

**ExxonMobil**  
**Refining & Supply Company**  
Global Remediation  
4096 Piedmont Avenue #194  
Oakland, CA 94611  
510.547.8196  
510.547.8706 FAX  
jennifer.c.sedlachek@exxonmobil.com

Jennifer C. Sedlachek  
Project Manager

**ExxonMobil**  
*Refining & Supply*

December 24, 2004

Mr. Bob Schultz  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway  
Alameda, CA 94501-6577

Alameda County  
JAN 05 2005  
Environmental Services

Subject: Former Exxon RAS #7-0210, 7840 Amador Valley Boulevard, Dublin, California

Dear Mr. Schultz:

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.

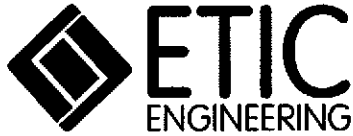
Sincerely,



Jennifer C. Sedlachek  
Project Manager

Attachment: ETIC Groundwater Monitoring Report dated December 2004

- c: w/ attachment:  
Mr. Joseph A. Aldridge - Valero Energy Corporation
  
- c: w/o attachment:  
Ms. Christa Marting - ETIC Engineering, Inc.



**Report of Groundwater Monitoring  
Fourth Quarter 2004**

**Former Exxon Retail Site 7-0210  
7840 Amador Valley Boulevard  
Dublin, California**

ALL INFORMATION CONTAINED  
HEREIN IS UNCLASSIFIED  
DATE 03/31/06 BY 60322/UC/STW

Prepared for

ExxonMobil Refining and Supply Company  
25A Crescent Drive #407  
Pleasant Hill, California 94523

Prepared by

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

*Ted Moise*

*12/23/04*

Ted Moise  
Senior Project Manager

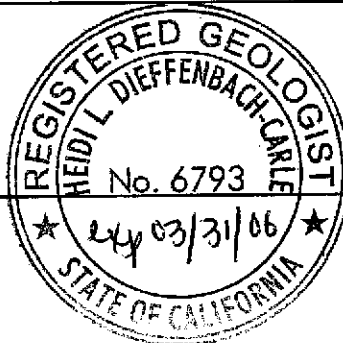
Date

*Heidi Dieffenbach-Carle*

*December 23, 2004*

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

Date



December 2004

## SITE CONTACTS

Station Number: Former Exxon Retail Site 7-0210

Station Address: 7840 Amador Valley Boulevard  
Dublin, 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: Ted Moise

Regulatory Oversight: Bob Schultz  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway  
Alameda, California 94501-6577  
(510) 567-6783

## INTRODUCTION

At the request of ExxonMobil Refining and Supply Company, ETIC Engineering, Inc. has prepared this quarterly groundwater monitoring report for former Exxon Retail Site 7-0210. 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 3 August 2004, the date of the last monitoring event, until 4 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 Exxon Retail Site 7-0210
<b>Site address:</b>	7840 Amador Valley Boulevard, Dublin, California
<b>Current property owner:</b>	Dublin Valero, Inc.
<b>Current site use:</b>	Active Valero-branded station operated by Dublin Valero, Inc.
<b>Current phase of project:</b>	Groundwater monitoring
<b>Tanks at site:</b>	Three underground storage tanks (gasoline)
<b>Number of wells:</b>	3 (all onsite)

## GROUNDWATER MONITORING SUMMARY

<b>Gauging and sampling date:</b>	4 November 2004
<b>Wells gauged and sampled:</b>	MW5-MW7
<b>Wells gauged only:</b>	None
<b>Groundwater flow direction:</b>	Southeast
<b>Groundwater gradient:</b>	0.003
<b>Well screens submerged:</b>	None
<b>Well screens not submerged:</b>	MW5-MW7
<b>Liquid-phase hydrocarbons:</b>	Not observed or detected
<b>Laboratory:</b>	TestAmerica, Inc., Nashville, Tennessee

### Analyses performed:

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

## **ADDITIONAL ACTIVITIES PERFORMED AT SITE**

No additional activities were performed at the site.

## **WORK PROPOSED FOR NEXT QUARTER**

Groundwater will be monitored in accordance with the attached groundwater monitoring plan. ExxonMobil plans to discuss site details with the Alameda County Health Care Services Agency concerning site closure.

### **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

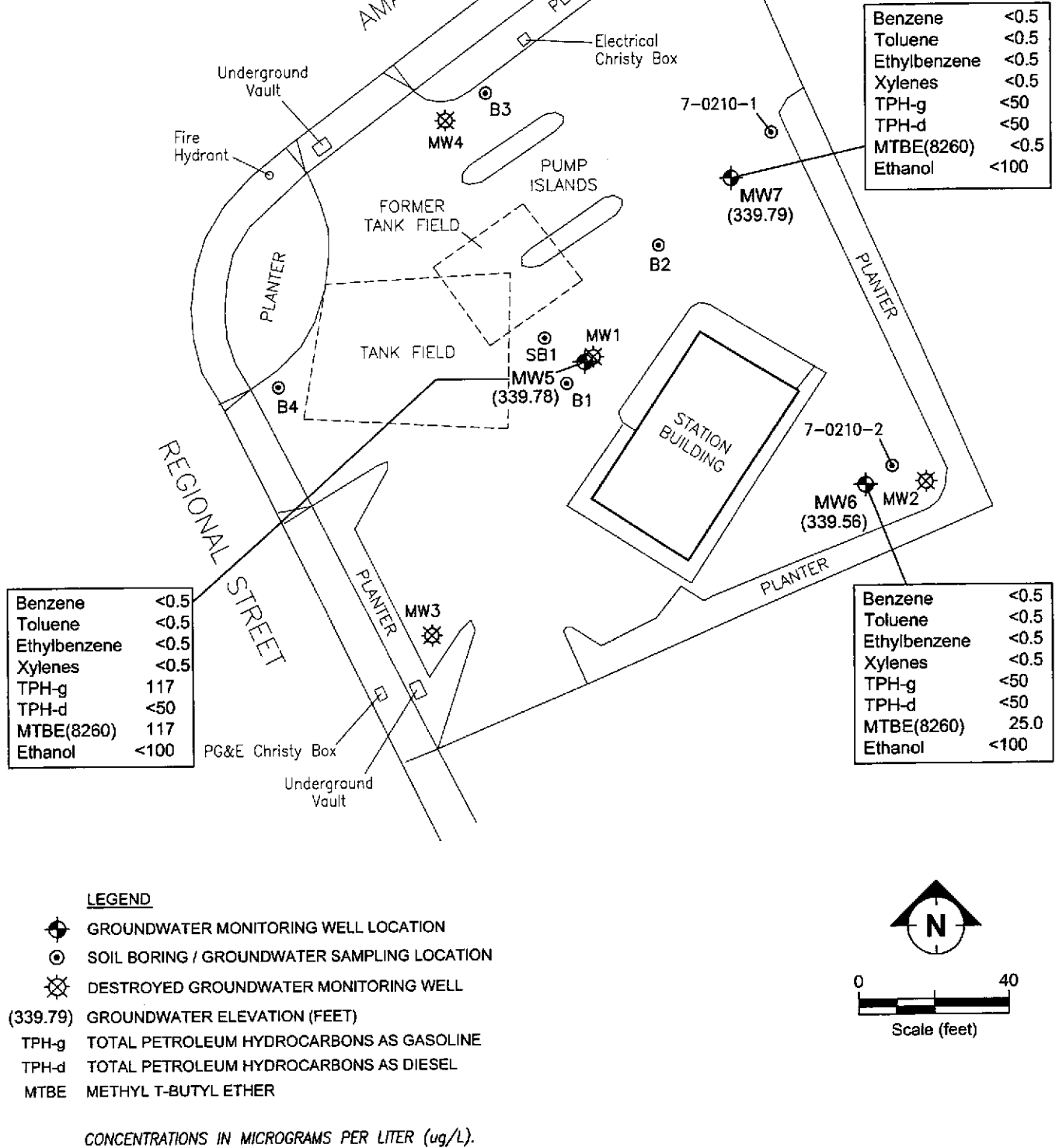
Appendix A: Field Protocols

Appendix B: Field Documents

Appendix C: Laboratory Analytical Reports



Groundwater  
Flow Direction  
Gradient = 0.003



FILENAME: 402004.DWG 12/13/04



SITE PLAN SHOWING GROUNDWATER ELEVATIONS  
AND ANALYTICAL RESULTS  
FORMER EXXON RS 7-0210, 7840 AMADOR VALLEY BLVD., DUBLIN, CA.  
4 NOVEMBER 2004

FIGURE:

1

TABLE 1 WELL CONSTRUCTION DETAILS, FORMER EXXON RS 7-0210, 7840 AMADOR VALLEY BOULEVARD, DUBLIN, 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	04/14/92	96.32	PVC	26.5	24.75	10.25	4	11-24	0.010	10-25	--
MW2	a	05/13/92	95.91	PVC	26	25	10.25	4	10-25	0.010	9.5-26	--
MW3	a	05/14/92	97.95	PVC	28	27.75	10.25	4	12.5-27.5	0.010	11-28	--
MW4	a	05/14/92	96.69	PVC	26.5	25	10.25	4	12-25	0.010	11-26	--
MW5	b	11/15/00	352.95	PVC	25	25	8.25	2	10-25	0.020	7-25	#3 sand
MW6	b	11/14/00	352.69	PVC	27	25	8.25	2	10-25	0.020	8-27	#3 sand
MW7	b	11/14/00	351.87	PVC	26	25	8.25	2	10-25	0.020	7-25	#3 sand

a Well was destroyed April 1996.  
 b Elevation is based on the Alameda Benchmark AM-STW. Elevation = 344.17 feet.  
 PVC Polyvinyl chloride.  
 TOC Top of casing.  
 -- Information not available.

TABLE 2 GROUNDWATER MONITORING DATA, FORMER EXXON RS 7-0210, 7840 AMADOR VALLEY BOULEVARD, DUBLIN, CALIFORNIA

Well Number	Date	Casing Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	LPH Thickness (feet)	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)	Ethanol (µg/L)	Other
														Oxygenates and Additives (µg/L)
MW1	05/21/92	96.32	14.45	81.87	0.00	<0.5	<0.5	<0.5	<0.5	<50				NA
MW1	02/10/93	96.32	12.22	84.10	0.00	3.1	<0.5	1.8	0.6	2,600				NA
MW1	05/20/93	96.32	10.74	85.58	0.00	1.9	<0.5	1.8	<1.0	1,000				NA
MW1	06/23/93	96.32	11.74	84.58	0.00	1.0	<0.5	1.2	<0.5	1,300				NA
MW1	08/23/93	96.32	12.72	83.60	0.00	<0.5	<0.5	<0.5	0.8	80				NA
MW1	10/25/93	96.32	13.99	82.33	0.00	<0.5	<0.5	0.8	1.3	140				NA
MW1	02/16/94	96.32	14.90	81.42	0.00	<0.5	<0.5	<0.5	<0.5	<50				NA
MW1	04/16/94	96.32	14.49	81.83	0.00	<0.5 <sup>b</sup>	<0.5	<0.5	<0.5	190				NA
MW1	07/26/94	96.32	15.11	81.21	0.00	<0.5 <sup>b</sup>	<0.5	<0.5	<0.5	130				NA
MW1	10/05/94	96.32	15.69	80.63	0.00	<0.5	<0.5	<0.5	<0.5	<50				NA
MW1	01/04/95	96.32	14.66	81.66	0.00	<0.5	<0.5	<0.5	<0.5	<50				NA
MW1	06/12/95	96.32	10.08	86.24	0.00	<0.5	<0.5	<0.5	<0.5	<50				230
MW1	Well destroyed April 1996.													
MW2	05/21/92	95.91	14.30	81.61	0.00	<0.5	<0.5	<0.5	<0.5	<50				NA
MW2	02/10/93	95.91	12.34	83.57	0.00	<0.5	<0.5	<0.5	<0.5	<50				NA
MW2	05/20/93	95.91	10.73	85.18	0.00	<0.5	<0.5	<0.5	<1.0	320				NA
MW2	06/23/93	95.91	11.74	84.17	0.00	<0.5	<0.5	<0.5	<0.5	130				NA
MW2	08/23/93	95.91	12.60	83.31	0.00	<0.5	<0.5	<0.5	1.1	140				NA
MW2	10/25/93	95.91	13.86	82.05	0.00	<0.5	<0.5	0.5	2.4	75				NA
MW2	02/16/94	95.91	14.73	81.18	0.00	<0.5	<0.5	<0.5	<0.5	<50				NA
MW2	04/16/94	95.91	14.33	81.58	0.00	<0.5	<0.5	<0.5	<0.5	<50				NA
MW2	07/26/94	95.91	14.96	80.95	0.00	<0.5	<0.5	<0.5	<0.5	<50				NA
MW2	10/05/94	95.91	15.49	80.42	0.00	<0.5	<0.5	<0.5	<0.5	<50				NA
MW2	01/04/95	95.91	14.44	81.47	0.00	<0.5	<0.5	<0.5	<0.5	<50				NA
MW2	06/12/95	95.91	10.10	85.81	0.00	<0.5	<0.5	<0.5	<0.5	<50				59
MW2	Well destroyed April 1996.													



TABLE 2 GROUNDWATER MONITORING DATA, FORMER EXXON RS 7-0210, 7840 AMADOR VALLEY BOULEVARD, DUBLIN, CALIFORNIA

Well Number	Date	Casing Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	LPH Thickness (feet)	Groundwater Concentrations (µg/L)					Other Oxygenates and Additives (µg/L)		
						Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-g	TPH-d	MTBE	Ethanol
MW3	05/21/92	97.95	16.05	81.90	0.00	<0.5	<0.5	<0.5	<0.5	<50			NA
MW3	02/10/93	97.95	13.77	84.18	0.00	<0.5	<0.5	<0.5	0.7	<50			NA
MW3	05/20/93	97.95	12.32	85.63	0.00	<0.5	<0.5	<0.5	<1.0	<50			NA
MW3	06/23/93	97.95	13.34	84.61	0.00	<0.5	<0.5	<0.5	<0.5	<50			NA
MW3	08/23/93	97.95	14.30	83.65	0.00	2.3	1.2	1.4	4.1	<50			NA
MW3	10/25/93	97.95	15.62	82.33	0.00	NS	NS	NS	NS	NS			NS
MW3	02/16/94	97.95	16.48	81.47	0.00	NS	NS	NS	NS	NS			NS
MW3	04/16/94	97.95	16.61	81.34	0.00	NS	NS	NS	NS	NS			NS
MW3	07/26/94	97.95	16.72	81.23	0.00	<0.5	<0.5	<0.5	<0.5	<50			NA
MW3	10/05/94	97.95	17.33	80.62	0.00	<0.5	<0.5	<0.5	<0.5	<50			NA
MW3	01/04/95	97.95	16.29	81.66	0.00	<0.5	<0.5	<0.5	<0.5	<50			NA
MW3	06/12/95	97.95	11.67	86.28	0.00	<0.5	<0.5	<0.5	<0.5	<50			<2.5
MW3			Well destroyed April 1996.										
MW4	05/21/92	96.69	14.59	82.10	0.00	<0.5	<0.5	<0.5	<0.5	<50			NA
MW4	02/10/93	96.69	12.30	84.39	0.00	<0.5	<0.5	<0.5	<0.5	<50			NA
MW4	05/20/93	96.69	10.75	85.94	0.00	1.4	1.0	<0.5	1.8	<50			NA
MW4	06/23/93	96.69	11.78	84.91	0.00	<0.5	<0.5	<0.5	<0.5	<50			NA
MW4	08/23/93	96.69	12.82	83.87	0.00	<0.5	<0.5	<0.5	0.8	<50			NA
MW4	10/25/93	96.69	14.10	82.59	0.00	NS	NS	NS	NS	NS			NS
MW4	02/16/94	96.69	15.02	81.67	0.00	<0.5	<0.5	<0.5	<0.5	<50			NA
MW4	04/16/94	96.69	14.61	82.08	0.00	NS	NS	NS	NS	NS			NS
MW4	07/26/94	96.69	15.23	81.46	0.00	<0.5	<0.5	<0.5	<0.5	<50			NA
MW4	10/05/94	96.69	15.85	80.84	0.00	<0.5	12	<0.5	<0.5	<50			NA
MW4	01/04/95	96.69	14.84	81.85	0.00	<0.5	<0.5	<0.5	<0.5	<50			NA
MW4	06/12/95	96.69	10.07	86.62	0.00	<0.5	<0.5	<0.5	<0.5	<50			<2.5

TABLE 2 GROUNDWATER MONITORING DATA, FORMER EXXON RS 7-0210, 7840 AMADOR VALLEY BOULEVARD, DUBLIN, CALIFORNIA

Well Number	Date	Casing Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	LPH Thickness (feet)	Ethyl-			Total		TPH-g (µg/L)	TPH-d (µg/L)	MTBE (µg/L)	Ethanol (µg/L)	Other Oxygenates and Additives (µg/L)
						Benzene (µg/L)	Toluene (µg/L)	benzene (µg/L)	Xylenes (µg/L)	TPH-g (µg/L)					
MW4	Well destroyed April 1996.														
MW5	06/15/00	STATION OPERATIONS TRANSFERRED TO VALERO ENERGY CORPORATION													
MW5	11/17/00	352.93	13.51	339.42	0.00	<0.5	<0.5	<0.5	2.46	240			1,500		
MW5	11/17/00	352.93											1,600 <sup>a</sup>		
MW5	02/02/01	352.93	13.81	339.12	0.00	<0.5	<0.5	<0.5	<0.5	110			1,400		
MW5	02/02/01	352.93											1,200 <sup>a</sup>		
MW5	05/09/01	352.93	12.20	340.73	0.00	<0.5	<0.5	<0.5	<0.5	<50			770 <sup>a</sup>		ND <sup>c</sup>
MW5	09/12/01	352.93	13.84	339.09	0.00	<0.5	<0.5	<0.5	<0.5	100			760		NA
MW5	09/12/01	352.93											800 <sup>a</sup>		
MW5	11/05/01	352.95	14.14	338.81	0.00	<0.5	<0.5	<0.5	0.61	70	86	510			NA
MW5	11/05/01	352.95											420 <sup>a</sup>		
MW5	02/04/02	352.95	11.85	341.10	0.00	<0.5	<0.5	<0.5	<0.5	381	d	<50	630		NA
MW5	02/04/02	352.95											525 <sup>a</sup>		
MW5	04/26/02	352.95	11.75	341.20	0.00	<0.5	<0.5	<0.5	<0.5	322	d	<50	378		NA
MW5	04/26/02	352.95											312 <sup>a</sup>		
MW5	07/30/02	352.95	12.87	340.08	0.00	<0.5	<0.5	<0.5	<0.5	97.8	d	<50	126		NA
MW5	07/30/02	352.95											132 <sup>a</sup>		
MW5	11/05/02	352.95	14.13	338.82	0.00	<0.5	<0.5	<0.5	<0.5	74.2	d	<50	80.0		NA
MW5	11/05/02	352.95											96.4 <sup>a</sup>		
MW5	01/24/03	352.95	11.23	341.72	0.00	<0.5	<0.5	<0.5	<0.5	542	d	70	678		NA
MW5	01/24/03	352.95											509 <sup>a</sup>		
MW5	04/24/03	352.95	10.79	342.16	0.00	<0.5	<0.5	<0.5	<0.5	384	d	<50	522		NA
MW5	04/24/03	352.95											498 <sup>a</sup>		
MW5	08/05/03	352.95	12.24	340.71	0.00	<0.5	1.6	<0.5	1.3	282	d	<50	560		NA
MW5	08/05/03	352.95											428 <sup>a</sup>		
MW5	10/17/03	352.95	13.64	339.31	0.00	<0.5	1.6	<0.5	0.9	229	d	<50	284		NA

TABLE 2 GROUNDWATER MONITORING DATA, FORMER EXXON RS 7-0210, 7840 AMADOR VALLEY BOULEVARD, DUBLIN, CALIFORNIA

Well Number	Date	Casing Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	LPH Thickness (feet)	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)	Ethanol (µg/L)	Other
														Oxygenates and Additives (µg/L)
MW5	10/17/03	352.95										272 <sup>a</sup>		
MW5	01/28/04	352.95	12.41	340.54	0.00	<0.5	0.9	<0.5	1.1	283	d NA <sup>e</sup>	485		NA
MW5	01/28/04	352.95										453 <sup>a</sup>		
MW5	04/16/04	352.95	11.67	341.28	0.00	<0.5	<0.5	<0.5	<0.5	163	d <50	200 <sup>a</sup>	<100 <sup>a</sup>	NA
MW5	08/03/04	352.95	13.39	339.56	0.00	<0.5	<0.5	<0.5	1.0	553	d <50	92.8 <sup>a</sup>	<100 <sup>a</sup>	NA
<b>MW5</b>	<b>11/04/04</b>	<b>352.95</b>	<b>13.17</b>	<b>339.78</b>	<b>0.00</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>117</b>	<b>d &lt;50</b>	<b>117<sup>a</sup></b>	<b>&lt;100<sup>a</sup></b>	<b>ND<sup>c</sup></b>
MW6	06/15/00	STATION OPERATIONS TRANSFERRED TO VALERO ENERGY CORPORATION												
MW6	11/17/00	352.66	13.47	339.19	0.00	<0.5	<0.5	<0.5	<0.5	<50		270		
MW6	11/17/00	352.66										260 <sup>a</sup>		
MW6	02/02/01	352.66	13.79	338.87	0.00	<0.5	<0.5	<0.5	<0.5	<50		160		
MW6	02/02/01	352.66										130 <sup>a</sup>		
MW6	05/09/01	352.66	12.25	340.41	0.00	<0.5	<0.5	<0.5	<0.5	<50		760 <sup>a</sup>		ND <sup>c</sup>
MW6	09/12/01	352.66	13.83	338.83	0.00	<0.5	<0.5	<0.5	<0.5	<50		680		NA
MW6	09/12/01	352.66										740 <sup>a</sup>		
MW6	11/05/01	352.69	14.11	338.58	0.00	<0.5	<0.5	<0.5	<0.5	<50	<50	390		NA
MW6	11/05/01	352.69										320 <sup>a</sup>		
MW6	02/27/02	352.69	11.77	340.92	0.00	<5.0	<5.0	8.00	<5.0	1,380	d NA	1,310		ND <sup>c</sup>
MW6	02/27/02	352.69										1,410 <sup>a</sup>		
MW6	04/26/02	352.69	11.75	340.94	0.00	<0.5	<0.5	<0.5	<0.5	422	d <50	482		NA
MW6	04/26/02	352.69										430 <sup>a</sup>		
MW6	07/30/02	352.69	12.88	339.81	0.00	<2.5	<2.5	<2.5	<2.5	144	d <50	166		NA
MW6	07/30/02	352.69										185 <sup>a</sup>		
MW6	11/05/02	352.69	14.12	338.57	0.00	<0.5	<0.5	<0.5	<0.5	99.7	d <50	114		NA
MW6	11/05/02	352.69										118 <sup>a</sup>		
MW6	01/24/03	352.69	11.32	341.37	0.00	<0.5	<0.5	<0.5	<0.5	342	d 84	388		NA
MW6	01/24/03	352.69										293 <sup>a</sup>		

TABLE 2 GROUNDWATER MONITORING DATA, FORMER EXXON RS 7-0210, 7840 AMADOR VALLEY BOULEVARD, DUBLIN, CALIFORNIA

Well Number	Date	Casing Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	LPH Thickness (feet)	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)	Ethanol (µg/L)	Other
														Oxygenates and Additives (µg/L)
MW6	04/24/03	352.69	10.84	341.85	0.00	<0.5	<0.5	<0.5	<0.5	370	d <50	509		NA
MW6	04/24/03	352.69										491 <sup>a</sup>		
MW6	08/05/03	352.69	12.25	340.44	0.00	<0.5	<0.5	<0.5	<0.5	967	d <50	1,240		NA
MW6	08/05/03	352.69										1,010 <sup>a</sup>		
MW6	10/17/03	352.69	13.63	339.06	0.00	<0.5	1.2	<0.5	0.5	476	d <50	528		NA
MW6	10/17/03	352.69										535 <sup>a</sup>		
MW6	01/28/04	352.69	12.40	340.29	0.00	<0.5	0.8	<0.5	0.9	154	d <50	283		NA
MW6	01/28/04	352.69										244 <sup>a</sup>		
MW6	04/16/04	352.69	11.68	341.01	0.00	<0.5	<0.5	<0.5	<0.5	219	d <50	301 <sup>a</sup>	<100 <sup>a</sup>	NA
MW6	08/03/04	352.69	13.37	339.32	0.00	<0.5	<0.5	<0.5	<0.5	243	d <50	62.3 <sup>a</sup>	<100 <sup>a</sup>	NA
<b>MW6</b>	<b>11/04/04</b>	<b>352.69</b>	<b>13.13</b>	<b>339.56</b>	<b>0.00</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;50</b>	<b>d &lt;50</b>	<b>25.0<sup>a</sup></b>	<b>&lt;100<sup>a</sup></b>	<b>ND<sup>c</sup></b>
MW7	06/15/00	STATION OPERATIONS TRANSFERRED TO VALERO ENERGY CORPORATION												
MW7	11/17/00	351.86	12.44	339.42	0.00	<0.5	<0.5	<0.5	<0.5	<50		<0.5		
MW7	02/02/01	351.86	12.74	339.12	0.00	<0.5	<0.5	<0.5	<0.5	<50		<0.5		
MW7	05/09/01	351.86	11.15	340.71	0.00	<0.5	<0.5	<0.5	<0.5	<50		<5 <sup>a</sup>		ND <sup>c</sup>
MW7	09/12/01	351.86	12.74	339.12	0.00	<0.5	<0.5	<0.5	<0.5	<50		<0.5		NA
MW7	11/05/01	351.87	13.07	338.80	0.00	<0.5	<0.5	<0.5	<0.5	<50	50	<0.5		NA
MW7	02/04/02	351.87	10.79	341.08	0.00	<0.5	<0.5	<0.5	<0.5	<50	d <50	5.80		NA
MW7	02/04/02	351.87										1.4 <sup>a</sup>		
MW7	04/26/02	351.87	10.65	341.22	0.00	<0.5	<0.5	<0.5	<0.5	<50	d <50	1.6		NA
MW7	07/30/02	351.87	11.77	340.10	0.00	<0.5	<0.5	<0.5	<0.5	<50	d <50	<0.5		NA
MW7	11/05/02	351.87	13.04	338.83	0.00	<0.5	<0.5	<0.5	<0.5	<50	d <50	<0.5		NA
MW7	01/24/03	351.87	10.19	341.68	0.00	<0.5	<0.5	<0.5	<0.5	<50	d 106	<0.5		NA
MW7	04/24/03	351.87	9.76	342.11	0.00	<0.5	<0.5	<0.5	<0.5	<50	d <50	<0.5		NA
MW7	08/05/03	351.87	11.18	340.69	0.00	<0.5	1.6	<0.5	<0.5	<50	d <50	<0.5		NA
MW7	10/17/03	351.87	12.54	339.33	0.00	<0.5	1.7	<0.5	0.9	<50	d <50	<0.5		NA

TABLE 2 GROUNDWATER MONITORING DATA, FORMER EXXON RS 7-0210, 7840 AMADOR VALLEY BOULEVARD, DUBLIN, CALIFORNIA

Well Number	Date	Casing Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	LPH Thickness (feet)	Ethyl-		Total Xylenes (µg/L)	TPH-g (µg/L)	TPH-d (µg/L)	MTBE (µg/L)	Ethanol (µg/L)	Other Oxygenates and Additives (µg/L)	
						Benzene (µg/L)	Toluene (µg/L)							
MW7	01/28/04	351.87	11.33	340.54	0.00	<0.5	1.0	<0.5	0.9	<50	d	<50	<0.5	NA
MW7	04/16/04	351.87	10.57	341.30	0.00	<0.5	<0.5	<0.5	<0.5	<50	d	<50	<0.5 <sup>a</sup>	<100 <sup>a</sup>
MW7	08/03/04	351.87	12.30	339.57	0.00	<0.5	<0.5	<0.5	<0.5	94.0	d	<50	<0.5 <sup>a</sup>	<100 <sup>a</sup>
MW7	11/04/04	351.87	12.08	339.79	0.00	<0.5	<0.5	<0.5	<0.5	<50	d	<50	<0.5 <sup>a</sup>	<100 <sup>a</sup>

a Analysis by EPA Method 8260.

b A peak eluting earlier than benzene, suspected to be MTBE.

c Other oxygenates and additives include diisopropyl ether, t-butyl alcohol, tert-amyl methyl ether, tert-butyl ethyl ether, 1,2-dibromoethane, and 1,2-dichloroethane.

d TPH-g results beginning February 2002 include MTBE.

e Sample bottles broken in transit to laboratory.

LPH Liquid-phase hydrocarbons.

TPH-g Total Petroleum Hydrocarbons as gasoline.

TPH-d Total Petroleum Hydrocarbons as diesel.

MTBE Methyl tertiary butyl ether.

NA Not analyzed.

ND Not detected.

NS Not sampled.

µg/L Micrograms per liter.

TABLE 3 GROUNDWATER MONITORING PLAN,  
 FORMER EXXON RS 7-0210, 7840 AMADOR VALLEY BOULEVARD, DUBLIN, CALIFORNIA

Well Number	Groundwater Gauging Frequency	Groundwater Sampling and Analysis Frequency			
		BTEX and TPH-g	TPH-d	MTBE	Ethanol
MW5	Q	Q	Q	Q	Q
MW6	Q	Q	Q	Q	Q
MW7	Q	Q	Q	Q	Q

Q = Quarterly.

BTEX = Benzene, toluene, ethylbenzene, total xylenes.

TPH-g = Total Petroleum Hydrocarbons as gasoline.

TPH-d = Total Petroleum Hydrocarbons as diesel.

MTBE = Methyl tertiary butyl ether.

**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**



Engineering, Inc. +

MONITORING WELL DATA FORM

Client: Port of Oakland

Date: 11/4/04

Project Number: UP0210

Station Number: 7-0210

Site Location:

7840 Amador Valley Blvd., Dublin, CA

Samplers: C. Mitchell

MONITORING WELL NUMBER	DEPTH TO WATER (TOC) ft.	DEPTH TO PRODUCT (TOC)	APPARENT PRODUCT THICKNESS	AMOUNT OF PRODUCT REMOVED	WELL COMPLETION DEPTH ft.	DEPTH TO BOTTOM (TOC) ft.	WELL CASING DIA. IN.
MW5	13.17				25.00	24.0 <del>7</del>	2"
MW6	13.13				25.00	24.5 <del>0</del>	2"
MW7	12.0 <del>8</del>				25.00	23.4 <del>7</del>	2"

+  
+

**GROUNDWATER PURGE AND SAMPLE**

Project Name: Exxon 7-0210

Well No: MW5

Date: 11/4/04

Project No: UP0210.1

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)
		24.07	13.17	10.90	1	2	4	6	1.74
				0.04	0.16	0.64	1.44		

**PURGING DATA**

Purge Method: WATERRA / SUB / BAILER

Time	10:46	10:47	10:48			
Volume Purge (gal)	2	4	6			
Temperature (C)	21.5°C	22.3°C	22.4°C			
pH	7.23	7.04	7.01			
Spec. Cond. (umhos)	1303 <sub>uS</sub>	1291 <sub>uS</sub>	1258 <sub>uS</sub>			
Turbidity/Color	5.17y	5.17y	5.17y			
Odor (Y/N)	N	N	N			
Discolored (W/N)	N	N	N			

Comments/Observations:

**SAMPLING DATA**

Time Sampled: 10:55

Approximate Depth to Water During Sampling: 14 (feet)

Comments:

Sample Number	Number of Containers	Container Type	Perservative	Volume Filled (ml or L)	Turbidity/Color	Analysis Method
MW5	6	Voa	HCL	40 ml		TPH-g, BTEX, MTBE
MW5	2	Amber	None	1 L		TPH-d

Total Purge Volume: 6 (gallons)

Disposal: ROMIC

Weather Conditions: 04

BOLTS  / N

Condition of Well Box and Casing at Time of Sampling: 1x Tang broken

LOCK & CAP  / N

Well Head Conditions Requiring Correction: 2x OK

GROUT  / N

Problems Encountered During Purging and Sampling: None

WELL BOX  / N

WSECURED  / N

Comments:



Engineering, Inc.

**GROUNDWATER PURGE AND SAMPLE**

Project Name: Exxon 7-0210

Well No: MW6

Date: 11/4/04

Project No: UP0210.1

Personnel: C. M. Feltre II

**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)		
	24.50	13.13	11.37	1	4	6	0.04	0.16	0.64	1.44	1.81

**PURGING DATA**

Purge Method: WATERRA / SUB / BAILER

Time	Volume Pumped (gal)	Temperature (°C)	pH	Spec Cond (µmhos)	Turbidity/Color	Odor (Y/N)	Dewatered (Y/N)
10:01	2	20.5°C	6.73	133 µS	Silty / Clean	N	N
10:03	4	21.0°C	6.75	133 µS	Silty / Clean	N	N
10:05	6	21.2°C	6.88	130 µS	Silty / Clean	N	N

Comments/Observations:

**SAMPLING DATA**

Time Sampled: 10:10

Approximate Depth to Water During Sampling: 14 (feet)

Comments:

Sample Number	Number of Containers	Container Type	Perservative	Volume Filled (ml or L)	Turbidity/Color	Analysis Method
MW6	6	Voa	HCL	40 ml	/	TPH-g, BTEX, MTBE
MW6	2	Amber	None	1 L	/	TPH-d

Total Purge Volume: 6 (gallons)

Disposal: ROMIC

Weather Conditions:

BOLTS (Y) / (N)

Condition of Well Box and Casing at Time of Sampling:

LOCK & CAP (Y) / (N)

Well Head Conditions Requiring Correction:

GROUT (Y) / (N)

Problems Encountered During Purging and Sampling:

WELL BOX (X) / (N)

Comments:

WSECURED (Y) / (N)



Engineering, Inc.

### GROUNDWATER PURGE AND SAMPLE

Project Name: Exxon 7-0210

Well No: MW7

Date: 11/14/04

Project No: UP0210.1

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)			
	23.47	-	12.04	=	11.39	x	1	2	4	6	1.82	=
					0.04	0.16	0.64	1.44				

#### PURGING DATA

Purge Method: WATERB / SUB / BAILER

Time	10:25	10:26	10:27		
Volume Purge (gal)	2	4	6		
Temperature (C)	21.6°C	22.1°C	22.1°C		
pH	7.16	7.06	7.07		
Spec Cond. (umhos)	1319.5	1311.5	1311.5		
Turbidity/Color	5.14	5.14	5.14		
Odor (Y/N)	N	N	N		
Deodorized (Y/N)	N	N	N		

Comments/Observations:

#### SAMPLING DATA

Time Sampled: 10:35

Approximate Depth to Water During Sampling: 13 (feet)

Comments:

Sample Number	Number of Containers	Container Type	Perservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method
MW7	6	Voa	HCL	40 ml	/	TPH-g, BTEX, MTBE
MW7	2	Amber	None	1 L	/	TPH-d
					/	

Total Purge Volume: 6 (gallons)

Disposal:

ROMIC

Weather Conditions: OK

BOLTS (Y) / N

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

LOCK & CAP (Y) / N

Well Head Conditions Requiring Correction: None

GROUT (Y) / N

Problems Encountered During Purging and Sampling: None

WELL BOX (Y) / N

Comments:

WSECURED (Y) / N

**Appendix C**

**Laboratory Analytical Reports**

11/12/04

CASE NARRATIVE

RECEIVED

NOV 22 2004

ETIC ENGINEERING 3865  
DOUG FITZGERALD  
2285 MORELLO AVENUE  
PLEASANT HILL, CA 94523

ETIC ENGINEERING

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

Project Name: EXXONMOBIL 7-0210  
Project Number: .  
Laboratory Project Number: 395742.

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
-----	-----	-----
MW5	04-A172853	11/ 4/04
MW6	04-A172854	11/ 4/04
MW7	04-A172855	11/ 4/04

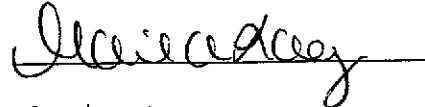
Sample Identification  
-----

Lab Number  
-----

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: 11/12/04

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

This material is intended only for the use of the individual(s) or entity to whom it is addressed,  
and may contain information that is privileged and confidential. If you are not the intended recipient,  
or the employee or agent responsible for delivering this material to the intended recipient, you are  
hereby notified that any dissemination, distribution, or copying of this material is strictly prohibited.  
If you have received this material in error, please notify us immediately at 615-726-0177.



## ANALYTICAL REPORT

ETIC ENGINEERING 3865  
DOUG FITZGERALD  
2285 MORELLO AVENUE  
PLEASANT HILL, CA 94523

Lab Number: 04-A172853  
Sample ID: MW5  
Sample Type: Water  
Site ID: 7-0210

Date Collected: 11/ 4/04  
Time Collected: 10:55  
Date Received: 11/ 6/04  
Time Received: 8:10  
Page: 1

Project:  
Project Name: EXXONMOBIL 7-0210  
Sampler: CHRISTOPHER MITCHELL

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/ 8/04	19:20	I. Ahmed	8021B	2212
Ethylbenzene	ND	ug/l	0.5	1.0	11/ 8/04	19:20	I. Ahmed	8021B	2212
Toluene	ND	ug/l	0.5	1.0	11/ 8/04	19:20	I. Ahmed	8021B	2212
Xylenes (Total)	ND	ug/l	0.5	1.0	11/ 8/04	19:20	I. Ahmed	8021B	2212
TPH (Gasoline Range)	117.	ug/l	50.0	1.0	11/ 8/04	19:20	I. Ahmed	8015B	2212
TPH (Diesel Range)	ND	ug/l	50.	1.0	11/11/04	5:41	B. Yanna	8015B/3510	4611
<b>*VOLATILE ORGANICS*</b>									
Ethyl-t-butylether	ND	ug/l	0.50	1.0	11/ 9/04	1:31	C. Wani	8260B	4207
tert-amyl methyl ether	ND	ug/L	0.50	1.0	11/ 9/04	1:31	C. Wani	8260B	4207
Tertiary butyl alcohol	ND	ug/l	10.0	1.0	11/ 9/04	1:31	C. Wani	8260B	4207
1,2-Dibromoethane	ND	ug/l	0.50	1.0	11/ 9/04	1:31	C. Wani	8260B	4207
1,2-Dichloroethane	ND	ug/l	0.50	1.0	11/ 9/04	1:31	C. Wani	8260B	4207
Methyl-t-butyl ether	117.	ug/l	0.50	1.0	11/ 9/04	1:31	C. Wani	8260B	4207
Ethanol	ND	ug/L	100.	1.0	11/ 9/04	1:31	C. Wani	8260B	4207
Diisopropyl ether	ND	ug/l	0.50	1.0	11/ 9/04	1:31	C. Wani	8260/SA05-77	4207

Silica Gel Cleanup performed for TPH-DRO analysis.

Sample Extraction Data

Parameter	Wt/Vol		Date	Time	Analyst	Method
	Extracted	Extract Vol				
-----	-----	-----	-----	-----	-----	-----

Sample report continued . . .

## ANALYTICAL REPORT

Laboratory Number: 04-A172853  
Sample ID: MW5  
Project:  
Page 2

### Sample Extraction Data

Parameter	Wt/Vol		Date	Time	Analyst	Method
	Extracted	Extract Vol				
EPH	1000 ml	1.00 ml	11/ 9/04		J. Davis	3510

Surrogate	% Recovery	Target Range
TPH Hi Surr., o-Terphenyl	66.	55. - 133.
BTEX/GRO Surr., a,a,a-TFT	112.	70. - 123.
VOA Surr 1,2-DCA-d4	96.	73. - 127.
VOA Surr Toluene-d8	96.	79. - 113.
VOA Surr, 4-BFB	90.	79. - 125.
VOA Surr, DBFM	105.	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.

End of Sample Report.

## ANALYTICAL REPORT

ETIC ENGINEERING 3865  
DOUG FITZGERALD  
2285 MORELLO AVENUE  
PLEASANT HILL, CA 94523

Lab Number: 04-A172854  
Sample ID: MW6  
Sample Type: Water  
Site ID: 7-0210

Project:  
Project Name: EXXONMOBIL 7-0210  
Sampler: CHRISTOPHER MITCHELL

Date Collected: 11/ 4/04  
Time Collected: 10:10  
Date Received: 11/ 6/04  
Time Received: 8:10  
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analysis Analyst	Method	Batch
*ORGANIC PARAMETERS*									
Benzene	ND	ug/l	0.50	1.0	11/ 8/04	19:35	I. Ahmed	8021B	2212
Ethylbenzene	ND	ug/l	0.5	1.0	11/ 8/04	19:35	I. Ahmed	8021B	2212
Toluene	ND	ug/l	0.5	1.0	11/ 8/04	19:35	I. Ahmed	8021B	2212
Xylenes (Total)	ND	ug/l	0.5	1.0	11/ 8/04	19:35	I. Ahmed	8021B	2212
TPH (Gasoline Range)	ND	ug/l	50.0	1.0	11/ 8/04	19:35	I. Ahmed	8015B	2212
TPH (Diesel Range)	ND	ug/l	50.	1.0	11/11/04	5:57	B. Yanna	8015B/3510	4611
*VOLATILE ORGANICS*									
Ethyl-t-butylether	ND	ug/l	0.50	1.0	11/ 9/04	2:01	C. Wani	8260B	4207
tert-amyl methyl ether	ND	ug/L	0.50	1.0	11/ 9/04	2:01	C. Wani	8260B	4207
Tertiary butyl alcohol	ND	ug/l	10.0	1.0	11/ 9/04	2:01	C. Wani	8260B	4207
1,2-Dibromoethane	ND	ug/l	0.50	1.0	11/ 9/04	2:01	C. Wani	8260B	4207
1,2-Dichloroethane	ND	ug/l	0.50	1.0	11/ 9/04	2:01	C. Wani	8260B	4207
Methyl-t-butyl ether	25.0	ug/l	0.50	1.0	11/ 9/04	2:01	C. Wani	8260B	4207
Ethanol	ND	ug/L	100.	1.0	11/ 9/04	2:01	C. Wani	8260B	4207
Diisopropyl ether	ND	ug/l	0.50	1.0	11/ 9/04	2:01	C. Wani	8260/SA05-77	4207

Silica Gel Cleanup performed for TPH-DRO analysis.

### Sample Extraction Data

Parameter	Wt/Vol	Extracted	Extract Vol	Date	Time	Analyst	Method

Sample report continued . . .

## ANALYTICAL REPORT

Laboratory Number: 04-A172854  
Sample ID: MW6  
Project:  
Page 2

-----  
Sample Extraction Data

Parameter	Wt/Vol		Date	Time	Analyst	Method
	Extracted	Extract Vol				
EPH	1000 ml	1.00 ml	11/ 9/04		J. Davis	3510

Surrogate	% Recovery	Target Range
TPH Hi Surr., o-Terphenyl	64.	55. - 133.
BTEX/GRO Surr., a,a,a-TFT	112.	70. - 123.
VOA Surr 1,2-DCA-d4	99.	73. - 127.
VOA Surr Toluene-d8	99.	79. - 113.
VOA Surr, 4-BFB	95.	79. - 125.
VOA Surr, DBFM	109.	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.

End of Sample Report.

## ANALYTICAL REPORT

ETIC ENGINEERING 3865  
DOUG FITZGERALD  
2285 MORELLO AVENUE  
PLEASANT HILL, CA 94523

Lab Number: 04-A172855  
Sample ID: MW7  
Sample Type: Water  
Site ID: 7-0210

Date Collected: 11/ 4/04  
Time Collected: 10:35  
Date Received: 11/ 6/04  
Time Received: 8:10  
Page: 1

Project:  
Project Name: EXXONMOBIL 7-0210  
Sampler: CHRISTOPHER MITCHELL

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analysis Analyst	Method	Batch
<b>*ORGANIC PARAMETERS*</b>									
Benzene	ND	ug/l	0.50	1.0	11/ 8/04	19:50	I. Ahmed	8021B	2212
Ethylbenzene	ND	ug/l	0.5	1.0	11/ 8/04	19:50	I. Ahmed	8021B	2212
Toluene	ND	ug/l	0.5	1.0	11/ 8/04	19:50	I. Ahmed	8021B	2212
Xylenes (Total)	ND	ug/l	0.5	1.0	11/ 8/04	19:50	I. Ahmed	8021B	2212
TPH (Gasoline Range)	ND	ug/l	50.0	1.0	11/ 8/04	19:50	I. Ahmed	8015B	2212
TPH (Diesel Range)	ND	ug/l	50.	1.0	11/11/04	6:14	B. Yanna	8015B/3510	4611
<b>*VOLATILE ORGANICS*</b>									
Ethyl-t-butylether	ND	ug/l	0.50	1.0	11/ 9/04	2:30	C. Wani	8260B	4207
tert-amyl methyl ether	ND	ug/L	0.50	1.0	11/ 9/04	2:30	C. Wani	8260B	4207
Tertiary butyl alcohol	ND	ug/l	10.0	1.0	11/ 9/04	2:30	C. Wani	8260B	4207
1,2-Dibromoethane	ND	ug/l	0.50	1.0	11/ 9/04	2:30	C. Wani	8260B	4207
1,2-Dichloroethane	ND	ug/l	0.50	1.0	11/ 9/04	2:30	C. Wani	8260B	4207
Methyl-t-butyl ether	ND	ug/l	0.50	1.0	11/ 9/04	2:30	C. Wani	8260B	4207
Ethanol	ND	ug/L	100.	1.0	11/ 9/04	2:30	C. Wani	8260B	4207
Diisopropyl ether	ND	ug/l	0.50	1.0	11/ 9/04	2:30	C. Wani	8260/SA05-77	4207

Silica Gel Cleanup performed for TPH-DRO analysis.

Sample Extraction Data

Parameter	Wt/Vol		Date	Time	Analyst	Method
	Extracted	Extract Vol				

Sample report continued . . .

## ANALYTICAL REPORT

Laboratory Number: 04-A172855  
Sample ID: MW7  
Project:  
Page 2

-----  
Sample Extraction Data

Parameter	Wt/Vol		Date	Time	Analyst	Method
	Extracted	Extract Vol				
EPH	1000 ml	1.00 ml	11/ 9/04		J. Davis	3510

Surrogate	% Recovery	Target Range
TPH Hi Surr., o-Terphenyl	69.	55. - 133.
BTEX/GRO Surr., a,a,a-TPT	117.	70. - 123.
VOA Surr 1,2-DCA-G4	98.	73. - 127.
VOA Surr Toluene-G8	97.	79. - 113.
VOA Surr, 4-BFB	93.	79. - 125.
VOA Surr, DBFM	106.	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.

End of Sample Report.

**PROJECT QUALITY CONTROL DATA**

Project Number:  
Project Name: **EXXONMOBIL 7-0210**  
Page: 1  
Laboratory Receipt Date: 11/ 6/04

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 an 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	0.0461	0.0500	92	50. - 160.	2212	04-A172853
Toluene	mg/l	< 0.0005	0.0452	0.0500	90	51. - 157.	2212	04-A172853
Ethylbenzene	mg/l	< 0.0005	0.0463	0.0500	93	47. - 159.	2212	04-A172853
Xylenes (Total)	mg/l	< 0.0005	0.0892	0.100	89	51. - 152.	2212	04-A172853
TPH (Diesel Range)	mg/l	< 0.050	0.997	1.00	100	35. - 124.	4611	blank
BTEX/GRO Surr., a,a,a-TFT	% Recovery				110	70 - 123	2212	
VOA Surr 1,2-DCA-d4	% Rec				95	73 - 127	4207	
VOA Surr Toluene-d8	% Rec				97	79 - 113	4207	
VOA Surr, 4-BFB	% Rec				90	79 - 125	4207	
VOA Surr, DBFM	% Rec				105	75 - 134	4207	

Matrix Spike Duplicate

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch
<b>**UST PARAMETERS**</b>						
Benzene	mg/l	0.0461	0.0450	2.41	30.	2212
Toluene	mg/l	0.0452	0.0436	3.60	37.	2212
Ethylbenzene	mg/l	0.0463	0.0448	3.29	38.	2212
Xylenes (Total)	mg/l	0.0892	0.0856	4.12	33.	2212
TPH (Diesel Range)	mg/l	0.997	1.01	1.30	36.	4611
BTEX/GRO Surr., a,a,a-TFT	% Recovery		111.			2212

Project QC continued . . .

**PROJECT QUALITY CONTROL DATA**

Project Number:  
Project Name: **EXXONMOBIL 7-0210**  
Page: 2  
Laboratory Receipt Date: 11/ 6/04

VOA Surr 1,2-DCA-d4	% Rec	96.	4207
VOA Surr Toluene-d8	% Rec	98.	4207
VOA Surr, 4-BFB	% Rec	92.	4207
VOA Surr, DBFM	% Rec	109.	4207

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
<b>**UST PARAMETERS**</b>						
Benzene	mg/l	0.100	0.104	104	72 - 118	2212
Toluene	mg/l	0.100	0.103	103	72 - 119	2212
Ethylbenzene	mg/l	0.100	0.105	105	71 - 119	2212
Xylenes (Total)	mg/l	0.200	0.205	102	70 - 117	2212
TPH (Gasoline Range)	mg/l	1.00	1.04	104	64 - 130	2212
BTEX/GRO Surr., a,a,a-TFT	% Recovery			113	70 - 123	2212
<b>**UST PARAMETERS**</b>						
TPH (Diesel Range)	mg/l	1.00	1.06	106	41 - 120	4611
<b>**VOA PARAMETERS**</b>						
Ethyl-t-butylether	mg/l	0.0500	0.0490	98	67 - 140	4207
Ethyl-t-butylether	mg/l	0.0500	0.0514	103	67 - 140	4207
tert-amyl methyl ether	mg/L	0.0500	0.0482	96	68 - 134	4207
tert-amyl methyl ether	mg/L	0.0500	0.0511	102	68 - 134	4207
Tertiary butyl alcohol	mg/l	0.500	0.537	107	28 - 182	4207
Tertiary butyl alcohol	mg/l	0.500	0.579	116	28 - 182	4207
1,2-Dibromoethane	mg/l	0.0500	0.0557	111	72 - 135	4207
1,2-Dibromoethane	mg/l	0.0500	0.0574	115	72 - 135	4207
1,2-Dichloroethane	mg/l	0.0500	0.0530	106	73 - 130	4207
1,2-Dichloroethane	mg/l	0.0500	0.0552	110	73 - 130	4207
Methyl-t-butyl ether	mg/l	0.0500	0.0511	102	69 - 136	4207
Methyl-t-butyl ether	mg/l	0.0500	0.0532	106	69 - 136	4207
Ethanol	mg/L	5.00	5.54	111	48 - 164	4207
Ethanol	mg/L	5.00	5.40	108	48 - 164	4207

Project QC continued . . .



**PROJECT QUALITY CONTROL DATA**

Project Number:  
 Project Name: **EXXONMOBIL 7-0210**  
 Page: 3  
 Laboratory Receipt Date: 11/ 6/04

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
Diisopropyl ether	mg/l	0.0500	0.0514	103	65 - 140	4207
Diisopropyl ether	mg/l	0.0500	0.0527	105	65 - 140	4207
VOA Surr 1,2-DCA-d4	% Rec			92	73 - 127	4207
VOA Surr 1,2-DCA-d4	% Rec			96	73 - 127	4207
VOA Surr Toluene-d8	% Rec			99	79 - 113	4207
VOA Surr Toluene-d8	% Rec			98	79 - 113	4207
VOA Surr, 4-BFB	% Rec			91	79 - 125	4207
VOA Surr, 4-BFB	% Rec			86	79 - 125	4207
VOA Surr, DBFM	% Rec			109	75 - 134	4207
VOA Surr, DBFM	% Rec			108	75 - 134	4207

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\*\***

Benzene	< 0.00050	mg/l	2212	11/ 8/04	11:24
Toluene	0.0007	mg/l	2212	11/ 8/04	11:24
Ethylbenzene	< 0.0005	mg/l	2212	11/ 8/04	11:24
Xylenes (Total)	< 0.0005	mg/l	2212	11/ 8/04	11:24

Project QC continued . . .

**PROJECT QUALITY CONTROL DATA**

Project Number:

Project Name: **EXXONMOBIL 7-0210**

Page: 4

Laboratory Receipt Date: 11/ 6/04

Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Analysis Date	Analysis Time
TPH (Gasoline Range)	< 0.0500	mg/l	2212	11/ 8/04	11:24
TPH (Diesel Range)	< 0.050	mg/l	4611	11/11/04	8:17
BTEX/GRO Surr., a,a,a-TFT	98.	% Recovery	2212	11/ 8/04	11:24
**VOA PARAMETERS**					
Ethyl-t-butylether	< 0.00027	mg/l	4207	11/ 8/04	13:17
Ethyl-t-butylether	< 0.00027	mg/l	4207	11/ 9/04	1:02
tert-amyl methyl ether	< 0.00030	mg/L	4207	11/ 8/04	13:17
tert-amyl methyl ether	< 0.00030	mg/L	4207	11/ 9/04	1:02
Tertiary butyl alcohol	< 0.00428	mg/l	4207	11/ 8/04	13:17
Tertiary butyl alcohol	< 0.00428	mg/l	4207	11/ 9/04	1:02
1,2-Dibromoethane	< 0.00023	mg/l	4207	11/ 8/04	13:17
1,2-Dibromoethane	< 0.00023	mg/l	4207	11/ 9/04	1:02
1,2-Dichloroethane	< 0.00039	mg/l	4207	11/ 8/04	13:17
1,2-Dichloroethane	< 0.00039	mg/l	4207	11/ 9/04	1:02
Methyl-t-butyl ether	< 0.00023	mg/l	4207	11/ 8/04	13:17
Methyl-t-butyl ether	< 0.00023	mg/l	4207	11/ 9/04	1:02
Ethanol	< 0.0307	mg/L	4207	11/ 8/04	13:17
Ethanol	< 0.0307	mg/L	4207	11/ 9/04	1:02
Diisopropyl ether	< 0.00018	mg/l	4207	11/ 8/04	13:17
Diisopropyl ether	< 0.00018	mg/l	4207	11/ 9/04	1:02
VOA Surr 1,2-DCA-d4	97.	% Rec	4207	11/ 8/04	13:17
VOA Surr 1,2-DCA-d4	94.	% Rec	4207	11/ 9/04	1:02
VOA Surr Toluene-d8	95.	% Rec	4207	11/ 8/04	13:17
VOA Surr Toluene-d8	98.	% Rec	4207	11/ 9/04	1:02
VOA Surr, 4-BFB	92.	% Rec	4207	11/ 8/04	13:17
VOA Surr, 4-BFB	92.	% Rec	4207	11/ 9/04	1:02
VOA Surr, DBFM	110.	% Rec	4207	11/ 8/04	13:17
VOA Surr, DBFM	104.	% Rec	4207	11/ 9/04	1:02

Project QC continued . . .

**PROJECT QUALITY CONTROL DATA**

Project Number:

Project Name: **EXXONMOBIL 7-0210**

Page: 5

Laboratory Receipt Date: 11/ 6/04

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

End of Report for Project 395742



Nashville Division



COOLER RECEIPT FORM

BC#

Client Name : ETIC Engineering

Cooler Received/Opened On: 11/06/04 Accessioned By: Shawn Gracey

[Signature]  
Log-in Personnel Signature

1. Temperature of Cooler when triaged: 11.6 Degrees Celsius
2. Were custody seals on outside of cooler?.....  YES...NO...NA
  - a. If yes, how many, what kind and where: 1, Front
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:

2371

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

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