

September 29, 2005

Ms. Donna Drogos Alameda County Environmental Health (ACEH) 1131 Harbor Bay Parkway, 2<sup>nd</sup> Floor Alameda, CA 94502

Re: Third Quarter 2005 Groundwater Monitoring Report

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



Dear Ms. Drogas:

On behalf of Atlantic Richfield Company, a BP affiliated company, URS Corporation (URS) is submitting the *Third 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.

No. 7829

E OF CALIF

Sincerely,

**URS CORPORATION** 

Scott Robinson, P.G.

Project Manager

Enclosure: Third Quarter 2005 Groundwater Monitoring Report

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

## THIRD QUARTER 2005 GROUNDWATER MONITORING REPORT

ARCO SERVICE STATION #0374 6407 TELEGRAPH AVENUE OAKLAND, CALIFORNIA

Prepared for RM

Alameda County

OCT 11 2005

Environmental Health

September 29, 2005

## URS

URS Corporation 1333 Broadway, Suite 800 Oakland, California 94612

 Date:
 September 29, 2005

 Quarter:
 3Q 05

#### THIRD QUARTER 2005 GROUNDWATER MONITORING REPORT

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

#### WORK PERFORMED THIS QUARTER

#### (Third-2005):

- 1. Performed the third quarter 2005 groundwater monitoring event on August 11, 2005.
- 2. Prepared and submitted this Third Quarter 2005 Groundwater Monitoring Report.

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

- 1. Perform the fourth quarter 2005 groundwater monitoring event.
- 2. Prepare and submit the Fourth Quarter 2005 Groundwater Monitoring Report.

#### SITE SUMMARY:

#### DISCUSSION:

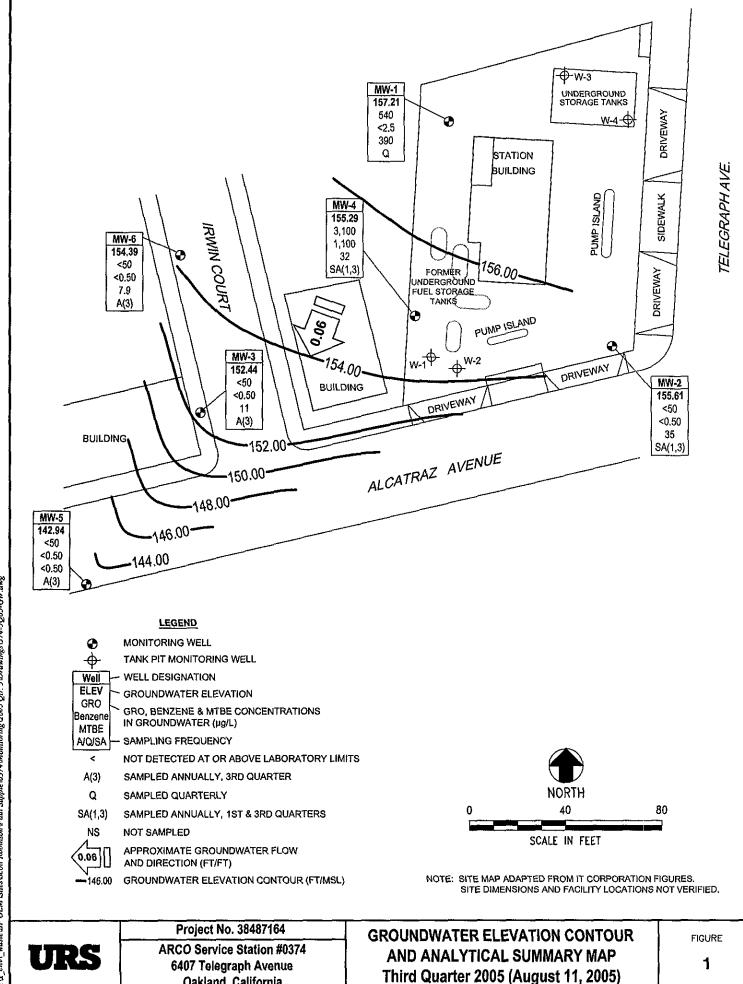
Gasoline range organics were detected at or above the laboratory reporting limit in two of the six wells sampled this quarter at concentrations of 540 micrograms per liter (µg/L) (MW-1) and 3,100 (µg/L) (MW-4). Benzene, toluene and ethyl benzene were detected at or above their respective laboratory reporting limits in one of the six wells sampled (MW-4) at concentrations of 1,100 µg/L, 41 µg/L and 160 µg/L, respectively. Methyl-tert-butyl ether was detected at or above the laboratory limit in five of the six wells sampled at concentrations ranging from 7.9 (µg/L) (MW-6) to 390 (µg/L) (MW-1). Tert-amyl-methyl ether and tert-butyl alcohol were detected at or above their respective laboratory reporting limits in one of the six wells sampled (MW-1) at concentrations of 2.6 µg/L and 250 µg/L, respectively. Xylenes were detected at or above their respective laboratory reporting limits in two of the six

wells sampled at concentrations of 4.0(µg/L) (MW-1) and 110 (µg/L) (MW-4). No other constituents were detected at or above their respective laboratory reporting limits. During sampling, wells MW-3 and MW-5 dewatered after 29 and 20 gallons were purged.

#### ATTACHMENTS:

- Figure 1 Groundwater Elevation Contour and Analytical Summary Map August 11, 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

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Oakland, California

Sep 19, 2005 - 12 STpm X: tr\_env\_wasteUBF GEM SitesScott Robinson/Peaul Supple\0374WomtoringU005 Qtr. 3Unawungs\374-3Q05-GH/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)	рН
MW-1	6/20/2000	-		158.91	7.00	27.00	6.86	152.05		-	-					
	9/28/2000	1		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		
	6/21/2001			158.91	7.00	27.00	7.45	151.46				-	<u></u>			
	9/23/2001	_		158.91	7.00	27.00	8.46	150.45	-					-		<b></b> _
	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		_		<del>-</del>	-	_		<b></b> _
	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	-	_	_	-	_	_	_	-
<u></u>	1/29/2003		ь	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	_	-					_	T
	11/20/2003	Р		158.91	7.00	27.00	8.17	150.74	1,600	<10	<10	<10	<10	1,500	1.70	6.7
	02/02/2004	P		164.57	7.00	27.00	6.71	157.86				-			1.0	_
	05/14/2004	P		164.57	7.00	27.00	7.08	157.49	<2,500	<25	<25	<25	<25	1,200	1.40	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	3.80	6.7
	11/04/2004	P		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
	05/09/2005	P	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	P		164.57	7.00	27.00	7.36	157.21	540	<2.5	<2.5	<2.5	4.0	390	0.80	6.6
MW-2	6/20/2000			157.92	7.00	27.00	7.67	150.25	-	-					T	T
<del></del>	9/28/2000			157.92	7.00	27.00	8.51	149.41	<del></del>	-	_		- 1			<b>—</b>
	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		_		-	1 - 1			<b>—</b>
	9/23/2001			157.92	7.00	27.00	8.52	149.40				<del>-</del>				
	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		1-
<del></del>	4/17/2002			157.92	7.00	27.00	6.45	151.47				-				<u> </u>
·	8/12/2002	_		157.92	7.00	27.00	8.08	149.84	-		-			-	<u> </u>	<b>—</b>
	12/6/2002	_		157.92	7.00	27.00	8.29	149.63		-	-					

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	1/29/2003		þ	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	_		-	-	_			-
	11/20/2003	-		157.92	7.00	27.00	8.05	149.87	_	_		-			-	-
	02/02/2004	Ρ		163.46	7.00	27.00	7.00	156.46	74	<0.50	<0.50	<0.50	<0.50	37	1.10	8.9
	05/14/2004			163.46	7.00	27.00	7.97	155.49			_		_		T-	
	09/02/2004	Ρ		163.46	7.00	27.00	8.19	155.27	<250	<2.5	<2.5	<2.5	<2.5	67	2.70	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	1		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
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	T	T
	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	1 -	
	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		
······································	3/21/2002			153.64	7.00	27.00	4.36	149.28								
	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	-	-						<b>-</b> -
	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	-	C	153.64	7.00	27.00	6.93	146.71					_			-
	11/20/2003		C	153.64	7.00	27.00	7.04	146.60		-	-				_	ļ
	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	9.30	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	-		-					_
	05/09/2005			159.21	7.00	27.00	6.74	152.47		_	-					
	08/11/2005	P		159.21	7.00	27.00	6.77	152.44	<50	<0.50	<0.50	<0.50	<0.50	11	1.90	6.5

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	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	-			_			T -	-
	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		_	_		-		<del>-</del>	
	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		С	156.53	7.00	27.00	8.15	148.38		-		-				
	11/20/2003	<u> </u>	C	156.53	7.00	27.00	8.73	147.80							_	
	02/02/2004	Р	С	163.25	7.00	27.00	6.25	157.00	980	280	21	29	38	29	1.40	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	2.40	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	-	<u></u>			_	-		-
	08/11/2005	Р		163.25	7.00	27.00	7.96	155.29	3,100	1,100	41	160	110	32	0.60	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		
	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	_	
	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

Table 1 **Groundwater Elevation and Analytical Data** 

## ARCO Service Station #0374

6407 Telegraph Ave., Oakland, CA

Weil 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-5	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	<b> </b> -
	02/02/2004		C	151.33	10.00	23.00	6.92	144.41	+	_	-	-			_	-
	05/14/2004			151.33	10.00	23.00	8.56	142.77		-			- 1	<del>-</del>	T -	<b>-</b>
	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	3.50	6.8
	11/04/2004		С	151.33	10.00	23.00	8.33	143.00							1	
	02/08/2005	-		151.33	10.00	23.00	7.28	144.05	_						T -	<b></b>
	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	1.20	6.6
MW-6	6/20/2000			153.84	5.00	15.00	4.79	149.05	-	_		<del>-</del>	<b></b>			T 1
· · · · · · · · · · · · · · · · · · ·	9/28/2000	-		153.84	5.00	15.00	5.39	148.45	-		-	-			-	<b>-</b>
	12/17/2000			153.84	5.00	15.00	4.71	149.13			-		_		_	T-
	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								<del>-</del>
	12/31/2001	-		153.84	5.00	15.00	3.95	149.89				<b>-</b>				
	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			-					T-
	1/29/2003		b	153.84	5.00	15.00	4.79	149.05								
<u></u>	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		-					<b> </b>		_	
	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>	<b>-</b>		<b> </b>	T-
	05/14/2004	_		159.41	5.00	15.00	6.29	153.12		_	-			<b></b>		T
	09/02/2004		d	159.41	5.00	15.00	5.79	153.62		-						
	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	2.10	6.6

#### Table 1

#### **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 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 = Well was not purged prior to sampling

P = Well was purged prior to sampling

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

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

#### NOTES:

Beginning in the fourth quarter 2003, the laboratory modified the reported analyte list. TPHg was 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 guarter 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**

Footnotes/	EDB	1,2-DCA	TAME	ETBE	DIPE	MTBE	TBA	Ethanol	Date	Well
Comments	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(μg/L)	(µg/L)	(µg/L)	(µg/L)	Sampled	Number
			<100	<100	<100	1,600	<4,000	<20,000	5/23/2003	MW-1
a		-	<10	<10	<10	1,500	<400	<2,000	11/20/2003	
	<25	<25	<25	<25	<25	1,200	<1,000	<5,000	05/14/2004	
	<5.0	<5.0	<5.0	<5.0	<5.0	660	<200	<1,000	09/02/2004	
	<10	<10	<10	<10	<10	580	<400	<2,000	11/04/2004	
	<10	<10	<10	<10	<10	610	<400	<2,000	02/08/2005	
а	<5.0	<5.0	<5.0	<5.0	<5.0	620	<200	<1,000	05/09/2005	
а	<2.5	<2.5	2.6	<2.5	<2.5	390	250	<500	08/11/2005	
			0.53	<0.50	<0.50	55	<20	<100	5/23/2003	MW-2
	<0.50	<0.50	<0.50	<0.50	<0.50	37	<20	<100	02/02/2004	
***************************************	<2.5	<2.5	<2.5	<2.5	<2.5	67	<100	<500	09/02/2004	
	<0.50	<0.50	<0.50	<0.50	<0.50	30	<20	<100	02/08/2005	
a	<0.50	<0.50	<0.50	<0.50	<0.50	35	<20	<100	08/11/2005	
			<0.50	<0.50	<0.50	1.6	<20	<100	5/23/2003	MW-3
	<0.50	<0.50	<0.50	<0.50	<0.50	6.5	<20	<100	09/02/2004	.,,,,,
a	<0.50	<0.50	<0.50	<0.50	<0.50	11	<20	<100	08/11/2005	<del></del>
		(	<50	<50	<50	<50	<2,000	<10,000	5/23/2003	MW-4
	<2.5	<2.5	2.6	<2.5	<2.5	29	<100	<500	02/02/2004	*****
	<1.0	<1.0	<1.0	<1.0	<1.0	28	<40	<200	09/02/2004	
	<25	<25	<25	<25	<25	45	<1,000	<5,000	02/08/2005	
	<10	<10	<10	<10	<10	32	<400	<2,000	08/11/2005	
			<0.50	<0.50	<0.50	<0.50	<20	<40	1/29/2003	MW-5
	-		<0.50	<0.50	<0.50	<0.50	<20	<100	5/23/2003	
	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<100	9/4/2003	
	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<100	09/02/2004	
	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<20	<100	08/11/2005	
			<0.50	<0.50	<0.50	9.4	<20	<100	5/23/2003	MW-6
a		<del> </del>					<del> </del>		<del></del>	(VEVVE)
	<0.50	<0.50	<0.50	<0.50	<0.50	7.9	<20	<100	08/11/2005	

#### Table 2

#### 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.

Table 3

#### **Groundwater Gradient Data**

Date Sampled	Approximate Flow Direction	Approximate Hydraulic Gradient
01/31/1996	Southwest	0.04
04/10/1996	Southwest	0.04
07/16/1996	Southwest	0.03
10/14/1996	Southwest	0.03
03/27/1997	Southwest	0.04
05/27/1997	Southwest	0.03
08/12/1997	Southwest	0.04
11/17/1997	Southwest	0.03
03/16/1998	Southwest	0,03
05/12/1998	Southwest	0.04
07/27/1998	Southwest	0.04
10/15/1998	Southwest	0.02
02/18/1999	Southwest	0.05
05/24/1999	Southwest	0.03
08/27/1999	Southwest	0.03
10/26/1999	Southwest	0.03
02/03/2000	Southwest	0.047
06/20/2000	Southwest	0.035
09/28/2000	Southwest	0.034
12/17/2000	Southwest	0.032
03/23/2001	Southwest	0.034
06/21/2001	Southwest	0.032
09/23/2001	Southwest	0.029
12/31/2001	Southwest	0.043
03/21/2002	Southwest	0.038
04/17/2002	Southwest	0,031
08/12/2002	Southwest	0.032
12/06/2002	Southwest	0.020
01/29/2003	Southwest	0.027
05/23/2003	Southwest	0.039
09/04/2003	Southwest	0.033
11/20/2003	Southwest	0.029
02/02/2004	Southwest	0.043
05/14/2004	Southwest	0.037
09/02/2004	Southwest	0.027
11/04/2004	Southwest	0.034
02/08/2005	Southwest	0.061
05/09/2005	Southwest	0.08
08/11/2005	Southwest	0.06

#### Table 3

#### **Groundwater Gradient Data**

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

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

Proje	ect#_ <u>0</u>	50811- PW-	1	Date	8-11-05	C	lient _	Acio	374	
Site	6407	Telegr	aph t	tre	Oakland					

	<del></del>	<del></del>	<del></del>	(m) 1 1		·			
1	Well		Depth to	Thickness	Volume of	<b>)</b>			
	Size	Sheen /		of	Immiscibles			Survey	
Well ID	,	Odor		Immiscible		Depth to water		Point: TOB	
Well ID	(in.)	Odor	Liquia (n.)	Liquid (ft.)	(ml)	(ft.)	bottom (ft.)	or 700	
	4					77.	10 25		
MW-/		<u> </u>				7.36	26.75		
	4					7.85	26.35		
mw-2	<u> </u>					7.05	26.55		
	4					1 37	26.78		
mw-3						6.77 <b>1</b> .96	26.18		
	4					7 ac	26.97		
mw-4	1					116	26.71		
	4					0 20			
MW-S	7					8,39	25.05		
	4						•-•		
mw-6	7					5.00	14.65		
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BTS#: 0	50811-0	W-1		Station # 374							
Sampler:		•		Date: 8-11-	05	·					
	mw-1			Well Diameter	: 2 3 4	) 6	8				
	ll Depth:			Depth to Water	r: 7.36						
Depth to I	Free Produ	ict:			ree Product (fe	et):					
Reference	***************************************	<b>EVO</b>	Grade	D.O. Meter (if	- · · · · · · · · · · · · · · · · · · ·	(rs)	НАСН				
	Well Diamet	(6).		Well Diameter A	Multiplier						
	1" 2"		0.04 0.16		0.65 1.47	]					
	3"		0.37		us² * 0.163						
Purge Metho	od:	Bailer		Sampling Method:	Bailer	<del></del>					
_		isposable Bai	ler	· ·	Misposable Bailer						
		ve Air Displa		•	Extraction Port						
	XE le	ctric Submers	sible	Other:							
	B	extraction Pun	np			•					
	Other:	<del></del>	<del></del>								
Top of Scree	an+		If wall is listed as (	· · · · · · · · · · · · · · · · · · ·	Alina winter level to 1	1	_				
Top or perce	JII			a no-purge, confirm ise, the well must be		selow the	top				
(		<u> </u>	OI SCIECH, OHIGIWI	ise, me wen must be		···					
	12.6		x 3	=	37.8 Gals.		I				
		ume (Gals.)	Specified Vo	olumes Cal	culated Volume		Į.				
			Conductivity	1							
Time	Temp (°F)	pН	(mS orus)	Gals. Removed	Observations						
1503	67.5	6.7	958	12.6							
1506	67-0	6.6	993	25,2							
1501	66.3	6.6	982	37.8							
Did well o	dewater?	Yes (	(No)	Gallons actual	ly evacuated:	37.8					
Sampling	Time: /5	14		Sampling Date: 8-11-05							
Sample I.D.: nw-/				Laboratory: Pace Sequoia Other							
Analyzed for: GRO STEX MTBE DRO				Other: See	Sow						
D.O. (if re	eq'd):		Pre-purge:	we.	Post-purge)	0.8	e mg/L				
O.R.P. (if	req'd):		Pre-purge:	mV	Post-purge:		mV				

	·····		·									
BTS #: O	50811-0	w-1		Station # 374								
Sampler:		- 		Date: 8-11-	05							
Well I.D.:	mw-2			Well Diamete	r: 2 3 <b>4</b>	) 6 8						
Total We	ll Depth:	26.35		Depth to Wate	er: 7.85							
Depth to 1	Free Produ	ct:		Thickness of Free Product (feet):								
Reference	ed to:	evo	Grade	D.O. Meter (if	f reg'd):	(YS)	HACH					
	Well Diamete	Y.		Vell Diameter	Multiplier							
	1" 2"		0.04 0.16	4" 6"	0.65 1.47							
	3*		0.37	Other rad	ius <sup>2</sup>	}						
Purge Metho	od:	Bailer		Sampling Method	l: Bailer							
		sposable Bai	ler		Disposable Bailer							
		e Air Displa			Extraction Port							
		tric Submers		Other	"							
	,	traction Pun		01	· ·	-						
	Other:		•									
	-	······································										
Top of Scree	en:		If well is listed as a of screen. Otherwi	a no-purge, confirm ise, the well must b	n that water level is be purged.	below the t	ор					
i	12		x 3		36 Gals							
į	1 Case Volu	me (Gale )	X Specified Vo		76 Gals.							
	i Case Vola	me (Gais.)		unites Ca	iteniated voitime							
			Conductivity				•					
Time	Temp (°F)	pH	(mS or (TS)	Gals. Removed	Observations	···	······································					
1417	70,7	6.4	665	12								
1415	71.6	6.5	661	24								
1418	70.4	6.6	653	36								
		· · · · · · · · · · · · · · · · · · ·										
Did well o	dewater?	Yes	(No)	Gallons actual	lly evacuated:	36						
Sampling	Time: 14;	<b>&gt;</b> 3		Sampling Date: 8-11-05								
Sample I.	D.: MW-	2		Laboratory:	Pace Sequoia	Other						
Analyzed	Analyzed for: GRO STER MTBE DRO				Sow							
D.O. (if req'd): Pre-purge				mg/	L Post-purge	1.0	) <sup>mg</sup> /L					
O.R.P. (if	O.R.P. (if req'd): Pre-purge:				Post-purge:		mV					

BTS#: O	50811-0	W-1		Station # <i>374</i>					
Sampler:				Date: 8-11-	- 05				
	: MW- 3	3		Well Diameter	er: 2	3 4	6	8 _	
	ll Depth:			Depth to Wate	er: 6.	77	·		
	Free Produ	ıct:		Thickness of F			et):		
Reference	ed to:	evo	Grade	D.O. Meter (if	f req'd):		(rs)	F	IACH
	Well Diamet			Well Diameter	Multiplier			7	A 3 was
	1" 2"		0.04 0.16		0.65 1.47				
	3"		0.37	· ·	1.47 dius <sup>2</sup> * 0.163				
Purge Metho	~d·	Bailer		Sampling Method		Bailer		<u>ا</u>	
ruige mean		Baner Sisposable Bail	it <sub>en</sub>		_				
		ve Air Displac			/	sable Bailer action Port			
		ve Ali Dispiac ectric Submers		Other		etion Port			
	/-	Extraction Pun		<del></del>	í.				
			•						
- co	•			~	-				
Top of Scree	en:	·		a no-purge, confirm			elow t	ne top	
			of screen. Otherwi	ise, the well must be	e purged.			<del></del>	
!	12	<u>L</u> ,	x 3	= _ 3'	,4	~ `			
ļ		ume (Gals.)	X Specified Vo		alculated V	Gals.			
f	1 01101	JIIIO (,		Turnes	IlCulaicu v	Olume			
<u> </u>	- 2017)	1	Conductivity	1					
Time	Temp (°F)	pН	(mS or as)	Gals. Removed	1 Obse	ervations		-	
1337	70.0	6.6	647	/3					
1340	68.9	6.4	707	26		-			
	well de	untered C	29 gl. DT	w= 24.90					
1347	68,1	6.5	828		DIL	J= 21.81	P		
									······································
Did well	dewater?	A Es	No	Gallons actual	lly evac	cuated:	29		
Sampling	Time:	347		Sampling Date	ie: <b>8-</b>	11-05			
Sample I.	D.: MW	- 3		Laboratory:		Sequoia	Ot	her	
Analyzed	for: GR	D STE	MTBE DRO	Other: See	Sow				
D.O. (if re			Pre-purge:	: mg/		ost-purge	1	.9	<sup>mg</sup> / <sub>[</sub>
O.R.P. (if	req'd):		Pre-purge:	: mV	√ P	ost-purge:			mV

			<del></del>	<del>, , , , , , , , , , , , , , , , , , , </del>	<del></del> -	·					
BTS#: 0	50811-0	W-1		Station #	# 37	4					
Sampler:		·		Date: 8	8-11-	05			7		<u>, , , , , , , , , , , , , , , , , , , </u>
	mw- 4	1		Well Dia	ameter:	2	3 (	4	6	8	
	ll Depth:			Depth to Water: 7.96						<u></u>	
Depth to ]	Free Produ	ıct:		Thickne	ss of F	ree Pr	oduct	(feet)	):	<u> </u>	
Reference	d to:	ØØ	Grade	D.O. Me					<b>5</b>	HA	СН
	Well Diamet	टा		Veli Diameter	M	iultiplier	<del></del>				
	2"		0.04 0.16	4" 6"	_	).65  .47					
	3*		0.37	Other		s <sup>2</sup> * 0.163	·				
Purge Metho	od:	Bailer	<del></del>	Sampling 1	Method:		Bailer		····, ,	4	
	D	isposable Bail	ler	•			sable Bai	ler			
	Positiv	ve Air Displac	ement		•		action Po				
		ctric Submers			Other:						
	E	xtraction Pun	ap								
	Other:										
Tan of Cores		<del></del>	Ye well in listed as a						,,		
Top or soire	en:		If well is listed as a of screen. Otherwi	à no-purge, : isa the well	COMMINI 1	that war	ter levei '	is del	ow ti	ne top	
1	<del></del>		Of Sofeth, Omery,	isc, lic wor.	i iliusi ve	bmBen	<u> </u>	····			1
	12.	4	x	==	37	.2	Gal				
		ume (Gals.)	Specified Vo		Calc	ulated \	/olume	<b>5.</b>			
			Conductivity	T							<u>!</u>
Time	Temp (°F)	pН	(mS or (S))	Gals. Re	here	Obe		_			
				1		·· · · · · · · · · · · · · · · · · · ·	ervation /	<u>.                                    </u>			
1429	67.6	6.5	1051	12.1	1	<u> </u>	dor			····	
1432	67.1	6.5	1157	24.8	g.		1 		·	**!-	
1434	66.5	6.5	1186	37.	<b>}</b>	ı		<u> </u>			
`_									•		***************************************
			***************************************				<del></del>	**********			
Did well	dewater?	Yes (	No.	Gallons	actuall	v eva	cuated	: 3	7.	<b>L</b>	<del> </del>
Sampling	Time: [		<u> </u>	Samplin			11-05			<u> </u>	
Sample I.				Laborato		Pace	8equo		Otl	her	·
Analyzed		d STEX	MTBE DRO	Other: 5							**************************************
D.O. (if re			Pre-purge:		<sup>mg</sup> /L	*****************	ost-pur	ge)	0.	6	mg/
O.R.P. (if	req'd):		Pre-purge:		mV	F	ost-pur	ge:		<del></del>	mV

	·		······································	T	<del></del>						
BTS#:	250811-1	DW-1		Station	# 37	4					
Sampler:	DW			Date:	8-11-	05					<del></del>
Well I.D.	: MW-3	5		Well D	iameter	: 2	3	4	6	8	
Total We	ll Depth:	23.05		Depth to Water: 8, 39							
Depth to	Free Prod	uct:		Thickness of Free Product (feet):							
Reference	ed to:	PVO	Grade		leter (if			<del></del>	(ŝ)	<u></u>	A CTI
L-11	Well Diams	ter	<u>Multiplier</u>	Well Diameter		Jultiplier				77	ACH
	!"   2"		0.04 0.16	4" 6"	•	0.65					
	3"		0.37	Other		1.47 .s <sup>2</sup> * 0.16;	2				
Purge Meth	od.	Bailer								_	
r area 111cm		Pisposable Bai	lav	Samping	Method:	_	Bailer				
		ve Air Displa					sable B				
		ctric Submer			04		action P	ort			
	,	Extraction Pur			Other:			·			
			nł,								
Top of Scree	en:		If well is listed as	a no-purge	, confirm	that wa	ter leve	l is be	low th	e ton	
			of screen. Otherwi	ise, the we	ll must be	purge	i.			Jop	
	0.1			<del></del>							7
	9.5		x	~	2	5	_ Ga	ls.			
	I Case Vol	ume (Gals.)	Specified Vo	lumes	Calc	culated '	Volume				
			Conductivity								<u></u>
Time	Temp (°F)	pŀł	(mS or µS)	Gals. Re	emoved	Obs	ervatio	ns			
1310	73.1	6.6	650	9.5	5		·		···	····· —	
1312	71.5	6.6	642	19.0	2		<del></del>				
		owatered		tw=				·		···	
	WEN O	OLUAICT CA	0 20 50	ptw-	71.15						
1320	69.3	6.6	645			Desc	.1-16				
	<u> </u>				-	Plu	J=18,	13		·	······································
Did well o	dewater?	<b>Y</b> es	No	Gallons	actuall	y evad	cuated	:26	•		
Sampling	Time: [7	30		Samplin	ng Date:	8-	11-0	5			
Sample I.I	D.: MW	- 5		Laborat	orý:	Pace	8equo		Oth	er_	
Analyzed	for: GR	&TEX	MTBE DRO	Other: 5	see s	ow	-		<del></del> , -		
D.O. (if re	eq'd):		Pre-purge:		mg/L	<u>-</u>	ost-pu	ge.	1,2	<u> </u>	mg/L
O.R.P. (if	req'd):		Pre-purge:		mV		ost-pu				mV
					<del></del>			L			

BTS#: 0	50811-0	W-1		Station # <i>374</i>						
Sampler:		- -		Date: 8-11-	05					
Well I.D.:	MW-6	,		Well Diameter:	2 3 4	6	8			
Total Wel	ll Depth:	14.65		Depth to Water	" 5-02					
Depth to I	Free Produ	ict:		Thickness of Free Product (feet):						
Reference	d to:	evo	Grade	D.O. Meter (if	req'd):	(ÝŠI)	НАСН			
	Well Diame 1" 2" 3"	ter	Multiplier y 0.04 0.16 0.37	Veli Diameter M 4" (6"	fultiplier 0.65 1.47 1.8 <sup>2</sup> + 0.163					
Purge Metho	od:	Bailer		Sampling Method:	Bailer					
		isposable Bail		,	Disposable Bailer					
	_	ve Air Displac			Extraction Port					
	•	etric Submers		Other:						
		xtraction Pun	,p							
Top of Scree	•		If well is listed as a	no-purge, confirm	that wat <del>e</del> r level is h	elow the	ton			
•				se, the well must be		,01011 1220	top			
	6.	3	X 3		/ <b>?.</b> 9 Gals.					
		ume (Gals.)	Specified Vo		culated Volume					
[			Conductivity	1						
Time	Temp (°F)	pH	(mS oras)	Gals. Removed	Observations					
1356	69.7	6.6	870	6.3						
1358	70.8	6.6	756	12.6						
1400	70.8	6.6	776	18.9						
Did well o	dewater?	Yes	No 7	Gallons actuall	y evacuated: [8	3,9				
Sampling	Time: /	405		Sampling Date	: 8-11-05					
Sample I.	D.: MW	-6	· · · · · · · · · · · · · · · · · · ·	Laboratory:	Pace Sequoia	Othe	r			
Analyzed	for: GR	O STEX	MTBE DRO	Other: See	Sow					
D.O. (if re	eq'd):		Pre-purge:	mg/ <sub>L</sub>	Post-purge)	2./	<sup>mg</sup> /∟			
O.R.P. (if	req'd):		Pre-purge:	mV	Post-purge:		mV			
Blaine T	ech Serv	ices, Inc	. 1680 Roger	s Ave., San Jo	se, CA 95112	(408)	573-0555			

## 3/48 pb

### **Chain of Custody Record**

Project Name: Analytical for QMR sampling -374-050911-DL-1

BP BU/AR Region/Enfos Segment:

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

State or Lead Regulatory Agency: California Regional Water Quality Control Board - San Fra

Requested Due Date (mm/dd/yy): 10 Day TAT

On-site Time:	1230	Temp: 78*	
Off-site Time:	1530	Temp: 📢	
Sky Conditions:	Sugar		
Meteorological E			
Wind Speed:		Direction:	

Lab Name: Sequoia	Consultant/Contractor: URS				
Address: 885 Jarvis Drive	BP/AR Facility Address: 6407 Telegraph Ave., Oakland, CA 94609	Address: 1333 Broadway, Suite 800			
Morgan Hill, CA 95037	Site Lat/Long: 37.850526 / -122.260	Oakland, CA 94612			
Lab PM: Lisa Race / Jamshid Kekobad	California Global ID No.: T0600100106	Consultant/Contractor Project No.: 38487011			
Tele/Fax: 408.782.8156 / 408.782.6308	Enfos Project No.: G0C21-0004	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	Phase/WBS: 04 - Mon/Remed by Natural Attenuation	Report Type & QC Level: Level 1 with EDF			
Moraga, CA 94570	Sub Phase/Task: 03 - Analytical	E-mail EDD To: Donna Cosper@urscorp.com			
Tele/Fax: 925.299.8891 / 925.299.8872		Invoice to: Atlantic Richfield Company			
Lab Bottle Order No: 374 Matrix	√\	uested Analysis			
Tiem Sample Description Time Soil/Solid Water/Liquid	Mo. of Containers Unpreserved H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HC! Methano! MIBE, TAME, ETBE DIPE, TBA (8260) EDB. 1,2-DCA (8260)	Sample Point Lat/Long and Comments			
1 mw-1 1514 8-11 X	3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
2 mw-> 1423 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
3 mu-3 /347 /					
4 mb-4 1434	V X Y X				
5 my-5 /770					
6 nw-6 1405	V X X X				
7 +6-374-081105 - U	2	ON HOLD			
8					
9					
10					
Sampler's Name: Dave Walter	Relinquished By / Affiliation Date Time	Accepted By / Affiliation Date Time			
Sampler's Company: Raine Tech	Parid C. Stalk 8-4-05 1700	W Sample Cirledian 8/11 1300			
Shipment Date:		94			
Shipment Method:					
Shipment Tracking No:		<u> </u>			
Special Instructions:					
Custody Seals In Place Yes No Temp Bla	nk Yes No Cooler Temperature on Rece	ipt OF/C Trip Blank Yes No			

#### BP GEM OIL COMPANY TYPE A BILL OF LADING

SOURCE RECORD BILL OF LADING FOR NON-**HAZARDOUS PURGEWATER RECOVERED** FROM 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 Telegraph Station Address	Ave Oakland
Total Gallons Collected From	Groundwater Monitoring Wells:
added equip. rinse water	any other adjustments
TOTAL GALS. 181	loaded onto BTS vehicle #
BTS event#	time date
050811- PW-1	1570 8/11/05
signature <b>David</b> C. II	1570 8/11/05
******	******
REC'D AT	time date
unloaded by signature	



## WELLHEAD INSPECTION CHECKLIST BP / GEM

44,

Page / of /	_
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nte Auuress	6407 Tel	egraph !	MVC	<del></del>	<del> </del>			·
ob Number	0508/1-PW-1			Tec	hnician	PW		
Well ID	Well Inspected - No Corrective Action Required	Waler Bailed From Wellbox	Wellbox Compunents Claaned	Cap Replaced	Debrie Removed From Wellbox	Lock Replaced	Olher Action Taken (explain below)	Well Not Inspected (explain
MW-1	X					<del></del>	OSIOWY	below)
mw-2	×					<del></del>		**************************************
MW-3	Х							
mw-4	<b>×</b>				•	•		
mw5	×							
mer 6	X				***************************************	······································		
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			***************************************	<del></del>	· · · · · · · · · · · · · · · · · · ·	<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.



26 August, 2005

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

RE: ARCO #0374, Oakland, CA

Leholad

Work Order: MOH0683

Enclosed are the results of analyses for samples received by the laboratory on 08/12/05 15:05. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jamshid Kekobad Project Manager

CA ELAP Certificate #1210





URS Corporation [Arco]	Project: ARCO #0374, Oakland, CA	MOH0683
1333 Broadway, Suite 800	Project Number: G0C21-0004	Reported:
Oakland CA, 94612	Project Manager:Scott Robinson	08/26/05 18:26

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	МОН0683-01	Water	08/11/05 15:14	08/12/05 15:05
MW-2	МОН0683-02	Water	08/11/05 14:23	08/12/05 15:05
MW-3	МОН0683-03	Water	08/11/05 13:47	08/12/05 15:05
MW-4	МОН0683-04	Water	08/11/05 14:39	08/12/05 15:05
MW-5	МОН0683-05	Water	08/11/05 13:20	08/12/05 15:05
MW-6	МОН0683-06	Water	08/11/05 14:05	08/12/05 15:05
TB-374-051105	MOH0683-07	Water	08/11/05 00:00	08/12/05 15:05

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:G0C21-0004 Project Manager:Scott Robinson MOH0683 Reported: 08/26/05 18:26

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (MOH0683-01) Water	Sampled: 08/11/05 15:14	Received	08/12/0	5 15:05					
tert-Amyl methyl ether	2.6	2.5	ug/l	5	5H23034	08/23/05	08/24/05	EPA 8260B	
Benzene	ND	2.5	11	0	**	*	**	ft.	
tert-Butyl alcohol	250	100	H	IJ	U	IF	ft	ti.	
Di-isopropyl ether	ND	2.5	IF	11	10	lł.	U	n	
1,2-Dibromoethane (EDB)	ND	2.5	11	11	"	**	tt.	11	
1,2-Dichloroethane	ND	2.5	11	**	**	11	II	ų	
Ethanol	ND	500	U U	**	rt .	II	ц	ti.	IC
Ethyl tert-butyl ether	ND	2.5	11	**	tt.	It	IJ	11	
Ethylbenzene	ND	2.5	"	17	et et	II .	II	<b>91</b>	
Methyl tert-butyl ether	390	2.5	U	**	n	**	II	49	
Toluene	ND	2.5	"	•	lt .	n	11	*	
Xylenes (total)	4.0	2.5	n	R	11	**	D		
Gasoline Range Organics (C4-0	C12) 540	250		+1	"	11	n	et	
Surrogate: 1,2-Dichloroethane-d	4	98 %	60-	-135	"	"	"	"	
MW-2 (MOH0683-02) Water	Sampled: 08/11/05 14:23	Received:	: 08/12/0	5 15:05					
tert-Amyl methyl ether	ND	0.50	ug/l	I	5H23034	08/23/05	08/24/05	EPA 8260B	
Benzene	ND	0.50	**	II	**	**	n	И	
tert-Butyl alcohol	ND	20	**	II	**	n	ц	li .	
Di-isopropyl ether	ND	0.50	**	n	•	IF	11	n	
1,2-Dibromoethane (EDB)	ND	0.50	u	II	n	II	II	n	
1,2-Dichloroethane	ND	0.50	11	n	ft	IF	п	Ħ	
Ethanol	ND	100	11	11	n	I)	n	"	IC
Ethyl tert-butyl ether	ND	0.50	"	*	IF	íi .	н	*	
Ethylbenzene	ND	0.50		**	II	II	н	n	
Methyl tert-butyl ether	35	0.50	II .	"	4	*	**	n	
Toluene	ND	0.50	11	n	11	**	**	jt .	
Xylenes (total)	ND	0.50	"	u	11	**	**	P	
Gasoline Range Organics (C4-C1	2) ND	50	FF	II .	**	"	**	n n	
Surrogate: 1,2-Dichloroethane-d	4	102 %	60-	-135	**	,,	H	11	





Project:ARCO #0374, Oakland, CA Project Number:G0C21-0004 Project Manager:Scott Robinson MOH0683 Reported: 08/26/05 18:26

## Volatile Organic Compounds by EPA Method 8260B

#### Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
MW-3 (MOH0683-03) Water	Sampled: 08/11/05 13:47	Received: 08/12/05 15:05							
tert-Amyl methyl ether	ND	0.50	ug/l	1	5H23034	08/23/05	08/24/05	EPA 8260B	
Benzene	. ND	0.50	19	19	#	II .	19	**	
tert-Butyl alcohol	ND	20	**	**	tr.	1)	**	IF.	
Di-isopropyl ether	ND	0.50	n n	u	II .	**	**	II .	
1,2-Dibromoethane (EDB)	ND	0.50	It	ш	11	"	u	II	
1,2-Dichloroethane	ND	0.50	11	D	R	íi .	D	11	
Ethanol	ND	100	11	**	H	IJ	Ð	71	IC
Ethyl tert-butyl ether	ND	0.50	11	**	R	U	**	n	
Ethylbenzene	ND	0.50	**	tr	п	11	**	IF	
Methyl tert-butyl ether	11	0.50	н	u	**	"	w	n	
Toluene	ND	0.50	п	11	n	Ħ	II	11	
Xylenes (total)	ND	0.50	U	1)	**	II	11	"	
Gasoline Range Organics (C4-C1)	2) ND	50	D	ti	#	ji .	11	*	
Surrogate: 1,2-Dichloroethane-da	1	101 %	60-	135	"	"		"	
MW-4 (MOH0683-04) Water	Sampled: 08/11/05 14:39	Received	08/12/0	5 15:05					
tert-Amyl methyl ether	ND	10	ug/l	20	5H25008	08/25/05	08/25/05	EPA 8260B	
Benzene	1100	10	II	1)	II .	**	**	rt	
tert-Butyl alcohol	ND	400	**	**	II	**	H.	u	
Di-isopropyl ether	ND	10	Ħ	H	II	**	n	41	
1,2-Dibromoethane (EDB)	ND	10	11	fr	11	Tł	11	**	
1,2-Dichloroethane	ND	10	U	n	**	II .	IJ	tr	
Ethanol	ND	2000	n	*1	**	II .	**	II .	
Ethyl tert-butyl ether	ND	10	11	**		**	tt	п	
Ethylbenzene	160	10	n	u u	**	п	ц	п	
Methyl tert-butyl ether	32	10	If	II	n	D	п	**	
Toluene	41	10	п	U	fr	11	n	Ħ	
Xylenes (total)	110	10	11	11	п	**	**	п	
Gasoline Range Organics (C4-C	212) 3100	1000		**	II .	H		п	





Project:ARCO #0374, Oakland, CA Project Number:G0C21-0004 Project Manager:Scott Robinson MOH0683 Reported: 08/26/05 18:26

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-5 (MOH0683-05) Water	Sampled: 08/11/05 13:20	Received:	08/12/0	5 15:05					
tert-Amyl methyl ether	ND	0.50	ug/l	1	5H25008	08/25/05	08/25/05	EPA 8260B	
Benzene	ND	0.50	"	tr	II .	11	11	n	
tert-Butyl alcohol	ND	20	r+	**	II	Ð	"	•	
Di-isopropyl ether	ND	0.50	**	111	U	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	11	II	11	**	"	er	
1,2-Dichloroethane	ND	0.50	O	n	19	**	#	tt .	
Ethanol	ND	100	11	11	11	tr	It	fr	
Ethyl tert-butyl ether	ND	0.50	11	n	11	Ħ	ıı	II.	
Ethylbenzene	ND	0.50	11	11	**	tt.	II	II .	
Methyl tert-butyl ether	ND	0.50	11	n	"	ш	п	II	
Toluene	ND	0.50	11	n	"	u	II	II	
Xylenes (total)	ND	0.50	11	11	Ħ	n n	п	*11	
Gasoline Range Organics (C4-C1	12) ND	50	11	"	**	li .	П	**	
Surrogate: 1,2-Dichloroethane-d	4	84 %	60-	135	"	"	#	n	
MW-6 (MOH0683-06) Water	Sampled: 08/11/05 14:05	Received	08/12/0	5 15:05					
MW-6 (MOH0683-06) Water tert-Amyl methyl ether	ND	Received: 0.50	ug/l	1 15:05	5H23034	08/23/05	08/24/05	EPA 8260B	
			<del></del>		5H23034	08/23/05	08/24/05	EPA 8260B	·······································
tert-Amyl methyl ether	ND	0.50	ug/l	1					··
tert-Amyl methyl ether Benzene	ND ND	0.50 0.50	ug/l	1	II .	**	н	II.	· · · · · · · · · · · · · · · · · · ·
tert-Amyl methyl ether Benzene tert-Butyl alcohol	ND ND ND	0.50 0.50 20	ug/l "	1	11	"	H	tt H	· · · · · · · · · · · · · · · · · · ·
tert-Amyl methyl ether Benzene tert-Butyl alcohol Di-isopropyl ether	ND ND ND ND	0.50 0.50 20 0.50	ug/l " "	1	11 11	"	H (†	11 11	
tert-Amyl methyl ether Benzene tert-Butyl alcohol Di-isopropyl ether 1,2-Dibromoethane (EDB)	ND ND ND ND ND	0.50 0.50 20 0.50 0.50	ug/l " "	1 0 0	11 11 11	## #* #*	17 11	11 11 11	IC
tert-Amyl methyl ether Benzene tert-Butyl alcohol Di-isopropyl ether 1,2-Dibromoethane (EDB) 1,2-Dichloroethane Ethanol	ND ND ND ND ND ND	0.50 0.50 20 0.50 0.50 0.50	ug/l " "	1 0 0 0	11 11 11 11	# # # # # # # # # # # # # # # # # # #	0 0 0 11	11 11 11 11	IC
tert-Amyl methyl ether Benzene tert-Butyl alcohol Di-isopropyl ether 1,2-Dibromoethane (EDB) 1,2-Dichloroethane	ND ND ND ND ND ND ND	0.50 0.50 20 0.50 0.50 0.50 100	ug/l	1 0 0 0	11 11 11 11 11	# # # # # # # # # # # # # # # # # # #	H O H H D	11 11 11 11 11 11 11 11 11	IC
tert-Amyl methyl ether Benzene tert-Butyl alcohol Di-isopropyl ether 1,2-Dibromoethane (EDB) 1,2-Dichloroethane Ethanol Ethyl tert-butyl ether Ethylbenzene	ND ND ND ND ND ND ND ND	0.50 0.50 20 0.50 0.50 0.50 100 0.50	ug/l	1 11 11 11 11 11 11 11 11 11 11 11 11 1	11 11 11 14 17 17	# # # # # # # # # # # # # # # # # # #	# D B	11 11 11 11 11 11 11 11 11	IC
tert-Amyl methyl ether Benzene tert-Butyl alcohol Di-isopropyl ether 1,2-Dibromoethane (EDB) 1,2-Dichloroethane Ethanol Ethyl tert-butyl ether	ND ND ND ND ND ND ND ND	0.50 0.50 20 0.50 0.50 0.50 100 0.50 0.50	ug/l	1 0 0 0 0 0	11 11 11 11 11 11 11 11 11 11	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	10 11 11 10 10 10	11 11 11 11 11 11 11 11 11	IC
tert-Amyl methyl ether Benzene tert-Butyl alcohol Di-isopropyl ether 1,2-Dibromoethane (EDB) 1,2-Dichloroethane Ethanol Ethyl tert-butyl ether Ethylbenzene Methyl tert-butyl ether Toluene	ND ND ND ND ND ND ND ND ND	0.50 0.50 20 0.50 0.50 0.50 0.50 0.50 0.	ug/l	1 0 0 0 0 0 0	1) 1) 1) 1) 1) 1) 1) 1) 1) 1) 1) 1) 1) 1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11 11 11 11 11 11 11 11 11 11	IC
tert-Amyl methyl ether Benzene tert-Butyl alcohol Di-isopropyl ether 1,2-Dibromoethane (EDB) 1,2-Dichloroethane Ethanol Ethyl tert-butyl ether Ethylbenzene Methyl tert-butyl ether	ND ND ND ND ND ND ND ND 7.9 ND	0.50 0.50 20 0.50 0.50 0.50 100 0.50 0.50 0.50	ug/l	1 0 0 0 0 0 0	1) 10 20 31 40 40 40 40 40 40 40 40 40 40 40 40 40	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11 11 11 11 11 11 11 11 11 11	IC





Project:ARCO #0374, Oakland, CA Project Number:G0C21-0004 Project Manager:Scott Robinson MOH0683 Reported: 08/26/05 18:26

RPD

%REC

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

Spike

Source

Reporting

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 5H23034 - EPA 5030B Mod	ified / EPA 826	0B					<del></del>			
Blank (5H23034-BLK1)				Prepared	& Analyz	ed: 08/23/	05			
tert-Amyl methyl ether	ND	0.50	ug/l							
Benzene	ИD	0.50	n n							
tert-Butyl alcohol	ND	20	n							
Di-isopropyl ether	ND	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.50	Ħ							
1,2-Dichloroethane	ND	0.50	n							
Ethanol	ND	100	II							IC
Ethyl tert-butyl ether	ND	0 50	11							
Ethylbenzene	ND	0.50	P							
Methyl tert-butyl ether	ND	0.50	IF							
Toluenc	ND	0.50	U							
Xylenes (total)	ND	0.50	1)							
Gasoline Range Organics (C4-C12)	ND	50	**							
Surrogate: 1,2-Dichloroethane-d4	2,55		#	2.50		102	60-135			
Laboratory Control Sample (5H23034	I-BS1)			Prepared:	08/23/05	Analyzec	1: 08/24/05			
tert-Amyl methyl ether	15.9	0.50	ug/l	15.0		106	80-115			
Benzene	5.20	0.50	**	5.16		101	65-115			
tert-Butyl alcohol	178	20		143		124	75-150			
Di-isopropyl ether	16.1	0.50	•	15.1		107	75-125			
1,2-Dibromoethane (EDB)	17.3	0.50	α	14.8		117	85-120			
1,2-Dichloroethane	17.3	0.50	U	14.7		118	85-130			
Ethanol	213	100	11	141		151	70-135			HL, I
Ethyl tert-butyl ether	15.7	0.50	n	15.0		105	75-130			
Ethylbenzene	7.09	0.50	IF	7.54		94	75-135			
Methyl tert-butyl other	7.03	0.50	11	7.02		100	65-125			
Toluene	37.4	0.50	**	37.2		101	85-120			
Xylenes (total)	41.5	0.50	n	41.4		100	85-125			
Gasoline Range Organics (C4-C12)	459	50	U	440		104	70-124			
Surrogate: 1,2-Dichloroethane-d4	2.72	,,	11	2.50		109	60-135			





Project:ARCO #0374, Oakland, CA
Project Number:G0C21-0004
Project Manager:Scott Robinson

MOH0683 Reported: 08/26/05 18:26

## 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 5H23034 - EPA 5030B Modifi	ed / EPA 826	0B								
Matrix Spike (5H23034-MS1)		ОН0683-01		Prepared:	08/23/05	Analyzed	1: 08/24/05			
tert-Amyl methyl ether	90.6	2.5	ug/l	75.2	2.6	117	80-115			LM
Benzene	27.0	2.5	IJ	25.8	ND	105	65-115			
tert-Butyl alcohol	1100	100	**	715	250	119	75-120			
Di-isopropyl ether	85.6	2.5		75.7	ND	113	75-125			
1,2-Dibromoethane (EDB)	92.8	2.5	**	74.2	ND	125	85-120			LM
1,2-Dichloroethane	92.1	2.5	U	73.6	ND	125	85-130			
Ethanol	1760	500	U	707	ND	249	70-135			HL, IC
Ethyl tert-butyl ether	86.0	2.5	U	75.1	ND	115	75-130			
Ethylbenzene	37.2	2,5	n	37.7	2.3	93	75-135			
Methyl tert-butyl ether	529	2.5	n	35.1	390	396	65-125			BB,LM
Toluene	194	2.5		186	ND	104	85-120			
Xylenes (total)	218	2.5	**	207	4.0	103	85-125			
Gasoline Range Organics (C4-C12)	2750	250	IF.	2200	540	100	70-124			
Surrogate: 1,2-Dichloroethane-d4	2.79		"	2.50		112	60-135	nierono.		
Matrix Spike Dup (5H23034-MSD1)	Source: M	ЮН0683-01		Prepared:	08/23/05	Analyzed	1: 08/24/05			
tert-Amyl methyl ether	87.3	2.5	ug/l	75.2	2.6	113	80-115	4	15	
Benzene	27.8	2.5	**	25.8	ND	108	65-115	3	20	
tert-Butyl alcohol	1230	100	н	715	250	137	75-120	11	25	LM
Di-isopropyl ether	86.0	2.5	n	75.7	ND	114	75-125	0.5	15	
1,2-Dibromoethane (EDB)	90.6	2.5	п	74.2	ND	122	85-120	2	15	LM
1,2-Dichloroethane	89.1	2.5	n	73.6	ND	121	85-130	3	20	
Ethanol	1880	500	11	707	ND	266	70-135	7	35	HL, IC
Ethyl tert-butyl ether	83.4	2.5	11	75.1	ND	111	75-130	3	25	
Ethylbenzene	37.8	2.5	u	37.7	2.3	94	75-135	2	15	
Methyl tert-butyl ether	503	2.5	п	35.1	390	322	65-125	5	20	BB,LM
Toluene	196	2.5	н	186	ND	105	85-120	1	20	
Xylenes (total)	220	2.5	•	207	4.0	104	85-125	09	20	
Gasoline Range Organics (C4-C12)	2750	250	ŧŧ	2200	540	100	70-124	0	20	
Surrogate: 1,2-Dichloroethane-d4	2,72		"	2.50		109	60-135			





Project:ARCO #0374, Oakland, CA
Project Number:G0C21-0004
Project Manager:Scott Robinson

MOH0683 Reported: 08/26/05 18:26

#### 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
-		Z-mmt		20701	-100011		Sinne		- Link	110003
Batch 5H25008 - EPA 5030B P/T /	EFA 8269B	<del></del>								
Blank (5H25008-BLK1)				Prepared a	& Analyze	:d: 08/25/0	05			
tert-Amyl methyl ether	ND	0.50	ug/l							
Benzene	ND	0.50	11							
tert-Butyl alcohol	ND	20	"							
Di-isopropyl ether	ND	0.50	II .							
1,2-Dibromoethane (EDB)	ND	0.50	n							
1,2-Dichlorocthane	ND	0.50	n							
Ethanol	ND	100	11							
Ethyl tert-butyl ether	ND	0.50	11							
Ethylbenzene	ND	0.50	**							
Methyl tert-butyl ether	ND	0.50	*							
Toluene	ND	0.50								
Xylenes (total)	ND	0.50	u							
Gasoline Range Organics (C4-C12)	ND	50	n							
Surrogate: 1,2-Dichloroethane-d4	2.04		"	2.50		82	60-135			
Blank (5H25008-BLK2)				Prepared &	& Analyze	: <u>d: 08</u> /25/0	05			
tert-Amyl methyl ether	ND	0.50	ug/l		-					
Benzene	ND	0.50	n							
tert-Butyl alcohol	ND	20	п							
Di-isopropyl ether	ND	0.50	II.							
1,2-Dibromoethane (EDB)	ND	0.50	n							
1,2-Dichloroethane	ИD	0.50	**							
Ethanol	ND	100	n							
Ethyl tert-butyl ether	ND	0.50	**							
Ethylbenzene	ND	0.50	II.							
Methyl tert-butyl ether	ND	0.50	n							
Toluene	ND	0.50	11							
Xylenes (total)	ND	0.50	11							
Gasoline Range Organics (C4-C12)	ND	50	n							
Surrogate: 1,2-Dichloroethane-d4	2.01		"	2.50		80	60-135	~~~~~~	<del></del>	·······





URS Corporation [Arco] 1333 Broadway, Suite 800 Oakland CA, 94612 Project: ARCO #0374, Oakland, CA Project Number: G0C21-0004 Project Manager: Scott Robinson MOH0683 Reported: 08/26/05 18:26

RPD

%REC

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

Spike

Source

Reporting

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 5H25008 - EPA 5030B P/T	/EPA 8260B	······································					<u>.</u>			
Laboratory Control Sample (5H25008				Prepared	& Analyz	ed: 08/25/	05			
tert-Amyl methyl other	8.20	0.50	ug/l	7,52		109	80-115			
Benzene	2.77	0.50	"	2.58		107	65-115			
tert-Butyl alcohol	70.1	20	Ħ	71.5		98	75-150			
Di-isopropyl ether	8.23	0.50		7.57		109	75-125			
1,2-Dibromoethane (EDB)	8.78	0.50	н	7.42		118	85-120			
1,2-Dichloroethane	8.26	0.50	#	7.36		112	85-130			
Ethanol	70.2	100	Ħ	70.7		99	70-135			
Ethyl tert-butyl ether	8.21	0.50	п	7.51		109	75-130			
Ethylbenzene	4.06	0.50	п	3.77		108	75-135			
Methyl tert-butyl ether	3.85	0.50		3.51		110	65-125			
Toluene	19.5	0.50		18.6		105	85-120			
Xylenes (total)	22.6	0.50	n	20.7		109	85-125			
Gasoline Range Organics (C4-C12)	261	50	#	220		119	70-124			
Surrogate: 1,2-Dichloroethane-d4	2.10		"	2.50		84	60-135			
Laboratory Control Sample (5H25008	8-BS2)			Prepared	& Analyz	ed: 08/25/	05			
tert-Amyl methyl ether	8.04	0.50	ug/l	7.52		107	80-115			
Benzene	2.68	0.50	Ш	2.58		104	65-115			
tert-Butyl alcohol	74.1	20	11	71.5		104	75-150			
Di-isopropyl ether	7.86	0.50	O	7.57		104	75-125			
1,2-Dibromoethane (EDB)	8.55	0.50	п	7.42		115	85-120			
1,2-Dichloroethane	7.84	0.50	17	7.36		107	85-130			
Ethanol	102	100	tt	70.7		144	70-135			I
Ethyl tert-butyl ether	8.02	0.50	u	7.51		107	75-130			
Ethylbenzene	3.83	0.50	19	3.77		102	75-135			
Methyl tert-butyl ether	3.76	0.50	п	3.51		107	65-125			
Toluene	19.0	0.50	n	18.6		102	85-120			
Xylenes (total)	22.6	0.50	•	20.7		109	85-125			
Gasoline Range Organics (C4-C12)	247	50	H	220		112	70-124			
Surrogate: 1,2-Dichloroethane-d4	2.06		#	2.50	-····	82	60-135			
-										



URS Corporation [Arco] 1333 Broadway, Suite 800 Oakland CA, 94612 Project:ARCO #0374, Oakland, CA
Project Number:G0C21-0004
Project Manager:Scott Robinson

MOH0683 Reported: 08/26/05 18:26

RPD

%REC

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

Reporting

Spike

Source

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 5H25008 - EPA 5030B P/T / E	PA 8260B					·	<del></del>	<del></del>		
Matrix Spike (5H25008-MS1)	Source: M	ОН0687-02		Prepared	& Analyz	ed: 08/25/	05			
tert-Amyl methyl ether	84.7	5.0	ug/l	75.2	ND	113	80-115			
Benzene	34.7	5.0	11	25.8	16	72	65-115			
tert-Butyl alcohol	761	200	п	715	ND	106	75-120			
Di-isopropyl ether	81.0	5.0	U	75.7	ND	107	75-125			
1,2-Dibromoethane (EDB)	90.1	5.0	п	74.2	ND	121	85-120			LN
1,2-Dichloroethanc	82.3	5.0	**	73.6	ND	112	85-130			
Ethanol	1280	1000	n	707	ND	181	70-135			H
Ethyl tert-butyl ether	84.7	5.0	0	75.1	ND	113	75-130			
Ethylbenzene	198	5.0	II .	37.7	170	74	75-135			Lì
Methyl tert-butyl ether	65.7	5.0	u u	35.1	27	110	65-125			
Toluene	201	5.0	55	186	7.9	104	85-120			
Xylenes (total)	234	5.0	17	207	14	106	85-125			
Gasoline Range Organics (C4-C12)	6380	500	**	2200	4100	104	70-124			
Surrogate: 1,2-Dichloroethane-d4	2.12		"	2.50		85	60-135			
Matrix Spike Dup (5H25008-MSD1)	Source: M	OH0687-02		Prepared	& Analyz	ed: 08/25/	05			
tert-Amyl methyl ether	85.3	5.0	ug/l	75.2	ND	113	80-115	0.7	15	
Benzene	34.7	5.0	10	25.8	16	72	65-115	0	20	
tert-Butyl alcohol	785	200	H	715	ND	110	75-120	3	25	
Di-isopropyl ether	82.6	5.0	11	75.7	ND	109	75-125	2	15	
1,2-Dibromoethane (EDB)	87.8	5.0	п	74.2	ND	118	85-120	3	15	
1,2-Dichloroethane	83.7	5.0	11	73.6	ND	114	85-130	2	20	
Ethanol	1250	1000	**	707	ND	177	70-135	2	35	H
Ethyl tert-butyl ether	84.4	5.0	11	75.1	ND	112	75-130	0.4	25	
Ethylbenzene	199	5.0	11	37.7	170	77	75-135	0.5	15	
Methyl tert-butyl ether	65,3	5.0	II	35.1	27	109	65-125	0.6	20	
Toluene	205	5.0	11	186	7.9	106	85-120	2	20	
Xylenes (total)	235	5.0	n	207	14	107	85-125	0.4	20	
Gasoline Range Organics (C4-C12)	6450	500	n	2200	4100	107	70-124	1	20	
Surrogate: 1,2-Dichloroethane-d4	2.14		"	2.50		86	60-135			





URS Corporation [Arco]	Project: ARCO #0374, Oakland, CA	MOH0683
1333 Broadway, Suite 800	Project Number:G0C21-0004	Reported:
Oakland CA, 94612	Project Manager: Scott Robinson	08/26/05 18:26

#### **Notes and Definitions**

LN	MS and/or MSD b	elow acceptance limits.	See Blank Spike(LCS).
----	-----------------	-------------------------	-----------------------

LM MS and/or MSD above acceptance limits. See Blank Spike(LCS).

IC Calib. verif. is within method limits but outside contract limits

HL Analyte recovery above established limit

BB,LM Sample > 4x spike concentration. MS and/or MSD above acceptance limits. See Blank Spike(LCS).

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 -374-050811-DW1

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 Fre

Requested Due Date (mm/dd/yy):

10 Day TAT

		Pageof
n-site Time:	1230	Temp: 780
ff-site Time:	1530	Temp: 520
ky Conditions:	Sunny	
leteorological E		
find Speed:		Directions

Lab Name: Sequoia					BP/	AR Facility No	<b>.:</b>	374									Cons	sultan	/Cont	ractor	:	URS					
Address: 885 Jarvis Drive					BP/	AR Facility Ad	dres	s: 640	7 Tel	egrap	ph A	re., O	aklan	d, CA	946	509	Add					way, S	Suite	800		-,	
Morgan Hill, CA 95037						Lat/Long:			50526													1.9461					
Lab PM: Lisa Race / Jamshid Kekobad					Cal	ifornia Global I	DИ	0': ,	T0600	0100	106						Cons	ultan				ect No.		38487	011		
Tele/Pax: 408.782.8156 / 408.782.6308					Enf	os Project No.:		G0C	21-00	04							Cons	ultan	/Cont	ractor	PM:	:			Robins	on	
BP/AR PM Contact: Paul Supple					Pro	vision or RCOF	1:	Prov	ision						_		Tele	Fax:	51	0.874	4.328	30/51					
Address: P.O. Box 6549			_		Pha	se/WBS:	04 -	Mon	/Reme	ed by	/ Nati	ıral A	ttenu	ation			Repo	ort Ty				Level					
Moraga, CA 94570					Sub	Phase/Task:	03 -	Anal	ytical													Cospen					<del></del> ,
Tele/Fax: 925.299.8891 / 925.299.8872					<u></u>	t Element:	05 -	Subc	ontra	cted (	Costs						Invo	ice to:	At	lantio	Ric	hfield	Con	pany			
Lab Bottle Order No: 374			M	atrix					Pre	serv	ativo				3			Ana						<u>*</u>	-		
Item No. Sample Description	Time	Date	Soil/Solid	Water/Liquid		aboratory No.	No. of Containers	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO,	HCI	Memanoi	3RO / BTEX (8260)	MTBB, TAME, ETBB DIPR, TBA (8260)	3DB, 1,2-DCA (8250)	sthanol (8260)							Samp		int Lat mmen		and
1 mw-1	1514	8-11		X	7	0	3				<del>П</del>		X		%	_			_	† <del>-</del>							
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Sampler's Name: Dave Walter Sampler's Company: Blaine Tec	/		<u> </u>			Relinqu	ishe	By/.	Affilia	tion			D	ate	Ti	me			Acce	nted :	<u>.                                    </u>	ffiliatjo	on			Date	Time
Sampler's Company: Blaine Tec	6				19	asid C	SI	ale	1;				8-11	٠,,ζ	17.		17			<u></u>			ليداد		8/		/ <b>5</b> (22)
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Shipment Method:					12	2000	Z			<u>ب</u>			8//	16	150	05	12		ù	72	11/	<u>_</u> `				7	BUZ
Shipment Tracking No:					Ľ								ت ا							<u>-</u>	<u> </u>		.,			77	ېخې
pecial Instructions:																											
dy Seals In Place Yes X No		· · · · · · · · · · · · · · · · · · ·	Теп	ıp Bla	ank Yo	es No_				C	oole	Ten	ıpera	ture o	on R	eceip	ot 6.	0 'G	16		Trip	Blank	· Yes	<u>ب</u>	No		

\$

## SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME:  REC. BY (PRINT)  WORKORDER:	E-Fallin MoHO683		•	DATE REC'D AT LAB: TIME REC'D AT LAB: DATE LOGGED IN:						WATER YES NO
CIRCLE THE APPROP	RIATE RESPONSE	LAB SAMPLE#	DÁSH #	CLIENT ID	CONTAINER- DESCRIPTION		pH	SAMPLE MATRIX	DATE SAMPLED	RÉMARKS: CONDITION (ETC.)
1. Custody Seal(s)	Present / Absent Intact / Broken*	6/ 02	A-C	. MW-1 MW-2	40m ( VOQ (3)	H=(			8/12/05	·
2. Chain-of-Custody	Present / Absent*	-03	5	. MW-3 						
Traffic Reports or Packing List:	Present / Aosent	. 07	Ì	MW-5						-
4, Airbill:	Airbill / Sticker Present / Absent	0 h	AlB	MW-G TB- 374-081105	'V04 (2)	1	V	<i>y</i>		
5. Airbill #: 6. Sample Labels:	Fresent / Absent					<u> </u>				
7. Sample IDs:	Listed / Not Listed on Chain-of-Custody					,				
8. Sample Condition:	Intact / Broken* / Leaking*			•						· · · · · · · · · · · · · · · · · · ·
Does information on c traffic reports and sar agree?					-	-/ -/	0/2			
10. Sample received within hold time?	Yes/ No*				- (	3/4			·	
11. Adequate sample volun received?	ne. Yeş / No*	,		· .	B				· -	
12. Proper preservatives us 13. Trip Blank / Temp Blan	sed? Kes/No*						,		·	EF X 67 X 67 X 67 X 67 X 67 X 67 X 67 X 6
(circle which, if yes) 14. Read Temp:	* Yes/No*								•	
Corrected.Temp:  Is corrected temp 4 +/-	6.0'		-		•	,				
(Acceptance range for samples re **Exception (if any): META	quiring thermal pres.)									
or Problem COC				CONTACT: DOC ISCT I		ATTACI	DEOC:	D OF BE	COLUTION	

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

Your EDF file has been successfully uploaded!

Confirmation Number: 9786045014

Date/Time of Submittal: 9/16/2005 8:43:48 AM

Facility Global ID: T0600100106 Facility Name: ARCO # 00374

Submittal Title: 3Q 2005 QMR EDF BP/ARCO 374

Submittal Type: GW Monitoring Report

### Click here to view the detections report for this upload.

ARCO # 00374 6407 TELEGRAPH OAKLAND, CA	HAVE SAN FRANC 94609 <u>Local Agenc</u>	urd - Case #: 01-0114 NSCO BAY RWQCB (REGIO) y (lead agency) - Case #: 3884 COUNTY LOP - (RWS)	
CONF#	TITLE		UARTER
9786045014	3Q 2005 QMR EDF B		3 2005
submitted by Srijesh Thapa	<u>SUBMIT DATE</u> 9/16/2005	STATUS PENDING REVIEW	
	CTIONS REPORT		
# FIELD POINTS SA	==		6
# FIELD POINTS W	• • • • • • • • • • • • • • • • • • • •		5
	ITH WATER SAMPLE DETE	CTIONS ABOVE MCL	2
SAMPLE MATRIX TY	PES		WATER
<b>METHOD QA/</b>	<u>QC REPORT</u>		
METHODS USED			8260FA
TESTED FOR REQUI			N
	ETERS NOT TESTED:		
	RES DBFM TO BE TESTED RES BR4FBZ TO BE TESTE	D.	
	RES BZMED8 TO BE TESTE		
LAB NOTE DATA QU			Υ
OA /OC FOR S		CAMDIEC	
	1021/8260 SERIES NG TIME VIOLATIONS	SAMPLES	0
METHOD HOLDING			0
LAB BLANK DETECT	TONS ABOVE REPORTING	DETECTION LIMIT	0
LAB BLANK DETECT	TIONS		0
DO ALL BATCHES V	VITH THE 8021/8260 SERI	ES INCLUDE THE FOLLOWING?	
- LAB METHOD BL	ANK		Y
- MATRIX SPIKE			Υ
- MATRIX SPIKE D	OUPLICATE		Y
- BLANK SPIKE			Y
- SURROGATE SPI	KE		Y
WATER SAMPL	ES FOR 8021/8260 SE	ERIES	
		) % RECOVERY BETWEEN 65-13.	5% N

MATRIX SPIKE / MATRIX S	SPIKE DUPLICATE(S) RPD LESS	ГНАN 30%	Υ
SURROGATE SPIKES % RI	ECOVERY BETWEEN 85-115%		Υ
BLANK SPIKE / BLANK SP	IKE DUPLICATES % RECOVERY E	BETWEEN 70-130%	N
SOIL SAMPLES FOR	8021/8260 SERIES		
MATRIX SPIKE / MATRIX S	SPIKE DUPLICATE(S) % RECOVE	RY BETWEEN 65-135%	n/a
MATRIX CRIVE / MATRIX	SPIKE DUPLICATE(S) RPD LESS	THAN 30%	n/a
MAIKIY OLIVE / MAIKIY :	of the boi electric(b) his elect	1111111 30 70	,
	ECOVERY BETWEEN 70-125%	77,111 30 70	n/a
SURROGATE SPIKES % RI	` '		
SURROGATE SPIKES % RI	ECOVERY BETWEEN 70-125%		n/a
SURROGATE SPIKES % RI BLANK SPIKE / BLANK SP	ECOVERY BETWEEN 70-125%		n/a n/a
SURROGATE SPIKES % RI BLANK SPIKE / BLANK SP FIELD QC SAMPLES	ECOVERY BETWEEN 70-125% IKE DUPLICATES % RECOVERY E	BETWEEN 70-130%	n/a n/a
SURROGATE SPIKES % RI BLANK SPIKE / BLANK SP FIELD QC SAMPLES SAMPLE	ECOVERY BETWEEN 70-125% IKE DUPLICATES % RECOVERY B  COLLECTED	BETWEEN 70-130%	n/a n/a

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FILE UPLOADED: MOH0683.zip

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

SAN FRANCISCO BAY RWQCB (REGION 2) -6407 TELEGRAPH

AVE (BG)

OAKLAND, CA 94609 Local Agency (lead agency) - Case #: 3884

ALAMEDA COUNTY LOP - (RWS)

#### SAMPLE DETECTIONS REPORT

- # FIELD POINTS SAMPLED 6 # FIELD POINTS WITH DETECTIONS 5
- # FIELD POINTS WITH WATER SAMPLE DETECTIONS ABOVE MCL 2 SAMPLE MATRIX TYPES WATER

#### METHOD QA/QC REPORT

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

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

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

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

- LAB METHOD BLANK

- MATRIX SPIKE - MATRIX SPIKE DUPLICATE

- BLANK SPIKE			Υ
- SURROGATE SPIKE			Υ
	OR 8021/8260 SERIES SPIKE DUPLICATE(S) % REC	COVERY RETWEEN 65-	
135%	SPIRE DUPLICATE(S) 70 KEY	POATUL DELMIELA 62	N
	SPIKE DUPLICATE(S) RPD L	ESS THAN 30%	Υ
	ECOVERY BETWEEN 85-115		Υ
BLANK SPIKE / BLANK SP	IKE DUPLICATES % RECOV	ERY BETWEEN 70-130%	N
135% MATRIX SPIKE / MATRIX SURROGATE SPIKES % R	SPIKE DUPLICATE(S) % REC SPIKE DUPLICATE(S) RPD L ECOVERY BETWEEN 70-125 PIKE DUPLICATES % RECOV	ESS THAN 30% %	n/a n/a n/a n/a
FIELD QC SAMPLES	į		
<u>SAMPLE</u>	COLLECTED	<u>DETECTIONS &gt; F</u>	REPDL
QCTB SAMPLES	N	0	
QCEB SAMPLES	N	0	

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