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Environmental Services Company
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Oakland, CA 94611
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RECEIVED

11:44 am, May 11, 2009

Alameda County
Environmental Health

Jennifer C. Sedlachek
Project Manager

ExxonMobil

May 6, 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, First Quarter 2009* for the above-referenced site. The report, prepared by ETIC Engineering, Inc. of Pleasant Hill, California, details the results of the March 2009 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,

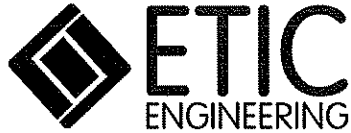


Jennifer C. Sedlachek
Project Manager

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
First Quarter 2009**

**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



May 6, 2009
Date

May 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 1 December 2008, the date of the previous monitoring event, until 12 March 2009, 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

Site name:	Former Exxon Retail Site 74121
Site address:	10605 Foothill Boulevard, Oakland, California
Current property owner:	MacArthur Boulevard Associates
Current site use:	Landscaped area
Current phase of project:	Groundwater monitoring
Tanks at site:	Underground storage tanks removed in 1981 or 1982
Number of wells:	4 (4 onsite, 0 offsite)

GROUNDWATER MONITORING SUMMARY

Gauging and sampling date:	12 March 2009
Wells gauged and sampled:	MW1, MW2, MW3, MW5
Wells gauged only:	None
Groundwater flow direction:	North
Groundwater gradient:	0.0019
Well screens submerged:	None
Well screens not submerged:	MW1, MW2, MW3, MW5
Liquid-phase hydrocarbons:	Not observed or detected
Laboratory:	Calscience Environmental Laboratories, Inc., Garden Grove, California

Analyses performed:

- Total Petroleum Hydrocarbons as gasoline by EPA Method 8015B(M)
- Total Petroleum Hydrocarbons as diesel by EPA Method 8015B(M)
- 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

Seven new vapor wells were installed on 23 March 2009 and sampled on 27 March 2009. A soil vapor sampling report will be submitted under separate cover.

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

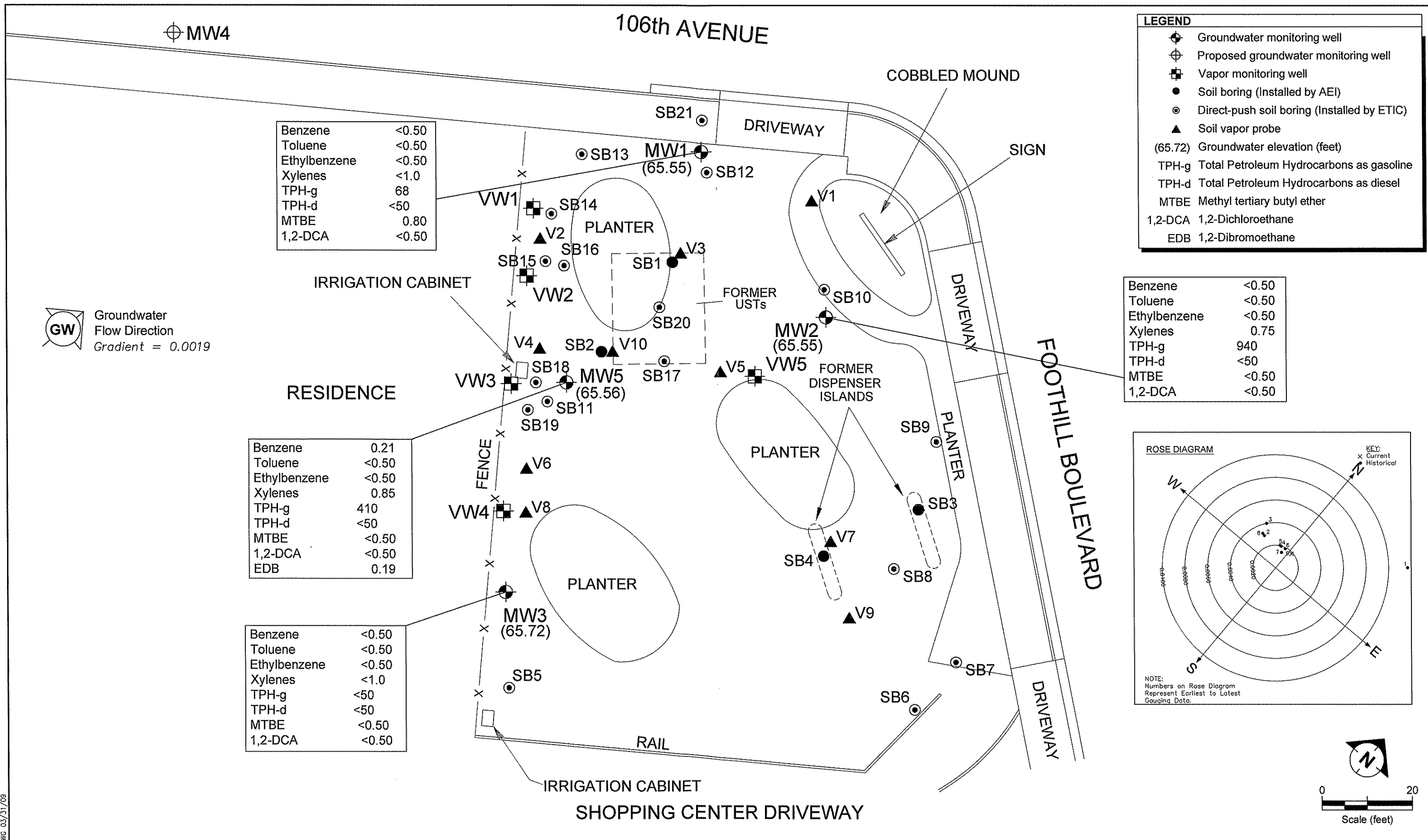
Table 3: Groundwater Monitoring Plan

Appendix A: Field Protocols

Appendix B: Field Documents

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

Figures



Benzene	<0.50
Toluene	<0.50
Ethylbenzene	<0.50
Xylenes	<1.0
TPH-g	68
TPH-d	<50
MTBE	0.80
1,2-DCA	<0.50

Benzene	0.21
Toluene	<0.50
Ethylbenzene	<0.50
Xylenes	0.85
TPH-g	410
TPH-d	<50
MTBE	<0.50
1,2-DCA	<0.50
EDB	0.19

Benzene	<0.50
Toluene	<0.50
Ethylbenzene	<0.50
Xylenes	<1.0
TPH-g	<50
TPH-d	<50
MTBE	<0.50
1,2-DCA	<0.50

LEGEND

- ⊕ Groundwater monitoring well
- ⊕ Proposed groundwater monitoring well
- ⊕ Vapor monitoring well
- Soil boring (Installed by AEI)
- ⊙ Direct-push soil boring (Installed by ETIC)
- ▲ Soil vapor probe

(65.72) Groundwater elevation (feet)

TPH-g Total Petroleum Hydrocarbons as gasoline

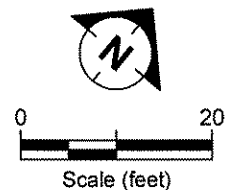
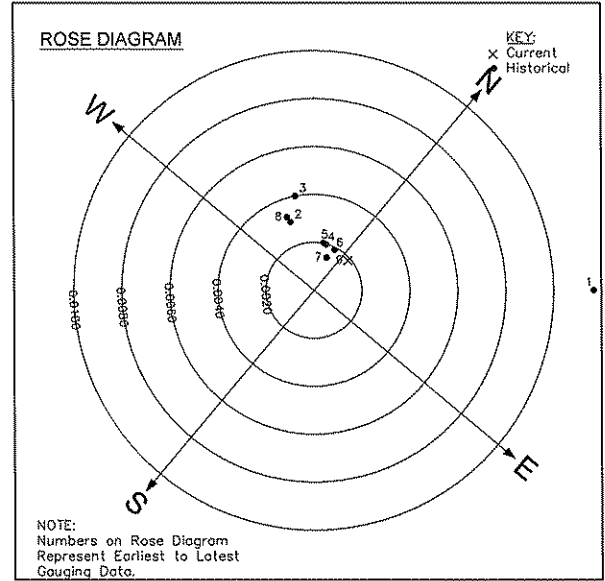
TPH-d Total Petroleum Hydrocarbons as diesel

MTBE Methyl tertiary butyl ether

1,2-DCA 1,2-Dichloroethane

EDB 1,2-Dibromoethane

Benzene	<0.50
Toluene	<0.50
Ethylbenzene	<0.50
Xylenes	0.75
TPH-g	940
TPH-d	<50
MTBE	<0.50
1,2-DCA	<0.50



SITE MAP SHOWING GROUNDWATER ELEVATIONS AND ANALYTICAL RESULTS
 FORMER EXXON RS 74121
 10605 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA
 12 MARCH 2009

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 ^{a,b}	<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 ^{a,b}	<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 ^e	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
MW1	12/01/08	82.47	18.85	63.62	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	03/12/09	82.47	16.92	65.55	0.00	<0.50	<0.50	<0.50	<1.0	68	<50	0.80	<10	<0.50	<0.50	<0.50	<0.50	<0.50
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 ^c	<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 ^{a,c}	<0.500	<0.500	<0.500	<0.500	<0.500
MW2	12/03/07	84.40	19.97	64.43	0.00	22 ^d	<0.50	<0.50	<0.50	560	120 ^e	<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 ^e	<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 ^e	<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 ^d	<0.50	<0.50	<0.50	230	63 ^e	<0.50	<20	<0.50	<0.50	<0.50	<0.50	<0.50
MW2	12/01/08	84.40	20.75	63.65	0.00	<0.50	<0.50	<0.50	<0.50	250	58 ^e	<0.50	<20	<0.50	<0.50	<0.50	<0.50	<0.50
MW2	03/12/09	84.40	18.85	65.55	0.00	<0.50	<0.50	<0.50	0.75 ^f	940	<50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50
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 ^{a,b}	<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 ^{a,b}	<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
MW3	12/01/08	83.25	19.46	63.79	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	03/12/09	83.25	17.53	65.72	0.00	<0.50	<0.50	<0.50	<1.0	<50	<50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50
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 ^{a,b}	<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 ^{a,b}	<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 ^e	<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 ^e	<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 ^e	<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
MW5	12/01/08	82.65	19.00	63.65	0.00	<0.50	<0.50	<0.50	<0.50	140	<47	<0.50	<20	<0.50	<0.50	<0.50	<0.50	<0.50
MW5	03/12/09	82.65	17.09	65.56	0.00	0.21 ^f	<0.50	<0.50	0.85 ^f	410	<50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	0.19 ^f

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.

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

- 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.
- f Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.

- 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

Project Name: Exxon 74121 Well No: MW1 Date: 08-12-07
 Project No: UP4121.1.6 Personnel: Alex

GAUGING DATA

Water Level Measuring Method: WLM / E^3 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)
	24.25 =	10.92 =	7.13 X	1	2	4	6	1.14 =	3.42
				0.04	0.16	0.64	1.44		

PURGING DATA

Purge Method: WATER RRA / BAILER / SUB Purge Rate: GPM

Time	0759	0802	0805		
Volume Purge (gal)	1.5	3	4.5		
Temperature (C)	14.0	17.4	17.5		
pH	6.58	6.98	6.99		
Spec. Cond. (umhos)	1036	1025	1000		
Turbidity/Color	0.149 / PPN	0.113 / PPN	0.179 / PPN		
Odor (Y/N)	N	N	N		
Casing Volumes	1	2	3		
Dewatered (Y/N)	N	N	N		

Comments/Observations:

SAMPLING DATA

Time Sampled: 0815 Approximate Depth to Water During Sampling: 170 (feet)

Comments:

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method
MW1	6	Voa	HCL	40 ml	/	TPH-g, BTEX, MTBE
MW1	2	AMBERS	NONE	1L	/	TPH-D
					/	
					/	

Total Purge Volume: 45 (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

Project Name: Exxon 74121 Well No: MW2 Date: 03-12-09
 Project No: UP4121.1.6 Personnel: AKR

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)
		24.70	18.25	5.85	X 1	(2)	4	6	.73
				0.04	0.16	0.64	1.44		

PURGING DATA

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

Time	0825	0827	0829		
Volume Purge (gal)	1	2	3		
Temperature (C)	17.6	14.9	17.8		
pH	6.83	6.93	6.91		
Spec. Cond. (umhos)	1217	1210	1183		
Turbidity/Color	5MTB / GRAY	5MTB / GRAY	5MTB / GRAY		
Odor (Y/N)	Y	Y	Y		
Casing Volumes	1	2	3		
Dewatered (Y/N)	N	N	N		

Comments/Observations:

SAMPLING DATA

Time Sampled: 0835 Approximate Depth to Water During Sampling: 17.0 (feet)

Comments:

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method
MW2	6	Voa	HCL	40 ml	/	TPH-g, BTEX, MTBE
MW2	2	AMBERS	NONE	1L	/	TPH-D
					/	

Total Purge Volume: 3 (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: OK GROUT Y / N

Problems Encountered During Purging and Sampling: OK WELL BOX. Y / N

Comments: OK SECURED Y / N



GROUNDWATER PURGE AND SAMPLE FORM

Engineering, Inc.

Project Name: Exxon 74121	Well No: M43	Date: 03-22-09
Project No: UP4121.1.6	Personnel: ALX	

GAUGING DATA

Water Level Measuring Method: WLM / 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)
		23.55	17.53	4.02	1	4	6		
				0.04	0.16	0.64	1.44	.96	2.88

PURGING DATA

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

Time	0851	0853	0855		
Volume Purge (gal)	1	2	3		
Temperature (C)	16.2	16.6	16.5		
pH	6.90	6.77	6.74		
Spec. Cond. (umhos)	1013	1697	1685		
Turbidity/Color	540 / PPN	5470 / PPN	5470 / PPN		
Odor (Y/N)	N	N	N		
Casing Volumes	1	2	3		
Dewatered (Y/N)	N	N	N		

Comments/Observations:

SAMPLING DATA

Time Sampled: 0905 Approximate Depth to Water During Sampling: 18-0 (feet)

Comments:

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method
M43	6	Voa	HCL	40 ml		TPH-g, BTEX, MTBE
M43	2	AMBERS	NONE	1L		TPH-D

Total Purge Volume: 3 (gallons) Disposal: SYSTEM

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

Project Name: Exxon 74121 Well No: *MV5* Date: *03-12-07*
 Project No: UP4121.1.6 Personnel: *ALX*

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>25.37</i>	<i>17.09</i>	<i>8.28</i>	<i>1</i>	<i>2</i>	<i>4</i>	<i>6</i>	<i>1.32</i>
				0.04	0.16	0.64	1.44		

PURGING DATA
 Purge Method: *WATER* / BAILER / SUB Purge Rate: GPM

Time	0915	0918			
Volume Purge (gal)	<i>1.5</i>	<i>3</i>	<i>4.5</i>		
Temperature (C)	<i>17.3</i>	<i>17.4</i>			
pH	<i>6.74</i>	<i>6.72</i>			
Spec. Cond. (umhos)	<i>1180</i>	<i>1157</i>			
Turbidity/Color	<i>SLUR/BRN</i>	<i>SLUR/BRN</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 4 GALLONS*

SAMPLING DATA
 Time Sampled: *0935* Approximate Depth to Water During Sampling: *18.0* (feet)
 Comments:

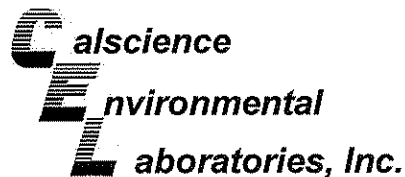
Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method
<i>MV5</i>	<i>6</i>	<i>Voa</i>	<i>HCL</i>	<i>40 ml</i>		<i>TPH-g, BTEX, MTBE</i>
<i>MV5</i>	<i>2</i>	<i>AMBERS</i>	<i>NONE</i>	<i>1L</i>		<i>TPH-D</i>

Total Purge Volume: *4* (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: *DEWATERED* SECURED *Y* / N

Appendix C

Laboratory Analytical Reports and Chain-of-Custody Documentation



March 20, 2009

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

Subject: **Calscience Work Order No.: 09-03-1217**
Client Reference: **ExxonMobil 74121**

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 3/13/2009 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

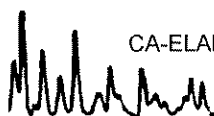
Note that the Chain-of-Custody Record and Sample Receipt Form are integral parts of this report.

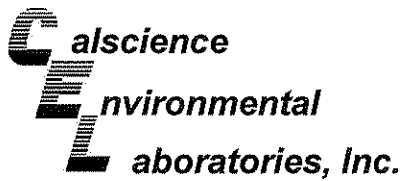
If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

A handwritten signature in black ink, appearing to read "Cecile deGuia".

Calscience Environmental
Laboratories, Inc.
Cecile deGuia
Project Manager





Analytical Report



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

Date Received: 03/13/09
Work Order No: 09-03-1217
Preparation: EPA 3510C
Method: EPA 8015B (M)

Project: ExxonMobil 74121

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW1	09-03-1217-1-G	03/12/09 08:15	Aqueous	GC 45	03/17/09	03/18/09 19:33	090317B09

Comment(s): -The sample extract was subjected to Silica Gel treatment prior to analysis.

-Results were evaluated to the MDL, concentrations \geq to the MDL but $<$ RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
TPH as Diesel	ND	50	47	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
Decachlorobiphenyl	92	68-140				

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW2	09-03-1217-2-G	03/12/09 08:35	Aqueous	GC 45	03/17/09	03/18/09 19:49	090317B09

Comment(s): -The sample extract was subjected to Silica Gel treatment prior to analysis.

-Results were evaluated to the MDL, concentrations \geq to the MDL but $<$ RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
TPH as Diesel	ND	50	47	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
Decachlorobiphenyl	96	68-140				

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW3	09-03-1217-3-G	03/12/09 09:05	Aqueous	GC 45	03/17/09	03/18/09 20:05	090317B09

Comment(s): -The sample extract was subjected to Silica Gel treatment prior to analysis.

-Results were evaluated to the MDL, concentrations \geq to the MDL but $<$ RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
TPH as Diesel	ND	50	47	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
Decachlorobiphenyl	86	68-140				

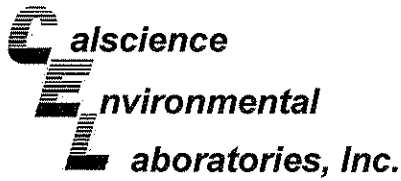
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW5	09-03-1217-4-G	03/12/09 09:35	Aqueous	GC 45	03/17/09	03/18/09 20:20	090317B09

Comment(s): -The sample extract was subjected to Silica Gel treatment prior to analysis.

-Results were evaluated to the MDL, concentrations \geq to the MDL but $<$ RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
TPH as Diesel	ND	50	47	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
Decachlorobiphenyl	101	68-140				

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Analytical Report



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

Date Received: 03/13/09
 Work Order No: 09-03-1217
 Preparation: EPA 3510C
 Method: EPA 8015B (M)

Project: ExxonMobil 74121

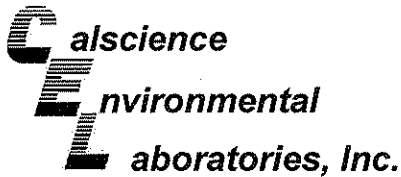
Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-330-1,006	N/A	Aqueous	GC-45	03/17/09	03/18/09 17:57	090317B09

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
TPH as Diesel	ND	50	47	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
Decachlorobiphenyl	93	68-140				

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Analytical Report



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

Date Received: 03/13/09
Work Order No: 09-03-1217
Preparation: EPA 5030B
Method: EPA 8015B (M)

Project: ExxonMobil 74121

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW1	09-03-1217-1-E	03/12/09 08:15	Aqueous	GC 18	03/16/09	03/16/09 20:23	090316B01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
TPH as Gasoline	68	50	48	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
1,4-Bromofluorobenzene	116	38-134				

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW2	09-03-1217-2-E	03/12/09 08:35	Aqueous	GC 18	03/16/09	03/16/09 20:57	090316B01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
TPH as Gasoline	940	50	48	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
1,4-Bromofluorobenzene	119	38-134				

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW3	09-03-1217-3-E	03/12/09 09:05	Aqueous	GC 18	03/16/09	03/16/09 21:30	090316B01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

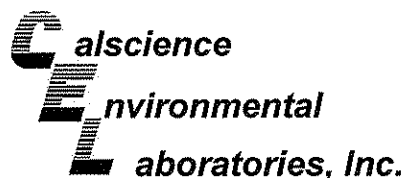
Parameter	Result	RL	MDL	DF	Qual	Units
TPH as Gasoline	ND	50	48	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
1,4-Bromofluorobenzene	116	38-134				

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW5	09-03-1217-4-E	03/12/09 09:35	Aqueous	GC 18	03/16/09	03/16/09 22:03	090316B01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
TPH as Gasoline	410	50	48	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
1,4-Bromofluorobenzene	119	38-134				

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Analytical Report



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

Date Received: 03/13/09
Work Order No: 09-03-1217
Preparation: EPA 5030B
Method: EPA 8015B (M)

Project: ExxonMobil 74121

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-436-3,005	N/A	Aqueous	GC 18	03/16/09	03/16/09 11:32	090316B01

Comment(s): -Results were evaluated to the MDL, concentrations \geq to the MDL but $<$ RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
TPH as Gasoline	ND	50	48	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
1,4-Bromofluorobenzene	109	38-134				

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Analytical Report



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

Date Received: 03/13/09
Work Order No: 09-03-1217
Preparation: EPA 5030B
Method: EPA 8021B
Units: ug/L

Project: ExxonMobil 74121

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW1	09-03-1217-1-D	03/12/09 08:15	Aqueous	GC 21	03/19/09	03/19/09 21:24	090319B01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Benzene	ND	0.50	0.14	1		Ethylbenzene	ND	0.50	0.17	1	
Toluene	ND	0.50	0.17	1		Xylenes (total)	ND	1.0	0.26	1	
Surrogates:	REC (%)	Control Limits			Qual						
1,4-Bromofluorobenzene	85	70-130									

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW2	09-03-1217-2-D	03/12/09 08:35	Aqueous	GC 21	03/19/09	03/19/09 21:57	090319B01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Benzene	ND	0.50	0.14	1		Ethylbenzene	ND	0.50	0.17	1	
Toluene	ND	0.50	0.17	1		Xylenes (total)	0.75	1.0	0.26	1	J
Surrogates:	REC (%)	Control Limits			Qual						
1,4-Bromofluorobenzene	85	70-130									

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW3	09-03-1217-3-D	03/12/09 09:05	Aqueous	GC 21	03/19/09	03/19/09 16:29	090319B01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Benzene	ND	0.50	0.14	1		Ethylbenzene	ND	0.50	0.17	1	
Toluene	ND	0.50	0.17	1		Xylenes (total)	ND	1.0	0.26	1	
Surrogates:	REC (%)	Control Limits			Qual						
1,4-Bromofluorobenzene	89	70-130									

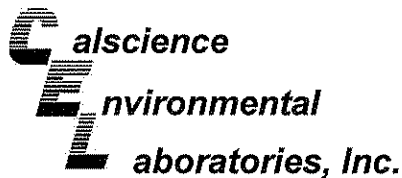
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW5	09-03-1217-4-D	03/12/09 09:35	Aqueous	GC 21	03/19/09	03/19/09 22:30	090319B01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Benzene	0.21	0.50	0.14	1	J	Ethylbenzene	ND	0.50	0.17	1	
Toluene	ND	0.50	0.17	1		Xylenes (total)	0.85	1.0	0.26	1	J
Surrogates:	REC (%)	Control Limits			Qual						
1,4-Bromofluorobenzene	77	70-130									

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers





Analytical Report



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

Date Received: 03/13/09
Work Order No: 09-03-1217
Preparation: EPA 5030B
Method: EPA 8021B
Units: ug/L

Project: ExxonMobil 74121

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-667-384	N/A	Aqueous	GC 21	03/19/09	03/19/09 15:09	090319B01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Benzene	ND	0.50	0.14	1		Ethylbenzene	ND	0.50	0.17	1	
Toluene	ND	0.50	0.17	1		Xylenes (total)	ND	1.0	0.26	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>			<u>Qual</u>						
1,4-Bromofluorobenzene	89	70-130									

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Analytical Report



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

Date Received: 03/13/09
Work Order No: 09-03-1217
Preparation: EPA 5030B
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 74121

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW1	09-03-1217-1-A	03/12/09 08:15	Aqueous	GC/MS L	03/13/09	03/14/09 04:27	090313L02

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
1,2-Dibromoethane	ND	0.50	0.12	1		Diisopropyl Ether (DIPE)	ND	0.50	0.028	1	
1,2-Dichloroethane	ND	0.50	0.080	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	0.036	1	
Methyl-t-Butyl Ether (MTBE)	0.80	0.50	0.067	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	0.030	1	
Tert-Butyl Alcohol (TBA)	ND	10	2.1	1							
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>			<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Limits</u>			<u>Qual</u>
1,2-Dichloroethane-d4	118	73-145				Dibromofluoromethane	112	81-135			
Toluene-d8	101	83-119				1,4-Bromofluorobenzene	100	74-110			

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW2	09-03-1217-2-A	03/12/09 08:35	Aqueous	GC/MS L	03/13/09	03/14/09 04:54	090313L02

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
1,2-Dibromoethane	ND	0.50	0.12	1		Diisopropyl Ether (DIPE)	ND	0.50	0.028	1	
1,2-Dichloroethane	ND	0.50	0.080	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	0.036	1	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	0.067	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	0.030	1	
Tert-Butyl Alcohol (TBA)	ND	10	2.1	1							
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>			<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Limits</u>			<u>Qual</u>
1,2-Dichloroethane-d4	123	73-145				Dibromofluoromethane	116	81-135			
Toluene-d8	109	83-119				1,4-Bromofluorobenzene	106	74-110			

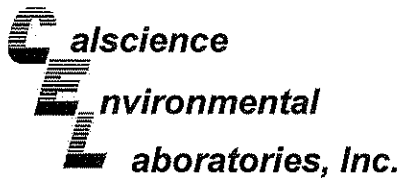
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW3	09-03-1217-3-A	03/12/09 09:05	Aqueous	GC/MS L	03/13/09	03/14/09 05:21	090313L02

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
1,2-Dibromoethane	ND	0.50	0.12	1		Diisopropyl Ether (DIPE)	ND	0.50	0.028	1	
1,2-Dichloroethane	ND	0.50	0.080	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	0.036	1	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	0.067	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	0.030	1	
Tert-Butyl Alcohol (TBA)	ND	10	2.1	1							
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>			<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Limits</u>			<u>Qual</u>
1,2-Dichloroethane-d4	116	73-145				Dibromofluoromethane	108	81-135			
Toluene-d8	102	83-119				1,4-Bromofluorobenzene	96	74-110			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers





Analytical Report



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

Date Received: 03/13/09
Work Order No: 09-03-1217
Preparation: EPA 5030B
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 74121

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW5	09-03-1217-4-A	03/12/09 09:35	Aqueous	GC/MS-L	03/13/09	03/14/09 05:49	090313L02

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
1,2-Dibromoethane	0.19	0.50	0.12	1	J	Diisopropyl Ether (DIPE)	ND	0.50	0.028	1	
1,2-Dichloroethane	ND	0.50	0.080	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	0.036	1	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	0.067	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	0.030	1	
Tert-Butyl Alcohol (TBA)	ND	10	2.1	1							
Surrogates:		REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Limits	Qual			
1,2-Dichloroethane-d4	121	73-145			Dibromofluoromethane	112	81-135				
Toluene-d8	103	83-119			1,4-Bromofluorobenzene	104	74-110				

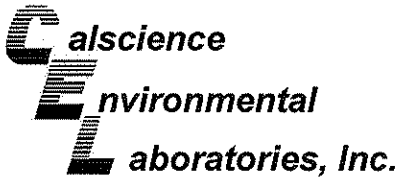
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-10-025-894	N/A	Aqueous	GC/MS-L	03/13/09	03/13/09 23:53	090313L02

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
1,2-Dibromoethane	ND	0.50	0.12	1		Diisopropyl Ether (DIPE)	ND	0.50	0.028	1	
1,2-Dichloroethane	ND	0.50	0.080	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	0.036	1	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	0.067	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	0.030	1	
Tert-Butyl Alcohol (TBA)	ND	10	2.1	1							
Surrogates:		REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Limits	Qual			
1,2-Dichloroethane-d4	116	73-145			Dibromofluoromethane	106	81-135				
Toluene-d8	102	83-119			1,4-Bromofluorobenzene	97	74-110				

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers





Quality Control - Spike/Spike Duplicate



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

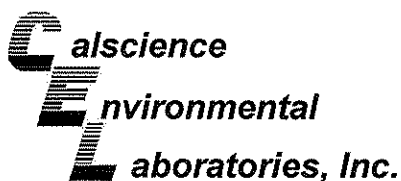
Date Received: 03/13/09
 Work Order No: 09-03-1217
 Preparation: EPA 5030B
 Method: EPA 8015B (M)

Project ExxonMobil 74121

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
09-03-0845-1	Aqueous	GC 18	03/16/09	03/16/09	090316S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	97	96	68-122	1	0-18	

RPD - Relative Percent Difference, CL - Control Limit



Quality Control - Spike/Spike Duplicate



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

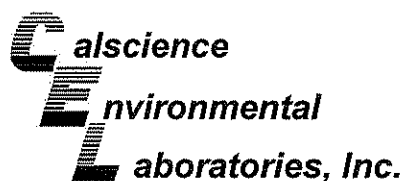
Date Received: 03/13/09
Work Order No: 09-03-1217
Preparation: EPA 5030B
Method: EPA 8021B

Project ExxonMobil 74121

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW3	Aqueous	GC 21	03/19/09	03/19/09	090319S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	88	84	57-129	4	0-23	
Toluene	91	87	50-134	5	0-26	
Ethylbenzene	92	87	58-130	5	0-26	
p/m-Xylene	92	88	58-130	5	0-28	
o-Xylene	92	87	57-123	5	0-26	
Methyl-t-Butyl Ether (MTBE)	114	0	44-134	200	0-27	4,3

RPD - Relative Percent Difference, CL - Control Limit



Quality Control - Spike/Spike Duplicate



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

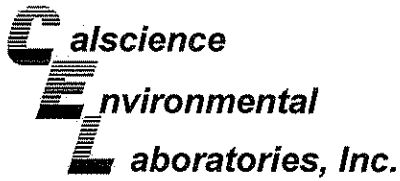
Date Received: 03/13/09
Work Order No: 09-03-1217
Preparation: EPA 5030B
Method: EPA 8260B

Project ExxonMobil 74121

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
09-03-1033-4	Aqueous	GC/MS L	03/13/09	03/14/09	090313S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	109	110	86-122	2	0-8	
Carbon Tetrachloride	107	107	78-138	0	0-9	
Chlorobenzene	104	104	90-120	0	0-9	
1,2-Dibromoethane	101	99	70-130	2	0-30	
1,2-Dichlorobenzene	101	101	89-119	0	0-10	
1,1-Dichloroethene	106	116	52-142	6	0-23	
Ethylbenzene	108	108	70-130	0	0-30	
Toluene	111	110	85-127	2	0-12	
Trichloroethene	105	103	78-126	2	0-10	
Vinyl Chloride	125	126	56-140	1	0-21	
Methyl-t-Butyl Ether (MTBE)	104	108	64-136	4	0-28	
Tert-Butyl Alcohol (TBA)	112	108	27-183	4	0-60	
Diisopropyl Ether (DIPE)	110	109	78-126	1	0-16	
Ethyl-t-Butyl Ether (ETBE)	109	106	67-133	3	0-21	
Tert-Amyl-Methyl Ether (TAME)	95	96	63-141	0	0-21	
Ethanol	162	174	11-167	8	0-64	3

RPD - Relative Percent Difference . CL - Control Limit



Quality Control - LCS/LCS Duplicate



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

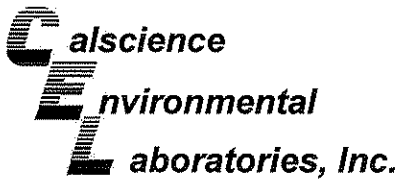
Date Received: N/A
 Work Order No: 09-03-1217
 Preparation: EPA 3510C
 Method: EPA 8015B (M)

Project: ExxonMobil 74121

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-330-1,006	Aqueous	GC 45	03/17/09	03/18/09	090317B09

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	88	93	75-117	6	0-13	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate



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

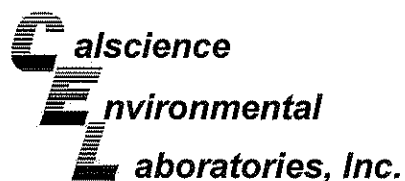
Date Received: N/A
 Work Order No: 09-03-1217
 Preparation: EPA 5030B
 Method: EPA 8015B (M)

Project: ExxonMobil 74121

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-436-3,005	Aqueous	GC 18	03/16/09	03/16/09	090316B01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	108	107	78-120	1	0-10	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate



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

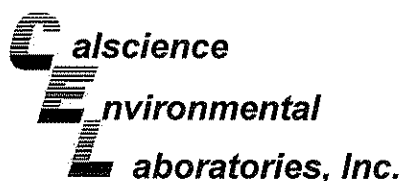
Date Received: N/A
Work Order No: 09-03-1217
Preparation: EPA 5030B
Method: EPA 8021B

Project: ExxonMobil 74121

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-667-384	Aqueous	GC 21	03/19/09	03/19/09	090319B01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	90	89	70-118	0	0-9	
Toluene	93	92	66-114	0	0-9	
Ethylbenzene	93	93	72-114	1	0-9	
p/m-Xylene	95	94	74-116	1	0-9	
o-Xylene	93	92	72-114	1	0-9	
Methyl-t-Butyl Ether (MTBE)	113	110	41-137	2	0-13	

RPD - Relative Percent Difference, CL - Control Limit



Quality Control - LCS/LCS Duplicate



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

Date Received: N/A
Work Order No: 09-03-1217
Preparation: EPA 5030B
Method: EPA 8260B

Project: ExxonMobil 74121

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number		
099-10-025-894	Aqueous	GC/MS L	03/13/09	03/13/09	090313L02		
Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	108	109	87-117	82-122	2	0-7	
Carbon Tetrachloride	107	111	78-132	69-141	4	0-8	
Chlorobenzene	103	104	88-118	83-123	1	0-8	
1,2-Dibromoethane	102	107	80-120	73-127	5	0-20	
1,2-Dichlorobenzene	103	105	88-118	83-123	2	0-8	
1,1-Dichloroethene	121	112	71-131	61-141	7	0-14	
Ethylbenzene	106	106	80-120	73-127	0	0-20	
Toluene	108	111	85-127	78-134	2	0-7	
Trichloroethene	110	109	85-121	79-127	1	0-11	
Vinyl Chloride	122	126	64-136	52-148	4	0-10	
Methyl-t-Butyl Ether (MTBE)	106	124	67-133	56-144	16	0-16	
Tert-Butyl Alcohol (TBA)	154	106	34-154	14-174	37	0-19	X
Diisopropyl Ether (DIPE)	110	117	80-122	73-129	6	0-8	
Ethyl-t-Butyl Ether (ETBE)	107	117	73-127	64-136	8	0-11	
Tert-Amyl-Methyl Ether (TAME)	97	106	69-135	58-146	8	0-12	
Ethanol	131	135	34-124	19-139	3	0-44	

Total number of LCS compounds : 16

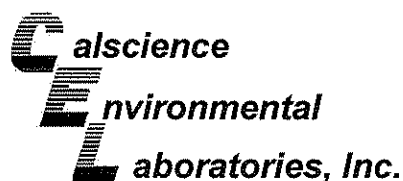
Total number of ME compounds : 1

Total number of ME compounds allowed : 1

LCS ME CL validation result : Pass

X: LCS/LCS Duplicate RPD was out of control (above the upper control limit). The spike and spike duplicate were within control limits and, therefore, the sample data was reported without further clarification

RPD - Relative Percent Difference , CL - Control Limit



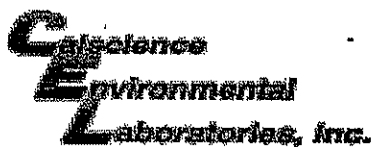
Glossary of Terms and Qualifiers



Work Order Number: 09-03-1217

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
I	Compound did not meet method-described identification guidelines. Identification was based on additional GC/MS characteristics.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

A handwritten signature in black ink, appearing to be "M. M. M.", located at the bottom left of the page.



WORK ORDER #: 09-03-11217

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: ETIC

DATE: 03/13/09

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen)

Temperature 2.9 °C - 0.2°C (CF) = 2.7 °C Blank Sample

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

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

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

Ambient Temperature: Air Filter Metals Only PCBs Only Initial: AP

CUSTODY SEALS INTACT:

Cooler _____ No (Not Intact) Not Present N/A Initial: AP

Sample _____ No (Not Intact) Not Present Initial: AP

SAMPLE CONDITION:

	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sampler's name indicated on COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and good condition.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Correct containers and volume for analyses requested.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analyses received within holding time.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper preservation noted on COC or sample container.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Volatile analysis container(s) free of headspace.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tedlar bag(s) free of condensation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CONTAINER TYPE:

Solid: 4ozCGJ 8ozCGJ 16ozCGJ Sleeve EnCores® TerraCores® _____

Water: VOA VOA₂ VOA_h VOAna₂ 125AGB 125AGB_h 125AGBpo₄ 1AGB 1AGBna₂

1AGBs 500AGB 500AGBs 250CGB 250CGBs 1PB 500PB 500PBna 250PB

250PBn 125PB 125PBz_{na} 100PBsterile 100PBna₂ _____ _____ _____

Air: Tedlar® Summa® _____

Container: C:Clear A:Amber P:Poly/Plastic G:Glass J:Jar B:Bottle

Preservative: h:HCL n:HNO₃ na₂:Na₂S₂O₃ na:NaOH po₄:H₃PO₄ s:H₂SO₄ z_{na}:ZnAc₂+NaOH

Checked/Labeled by: BF

Reviewed by: SP

Scanned by: BF