

February 15, 2005

Mr. Robert Schultz Alameda County Environmental Health 1131 Harbor Bay Parkway, Suite 250 Alameda, California 94502-8577 Alameda County

MAR 1 0 2005

Environmental Health

**RE: Electronic Report Submission** 

Dear Mr. Schultz:

The purpose of this letter is to inform you that on behalf of the Atlantic Richfield Company (RM), a BP affiliated company, URS Corporation (URS) will issue all future quarterly monitoring reports (QMR) electronically to the State Water Resources Control Board's GEOTRACKER website (<a href="http://www.geotracker.swrcb.ca.gov/">http://www.geotracker.swrcb.ca.gov/</a>). You may access your report directly from this website. If you would prefer to have a PDF copy e-mailed to you or if you would like to continue receiving a paper copy, please contact Rick Murray at (510) 874-1755.

If you have any questions regarding this submission, please call me at (510) 874-3125.

Sincerely,

URS CORPORATION

Rachel Lindvall QMR Coordinator

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Antonneno Rous County





Atlantic Richfield Company (a BP affiliated company)

P.O. Box 6549 Moraga, California 94570 Phone: (925) 299-8891 Fax: (925) 299-8872

March 1, 2005

Re: First Quarter 2005 Groundwater Monitoring Report

ARCO Service Station #0374 6407 Telegraph Avenue Oakland, California URS Project #38487164

I declare, that to the best of my knowledge at the present time, that the information and/or recommendations contained in the attached document are true and correct.

Submitted by:

Paul Supple

**Environmental Business Manager** 



March 1, 2005

Mr. Robert Schultz Alameda County Environmental Health 1131 Harbor Bay Parkway, 2<sup>nd</sup> Floor Alameda, CA 94502

Re: First Quarter 2005 Groundwater Monitoring Report

ARCO Service Station #0374 6407 Telegraph Avenue Oakland, California URS Project #38487164

Dear Mr. Schultz:

On behalf of Atlantic Richfield Company, a BP affiliated company, URS Corporation (URS) is submitting the *First Quarter 2005 Groundwater Monitoring Report* for ARCO Service Station #0374, located at 6407 Telegraph Avenue, Oakland, California.

If you have any questions regarding this submission, please call (510) 874-3280.

Sincerely,

**URS CORPORATION** 

Scott Robinson Project Manager

cc:

Enclosure: First Quarter 2005 Groundwater Monitoring Report

Mr. Chuck Headlee, California Regional Water Quality Control Board, 1515 Clay Street, Suite 1400, Oakland, CA 94612, electronic copy uploaded to RWQCB FTP site

Portfolio Manager

Mr. Paul Supple, Atlantic Richfield Company (RM), copy uploaded to ENFOS

1333 Broadway, Suite 800 Oakland, CA 94612-1924 Tel: 510.893,3600

Fax: 510.874.3268

**URS** Corporation

# REPORT

# FIRST QUARTER 2005 GROUNDWATER MONITORING REPORT

ARCO SERVICE STATION #0374 6407 TELEGRAPH AVENUE OAKLAND, CALIFORNIA

Prepared for RM

March 1, 2005



URS Corporation 1333 Broadway, Suite 800 Oakland, California 94612

Date:	March 1, 2005
Quarter:	1Q 05

### RM QUARTERLY GROUNDWATER MONITORING REPORT

Facility No.:	_0374	Address:	6407 Telegraph Avenue, Oakland, CA	
RM Environmen	tal Business Manager:		Paul Supple	
Consulting Co./C	Contact Person:		URS Corporation / Scott Robinson	
Consultant Proje	ct No.:		38487164	
Primary Agency			Alameda County Environmental Health (ACEH)	

### WORK PERFORMED THIS QUARTER (First-2005):

- 1. Performed first quarter groundwater monitoring event on February 8, 2005.
- 2. Prepared and submitted this First Quarter 2005 Groundwater Monitoring Report.

### WORK PROPOSED FOR NEXT QUARTER (Second-2005):

- 1. Perform second quarter 2005 groundwater monitoring event.
- 2. Prepare and submit Second Quarter 2005 Groundwater Monitoring Report.

### SITE SUMMARY:

OITE BUILDING		
Current Phase of Project:	GW monitoring/sampling	
Frequency of Groundwater Sampling:	Quarterly: MW-1 Semi-Annually (1 <sup>st</sup> & 3 <sup>rd</sup> quarters): MW-2, MW-4 Annually (3 <sup>rd</sup> quarter): MW-3, MW-5, MW-6	
Frequency of Groundwater Monitoring:	Quarterly	
Is Free Product (FP) Present On-Site:	No	
Current Remediation Techniques:	Natural Attenuation	
Approximate Depth to Groundwater:	5.13 (MW-6) to 7.28 (MW-5) feet	
Groundwater Gradient (direction):	Southwest	
Groundwater Gradient (magnitude):	0.061 feet per foot	

### DISCUSSION:

Three wells were sampled during the first quarter. Gasoline range organics, benzene, toluene, ethylbenzene, and xylenes were detected at or above their respective laboratory reporting limits in only one well, MW-4, at concentrations of 7,500 micrograms per liter ( $\mu$ g/L), 1,700  $\mu$ g/L, 320  $\mu$ g/L, 480  $\mu$ g/L, and 920  $\mu$ g/L, respectively. Methyl tert-butyl ether was detected at or above the laboratory reporting limit in all three wells at concentrations of 30  $\mu$ g/L (MW-2), 45  $\mu$ g/L (MW-4), and 610  $\mu$ g/L (MW-1). No other constituents were detected at or above their respective laboratory reporting limits.

### ATTACHMENTS:

- Figure 1 Groundwater Elevation Contour and Analytical Summary Map February 8, 2005
- Table 1 Groundwater Elevation and Analytical Data
- Table 2 Fuel Additives Analytical Data
- Table 3 Groundwater Gradient Data
- Attachment A Field Procedures and Field Data Sheets
- Attachment B Laboratory Procedures, Certified Analytical Reports, and Chain-of-Custody Records
- Attachment C Error Check Reports and EDF/Geowell Submittal Confirmations

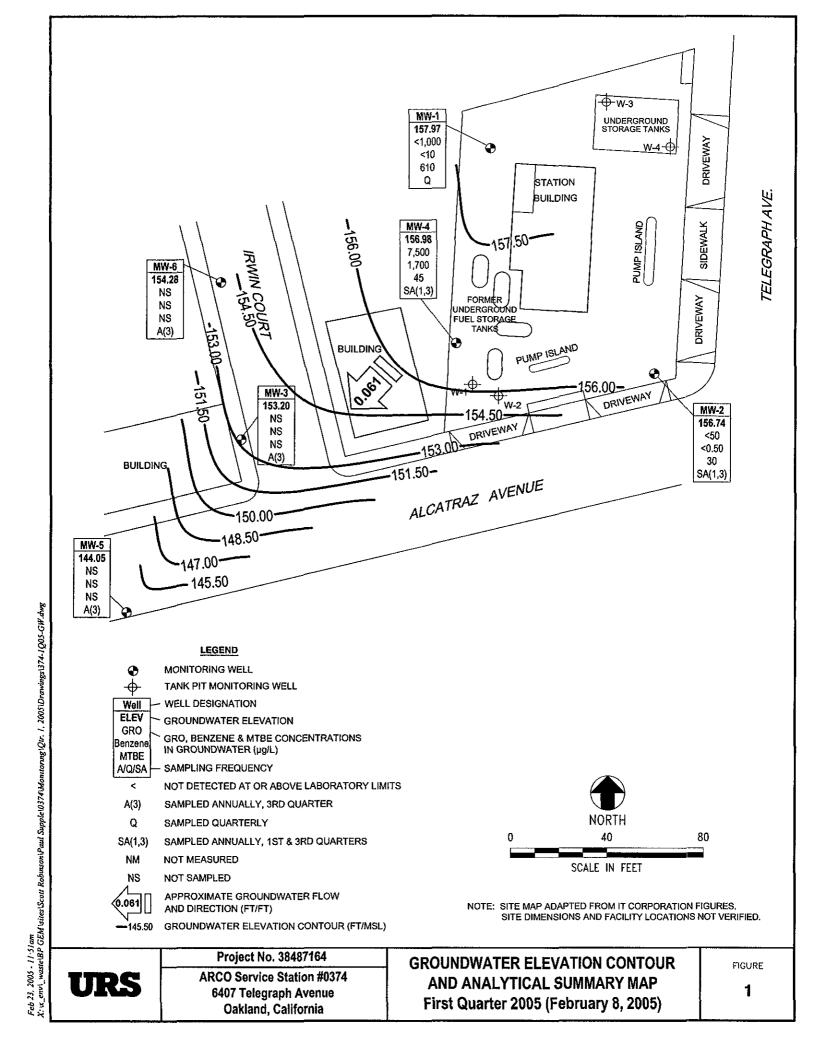


Table 1
Groundwater Elevation and Analytical Data

Well No.	Date	P/ NP	Footnotes/ Comments	TOC (ft MSL)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (ft bgs)	GWE (ft MSL)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Totai Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	pH
MW-1	6/20/2000	_		158.91	7.00	27.00	6.86	152.05	-		_		-		† <del></del>	<del>  -</del>
	9/28/2000	_		158.91	7.00	27.00	7.50	151.41				_	-		<del>  -</del>	
	12/17/2000	_		158.91	7.00	27.00	7.49	151.42		_	-		_	-	-	_
	3/23/2001			158.91	7.00	27.00	5.90	153.01	<50	<0.5	<0.5	<0.5	<0.5	2,710	_	<b>-</b> -
	6/21/2001	_		158.91	7.00	27.00	7.45	151.46	_	-		-	-		-	
	9/23/2001			158.91	7.00	27.00	8.46	150.45		-			-		-	
	12/31/2001	-		158.91	7.00	27.00	5.50	153.41	-				_			
	3/21/2002	-		158.91	7.00	27.00	4.71	154.20	<5,000	<50	<50	<50	<50	2,000		<b>—</b>
	4/17/2002			158.91	7.00	27.00	5.54	153.37	***		_		-			-
	8/12/2002	-	****	158.91	7.00	27.00	7.77	151.14	-	-	_		_		-	-
	12/6/2002	-		158.91	7.00	27.00	7.65	151.26		<b>-</b>	-	-	-			
	1/29/2003	-	b	158.91	7.00	27.00	5.88	153.03		-	-					_
	5/23/2003	-		158.91	7.00	27.00	5.62	153.29	<10,000	<100	<100	<100	<100	1,600	1.3	7.1
	9/4/2003			158.91	7.00	27.00	7.85	151.06	-		-					-
	11/20/2003	Р		158.91	7.00	27.00	8.17	150.74	1,600	<10	<10	<10	<10	1,500	1.7	6.7
	02/02/2004	Р		164.57	7.00	27.00	6.71	157.86	2,700	<25	<25	<25	<25	1,200	1.0	9.0
	05/14/2004	Р		164.57	7.00	27.00	7.08	157.49	<2,500	<25	<25	<25	<25	1,200	1.4	6.6
	09/02/2004	Р		164.57	7.00	27.00	8.12	156.45	580	<5.0	<5.0	<5.0	<5.0	660	3.8	6.7
	11/04/2004	Р		164.57	7.00	27.00	7.38	157.19	1,700	<10	<10	<10	<10	580	6.0	6.5
	02/08/2005	Р		164.57	7.00	27.00	6.60	157.97	<1,000	<10	<10	<10	<10	610	0.71	6.5
MW-2	6/20/2000	-		157.92	7.00	27.00	7.67	150.25			Τ		_			T
····	9/28/2000			157.92	7.00	27.00	8.51	149.41							_	† <u></u>
	12/17/2000			157.92	7.00	27.00	8.14	149.78		-		<b>-</b>			<del>  _</del>	<del> </del>
	3/23/2001			157.92	7.00	27.00	7.21	150.71	<50	<0.5	<0.5	<0.5	<0.5	<2.5		† <u></u>
	6/21/2001			157.92	7.00	27.00	7.99	149.93	-	-		_				1-
<del></del>	9/23/2001	_		157.92	7.00	27.00	8.52	149.40		_	_				_	
	12/31/2001			157.92	7.00	27.00	6.01	151.91		-			_			1
	3/21/2002			157.92	7.00	27.00	5.95	151.97	<50	<0.5	<0.5	<0.5	<0.5	45	<b>—</b>	† <del>-</del>
	4/17/2002	_		157.92	7.00	27.00	6.45	151.47		-	-	-	-		-	<del> </del> _
	8/12/2002			157.92	7.00	27.00	8.08	149.84			_		-			1 -
	12/6/2002	_		157.92	7.00	27.00	8.29	149.63	-	_	-		-		_	<b> </b>
	1/29/2003	-	b	157.92	7.00	27.00	7.22	150.70		_			-		-	<del> </del>
	5/23/2003			157.92	7.00	27.00	6.85	151.07	<50	<0.50	<0.50	<0.50	<0.50	55	1.4	7.2

Table 1

# **Groundwater Elevation and Analytical Data**

Well No.	Date	P/ NP	Footnotes/ Comments	TOC (ft MSL)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (ft bgs)	GWE (ft MSL)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	рH
MW-2	9/4/2003			157.92	7.00	27.00	7.94	149.98	**	-	_		_			<b> </b>
	11/20/2003			157.92	7.00	27.00	8.05	149.87		_	-	-	-	_	_	
	02/02/2004	Р		163.46	7.00	27.00	7.00	156.46	74	<0.50	<0.50	<0.50	<0.50	37	1.1	8.9
	05/14/2004			163.46	7.00	27.00	7.97	155.49	***	-	_	-	-		-	-
	09/02/2004	Р		163.46	7.00	27.00	8.19	155.27	<250	<2.5	<2.5	<2.5	<2.5	67	2.7	6.9
	11/04/2004			163.46	7.00	27.00	7.54	155.92	-	_	-	-	_	-		
	02/08/2005	Р		163.46	7.00	27.00	6.72	156.74	<50	<0.50	<0.50	<0.50	<0.50	30	0.86	6.7
MW-3	6/20/2000	T		153.64	7.00	27.00	6.42	147.22	<50	<0.5	<0.5	<0.5	<1.0	<10	<del></del>	T
11111-0	9/28/2000			153.64	7.00	27.00	7.31	146.33			40.5	<b>VO.</b> 5	- 1.0	<u> </u>	<del></del>	<del>-</del> -
	12/17/2000			153.64	7.00	27.00	6.45	147.19	<50	<0.5	<0.5	<0.5	<0.5	<2.5	<del>-</del>	<del></del>
	3/23/2001	_	****	153.64	7.00	27.00	6.01	147.63				<b>~0.0</b>			<del></del>	<del></del> -
	6/21/2001	-		153.64	7.00	27.00	6.80	146.84	110	5.5	<0.5	5.4	4.1	2.5	<del></del>	<del>-</del>
	9/23/2001			153.64	7.00	27.00	7.32	146.32		-					<del></del>	
	12/31/2001			153.64	7.00	27.00	4.48	149.16	<50	<0.5	<0.5	<0.5	<0.5	4.9		<del>  -</del>
	3/21/2002			153.64	7.00	27.00	4.36	149.28			-		-			<u> </u>
	4/17/2002			153.64	7.00	27.00	5.31	148.33	<50	<0.5	<0.5	<0.5	<0.5	8.7		
	8/12/2002	_		153.64	7.00	27.00	7.00	146.64					-		<del></del>	
	12/6/2002			153.64	7.00	27.00	7.32	146.32	<50	<0.5	<0.5	<0.5	<0.5	6.2	1.4	6.7
	1/29/2003		b	153.64	7.00	27.00	6.07	147.57		_		-	-			
	5/23/2003	_		153.64	7.00	27.00	6.45	147.19	<50	<0.50	<0.50	<0.50	<0.50	1.6	0.9	7.7
	9/4/2003		С	153.64	7.00	27.00	6.93	146.71	-			-			_	
	11/20/2003	_	С	153.64	7.00	27.00	7.04	146.60	_			-			_	
	02/02/2004	<b> </b>		159.21	7.00	27.00	5.92	153.29	<del></del>							-
	05/14/2004			159.21	7.00	27.00	7.52	151.69		_	_	_	-		_	
	09/02/2004	Р		159.21	7.00	27.00	7.19	152.02	<50	<0.50	<0.50	<0.50	<0.50	6.5	9.3	8.9
	11/04/2004	_		159.21	7.00	27.00	6.40	152.81	-	-						_
	02/08/2005			159.21	7.00	27.00	6.01	153.20						_	-	
MW-4	6/20/2000	1	c	156.53	7.00	27.00	7.50	149.03	20,000	E 100	140	1.000	1 700	2050	T	
10144-24	9/28/2000	<u> </u>	· · ·	156.53	7.00	27.00	8.20	149.03	20,000	5,100	440	1,000	1,700	<250	<del></del> -	ļ <del></del>
	12/17/2000	-		156.53	7.00	27.00	8.20	148.42	4,320	1,240	 <20	27.2	249	 	<del>-</del>	<del></del>
1	3/23/2001	 		156.53	7.00	27.00	6.69	148.42	4,320	<del> </del>		27.2		<100		
	6/21/2001	=		156.53	7.00	27.00	8.01	149.64		470	16	- 10	160	120	-	
	9/23/2001	<del></del>		156.53	7.00	27.00	8.91	140.52	2,800		16	19	100	130	-	<del>  -</del> -
	3/23/2001			100.03	7.00	27.00	8.91	147.02		-					<del>-</del>	<u> </u>

Table 1

Groundwater Elevation and Analytical Data

Well No.	Date	P/ NP	Footnotes/ Comments	TOC (ft MSL)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (ft bgs)	GWE (ft MSL)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	рН
MW-4	12/31/2001	_		156.53	7.00	27.00	4.42	152.11	4,600	1,500	100	160	210	160	-	-
	3/21/2002	_		156.53	7.00	27.00	4.98	151.55	_					4		<del>  _</del>
	4/17/2002	_		156.53	7.00	27.00	6.23	150.30	7,100	2,200	110	290	450	<250	_	<del>  _</del>
	8/12/2002	_		156.53	7.00	27.00	8.24	148.29		_	_	_	_	<u></u>		<del>  -</del>
¬	12/6/2002	_	a	156.53	7.00	27.00	8.42	148.11	1,500	410	6.8	20	29	43	1.1	6.7
	1/29/2003	_	b	156.53	7.00	27.00	7.20	149.33			_	_	-			-
	5/23/2003			156.53	7.00	27.00	7.18	149.35	<5,000	1,300	89	210	260	<50	1.4	6.9
	9/4/2003	-	С	156.53	7.00	27.00	8.15	148.38	-		_		_		-	T-
	11/20/2003	-	C	156.53	7.00	27.00	8.73	147.80		_	-	-				
	02/02/2004	Р	C	163.25	7.00	27.00	6.25	157.00	980	280	21	29	38	29	1.4	10.6
	05/14/2004			163.25	7.00	27.00	8.38	154.87	_		-	-	T		_	T-
	09/02/2004	Р		163.25	7.00	27.00	8.36	154.89	260	11	<1.0	5.5	14	28	2.4	7.4
	11/04/2004		С	163.25	7.00	27.00	7.71	155.54				-			-	T
	02/08/2005	P		163.25	7.00	27.00	6.27	156.98	7,500	1,700	320	480	920	45	0.65	6.5
MW-5	6/20/2000			151.33	10.00	23.00	7.84	143.49	<50	<0.5	<0.5	<0.5	<1.0	<10	I _	Τ-
	9/28/2000			151.33	10.00	23.00	8.37	142.96	<50	<0.5	<0.5	<0.5	<0.5	<2.5	-	<del> </del>
····	12/17/2000	_		151.33	10.00	23.00	8.36	142.97	<50	< 0.5	< 0.5	< 0.5	< 0.5	<2.5		
	3/23/2001	_		151.33	10.00	23.00	7.55	143.78	<50	< 0.5	< 0.5	< 0.5	< 0.5	<2.5		<del>  -</del>
	6/21/2001			151.33	10.00	23.00	8.20	143.13	<50	< 0.5	< 0.5	< 0.5	< 0.5	<2.5		<del>  _</del>
	9/23/2001	-		151.33	10.00	23.00	8.68	142.65	<50	<0.5	< 0.5	< 0.5	< 0.5	<2.5		<del>  -</del>
	12/31/2001	-		151.33	10.00	23.00	7.57	143.76	<50	<0.5	< 0.5	< 0.5	< 0.5	<2.5		T-
	3/21/2002			151.33	10.00	23.00	6.12	145.21	<50	<0.5	<0.5	<0.5	<0.5	3.2	-	<b>—</b>
	4/17/2002	-		151.33	10.00	23.00	6.61	144.72	<50	<0.5	< 0.5	< 0.5	< 0.5	<2.5		T-
	8/12/2002	-		151.33	10.00	23.00	8.14	143.19	<50	<0.5	<0.5	<0.5	<0.5	<2.5	4.1	7.6
	12/6/2002			151.33	10.00	23.00	8.65	142.68	<50	<0.5	<0.5	<0.5	<0.5	<2.5	1.1	6.8
	1/29/2003		b	151.33	10.00	23.00	7.22	144.11	<50	<0.5	<0.5	<0.5	<0.5	<0.5	1	6.6
	5/23/2003	_		151.33	10.00	23.00	7.31	144.02	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.1	6.6
	9/4/2003	-		151.33	10.00	23.00	9.50	141.83	<50	<0.50	<0.50	<0.50	<0.50	<0.50	3.2	6.7
	11/20/2003			151.33	10.00	23.00	8.31	143.02	-					_	_	T
	02/02/2004		С	151.33	10.00	23.00	6.92	144.41	-							
	05/14/2004	-		151.33	10.00	23.00	8.56	142.77		_	-					T-
	09/02/2004	Р		151.33	10.00	23.00	8.79	142.54	<50	<0.50	<0.50	<0.50	<0.50	<0.50	3.5	6.8
	11/04/2004	-	C	151.33	10.00	23.00	8.33	143.00	-	-				_	-	_

Table 1
Groundwater Elevation and Analytical Data

Well No.	Date	P/ NP	Footnotes/ Comments	TOC (ft MSL)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (ft bgs)	GWE (ft MSL)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	рH
MW-5	02/08/2005			151.33	10.00	23.00	7.28	144.05	-	-		-				
MW-6	6/20/2000	_	61	153.84	5.00	15.00	4.79	149.05		<del>-</del>	_			_		Γ-
1	9/28/2000	_		153.84	5.00	15.00	5.39	148.45	-	-		-	_	_		
-	12/17/2000	-		153.84	5.00	15.00	4.71	149.13		_		_	-	-	_	
	3/23/2001	-		153.84	5.00	15.00	4.69	149.15	<50	< 0.5	< 0.5	< 0.5	< 0.5	<2.5	-	_
	6/21/2001	-		153.84	5.00	15.00	5.22	148.62		_	-					-
	9/23/2001	-		153.84	5.00	15.00	5.40	148.44				-	-	-	-	-
	12/31/2001	-		153.84	5.00	15.00	3.95	149.89	-			-	-			-
	3/21/2002	_		153.84	5.00	15.00	2.94	150.90	<50	<0.5	<0.5	<0.5	<0.5	5.2	-	-
	4/17/2002			153.84	5.00	15.00	5.11	148.73	_	-	-		-	-	-	<b>—</b>
	8/12/2002			153.84	5.00	15.00	5.23	148.61	-	_			-	-	-	-
	12/6/2002	-		153.84	5.00	15.00	5.29	148.55	-	-	-	-		-	_	
	1/29/2003		b	153.84	5.00	15.00	4.79	149.05	-		_		-			
	5/23/2003	-		153.84	5.00	15.00	4.31	149.53	<50	<0.50	<0.50	<0.50	<0.50	9.4	1	6.7
	09/04/03		d	153.84	5.00	15.00						_	_			1
	11/20/2003	-		153.84	5.00	15.00	6.31	147.53	_	-			_		_	-
	02/02/2004	-		159.41	5.00	15.00	4.78	154.63	-		-	-			_	<del>-</del>
	05/14/2004		,	159.41	5.00	15.00	6.29	153.12	-	_		-			-	
	09/02/2004		d	159.41	5.00	15.00	5.79	153.62	+	-	_	-			-	-
	11/04/2004	-	d	159.41	5.00	15.00		_	-	-			<del>-</del>		-	
	02/08/2005			159.41	5.00	15.00	5.13	154.28	_			-		_	_	-

### **Groundwater Elevation and Analytical Data**

ARCO Service Station #0374 6407 Telegraph Ave., Oakland, CA

#### SYMBOLS AND ABBREVIATIONS:

- = Not analyzed/applicable/measured/available

< = Not detected at or above laboratory reporting limit</p>

DO = Dissolved oxygen

DTW = Depth to water in feet below ground surface

ft bgs = feet below ground surface

ft MSL = feet above mean sea level

GRO = Gasoline Range Organics, range C4-C12

GWE = Groundwater elevation measured in feet above mean sea level

mg/L = Milligrams per liter

MTBE = Methyl tert butyl ether

NP = Not Purged

P = Purge

TOC = Top of casing measured in feet above mean sea level

TPH-g = Total petroleum hydrocarbons as gasoline

ug/L = Micrograms per liter

### FOOTNOTES:

a = Chromatogram Pattern: Gasoline C6-C10 for GRO/TPH-g.

b = Beginning this quarter, groundwater samples were analyzed by EPA method 8260B for TPH-g, BTEX, and fuel oxygenates.

c = Wells gauged with ORC sock in well.

d = Well inaccessible

#### NOTES:

Beginning in the fourth quarter 2003, the laboratory modified the reported analyte list. TPHg has been changed to GRO. The resulting data may be impacted by the potential of non-TPHg analytes within the requested fuel range resulting in a higher concentration being reported.

Beginning in the second quarter 2004, the carbon range for GRO was changed from C6-C10 to C4-C12

Values for DO and pH were obtained through field measurements.

The data within this table collected prior to August 2002 was provided to URS by RM and their previous consultants. URS has not verified the accuracy of this information.

The depths for the top and bottom of the screens for wells MW-5 and MW-6 were taken from Delta Environmental sampling sheets because the well logs were not available.

Table 2

# **Fuel Additives Analytical Data**

Well Number	Date Sampled	Ethanol (µg/L)	TBA (µg/L)	MTBE (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (μg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Footnotes/ Comments
MW-1	5/23/2003	<20,000	<4,000	1,600	<100	<100	<100			
	11/20/2003	<2,000	<400	1,500	<10	<10	<10	-	-	а
· · · · · · · · · · · · · · · · · · ·	02/02/2004	<5,000	<1,000	1,200	<25	<25	<25	<25	<25	
	05/14/2004	<5,000	<1,000	1,200	<25	<25	<25	<25	<25	
	09/02/2004	<1,000	<200	660	<5.0	<5.0	<5.0	<5.0	<5.0	
	11/04/2004	<2,000	<400	580	<10	<10	<10	<10	<10	
	02/08/2005	<2,000	<400	610	<10	<10	<10	<10	<10	
MW-2	5/23/2003	<100	<20	55	<0.50	<0.50	0.53			
	02/02/2004	<100	<20	37	<0.50	<0.50	<0.50	<0.50	<0.50	
	09/02/2004	<500	<100	67	<2.5	<2.5	<2.5	<2.5	<2.5	
	02/08/2005	<100	<20	30	<0.50	<0.50	<0.50	<0.50	<0.50	
MW-3	5/23/2003	<100	<20	1.6	<0.50	<0.50	<0.50			,
	09/02/2004	<100	<20	6.5	<0.50	<0.50	<0.50	<0.50	<0.50	
MW-4	5/23/2003	<10,000	<2,000	<50	<50	<50	<50			
	02/02/2004	<500	<100	29	<2.5	<2.5	2.6	<2.5	<2.5	
	09/02/2004	<200	<40	28	<1.0	<1.0	<1.0	<1.0	<1.0	
	02/08/2005	<5,000	<1,000	45	<25	<25	<25	<25	<25	
MW-5	1/29/2003	<40	<20	<0.50	<0.50	<0.50	<0.50			
	5/23/2003	<100	<20	<0.50	<0.50	<0.50	<0.50		-	, , , , , , , , , , , , , , , , , , ,
	9/4/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
	09/02/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	a sanggara Habitan Ira
MW-6	5/23/2003	<100	<20	9.4	<0.50	<0.50	<0.50			

### Fuel Additives Analytical Data

ARCO Service Station #0374 6407 Telegraph Ave., Oakland, CA

#### SYMBOLS AND ABBREVIATIONS:

- = Not analyzed/applicable/measured/available

< = Not detected at or above the laboratory reporting limit.

1,2-DCA = 1,2-Dichloroethane

DIPE = Di-isopropyl ether

EDB = 1,2-Dibromoethane

ETBE = Ethyl tert-butyl ether

MTBE = Methyl tert-butyl ether

TAME = tert-Amyl methyl ether

TBA = tert-Butyl alcohol

ug/L = Micrograms per Liter

### FOOTNOTES:

a = The continuing calibration verification for ethanol was outside of client contractual limits, however, it was within method acceptance limits. The data should still be useful for its intended purpose.

### NOTES:

All volatile organic compounds (Ethanol, TBA, MTBE, DIPE, ETBE, and TAME) analyzed using EPA Method 8260B.

# **Groundwater Gradient Data**

Date Sampled	Approximate Flow Direction	Approximate Hydraulic Gradient
1/31/1996	Southwest	0.04
4/10/1996	Southwest	0.04
7/16/1996	Southwest	0.03
10/14/1996	Southwest	0.03
3/27/1997	Southwest	0.04
5/27/1997	Southwest	0.03
8/12/1997	Southwest	0.04
11/17/1997	Southwest	0.03
3/16/1998	Southwest	0.03
5/12/1998	Southwest	0.04
7/27/1998	Southwest	0.04
10/15/1998	Southwest	0.02
2/18/1999	Southwest	0.05
5/24/1999	Southwest	0.03
8/27/1999	Southwest	0.03
10/26/1999	Southwest	0.03
2/3/2000	Southwest	0.047
6/20/2000	Southwest	0.035
9/28/2000	Southwest	0.034
12/17/2000	Southwest	0.032
3/23/2001	Southwest	0.034
6/21/2001	Southwest	0.032
9/23/2001	Southwest	0.029
12/31/2001	Southwest	0.043
3/21/2002	Southwest	0.038
4/17/2002	Southwest	0.031
8/12/2002	Southwest	0.032
12/6/2002	Southwest	0.020
1/29/2003	Southwest	0.027
5/23/2003	Southwest	0.039
9/4/2003	Southwest	0.033
11/20/2003	Southwest	0.029
2/2/2004	Southwest	0.043
5/14/2004	Southwest	0.037
9/2/2004	Southwest	0.027
11/4/2004	Southwest	0.034
2/8/2005	Southwest	0.061

## **Groundwater Gradient Data**

ARCO Service Station #0374 6407 Telegraph Ave., Oakland, CA

		1
Data Canadad	Assume vive eta Flavo Dive eti esa	American start broken alta Oncalina d
Date Sampled	Approximate Flow Direction	Approximate Hydraulic Gradient
Paro Campica	1 pproximate rich Encoden	i ipproximato rijaratino eradiont
1	<u> </u>	

### NOTES:

The data within this table collected prior to August 2002 was provided to URS by RM and its previous consultants. URS has not verified the accuracy of this information.

# ATTACHMENT A FIELD PROCEDURES AND FIELD DATA SHEETS

### FIELD PROCEDURES

## **Sampling Procedures**

The sampling procedure for each well consists first of measuring the water level and depth to bottom, and checking for the presence of free phase petroleum product (free product), using either an electronic indicator and a clear Teflon<sup>TM</sup> bailer or an oil-water interface probe. Wells not containing free product are purged approximately three casing volumes of water (or until dewatered) using a centrifugal pump, gas displacement pump, or bailer. Equipment and purging method used for the current sampling event is noted on the attached field data sheets. During purging, temperature, pH, and electrical conductivity are monitored to document that these parameters are stable prior to collecting samples. After purging, water levels are allowed to partially (approximately 80%) recover. Groundwater samples (both purge and no purge) are collected using a Teflon bailer, placed into appropriate Environmental Protection Agency- (EPA) approved containers, labeled, logged onto chain-of-custody records, and transported on ice to a California State-certified laboratory. Wells with free product are not sampled and free product is removed according to California Code of Regulation, Title 23, Div. 3, Chap. 16, Section 2655, UST Regulations.

# WELL GAUGING DATA

Project # <u>050</u> 2	208WC2 1	Date <u>2/8</u>	05 Cli	ent VRS@ Arco #374
Site <u>6407</u>	Telegraph	Ave.	Oaklord	

	Ī	<u> </u>	T ·	Thickness	Volume of				
}	Well	01	Depth to	of	Immiscibles			Survey	
Weil ID.	Size (in.)	Sheen / Odor	Immiscible Liquid (ft.)	Immiscible Liquid (ft.)	Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	or/TOC	
mw-l	4					· · · · · · · · · · · · · · · · · · ·			
mw-2	4					6.60 6.72	26.33		N. i.
mw-3	4					6.01	26.75		
mw-4	4					6.27	26.98		
mw-4 mw-5 mw-6	4					7.28	23.01		
mw-6	4					6.27 7.28 5.13	14.55	1	
			<u>.</u>						7774
						3			
				1					
				- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1					
	· <del></del>								
		<u> </u>			· ·				

# ARCO / BP WELL MONITORING DATA SHEET

BTS#:众	5020	8-60	-2	Station # <b>374</b>								
	WC			Date: 2/8/05								
Well I.D.:	Well Diameter: 2 3 (4) 6 8											
Total We	Total Well Depth: 26.70					Depth to Water: 6.60						
Depth to Free Product:				Thickness of Free Product (feet):								
Reference	ed to:	EDO.	Grade	D.O. Mete	er (if	req'd):		<b>Ø</b>	HA	.CH		
	Well Diame 1" 2" 3"	ler	Multiplier <u>V</u> 0.04 0.16 0.37	Vell Diameter 4" 6" Other	0	fultiplier ).65   47  s <sup>2</sup> = 0.163						
Purge Metho	od:	Bailer		Sampling M	ethod:	)	Bailer		-			
-		isposable Bai					able Bailer					
		ve Air Displac ctric Submers		•	Other		ection Port					
		extraction Pun			O thick.							
	Other:											
Top of Scree	en:		If well is listed as a of screen. Otherwi					elow tł	ie top			
	12	1	2		<b>?</b> ⊘	ے.			<del></del>			
	1 Case Vol	ume (Gals.)	X Specified Vo	lumes	Calc	culated V	Gals. /olume					
			Conductivity	<u> </u>								
Time	Temp (°F)	pН	(mS or #S)	Gals. Rem	oved	Obse	ervations					
1327	60.5	6.6	954	14		cle	as/c	dor		i		
1329	62.2	6.5	917	27		Cle	or/o	cor	~			
1331	63.6	6.5	868	40		cle	or lo	dol				
										İ		
Did well	dewater?	Yes	No	Gallons ac	ctuall	y evac	cuated:	40	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
Sampling	Time: 3	36		Sampling	Date	: 2/	18/05	<u> </u>				
Sample I.	D.: <b>M</b> (	2-1		Laborator	y:	Pace	Sequipoia	Otl	1er			
Analyzed	for: @	D B(E)	MTBE DRO	Other: SC	ee_	<u></u>	·c					
D.O. (if re	eq'd):		Pre-purge:		mg/L	P	on-purpe:	ପ	.71	mg/ <sub>L</sub>		
O.R.P. (if	req'd):	-	Pre-purge:		mV	P	ost-purge:			тV		

# ARCO / BP WELL MONITORING DATA SHEET

BTS#: C	5020	8-W	c 2	Station# 3	74						
Sampler:				Date: 2/8/05							
	: MW-	2		Well Diameter: 2 3 (4) 6 8							
Total We	ll Depth:	26.3	33	Depth to Water: 6.72							
	Free Produ			Thickness of Free Product (feet):							
Reference	ed to:	PPO	Grade	D.O. Meter (if	req'd):	VST HACH					
	Well Diame	ter	Multiplier Y	<u> </u>	Multiplier						
	1"		0.04		0.65						
	2" 3"		0.16 0.37	-	1.47 us <sup>2</sup> * 0.163						
			0.51								
Purge Metho		Bailer		Sampling Method:							
		isposable Bail			Disposable Bailer						
		ve Air Displac			Extraction Port						
		etric Submers		Other:		-					
	E	extraction Pun	ıp								
	Other:		<del></del>								
Ton of Cores	en:		If well is listed as a	no-purge, confirm	that water level is l	below the top					
Top of Seres	OII		of screen. Otherwi								
•			Of Scientification	50, the Wolf Indoor 6.	p par Boar						
	12-	/	x 'S	- 38	Gals.						
e 113	1 Case Vol	ume (Gals.)	Specified Vo	lumes Cal	culated Volume						
	<u> </u>		Conductivity	<u> </u>							
Time	Temp (°F)	pН	(mS or (LS)	Gals. Removed	Observations						
1226	66.6	6.8	592	13	clear						
1229	67.5	6.6	596	26	clear						
1721	66.7	6.7	591	34	clear						
V-01	60.7		<u> </u>			**************************************					
<u> </u>											
	Į.		1	Į							
Did well	dewater?	Yes	(NB)	Gallons actual	ly evacuated:	39					
Sampling	Time:	1236	•	Sampling Date	2/8/0	5					
Sample I.	D.: MW	-2		Laboratory:	Pace Sequoia	Other					
Analyzed	for: 2	d Grex	MTBE DRO	Other: Sec	coc						
D.O. (if r	eq'd):	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	Pre-purge:	mg/L	. Post-purge:	0.86 mg					
O.R.P. (if	req'd):		Pre-purge:	mV	Post-purge:	m					

# ARCO / BP WELL MONITORING DATA SHEET

				<del></del>							
BTS#: O	5020	8-W	e2	Station#	<u>3</u> .	74	<u></u>				
Sampler:	wc			Date: 2	14	5/0	5				
	Well I.D.: Mw-4				meter:	: 2	3 (2	<b>B</b> 6	8		
	ll Depth:		98	Depth to	Water	r: 6	-27				
····	Free Produc	<del></del>		Thickness of Free Product (feet):							
Reference		M	Grade	D.O. Met			· · · · · · · · · · · · · · · · · · ·	(E)		НАСН	
	Well Diamete			Well Diameter		Multiplier			1		
	1" 2"		0.04 0.16	4* 6"		0.65 1.47					
	3 <sup>n</sup>		0.37	Other		us <sup>2</sup> * 0.163	3				
Purge Metho	√d•	Bailer	<del></del>	Sampling M	/lethod:	<del></del> ,	Bailer		_		
Turgo Aravana		isposable Bai	iler				sable Baile	er			
		/e Air Displa					action Port				
		cute Submers			Other:		uodon i or				
		xtraction Pun			·			-			
•		XII açtion Fun	-								
	-		<del></del>					-			
Top of Scree	en:		If well is listed as a					s below t	he tor	ې	
	<del></del>		of screen. Otherwi	ise, the well r	nust be	purged	1			<u>_</u>	
.[	12/		2		LIM	-			-		
	12.	0	x <u> </u>	= <u>_</u>		<u>'، ٽ</u>	Gals.	•			
	1 Case Volu	ane (Gals.)	Specified Vo	olumes	Calc	culated \	√olume				
	•		Conductivity	T	۶						
Time	Temp (°F)	pН	(mS or AS)	Gals. Rem	noved	Obs	ervations				
<b></b>		6.4	1175	14		cd	<u>; ~</u>	Cleo	·~		
1254	(41	65	לרוו <i>ד</i>	28	,	ode	1	aloa	<u>۲</u>		
· · · · · · · · · · · · · · · · · · ·	<u>Ø ''                                   </u>	<u>6.0</u>	11 7 1	+-,,,		Land Market		<u> </u>	1	***************************************	
1256	65,3	6.5_	1114	41		000	21 1c	clear			
								-		-	
l				<u> </u>		<u> </u>					
		<b>-</b>			ļ						
ļ				<u></u>		<u> </u>		1	<del></del>	**************************************	
Did well d	lewater?	Yes	(N)	Gallons a	ctuall	y evac	cuated:	41			
			<del></del>				1. 1				
Sampling		130	0	Sampling	, Date:	: <u>`</u>	<u> 1810</u>	25			
Sample I.I	D.: Mu	9-4	<del>,</del>	Laborator		Pace	Sequisia	Ot	ther		
Analyzed	for: GR	g BTBX	MTBE DRO	Other:		2C_	COC	-		·	
D.O. (if re	;q'd):		Pre-purge:		<sup>mg</sup> /L		Post-purge	e: <u>().</u>	<u>65</u>	mg/	
O.R.P. (if	req'd):		Pre-purge:		mV	F	Post-purge	e:		mV	

# BP GEM OIL COMPANY TYPE A BILL OF LADING

**SOURCE** RECORD BILL OF LADING FOR NON-**PURGEWATER RECOVERED FROM HAZARDOUS** GROUNDWATER WELLS AT BP GEM OIL COMPANY FACILITIES IN THE STATE OF CALIFORNIA. THE NON-HAZARDOUS PURGE- WATER WHICH HAS BEEN RECOVERED FROM GROUND- WATER WELLS IS COLLECTED BY THE CONTRACTOR, MADE UP INTO LOADS OF APPROPRIATE SIZE AND HAULED BY DILLARD ENVIRONMENTAL TO THE ALTAMONT LANDFILL AND RESOURCE RECOVERY FACILITY IN LIVERMORE, CALIFORNIA.

The contractor performing this work is PLAINE TECH SERVICES, INC. (BTS), 1680 Rogers Avenue, San Jose, CA 95112 (phone [408] 573-0555). Blaine Tech Services, Inc. is authorized by BP GEM OIL COMPANY to recover, collect, apportion into loads the Non-Hazardous Well Purgewater that is drawn from wells at the BP GEM Oil Company facility indicated below and deliver that purgewater to BTS. Transport routing of the Non-Hazardous Well Purgewater may be direct from one BP GEM facility to the designated destination point; from one BP GEM facility; from a BP GEM facility to the designated destination point via another BP GEM facility; from a BP GEM facility, or any combination thereof. The Non-Hazardous Well Purgewater is and remains the property of BP GEM Oil Company.

This Source Record BILL OF LADING was initiated to cover the recovery of Non-Hazardous Well Purgewater from wells at the BP GEM Oil Company facility described below:

374	
Station #	
6467 Telegraph	Ave, Oakland
Station Address	1
m., 10 H 0 H 1P 0	
Total Gallons Collected From Gro	undwater Monitoring Wells:
120 gallons	
added equip.	any other
rinse water S	adjustments
TOTAL GALS. 125	loaded onto
RECOVERED 100	BTS vehicle #
BTS event #	time date
050208-WC2	1345 2/8/05
signature Co	
Will Cou	
******	******
REC'D AT	time date
Blane Tech	1500 2/8/05
unloaded by signature	\
· ····································	<del>}</del>

# ATTACHMENT B

LABORATORY PROCEDURES, CERTIFIED ANALYTICAL REPORTS, AND CHAIN-OF-CUSTODY RECORDS

### LABORATORY PROCEDURES

# **Laboratory Procedures**

The groundwater samples were analyzed for the presence of the chemicals mentioned in the chain of custody using standard EPA methods. The methods of analysis for the groundwater samples are documented in the certified analytical report. The certified analytical reports and chain-of-custody record are presented in this attachment. The analytical data provided by the laboratory approved by RM have been reviewed and verified by that laboratory.



22 February, 2005

Scott Robinson URS Corporation [Arco] 1333 Broadway, Suite 800 Oakland, CA 94612

RE: ARCO #0374, Oakland, CA

Work Order: MOB0332

Enclosed are the results of analyses for samples received by the laboratory on 02/09/05 14:32. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Lisa Race

Senior Project Manager

CA ELAP Certificate #1210





URS Corporation [Arco]	Project:ARCO #0374, Oakland, CA	MOB0332
1333 Broadway, Suite 800	Project Number:G09JZ-0150	Reported:
Oakland CA, 94612	Project Manager:Scott Robinson	02/22/05 17:01

### ANALYTICAL REPORT FOR SAMPLES

Sample 1D	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	MOB0332-01	Water	02/08/05 13:36	02/09/05 14:32
MW-2	MOB0332-02	Water	02/08/05 12:36	02/09/05 14:32
MW-4	MOB0332-03	Water	02/08/05 13:00	02/09/05 14:32
TB-374-020805	MOB0332-04	Water	02/08/05 00:00	02/09/05 14:32

The carbon range for the TPH-GRO has been changed from C6-C10 to C4-C12. The carbon range for TPH-DRO has been changed from C10-C28 to C10-C36. EPA 8015B has been modified to better meet the requirements of California regulatory agencies. These samples were received with intact custody seals.



Project:ARCO #0374, Oakland, CA Project Number:G09JZ-0150 Project Manager:Scott Robinson MOB0332 Reported: 02/22/05 17:01

# Volatile Organic Compounds by EPA Method 8260B Sequoia Analytical - Morgan Hill

	Dequ	COAST TARES	1, 110111	111016	HILL ALL				
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Ртерагед	Analyzed	Method	Not
MW-1 (MOB0332-01) Water	Sampled: 02/08/05 13:36	Received:	02/09/0	5 14:32					
tert-Amyl methyl ether	ND	10	ug/l	20	5B16006	02/16/05	02/16/05	EPA 8260B	
Benzene	ND	10	"	**	**	**	II	II .	
tert-Butyl alcohol	ИD	400	11	n	n	. 11	1F	IF	
Di-isopropyl ether	ND	10	17	lt .	II	II .	11	11	
1,2-Dibromoethane (EDB)	ND	10	**	ıı	11	1)	**	*	
1,2-Dichloroethane	ND	10	R	**	**	**	H	**	
Ethanol	ND	2000	11	#	H	**	ш	II	
Ethyl tert-butyl ether	ND	10	11	II.	U	н	11	U	
Ethylbenzene	ND	10	**	n	11	11	tf	**	
Methyl tert-butyl ether	610	10	**	**	**	**	**	**	
Toluene	ND	10	IP	**	**	**	If	II	
Xylenes (total)	ND	10	IF	O.	IP	17	ш	fi	
Gasoline Range Organics (C4-C1	(2) ND	1000	11	II	It	II.	)†	"	
Surrogate: 1,2-Dichloroethane-d	4	84 %	60-	-135	"	"	#	"	
MW-2 (MOB0332-02) Water	Sampled: 02/08/05 12:36	Received:	02/09/0	5 14:32					
tert-Amyl methyl ether	ND	0.50	ug/l	1	5B16006	02/16/05	02/16/05	EPA 8260B	
Benzene	ND	0.50	**	**	**	11	H	**	
tert-Butyl alcohol	ND	20	IF	**		**	tr	t <del>t</del>	
Di-isopropyl ether	ND	0.50	U	11	H	*	ti	lt	
1,2-Dibromoethane (EDB)	ND	0.50	11	0	ш	11	b	11	
1,2-Dichloroethane	ND	0.50	**	n	Ħ	11	**	**	
Ethanol	ND	100	r	**	**	**	17	**	
Ethyl tert-butyl ether	ND	0.50	ĮF.	**	tt	**	н	п	
Ethylbenzene	ND	0.50	11	ft	IF	P	11	11	
Methyl tert-butyl ether	30	0.50	**	) t	11	It	11	**	
Toluene	ND	0.50	l#	**	**	**	**	D.	
Xylenes (total)	ND	0.50	U	**	IF	17	tř	H	
Gasoline Range Organics (C4-C1	2) ND	50	**	н			11	1)	
Surrogate: 1,2-Dichloroethane-d-	4	86 %	60-	135	"	"	"	,,	





Project:ARCO #0374, Oakland, CA Project Number:G09JZ-0150 Project Manager:Scott Robinson MOB0332 Reported: 02/22/05 17:01

# Volatile Organic Compounds by EPA Method 8260B Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
MW-4 (MOB0332-03) Water	Sampled: 02/08/05 13:00	Received:	02/09/05	5 14:32					
tert-Amyl methyl ether	ND	25	ug/l	50	5B16006	02/16/05	02/16/05	EPA 8260B	
Benzene	1700	25	**	11	**	**	n	**	
tert-Butyl alcohol	ND	1000	**	**	H	**	IP.	II.	
Di-isopropyl ether	ND	25	11	17	U	16	11	II.	
1,2-Dibromoethane (EDB)	ND	25	n.	11	11	n	**	11	
1,2-Dichloroethane	ND	25	0	IF	**	**	**	**	
Ethanol	ND	5000	**	**	**	**	n	tt	
Ethyl tert-butyl ether	ND	25	rt.	**	11	18	IF	II	
Ethylbenzene	480	25	11	tr.	11		**	11	
Methyl tert-butyl ether	45	25	11	n	11	н	++	**	
Toluene	320	25	**	11	11	11	H	Ħ	
Xylenes (total)	920	25	**	**	IP	**	u	u,	
Gasoline Range Organics (C4-	C12) 7500	2500	1)	tr		It .	11		
Surrogate: 1,2-Dichloroethane-	14	92 %	60-	135	"	"	"	n .	



Project:ARCO #0374, Oakland, CA Project Number:G09JZ-0150 Project Manager:Scott Robinson MOB0332 Reported: 02/22/05 17:01

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5B16006 - EPA 5030B P/T / EPA	8260B									
Blank (5B16006-BLK1)				Prepared .	& Analyze	ed: 02/16/0	05			
tert-Amyl methyl ether	ND	0.50	ug/l							
Benzenc	ND	0.50	IP.							
tert-Butyl alcohol	ND	5.0	II.							
Di-isopropyl ether	ND	0.50	JIF							
1,2-Dibromoethane (EDB)	ND	0.50	**							
1,2-Dichloroethane	ND	0.50	**							
Ethanol	ND	100	11							
Ethyl tert-butyl ether	ND	0.50	"							
Ethylbenzene	ND	0.50	*1							
Methyl tert-butyl ether	ND	0.50	**							
Tolucne	ND	0.50	**							
Xylenes (total)	ND	0.50	**							
Gasoline Range Organics (C4-C12)	ND	50								
Surrogate: 1,2-Dichloroethane-d4	4.79		"	5.00	,	96	60-135			
Laboratory Control Sample (5B16006-BS1)				Prepared a	& Analyze	d: 02/16/0	)5			
tert-Amyl methyl ether	9.80	0.50	ug/l	10.0		98	80-115			
Benzene	9.34	0.50	11	10.0		93	65-115			
tert-Butyl alcohol	50.8	20	11	50.0		102	75-150			
Di-isopropyl ether	9.55	0.50	*1	10.0		96	75-125			
1,2-Dibromoethane (EDB)	10.7	0.50	H	10.0		107	85-120			
1,2-Dichloroethane	10.3	0.50	11*	10.0		103	85-130			
Ethanol	178	100	н	200		89	70-135			
Ethyl tert-butyl ether	9.86	0.50	н	10.0		99	75-130			
Ethylbenzene	10.2	0.50	n	10.0		102	75-135			
Methyl tert-butyl ether	9.68	0.50	11	10.0		97	65-125			
Toluenc	9.30	0.50	n	10.0		93	85-120			
Xylenes (total)	28.6	0.50	11	30.0		95	85-125			
Surrogate: 1,2-Dichloroethane-d4	4.70		"	5.00		94	60-135			





Project:ARCO #0374, Oakland, CA Project Number:G09JZ-0150 Project Manager:Scott Robinson MOB0332 Reported: 02/22/05 17:01

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Linút	Notes
Batch 5B16006 - EPA 5030B P/T / E				n 1		1 004164	0.5	<u> </u>		
Laboratory Control Sample (5B16006-B		0.00	0	Prepared &	& Analyze				······································	
Benzene	5.33	0. <del>5</del> 0 0.50	ug/l	6.08 7.84		88	65-115			
Ethylbenzene	8.30	0.50	**	7.84 9.60		106 91	75-135 65-125			
Methyl tert-butyl ether	8.73		10	32.9		91 97				
Toluene	31.9 37.5	0.50 0.50	0	38.5		97 97	85-120 85-125			
Xylenes (total) Gasoline Range Organics (C4-C12)	37.5 396	50	D	440		90	70-124			
Surrogate: 1,2-Dichloroethane-d4	4.84			5.00		97	60-135			
Laboratory Control Sample Dup (5B160				Prepared a	& Analyz					
tert-Amyl methyl ether	9.95	0.50	ug/l	10.0	1 11111 / 21	100	80-115	2	15	
Benzene	9 77	0.50	"	10.0		98	65-115	5	20	
tert-Butyl alcohol	48.6	20	**	50.0		97	75-150	4	25	
Di-isopropyl ether	10.1	0.50	п	10.0		101	75-125	6	15	
1,2-Dibromoethane (EDB)	10.7	0.50	**	10.0		107	85-120	0	15	
I,2-Dichloroethane	10.4	0.50	e	10.0		104	85-130	1	20	
Ethanol	205	100	**	200		102	70-135	14	35	
Ethyl tert-butyl ether	10.2	0.50	U	10.0		102	75-130	3	25	
Ethylbenzene	10.8	0.50	11	10.0		108	75-135	6	15	
Methyl tert-butyl ether	9.99	0.50	**	10.0		100	65-125	3	20	
Toluene	9.72	0.50	п	10.0		97	85-120	4	20	
Xylenes (total)	29.8	0.50	11	30.0		99	85-125	4	20	
Surrogate: 1,2-Dichloroethane-d4	4.46		11	5.00		89	60-135			
Matrix Spike (5B16006-MS1)	Source: M	OB0332-03		Prepared &	& Analyze	ed: 02/16/	05			
Benzene	1890	25	ug/l	304	1700	62	65-115			BB,L1
Ethylbenzene	867	25	**	392	480	99	75-135			
Methyl tert-butyl ether	470	25	16	480	45	89	65-125			
Toluene	1880	25	)1	1640	320	95	85-120			
Xylenes (total)	2800	2.5	**	1920	920	98	85-125			
Gasoline Range Organics (C4-C12)	25700	2500	H	22000	7500	83	70-124			
Surrogate: 1,2-Dichloroethane-d4	4.56		"	5.00		91	60-135			





Project:ARCO #0374, Oakland, CA Project Number:G09JZ-0150 Project Manager:Scott Robinson MOB0332 Reported: 02/22/05 17:01

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5B16006 - EPA 5030B P/T / E	PA 8260B								···	
Matrix Spike Dup (5B16006-MSD1)	Source: M	OB0332-03		Prepared:	02/16/05	Analyzed	: 02/17/05			
Benzene	1900	25	ug/l	304	1700	66	65-115	0.5	20	
Ethylbenzene	876	25	11	392	480	101	75-135	1	15	
Methyl tert-butyl ether	476	25	tr	480	45	90	65-125	1	20	
Coluene Column	1900	25	D	1640	320	96	85-120	1	20	
(ylenes (total)	2700	25	Ð	1920	920	93	85-125	4	20	
Gasoline Range Organics (C4-C12)	24400	2500	**	22000	7500	77	70-124	5	20	
Surrogate: 1,2-Dichloroethane-d4	4.34		,,	5.00	· · · · · · · · · · · · · · · · · · ·	87	60-135	··		





Project:ARCO #0374, Oakland, CA Project Number:G09JZ-0150 Project Manager:Scott Robinson MOB0332 Reported: 02/22/05 17:01

### Notes and Definitions

BB,LN Sample > 4x spike concentration.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

	bp
F 6 8 8 4	38

# Chain of Custody Record

Project Name: ARCO 374 Analytical for QMR sampling

BP BU/AR Region/Enfos Segment:

BP > Americes > West Coast > Retail > WCBU > CA > Central > 374 > 1 fetoricalEL

State or Lead Regulatory Agency:

Alameda Coursy Environmental Health Agency

Requested Due Date (mm/dd/yy):

10 Day TAT

	Pageof
On-site Timo: [[500	Temps 57 of
Off-site Time: 1400	Temp: 57
Sky Conditions: Cloudy	
Meteorological Events:	
Wind Speed: 5 mp	Direction:

Lab Name: Sequoia	BP/AR Facility No.: 374	Consultant/Contractor: URS
Address: 885 Juris Drive		Address: 1333 Broadway, Suito 800
Morgan Hill, CA 95037	Site LavLong: 37.850526 / -122.260	Oakland, CA 94612
Lab FM: Lisa Race	California Global ID No.: TOGU0100106	Consultant/Contractor Project No.: 38486551
Tele/Fex: 408.782.8156 / 408.782,6308	Enfos Project No.: G09JZ-0150	Consultant/Contractor PM: Scott Robinson
BP/AR PM Contact: Paul Supple	Provision or RCOP: Provision	Tele/Fax: 510.874.3280 / 510.874.3268
Address: P.O. Box 6549		Report Type & QC Lovel: Lovel 1 with EDF
Moraga, CA 94570		E-mail EDD To: Donna Cosper@usscorp.com
Tele/Fax: 925.299.8891 / 925.299.8872		Invoice to: Atlantic Richfield Company
Lau Bolle Order No: Matrix	Preservative Rogn	ested Analysis
Liten: Date Description Time Soul/Solid Water Liquid	The state of Containers  No. of Containers  Unpreserved  Eles So,  FINC,  FINC,  Methany  GROBTEX (R260)  SUBE THA (R260)	MOB 6332  Sample Point Lat/Long and Comments
1 mu - 1 1336 48/05 X	9/  3    X    X X X	
2 mw-2 126 1 1	02	
3 mm-4 1300		
U 1142 MARKET KAN 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
4 TB-374-020805 - V V	c4 2 U	on hold
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8	<u>┡</u>	
9		
10		
Sampler's Name: Will Crow	A Relinquished By / Affiliation Date Time	Accepted Dy Assistation Date Time
Sampler's Company: Blane tech	2/9/07/354	10 10 13 135°
Shipment Date:	14/11/1/20	TAN IN
Shipment Method:	The same of the sa	J- ( ] - ( )
Shipment Tracking No:		
Special Instructions:		
	nk Yes X No Cooler Temperature on Recci	
. Distriction: White Copy - Laboratory / Yellow Copy B	P/Aistific Richfield Co. / Pink Copy - Consultant/Contract 7:00	BF COC Rev. 4 19/1/04 19/64

# SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

- CLIENT NAME: AR(0 3714  REC. BY (PRINT)	•	<del>-</del>	DATE REC'D AT LAB				• •	tory Purposes? WATER YES/NO
WORKORDER: MBB 5 33.	2	_	DATE LOGGED IN:	2.10.05	<u></u>	W	ASTE WA	TER YES AND
				(For cliente	sequiring pres	ervation che	cks at rece	elpt, document here 👢
CIRCLE THE APPROPRIATE RESPONSE	LAB	DASH	OT TELETIO	CONTAINER PRE	ecou.		DATE	REMARKS:
	SAMPLE#	#	CLIENT ID.		TIVE PH.	MATRIX S	1	CONDITION (ETC.)
Custody Seal(s) Present / Absent	6/		MW -1	YOA (3) H	cl -	WZ	18/05	
(Intact / Broken*	00	<u> </u>	-2		1[		7-	
2. Chain-of-Custody Present / Absent*	70		44				· · · · ·	
3. Traffic Reports or	64	<u> </u>	IB374-020x05	4 (2)	4 4	1		
Packing List: Present / Absent								
4. Airbill: Airbill / Sticker			,					. /
Present / Absent			•					
5. Airbill #:								
6. Sample Labels: Present / Absent								
7. Sample IDs: *Listed / Not Listed							- /	· · · · · · · · · · · · · · · · · · ·
on Chain-of-Custody			<u> </u>		<u> </u>		/	
B. Sample Condition: (intact / Broken* /				-				•
Leaking*.  9. Does information on chain-of-custody.	<del></del> :	<u> </u>						-
traffic reports and sample labels						/		
·					// <sub>e\$</sub> 4	<u></u>		
agree? <a 10.="" href="mailto:Yes/No" no"="" received="" sample="" td="" within:="" yes="" yes<=""  =""><td></td><td></td><td>3-1</td><td></td><td></td><td></td><td></td><td></td></a>			3-1					
_								
- hold time? Yes / No*  11. Adequate sample volume				+	<u> </u>			
received? Yes / No*			<del>-</del>	HAX	<u> </u>			-
12. Proper Preservatives	<del></del>				<u> </u>  -			-
used? (Yes/No*			<del></del>	4				
13. Trip Blank / Temp Blank Received?			<del></del>	<del></del>	<del></del>			
(circle which, il yes) . Pes / No*	<del>.,</del> .				<del></del>			
14. Temp Rec, at Lab: 3,4		<del></del> -	<del></del>					
Is temp 4 4/-2°C? (Yes / No**	<del></del>						<del></del>	
(Acceptance range for eamples requiring the mail pres.)		<del>-  </del>	<del>- 1</del>					······
**Exception (if any): METALS / DEF ON ICE-		$\overline{}$	-		<del></del>			
of Problem COC	-/4							
TOTAL CONTROL OF THE PARTY OF T	ALC: ALC: ALC: ALC: ALC: ALC: ALC: ALC:		ONTACT DRAILERS IS		A 100 P 100 A 100	10 CO		

SRL Revision 6 Replaces Rev 5 (06/07/04) Ellective 07/13/04 IF CIRCLED, CONTACT PROJECT MANAGER AND ATTACH RECORD OF RESOLUTION.

Page of

# ATTACHMENT C

ERROR CHECK REPORTS AND EDF/GEOWELL SUBMITTAL CONFIRMATIONS

Main Menu | View/Add Facilities | Upload EDD | Check EDD

# SUCCESSFUL GEO\_WELL CHECK - NO ERRORS

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**URS Corporation-Oakland Office** 

**USER NAME:** 

**URSCORP-OAKLAND** 

DATE CHECKED:

2/22/2005 7:36:45 PM

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Submittal Title:

1Q 2005 QMR GeoWell File BP/ARCO Site

374

Submittal Date/Time: 2/22/2005 7:38:33 PM

**Confirmation** 

Number:

8190067887

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### SUCCESSFUL EDF CHECK - NO ERRORS

**URS** Corporation-Oakland ORGANIZATION NAME:

Office

**USER NAME:** URSCORP-OAKLAND 2/22/2005 7:42:52 PM DATE CHECKED:

GLOBAL ID: T0600100106

ARCO#0374-EDF-FILE UPLOADED: MOB0332.zip

No errors were found in your EDF upload file.

If you want to submit this file to the SWRCB, choose the "Upload EDD" option in the above menu and follow the instructions.

When you complete the submittal process, you will be given a confirmation number for your submittal.

Click here to view the detections report for this upload.

ARCO # 00374 Regional Board - Case #: 01-0114

SAN FRANCISCO BAY RWQCB (REGION 2) -6407 TELEGRAPH

(BG) OAKLAND, CA 94609

Local Agency (lead agency) - Case #: 3884

ALAMEDA COUNTY LOP - (RWS)

### SAMPLE DETECTIONS REPORT

# FIELD POINTS SAMPLED 3 # FIELD POINTS WITH DETECTIONS 3

# FIELD POINTS WITH WATER SAMPLE DETECTIONS ABOVE MCL 2 SAMPLE MATRIX TYPES WATER

### METHOD QA/QC REPORT

METHODS USED 8260FA **TESTED FOR REQUIRED ANALYTES?** 

MISSING PARAMETERS NOT TESTED:

- 8260FA REQUIRES DBFM TO BE TESTED
- 8260FA REQUIRES BR4FBZ TO BE TESTED
- 8260FA REQUIRES BZMED8 TO BE TESTED

LAB NOTE DATA QUALIFIERS Y

### QA/QC FOR 8021/8260 SERIES SAMPLES

TECHNICAL HOLDING TIME VIOLATIONS n METHOD HOLDING TIME VIOLATIONS 0 LAB BLANK DETECTIONS ABOVE REPORTING DETECTION LIMIT 0 LAB BLANK DETECTIONS 0 DO ALL BATCHES WITH THE 8021/8260 SERIES INCLUDE THE FOLLOWING?

- LAB METHOD BLANK

Υ - MATRIX SPIKE Υ - MATRIX SPIKE DUPLICATE

- BLANK SPIKE			Υ
- SURROGATE SPIKE			Υ
WATER SAMPLES F	OR 8021/8260 SERIES		
MATRIX SPIKE / MATRIX 135%	SPIKE DUPLICATE(S) % RE	COVERY BETWEEN 65-	Υ
MATRIX SPIKE / MATRIX	SPIKE DUPLICATE(S) RPD L	ESS THAN 30%	n/a
SURROGATE SPIKES % F	RECOVERY BETWEEN 85-115	5%	Υ
BLANK SPIKE / BLANK SI 130%	PIKE DUPLICATES % RECOV	ERY BETWEEN 70-	Υ
SOIL SAMPLES FOR	R 8021/8260 SERIES		
MATRIX SPIKE / MATRIX 135%	SPIKE DUPLICATE(S) % RE	COVERY BETWEEN 65-	n/a
MATRIX SPIKE / MATRIX	SPIKE DUPLICATE(S) RPD L	ESS THAN 30%	n/a
SURROGATE SPIKES % F	RECOVERY BETWEEN 70-125	5%	n/a
BLANK SPIKE / BLANK SP 130%	PIKE DUPLICATES % RECOV	ERY BETWEEN 70-	n/a
FIELD QC SAMPLES			
SAMPLE	COLLECTED	DETECTIONS > F	REPDL
QCTB SAMPLES	N	0	
OCEB SAMPLES	N	0	

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Confirmation Number: 3150917589

**Date/Time of Submittal: 2/22/2005 7:44:15 PM** 

Facility Global ID: T0600100106 Facility Name: ARCO # 00374

Submittal Title: 1Q05 QMR BP/ARCO Site 374

Submittal Type: GW Monitoring Report

Click here to view the detections report for this upload.

ARCO # 00374 6407 TELEGRAPH AVE OAKLAND, CA 94609

Regional Board - Case #: 01-0114

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Local Agency (lead agency) - Case #: 3884

ALAMEDA COUNTY LOP - (RWS)

CONF# 3150917589

1Q05 QMR BP/ARCO Site 374

QUARTER Q1 2005

**STATUS** 

SUBMITTED BY Srijesh Thapa SUBMIT DATE 2/22/2005

PENDING REVIEW

### SAMPLE DETECTIONS REPORT

# FIELD POINTS SAMPLED # FIELD POINTS WITH DETECTIONS

# FIELD POINTS WITH WATER SAMPLE DETECTIONS ABOVE MCL SAMPLE MATRIX TYPES

2 WATER

3

### METHOD QA/QC REPORT

METHODS USED **TESTED FOR REQUIRED ANALYTES?**  8260FA

MISSING PARAMETERS NOT TESTED:

- 8260FA REQUIRES DBFM TO BE TESTED

8260FA REQUIRES BR4FBZ TO BE TESTED

- 8260FA REQUIRES BZMED8 TO BE TESTED

LAB NOTE DATA QUALIFIERS

Υ

0

0

Υ

### QA/QC FOR 8021/8260 SERIES SAMPLES

**TECHNICAL HOLDING TIME VIOLATIONS** METHOD HOLDING TIME VIOLATIONS

LAB BLANK DETECTIONS ABOVE REPORTING DETECTION LIMIT LAB BLANK DETECTIONS

DO ALL BATCHES WITH THE 8021/8260 SERIES INCLUDE THE FOLLOWING?

- LAB METHOD BLANK

- MATRIX SPIKE

- MATRIX SPIKE DUPLICATE

- BLANK SPIKE

- SURROGATE SPIKE

WATER SAMPLES FOR 8021/8260 SERIES

MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135%

MATRIX SPIKE / MATRIX :	SPIKE DUPLICATE(S) RPD LESS	THAN 30%	n/a
SURROGATE SPIKES % RI	ECOVERY BETWEEN 85-115%		Υ
BLANK SPIKE / BLANK SP	IKE DUPLICATES % RECOVERY	BETWEEN 70-130%	Υ
SOIL SAMPLES FOR	8021/8260 SERIES		
MATRIX SPIKE / MATRIX S	SPIKE DUPLICATE(S) % RECOVI	ERY BETWEEN 65-135%	n/a
MATRIX SPIKE / MATRIX S	SPIKE DUPLICATE(S) RPD LESS	THAN 30%	n/a
	ECOVERY BETWEEN 70-125%		n/a
SURROGATE SPIKES % RI	•		n/a n/a
SURROGATE SPIKES % RI BLANK SPIKE / BLANK SP	ECOVERY BETWEEN 70-125%		
SURROGATE SPIKES % RI	ECOVERY BETWEEN 70-125%		n/a
SURROGATE SPIKES % RI BLANK SPIKE / BLANK SP FIELD QC SAMPLES	ECOVERY BETWEEN 70-125% IKE DUPLICATES % RECOVERY	BETWEEN 70-130%	n/a
SURROGATE SPIKES % RI BLANK SPIKE / BLANK SP FIELD QC SAMPLES SAMPLE	ECOVERY BETWEEN 70-125% IKE DUPLICATES % RECOVERY  COLLECTED	BETWEEN 70-130%	n/a

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CONTACT SITE  $\underline{ADMINISTRATOR}$ .

