

**ExxonMobil**  
**Environmental Services Company**  
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jennifer.c.sedlachek@exxonmobil.com

**RECEIVED**

2:48 pm, Jan 12, 2009

Alameda County  
Environmental Health

**Jennifer C. Sedlachek**  
Project Manager

**ExxonMobil**

January 9, 2009

Mr. Jerry T. Wickham  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway  
Alameda, California 94502-6577

Subject: Fuel Leak Investigation Site No. RO0002635  
Former Exxon RAS #74121, 10605 Foothill Boulevard, Oakland, California

Dear Mr. Wickham:

Attached for your review and comment is a copy of the *Report of Groundwater Monitoring, Fourth Quarter 2008* for the above-referenced site. The report, prepared by ETIC Engineering, Inc. of Pleasant Hill, California, details the results of the December 2008 sampling event.

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

If you have any questions or comments, please contact me at 510.547.8196.

Sincerely,

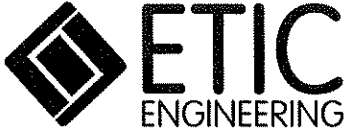


Jennifer C. Sedlachek  
Project Manager

Attachment: ETIC Groundwater Monitoring Report

c: w/ attachment:  
Mr. Ken Phares - MacArthur Boulevard Associates, Oakland, California  
Mr. Peter McIntyre - AEI Consultants

c: w/o attachment:  
Mr. Bryan Campbell - ETIC Engineering, Inc.



**Report of Groundwater Monitoring  
Fourth Quarter 2008**

**Former Exxon Retail Site 74121  
10605 Foothill Boulevard  
Oakland, California**

Prepared for

ExxonMobil Oil Corporation

Prepared by

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

A handwritten signature in black ink, appearing to read "K. Erik Appel".

K. Erik Appel, P.G. #8092  
Senior Project Geologist



*January 9, 2009*  
Date

January 2009

## SITE CONTACTS

Site Name: Former Exxon Retail Site 74121

Site Address: 10605 Foothill Boulevard  
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: K. Erik Appel

Regulatory Oversight: Jerry T. Wickham  
Alameda County Health Care Services Agency  
Environmental Health Services  
1131 Harbor Bay Parkway  
Alameda, California 94502-6577  
(510) 567-6765

## INTRODUCTION

ETIC Engineering, Inc. (ETIC) has prepared this quarterly groundwater monitoring report for ExxonMobil Environmental Services Company on behalf of ExxonMobil Oil Corporation for former Exxon Retail Site 74121. 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 16 September 2008, the date of the previous monitoring event, until 1 December 2008, the date of the most recent quarterly 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 Exxon Retail Site 74121
<b>Site address:</b>	10605 Foothill Boulevard, Oakland, California
<b>Current property owner:</b>	MacArthur Boulevard Associates
<b>Current site use:</b>	Landscaped area
<b>Current phase of project:</b>	Groundwater monitoring
<b>Tanks at site:</b>	Underground storage tanks removed in 1981 or 1982
<b>Number of wells:</b>	4 (4 onsite, 0 offsite)

## GROUNDWATER MONITORING SUMMARY

<b>Gauging and sampling date:</b>	1 December 2008
<b>Wells gauged and sampled:</b>	MW1, MW2, MW3, MW5
<b>Wells gauged only:</b>	None
<b>Groundwater flow direction:</b>	Northwest
<b>Groundwater gradient:</b>	0.0033
<b>Well screens submerged:</b>	None
<b>Well screens not submerged:</b>	MW1, MW2, MW3, MW5
<b>Liquid-phase hydrocarbons:</b>	Not observed or detected
<b>Laboratory:</b>	TestAmerica, Inc., Morgan Hill, California

### Analyses performed:

- Total Petroleum Hydrocarbons as gasoline by EPA Method 8015B
- Total Petroleum Hydrocarbons as diesel by EPA Method 8015B
- Benzene, toluene, ethylbenzene, and xylenes by EPA Method 8021B
- Methyl tertiary butyl ether, ethyl tertiary butyl ether, tertiary amyl methyl ether, tertiary butyl alcohol, diisopropyl ether, 1,2-dibromoethane, and 1,2-dichloroethane by EPA Method 8260B

## **ADDITIONAL ACTIVITIES PERFORMED**

A letter dated 7 October 2008 was received from the Alameda County Health Care Services Agency in response to the Vapor Sampling Work Plan, dated August 2008. In response to this letter, a Revised Soil Vapor Sampling and Risk Assessment Work Plan has been prepared and submitted under separate cover dated December 2008.

## **WORK PROPOSED FOR NEXT QUARTER**

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

### Attachments:

Figure 1: Site Map Showing Groundwater Elevations and Analytical Results

Table 1: Well Construction Details

Table 2: Groundwater Monitoring Data

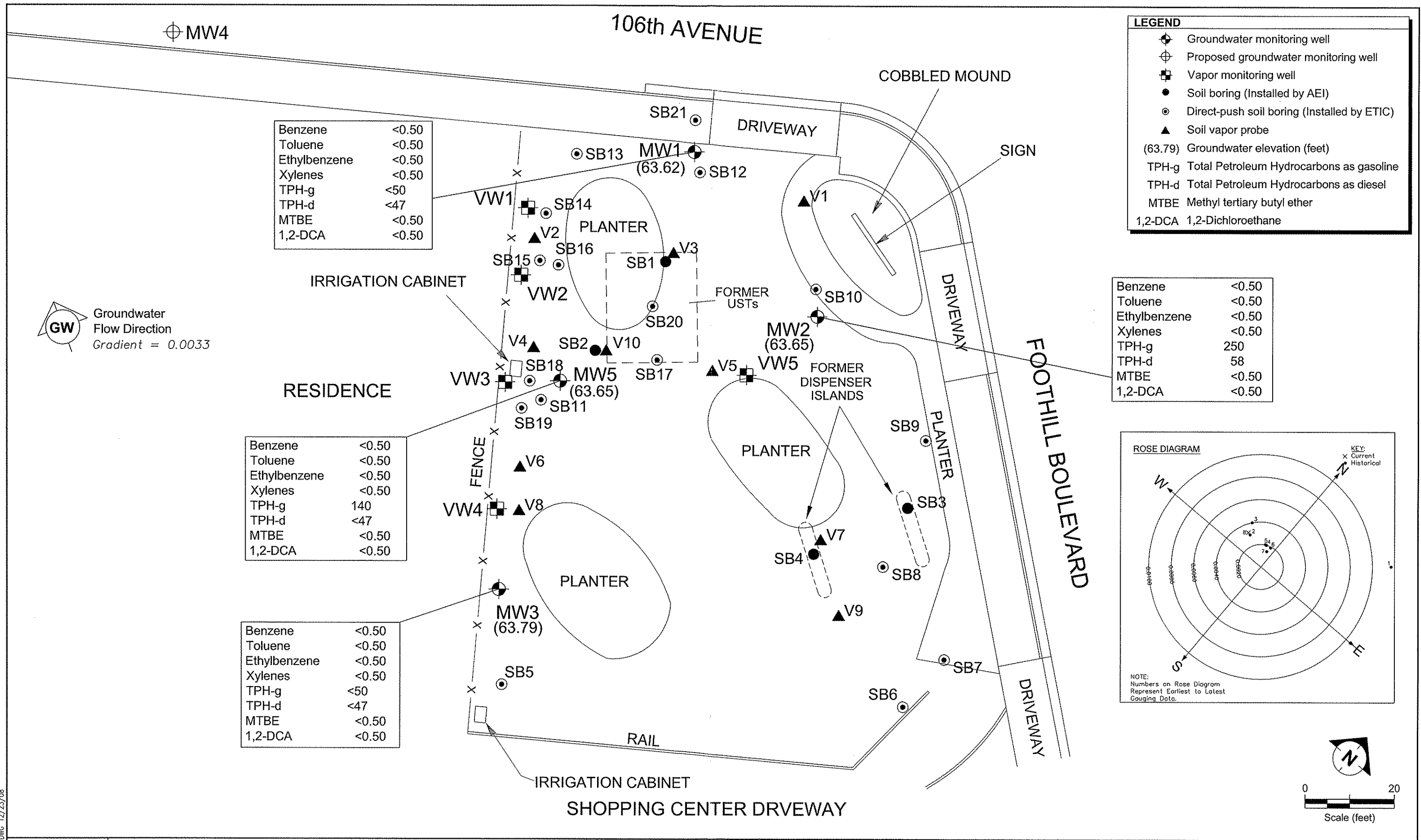
Table 3: Groundwater Monitoring Plan

Appendix A: Field Protocols

Appendix B: Field Documents

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

## Figures



SITE MAP SHOWING GROUNDWATER ELEVATIONS AND ANALYTICAL RESULTS  
 FORMER EXXON RS 74121  
 10605 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA  
 1 DECEMBER 2008

FIGURE:  
**1**

## **Tables**



TABLE 1 WELL CONSTRUCTION DETAILS, FORMER EXXON RS 74121, 10605 FOOTHILL BOULEVARD, OAKLAND, 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 01/23/07	82.47	PVC	26.5	25	8	2	10 - 25	0.010	8 - 25	#2/12 Sand
MW2	a 01/23/07	84.40	PVC	26.5	25	8	2	10 - 25	0.010	8 - 25	#2/12 Sand
MW3	a 01/24/07	83.25	PVC	26.5	25	8	2	10 - 25	0.010	8 - 25	#2/12 Sand
MW5	a 01/23/07	82.65	PVC	26.5	25	8	2	10 - 25	0.010	8 - 25	#2/12 Sand
VW1	a 01/22/07	--	SS	6	6	6	0.125	5.25 - 5.75	0.010	5 - 6	#2/12 Sand
VW2	a 01/22/07	--	SS	6	6	6	0.125	5.25 - 5.75	0.010	5 - 6	#2/12 Sand
VW3	a 01/22/07	--	SS	6	6	6	0.125	5.25 - 5.75	0.010	5 - 6	#2/12 Sand
VW4	a 01/22/07	--	SS	6	6	6	0.125	5.25 - 5.75	0.010	5 - 6	#2/12 Sand
VW5	a 01/22/07	--	SS	6	6	6	0.125	5.25 - 5.75	0.010	5 - 6	#2/12 Sand

Notes:

a Well surveyed on 12 March 2007 by Morrow Surveying.

PVC Polyvinyl chloride.

SS Stainless steel.

TOC Top of casing.

TABLE 2 GROUNDWATER MONITORING DATA, FORMER EXXON RETAIL SITE 74121, 10605 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA

Well ID	Date	Top of Casing Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	LPH Thickness (feet)	Concentration (µg/L)													
						Benzene	Toluene	Ethyl- benzene	Xylenes	TPH-g	TPH-d	MTBE	TBA	DIPE	ETBE	1,2-DCA	TAME	EDB	
MW1	03/08/07	82.47	15.10	67.37	0.00	<1.00	1.21	<1.00	<3.00	440	119	1.91	<10.0	<0.500	<0.500	<0.500	0.560	<0.500	
MW1	06/08/07	82.47	16.47	66.00	0.00	<0.50	<0.50	<0.50	<0.50	127	<47.6	0.880	<10.0 <sup>a,b</sup>	<0.500	<0.500	<0.500	<0.500	<0.500	
MW1	09/06/07	82.47	17.47	65.00	0.00	<0.50	<0.50	<0.50	<0.50	78.0	<47.2	0.590	<10.0 <sup>a,b</sup>	<0.500	<0.500	<0.500	<0.500	<0.500	
MW1	12/03/07	82.47	18.10	64.37	0.00	<0.50	<0.50	<0.50	<0.50	<50	<47	<0.50	<20	<0.50	<0.50	<0.50	<0.50	<0.50	
MW1	03/19/08	82.47	16.20	66.27	0.00	<0.50	<0.50	<0.50	<0.50	51.3	61 <sup>c</sup>	3.08	<10.0	<0.500	<0.500	<0.500	0.930	<0.500	
MW1	06/11/08	82.47	17.24	65.23	0.00	<0.50	<0.50	<0.50	<0.50	<50	<47	0.99	<20	<0.50	<0.50	<0.50	<0.50	<0.50	
MW1	09/16/08	82.47	18.37	64.10	0.00	<0.50	<0.50	<0.50	<0.50	<50	<47	<0.50	<20	<0.50	<0.50	<0.50	<0.50	<0.50	
<b>MW1</b>	<b>12/01/08</b>	<b>82.47</b>	<b>18.85</b>	<b>63.62</b>	<b>0.00</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;50</b>	<b>&lt;47</b>	<b>&lt;0.50</b>	<b>&lt;20</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	
MW2	03/08/07	84.40	16.97	67.43	0.00	1.33	3.52	2.41	<3.00	1,620	550	<0.500	<10.0	<0.500	<0.500	<0.500	<0.500	<0.500	
MW2	06/08/07	84.40	18.34	66.06	0.00	21.8	2.45	0.66	<0.50	2,120	395	<0.500	10.0 <sup>c</sup>	<0.500	<0.500	<0.500	<0.500	<0.500	
MW2	09/06/07	84.40	19.33	65.07	0.00	4.66	0.70	<0.50	1.25	470	208	<0.500	<10.0 <sup>a,c</sup>	<0.500	<0.500	<0.500	<0.500	<0.500	
MW2	12/03/07	84.40	19.97	64.43	0.00	22 <sup>d</sup>	<0.50	<0.50	<0.50	560	120 <sup>e</sup>	<0.50	<20	<0.50	<0.50	<0.50	<0.50	<0.50	
MW2	03/19/08	84.40	18.07	66.33	0.00	5.33	<0.50	<0.50	0.82	630	200 <sup>e</sup>	<0.500	<10.0	<0.500	<0.500	<0.500	<0.500	<0.500	
MW2	06/11/08	84.40	19.13	65.27	0.00	<0.50	<0.50	<0.50	<0.50	430	110 <sup>e</sup>	<0.50	<20	<0.50	<0.50	<0.50	<0.50	<0.50	
MW2	09/16/08	84.40	20.25	64.15	0.00	8.1 <sup>d</sup>	<0.50	<0.50	<0.50	230	63 <sup>c</sup>	<0.50	<20	<0.50	<0.50	<0.50	<0.50	<0.50	
<b>MW2</b>	<b>12/01/08</b>	<b>84.40</b>	<b>20.75</b>	<b>63.65</b>	<b>0.00</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>250</b>	<b>58<sup>c</sup></b>	<b>&lt;0.50</b>	<b>&lt;20</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	
MW3	03/08/07	83.25	15.49	67.76	0.00	<1.00	<1.00	<1.00	<3.00	<100	52.9	<0.500	<10.0	<0.500	<0.500	<0.500	<0.500	<0.500	
MW3	06/08/07	83.25	17.02	66.23	0.00	<0.50	<0.50	<0.50	<0.50	<50.0	<47.6	<0.500	<10.0 <sup>a,b</sup>	<0.500	<0.500	<0.500	<0.500	<0.500	
MW3	09/06/07	83.25	18.07	65.18	0.00	<0.50	<0.50	<0.50	<0.50	<50.0	<47.2	<0.500	<10.0 <sup>a,b</sup>	<0.500	<0.500	<0.500	<0.500	<0.500	
MW3	12/03/07	83.25	18.69	64.56	0.00	<0.50	<0.50	<0.50	<0.50	<50	<47	<0.50	<20	<0.50	<0.50	<0.50	<0.50	<0.50	
MW3	03/19/08	83.25	16.79	66.46	0.00	<0.50	<0.50	<0.50	<0.50	<50.0	<47	<0.500	<10.0	<0.500	<0.500	<0.500	<0.500	<0.500	
MW3	06/11/08	83.25	17.82	65.43	0.00	<0.50	<0.50	<0.50	<0.50	<50	<47	<0.50	<20	<0.50	<0.50	<0.50	<0.50	<0.50	
MW3	09/16/08	83.25	18.99	64.26	0.00	<0.50	<0.50	<0.50	<0.50	<50	<47	<0.50	<20	<0.50	<0.50	<0.50	<0.50	<0.50	
<b>MW3</b>	<b>12/01/08</b>	<b>83.25</b>	<b>19.46</b>	<b>63.79</b>	<b>0.00</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;50</b>	<b>&lt;47</b>	<b>&lt;0.50</b>	<b>&lt;20</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	
MW5	03/08/07	82.65	14.31	68.34	0.00	<1.00	<1.00	<1.00	<3.00	187	59.2	<0.500	<10.0	<0.500	<0.500	<0.500	<0.500	<0.500	
MW5	06/08/07	82.65	16.64	66.01	0.00	4.38	0.72	<0.50	<0.50	780	90.3	<0.500	<10.0 <sup>a,b</sup>	<0.500	<0.500	<0.500	<0.500	<0.500	
MW5	09/06/07	82.65	17.62	65.03	0.00	<0.50	<0.50	<0.50	<0.50	<50.0	121	<0.500	<10.0 <sup>a,b</sup>	<0.500	<0.500	<0.500	<0.500	<0.500	
MW5	12/03/07	82.65	18.27	64.38	0.00	<0.50	<0.50	<0.50	<0.50	100	65 <sup>c</sup>	<0.50	<20	<0.50	<0.50	<0.50	<0.50	<0.50	
MW5	03/19/08	82.65	16.37	66.28	0.00	0.69	<0.50	<0.50	0.87	237	110 <sup>e</sup>	<0.500	<10.0	<0.500	<0.500	<0.500	<0.500	<0.500	
MW5	06/11/08	82.65	17.40	65.25	0.00	<0.50	<0.50	<0.50	0.65	83	77 <sup>c</sup>	<0.50	<20	<0.50	<0.50	<0.50	<0.50	<0.50	
MW5	09/16/08	82.65	18.54	64.11	0.00	<0.50	<0.50	<0.50	<0.50	120	<47	<0.50	<20	<0.50	<0.50	<0.50	<0.50	<0.50	
<b>MW5</b>	<b>12/01/08</b>	<b>82.65</b>	<b>19.00</b>	<b>63.65</b>	<b>0.00</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>140</b>	<b>&lt;47</b>	<b>&lt;0.50</b>	<b>&lt;20</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	

Notes: MTBE analyzed by EPA Method 8260B unless otherwise indicated.

- a Calibration verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
- b Laboratory control sample and/or laboratory control sample duplicate recovery was above the acceptance limits. Analyte not detected, data not impacted.
- c Initial analysis within holding time. Reanalysis for the required dilution or confirmation was past holding time.
- d The relative percent difference between the primary and confirmatory analysis exceeded 40%. Per EPA Method 8000B, the higher value was reported.
- e Does not match typical pattern.

TABLE 2 GROUNDWATER MONITORING DATA, FORMER EXXON RETAIL SITE 74121, 10605 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA

Well ID	Date	Top of Casing Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	LPH Thickness (feet)	Concentration (µg/L)												
						Benzene	Toluene	Ethyl- benzene	Xylenes	TPH-g	TPH-d	MTBE	TBA	DIPE	ETBE	1,2-DCA	TAME	EDB
1,2-DCA	1,2-Dichloroethane.																	
DIPE	Diisopropyl ether.																	
EDB	1,2-Dibromoethane.																	
ETBE	Ethyl tertiary butyl ether.																	
MTBE	Methyl tertiary butyl ether.																	
TAME	Tertiary amyl methyl ether.																	
TBA	Tertiary butyl alcohol.																	
TPH-d	Total Petroleum Hydrocarbons as diesel analyzed by EPA Method 8015B.																	
TPH-g	Total Petroleum Hydrocarbons as gasoline analyzed by EPA Method 8015B.																	
µg/L	Micrograms per liter.																	

TABLE 3

GROUNDWATER MONITORING PLAN, FORMER EXXON RS 74121,  
10605 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA

Well Number	Groundwater Gauging Frequency	Groundwater Sampling and Analysis Frequency		
		TPH-g, TPH-d, and BTEX	MTBE	Other Oxygenates and Additives
MW1	Q	Q	Q	Q
MW2	Q	Q	Q	Q
MW3	Q	Q	Q	Q
MW5	Q	Q	Q	Q

Notes: Oxygenates and additives include diisopropyl ether, tertiary butyl alcohol, tertiary amyl methyl ether, ethyl tertiary butyl ether, 1,2-dibromoethane, and 1,2-dichloroethane.

BTEX Benzene, toluene, ethylbenzene, and xylenes.

MTBE Methyl tertiary butyl ether.

Q Quarterly.

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**







# GROUNDWATER PURGE AND SAMPLE FORM

Engineering, Inc.

Project Name: Exxon 74121	Well No: MW1	Date: 12-01-08
Project No: UP4121.1.6	Personnel: TBIADER	

### 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)
		24.34	- 18.85	= 5.49	X 1	2	4	6	0.84
				0.04	0.16	0.64	1.44		

### PURGING DATA

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

Time	10:16	10:18	10:20			
Volume Purge (gal)	1.00	2.00	3.00			
Temperature (°C)	17.4	18.1	18.3			
pH	6.42	6.41	6.40			
Spec. Cond. (umhos)	1269	1304	1302			
Turbidity/Color	<del>547</del> 2300 (nd)	<del>547</del> 2300 (nd)	<del>547</del> 2300 (nd)			
Odor (Y/N)	N	N	N			
Casing Volumes	1	2	3			
Dewatered (Y/N)	N	N	N			

Comments/Observations:

### SAMPLING DATA

Time Sampled: 10:25 Approximate Depth to Water During Sampling: 19. (feet)

Comments:

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/Color	Analysis Method
MW1	9	Voa	HCL	40 ml		TPH-g, BTEX, MTBE
MW1	2	AMBERS	NONE	1L		TPH-D

Total Purge Volume: 3 (gallons) Disposal: SYSTEM

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

Project Name: Exxon 74121 Well No: MW2 Date: 12/1/08  
 Project No: UP4121.1.6 Personnel: TSINDER

**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)
		24.75	20.75	4.0	X 1	2	4	6	0.64
				0.04	0.16	0.64	1.44		

**PURGING DATA**

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

Time	1045	1047	1050			
Volume Purge (gal)	1.00	2.00	3.00			
Temperature (C)	17.3	17.4	17.8			
pH	6.60	6.67	7.01			
Spec Cond. (umhos)	1122	1066	1081			
Turbidity/Color	<del>SUT GREY</del>	<del>SUT GREY</del>	<del>SUT CLEAR</del>			
Odor (Y/N)	YES	YES	YES			
Casing Volumes	1	2	3			
Dewatered (Y/N)	NONE	NONE	NONE			

Comments/Observations:

**SAMPLING DATA**

Time Sampled: 1055 Approximate Depth to Water During Sampling: 21 (feet)

Comments:

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method
MW2	9	Voa	HCL	40 ml		TPH-g, BTEX, MTBE
MW2	2	AMBERS	NONE	1L		TPH-D

Total Purge Volume: 3 (gallons) Disposal: SYSTEM

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



GROUNDWATER PURGE AND SAMPLE FORM

Engineering, Inc.

Project Name: Exxon 74121 Well No: MW3 Date: 12-01-08  
 Project No: UP4121.1.6 Personnel: BINDER

GAUGING DATA

Water Level Measuring Method: WLM / B 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)						
	23.57	-	16.99	=	4.58	X	1	0.04	0.16	0.64	1.44	4	6	0.73	=

PURGING DATA

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

Time	1115	1117	1119			
Volume Purge (gal)	1.00	2.50	3.00			
Temperature (C)	17.0	17.4	17			
pH	6.65	6.63	6.61			
Spec Cond. (umhos)	1390	1414	1425			
Turbidity/Color	<del>51074</del> TSP0.001	<del>51074</del> TSP0.001	<del>51074</del> TSP0.001			
Odor (Y/N)	N	N	N			
Casing Volumes	1	2	3			
Dewatered (Y/N)	N	N	N			

Comments/Observations:

SAMPLING DATA

Time Sampled: 1125 Approximate Depth to Water During Sampling: 19 (feet)

Comments:

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method
MW3	9	Voa	HCL	40 ml		TPH-g, BTEX, MTBE
MW3	2	AMBERS	NONE	1L		TPH-D

Total Purge Volume: 3 (gallons) Disposal: SYSTEM

Weather Conditions: ok	BOLTS	<input checked="" type="checkbox"/>	/	N
Condition of Well Box and Casing at Time of Sampling: ok	CAP & LOCK	<input checked="" type="checkbox"/>	/	N
Well Head Conditions Requiring Correction: None	GROUT	<input checked="" type="checkbox"/>	/	N
Problems Encountered During Purging and Sampling: None	WELL BOX	<input checked="" type="checkbox"/>	/	N
Comments:	SECURED	<input checked="" type="checkbox"/>	/	N

Project Name: Exxon 74121 Well No: *MW5* Date: *12.01.08*  
 Project No: UP4121.1.6 Personnel: *T BINDER*

**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)
		<i>25.43</i>	<i>19.00</i>	<i>6.43</i>	<i>X</i> 1	<i>2</i>	4	6	<i>1.02</i>
				0.04	0.16	0.64	1.44		

**PURGING DATA**

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

Time	<i>11:45</i>	<i>11:47</i>				
Volume Purge (gal)	<i>1.56</i>	<i>3.03</i>	<i>4.56</i>			
Temperature (C)	<i>16.6</i>	<i>17.0</i>				
pH	<i>6.87</i>	<i>6.73</i>				
Spec. Cond. (umhos)	<i>1013</i>	<i>1139</i>				
Turbidity/Color	<i>slut / GRAY</i>	<i>slut / GRAY</i>				
Odor (Y/N)	<i>N</i>	<i>N</i>				
Casing Volumes	<i>1</i>	<i>2</i>	<i>3</i>			
Dewatered (Y/N)	<i>N</i>	<i>N</i>				

Comments/Observations: *dewatered at 3.5 gallons*

**SAMPLING DATA**

Time Sampled: *12:05* Approximate Depth to Water During Sampling: *19* (feet)

Comments:

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method
<i>MW5</i>	9	Voa	HCL	40 ml		TPH-g, BTEX, MTBE
<i>MW5</i>	2	AMBERS	NONE	1L		TPH-D

Total Purge Volume: *3.5* (gallons) Disposal: SYSTEM

Weather Conditions: *OK* BOLTS *(Y)* / N

Condition of Well Box and Casing at Time of Sampling: *OK* CAP & LOCK *(Y)* / N

Well Head Conditions Requiring Correction: *NONE* GROUT *(Y)* / N

Problems Encountered During Purging and Sampling: *dewatered* WELL BOX. *(Y)* / N

Comments: SECURED *(Y)* / N

## **Appendix C**

### **Laboratory Analytical Reports and Chain-of-Custody Documentation**

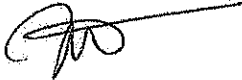
10 December, 2008

Erik Appel  
ETIC Engineering Inc - Pleasant Hill (Exxon)  
2285 Morello Avenue  
Pleasant Hill, CA 94523

RE: Exxon 7-4121  
Work Order: MRL0033

Enclosed are the results of analyses for samples received by the laboratory on 12/01/08 18:30. The samples arrived at a temperature of 7° C. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Megan Tran  
VOA

CA ELAP Certificate #2682

ETIC Engineering Inc - Pleasant Hill (Exxon)  
2285 Morello Avenue  
Pleasant Hill CA, 94523

Project: Exxon 7-4121  
Project Number: 7-4121  
Project Manager: Erik Appel

MRL0033  
Reported:  
12/10/08 17:16

## ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW1	MRL0033-01	Water	12/01/08 10:25	12/01/08 18:30
MW2	MRL0033-02	Water	12/01/08 10:55	12/01/08 18:30
MW3	MRL0033-03	Water	12/01/08 11:25	12/01/08 18:30
MW5	MRL0033-04	Water	12/01/08 12:05	12/01/08 18:30

ETIC Engineering Inc - Pleasant Hill (Exxon) 2285 Morello Avenue Pleasant Hill CA, 94523	Project: Exxon 7-4121 Project Number: 7-4121 Project Manager: Erik Appel	MRL0033 Reported: 12/10/08 17:16
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## Purgeable Hydrocarbons and BTEX by EPA 8015B/8021B

### TestAmerica Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW1 (MRL0033-01) Water Sampled: 12/01/08 10:25 Received: 12/01/08 18:30</b>									
Gasoline Range Organics (C4-C12)	ND	50	ug/l	1	8L04001	12/04/08	12/04/08	EPA 8015B/8021B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		108 %		85-120	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		119 %		75-125	"	"	"	"	
<b>MW2 (MRL0033-02) Water Sampled: 12/01/08 10:55 Received: 12/01/08 18:30</b>									
Gasoline Range Organics (C4-C12)	250	.50	ug/l	1	8L04001	12/04/08	12/04/08	EPA 8015B/8021B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		108 %		85-120	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		129 %		75-125	"	"	"	"	ZX
<b>MW3 (MRL0033-03) Water Sampled: 12/01/08 11:25 Received: 12/01/08 18:30</b>									
Gasoline Range Organics (C4-C12)	ND	50	ug/l	1	8L04001	12/04/08	12/04/08	EPA 8015B/8021B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		107 %		85-120	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %		75-125	"	"	"	"	



ETIC Engineering Inc - Pleasant Hill (Exxon)  
 2285 Morello Avenue  
 Pleasant Hill CA, 94523

Project: Exxon 7-4121  
 Project Number: 7-4121  
 Project Manager: Erik Appel

MRL0033  
 Reported:  
 12/10/08 17:16

**Purgeable Hydrocarbons and BTEX by EPA 8015B/8021B**  
**TestAmerica Morgan Hill**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**MW5 (MRL0033-04) Water**    **Sampled: 12/01/08 12:05**    **Received: 12/01/08 18:30**

<b>Gasoline Range Organics (C4-C12)</b>	<b>140</b>	<b>50</b>	<b>ug/l</b>	<b>1</b>	<b>8L04001</b>	<b>12/04/08</b>	<b>12/04/08</b>	<b>EPA 8015B/8021B</b>	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		<i>108 %</i>		<i>85-120</i>					
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>119 %</i>		<i>75-125</i>					

ETIC Engineering Inc - Pleasant Hill (Exxon)  
2285 Morello Avenue  
Pleasant Hill CA, 94523

Project: Exxon 7-4121  
Project Number: 7-4121  
Project Manager: Erik Appel

MRL0033  
Reported:  
12/10/08 17:16

## Extractable Hydrocarbons with Silica Gel cleanup by EPA 8015B

### TestAmerica Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW1 (MRL0033-01) Water Sampled: 12/01/08 10:25 Received: 12/01/08 18:30</b>									
Diesel Range Organics (C10-C28)	ND	47	ug/l	1	8L03007	12/03/08	12/03/08	EPA 8015B-SVOA	
Surrogate: <i>n-Octacosane</i>		85 %	35-120		"	"	"	"	C8
<b>MW2 (MRL0033-02) Water Sampled: 12/01/08 10:55 Received: 12/01/08 18:30</b>									
Diesel Range Organics (C10-C28)	58	47	ug/l	1	8L03007	12/03/08	12/03/08	EPA 8015B-SVOA	Q1
Surrogate: <i>n-Octacosane</i>		43 %	35-120		"	"	"	"	C8
<b>MW3 (MRL0033-03) Water Sampled: 12/01/08 11:25 Received: 12/01/08 18:30</b>									
Diesel Range Organics (C10-C28)	ND	47	ug/l	1	8L03007	12/03/08	12/03/08	EPA 8015B-SVOA	
Surrogate: <i>n-Octacosane</i>		89 %	35-120		"	"	"	"	C8
<b>MW5 (MRL0033-04) Water Sampled: 12/01/08 12:05 Received: 12/01/08 18:30</b>									
Diesel Range Organics (C10-C28)	ND	47	ug/l	1	8L03007	12/03/08	12/03/08	EPA 8015B-SVOA	
Surrogate: <i>n-Octacosane</i>		118 %	35-120		"	"	"	"	C8

ETIC Engineering Inc - Pleasant Hill (Exxon)  
2285 Morello Avenue  
Pleasant Hill CA, 94523

Project: Exxon 7-4121  
Project Number: 7-4121  
Project Manager: Erik Appel

MRL0033  
Reported:  
12/10/08 17:16

## Volatile Organic Compounds by EPA Method 8260B

### TestAmerica Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**MW1 (MRL0033-01) Water** Sampled: 12/01/08 10:25 Received: 12/01/08 18:30

tert-Amyl methyl ether	ND	0.50	ug/l	1	8L03022	12/03/08	12/04/08	EPA 8260B	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	

Surrogate: Dibromofluoromethane		106 %		80-120	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		104 %		75-130	"	"	"	"	
Surrogate: Toluene-d8		101 %		80-120	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92 %		70-120	"	"	"	"	

**MW2 (MRL0033-02) Water** Sampled: 12/01/08 10:55 Received: 12/01/08 18:30

tert-Amyl methyl ether	ND	0.50	ug/l	1	8L03022	12/03/08	12/04/08	EPA 8260B	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	

Surrogate: Dibromofluoromethane		98 %		80-120	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		91 %		75-130	"	"	"	"	
Surrogate: Toluene-d8		101 %		80-120	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99 %		70-120	"	"	"	"	

ETIC Engineering Inc - Pleasant Hill (Exxon)  
2285 Morello Avenue  
Pleasant Hill CA, 94523

Project: Exxon 7-4121  
Project Number: 7-4121  
Project Manager: Erik Appel

MRL0033  
Reported:  
12/10/08 17:16

**Volatile Organic Compounds by EPA Method 8260B**  
**TestAmerica Morgan Hill**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW3 (MRL0033-03) Water    Sampled: 12/01/08 11:25    Received: 12/01/08 18:30</b>									
tert-Amyl methyl ether	ND	0.50	ug/l	1	8L03022	12/03/08	12/04/08	EPA 8260B	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		105 %		80-120	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		102 %		75-130	"	"	"	"	
<i>Surrogate: Toluene-d8</i>		98 %		80-120	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		91 %		70-120	"	"	"	"	
<b>MW5 (MRL0033-04) Water    Sampled: 12/01/08 12:05    Received: 12/01/08 18:30</b>									
tert-Amyl methyl ether	ND	0.50	ug/l	1	8L03022	12/03/08	12/04/08	EPA 8260B	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		103 %		80-120	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		102 %		75-130	"	"	"	"	
<i>Surrogate: Toluene-d8</i>		101 %		80-120	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		95 %		70-120	"	"	"	"	

ETIC Engineering Inc - Pleasant Hill (Exxon)  
2285 Morello Avenue  
Pleasant Hill CA, 94523

Project: Exxon 7-4121  
Project Number: 7-4121  
Project Manager: Erik Appel

MRL0033  
Reported:  
12/10/08 17:16

## Purgeable Hydrocarbons and BTEX by EPA 8015B/8021B - Quality Control TestAmerica Morgan Hill

Analyte	Result	Evaluation Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Notes
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### Batch 8L04001 - EPA 5030B [P/T]

#### Blank (8L04001-BLK1)

Prepared & Analyzed: 12/04/08

Gasoline Range Organics (C4-C12)	ND	25	ug/l							
Benzene	ND	0.25	"							
Toluene	ND	0.25	"							
Ethylbenzene	ND	0.25	"							
Xylenes (total)	ND	0.42	"							
Surrogate: a,a,a-Trifluorotoluene	42.7		"	40.0		107	85-120			
Surrogate: 4-Bromofluorobenzene	46.5		"	40.0		116	75-125			

#### LCS (8L04001-BS1)

Prepared & Analyzed: 12/04/08

Benzene	10.6	0.50	ug/l	10.0		106	70-130			
Toluene	10.4	0.50	"	10.0		104	70-130			
Ethylbenzene	9.91	0.50	"	10.0		99	70-130			
Xylenes (total)	29.9	0.50	"	30.0		100	70-130			
Surrogate: a,a,a-Trifluorotoluene	41.4		"	40.0		103	85-120			

#### LCS (8L04001-BS2)

Prepared & Analyzed: 12/04/08

Gasoline Range Organics (C4-C12)	232	50	ug/l	250		93	70-130			
Surrogate: 4-Bromofluorobenzene	45.5		"	40.0		114	75-125			

#### LCS Dup (8L04001-BSD2)

Prepared & Analyzed: 12/04/08

Gasoline Range Organics (C4-C12)	224	50	ug/l	250		90	70-130	3	25	
Surrogate: 4-Bromofluorobenzene	45.9		"	40.0		115	75-125			

#### Matrix Spike (8L04001-MS1)

Source: MRK0767-01

Prepared & Analyzed: 12/04/08

Gasoline Range Organics (C4-C12)	127	50	ug/l	91.0	28.0	108	70-130			
Benzene	10.9	0.50	"	10.0	0.793	101	70-130			
Toluene	10.6	0.50	"	10.0	ND	106	70-130			
Ethylbenzene	10.4	0.50	"	10.0	ND	104	70-130			
Xylenes (total)	31.2	0.50	"	30.0	ND	104	70-130			
Surrogate: a,a,a-Trifluorotoluene	42.2		"	40.0		105	85-120			
Surrogate: 4-Bromofluorobenzene	45.2		"	40.0		113	75-125			

ETIC Engineering Inc - Pleasant Hill (Exxon)  
2285 Morello Avenue  
Pleasant Hill CA, 94523

Project: Exxon 7-4121  
Project Number: 7-4121  
Project Manager: Erik Appel

MRL0033  
Reported:  
12/10/08 17:16

## Purgeable Hydrocarbons and BTEX by EPA 8015B/8021B - Quality Control TestAmerica Morgan Hill

Analyte	Result	Evaluation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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### Batch 8L04001 - EPA 5030B [P/T]

#### Matrix Spike Dup (8L04001-MSD1)

Source: MRK0767-01

Prepared & Analyzed: 12/04/08

Gasoline Range Organics (C4-C12)	116	50	ug/l	91.0	28.0	97	70-130	9	25	
Benzene	10.7	0.50	"	10.0	0.793	99	70-130	2	25	
Toluene	9.88	0.50	"	10.0	ND	99	70-130	7	25	
Ethylbenzene	10.5	0.50	"	10.0	ND	105	70-130	0.3	25	
Xylenes (total)	30.4	0.50	"	30.0	ND	101	70-130	3	25	
Surrogate: <i>a,a,a</i> -Trifluorotoluene	43.0		"	40.0		108	85-120			
Surrogate: 4-Bromofluorobenzene	43.1		"	40.0		108	75-125			

ETIC Engineering Inc - Pleasant Hill (Exxon)  
2285 Morello Avenue  
Pleasant Hill CA, 94523

Project: Exxon 7-4121  
Project Number: 7-4121  
Project Manager: Erik Appel

MRL0033  
Reported:  
12/10/08 17:16

## Extractable Hydrocarbons with Silica Gel cleanup by EPA 8015B - Quality Control TestAmerica Morgan Hill

Analyte	Result	Evaluation Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 8L03007 - EPA 3510C</b>									
<b>Blank (8L03007-BLK1)</b>					Prepared & Analyzed: 12/03/08				
Diesel Range Organics (C10-C28)	ND	25	ug/l						
Surrogate: n-Octacosane	37.5		"	50.0		75 35-120			C8
<b>LCS (8L03007-BS1)</b>					Prepared & Analyzed: 12/03/08				
Diesel Range Organics (C10-C28)	336	50	ug/l	500		67 45-120			
Surrogate: n-Octacosane	30.1		"	50.0		60 35-120			C8
<b>LCS Dup (8L03007-BSD1)</b>					Prepared & Analyzed: 12/03/08				
Diesel Range Organics (C10-C28)	423	50	ug/l	500		85 45-120	23	25	
Surrogate: n-Octacosane	43.3		"	50.0		87 35-120			C8

ETIC Engineering Inc - Pleasant Hill (Exxon)  
2285 Morello Avenue  
Pleasant Hill CA, 94523

Project: Exxon 7-4121  
Project Number: 7-4121  
Project Manager: Erik Appel

MRL0033  
Reported:  
12/10/08 17:16

## Volatile Organic Compounds by EPA Method 8260B - Quality Control TestAmerica Morgan Hill

Analyte	Result	Evaluation Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Notes
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### Batch 8L03022 - EPA 5030B P/T

#### Blank (8L03022-BLK1)

Prepared & Analyzed: 12/03/08

tert-Amyl methyl ether	ND	0.25	ug/l							
tert-Butyl alcohol	ND	10	"							
Di-isopropyl ether	ND	0.25	"							
1,2-Dibromoethane (EDB)	ND	0.25	"							
1,2-Dichloroethane	ND	0.25	"							
Ethyl tert-butyl ether	ND	0.25	"							
Methyl tert-butyl ether	ND	0.25	"							
<i>Surrogate: Dibromofluoromethane</i>	7.69		"	7.50		103	80-120			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	7.47		"	7.50		100	75-130			
<i>Surrogate: Toluene-d8</i>	7.51		"	7.50		100	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	7.02		"	7.50		94	70-120			

#### LCS (8L03022-BS1)

Prepared & Analyzed: 12/03/08

tert-Amyl methyl ether	11.8	0.50	ug/l	10.0		118	70-130			
tert-Butyl alcohol	204	20	"	200		102	70-130			
Di-isopropyl ether	10.4	0.50	"	10.0		104	70-130			
1,2-Dibromoethane (EDB)	11.7	0.50	"	10.0		117	70-130			
1,2-Dichloroethane	10.4	0.50	"	10.0		104	70-130			
Ethyl tert-butyl ether	10.7	0.50	"	10.0		107	70-130			
Methyl tert-butyl ether	10.9	0.50	"	10.0		109	70-130			
<i>Surrogate: Dibromofluoromethane</i>	8.10		"	7.50		108	80-120			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	7.42		"	7.50		99	75-130			
<i>Surrogate: Toluene-d8</i>	7.76		"	7.50		103	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	7.70		"	7.50		103	70-120			

#### Matrix Spike (8L03022-MS1)

Source: MRK0775-01

Prepared: 12/03/08 Analyzed: 12/04/08

tert-Amyl methyl ether	9.77	0.50	ug/l	10.0	ND	98	70-130			
tert-Butyl alcohol	210	20	"	200	3.08	104	70-130			
Di-isopropyl ether	10.2	0.50	"	10.0	0.100	100	70-130			
1,2-Dibromoethane (EDB)	10.4	0.50	"	10.0	ND	104	70-130			
1,2-Dichloroethane	9.40	0.50	"	10.0	ND	94	70-130			
Ethyl tert-butyl ether	9.71	0.50	"	10.0	ND	97	70-130			

TestAmerica Morgan Hill

The results in this report apply to the samples analyzed in accordance with the chain of custody document. Unless otherwise stated, results are reported on a wet weight basis. This analytical report must be reproduced in its entirety.



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12/10/08 17:16

## Volatile Organic Compounds by EPA Method 8260B - Quality Control TestAmerica Morgan Hill

Analyte	Result	Evaluation Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Notes
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### Batch 8L03022 - EPA 5030B P/T

#### Matrix Spike (8L03022-MS1)

Source: MRK0775-01

Prepared: 12/03/08

Analyzed: 12/04/08

Methyl tert-butyl ether	9.47	0.50	ug/l	10.0	ND	95	70-130			
Surrogate: Dibromofluoromethane	7.61		"	7.50		101	80-120			
Surrogate: 1,2-Dichloroethane-d4	6.69		"	7.50		89	75-130			
Surrogate: Toluene-d8	7.63		"	7.50		102	80-120			
Surrogate: 4-Bromofluorobenzene	7.32		"	7.50		98	70-120			

#### Matrix Spike Dup (8L03022-MSD1)

Source: MRK0775-01

Prepared: 12/03/08

Analyzed: 12/04/08

tert-Amyl methyl ether	9.48	0.50	ug/l	10.0	ND	95	70-130	3	25	
tert-Butyl alcohol	207	20	"	200	3.08	102	70-130	1	25	
Di-isopropyl ether	9.29	0.50	"	10.0	0.100	92	70-130	9	25	
1,2-Dibromoethane (EDB)	9.81	0.50	"	10.0	ND	98	70-130	6	25	
1,2-Dichloroethane	8.88	0.50	"	10.0	ND	89	70-130	6	25	
Ethyl tert-butyl ether	8.89	0.50	"	10.0	ND	89	70-130	9	25	
Methyl tert-butyl ether	8.73	0.50	"	10.0	ND	87	70-130	8	25	
Surrogate: Dibromofluoromethane	7.40		"	7.50		99	80-120			
Surrogate: 1,2-Dichloroethane-d4	6.26		"	7.50		83	75-130			
Surrogate: Toluene-d8	7.50		"	7.50		100	80-120			
Surrogate: 4-Bromofluorobenzene	7.21		"	7.50		96	70-120			

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## Notes and Definitions

- ZX Due to sample matrix effects, the surrogate recovery was outside the acceptance limits.
- Q1 Does not match typical pattern
- C8 Calibration Verification recovery was above the method control limit for this analyte. A high bias may be indicated.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference



### TEST AMERICA SAMPLE RECEIPT LOG

CLIENT NAME: ETIC ENGINEERING  
 REC. BY (PRINT) AG  
 WORKORDER: MRLO033

DATE REC'D AT LAB: 12/1/08  
 TIME REC'D AT LAB: 1830  
 DATE LOGGED IN: 12/02/08

For Regulatory Purposes?  
 DRINKING WATER  
 WASTE WATER  
 OTHER

CIRCLE THE APPROPRIATE RESPONSE		LAB SAMPLE #	CLIENT ID	CONTAINER DESCRIPTION	PRESERVATIVE	pH**	SAMPLE MATRIX	DATE SAMPLED	Temp. >6°C	REMARKS: CONDITION
1. Custody Seal(s)	Present / Absent Intact / Broken*	01	MW1	40ML VOA (1)	-	1	W	12/1/08	NO	
2. Chain-of-Custody	Present / Absent*	02	MW2	11 Amb. (2)	AC1	1	↓	↓	↓	
3. Traffic Reports or Packing List:	Present / Absent	03 04	3 5	} same as MW1	-	1	↓	↓	↓	
4. Airbill / Sticker - Present / Absent Tracking #										
5. Sample Condition: Intact/Leaking*/Broken*										
6. Samples labeled	Yes / No*									
7. Sample ID's listed on COC	Yes / No*									
8. Does information on COC and sample labels agree?	Yes / No*									
9. Sample received within hold time:	Yes / No*									
10. Adequate sample volume received	Yes / No*									
11. Proper preservatives used	Yes / No*									
12. Trip Blank / Temp Blank Received? (circle which if yes)	Yes / No									
13. Thermometer Used : IR-1 / IR-3 / Backup										
14. Cooler	RT*** 70	CF*** -1.0	CT*** 60							
15. Is/Are corrected temp 0-6°C?	Yes / No*									

\*IF CIRCLED, CONTACT PROJECT MANAGER AND ATTACH RECORD OF RESOLUTION

\*\*CHECK SAMPLE PREP LOG IF NOT INDICATED

\*\*\* Read Temperature/Correction Factor/Corrected Temperature