avenue
Pleasant Hill, CA 94523-1850

Date Received: 05/04/13
Work Order: 13-05-0330
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	13-05-0330-6-A	05/02/13 10:45	Aqueous	GC/MS L	05/06/13	05/06/13 20:08	130506L01

Parameter	Result	RL	DF	Qualifiers
1,2-Dibromoethane	ND	0.50	1	
1,2-Dichloroethane	ND	0.50	1	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	
Tert-Butyl Alcohol (TBA)	ND	5.0	1	
Diisopropyl Ether (DIPE)	ND	0.50	1	
Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	92	68-120	
Dibromofluoromethane	98	80-127	
1,2-Dichloroethane-d4	102	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
RW1	13-05-0330-7-A	05/03/13 12:20	Aqueous	GC/MS L	05/06/13	05/06/13 20:36	130506L01

Parameter	Result	RL	DF	Qualifiers
1,2-Dibromoethane	ND	40	80	
1,2-Dichloroethane	ND	40	80	
Methyl-t-Butyl Ether (MTBE)	2300	40	80	
Tert-Butyl Alcohol (TBA)	880	400	80	
Diisopropyl Ether (DIPE)	ND	40	80	
Ethyl-t-Butyl Ether (ETBE)	ND	40	80	
Tert-Amyl-Methyl Ether (TAME)	ND	40	80	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	94	68-120	
Dibromofluoromethane	98	80-127	
1,2-Dichloroethane-d4	104	80-128	
Toluene-d8	99	80-120	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ETIC Engineering, Inc.
2285 Morello Avenue
Pleasant Hill, CA 94523-1850

Date Received: 05/04/13
Work Order: 13-05-0330
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	**099-12-866-66**	**N/A**	**Aqueous**	**GC/MS L**	**05/06/13**	**05/06/13 12:05**	**130506L01**

Parameter	Result	RL	DF	Qualifiers
1,2-Dibromoethane	ND	0.50	1	
1,2-Dichloroethane	ND	0.50	1	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	
Tert-Butyl Alcohol (TBA)	ND	5.0	1	
Diisopropyl Ether (DIPE)	ND	0.50	1	
Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	93	68-120	
Dibromofluoromethane	91	80-127	
1,2-Dichloroethane-d4	92	80-128	
Toluene-d8	97	80-120	

Method Blank	099-12-866-67	N/A	Aqueous	GC/MS L	05/07/13	05/07/13 11:39	130507L01

Parameter	Result	RL	DF	Qualifiers
1,2-Dibromoethane	ND	0.50	1	
1,2-Dichloroethane	ND	0.50	1	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	
Tert-Butyl Alcohol (TBA)	ND	5.0	1	
Diisopropyl Ether (DIPE)	ND	0.50	1	
Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	95	68-120	
Dibromofluoromethane	102	80-127	
1,2-Dichloroethane-d4	105	80-128	
Toluene-d8	99	80-120	

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

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ETIC Engineering, Inc.	Date Received:	05/04/13
2285 Morello Avenue	Work Order:	13-05-0330
Pleasant Hill, CA 94523-1850	Preparation:	EPA 5030C
	Method:	EPA 8015B (M)
Project: ExxonMobil 70234		Page 1 of 4

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
13-05-0341-1	Aqueous	GC 25	05/06/13	05/06/13 13:52	130506S01

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	ND	2000	1943	97	1893	95	68-122	3	0-18	

RPD: Relative Percent Difference. CL: Control Limits

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Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ETIC Engineering, Inc.	Date Received:	05/04/13
2285 Morello Avenue	Work Order:	13-05-0330
Pleasant Hill, CA 94523-1850	Preparation:	EPA 5030C
	Method:	EPA 8021B
Project: ExxonMobil 70234		Page 2 of 4

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
13-05-0784-3	Aqueous	GC 8	05/14/13	05/14/13 17:21	130514S01

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	11.07	100.0	110.0	99	114.0	103	57-129	4	0-23	
Toluene	4.805	100.0	107.4	103	111.0	106	50-134	3	0-26	
Ethylbenzene	16.31	100.0	109.4	93	104.6	88	58-130	4	0-26	
p/m-Xylene	11.71	200.0	198.6	93	195.9	92	58-130	1	0-28	
o-Xylene	13.19	100.0	106.7	93	103.0	90	57-123	4	0-26	

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RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ETIC Engineering, Inc.	Date Received:	05/04/13
2285 Morello Avenue	Work Order:	13-05-0330
Pleasant Hill, CA 94523-1850	Preparation:	EPA 5030C
	Method:	EPA 8260B
Project: ExxonMobil 70234		Page 3 of 4

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
13-05-0233-1	Aqueous	GC/MS L	05/06/13	05/06/13 14:27	130506S01

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	ND	10.00	9.489	95	9.560	96	76-124	1	0-20	
1,2-Dibromoethane	ND	10.00	10.04	100	10.29	103	80-120	2	0-20	
1,2-Dichloroethane	ND	10.00	9.997	100	9.630	96	80-120	4	0-20	
Ethylbenzene	ND	10.00	10.04	100	10.15	102	78-126	1	0-20	
Toluene	ND	10.00	9.672	97	9.583	96	80-120	1	0-20	
p/m-Xylene	ND	20.00	20.69	103	21.18	106	70-130	2	0-30	
o-Xylene	ND	10.00	10.48	105	10.77	108	70-130	3	0-30	
Methyl-t-Butyl Ether (MTBE)	ND	10.00	8.375	84	8.335	83	67-121	0	0-49	
Tert-Butyl Alcohol (TBA)	ND	50.00	75.17	150	56.30	113	36-162	29	0-30	
Diisopropyl Ether (DIPE)	ND	10.00	8.766	88	7.604	76	60-138	14	0-45	
Ethyl-t-Butyl Ether (ETBE)	ND	10.00	8.840	88	8.799	88	69-123	0	0-30	
Tert-Amyl-Methyl Ether (TAME)	ND	10.00	9.781	98	9.797	98	65-120	0	0-20	
Ethanol	ND	100.0	127.6	128	122.9	123	30-180	4	0-72	

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RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ETIC Engineering, Inc.
2285 Morello Avenue
Pleasant Hill, CA 94523-1850

Project: ExxonMobil 70234

Date Received: 05/04/13
Work Order: 13-05-0330
Preparation: EPA 5030C
Method: EPA 8260B

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
13-05-0179-1	Aqueous	GC/MS L	05/07/13	05/07/13 13:33	130507S01

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	ND	10.00	9.750	98	9.713	97	76-124	0	0-20	
1,2-Dibromoethane	ND	10.00	10.14	101	10.23	102	80-120	1	0-20	
1,2-Dichloroethane	ND	10.00	9.962	100	10.09	101	80-120	1	0-20	
Ethylbenzene	ND	10.00	10.35	103	10.14	101	78-126	2	0-20	
Toluene	ND	10.00	10.21	102	10.04	100	80-120	2	0-20	
p/m-Xylene	ND	20.00	21.34	107	21.07	105	80-120	1	0-20	
o-Xylene	ND	10.00	10.76	108	10.77	108	80-120	0	0-20	
Methyl-t-Butyl Ether (MTBE)	ND	10.00	8.832	88	8.859	89	67-121	0	0-49	
Tert-Butyl Alcohol (TBA)	ND	50.00	86.93	174	92.12	184	36-162	6	0-30	HX
Diisopropyl Ether (DIPE)	ND	10.00	9.411	94	9.408	94	60-138	0	0-45	
Ethyl-t-Butyl Ether (ETBE)	ND	10.00	9.565	96	9.534	95	69-123	0	0-30	
Tert-Amyl-Methyl Ether (TAME)	ND	10.00	10.14	101	10.13	101	65-120	0	0-20	
Ethanol	ND	100.0	112.2	112	123.0	123	30-180	9	0-72	

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RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCSD

ETIC Engineering, Inc.
2285 Morello Avenue
Pleasant Hill, CA 94523-1850

Project: ExxonMobil 70234

Date Received: 05/04/13
Work Order: 13-05-0330
Preparation: EPA 5030C
Method: EPA 8015B (M)
Page 1 of 4

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-436-8522	Aqueous	GC 25	05/06/13	05/06/13 12:12	130506B01

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	2000	1953	98	1956	98	78-120	0	0-10	

RPD: Relative Percent Difference. CL: Control Limits

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Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCSD

ETIC Engineering, Inc.	Date Received:	05/04/13
2285 Morello Avenue	Work Order:	13-05-0330
Pleasant Hill, CA 94523-1850	Preparation:	EPA 5030C
	Method:	EPA 8021B
Project: ExxonMobil 70234		Page 2 of 4

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-667-1765	Aqueous	GC 8	05/14/13	05/14/13 11:26	130514B01

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	100.0	96.79	97	96.11	96	70-118	1	0-9	
Toluene	100.0	97.61	98	102.8	103	66-114	5	0-9	
Ethylbenzene	100.0	93.44	93	94.19	94	72-114	1	0-9	
p/m-Xylene	200.0	187.8	94	188.7	94	74-116	0	0-9	
o-Xylene	100.0	93.31	93	93.75	94	72-114	0	0-9	

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RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCSD

ETIC Engineering, Inc.
2285 Morello Avenue
Pleasant Hill, CA 94523-1850

Date Received: 05/04/13
Work Order: 13-05-0330
Preparation: EPA 5030C
Method: EPA 8260B

Project: ExxonMobil 70234

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
099-12-866-66	Aqueous	GC/MS L	05/06/13 10:36	06MAY003.rr	130506L01

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Benzene	10.00	9.381	94	80-120	73-127	
1,2-Dibromoethane	10.00	10.38	104	79-121	72-128	
1,2-Dichloroethane	10.00	9.161	92	80-120	73-127	
Ethylbenzene	10.00	10.30	103	80-120	73-127	
Toluene	10.00	9.575	96	80-120	73-127	
p/m-Xylene	20.00	21.22	106	75-125	67-133	
o-Xylene	10.00	10.62	106	75-125	67-133	
Methyl-t-Butyl Ether (MTBE)	10.00	8.075	81	69-123	60-132	
Tert-Butyl Alcohol (TBA)	50.00	49.52	99	63-123	53-133	
Diisopropyl Ether (DIPE)	10.00	7.036	70	59-137	46-150	
Ethyl-t-Butyl Ether (ETBE)	10.00	8.124	81	69-123	60-132	
Tert-Amyl-Methyl Ether (TAME)	10.00	9.561	96	70-120	62-128	
Ethanol	100.0	128.9	129	28-160	6-182	

Total number of LCS compounds: 13
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCSD

ETIC Engineering, Inc.
2285 Morello Avenue
Pleasant Hill, CA 94523-1850

Date Received: 05/04/13
Work Order: 13-05-0330
Preparation: EPA 5030C
Method: EPA 8260B

Project: ExxonMobil 70234

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
099-12-866-67	Aqueous	GC/MS L	05/07/13 10:20	07MAY003.rr	130507L01

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Benzene	10.00	9.653	97	80-120	73-127	
1,2-Dibromoethane	10.00	10.70	107	79-121	72-128	
1,2-Dichloroethane	10.00	9.918	99	80-120	73-127	
Ethylbenzene	10.00	10.47	105	80-120	73-127	
Toluene	10.00	10.07	101	80-120	73-127	
p/m-Xylene	20.00	21.57	108	75-125	67-133	
o-Xylene	10.00	10.76	108	75-125	67-133	
Methyl-t-Butyl Ether (MTBE)	10.00	9.147	91	69-123	60-132	
Tert-Butyl Alcohol (TBA)	50.00	48.50	97	63-123	53-133	
Diisopropyl Ether (DIPE)	10.00	7.820	78	59-137	46-150	
Ethyl-t-Butyl Ether (ETBE)	10.00	9.098	91	69-123	60-132	
Tert-Amyl-Methyl Ether (TAME)	10.00	9.629	96	70-120	62-128	
Ethanol	100.0	111.7	112	28-160	6-182	

Total number of LCS compounds: 13
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order: 13-05-0330

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 matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
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.
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 a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
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 and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
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.
LD	Analyte presence was not confirmed by second column or GC/MS analysis.
LP	
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/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
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.
	For any analysis identified as a "field" test with a holding time (HT) </= 15 minutes where the sample is received outside of HT, Calscience will adhere to its internal HT of 24 hours. In cases where sample analysis does not meet Calscience's internal HT, results will be appropriately qualified.

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Calscience Environmental Laboratories, Inc.
7440 LINCOLN WAY
GARDEN GROVE, CA 92841-1432
TEL: (714) 895-5494 . FAX: (714) 894-7501

Site Name	
Provide MRN for retail or AFE for major projects	
Retail Project (MRN)	
Major Project (AFE)	
Project Name	Former Retail Site 70234

CHAIN OF CUSTODY RECORD

DATE: 5/2/13
PAGE: 1 OF 1

ExxonMobil PM: Jennifer Sedlachek

LABORATORY CLIENT: ExxonMobil C/O ETIC Engineering, Inc.
ADDRESS: 2285 Morello Avenue
CITY: Pleasant Hill, CA
TEL: 925-602-4710 Ext. 2145 FAX: 925-602-4720 EMAIL: See Instructions

GLOBAL ID #/ GEELT LOG CODE: T06019757161
PROJECT CONTACT: Hamidou Barry, ETIC Engineering, Inc.
SAMPLER(S) (SIGNATURE)

P.O. 4410075963
LAB WORK ORDER # 13-05-0330
COOLER RECEIPT Temp = °C

TURNAROUND TIME: ☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☑ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY): ☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ____/____/____

SPECIAL INSTRUCTIONS:
edf file required, Global ID #T06019757161

email report to eticlabreports@eticeng.com
Fuel Oxygenates and Additives include: MTBE, TBA, ETBE, DIPE, TAME, 1,2-DCA and 1,2-DBA.
Set TBA detection limit at or below 12 ug/L.

REQUESTED ANALYSIS

LAB USE ONLY	SAMPLE ID	LOCATION/ DESCRIPTION	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH-g BY 8015B(M)	BTEX BY 8021B	Fuel Oxygenates and Additives by 8260B	CONTAINER TYPE
1	MW4	MW4	5/3/13	1070	water	6	X	X	X	6 X40 ml clear VOA VIALS w/HCl
2	MW5	MW5	↓	1105	water	6	X	X	X	6 X40 ml clear VOA VIALS w/HCl
3	MW6	MW6	5/2/13	1305	water	6	X	X	X	6 X40 ml clear VOA VIALS w/HCl
4	MW7	MW7		1220	water	6	X	X	X	6 X40 ml clear VOA VIALS w/HCl
5	MW8	MW8		1130	water	6	X	X	X	6 X40 ml clear VOA VIALS w/HCl
6	MW9	MW9	↓	1045	water	6	X	X	X	6 X40 ml clear VOA VIALS w/HCl
7	RW1	RW1	5/3/13	1220	water	6	X	X	X	6 X40 ml clear VOA VIALS w/HCl

Relinquished by: (Signature)	Received by: (Signature) CEL	Date, & Time: 5/3/13 1450
Relinquished by: (Signature) 5/3/13 1730	Received by: (Signature)	Date, & Time: 5/4/13 0925
Relinquished by: (Signature)	Received by: (Signature)	Date, & Time:

0330

GSO

< WebShip > > > > >

800-322-5555 www.gso.com

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

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

COD:
$0.00

Reference:
TERRA PACIFIC GROUP, PHILLIPS 66, ETIC.
PARSONS, C

Delivery Instructions:

Signature Type:
SIGNATURE REQUIRED

Tracking #: 521724693

SDS

ORC

A

GARDEN GROVE

D92841A

11791262

Print Date : 05/03/13 16:25 PM

Package 1 of 1

Send Label To Printer | ☑ Print All | Edit Shipment | Finish

LABEL INSTRUCTIONS:

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

STEP 1 - Use the "Send Label to Printer" 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, do not cover the barcode.

STEP 4 - Request an on-call pickup for your package, if you do not have scheduled daily pickup service or Drop-off your package at the nearest GSO drop box. Locate nearest GSO dropbox locations using this link.

ADDITIONAL OPTIONS:

Send Label Via Email | Create Return Label

TERMS AND CONDITIONS:

By giving us your shipment to deliver, you agree to all the service terms and conditions described in this section. Our liability for loss or damage to any package is limited to your actual damages or $100 whichever is less, unless you pay for and declare a higher authorized value. If you declare a higher value and pay the additional charge, our liability will be the lesser of your declared value or the actual value of your loss or damage. In any event, we will not be liable for any damage, whether direct, incidental, special or consequential, in excess of the declared value of a shipment whether or not we had knowledge that such damage might be incurred including but not limited to loss of income or profit. We will not be liable for your acts or omissions, including but not limited to improper or insufficient packaging, securing, marking or addressing. Also, we will not be liable if you or the recipient violates any of the terms of our agreement. We will not be liable for loss, damage or delay caused by events we cannot control, including but not limited to acts of God, perils of the air, weather conditions, act of public enemies, war, strikes, or civil commotion. The highest declared value for our GSO Priority Letter or GSO Priority Package is $500. For other shipments the highest declared value is $10,000 unless your package contains items of "extraordinary value", in which case the highest declared value we allow is $500. Items of "extraordinary value" include, but or not limited to, artwork, jewelry, furs, precious metals, tickets, negotiable instruments and other items with intrinsic value.

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 13-05-0330

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: ETIC

DATE: 05/04/13

TEMPERATURE: Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)

Temperature 3.3 °C - 0.2 °C (CF) = 3.1 °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.

☐ **Received at ambient temperature, placed on ice for transport by Courier.**

Ambient Temperature: ☐ Air ☐ Filter Initial: YL

CUSTODY SEALS INTACT:

☑ Cooler ☐_____ ☐ No (Not Intact) ☐ Not Present ☐ N/A Initial: YL

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present Initial: TW

SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and good condition	☑	☐	☐
Proper containers and sufficient volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours	☐	☐	☑
Proper preservation noted on COC or sample container	☑	☐	☐
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	☑	☐	☐
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

Solid: ☐4ozCGJ ☐8ozCGJ ☐16ozCGJ ☐Sleeve (_____) ☐EnCores® ☐TerraCores® ☐_____

Water: ☐VOA ☑VOAh ☐VOA**na$_2$** ☐125AGB ☐125AGB**h** ☐125AGB**p** ☐1AGB ☐1AGB**na$_2$** ☐1AGB**s**

☐500AGB ☐500AGJ ☐500AGJ**s** ☐250AGB ☐250CGB ☐250CGB**s** ☐1PB ☐1PB**na** ☐500PB

☐250PB ☐250PB**n** ☐125PB ☐125PB**znna** ☐100PJ ☐100PJ**na$_2$** ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☐Canister **Other:** ☐_____ **Trip Blank Lot#:**_____ **Labeled/Checked by:** TW

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope **Reviewed by:** WSL

Preservative: h: HCL n: HNO_3 **na$_2$**: $Na_2S_2O_3$ na: NaOH p: H_3PO_4 s: H_2SO_4 u: Ultra-pure znna: $ZnAc_2$+NaOH f: Filtered **Scanned by:** WSL

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Appendix D

Groundwater Monitoring and Sampling Data for Unocal No. 6129

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

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL (ft)	TPH-GASOLINE (GC/MS) (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	COMMENTS
MW-1	190.79	5/2/2013	28.30	162.49	0	150	<0.50	<0.50	<0.50	<1.0	
MW-2	190.80	5/2/2013	27.14	163.66	0	290	<0.50	<0.50	<0.50	<1.0	
MW-3	188.58	5/2/2013	26.98	161.60	0	130	<0.50	<0.50	<0.50	<1.0	

NOTES:

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

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

ID = Identification
TOC = Top of casing
ft = Feet
DTW = Depth to water
GWE = Groundwater elevation
µg/L = Micrograms per liter
LNAPL = Light Non-Aqueous Phase Liquid
TPH = Total Petroleum Hydrocarbons
B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
GC/MS = Gas chromatograph/mass spectrometry

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

WELL ID	DATE	MTBE (µg/L)	TBA (µg/L)	ETHANOL (µg/L)	ETBE (µg/L)	DIPE (µg/L)	TAME (µg/L)	EDB (µg/L)	EDC (µg/L)
MW-1	5/2/2013	270	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
MW-2	5/2/2013	460	<10	<250	<0.50	6.2	<0.50	<0.50	<0.50
MW-3	5/2/2013	220	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50

NOTES:

Oxygenate compounds analyzed by U.S. Environmental Protection Agency Method 8260B

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

ID = Identification
µg/L = Micrograms per liter
MTBE = Methyl tertiarty-butyl ether
TBA = Tert-butyl alcohol
DIPE = Diisopropyl ether
ETBE = Ethyl tertiary-butyl ether
TAME = Tertiary-amyl methyl ether
EDB = 1,2-Dibromoethane
EDC = 1,2-Dichloroethane

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

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL (ft)	TPH-GASOLINE (8015) (µg/L)	TPH-GASOLINE (GC/MS) (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	Comments
MW-1	--	1/5/1990	--	--	--	ND	--	ND	ND	ND	ND	
	--	5/11/1990	--	--	--	ND	--	ND	7.10	ND	ND	
	--	8/9/1990	--	--	--	ND	--	ND	ND	ND	ND	
	--	11/14/1990	--	--	--	ND	--	ND	ND	ND	ND	
	--	2/12/1991	--	--	--	ND	--	0.32	ND	ND	ND	
	--	5/9/1991	--	--	--	ND	--	ND	ND	ND	ND	
	--	11/13/2003	--	--	--	--	180	<1.0	<1.0	<1.0	<2.0	
	190.79	8/27/2004	30.65	71.59	0	--	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	11/23/2004	29.35	72.89	0	--	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	2/9/2005	26.89	75.35	0	--	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	5/17/2005	26.56	75.68	0	--	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	7/27/2005	27.33	74.91	0	--	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	12/6/2005	29.59	72.65	0	--	<50	<0.50	0.93	<0.50	1.80	
	190.79	2/21/2006	28.27	73.97	0	--	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	6/8/2006	26.07	76.17	0	--	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	9/15/2006	28.86	73.38	0	--	<50	<0.50	<0.50	<0.50	<0.50	
	190.79	12/14/2006	29.49	72.75	0	--	<50	<0.50	<0.50	<0.50	<0.50	
	190.79	3/28/2007	27.24	75.00	0	--	<50	<0.50	<0.50	<0.50	<0.50	
	190.79	6/25/2007	28.30	73.94	0	--	<50	<0.50	<0.50	<0.50	<0.50	
	190.79	9/22/2007	30.61	71.63	0	--	<50	<0.50	<0.50	<0.50	<0.50	
	190.79	12/14/2007	30.30	71.94	0	--	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	3/17/2008	27.22	75.02	0	--	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	6/20/2008	30.10	72.14	0	--	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	9/11/2008	31.04	71.20	0	--	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	11/25/2008	30.88	71.36	0	--	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	3/9/2009	27.50	74.74	0	--	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	5/28/2009	28.25	73.99	0	--	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	12/11/2009	30.60	160.19	0	--	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	5/7/2010	26.06	164.73	0	--	67	<0.50	<0.50	<0.50	<1.0	
	190.79	11/1/2010	30.18	160.61	0	--	<50	<0.50	<0.50	<0.50	<1.0	
	190.79	5/27/2011	26.87	163.92	0	--	110	<0.50	<0.50	<0.50	<1.0	
	190.79	11/23/2011	29.14	161.65	0	--	1,101	<0.50	<0.50	<0.50	<1.0	
MW-1 cont.	190.79	5/24/2012	26.58	164.21	0	--	140	<0.50	<0.50	<0.50	<1.0	

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

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL (ft)	TPH-GASOLINE (8015) (µg/L)	TPH-GASOLINE (GC/MS) (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	Comments
	190.79	10/23/2012	30.51	160.28	0	--	130	<0.50	<0.50	<0.50	<1.0	
	190.79	**5/2/2013**	**28.30**	**162.49**	**0**	**--**	**150**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	
MW-2	--	1/5/1990	--	--	--	ND	--	ND	ND	ND	ND	
	--	5/11/1990	--	--	--	ND	--	ND	ND	ND	ND	
	--	8/9/1990	--	--	--	ND	--	ND	ND	ND	ND	
	--	11/14/1990	--	--	--	ND	--	ND	ND	ND	ND	
	--	2/12/1991	--	--	--	ND	--	ND	0.42	ND	0.51	
	--	5/9/1991	--	--	--	ND	--	ND	ND	ND	ND	
	--	11/13/2003	--	--	--	--	<2,000	<20	<20	<20	<40	
	190.80	8/27/2004	30.28	71.88	0	--	950	<5.0	<5.0	<5.0	<10	
	190.80	11/23/2004	28.75	73.41	0	--	53	<0.50	<0.50	<0.50	<1.0	
	190.80	2/9/2005	26.08	76.08	0	--	<500	<0.50	<0.50	<0.50	<1.0	
	190.80	5/17/2005	24.53	77.63	0	--	<50	<0.50	<0.50	<0.50	<1.0	
	190.80	7/27/2005	27.51	74.65	0	--	<500	<5.0	<5.0	<5.0	<10	
	190.80	12/6/2005	29.13	73.03	0	--	340	<0.50	<0.50	<0.50	<1.0	
	190.80	2/21/2006	29.23	72.93	0	--	190	<0.50	<0.50	<0.50	<1.0	
	190.80	6/8/2006	25.76	76.40	0	--	<500	<5.0	<5.0	<5.0	<10	
	190.80	9/15/2006	29.17	72.99	0	--	<500	<5.0	<5.0	<5.0	<5.0	
	190.80	12/14/2006	29.11	73.05	0	--	520	<0.50	<0.50	<0.50	<0.50	
	190.80	3/28/2007	26.68	75.48	0	--	290	<0.50	<0.50	<0.50	<0.50	
	190.80	6/25/2007	25.91	76.25	0	--	<50	<0.50	<0.50	<0.50	<0.50	
	190.80	9/22/2007	30.18	71.98	0	--	400	<0.50	<0.50	<0.50	<0.50	
	190.80	12/14/2007	29.96	72.20	0	--	400	<0.50	<0.50	<0.50	<1.0	
	190.80	3/17/2008	26.74	75.42	0	--	570	<5.0	<5.0	<5.0	<10	
	190.80	6/20/2008	29.78	72.38	0	--	580	<0.50	<0.50	<0.50	<1.0	
	190.80	9/11/2008	30.62	71.54	0	--	220	<0.50	<0.50	<0.50	<1.0	
	190.80	11/25/2008	30.48	71.68	0	--	500	<0.50	<0.50	<0.50	<1.0	
	190.80	3/9/2009	25.75	76.41	0	--	910	<5.0	<5.0	<5.0	<10	
	190.80	5/28/2009	27.71	74.45	0	--	460	<0.50	<0.50	<0.50	<1.0	
	190.80	12/11/2009	29.80	161.00	0	--	640	<5.0	<5.0	<5.0	<10	
MW-2 cont.	190.80	5/7/2010	25.11	165.69	0	--	600	<1.0	<1.0	<1.0	<2.0	
	190.80	11/1/2010	29.90	160.90	0	--	140	<0.50	<0.50	<0.50	<1.0	

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

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL (ft)	TPH-GASOLINE (8015) (µg/L)	TPH-GASOLINE (GC/MS) (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	Comments
	190.80	5/27/2011	26.44	164.36	0	--	560	<0.50	<0.50	<0.50	<1.0	
	190.80	11/23/2011	28.53	162.27	0	--	830	<0.50	<0.50	<0.50	<1.0	
	190.80	5/24/2012	25.97	164.83	0	--	1,000	<0.50	<0.50	<0.50	<1.0	
	190.80	10/23/2012	30.14	160.66	0	--	750	<0.50	<0.50	<0.50	<1.0	
	190.80	**5/2/2013**	**27.14**	**163.66**	**0**	**--**	**290**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	
MW-3	--	1/5/1990	--	--	--	ND	--	ND	ND	ND	ND	
	--	5/11/1990	--	--	--	ND	--	ND	ND	ND	ND	
	--	8/9/1990	--	--	--	ND	--	ND	ND	ND	ND	
	--	11/14/1990	--	--	--	ND	--	ND	ND	ND	ND	
	--	2/12/1991	--	--	--	ND	--	ND	ND	ND	ND	
	--	5/9/1991	--	--	--	ND	--	ND	ND	ND	ND	
	--	11/13/2003	--	--	--	--	2,600	<20	<20	<20	<40	
	188.58	8/27/2004	29.61	70.39	0	--	1,700	<10	<10	<10	<20	
	188.58	11/23/2004	28.48	71.52	0	--	1,500	<10	<10	<10	<20	
	188.58	2/9/2005	26.45	73.55	0	--	<1,000	<0.50	<0.50	<0.50	<1.0	
	188.58	5/17/2005	25.61	74.39	0	--	<1,000	<0.50	<0.50	<0.50	<1.0	
	188.58	7/27/2005	27.35	72.65	0	--	<1,000	<10	<10	<10	<20	
	188.58	12/6/2005	28.78	71.22	0	--	430	<0.50	1.6	<0.50	3.6	
	188.58	2/21/2006	28.91	71.09	0	--	420	<0.50	<0.50	<0.50	<1.0	
	188.58	6/8/2006	25.97	74.03	0	--	<1,200	<12	<12	<12	<25	
	188.58	9/15/2006	28.73	71.27	0	--	<1,200	<12	<12	<12	<12	
	188.58	12/14/2006	28.62	71.38	0	--	<1,000	<10	<10	<10	<10	
	188.58	3/28/2007	26.69	73.31	0	--	500	<1.0	<1.0	<1.0	<1.0	
	188.58	6/25/2007	26.74	73.26	0	--	270	<0.50	<0.50	<0.50	<0.50	
	188.58	9/22/2007	29.57	70.43	0	--	500	<0.50	<0.50	<0.50	<0.50	
	188.58	12/14/2007	29.30	70.70	0	--	270	<0.50	<0.50	<0.50	<1.0	
	188.58	3/17/2008	26.82	73.18	0	--	220	<0.50	<0.50	<0.50	<1.0	
	188.58	6/20/2008	29.10	70.90	0	--	490	<0.50	<0.50	<0.50	<1.0	
	188.58	9/11/2008	29.89	70.11	0	--	630	<5.0	<5.0	<5.0	<10	
MW-3 cont.	188.58	11/25/2008	29.74	70.26	0	--	380	<0.50	<0.50	<0.50	<1.0	
	188.58	3/9/2009	25.56	74.44	0	--	310	<0.50	<0.50	<0.50	<1.0	
	188.58	5/28/2009	27.55	72.45	0	--	410	<0.50	<0.50	<0.50	<1.0	

Table 3
Historical Groundwater Monitoring Data and Analytical Results
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3420 35th Avenue
Oakland, California

WELL ID	TOC* (ft)	DATE	DTW (ft)	GWE* (ft)	LNAPL (ft)	TPH-GASOLINE (8015) (µg/L)	TPH-GASOLINE (GC/MS) (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	Comments
	188.58	12/11/2009	29.10	159.48	0	--	220	<0.50	<0.50	<0.50	<1.0	
	188.58	5/7/2010	25.72	162.86	0	--	360	<0.50	<0.50	<0.50	<1.0	
	188.58	11/1/2010	29.29	159.29	0	--	120	<0.50	<0.50	<0.50	<1.0	
	188.58	5/27/2011	26.53	162.05	0	--	340	<0.50	<0.50	<0.50	<1.0	
	188.58	5/24/2012	25.95	162.63	0	--	660	<0.50	<0.50	<0.50	<1.0	
	188.58	10/23/2012	29.39	159.19	0	--	480	<0.50	<0.50	<0.50	<1.0	
	188.58	**5/2/2013**	**26.98**	**161.60**	**0**	**--**	**130**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	

NOTES:
* TOC and GWE are in feet above mean sea level.
<# = Analyte not detected at or above indicated laboratory detection limit

ID = Identification
TOC = Top of casing
ft = Feet
fbg = feet below grade
DTW = Depth to water
GWE = Groundwater elevation
-- = Not available/Not analyzed
µg/L = Micrograms per liter
LNAPL = Light Non-Aqueous Phase Liquid
TPH = Total Petroleum Hydrocarbons
B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
GC/MS = Gas chromatograph/mass spectrometry

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

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

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

WELL ID	DATE	MTBE (µg/L)	TBA (µg/L)	ETHANOL (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	EDB (µg/L)	EDC (µg/L)
MW-1 cont.	5/27/2011	220	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	11/23/2011	150	41	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	5/24/2012	190	66	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	10/23/2012	140	47	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	5/2/2013	**270**	**<10**	**<250**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**
MW-2	1/5/1990	--	--	--	--	--	--	--	--
	5/11/1990	--	--	--	--	--	--	--	--
	8/9/1990	--	--	--	--	--	--	--	--
	11/14/1990	--	--	--	--	--	--	--	--
	2/12/1991	--	--	--	--	--	--	--	--
	5/9/1991	--	--	--	--	--	--	--	--
	11/13/2003	2,100	<4,000	<20,000	<80	<80	<80	<80	<80
	8/27/2004	1,400	<5.0	<500	<5.0	24	<5.0	<5.0	<5.0
	11/23/2004	4.2	<5.0	<50	<0.50	18	<0.50	<0.50	<0.50
	2/9/2005	400	<5.0	<500	<5.0	19	<5.0	<5.0	<5.0
	5/17/2005	330	<5.0	<50	<0.50	12	<0.50	<0.50	<0.50
	7/27/2005	580	140	<500	<5.0	16	<5.0	<5.0	<5.0
	12/6/2005	780	61	<250	<0.50	15	<0.50	<0.50	<0.50
	2/21/2006	340	<10	<250	<0.50	18	<0.50	<0.50	<0.50
	6/8/2006	440	<100	<2,500	<5.0	14	<5.0	<5.0	<5.0
	9/15/2006	570	<100	<2,500	<5.0	17	<5.0	<5.0	<5.0
	12/14/2006	770	27	<250	<0.50	20	<0.50	<0.50	<0.50
	3/28/2007	460	260	<250	<0.50	23	<0.50	<0.50	<0.50
	6/25/2007	1.2	<10	<250	<0.50	23	<0.50	<0.50	<0.50
	9/22/2007	530	<10	<250	<0.50	35	<0.50	<0.50	<0.50
	12/14/2007	930	48	<250	<0.50	24	<0.50	<0.50	<0.50
	3/17/2008	630	<100	<2,500	<5.0	18	<5.0	<5.0	<5.0
	6/20/2008	1,200	<10	<250	<0.50	16	<0.50	<0.50	<0.50
	9/11/2008	29	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50

Table 4
Historical Groundwater Analytical Results - Oxygenate Compounds
Unocal No. 6129 (351639)
3420 35th Avenue
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WELL ID	DATE	MTBE (µg/L)	TBA (µg/L)	ETHANOL (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	EDB (µg/L)	EDC (µg/L)
MW-2 cont.	11/25/2008	1,500	<10	<250	<0.50	19	<0.50	<0.50	<0.50
	3/9/2009	1,400	<100	<2,500	<5.0	15	<5.0	<5.0	<5.0
	5/28/2009	740	<10	<250	<0.50	20	<0.50	<0.50	<0.50
	12/11/2009	1,300	<100	<2,500	<5.0	19	<5.0	<5.0	<5.0
	5/7/2010	940	<20	<500	<1.0	14	<1.0	<1.0	<1.0
	11/1/2010	730	<10	<250	<0.50	28	<0.50	<0.50	<0.50
	5/27/2011	1,100	210.00	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	11/23/2011	1,500	400.00	<250	<0.50	9.00	<0.50	<0.50	<0.50
	5/24/2012	1,200	430	<250	<0.50	8.8	<0.50	<0.50	<0.50
	10/23/2012	1,300	420	<250	<0.50	14	<0.50	<0.50	<0.50
	5/2/2013	**460**	**<10**	**<250**	**6.2**	**<0.50**	**<0.50**	**<0.50**	**<0.50**
MW-3	1/5/1990	--	--	--	--	--	--	--	--
	5/11/1990	--	--	--	--	--	--	--	--
	8/9/1990	--	--	--	--	--	--	--	--
	11/14/1990	--	--	--	--	--	--	--	--
	2/12/1991	--	--	--	--	--	--	--	--
	5/9/1991	--	--	--	--	--	--	--	--
	11/13/2003	3,700	<4,000	<20,000	<80	<80	<80	<80	<80
	8/27/2004	2,600	<100	<1,000	<10	<20	<10	<10	<10
	11/23/2004	1,800	<100	<1,000	<10	<20	<10	<10	<10
	2/9/2005	2,100	130	<1,000	<10	<10	<10	<10	<10
	5/17/2005	1,200	<100	<1,000	<10	<10	<10	<10	<10
	7/27/2005	1,400	360	<1,000	<10	<10	<10	<10	<10
	12/6/2005	1,800	160	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	2/21/2006	1,100	88	<250	<0.50	<0.50	0.58	<0.50	<0.50
	6/8/2006	1,000	<250	<6,200	<12	<12	<12	<12	<12
	9/15/2006	1,200	<250	<6,200	<12	<12	<12	<12	<12
	12/14/2006	1,300	<200	<5,000	<10	<10	<10	<10	<10
	3/28/2007	860	500	<500	<1.0	<1.0	<1.0	<1.0	<1.0

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

WELL ID	DATE	MTBE (µg/L)	TBA (µg/L)	ETHANOL (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	EDB (µg/L)	EDC (µg/L)
MW-3 cont.	6/25/2007	570	11	<250	<0.50	<0.50	<0.50	<0.50	0.65
	9/22/2007	980	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	12/14/2007	570	26	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	3/17/2008	520	<10	<250	<0.50	<0.50	<0.50	<0.50	0.65
	6/20/2008	1,300	49	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	9/11/2008	1,200	<100	<2,500	<5.0	<5.0	<5.0	<5.0	<5.0
	11/25/2008	870	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	3/9/2009	720	15	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	5/28/2009	750	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	12/11/2009	620	63	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	5/7/2010	660	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	11/1/2010	490	<10	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	5/27/2011	890	73	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	5/24/2012	1,100	300	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	10/23/2012	500	160	<250	<0.50	<0.50	<0.50	<0.50	<0.50
	5/2/2013	**220**	**<10**	**<250**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**

NOTES:

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

ID = Identification

-- = Not available/Not Analyzed

µg/L = Micrograms per liter

MTBE = Methyl tertiarty-butyl ether

TBA = Tert-butyl alcohol

DIPE = Diisopropyl ether

ETBE = Ethyl tertiary-butyl ether

TAME = Tertiary-amyl methyl ether

EDB = 1,2-Dibromoethane

EDC = 1,2-Dichloroethane