



Atlantic Richfield Company (a BP affiliated company)

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

RECEIVED

By lopprojectop at 11:22 am, Apr 17, 2006

April 3, 2006

Re:

ARCO Service Station # 374 6407 Telegraph Avenue Oakland, California

First Quarter 2006 Groundwater Monitoring Report

ACEH Case # 3884

"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



April 3, 2006

Mr. Don Hwang Alameda County Environmental Health (ACEH) 1131 Harbor Bay Parkway, 2nd Floor Alameda, CA 94502

Re:

First Quarter 2006 Groundwater Monitoring Report

ARCO Service Station #0374 6407 Telegraph Avenue Oakland, California ACEH Case #3884

Dear Mr. Hwang:

On behalf of Atlantic Richfield Company, a BP affiliated company, URS Corporation (URS) is submitting the *First Quarter 2006 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) 874-3296.

BARBARA J JAKUB No. 7304

Sincerely,

URS CORPORATION

Barbara Jakub, P.G.

Project Manager

cc:

Enclosure: First Quarter 2006 Groundwater Monitoring Report

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

Mr. Rob Miller, Broadbent & Associates, Inc., electronic copy uploaded to ENFOS

RECEIVED

By lopprojectop at 11:23 am, Apr 17, 2006

FIRST QUARTER 2006 GROUNDWATER MONITORING REPORT

ARCO SERVICE STATION #0374 6407 TELEGRAPH AVENUE OAKLAND, CALIFORNIA

Prepared for RM

April 3, 2006



URS Corporation 1333 Broadway, Suite 800 Oakland, California 94612

Date:	April 3, 2006
Quarter:	1Q 06

FIRST QUARTER 2006 GROUNDWATER MONITORING REPORT

Facility No.: 0374	Address:	6407 Telegraph Avenue, Oakland, CA	
RM Environmental Business Manager:		Paul Supple	
Consulting Co./Contact Person:		URS Corporation / Barbara Jakub	
Primary Agency		Alameda County Environmental Health (ACEH)	
ACEH Case #:		3884	

WORK PERFORMED THIS QUARTER

(First -2006):

- 1. Performed the first quarter 2006 groundwater monitoring event on February 16, 2006.
- 2. Prepared and submitted this First Quarter 2006 Groundwater Monitoring Report.

WORK PROPOSED FOR NEXT QUARTER

(Second - 2006):

- 1. Perform the second quarter 2006 groundwater monitoring event.
- 2. Prepare and submit the Second Quarter 2006 Groundwater Monitoring Report.

SITE SUMMARY:

Current Phase of Project:	GW monitoring/sampling
Frequency of Groundwater Sampling:	Quarterly: MW-1
	Semi-Annually (1st & 3rd quarters): MW-2, MW-4
	Annually (3 rd quarter): MW-3, MW-5, MW-6
Frequency of Groundwater Monitoring:	Quarterly
Is Free Product Present On-Site:	No
Current Remediation Techniques:	None
Approximate Depth to Groundwater:	4.24 (MW-6) to 9.22 (MW-5) feet
Groundwater Gradient (direction):	Southwest
Groundwater Gradient (magnitude):	0.09 feet per foot

DISCUSSION:

Gasoline range organics were detected at or above the laboratory reporting limit in two of the three wells sampled this quarter at concentrations of 350 micrograms per liter (μ g/L) (MW-1) and 9,400 μ g/L (MW-4). Benzene, toluene, ethylbenzene, and xylenes were detected at or above their respective laboratory reporting limits in one well (MW-4) at concentrations of 1,800 μ g/L, 130 μ g/L, 600 μ g/L, and 420 μ g/L, respectively. Methyl tert-butyl ether was detected at or above the laboratory reporting limit in three wells at concentrations ranging from 35 μ g/L (MW-4) to 340 μ g/L (MW-1). No other fuel components were detected at or above their respective laboratory reporting limits in any of the wells sampled this quarter.

ATTACHMENTS:

- Figure 1 Groundwater Elevation Contour and Analytical Summary Map February 16, 2006
- 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

Mar 08, 2006 - 10:19am X: \text{xzenv} wastelBP GEM\Sites\Scott Robinson\Paul Supple\t0374\Monitoring\2006 Qn. 1\Drawings\374-1Q06-GW.dwg

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)	pН
MW-1	6/20/2000	_		158.91	7.00	27.00	6.86	152.05								
	9/28/2000			158.91	7.00	27.00	7.50	151.41				-				
	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		- 1
	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		
	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		-						
	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					-		1.0	
	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	ը.		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	ρ.		164.57	7.00	27.00	6.60	157.97	<1,000	<10	<10	<10	<10	610	0.71	6.5
	05/09/2005	Ω	е	164.57	7.00	27.00	6.84	157.73	540	<5.0	<5.0	<5.0	5.5	620	3.12	6.6
	08/11/2005	Р		164.57	7.00	27.00	7.36	157.21	540	<2.5	<2.5	<2.5	4.0	390	0.8	6.6
	11/18/2005	P	е	164.57	7.00	27.00	8.02	156.55	350	<2.5	<2.5	<2.5	<2.5	340	2.6	6.7
	02/16/2006	P	е	164.57	7.00	27.00	6.44	158.13	350	<2.5	<2.5	<2.5	<2.5	340	1.6	6.7
MW-2	6/20/2000			157.92	7.00	27.00	7.67	150.25								
	9/28/2000			157.92	7.00	27.00	8.51	149.41								-
	12/17/2000			157.92	7.00	27.00	8.14	149.78								
	3/23/2001			157.92	7.00	27.00	7.21	150.71	<50	<0.5	<0.5	<0.5	<0.5	<2.5		
	6/21/2001			157.92	7.00	27.00	7.99	149.93								
	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								
	3/21/2002			157.92	7.00	27.00	5.95	151.97	<50	<0.5	<0.5	<0.5	<0.5	45		
	4/17/2002			157.92	7.00	27.00	6.45	151.47			-ч					

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)	pН
MW-2	8/12/2002	_		157.92	7.00	27.00	8.08	149.84							-	
	12/6/2002	_		157.92	7.00	27.00	8.29	149.63								
	1/29/2003		b	157.92	7.00	27.00	7.22	150.70								
	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
	9/4/2003			157.92	7.00	27.00	7.94	149.98				44				
	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
	05/09/2005			163.46	7.00	27.00	7.16	156.30								
	08/11/2005	Р		163.46	7.00	27.00	7.85	155.61	<50	<0.50	<0.50	<0.50	<0.50	35	1.0	6.6
	11/18/2005			163.46	7.00	27.00	8.23	155.23				-				
	02/16/2006	Р		163.46	7.00	27.00	6.82	156.64	<50	<0.50	<0.50	<0.50	<0.50	39	1.3	7.0
MW-3	6/20/2000	_		153.64	7.00	27.00	6.42	147.22	<50	<0.5	<0.5	<0.5	<1.0	<10		
	9/28/2000			153.64	7.00	27.00	7.31	146.33								
	12/17/2000	-		153.64	7.00	27.00	6.45	147.19	<50	<0.5	<0.5	<0.5	<0.5	<2.5		
	3/23/2001			153.64	7.00	27.00	6.01	147.63						_		
	6/21/2001			153.64	7.00	27.00	6.80	146.84	110	5.5	<0.5	5.4	4.1	2.5		
	9/23/2001			153.64	7.00	27.00	7.32	146.32								
	12/31/2001			153.64	7.00	27.00	4.48	149.16	<50	<0.5	<0.5	<0.5	<0.5	4.9		
	3/21/2002			153.64	7.00	27.00	4.36	149.28			<u></u>	-4			 	
	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								
	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			159.21	7.00	27.00	5.92	153.29								
	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

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-3	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								
	05/09/2005			159.21	7.00	27.00	6.74	152.47								
	08/11/2005	Р		159.21	7.00	27.00	6.77	152.44	<50	<0.50	<0.50	<0.50	<0.50	11	1.9	6.5
	11/18/2005			159.21	7.00	27.00	7.83	151.38								
	02/16/2006			159.21	7.00	27.00	7.26	151.95							-	-
MW-4	6/20/2000		С	156.53	7.00	27.00	7.50	149.03	20,000	5,100	440	1,000	1,700	<250	 	
	9/28/2000			156.53	7.00	27.00	8.20	148.33						••		
	12/17/2000			156.53	7.00	27.00	8.11	148.42	4,320	1,240	<20	27.2	249	<100		
	3/23/2001			156.53	7.00	27.00	6.69	149.84							 -	
	6/21/2001			156.53	7.00	27.00	8.01	148.52	2,800	470	16	19	160	130		
	9/23/2001			156.53	7.00	27.00	8.91	147.62								
	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								
	4/17/2002			156.53	7.00	27.00	6.23	150.30	7,100	2,200	110	290	450	<250		
	8/12/2002			156.53	7.00	27.00	8.24	148.29						-		
	12/6/2002		а	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		C	156.53	7.00	27.00	8.15	148.38						-		
	11/20/2003		С	156.53	7.00	27.00	8.73	147.80			1					
	02/02/2004	Р	Ç	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								
	09/02/2004	P		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			-	-				
	02/08/2005	Р		163.25	7.00	27.00	6.27	156.98	7,500	1,700	320	480	920	45	0.65	6.5
	05/09/2005			163.25	7.00	27.00	5.90	157.35								
	08/11/2005	P		163.25	7.00	27.00	7.96	155.29	3,100	1,100	41	160	110	32	0.6	6.5
	11/18/2005			163.25	7.00	27.00	8.57	154.68	7=			==	-14			
	02/16/2006	Р		163.25	7.00	27.00	6.28	156.97	9,400	1,800	130	600	420	35	0.5	6.8
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		
	9/28/2000			151.33	10.00	23.00	8.37	142.96	<50	<0.5	<0.5	<0.5	<0.5	<2.5		
	12/17/2000			151.33	10.00	23.00	8.36	142.97	<50	< 0.5	< 0.5	< 0.5	< 0.5	<2.5		

Table 1
Groundwater Elevation and Analytical Data

Well		P/	Footnotes/	тос	Top of Screen	Bottom of Screen	DTW	GWE	GRO/ TPH-g	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	DO	
No.	Date	NP	Comments	(ft MSL)	(ft bgs)	(ft bgs)	(ft bgs)	(ft MSL)	(µg/L)	(μg/L)	(µg/L)	(µg/L)	(μg/L)	(µg/L)	(mg/L)	рĦ
MW-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		
	6/21/2001			151.33	10.00	23.00	8.20	143.13	<50	< 0.5	< 0.5	< 0.5	< 0.5	<2.5		
	9/23/2001	-		151.33	10.00	23.00	8.68	142.65	<50	<0.5	< 0.5	< 0.5	< 0.5	<2.5		
	12/31/2001			151.33	10.00	23.00	7.57	143.76	<50	<0.5	< 0.5	< 0.5	< 0.5	<2.5		
	3/21/2002			151.33	10.00	23.00	6.12	145.21	<50	<0.5	<0.5	<0.5	<0.5	3.2		
	4/17/2002			151.33	10.00	23.00	6.61	144.72	<50	<0.5	< 0.5	< 0.5	< 0.5	<2.5		
	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								
	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								
	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		С	151.33	10.00	23.00	8.33	143.00								
	02/08/2005			151.33	10.00	23.00	7.28	144.05								
	05/09/2005			151.33	10.00	23.00	8.19	143.14								
	08/11/2005	Р		151.33	10.00	23.00	8.39	142.94	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.2	6.6
	11/18/2005			151.33	10.00	23.00	11.25	140.08				44				
	02/16/2006			151.33	10.00	23.00	9.22	142.11								
MW-6	6/20/2000			153.84	5.00	15.00	4.79	149.05							—	
	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						-		
	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								

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-6	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										
	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								
	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			1					
	11/04/2004	-	d	159.41	5.00	15.00			<u>-</u>							
	02/08/2005			159,41	5.00	15.00	5.13	154.28					-			
	05/09/2005			159.41	5.00	15.00	4.52	154.89							-	
	08/11/2005	Р		159.41	5.00	15.00	5.02	154.39	<50	<0.50	<0.50	<0.50	<0.50	7.9	2.1	6.6
	11/18/2005			159.41	5.00	15.00	6.31	153.10	••	_				**	<u> </u>	
	02/16/2006			159.41	5.00	15.00	4.24	155.17								

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

DO = Dissolved oxygen

DTW = Depth to water in ft bgs

ft bgs = Feet below ground surface

ft MSL = Feet above mean sea level

GRO = Gasoline range organics

GWE = Groundwater elevation measured in ft MSL

mg/L = Milligrams per liter

MTBE = Methyl tert-butyl ether

NP = Well was not purged prior to sampling

P = Well was purged prior to sampling

TOC = Top of casing measured in ft MSL

TPH-g = Total petroleum hydrocarbons as gasoline

μg/L = Micrograms per liter

BTEX = Benzene, toluene, ethylbenzene and xylenes

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
- e = The hydrocarbon result for GRO was partly due to individual peaks in the quantitative range.

NOTES

Beginning in the fourth quarter 2003, the laboratory modified the reported analyte list. TPH-g was changed to GRO. The resulting data may be impacted by the potential of non-TPH-g 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 DTW's and TOC's 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	Date	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	Footnotes/ Comments
Number	Sampled	(µg/L)	(µg/L)	(μg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	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
	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	
	05/09/2005	<1,000	<200	620	<5.0	<5.0	<5.0	<5.0	<5.0	a
	08/11/2005	<500	250	390	<2.5	<2.5	2.6	<2.5	<2.5	а
	11/18/2005	<500	<100	340	<2.5	<2.5	<2.5	<2.5	<2.5	а
	02/16/2006	<1,500	<100	340	<2.5	<2.5	<2.5	<2.5	<2.5	
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	
	08/11/2005	<100	<20	35	<0.50	<0.50	<0.50	<0.50	<0.50	а
	02/16/2006	<300	<20	39	<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	
	08/11/2005	<100	<20	11	<0.50	<0.50	<0.50	<0.50	<0.50	а
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	
	08/11/2005	<2,000	<400	32	<10	<10	<10	<10	<10	
	02/16/2006	<6,000	<400	35	<10	<10	<10	<10	<10	
MW-5	1/29/2003	<40	<20	<0.50	<0.50	<0.50	<0.50	- I		
	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	IN THE REPORT OF THE PROPERTY
	09/02/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
	08/11/2005	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
	·					<0.50	<0.50	·		
MW-6	5/23/2003	<100	<20	9.4	< 0.50	C(1-51)				

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 limi

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

μg/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 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

Date Sampled	Approximate Flow Direction	Approximate Hydraulic Gradient
5/9/2005	Southwest	0.08
8/11/2005	Southwest	0.06
11/18/2005	Southwest	0.07
2/16/2006	Southwest	0.09

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 TeflonTM 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>060216-</u> ムラ2	_ Date _	02/16/06	Client	374	_
Site 6407 Telegraph	De	Oaklad			

				Thickness	Volume of	-			
	Well		Depth to	of	Immiscibles	_	SS	Survey	
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Size	Sheen /	Immiscible		Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	or FOC,	
Well ID	(in.)	Odor	Liquid (ft.)	ridara (11.)					
MW-1	4				1	D6.44	-66@)		
Mw-2						06.82	26.25		
MW3						7.26	26.81		
1 1		dor				Q. ZY	26.91		
MW-S	4	动场			<u>t</u>	9.22	23.03		
MW-4 MW-5 MW-6	4		i manan i propincia della di contra			4.24	14.62	1	
						manusis identification	and the contract of the contra		
		1 Well	k und	1 110	ssure. C	t stalsi	le		
	Appropriate Approp	Sor	45	minte	0019	t stabi	kina		
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Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (408) 573-0555

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 0	60216-	-102		Station # 370	1									
Sampler:		<u> </u>		Date: 02/16.	106									
Well I.D.:	MW-1		i i	Well Diameter: 2 3 4 6 8										
Total Well		26.74		Depth to Water:	6.44									
Depth to Fr	ee Produc	ct:		Thickness of Fr	ee Product (feet):									
Referenced	to:	PVC)	Grade	D.O. Meter (if r	eq'd): (YSD HACH									
	Well Diamete 1" 2" 3"			ell Diameter Mi 4" 0. 6" 1. Other radius	ultiplier 65 47 ² + 0.163	J								
Purge Method	Dis Positiv Elec Ex	Bailer sposable Baile e Air Displace tic Submersi straction Pum	ement Dele	Sampling Method: Disposable Bailer Extraction Port Other:										
Top of Screen		2		s a no-purge, confirm that water level is below the top wise, the well must be purged. = 39.4 Gals. Volumes Calculated Volume										
Time	Temp (°F)	pН	Conductivity (mS or (S))	Gals. Removed	Observations									
1527	61.5	6.7	963	13.2	clear, ges odul									
1530	60.8	6.7	977	264	" "									
1533	60.6	67	944	39.6	11 (1	······································								
Did well d	lewater?	Yes	(No)	Gallons actual	ly evacuated: 39.6	·								
Sampling	Time:	1540		Sampling Date	: 02/16/06									
Sample I.I	D.: <u>и</u> W-	-1		Laboratory:	Pace Sequoia Other									
Analyzed	for:	iro etex m	TBE DRO PRYS 12E-1	CA 20B Effanol	Other:	V-T								
D.O. (if re	eq'd):		Pre-purge	: mg/[Post-purge > 1.6	mg/ _]								
O.R.P. (if		icas Ind	Pre-purge		Post-purge:	mν								

ARCO / BP WELL MONITORING DATA SHEET

BTS#: O	60216	~」 22		Station # 3フィ	-/-	,									
	クク		1	Date: 02/16/	· · · · · · · · · · · · · · · · · · ·	_									
Well I.D.:	MW-2			Well Diameter: 2 3 4 6 8											
	l Depth:	26.25	,	Depth to Water:	6.XZ										
Depth to F	ree Produ	ct:		Thickness of Free Product (feet):											
Reference	d to:	(PVC)		D.O. Meter (if r		SI HACH									
	Well Diamete	-	Iultiplier W	Zett Diameter Mi	ultiplier										
	i" 2"		0.04 0.16		65 47										
	3"		0.37		² * 0.163										
Purge Metho	d:	Bailer		Sampling Method:	Bailer										
J		sposable Baile	er		Disposable Harier										
	Positiv	e Air Displac	ement	Extraction Port											
	Elec	tric Submers	ble	Other:											
		xtraction Pum	p	· · · · · · · · · · · · · · · · · · ·											
	Other:														
Top of Scree	en:		If well is listed as a	no-purge, confirm t	that water level is he	low the ton									
•				ise, the well must be		non mo top									
	10	,	~~~												
	<u>_[J.</u> [2	xS		Gals.										
	l Case Vol	ume (Gals.)	Specified Vo	olumes Calc	ulated Volume										
			Conductivity												
Time	Temp (°F)	pН	(mS or µS)	Gals. Removed	Observations										
1439	67.6	7.1	627	12.6	clear										
1442	67.7	7.0	627	25.2	21										
1445	68.2	7.0	670	37.8	11										
Did well	dewater?	Yes (No No	Gallons actual	ly evacuated:	37.8									
Sampling	g Time: /	450		Sampling Date	: 02/16/06										
Sample I	.D.: MW	-2		Laboratory:	Pace Sequoia	Other									
Analyzed	d for:	GRO BYEX M	TBE DRO OAY'S 12-E	DCA EDB Ethanol	Other:										
D.O. (if 1	req'd):		Pre-purge	mg/[Post-purge?	1.3									
O.R.P. (i			Pre-purge		Post-purge:	m									
Blaine '	Tech Sen	rices In	- 1680 Roge	re Avo San I	OCO CA OF449	(400) ETO ATE									

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 06	.0216-	705		Station # 37	1									
Sampler:				Date: 02/16/	,									
Well I.D.:	MW-Y		i i	Well Diameter:		6 8								
Total Well	-	1691		Depth to Water: 6.28										
Depth to F	ree Produc	et:		Thickness of Free Product (feet):										
Reference	d to:	PVC	Grade	D.O. Meter (if req'd): YSI HACH										
	Well Diamete 1" 2" 3"		1uttiplier W 0.04 0.16 0.37	Mill Diameter Mill Mil	altiplier 65 47 ² * 0.163		J							
Purge Metho	Di: Positiv Elec	Bailer sposable Baile e Air Displace trie Submers ctraction Pum	ement ble	Sampling Method: Bailer Disposable Bailer Extraction Port Other:										
Top of Scree	n:			no-purge, confirm t se, the well must be		elow the top								
	13.		X Specified Vo	lumes Calc	Gals.									
Time	Temp (°F)	pН	Conductivity (mS or µS)	Gals. Removed	Observations									
1459	63.4	6.8	1126	13.4	den	gas odul								
1502	64.0	68	1133	26.8	//	//								
1506	64.2	6.8	1136	40.2	<i>(1</i>	(/								
		vi.	·				· · · · · · · · · · · · · · · · · · ·							
Did well	dewater?	Yes (No)	Gallons actuall	v evacuated:	40.2								
Sampling	g Time:	510		Sampling Date	· · · · · · · · · · · · · · · · · · ·	10.2								
Sample I	.D.: Mu	- 4		Laboratory:	Pace Sequoia	Other								
Analyzed	l for:	RO PTEX M	TBE DRO ONY'S X.2-D		Other:		*************************************							
D.O. (if r	eq'd):		Pre-purge	: mg/1	Post-purge:	> 0.5	mg/I							
O.R.P. (i	f req'd):	icas Ind	Pre-purge		Post-purge:		mV							

BP GEM OIL COMPANY TYPE A BILL OF LADING

BILL OF LADING FOR NON-SOURCE RECORD 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 #	
6407 Selecapi	L Are Oakland
Station Address '	
Total Gallons Collected From Gr	roundwater Monitoring Wells:
added equip	any other
added equip.	adjustments
Inise water	
TOTAL GALS. / YO	loaded onto BTS vehicle # 67
BTS event#	time date
060216-JD2	1545 CZI16166
signature	
Signature	
********	*******
REC'D AT	time date
unloaded by	
signature	

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.



6 March, 2006

Barbara Jakub URS Corporation [Arco] 1333 Broadway, Suite 800 Oakland, CA 94612

RE: ARCO #0374, Oakland, CA

Work Order: MPB0814

Enclosed are the results of analyses for samples received by the laboratory on 02/17/06 17:26. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Lisa Race

Senior Project Manager

CA ELAP Certificate #1210

The results in this laboratory report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the BPGCLN Technical Specifications, applicable Federal, State, local regulations and certification requirements as well as the methodologies as described in laboratory SOPs reviewed by the BPGCLN. This entire report was reviewed and approved for release.





Project:ARCO #0374, Oakland, CA Project Number:G0C21-0010 Project Manager:Barbara Jakub MPB0814 Reported: 03/06/06 13:12

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	MPB0814-01	Water	02/16/06 15:40	02/17/06 17:26
MW-2	MPB0814-02	Water	02/16/06 14:50	02/17/06 17:26
MW-4	MPB0814-03	Water	02/16/06 15:10	02/17/06 17:26
TB-374-02162006	MPB0814-04	Water	02/16/06 14:50	02/17/06 17:26

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 no custody seals.





Project:ARCO #0374, Oakland, CA Project Number:G0C21-0010 Project Manager:Barbara Jakub MPB0814 Reported: 03/06/06 13:12

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note:
MW-1 (MPB0814-01) Water San	npled: 02/16/06 15:40	Received:	02/17/06	17:26					····
tert-Amyl methyl ether	ND	2.5	ug/l	5	6C01024	03/01/06	03/02/06	EPA 8260B	
Benzene	ND	2.5	"	n	**	1)	н	II	
tert-Butyl alcohol	ND	100	**	U	"	11	Ħ	1)	
Di-isopropyl ether	ND	2.5	**	H	**	11	u	n	
1,2-Dibromoethane (EDB)	ND	2.5	**	11	**	11	tt	n	
1,2-Dichloroethane	ND	2.5	**	0	"	11	Ħ	11	
Ethanol	ND	1500	tt.	II	"	11	II	n	
Ethyl tert-butyl ether	ND	2.5	**	II	**	11	u	n	
Ethylbenzene	ND	2.5	tr	II	"	**	IF	n	
Methyl tert-butyl ether	340	2.5	ŧr	11	11	**	u	n	
Toluene	ND	2.5	Ħ	IJ	"	"	II	11	
Xylenes (total)	ND	2.5	17	II	*	17	1)	"	
Gasoline Range Organics (C4-C12) 350	250	H	11	"	**	II	11	PV
Surrogate: 1,2-Dichloroethane-d4		87 %	60-	135	n	"	"	"	
Surrogate: Toluene-d8		86 %	70-	120	"	n	n	"	
Surrogate: Dibromofluoromethane		97%	65-	130	"	"	"	n	
Surrogate: 4-Bromofluorobenzene		84 %	70-	120	"	,,	"	#	
MW-2 (MPB0814-02) Water San	npled: 02/16/06 14:50	Received:	02/17/06	17:26					
tert-Amyl methyl ether	ND	0.50	ug/l	1	6C01024	03/01/06	03/02/06	EPA 8260B	
Benzene	ND	0.50	ш	**	1)	tr.	n	II	
tert-Butyl alcohol	ND	20	11	11	п	п	n	n	
Di-isopropyl ether	ND	0.50	n	**	II .	II .	**	и	
1,2-Dibromoethane (EDB)	ND	0.50	11	•	1)	ч	"	п	
1,2-Dichloroethane	ND	0.50	11	**	1)	п	"	II	
Ethanol	ND	300	n	**	11	II .	"	н	
Ethyl tert-butyl ether	ND	0.50	11	**	11	n	"	н	
Ethylbenzene	ND	0.50	**	**	11	19	**	U	
Methyl tert-butyl ether	39	0.50	11	ii.	II .	11	n	II.	
Toluene	ND	0.50	"	tt	"	n	H	11	
Xylenes (total)	ND	0.50	*1	tt	"	11	n	11	
Gasoline Range Organics (C4-C12)	ND	50		н	*	11	rt	11	
Surrogate: 1,2-Dichloroethane-d4		82 %	60-1	135	"	"	n	"	
Surrogate: Toluene-d8		86 %	70-3	120	#	#	"	"	
Surrogate: Dibromofluoromethane		91 %	65-1	130	"	"	n	#	
Surrogate: 4-Bromofluorobenzene		82 %	70-1	120	"	"	n	n	





Project:ARCO #0374, Oakland, CA Project Number:G0C21-0010 Project Manager:Barbara Jakub MPB0814 Reported: 03/06/06 13:12

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 (MPB0814-03) Water S	Sampled: 02/16/06 15:10	Received:	02/17/06	17:26					
tert-Amyl methyl ether	ND	10	ug/l	20	6C01024	03/01/06	03/02/06	EPA 8260B	
Benzene	1800	10	"	**	н	17	n	17	
tert-Butyl alcohol	ND	400	н	17	1)	37	11	n	
Di-isopropyl ether	ND	10	17	n	и	17	11	Ħ	
1,2-Dibromoethane (EDB)	ND	10	n	n	11	11	n	u u	
1,2-Dichloroethane	ND	10	11	"	11	17	"	H	
Ethanol	ND	6000	11	"	11	**	11	ti	
Ethyl tert-butyl ether	ND	10	"	**	11	77	"	II	
Ethylbenzene	600	10	17	tt	II .	"	**	ш	
Methyl tert-butyl ether	35	10	**	н	ŋ	77	"	II	
Toluene	130	10	11	H	11	77	"	U	
Xylenes (total)	420	10	17	u	11	**	**	II .	
Gasoline Range Organics (C4-C	12) 9400	1000	**	U	n	77	Ħ	0	
Surrogate: 1,2-Dichloroethane-d4		94 %	60-	-135	"	"	"	n	
Surrogate: Toluene-d8		91 %	70-	-120	#	"	"	"	
Surrogate: Dibromofluoromethan	e	92 %	65-	-130	#	n	n	,,	
Surrogate: 4-Bromofluorobenzene	?	88 %	70-	-120	"	n	n	"	





Project:ARCO #0374, Oakland, CA Project Number:G0C21-0010 Project Manager:Barbara Jakub

Spike

Source

%REC

MPB0814 Reported: 03/06/06 13:12

RPD

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

Reporting

Analista	D14	Reporting		Бріке	Source	0/050	%KEC	ner	RPD	37 .
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 6C01024 - EPA 5030B P/T / EPA	8260B									
Blank (6C01024-BLK1)				Prepared:	03/01/06	Analyzed	l: 03/02/06			
tert-Amyl methyl ether	ND	0.50	ug/l			<u> </u>				
Benzene	ND	0.50	n							
tert-Butyl alcohol	ND	20	n	,						
Di-isopropyl ether	ND	0.50	11							
1,2-Dibromoethane (EDB)	ND	0.50	11							
1,2-Dichloroethane	ND	0.50	п,							
Ethanol	ND	300	n							
Ethyl tert-butyl ether	ND	0.50	II .							
Ethylbenzene	ND	0.50	'n							
Methyl tert-butyl ether	ND	0.50	ij							
Toluene	ND	0.50	11							
Xylenes (total)	ND	0.50	n							
Gasoline Range Organics (C4-C12)	ND	50	11							
Surrogate: 1,2-Dichloroethane-d4	4.25		"	5.00		85	60-135			
Surrogate: Toluene-d8	4.35		"	5.00		87	70-120			
Surrogate: Dibromofluoromethane	4.71		"	5.00		94	65-130			
Surrogate: 4-Bromofluorobenzene	4.30		**	5.00		86	70-120			
Laboratory Control Sample (6C01024-BS1))			Prepared of	& Analyze	ed: 03/01/	06			
tert-Amyl methyl ether	14.7	0.50	ug/l	16.3		90	80-115			
Benzene	4.77	0.50	"	5.04		95	65-115			
tert-Butyl alcohol	152	20	**	169		90	75-150			
Di-isopropyl ether	14.8	0.50	"	16.2		91	75-125			
1,2-Dibromoethane (EDB)	16.5	0.50	**	16.6		99	85-120			
1,2-Dichloroethane	13.7	0.50	"	15.5		88	85-130			
Ethanol	149	300	**	165		90	70-135			
Ethyl tert-butyl ether	13.3	0.50	**	16.4		81	75-130			
Ethylbenzene	7.35	0.50	Ħ	7.28		101	75-135			
Methyl tert-butyl ether	6.80	0.50	n	7.84		87	65-125			
Toluene	34.6	0.50	**	38.0		91	85-120			
Xylenes (total)	37.1	0.50	**	40.8		91	85-125			
Gasoline Range Organics (C4-C12)	418	50	**	440		95	60-140			
Surrogate: 1,2-Dichloroethane-d4	4.40		"	5.00		88	60-135			
Surrogate: Toluene-d8	4.81		n	5.00		96	70-120			
Surrogate: Dibromofluoromethane	4.41		n	5.00		88	65-130			
Surrogate: 4-Bromofluorobenzene	4.48		n	5.00		90	70-120			

Sequoia Analytical - Morgan Hill

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





Project:ARCO #0374, Oakland, CA Project Number:G0C21-0010 Project Manager:Barbara Jakub MPB0814 Reported: 03/06/06 13:12

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 6C01024 - EPA 5030B P/T / F	EPA 8260B			-				• •		
Matrix Spike (6C01024-MS1)	Source: M	IPB0814-01		Prepared:	03/01/06	Analyzed	l: 03/02/06			
tert-Amyl methyl ether	68.4	2.5	ug/l	81.6	1.6	82	80-115			
Benzene	23.0	2.5	11	25.2	ND	91	65-115			
tert-Butyl alcohol	844	100	**	844	ND	100	75-120			
Di-isopropyl ether	71.7	2.5	п	81.2	ND	88	75-125			
1,2-Dibromoethane (EDB)	78.0	2.5	п	83.2	ND	94	85-120			
1,2-Dichloroethane	67.0	2.5	11	77.6	ND	86	85-130			
Ethanol	874	1500	11	824	ND	106	70-135			
Ethyl tert-butyl ether	63.6	2.5	17	82.0	ND	78	75-130			
Ethylbenzene	33.4	2.5	17	36.4	ND	92	75-135			
Methyl tert-butyl ether	322	2.5	77	39.2	340	0	65-125			BB,LN
Toluene	161	2.5	**	190	ND	85	85-120			•
Xylenes (total)	183	2.5	tt	204	ND	90	85-125			
Gasoline Range Organics (C4-C12)	2230	250	tr	2200	350	85	60-140			
Surrogate: 1,2-Dichloroethane-d4	4.18		"	5.00		84	60-135		1.71	
Surrogate: Toluene-d8	4.32		"	5.00		86	70-120			
Surrogate: Dibromofluoromethane	4.22		"	5.00		84	65-130			
Surrogate: 4-Bromofluorobenzene	4.41		"	5.00		88	70-120			
Matrix Spike Dup (6C01024-MSD1)	Source: M	IPB0814-01		Prepared:	03/01/06	Analyzed	: 03/02/06			
tert-Amyl methyl ether	73.1	2.5	ug/l	81.6	1.6	88	80-115	7	15	
Benzene	23.3	2.5	ш	25,2	ND	92	65-115	1	20	
tert-Butyl alcohol	882	100	п	844	ND	105	75-120	4	25	
Di-isopropyl ether	74.8	2.5	16	81.2	ND ·	92	75-125	4	15	
1,2-Dibromoethane (EDB)	79.1	2.5	11	83.2	ND	95	85-120	1	15	
1,2-Dichloroethane	67.4	2.5	11	77.6	ND	87	85-130	0.6	20	
Ethanol	887	1500	11	824	ND	108	70-135	1	35	
Ethyl tert-butyl ether	65.5	2.5	U	82.0	ND	80	75-130	3	25	
Ethylbenzene	34.0	2.5	H	36.4	ND	93	75-135	2	15	
Methyl tert-butyl ether	333	2.5	"	39.2	340	0	65-125	3	20	BB,LN
Toluene	165	2.5	"	190	ND	87	85-120	2	20	•
Xylenes (total)	176	2.5	u	204	ND	86	85-125	4	20	
Gasoline Range Organics (C4-C12)	2220	250	IJ	2200	350	85	60-140	0.4	25	
Surrogate: 1,2-Dichloroethane-d4	4.19		"	5.00		84	60-135			
Surrogate: Toluene-d8	4.77		"	5.00		95	70-120			
Surrogate: Dibromofluoromethane	4.69		Ħ	5.00		94	65-130			
Surrogate: 4-Bromofluorobenzene	4.50		,,	5.00		90	70-120			

Sequoia Analytical - Morgan Hill

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Project:ARCO #0374, Oakland, CA Project Number:G0C21-0010

Project Manager: Barbara Jakub

MPB0814 Reported: 03/06/06 13:12

Notes and Definitions

PV Hydrocarbon result partly due to individ. peak(s) in quant. range

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



Chain of Custody Record

Project Name: Analytical for QMR sampling

BP BU/AR Region/Enfos Segment:

BP > Americas > West Coast > Retail > WCBU > CA > Central > 374 > HistoricalBL

State or Lead Regulatory Agency:

California Regional Water Quality Control Board - San Fra

Requested Due Date (mm/dd/yy):

10 Day TAT

	Pageof
On-site Time: /3/5	Temp: 🖍 🤇
Off-site Time: ////	Temp:∠ ડ
Sky Conditions: Syany	
Meteorological Events:	
Wind Speed:	Direction: —

Lab Name: Sequoia	·· ···································				BP/AR Facility No	.:	374	*****								Consult	nt/C	ontrac	tor:	URS				
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Morgan Hill, CA 95037					Site Lat/Long:		37,8	5052	6/-	122.2	60							Oakl	and, C	CA 9461				
Lab PM: Lisa Race / Katt Min					California Global I	DN				0106										oject No.		87519		
Tele/Fax: 408.782.8156 / 408.782.6308					Enfos Project No.:								Consulta	int/C					b Jakul	<u> </u>				
BP/AR PM Contact: Paul Supple	_				Provision or RCOF	<u>:</u>	Prov	risio	1							Tele/Fax					0.874.32			
Address; P.O. Box 6549					Phase/WBS:	04 -	Mon	/Rer	ned b	y Na	tural A	ttenu	ation	1							1 with B			
Moraga, CA 94570							Ana					<u>.</u>									@urscorp			
Tele/Fax: 925.299.8891 / 925.299.8872					Cost Element:	05 -	Sub		acted							<u> </u>			ntic R	ichfield	Compar	у		\
Lab Bottle Order No: 374			Mя	itrix				P	reser	vativ	e	- -	,		Requ	iested Ai	alys	is		4/	MPA	2 4	6 // ·	-))
Item No. Sample Description			Soil/Solid	Water/Liquid Air	Laboratory No.	No. of Containers	Unpreserved	H ₂ SO ₄	HNO ₃	HCI	Methanol	GRO / BTEX (8260)	MIBE, TAME, BIBE	EDB, 1,2-DCA (8260)	Sthanol (8260)						Sample l		.at/Long	and
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Special Instructions:											,													
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SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: UZS REC. BY (PRINT) WORKORDER: MPB & 814			DATE REC'D AT LAB: TIME REC'D AT LAB: DATE LOGGED IN:	2-17-06 17-26 2-18	1-04			DRINKING V	
CIRCLE THE APPROPRIATE RESPONSE	LAB SAMPLE#	DASH #	CLIENT ID	CONTAINER DESCRIPTION	PRESERV ATIVE	pН	SAMPLE MATRIX	DATE SAMPLED	REMARKS: CONDITION (ETC.)
1. Custody Seal(s) Present / Absent Jatact / Broken*									
2. Chain-of-Custody Present / Absent*		 							
3. Traffic Reports or Present Absent			-			<u></u>	<u> </u>		
4. Airbill: Airbill / Sticker Present / Absent									
5. Airbill #:	·	 					/		•
6. Sample Labels: Present / Absent							/-		
7. Sample IDs: Listed / Not Listed on Ghain-of-Custody						/			
8. Sample Condition: Intact / Broken* / Leaking*			`						
9. Does information on chain-of-custody, traffic reports and sample labels agree? Yes / No*				27					
10. Sample received within hold time? Yes / No*			. ,			•			
11. Adequate sample volume received? Yes / No*		-							
12 Proper preservatives used? (Yes) / No*							 		
13 Trip Blank / Temp Blank Received?		· · · ·	 						
g (cucie autori ii Jen)		1			<u> </u>		<u> </u>		
14. Read Temp: 3.4C				<u> </u>	ļ				
Is corrected temp 4 +/-2°C? Yes / No**								 	
(Acceptance range for samples requiring thermal pres.)		4	 		 		·	 	
**Exception (if any): METALS / DFF ON ICE		_				==		··	
or Problem COC	*IF CIF	CLED.	CONTACT PROJECT	IANAGER AN	D ATTACH	RECO	D OF RE	SOLUTION.	

SRL Revision 7 Replaces Rev 5 (07/13/04) 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:

4/3/2006 4:19:03 PM

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Submittal Title:

1Q 2006 BP/ARCO 374

GEOWELL

Submittal Date/Time: 4/3/2006 4:27:10 PM

Confirmation

7073170304

Number:

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ORGANIZATION NAME:

URS Corporation-Oakland

Office

USER NAME:

URSCORP-OAKLAND

DATE CHECKED:

4/3/2006 4:20:51 PM

GLOBAL ID:

T0600100106

FILE UPLOADED:

ARCO#0374-EDF-

MPB0814.zip

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

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ARCO # 00374

Regional Board - Case #: 01-0114

6407 TELEGRAPH AVE OAKLAND, CA 94609

SAN FRANCISCO BAY RWQCB (REGION 2) Local Agency (lead agency) - Case #: 3884

ALAMEDA COUNTY LOP - (RWS)

SAMPLE DETECTIONS REPORT

- # FIELD POINTS SAMPLED
- # FIELD POINTS WITH DETECTIONS
- # FIELD POINTS WITH WATER SAMPLE DETECTIONS ABOVE MCL.
- SAMPLE MATRIX TYPES

WATER

3

2

METHOD QA/QC REPORT

METHODS USED TESTED FOR REQUIRED ANALYTES? 8260FA

LAB NOTE DATA QUALIFIERS

Υ

QA/QC FOR 8021/8260 SERIES SAMPLES

TECHNICAL HOLDING TIME VIOLATIONS	0
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?	
LAR METHOD PLANK	٠.,

- LAB METHOD BLANK - MATRIX SPIKE

- SURROGATE SPIKE

- MATRIX SPIKE DUPLICATE - BLANK SPIKE

WATER SAMPLES FOR 8021/8260 SERIES

MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-Υ MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30% Υ SURROGATE SPIKES % RECOVERY BETWEEN 85-115% Υ

BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130%

SOIL SAMPLES FOR 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 SE	PIKE DUPLICATES % RECOV	ERY BETWEEN 70-	
130%			n/a
FIELD QC SAMPLES)	The state of the s	n/a
	COLLECTED	DETECTIONS >	The state of the s
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Confirmation Number: 7156836450

Date/Time of Submittal: 4/3/2006 4:24:44 PM

Facility Global ID: T0600100106 Facility Name: ARCO # 00374

Submittal Title: 1Q 2006 BP/ARCO 374 EDF

Submittal Type: GW Monitoring Report

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ARCO # 00374 Regional Board - Case #: 01-0114 6407 TELEGRAPH AVE SAN FRANCISCO BAY RWQCB (REGION 2) OAKLAND, CA 94609 Local Agency (lead agency) - Case #: 3884 ALAMEDA COUNTY LOP - (RWS) CONF# QUARTER 7156836450 1Q 2006 BP/ARCO 374 EDF Q1 2006 SUBMITTED BY SUBMIT DATE **STATUS** Srijesh Thapa 4/3/2006 PENDING REVIEW 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?** LAB NOTE DATA QUALIFIERS Υ QA/QC FOR 8021/8260 SERIES SAMPLES TECHNICAL HOLDING TIME VIOLATIONS 0 METHOD HOLDING TIME VIOLATIONS 0 LAB BLANK DETECTIONS ABOVE REPORTING DETECTION LIMIT 0 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% Υ MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30% SURROGATE SPIKES % RECOVERY BETWEEN 85-115% BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130% SOIL SAMPLES FOR 8021/8260 SERIES MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135% n/a

MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30%

SURROGATE SPIKES % RECOVERY BETWEEN 70-125%

n/a

n/a

FIELD QC SAMPLES		
SAMPLE	COLLECTED	DETECTIONS > REPDL
QCTB SAMPLES	N	0
QCEB SAMPLES	N	0
OCAB SAMPLES	N	n

Logged in as URSCORP-OAKLAND (CONTRACTOR)

CONTACT SITE ADMINISTRATOR.