

**ExxonMobil**  
**Refining & Supply Company**  
Global Remediation

4096 Piedmont Avenue #194  
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**Jennifer C. Sedlachek**  
Project Manager

**ExxonMobil**  
Refining & Supply

R0386 ✓

January 4, 2005

Mr. Amir Gholami  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, 2<sup>nd</sup> Floor  
Alameda, California 94502

Subject: Former Mobil Station 04-334, 2492 Castro Valley Boulevard, Castro Valley, California

Alameda County  
Environmental Health  
JAN 10 2005

Dear Mr. Gholami:

Attached for your review and comment is a copy of the *Report of Groundwater Monitoring, Fourth Quarter 2004* for the above-referenced site. The report, prepared by ETIC Engineering, Inc. of Pleasant Hill, California, details the results of the November 2004 sampling event.

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 dated January 2005

- c: w/ attachment:
  - Ms. Paula Floeck – Jiffy Lube International
  - Mr. Dan McQuillen – Jiffy Lube Remediation Coordinator
  - Mr. William Slautterback – Cal Lube Real Estate Limited Partnership
  - Mr. William Peterson – Owner of Castro Valley Lumber Company
  
- c: w/o attachment:
  - Ms. Christa Marting - ETIC Engineering, Inc.



**Report of Groundwater Monitoring  
Fourth Quarter 2004**

**Former Mobil Station 04-334  
2492 Castro Valley Boulevard  
Castro Valley, California**

Alameda County  
JAN 10 2005  
Environmental Health

Prepared for

ExxonMobil Oil Corporation  
4096 Piedmont Avenue #194  
Oakland, California 94611

Prepared by

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

Bryan Campbell  
Project Manager

January 3, 2005

Date

Heidi Dieffenbach-Carle, R.G. #6793  
Senior Geologist



January 3, 2005

Date

January 2005

## SITE CONTACTS

Station Number: Former Mobil Station 04-334

Station Address: 2492 Castro Valley Boulevard  
Castro Valley, California

ExxonMobil Project Manager: Jennifer C. Sedlachek  
ExxonMobil Refining and Supply 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: Bryan Campbell

Regulatory Oversight: Amir Gholami  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, 2<sup>nd</sup> Floor  
Alameda, California 94502  
(510) 567-6700

## INTRODUCTION

At the request of ExxonMobil Oil Corporation, ETIC Engineering, Inc. has prepared this report of groundwater monitoring for former Mobil Station 04-334. 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 from 13 August 2004, the date of the last monitoring event, through 9 November 2004, the date of the 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.

## GENERAL SITE INFORMATION

<b>Site name:</b>	Former Mobil Station 04-334
<b>Site address:</b>	2492 Castro Valley Boulevard, Castro Valley, California
<b>Current property owner:</b>	Cal Lube Real Estate Limited Partnership I
<b>Current site use:</b>	Jiffy Lube Oil Change facility
<b>Current phase of project:</b>	Groundwater monitoring
<b>Tanks at site:</b>	Four former underground storage tanks removed 1983
<b>Number of wells:</b>	4 (3 onsite, 1 offsite)

## GROUNDWATER MONITORING SUMMARY

<b>Gauging and sampling date:</b>	9 November 2004
<b>Wells gauged and sampled:</b>	MW1-MW4
<b>Wells gauged only:</b>	None
<b>Groundwater flow direction:</b>	Southeast
<b>Groundwater gradient:</b>	0.01
<b>Well screens submerged:</b>	MW3
<b>Well screens not submerged:</b>	MW1, MW2, MW4
<b>Liquid-phase hydrocarbons:</b>	Not observed or detected
<b>Laboratory:</b>	TestAmerica, Inc., Nashville, Tennessee

### Analyses performed:

- Total Petroleum Hydrocarbons as gasoline and as diesel by EPA Method 8015B
- Benzene, toluene, ethylbenzene, and total xylenes by EPA Method 8021B
- Methyl t-butyl ether by EPA Method 8260B

## **ADDITIONAL ACTIVITIES PERFORMED AT SITE**

No additional activities were performed at the site.

A Report of Well Installation was submitted to Alameda County Health Care Services Agency in September 2004.

## **WORK PROPOSED FOR NEXT QUARTER**

Groundwater will be monitored in accordance with the attached groundwater monitoring plan.

### **Attachments:**

Figure 1: Site Plan Showing Groundwater Elevations and Analytical Results

Table 1: Well Construction Details

Table 2: Groundwater Monitoring Data

Table 3: Groundwater Monitoring Plan

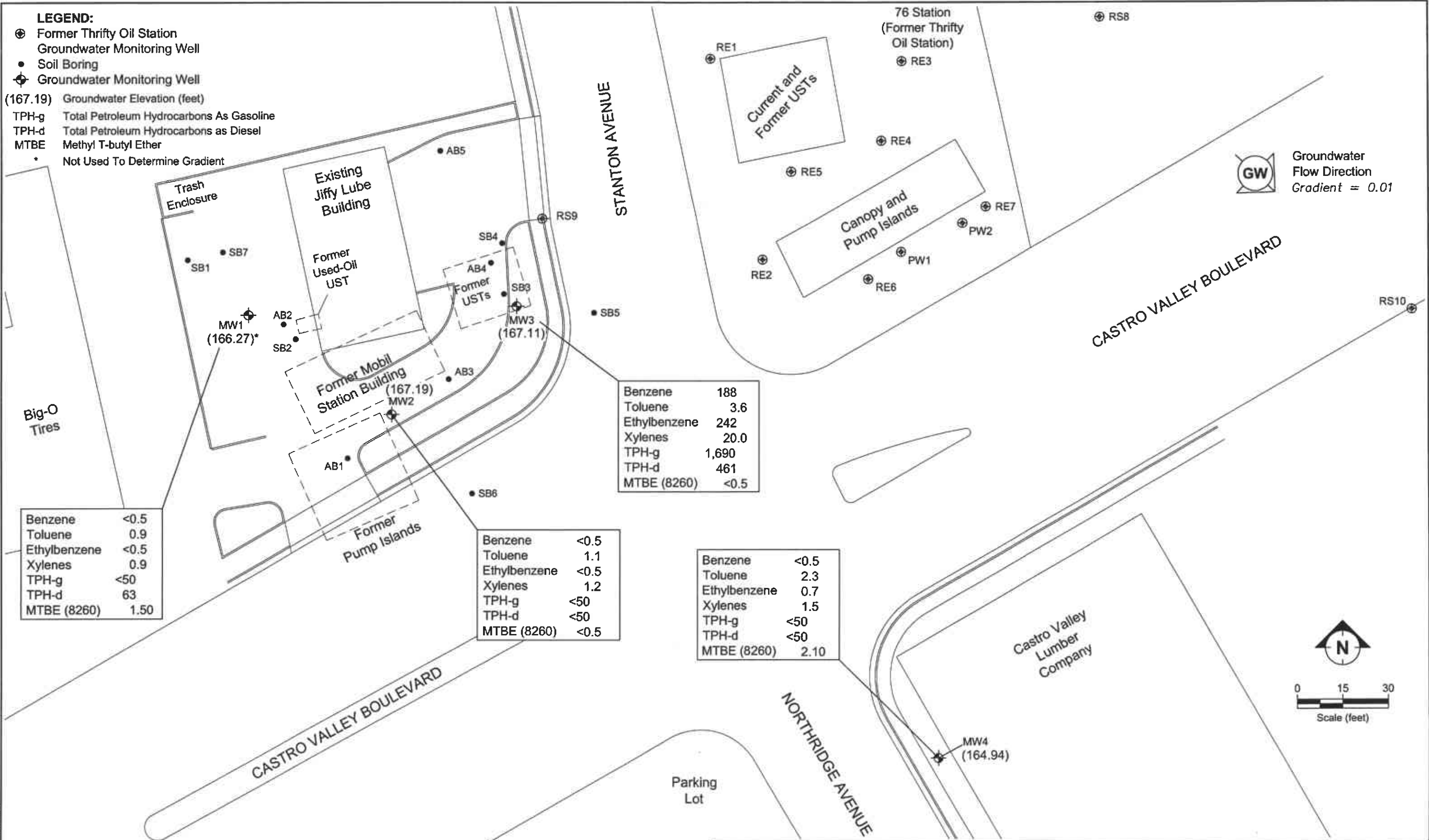
Appendix A: Field Protocols

Appendix B: Field Documents

Appendix C: Laboratory Analytical Reports

**LEGEND:**

- ⊕ Former Thrifty Oil Station Groundwater Monitoring Well
- Soil Boring
- ⊕ Groundwater Monitoring Well
- (167.19) Groundwater Elevation (feet)
- TPH-g Total Petroleum Hydrocarbons As Gasoline
- TPH-d Total Petroleum Hydrocarbons as Diesel
- MTBE Methyl T-butyl Ether
- \* Not Used To Determine Gradient



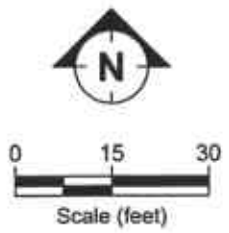
Benzene	<0.5
Toluene	0.9
Ethylbenzene	<0.5
Xylenes	0.9
TPH-g	<50
TPH-d	63
MTBE (8260)	1.50

Benzene	188
Toluene	3.6
Ethylbenzene	242
Xylenes	20.0
TPH-g	1,690
TPH-d	461
MTBE (8260)	<0.5

Benzene	<0.5
Toluene	1.1
Ethylbenzene	<0.5
Xylenes	1.2
TPH-g	<50
TPH-d	<50
MTBE (8260)	<0.5

Benzene	<0.5
Toluene	2.3
Ethylbenzene	0.7
Xylenes	1.5
TPH-g	<50
TPH-d	<50
MTBE (8260)	2.10

GW Groundwater Flow Direction  
Gradient = 0.01



FILENAME: 402004.DWG 12/06/04

Note:  
Concentrations In Micrograms Per Liter (ug/L).



SITE PLAN SHOWING GROUNDWATER ELEVATIONS AND ANALYTICAL RESULTS  
FORMER MOBIL STATION 04-334  
2492 CASTRO VALLEY BOULEVARD, CASTRO VALLEY, CALIFORNIA  
9 NOVEMBER 2004

FIGURE:  
**1**

TABLE 1 WELL CONSTRUCTION DETAILS, FORMER MOBIL STATION 04-334, 2492 CASTRO VALLEY BOULEVARD, CASTRO VALLEY, CALIFORNIA

Well Number	Well Installation Date	Elevation TOC (feet)	Casing Material	Total Depth (feet)	Well Depth (feet)	Borehole Diameter (inches)	Casing Diameter (inches)	Screened Interval (feet)	Slot Size (inches)	Filter Pack Interval (feet)	Filter Pack Material
MW1	a 06/24/04	173.23	PVC	20	20	8.25	2	5 - 20	0.010	4.5 - 20	#2/12 Sand
MW2	a 06/25/04	173.63	PVC	20	20	8.25	2	5 - 20	0.010	4.5 - 20	#2/12 Sand
MW3	a 06/25/04	171.91	PVC	20	20	8.25	2	5 - 20	0.010	4.5 - 20	#2/12 Sand
MW4	a 06/24/04	170.48	PVC	15	14	8.25	2	4 - 14	0.010	3.5 - 15	#2/12 Sand

a Well surveyed on 12 July 2004 by Morrow Surveying.

PVC Polyvinyl chloride.

TOC Top of casing.

TABLE 2 GROUNDWATER MONITORING DATA, FORMER MOBIL STATION 04-334, 2492 CASTRO VALLEY BOULEVARD, CASTRO VALLEY, CALIFORNIA

Well ID	Date	Top of Casing	Depth to	Groundwater	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	TPH-g (µg/L)	TPH-d (µg/L)	MTBE (µg/L)
		Elevation (feet)	Water (feet)	Elevation (feet)							
MW1	a 08/13/04	173.23	7.32	165.91	<0.5	0.7	<0.5	1.0	<50	71	1.20 <sup>b</sup>
MW1	11/09/04	173.23	6.96	166.27	<0.5	0.9	<0.5	0.9	<50	63	1.50 <sup>b</sup>
MW2	a 08/13/04	173.63	6.96	166.67	<0.5	0.8	<0.5	1.0	<50	57	<0.5 <sup>b</sup>
MW2	11/09/04	173.63	6.44	167.19	<0.5	1.1	<0.5	1.2	<50	<50	<0.5 <sup>b</sup>
MW3	a 08/13/04	171.91	5.36	166.55	100	2.0	187	59.6	1,440	352	<0.5 <sup>b</sup>
MW3	11/09/04	171.91	4.80	167.11	188	3.6	242	20.0	1,690	461	<0.5 <sup>b</sup>
MW4	a 08/13/04	170.48	6.10	164.38	<0.5	0.8	<0.5	1.1	<50	72	2.80 <sup>b</sup>
MW4	11/09/04	170.48	5.54	164.94	<0.5	2.3	0.7	1.5	<50	<50	2.10 <sup>b</sup>

a Top-of-casing elevation surveyed by Morrow Surveying on 12 July 2004.

b Analyzed by EPA Method 8260.

Depth-to-water-level measurements in feet from top-of-casing.

TPH-g Total Petroleum Hydrocarbons as gasoline.

TPH-d Total Petroleum Hydrocarbons as diesel.

MTBE Methyl tertiary butyl ether.

µg/L Micrograms per liter.



TABLE 3 GROUNDWATER MONITORING PLAN,  
FORMER MOBIL STATION 04-334, 2492 CASTRO VALLEY BOULEVARD, CASTRO VALLEY, CALIFORNIA

Well Number	Groundwater Gauging Frequency	Groundwater Sampling and Analysis Frequency	
		BTEX, TPH-g, and TPH-d	MTBE
MW1	Q	Q	Q
MW2	Q	Q	Q
MW3	Q	Q	Q
MW4	Q	Q	Q

Q = Quarterly

BTEX = Benzene, toluene, ethylbenzene, total xylenes.

MTBE = Methyl tertiary butyl ether.

TPH-g = Total Petroleum Hydrocarbons as gasoline.

TPH-d = Total Petroleum Hydrocarbons as diesel.

**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 feet 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, 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**



# MONITORING WELL DATA FORM

Client: *Exxon*

Date: *11.9.04*

Project Number: *UP04-334*

Station Number: *04-334*

Site Location:  
*2492 Castro Valley Blvd , Castro Valley , California*

Samplers: *WP*

MONITORING WELL NUMBER	DEPTH TO WATER (TOC) FT.	DEPTH TO PRODUCT (TOC) FT.	APPARENT PRODUCT THICKNESS (FT.)	AMOUNT OF PRODUCT REMOVED(L)	MONITORING WELL INTEGRITY	DEPTH TO BOTTOM (TOC)	WELL CASING DIAMETER
<i>MW1</i>	<i>6.96</i>					<i>19.88</i>	<i>2"</i>
<i>MW2</i>	<i>6.44</i>					<i>20.20</i>	<i>2"</i>
<i>MW3</i>	<i>4.80</i>					<i>20.02</i>	<i>2"</i>
<i>MW4</i>	<i>5.54</i>					<i>14.51</i>	<i>2"</i>



Engineering, Inc.

**GROUNDWATER PURGE AND SAMPLE**

Project Name: Exxon 04-334

Well No: MW1

Date: 11.9.04

Project No: UP04-334.1

Personnel:  VSP

**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)			
	19.88	-	6.96	=	12.92	X	1	2	4	6	2.06	=
						0.04	0.16	0.64	1.44			

**PURGING DATA**

Purge Method: WATERRA BAILER / SUB

Purge Rate: 1.0 GPM

Time	11:54	11:56	11:58	12:00		
Volume Purge (gal)	2	4	6			
Temperature (C)	22.3	22.3	21.9			
pH	7.56	7.60	7.64			
Spec. Cond. (umhos)	1135	1152	1161			
Turbidity/Color	SILTY/BCW	SILTY/BCW	SILTY/BCW			
Odor (Y/N)	N	N	N			
Casing Volumes	1	2	3			
Dewatered (Y/N)	N	N	N			

Comments/Observations:

**SAMPLING DATA**

Time Sampled: 12:05

Approximate Depth to Water During Sampling: 7 (feet)

Comments:

Sample Number	Number of Containers	Container Type	Perservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method
MW1	6	Voa	HCL	40 ml	/	TPH-g, BTEX, MTBE
MW1	2	AMBERS	HCL	1L	/	TPH-D
					/	

Total Purge Volume: 6 (gallons)

Disposal: SYSTEM

Weather Conditions: OK

BOLTS  / N

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

CAP & LOCK  / N

Well Head Conditions Requiring Correction: NONE

GROUT  / N

Problems Encountered During Purging and Sampling: NONE

WELL BOX  / N

Comments:

SECURED  / N



Engineering, Inc.

**GROUNDWATER PURGE AND SAMPLE**

Project Name: Exxon 04-334

Well No: MWZ

Date: 11.9.04

Project No: UP04-334.1

Personnel:

**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)			
	20.20	-	6.44	=	13.76	X	1	2	4	6	2.20	=
						0.04	0.16	0.64	1.44			

**PURGING DATA**

Purge Method: WATERRA / BAILER / SUB

Purge Rate: .66 GPM

Time	12:28	12:31	12:34	12:37			
Volume Purge (gal)	2	4	6				
Temperature (C)	20.9	21.0	21.1				
pH	7.56	7.55	7.62				
Spec. Cond. (umhos)	984.9	1032	1030				
Turbidity/Color	silty/bkn	silty/bkn	silty/bkn				
Odor (Y/N)	N	N	N				
Casing Volumes	1	2	3				
Dewatered (Y/N)	N	N	N				

Comments/Observations:

**SAMPLING DATA**

Time Sampled: 12:45

Approximate Depth to Water During Sampling: 7 (feet)

Comments:

Sample Number	Number of Containers	Container Type	Perservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method
MWZ	6	Voa	HCL	40 ml		TPH-g, BTEX, MTBE
MWZ	2	AMBERS	HCL	1L		TPH-D

Total Purge Volume: 6 (gallons)

Disposal: SYSTEM

Weather Conditions: OK

BOLTS  / N

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

CAP & LOCK  / N

Well Head Conditions Requiring Correction: none

GROUT  / N

Problems Encountered During Purging and Sampling: none

WELL BOX.  / N

Comments:

SECURED  / N



Engineering, Inc.

### GROUNDWATER PURGE AND SAMPLE

Project Name: Exxon 04-334      Well No: MW3      Date: 11.9.04  
 Project No: UP04-334.1      Personnel:

#### 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)
	20.02	- 4.80	= 15.22	X 1	2.43	= 7.30
				0.04   0.16   0.64   1.44		

#### PURGING DATA

Purge Method: WATERRA / BAILER / SUB      Purge Rate: 1.0 GPM

Time	13:07	13:09	13:11	13:13			
Volume Purge (gal)		2	4	6			
Temperature (C)		20.9	21.3	21.4			
pH		7.31	7.35	7.42			
Spec. Cond. (umhos)		1490	1474	1486			
Turbidity/Color		silty/sec	silty/sec	silty/sec			
Odor (Y/N)		Y	Y	Y			
Casing Volumes		1	2	3			
Dewatered (Y/N)		N	N	N			

Comments/Observations:

#### SAMPLING DATA

Time Sampled: 13:20      Approximate Depth to Water During Sampling: 5 (feet)

Comments:

Sample Number	Number of Containers	Container Type	Perservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method
MW3	6	Voa	HCL	40 ml	/	TPH-g, BTEX, MTBE
MW3	2	AMBERS	HCL	1L	/	TPH-D
					/	

Total Purge Volume: 6 (gallons)      Disposal: SYSTEM

Weather Conditions: OK      BOLTS  / N  
 Condition of Well Box and Casing at Time of Sampling: OK      CAP & LOCK  / N  
 Well Head Conditions Requiring Correction: NONE      GROUT  / N  
 Problems Encountered During Purging and Sampling: NONE      WELL BOX.  / N  
 Comments:      SECURED  / N





Engineering, Inc.

### GROUNDWATER PURGE AND SAMPLE

Project Name: Exxon 04-334

Well No: MW4

Date: 11.9.04

Project No: UP04-334.1

Personnel:

#### 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)
	14.51	- 5.54	= 8.97	X 1	1.43	= 4.30
				0.04 0.16 0.54 1.44		

#### PURGING DATA

Purge Method: WATERRA / BAILER / SUB

Purge Rate: .50 GPM

Time	11:15	11:17	11:19	11:21		
Volume Purge (gal)	1	2	3			
Temperature (C)	20.0	20.1	20.1			
pH	7.46	7.52	7.57			
Spec Cond. (umhos)	1150	1162	1184			
Turbidity/Color	SILTY / BROWN	SILTY / BROWN	SILTY / BROWN			
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: 6 (feet)

Comments:

Sample Number	Number of Containers	Container Type	Perservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method
MW4	6	Voa	HCL	40 ml	/	TPH-g, BTEX, MTBE
MW4	2	AMBERS	HCL	1L	/	TPH-D
					/	

Total Purge Volume: 3 (gallons)

Disposal: SYSTEM

Weather Conditions: OK

BOLTS  / N

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

CAP & LOCK  / N

Well Head Conditions Requiring Correction: NONE

GROUT  / N

Problems Encountered During Purging and Sampling: NONE

WELL BOX.  / N

Comments:

SECURED  / N



## **Appendix C**

### **Laboratory Analytical Reports**

11/18/04

CASE NARRATIVE

REC'D DEC 01 2004

**ETIC ENGINEERING 10236**  
**BRYAN CAMPBELL**  
**2285 MORELLO AVENUE**  
**PLEASANT HILL, CA 94523**

This report includes the analytical certificates of analysis for all samples listed below. These samples relate to your project identified below:

Project Name: EXXONMOBIL 04-334  
Project Number: .  
Laboratory Project Number: 396357.

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. Any QC recoveries outside laboratory control limits are flagged individually with an #. Sample specific comments and quality control statements are included in the Laboratory notes section of the analytical report for each sample report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

Sample Identification	Lab Number	Page 1 Collection Date
-----	-----	-----
MW1	04-A176166	11/ 9/04
MW2	04-A176167	11/ 9/04
MW3	04-A176168	11/ 9/04
MW4	04-A176169	11/ 9/04

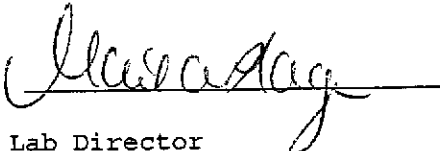
Sample Identification  
-----

Lab Number  
-----

Page 2  
Collection Date  
-----

These results relate only to the items tested.  
This report shall not be reproduced except in full and with  
permission of the laboratory.

Report Approved By:



Report Date: 11/18/04

Johnny A. Mitchell, Lab Director  
Michael H. Dunn, M.S., Technical Director  
Pamela A. Langford, Technical Services  
Eric S. Smith, QA/QC Director  
Sandra McMillin, Technical Services

Gail A. Lage, Technical Services  
Glenn L. Norton, Technical Services  
Kelly S. Comstock, Technical Services  
Roxanne L. Connor, Technical Services

Laboratory Certification Number: 01168CA

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## ANALYTICAL REPORT

ETIC ENGINEERING 10236  
BRYAN CAMPBELL  
2285 MORELLO AVENUE  
PLEASANT HILL, CA 94523

Lab Number: 04-A176166  
Sample ID: MW1  
Sample Type: Water  
Site ID: 04-334

Date Collected: 11/ 9/04  
Time Collected: 12:05  
Date Received: 11/11/04  
Time Received: 8:30  
Page: 1

Project:  
Project Name: EXXONMOBIL 04-334  
Sampler: WYNN PACULBA

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
*ORGANIC PARAMETERS*									
**Benzene	ND	ug/l	0.50	1.0	11/16/04	13:19	A. Cobbs	8021B	8456
**Ethylbenzene	ND	ug/l	0.5	1.0	11/16/04	13:19	A. Cobbs	8021B	8456
**Toluene	0.9	ug/l	0.5	1.0	11/16/04	13:19	A. Cobbs	8021B	8456
**Xylenes (Total)	0.9	ug/l	0.5	1.0	11/16/04	13:19	A. Cobbs	8021B	8456
**TPH (Gasoline Range)	ND	ug/l	50.0	1.0	11/16/04	13:19	A. Cobbs	8015B	8456
**TPH (Diesel Range)	63.	ug/l	50.	1.0	11/13/04	20:33	L. Watson	8015B/3510	8589
*VOLATILE ORGANICS*									
**Methyl-t-butyl ether	1.50	ug/l	0.50	1.0	11/17/04	6:23	C. Spry	8260B	1084

Silica Gel Cleanup performed for TPH-DRO analysis.

### Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
EPH	1000 ml	1.00 ml	11/13/04		K. Turner	3510

Surrogate	% Recovery	Target Range
TPH Hi Surr., o-Terphenyl	104.	55. - 133.

Sample report continued . . .

## ANALYTICAL REPORT

Laboratory Number: 04-A176166  
Sample ID: MW1  
Project:  
Page 2

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Surrogate	% Recovery	Target Range
-----	-----	-----
BTEX/GRO Surr., a,a,a-TFT	106.	70. - 123.
VOA Surr 1,2-DCA-d4	101.	73. - 127.
VOA Surr Toluene-d8	96.	79. - 113.
VOA Surr, 4-BFB	108.	79. - 125.
VOA Surr, DBFM	90.	75. - 134.

### LABORATORY COMMENTS:

ND = Not detected at the report limit.  
B = Analyte was detected in the method blank.  
J = Estimated Value below Report Limit.  
E = Estimated Value above the calibration limit of the instrument.  
# = Recovery outside Laboratory historical or method prescribed limits.  
\*\* = NELAC E87358 Certified Analyte

End of Sample Report.

## ANALYTICAL REPORT

ETIC ENGINEERING 10236  
BRYAN CAMPBELL  
2285 MORELLO AVENUE  
PLEASANT HILL, CA 94523

Lab Number: 04-A176167  
Sample ID: MW2  
Sample Type: Water  
Site ID: 04-334

Project:  
Project Name: EXXONMOBIL 04-334  
Sampler: WYNN PACULBA

Date Collected: 11/ 9/04  
Time Collected: 12:45  
Date Received: 11/11/04  
Time Received: 8:30  
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
*ORGANIC PARAMETERS*									
**Benzene	ND	ug/l	0.50	1.0	11/16/04	13:49	A. Cobbs	8021B	8456
**Ethylbenzene	ND	ug/l	0.5	1.0	11/16/04	13:49	A. Cobbs	8021B	8456
**Toluene	1.1	ug/l	0.5	1.0	11/16/04	13:49	A. Cobbs	8021B	8456
**Xylenes (Total)	1.2	ug/l	0.5	1.0	11/16/04	13:49	A. Cobbs	8021B	8456
**TPH (Gasoline Range)	ND	ug/l	50.0	1.0	11/16/04	13:49	A. Cobbs	8015B	8456
**TPH (Diesel Range)	ND	ug/l	50.	1.0	11/15/04	12:32	B. Yanna	8015B/3510	8574
*VOLATILE ORGANICS*									
**Methyl-t-butyl ether	ND	ug/l	0.50	1.0	11/17/04	6:56	C. Spry	8260B	1084

Silica Gel Cleanup performed for TPH-DRO analysis.

### Sample Extraction Data

Parameter	Wt/Vol		Date	Time	Analyst	Method
	Extracted	Extract Vol				
EPH	1000 ml	1.00 ml	11/12/04		K. Turner	3510

Surrogate	% Recovery	Target Range
TPH Hi Surr., o-Terphenyl	66.	55. - 133.

Sample report continued . . .

## ANALYTICAL REPORT

Laboratory Number: 04-A176167  
Sample ID: MW2  
Project:  
Page 2

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Surrogate -----	% Recovery -----	Target Range -----
BTEX/GRO Surr., a,a,a-TFT	107.	70. - 123.
VOA Surr 1,2-DCA-d4	101.	73. - 127.
VOA Surr Toluene-d8	97.	79. - 113.
VOA Surr, 4-BFB	105.	79. - 125.
VOA Surr, DBFM	90.	75. - 134.

### LABORATORY COMMENTS:

- ND = Not detected at the report limit.
- B = Analyte was detected in the method blank.
- J = Estimated Value below Report Limit.
- E = Estimated Value above the calibration limit of the instrument.
- # = Recovery outside Laboratory historical or method prescribed limits.
- \*\* = NELAC E87358 Certified Analyte

End of Sample Report.



## ANALYTICAL REPORT

ETIC ENGINEERING 10236  
BRYAN CAMPBELL  
2285 MORELLO AVENUE  
PLEASANT HILL, CA 94523

Lab Number: 04-A176168  
Sample ID: MW3  
Sample Type: Water  
Site ID: 04-334

Date Collected: 11/ 9/04  
Time Collected: 13:20  
Date Received: 11/11/04  
Time Received: 8:30  
Page: 1

Project:  
Project Name: EXXONMOBIL 04-334  
Sampler: WYNN PACULBA

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
*ORGANIC PARAMETERS*									
**Benzene	188.	ug/l	2.50	5.0	11/17/04	15:00	A. Cobbs	8021B	2109
**Ethylbenzene	242.	ug/l	2.5	5.0	11/17/04	15:00	A. Cobbs	8021B	2109
**Toluene	3.6	ug/l	0.5	1.0	11/16/04	14:20	A. Cobbs	8021B	8456
**Xylenes (Total)	20.0	ug/l	0.5	1.0	11/16/04	14:20	A. Cobbs	8021B	8456
**TPH (Gasoline Range)	1690	ug/l	50.0	1.0	11/16/04	14:20	A. Cobbs	8015B	8456
**TPH (Diesel Range)	461.	ug/l	50.	1.0	11/13/04	20:49	L. Watson	8015B/3510	8589
*VOLATILE ORGANICS*									
**Methyl-t-butyl ether	ND	ug/l	0.50	1.0	11/17/04	7:29	C. Spry	8260B	1084

Silica Gel Cleanup performed for TPH-DRO analysis.

### Sample Extraction Data

Parameter	Wt/Vol		Date	Time	Analyst	Method
	Extracted	Extract Vol				
EPH	1000 ml	1.00 ml	11/13/04		K. Turner	3510

Surrogate	% Recovery	Target Range
TPH Hi Surr., o-Terphenyl	106.	55. - 133.

Sample report continued . . .

## ANALYTICAL REPORT

Laboratory Number: 04-A176168  
Sample ID: MW3  
Project:  
Page 2

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Surrogate -----	% Recovery -----	Target Range -----
BTEX/GRO Surr., a,a,a-TFT	113.	70. - 123.
VOA Surr 1,2-DCA-d4	95.	73. - 127.
VOA Surr Toluene-d8	101.	79. - 113.
VOA Surr, 4-BFB	111.	79. - 125.
VOA Surr, DBFM	84.	75. - 134.

### LABORATORY COMMENTS:

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B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# = Recovery outside Laboratory historical or method prescribed limits.

\*\* = NELAC E87358 Certified Analyte

End of Sample Report.

## ANALYTICAL REPORT

ETIC ENGINEERING 10236  
 BRYAN CAMPBELL  
 2285 MORELLO AVENUE  
 PLEASANT HILL, CA 94523

Lab Number: 04-A176169  
 Sample ID: MW4  
 Sample Type: Water  
 Site ID: 04-334

Project:  
 Project Name: EXXONMOBIL 04-334  
 Sampler: WYNN PACULBA

Date Collected: 11/ 9/04  
 Time Collected: 11:30  
 Date Received: 11/11/04  
 Time Received: 8:30  
 Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
<b>*ORGANIC PARAMETERS*</b>									
**Benzene	ND	ug/l	0.50	1.0	11/16/04	14:50	A. Cobbs	8021B	8456
**Ethylbenzene	0.7	ug/l	0.5	1.0	11/16/04	14:50	A. Cobbs	8021B	8456
**Toluene	2.3	ug/l	0.5	1.0	11/16/04	14:50	A. Cobbs	8021B	8456
**Xylenes (Total)	1.5	ug/l	0.5	1.0	11/16/04	14:50	A. Cobbs	8021B	8456
**TPH (Gasoline Range)	ND	ug/l	50.0	1.0	11/16/04	14:50	A. Cobbs	8015B	8456
**TPH (Diesel Range)	ND	ug/l	50.	1.0	11/13/04	21:05	L. Watson	8015B/3510	8589
<b>*VOLATILE ORGANICS*</b>									
**Methyl-t-butyl ether	2.10	ug/l	0.50	1.0	11/17/04	8:02	C. Spry	8260B	1084

Silica Gel Cleanup performed for TPH-DRO analysis.

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
EPH	1000 ml	1.00 ml	11/13/04		K. Turner	3510

Surrogate	% Recovery	Target Range
TPH Hi Surr., o-Terphenyl	110.	55. - 133.

Sample report continued . . .

## ANALYTICAL REPORT

Laboratory Number: 04-A176169  
Sample ID: MW4  
Project:  
Page 2

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Surrogate	% Recovery	Target Range
-----	-----	-----
BTEX/GRO Surr., a,a,a-TFT	106.	70. - 123.
VOA Surr 1,2-DCA-d4	101.	73. - 127.
VOA Surr Toluene-d8	99.	79. - 113.
VOA Surr, 4-BFB	110.	79. - 125.
VOA Surr, DBFM	89.	75. - 134.

### LABORATORY COMMENTS:

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B = Analyte was detected in the method blank.  
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E = Estimated Value above the calibration limit of the instrument.  
# = Recovery outside Laboratory historical or method prescribed limits.  
\*\* = NELAC E87358 Certified Analyte

End of Sample Report.

**PROJECT QUALITY CONTROL DATA**

Project Number:  
Project Name: **EXXONMOBIL 04-334**  
Page: 1  
Laboratory Receipt Date: **11/11/04**

**Matrix Spike Recovery**

Note: If Blank is referenced as the sample spiked, insufficient volume was received for the defined analytical batch for MS/MSD analysis on a true sample matrix. Laboratory reagent water was used for QC purposes.

Analyte	units	Orig. Val.	MS Val	Spike Conc	Recovery	Target Range	Q.C. Batch	Spike Sample
<b>**UST ANALYSIS**</b>								
Benzene	mg/l	< 0.00050	0.0548	0.0500	110	50. - 160.	8456	04-A176180
Toluene	mg/l	< 0.0005	0.0552	0.0500	110	51. - 157.	8456	04-A176180
Ethylbenzene	mg/l	< 0.0005	0.0558	0.0500	112	47. - 159.	8456	04-A176180
Xylenes (Total)	mg/l	< 0.0005	0.107	0.100	107	51. - 152.	8456	04-A176180
TPH (Gasoline Range)	mg/l	0.0558	1.08	1.00	102	43. - 150.	8456	04-A176180
TPH (Diesel Range)	mg/l	< 0.050	0.826	1.00	83	35. - 124.	8574	blank
TPH (Diesel Range)	mg/l	< 0.050	0.834	1.00	83	35. - 124.	8589	blank
BTEX/GRO Surr., a,a,a-TFT	% Recovery				122	70 - 123	8456	
VOA Surr 1,2-DCA-d4	% Rec				96	73 - 127	1084	
VOA Surr Toluene-d8	% Rec				107	79 - 113	1084	
VOA Surr, 4-BFB	% Rec				116	79 - 125	1084	
VOA Surr, DBFM	% Rec				89	75 - 134	1084	

**Matrix Spike Duplicate**

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch
<b>**UST PARAMETERS**</b>						
Benzene	mg/l	0.0548	0.0580	5.67	30.	8456
Toluene	mg/l	0.0552	0.0584	5.63	37.	8456
Ethylbenzene	mg/l	0.0558	0.0590	5.57	38.	8456
Xylenes (Total)	mg/l	0.107	0.114	6.33	33.	8456
TPH (Gasoline Range)	mg/l	1.08	1.06	1.87	27.	8456

Project QC continued . . .

**PROJECT QUALITY CONTROL DATA**

Project Number:  
Project Name: **EXXONMOBIL 04-334**  
Page: 2  
Laboratory Receipt Date: 11/11/04

Matrix Spike Duplicate

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch
TPH (Diesel Range)	mg/l	0.826	0.844	2.16	36.	8574
TPH (Diesel Range)	mg/l	0.834	0.879	5.25	36.	8589
BTEX/GRO Surr., a,a,a-TFT	% Recovery		114.			8456
VOA Surr 1,2-DCA-d4	% Rec		98.			1084
VOA Surr Toluene-d8	% Rec		104.			1084
VOA Surr, 4-BFB	% Rec		111.			1084
VOA Surr, DBFM	% Rec		91.			1084

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
<b>**UST PARAMETERS**</b>						
Benzene	mg/l	0.100	0.105	105	72 - 118	2109
Benzene	mg/l	0.100	0.101	101	72 - 118	8456
Toluene	mg/l	0.100	0.102	102	72 - 119	8456
Ethylbenzene	mg/l	0.100	0.106	106	71 - 119	2109
Ethylbenzene	mg/l	0.100	0.102	102	71 - 119	8456
Xylenes (Total)	mg/l	0.200	0.199	100	70 - 117	8456
TPH (Gasoline Range)	mg/l	1.00	1.08	108	64 - 130	8456
BTEX/GRO Surr., a,a,a-TFT	% Recovery			118	70 - 123	2109
BTEX/GRO Surr., a,a,a-TFT	% Recovery			115	70 - 123	8456
<b>**UST PARAMETERS**</b>						
TPH (Diesel Range)	mg/l	1.00	0.920	92	41 - 120	8574
TPH (Diesel Range)	mg/l	1.00	0.902	90	41 - 120	8589

Project QC continued . . .

**PROJECT QUALITY CONTROL DATA**

Project Number:  
Project Name: **EXXONMOBIL 04-334**  
Page: 3  
Laboratory Receipt Date: 11/11/04

**\*\*VOA PARAMETERS\*\***

Analyte	Units	Value	Q.C. Batch	Sample No.
Methyl-t-butyl ether	mg/l	0.0500	103	69 - 136 1084
VOA Surr 1,2-DCA-d4	% Rec	0.0516	92	73 - 127 1084
VOA Surr Toluene-d8	% Rec		102	79 - 113 1084
VOA Surr, 4-BFB	% Rec		112	79 - 125 1084
VOA Surr, DEFM	% Rec		87	75 - 134 1084

Duplicates

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch	Sample Dup'd
-----	-----	-----	-----	-----	-----	-----	-----

Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Date Analyzed	Time Analyzed
-----	-----	-----	-----	-----	-----

**\*\*UST PARAMETERS\*\***

Analyte	Value	Units	Q.C. Batch	Date Analyzed	Time Analyzed
Benzene	< 0.00050	mg/l	8456	11/16/04	12:48
Benzene	< 0.00050	mg/l	2109	11/17/04	14:30
Toluene	< 0.0005	mg/l	8456	11/16/04	12:48
Ethylbenzene	< 0.0005	mg/l	8456	11/16/04	12:48
Ethylbenzene	< 0.0005	mg/l	2109	11/17/04	14:30
Xylenes (Total)	< 0.0005	mg/l	8456	11/16/04	12:48
TPH (Gasoline Range)	< 0.0500	mg/l	8456	11/16/04	12:48
TPH (Diesel Range)	< 0.050	mg/l	8589	11/13/04	19:29
TPH (Diesel Range)	< 0.050	mg/l	8574	11/15/04	17:24

Project QC continued . . .

## PROJECT QUALITY CONTROL DATA

Project Number:

Project Name: **EXXONMOBIL 04-334**

Page: 4

Laboratory Receipt Date: 11/11/04

BTEX/GRO Surr., a,a,a-TFT	107.	% Recovery	8456	11/16/04	12:48
BTEX/GRO Surr., a,a,a-TFT	107.	% Recovery	2109	11/17/04	14:30
**VOA PARAMETERS**					
Methyl-t-butyl ether	< 0.00023	mg/l	1084	11/17/04	4:12
VOA Surr 1,2-DCA-d4	101.	% Rec	1084	11/17/04	4:12
VOA Surr Toluene-d8	98.	% Rec	1084	11/17/04	4:12
VOA Surr, 4-BFB	107.	% Rec	1084	11/17/04	4:12
VOA Surr, DBFM	90.	% Rec	1084	11/17/04	4:12

# = Value outside Laboratory historical or method prescribed QC limits.

End of Report for Project 396357



## 396357

Consultant Name: ETIC ENGINEERING

Address: 2285 MORELLO AVENUE

City/State/Zip: PLEASANT HILL, CA 94523

ExxonMobil Project Mgr: BRYAN CAMPBELL

Telephone Number: (925) 602-4710 EXT. 24

Fax No.: (925) 602-4720

Sampler Name: (Print) WYNN FACULBA

Sampler Signature: 

Report To: BRYAN CAMPBELL *Brc*

Invoice To: JENNIFER SEDLACHEK (EXXONMOBIL TM)

Account #: 10236

PO #: 4504340684

Facility ID # 04-334

Site Address 2492 CASTRO VALLEY BOULEVARD

City, State Zip CASTRO VALLEY, CA

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservative								Matrix					Analyze For:				RUSH TAT (Pre-Schedule)	TAT request (in Bus. Days)	STD TAT	Fax Results						
							Ice	HNO <sub>3</sub> (Red Label)	HCl (Blue Label)	NaOH (Orange Label)	H <sub>2</sub> SO <sub>4</sub> Plastic (Yellow Label)	H <sub>2</sub> SO <sub>4</sub> Glass (Yellow Label)	None (Black Label)	Other (Specify)	Groundwater	Wastewater	Drinking Water	Sludge	Soil	Other (specify):	TPH-G BY 8015B	TPH-D BY 8015B/8251D *	BTEX BY 8012B					MTBE BY 8260B					
MW1	11/9	12:05	8				X	X								X					X	X	X	X									X
MW2		12:45	8				X	X								X																	X
MW3		13:20	8				X	X								X																	X
MW4		11:30	8				X	X								X																	X

Special Instructions: **\* USE SILICAGEL CLEANUP FOR TPH-D ANALYSIS.**

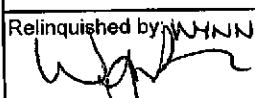

GLOBAL ID# T0600101278 EDF FILE REQUIRED

Laboratory Comments:

Temperature Upon Receipt: 0.1 °C

Sample Containers intact?  N

VOCs Free of Headspace?  N

Relinquished by: 	Date: <u>11/9/04</u>	Time: <u>16:00</u>	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by TestAmerica: 	Date: <u>11/11/04</u>	Time: <u>8:30</u>

**COOLER RECEIPT FORM**

BC#



Client Name : ETIC Engineering

Cooler Received/Opened On: 11/11/04 Accessioned By: James D. Jacobs

[Signature]  
Log-in Personnel Signature

1. Temperature of Cooler when triaged: 0.1 Degrees Celsius
2. Were custody seals on outside of cooler?.....  YES...NO...NA
  - a. If yes, how many, what kind and where: 2 Tape Feet
3. Were custody seals on containers and intact?.....  NO...YES...NA
4. Were the seals intact, signed, and dated correctly?.....  YES...NO...NA
5. Were custody papers inside cooler?.....  YES...NO...NA
6. Were custody papers properly filled out (ink, signed, etc)?.....  YES...NO...NA
7. Did you sign the custody papers in the appropriate place?.....  YES...NO...NA
8. What kind of packing material used?  Bubblewrap    Peanuts    Vermiculite    Other    None
9. Cooling process:  Ice    Ice-pack    Ice (direct contact)    Dry ice    Other    None
10. Did all containers arrive in good condition ( unbroken)?.....  YES...NO...NA
11. Were all container labels complete (#, date, signed, pres., etc)?.....  YES...NO...NA
12. Did all container labels and tags agree with custody papers?.....  YES...NO...NA
13. Were correct containers used for the analysis requested?.....  YES...NO...NA
14. a. Were VOA vials received?.....  YES...NO...NA
  - b. Was there any observable head space present in any VOA vial?.....  NO...YES...NA
15. Was sufficient amount of sample sent in each container?.....  YES...NO...NA
16. Were correct preservatives used?.....  YES...NO...NA

If not, record standard ID of preservative used here \_\_\_\_\_

17. Was residual chlorine present?..... NO...YES...  NA

18. Indicate the Airbill Tracking Number (last 4 digits for Fedex only) and Name of Courier below:

5888

Fed-Ex    UPS    Velocity    Airborne    Route    Off-street    Misc.

19. If a Non-Conformance exists, see attached or comments below: