



Atlantic Richfield Company (a BP affiliated company)

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

December 8, 2004

Share Dec 15 200 Cany Fourth Quarter 2004 Groundwater Monitoring Report RE:

ARCO Service Station #374 6407 telegraph Avenue Oakland, California URS Project #38486703

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:

**Environmental Business Manager** 



December 8, 2004

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

Re: Fourth Quarter 2004 Groundwater Monitoring Report

ARCO Service Station #0374 6407 Telegraph Avenue Oakland, California URS Project #38486703

Dear Mr. Schultz:

On behalf of Atlantic Richfield Company, a BP affiliated company, URS Corporation (URS) is submitting the *Fourth Quarter 2004 Groundwater Monitoring Report* for ARCO Service Station #0374, located at 6407 Telegraph Avenue, Oakland, California.

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

Sincerely,

**URS CORPORATION** 

Scott Robinson Project Manager

cc:

Enclosure:

Fourth Quarter 2004 Groundwater Monitoring Report

Mr. Chuck Headlee, California Regional Water Quality Control Board 1515 Clay Street,

Robert Horwath, R.G.

Portfolio Manager

Suite 1400 Oakland, CA 94612

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

## FOURTH QUARTER 2004 GROUNDWATER MONITORING REPORT

ARCO SERVICE STATION #0374 6407 TELEGRAPH AVENUE OAKLAND, CALIFORNIA

Prepared for RM

December 8, 2004



URS Corporation 1333 Broadway, Suite 800 Oakland, California 94612

Date:	December 8, 2004
Quarter:	4Q 04

## RM QUARTERLY GROUNDWATER MONITORING REPORT

Facility No.:	0374	Address:	6407 Telegraph Avenue, Oakland, CA	
RM Environmen	RM Environmental Business Manager:		Paul Supple	
Consulting Co./Contact Person:			URS Corporation / Scott Robinson	
Consultant Project No.:			38486703	
Primary Agency	,		Alameda County Environmental Health (ACEH)	

#### WORK PERFORMED THIS QUARTER

#### (Fourth-2004):

- 1. Prepared and submitted the Third Quarter 2004 Groundwater Monitoring Report.
- 2. Performed fourth quarter groundwater monitoring event on November 4, 2004.
- 3. Prepared and submitted this Fourth Quarter 2004 Groundwater Monitoring Report.
- 4. Removed oxygen releasing compound (ORC) socks from MW-3 and MW-4.

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

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

#### SITE SUMMARY:

Current Phase of Project: GW monitoring/sa:	mpling
Frequency of Groundwater Sampling: Quarterly: MW-1 Semi-Annually (1 <sup>st</sup>	& 3 <sup>rd</sup> quarters): MW-2, MW-4
Annually (3 <sup>rd</sup> quart	er): MW-3, MW-5, MW-6
Frequency of Groundwater Monitoring: Quarterly	
Is Free Product (FP) Present On-Site: No	
Current Remediation Techniques: Natural Attenuation	
Approximate Depth to Groundwater: 6.40 (MW-3) to 8.	3 (MW-5) feet
Groundwater Gradient (direction): Southwest	
Groundwater Gradient (magnitude): 0.034 feet per foot	

#### DISCUSSION:

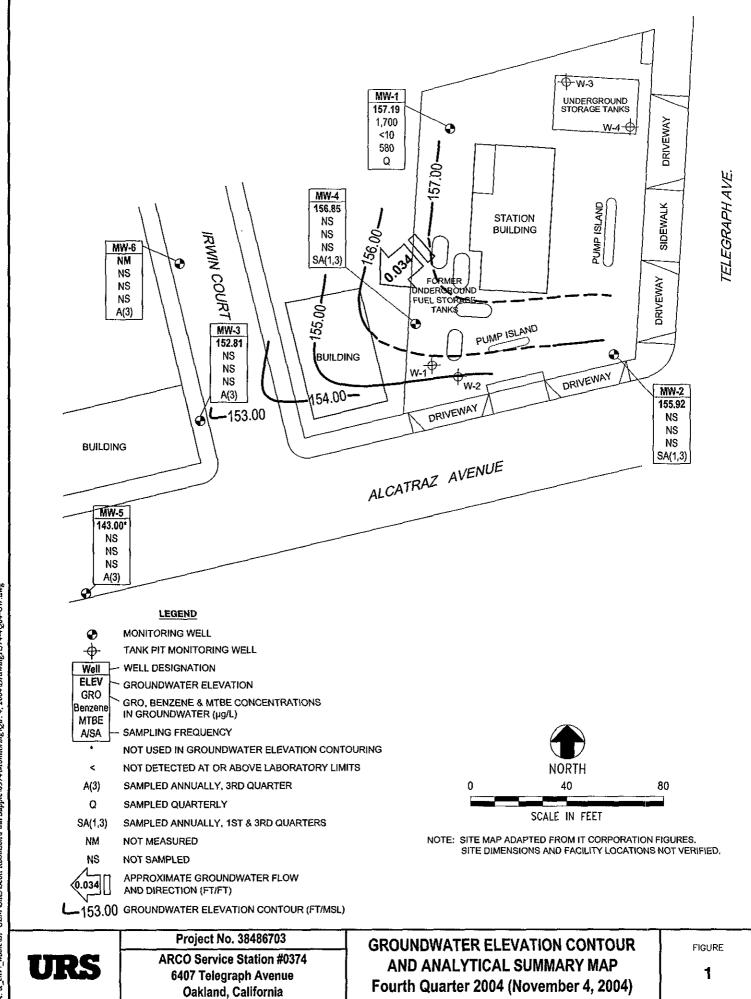
Only well MW-1 was sampled during the fourth quarter. Gasoline range organics (GRO) and methyl tert-butyl ether (MTBE) were detected at or above their laboratory reporting limits in well MW-1 at concentrations of 1,700 µg/L and 580 µg/L, respectively. No other constituents were detected at or above their laboratory reporting limits.

Due to the low concentrations of the constituents of concern, the ORC socks have been permanently removed from wells MW-3 and MW-4.

Due to an oversight, the groundwater gradient was mislabeled in the Third Quarter 2004 Groundwater Monitoring Report. Table 3 (Groundwater Flow Direction and Gradient) has been modified to contain the correct information.

#### **ATTACHMENTS:**

- Figure 1 Groundwater Elevation Contour and Analytical Summary Map November 4, 2004
- Table 1 Groundwater Elevation and Analytical Data
- Table 2 Fuel Additives Analytical Data
- Table 3 Groundwater Flow Direction and Gradient
- 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



Dec 02, 2004 - 10:29am X: vs\_env]\_wasielBP GEM \Sues\Scott Robinson\Paul Supple\0374\Montoring\Qr. 4, 2004\Drawings\374+4Q04-GW.dwg

Table 1
Groundwater Elevation and Analytical Data

		Γ	<del>-</del>	1 1	Top of	Bottom	Γ		GRO/	I -	1	Ethyl-	Total		1	Г
Weli No.	Date	P/ NP	Footnotes/ Comments	TOC (ft MSL)	Screen	of Screen	DTW (ft bas)	GWE (ft MSL)	TPH-g	Benzene	Toluene	benzene	Xylenes	MTBE	DO (ma/l )	20
		MF	Comments		(ft bgs)	(ft bgs)	(ft bgs)		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	рН
MW-1	6/20/2000	<u> </u>		158.91	7.00	27.00	6.86	152.05		<u> </u>	<u> </u>	<del>-</del>			<del>  -</del>	<del>-</del>
	9/28/2000			158.91	7.00	27.00	7.50	151.41								<del>-</del>
	12/17/2000	-		158.91	7.00	27.00	7.49	151.42	-	-					<u> </u>	-
	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				-	-			
	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	<del>-</del>							<u> </u>
	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					-			<u> </u>
	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	2,700	<25	<25	<25	<25	1,200	1.0	9.0
	05/14/2004	P	1	164.57	7.00	27.00	7.08	157.49	<2,500	<25	<25	<25	<25	1,200	1.4	6.6
	09/02/2004	Р		164.57	7.00	27.00	8.12	156.45	580	<5.0	<5.0	<5.0	<5.0	660	3.8	6.7
	11/04/2004	Р		164.57	7.00	27.00	7.38	157.19	1,700	<10	<10	<10	<10	580	6.0	6.5
MW-2	6/20/2000			157.92	7.00	27.00	7.67	150.25								<u> </u>
17117 2	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	<del> </del>		157.92	7.00	27.00	7.21	150.71	<50	<0.5	<0.5	<0.5	<0.5	<2,5	<del></del>	
	6/21/2001	<del></del>		157.92	7.00	27.00	7.99	149.93				-0.0	-			<del>-</del>
	9/23/2001			157.92	7.00	27.00	8.52	149.40								<del> </del>
	12/31/2001	<del> </del>		157.92	7.00	27.00	6.01	151.91							<del></del>	
	3/21/2002	<del> </del> _		157.92	7.00	27.00	5.95	151.97	<50	<0.5	<0.5	<0.5	<0.5	45		
<del></del>	4/17/2002			157.92	7.00	27.00	6.45	151.47					-0.0			
	8/12/2002			157.92	7.00	27.00	8.08	149.84					l			
	12/6/2002			157.92	7.00	27.00	8.29	149.63						<u></u>	<del>                                     </del>	-
**************************************	1/29/2002		b	157.92	7.00	27.00	7.22	150.70	<u> </u>		<del>                                     </del>				<del>                                     </del>	<del></del>
	5/23/2003	-	<b>V</b>	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	<del>  _</del>		157.92	7.00	27.00	7.94	149.98	-50	-0.00	-0.00	*0.50	10.50	- 55	1	1.4
	9/4/2003	<u> </u>	<u> </u>	107.92	7.00	27.00	1.94	149.90	<u></u>							

Table 1

## **Groundwater Elevation and Analytical Data**

Well No.	Date	P/ NP	Footnotes/ Comments	TOC (ft MSL)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (ft bgs)	GWE (ft MSL)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	рН
MW-2	11/20/2003	_		157.92	7.00	27.00	8.05	149.87	_			_			-	
<del>,-</del>	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	-	-	-		-			
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	<b>—</b>	<u> </u>
	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		_	_	-		_		
	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		Б	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						J-		
	02/02/2004			159.21	7.00	27.00	5.92	153.29		-				<b>-</b> -		
	05/14/2004	-		159.21	7.00	27.00	7.52	151.69		-				<b></b>		
	09/02/2004	P		159.21	7.00	27.00	7.19	152.02	<50	<0.50	<0.50	<0.50	<0.50	6.5	9.3	8.9
	11/04/2004			159.21	7.00	27.00	6.40	152.81				-		<b>-</b> -	-	
MW-4	6/20/2000	<b>—</b>	С	156.53	7.00	27.00	7.50	149.03	20,000	5,100	440	1,000	1,700	<250	T	Γ-
	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						<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		† <del></del>
	3/21/2002	-	<del></del>	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		

Table 1
Groundwater Elevation and Analytical Data

Well		PI	Footnotes/	тос	Top of Screen	Bottom of Screen	WTG	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)	рH
MW-4	8/12/2002	-		156.53	7.00	27.00	8.24	148.29	-	<del>-</del>		_	-	_	_	_
	12/6/2002	7	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		Ç	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	1.4	10.6
	05/14/2004			163.25	7.00	27.00	8.38	154.87	-							<b>-</b>
	09/02/2004	Р		163.25	7.00	27.00	8.36	154.89	260	11	<1.0	5.5	14	28	2.4	7.4
	11/04/2004		С	163.25	7.00	27.00	7.71	155.54			-					-
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		T
	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		<b></b>
<del></del>	9/23/2001	_	······································	151.33	10.00	23.00	8.68	142.65	<50	<0.5	< 0.5	< 0.5	< 0.5	<2.5		<b> </b>
	12/31/2001			151.33	10.00	23.00	7.57	143.76	<50	<0.5	< 0.5	< 0.5	< 0.5	<2.5		<u> </u>
	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	-	C	151.33	10.00	23.00	6.92	144,41					_		_	
	05/14/2004			151.33	10.00	23.00	8.56	142.77			-					
4	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			-					
MW-6	6/20/2000			153.84	5.00	15.00	4.79	149.05			_					T
	9/28/2000			153.84	5.00	15.00	5.39	148.45				-		_	1	T
	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	-	

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	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	T	-
	4/17/2002			153.84	5.00	15.00	5.11	148.73		_	_		_	-	-	T
	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	-	-				-	<b>—</b>	1-
	1/29/2003		b	153.84	5.00	15.00	4.79	149.05			-		-	-		-
	5/23/2003			153.84	5.00	15.00	4.31	149.53	<50	<0.50	<0.50	<0.50	<0.50	9.4	1	6.7
	09/04/03	_	d	153.84	5.00	15.00	-	-				_			-	<b></b>
	11/20/2003		100000000000000000000000000000000000000	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	-	-		-			<b>-</b>	
	11/04/2004		d	159.41	5.00	15.00	-		-	-						

#### Table 1

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

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

#### 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 = Not Purged

P = Purge

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

TPH-g = Total petroleum hydrocarbons as gasoline

ug/L = Micrograms per liter

#### FOOTNOTES:

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

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

c = Wells gauged with ORC sock in well.

d = Well inaccessible

#### NOTES:

Beginning in the fourth quarter 2003, the laboratory modified the reported analyte list. Total petroleum hydrocarbons as gasoline (TPHg) has been changed to gasoline range organics (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 dissolved oxygen (DO) and pH were obtained through field measurements.

Source: 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.

Table 2

## Fuel Additives Analytical Data

Well Number	Date Sampled	Ethanol (µg/L)	TBA (µg/L)	MTBE (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Footnotes/ Comments
MW-1	5/23/2003	<20,000	<4,000	1,600	<100	<100	<100			
	11/20/2003	<2,000	<400	1,500	<10	<10	<10	-	– a	
	02/02/2004	<5,000	<1,000	1,200	<25	<25	<25	<25	<25	
	05/14/2004	<5,000	<1,000	1,200	<25	<25	<25	<25	<25	
	09/02/2004	<1,000	<200	660	<5.0	<5.0	<5.0	<5.0	<5.0	
	11/04/2004	<2,000	<400	580	<10	<10	<10	<10	<10	
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	7.77
MW-3	5/23/2003	<100	<20	1.6	<0.50	<0.50	<0.50			
	09/02/2004	<100	<20	6.5	<0.50	<0.50	<0.50	<0.50	<0.50	
MW-4	5/23/2003	<10,000	<2,000	<50	<50	<50	<50		_	
	02/02/2004	<500	<100	29	<2.5	<2.5	2.6	<2.5	<2.5	
	09/02/2004	<200	<40	28	<1.0	<1.0	<1.0	<1.0	<1.0	
MW-5	1/29/2003	<40	<20	<0.50	<0.50	<0.50	<0.50			
· · · · · · · · · · · · · · · · · · ·	5/23/2003	<100	<20	<0.50	<0.50	<0.50	<0.50			
talid	9/4/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
	09/02/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
MW-6	5/23/2003	<100	<20	9.4	<0.50	<0.50	<0.50			

#### Table 2

## Fuel Additives Analytical Data

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

#### 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**

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

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

Note:

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.

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# ATTACHMENT A FIELD PROCEDURES AND FIELD DATA SHEETS

## FIELD PROCEDURES

## **Sampling Procedures**

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

## WELL GAUGING DATA

Project#_	OU 11 OUT -BA3 Date	11/4/04	Client Arce#374
Site	6407 Telegraph Ave	. Oakland	

Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)		Volume of Immiscibles Removed (ml)	Depth to water	Depth to well bottom (ft.)	Survey Point: TOB or TOC	
1-cu/1	4				,	7.38	26:72	Toc	
MW.Z	니					7.54	26.30	ĺ	
NW 3	4					6,40	26.77		
mw-ci	4					<b>フコン</b> *	26.95		
MW-5	4					8.33	23.04		
MW-6	4	زلر	مادلولم	Access -	Parkede	سمين ا		4,	
*.4	57 G	wayed.	JORCE	in well	priorto	removin	, w		

Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (408) 573-0555

## ARCO / BP WELL MONITORING DATA SHEET

BTS #:	64110	4-BA3		Station# 3	74(		<u> </u>						
Sampler:	Brian	Alcom		Date: 11 / 2	1/04		······································						
Well I.D.:	Mw-1			Well Diameter	: 2 3 (4	> 6	8	**					
Total Wel	l Depth:	26.72		Depth to Wate	r: 7.38								
Depth to I	Free Produ	ict:		Thickness of F	ree Product (fe	et):							
Reference	d to:	PVC	Grade	D.O. Meter (if	req'd):	YSI	HAC	1					
	Well Diamel	er (		<del></del>	Multiplier								
	2"		0.04 0.16		0.65 1.47								
	3"		0.37	Other radi	us <sup>2</sup> * 0.163	i							
Purge Metho	d:	Bailer		Sampling Method:	: Bailer								
		isposable Bail	er	Disposable Bailer									
	Positiv	e Air Displac	ement	Extraction Port									
		Ctric Submers		Other:	·	_							
		xtraction Pun	•										
	Other:												
Top of Scree	n:		If well is listed as a	no-purge, confirm	that water level is	below the	e top						
			of screen. Otherwi	se, the well must be	purged.								
	10	gram.	0	= 3	7	<del></del>							
	12.		x 3 Specified Vo		7.5 Gals. Culated Volume								
<u> </u>	Case von	ume (Gals.)		Annes Car	Chaled Volume								
			Conductivity										
Time	Temp (°F)	pН	(mS oi(µS)	Gals. Removed	Observations		<u></u> -						
1340	(04.2	6.5	§53.0	12.5	clear		·						
1343	64.2	6.5	897.0	25,0	۱,			.,					
1346	633	(,,5	388,9	37.5	``								
	Dewast	ined OL 3	٠ ٧										
Did well o	lewater? (	Ŷes (	N6)_	Gallons actual	ly evacuated:	37.5							
Sampling	Time:	1348		Sampling Date	:: 11/4/04								
Sample I.J	D.: MW	-(		Laboratory:	Pace Sequoia	Oth	er						
Analyzed	for: gr	o btex	MTBE DRO	Other:									
D.O. (if re	q'd):		Pre-purge:	<sup>mg</sup> / <sub>L</sub>	Post-purge:	6.0		mg/L					
O.R.P. (if	req'd):	······································	Pre-purge:	mV	Post-purge:			mV					

## BP GEM OIL COMPANY TYPE A BILL OF LADING

RECORD BILL OF LADING FOR NON-SOURCE **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 Teleg	raph, Cakland
Station Address	
Total Gallons Collected From G	Proundwater Monitoring Wells:
added equip.	any other
rinse water	adjustments
TOTAL GALS. RECOVERED 38	loaded onto BTS vehicle # 58
BTS event#	time date
041104-843	1415 11/4/04
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.



19 November, 2004

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

RE: ARCO #0374, Oakland, CA

Work Order: MNK0226

Enclosed are the results of analyses for samples received by the laboratory on 11/04/04 17:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Lisa Race

Senior Project Manager

CA ELAP Certificate #1210





Project.ARCO #0374, Oakland, CA
Project Number:INTRIM-50419
Project Manager:Scott Robinson

MNK0226 Reported: 11/19/04 19:28

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	MNK0226-01	Water	11/04/04 13:48	11/04/04 17:15
TB-374-11042004	MNK0226-02	Water	11/04/04 13:50	11/04/04 17:15

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.INTRIM-50419 Project Manager:Scott Robinson MNK0226 Reported: 11/19/04 19:28

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
	Sampled: 11/04/04 13:48	Received:	11/04/0	4 17:15	<del></del>	<u> </u>		<u></u>	<del></del>
tert-Amyl methyl ether	ND	10	ug/l	20	4K17004	11/17/04	11/18/04	EPA 8260B	
Benzene	ND	10	**	D	0	0	H	II .	
tert-Butyl alcohol	ND	400	U	If	R	lt.	**	II .	
Di-isopropyl ether	ND	10	19	ti ti	ţ1	tt	Ħ	ŧr	
1,2-Dibromoethane (EDB)	ND	10	*	IJ	U	U	U	n	
1,2-Dichloroethane	ND	10	n	II	II .	D	11	lt .	
Ethanol	ND	2000	н	**	n	н	tt	я	
Ethyl tert-butyl ether	ND	10	н	0	D	0	н	U	
Ethylbenzene	ND	10	*1	It	R	lt*	P	B	
Methyl tert-butyl ether	580	10	14	n	n	n	Ħ	**	
Toluene	ND	10	И	IJ	Ħ	U	19	n	
Xylenes (total)	ND	10	11	It	It	lt	P	II .	
Gasoline Range Organics (C4-0		1000	U	ŧI	и	u	**	11	
Surrogate: 1,2-Dichloroethane-a	14	108 %	78	-129	11	"	"	"	





Project ARCO #0374, Oakland, CA
Project Number.INTRIM-50419
Project Manager Scott Robinson

MNK0226 Reported: 11/19/04 19:28

## 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 4K17004 - EPA 5030B P/T / EPA				100,41	10000					7.000
	200D	····				1 11177				
Blank (4K17004-BLK1)			<del></del>	Prepared	& Analyze	d: 11/17/0	)4			
tert-Amyl methyl ether	ND	0.50	ug/l							
Benzene	ND	0.50	н							
tert-Butyl alcohol	ND	20	17							
Di-Isopropyl ether	ND	0.50	и							
1,2-Dibromoethane (EDB)	ND	0 50	0							
1,2-Dichloroethane	ND	0.50	I/							
Ethanol	ND	100	и							
Ethyl tert-butyl ether	ND	0.50	n							
Ethylbenzene	ND	0.50	lł .							
Methyl tert-butyl ether	ND	0 50	41							
Toluene	ND	0.50	Ħ							
Xylenes (total)	ND	0.50	17							
Gasoline Range Organics (C4-C12)	ND	50	#							
Surrogate: 1,2-Dichloroethane-d4	5.39		"	5.00		108	78-129			
Laboratory Control Sample (4K17004-BS1)				Prepared a	& Analyze	d: 11/17/0	)4			
tert-Amyl methyl ether	11.7	0 50	ug/l	10.0		117	82-140			•
Benzene	110	0.50	10	10.0		110	69-124			
tert-Butyl alcohol	49.7	20	11	50.0		99	56-131			
Di-isopropyl ether	11.2	0.50	n	10.0		112	76-130			
1,2-Dibromoethane (EDB)	11.6	0 50	IP.	10.0		116	77-132			
1,2-Dichloroethane	12.7	0.50	ti .	10.0		127	77-136			
Ethanol	186	100	11	200		93	31-143			
Ethyl tert-butyl ether	11.6	0.50	IP	10 0		116	81-121			
Ethylbenzene	10.1	0.50	Ħ	10.0		101	84-132			
Methyl tert-butyl ether	12.1	0.50	ıı.	10.0		121	63-137			
Toluene	10.5	0.50	11	10,0		105	78-129			
Xylenes (total)	30.0	0.50	U	30.0		100	83-137			
Surrogate: 1,2-Dichloroethane-d4	5.60	·	"	5.00	<del></del>	112	78-129			





Project:ARCO #0374, Oakland, CA Project Number:INTRIM-50419 Project Manager Scott Robinson MNK0226 Reported: 11/19/04 19:28

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

Batch 4K17004 - EPA 5030B P/T / EPA Laboratory Control Sample (4K17004-BS2 Benzene Ethylbenzene Methyl tert-butyl ether Toluene Xylenes (total) Gasoline Range Organics (C4-C12) Surrogate: 1,2-Dichloroethane-d4 Laboratory Control Sample Dup (4K17004 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 Xylenes (total)	6.18 8.03 10 6 35.8 38.5 444 5.72 1-BSD1) 9.24 9.78 50 7 9.01	0 50 0 50 0.50 0.50 0 50 50 0 50 0.50 20 0.50	ug/l	Prepared 6 40 7.52 9 92 31.9 36.6 440 5.00 Prepared 10.0 10 0 50 0		97 107 107 112 105 101	69-124 84-132 63-137 78-129 83-137 70-124 78-129	23 12 2	20 20 20	BA
Benzene Ethylbenzene Methyl tert-butyl ether Toluene Xylenes (total) Gasoline Range Organics (C4-C12) Surrogate: 1,2-Dichloroethane-d4 Laboratory Control Sample Dup (4K17004 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	6.18 8.03 10 6 35.8 38.5 444 5.72 I-BSD1) 9.24 9.78 50 7 9.01	0 50 0.50 0.50 0 50 50 0 50 0.50 20	ug/l	6 40 7.52 9 92 31.9 36.6 440 5.00 Prepared 10.0 10 0 50 0		97 107 107 112 105 101 114 ed: 11/17// 92 98	69-124 84-132 63-137 78-129 83-137 70-124 78-129 04 82-140 69-124	12	20	BA
Ethylbenzene Methyl tert-butyl ether Toluene Xylenes (total) Gasoline Range Organics (C4-C12) Surrogate: 1,2-Dichloroethane-d4 Laboratory Control Sample Dup (4K17004 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	8.03 10 6 35.8 38.5 444 5.72 I-BSD1) 9.24 9.78 50 7 9.01	0 50 0.50 0.50 0 50 50 0 50 0.50 20	ug/l	7.52 9 92 31.9 36.6 440 5.00 Prepared 10.0 10 0 50 0	& Analyze	107 107 112 105 101 114 ed: 11/17// 92 98	84-132 63-137 78-129 83-137 70-124 78-129 04 82-140 69-124	12	20	ВА
Methyl tert-butyl ether Toluene Xylenes (total) Gasoline Range Organics (C4-C12) Surrogate: 1,2-Dichloroethane-d4 Laboratory Control Sample Dup (4K17004 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	10 6 35.8 38.5 444 5.72 I-BSD1) 9.24 9.78 50 7 9.01	0.50 0.50 0.50 50 50	ug/l	9 92 31.9 36.6 440 5.00 Prepared 10.0 10 0 50 0	& Analyze	107 112 105 101 114 ed: 11/17// 92 98	63-137 78-129 83-137 70-124 78-129 04 82-140 69-124	12	20	ВА
Toluene Xylenes (total) Gasoline Range Organics (C4-C12) Surrogate: 1,2-Dichloroethane-d4 Laboratory Control Sample Dup (4K17004 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	35.8 38.5 444 5.72 I-BSD1) 9.24 9.78 50 7 9.01	0.50 0.50 50 0.50 0.50 20	ug/l	31.9 36.6 440 5.00 Prepared 10.0 10 0 50 0	& Analyze	112 105 101 114 ed: 11/17/ 92 98	78-129 83-137 70-124 78-129 04 82-140 69-124	12	20	ВА
Xylenes (total) Gasoline Range Organics (C4-C12) Surrogate: 1,2-Dichloroethane-d4 Laboratory Control Sample Dup (4K17004 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	38.5 444 5.72 I-BSD1) 9.24 9.78 50 7 9.01	0 50 50 0 50 0.50 20	ug/l	36.6 440 5.00 Prepared 10.0 10 0 50 0	& Analyze	105 101 114 ed: 11/17// 92 98	83-137 70-124 78-129 04 82-140 69-124	12	20	ВА
Gasoline Range Organics (C4-C12)  Surrogate: 1,2-Dichloroethane-d4  Laboratory Control Sample Dup (4K17004) 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	5.72 I-BSD1) 9.24 9.78 50 7 9.01	0 50 0 50 0 50 20	ug/I	5.00 Prepared 10.0 10 0 50 0	& Analyza	101 114 ed: 11/17/ 92 98	70-124 78-129 04 82-140 69-124	12	20	ВА
Surrogate: 1,2-Dichloroethane-d4  Laboratory Control Sample Dup (4K17004 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	5.72 9.24 9.78 50 7 9.01	0 50 0.50 20	ug/l	5.00 Prepared 10.0 10 0 50 0	& Analyze	114 ed: 11/17/ 92 98	78-129 04 82-140 69-124	12	20	ВА
Laboratory Control Sample Dup (4K17004 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	9.24 9.78 50 7 9.01	0.50 20	ug/l "	Prepared 10.0 10.0 50.0	& Analyze	92 98	82-140 69-124	12	20	ВА
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	9.24 9.78 50 7 9.01	0.50 20	H	10.0 10 0 50 0	& Analyza	92 98	82-140 69-124	12	20	ВА
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	9.78 50 7 9.01	0.50 20	H	10 0 50 0		98	69-124	12	20	ВА
tert-Butyl alcohol Di-isopropyl ether 1,2-Dibromoethane (EDB) 1,2-Dichloroethane Ethanol Ethyl tert-butyl ether Ethylbenzene Methyl tert-butyl ether Toluene	50 7 9.01	20	11	50 0		•				
Di-isopropyl ether 1,2-Dibromoethane (EDB) 1,2-Dichloroethane Ethanol Ethyl tert-butyl ether Ethylbenzene Methyl tert-butyl ether Toluene	9.01					101	56-131	2	20	
1,2-Dibromoethane (EDB) 1,2-Dichloroethane Ethanol Ethyl tert-butyl ether Ethylbenzene Methyl tert-butyl ether Toluene		0.50	I#			10.		~	20	
1,2-Dichloroethane Ethanol Ethyl tert-butyl ether Ethylbenzene Methyl tert-butyl ether Toluene	0.70			10.0		90	76-130	22	20	BA
Ethanol Ethyl tert-butyl ether Ethylbenzene Methyl tert-butyl ether Toluene	8.70	0.50	#I	10.0		87	77-132	29	20	BA
Ethyl tert-butyl ether Ethylbenzene Methyl tert-butyl ether Toluene	8.63	0.50	п	100		86	77-136	38	20	BA
Ethylbenzene Methyl tert-butyl ether Toluene	155	100	D	200		78	31-143	18	20	
Methyl tert-butyl ether Toluene	9.30	0.50	Jr.	10.0		93	81-121	22	20	BA
Toluenc	11.0	0.50	м	10.0		110	84-132	9	20	
	8.34	0.50	#1	10.0		83	63-137	37	20	BA
Xylenes (total)	9.88	0.50	н	10 0		99	78-129	6	20	
	33 0	0.50	11	30.0		110	83-137	10	20	
Surrogate: 1,2-Dichloroethane-d4	4 25		"	5.00		85	78-129			
Matrix Spike (4K17004-MS1)	Source: M	NK0449-03		Prepared	& Analyze	ed: 11/17/	04			
Benzene	27.2	2.5	ug/l	32.0	ND	85	69-124			
Ethylbenzene	42.9	2.5	II.	37.6	ND	114	84-132			
Methyl tert-butyl ether	123	2.5	n	49.6	130	NR	63-137			LN
Toluene	161	2.5	U	160	ND	101	78-129			
Xylenes (total)	209	2.5	10	183	ND	114	83-137			
Gasoline Range Organics (C4-C12)	1850	250	п	2200	150	77	70-124			
Surrogate: 1,2-Dichloroethane-d4	4,24		"	5.00		85	78-129		<u> </u>	





Project ARCO #0374, Oakland, CA Project Number:INTRIM-50419 Project Manager.Scott Robinson MNK0226 Reported: 11/19/04 19:28

## 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 4K17004 - EPA 5030B P/T / E	PA 8260B	·							·	
Matrix Spike Dup (4K17004-MSD1)	Source: M	NK0449-03		Prepared	& Analyze	ed: 11/17/	04			
Benzene	27 2	2 5	ug/l	32 0	ND	85	69-124	0	20	
Ethylbenzene	40.7	2 5	0	37 6	ND	108	84-132	5	20	
Methyl tert-butyl ether	141	2.5	12	49.6	130	22	63-137	14	20	LN
Toluene	150	2.5	**	160	ND	94	78-129	7	20	
Xylenes (total)	202	2.5	0	183	ND	110	83-137	3	20	
Gasoline Range Organics (C4-C12)	1830	250	U	2200	150	76	70-124	1	20	
Surrogate: 1,2-Dichloroethane-d4	4.84		"	5.00		97	78-129			





URS Corporation [Arco]	Project ARCO #0374, Oakland, CA	MNK0226
1333 Broadway, Suite 800	Project Number.INTRIM-50419	Reported:
Oakland CA, 94612	Project Manager.Scott Robinson	11/19/04 19:28

#### Notes and Definitions

LN	MS and/or MSD below acceptance limits. See Blank Spike(LCS).
BA	Relative percent difference out of control
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

	å.																					Page_ of
	** hn			1170	Chain of	Cus	stoc	ly !	Re	cor	ď	_				-	On si	ic T	iane:	[Z.J	<u>.</u>	Temp: 65
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Send To	<u> </u>				DP/GEM Facility N	o, <del>.</del>		ARI	CO 37	74							Consu	iltant/	Contrac	tor:	URS	
Lah Nam	e: SEQUOIA				BP/GEM Facility A	ddres.	s: 6	407 1	TELE	:GR/	PH A	WE,	OAK	ANI	D. Cr	·						Suite 800
1.00 Addr	ess: 885 Jarvis Dr.				Site JD No.				J 374						····Z ,				Qaklan			
<u> </u>	Morgan Hill, CA 95	037			Site Lavi_one:								••			-	c-mai		<b></b> - ·	•		@URSCorp.com
ļ				<u> </u>	California Global II	) #:	$\supset$	1060	00100	0106	;											No.: JS-00000374.01 00427
Lab PM	Lisa Race	_ · _			BP/GEM PM Conta	ct:	_	PAU	น ธนั	PPL	E						· · · · ·					93-3600/510-874-3268
l'ele/Fax:	408-776-9600 / 408-	782-630	3		Address:	P.O	. Вох	6549	9								Const	lant/	Contrac	tor P	M: S	Scott Rebigsen
Report 13	pe & QC Level: 1 Send E	DI Report	<u>s</u>			Mor	<u>a</u> ya,	CA 9	14570	}							invoic	e to:	Consul	tant/C	Contra	actor of BP/GEM Ainte one)
BP/GEM	Account No.:				Tele/Fax:	925	299-	8891	/925	299	- -8872	!					BIVG	3M W	ork Re	case	No: I	NTRIM-50419
Lab Bottle	e Order No:		Matr	ix				Pr	reserv	adiv	25					Reque	sted A	nalys	is		• -	
Hem No.	Sample Descrîption	Time	Solvsblic Water/Liquid	Sediments Air	Laboratory No.	No, of containers	Ungreserved	75°F.	ENO,	HCI			GRO / BT/2X B8015/8021748260	DRO WSCC(8015)	BE (8021)	TBA (3260)	ACA & ECS	Stranol (8260)				Sample Point Lat/Long and Comments
1	MW-1	1348	X		41	3				×		_[	X		1	×		X		<del>                                     </del>		·
2	18-374-11042004				bV	2				×		Î		1	十		<del></del>			<del> </del>		ONHOLD
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Sampler's Name: Being Alcon Relinguished By Amiliation Daty Frime Sampler's Company: Blaing Tech Services Shipment Date:

Shipment Method;

Shipment Tracking No:
Special Instructions: Address Invoice to IP/GEM but send to URS for approval

7 8 9

Custody Seals In Place Yes No Temperature Blank Yes No

Accepted By / Affiliation

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIÉNT NAME: ARO 370 REC. BY (PRINT) WORKORDER: MOK b.			DATE REC'U AT LAB: TIME REC'D AT LAB: DATE LOGGED IN:	174/04	- 04 clients requ	ព្រៃស្វេ bie	-	DRIŅKING ' WASTE WA	ory Purposes? WATER . YES / NO   TER YES / NO   eipt, document here   )
CIRCLE THE APPROPRIATE RESPONSE	SAMPLE#	ASH #	CLIENT ID	DESCRIPTION		píł	SAMPLE MATRIX		-REMARKS: COMDITION (ETC.)
1. Custody Seal(s) Resent / Absent Iniapt / Broken*		с 1В		. ↑ B) · No¥ (3)	4   Hc	<u>+</u>	12 L	1/4/04	
2. Chain-of-Custody Present / Absent*	<u> </u>								
3. Traffic Reports or Present / Assent						4		-~	
4. Airbill: Airbill / Sticker Present / Absolut					-				
5. Affaill #: 6. Sample Labels: Present / Absent -							<u>:</u>		:
7. Sample iDs: Listed / Not Listed on Chain-of-Custody				··		-			
8. Sample Condition: Intel / Broken* / Leaking*				- /./					
9. Does information on chain-of-custody,		-		工件					
traffic reports and sample labels agree? Yes / No*				*					
10. Sample received within hold time? Ses / No*									
11. Adequate sample volume received? Yes / No*		-						<u></u>	
12. Proper Preservatives used? Yes / No*			7						-
13. Top Blank / Temp Blank Received?		Z							-^-
ofcircle which, if yes) Yes / No*					~				
14. Temp Rec. at Lab: 5.2.  Is temp 4-4-2°C? Yes / No**					·				
(Acceptance range for samples requiring thermal pres.)				<del>`_`</del>				— <del></del> -[	<i>-</i>
"Exception (if any): METALS / OFF ON ICE or Problem COC	27019988787 X	(275)	ANTIAT DO FOTAL	THE STATE OF THE S	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	2010 210-1	No electrical man	- No. 12 - 12	NOW THE PARTY OF T

Site lievision 6
House on the framewall

## 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

**ORGANIZATION NAME:** 

**URS Corporation-Oakland Office** 

**USER NAME:** 

**URSCORP-OAKLAND** 

DATE CHECKED:

11/12/2004 11:38:23 AM

Processing is complete. No errors were found! You may now proceed to the <u>upload</u> page.

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## **UPLOADING A GEO WELL FILE**

Processing is complete. No errors were found! Your file has been successfully submitted!

Submittal Title:

**4Q04 GEOWELL SUBMITTAL SITE** 

374

Submittal Date/Time: 11/12/2004 11:39:34 AM

Confirmation

Number:

Back to Main Menu

1216358780

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Confirmation Number: 8042258322

Date/Time of Submittal: 11/24/2004 4:14:17 PM

Facility Global ID: T0600100106

Facility Name: ARCO # 00374

Submittal Title: 4Q04 GW Monitoring Report Site 0374

Submittal Type: GW Monitoring Report

Click here to view the detections report for this upload.

ARCO # 00374 6407 TELEGRAPH OAKLAND, CA		SAN FRAN Local Agen	ard - Case #: 01-0114 CISCO BAY RWQCB (RE cy (lead agency) - Case #: 3 COUNTY LOP - (RWS)	
	TITLE	d B d a said - aim as	Daniel City 0274	QUARTER
		_	Report Site 0374	Q4 2004
<u>submitted by</u> Srijesh Thapa	11	<u>IBMIT DATE</u> 1/24/2004	<u>status</u> PENDING REVIE\	V
SAMPLE DETEC	CTIONS F	REPORT	<u> </u>	
# FIELD POINTS SA				1
# FIELD POINTS WI	ITH DETEC	TIONS		1
# FIELD POINTS WI	TH WATER	SAMPLE DETE	CTIONS ABOVE MCL	1
SAMPLE MATRIX TY	PES			WATER
METHOD QA/	QC REP	ORT		
METHODS USED	-			8260FA
TESTED FOR REQUI				N
MISSING PARAM				
- 8260FA REQUIR				
- 8260FA REQUIF - 8260FA REQUIF				
LAB NOTE DATA QU		76 10 BE 1131		Υ
EAD NOTE DATA QU				•
QA/QC FOR 8	021/82	60 SERIE	S SAMPLES	
TECHNICAL HOLDIN	NG TIME VI	OLATIONS		0
METHOD HOLDING	TIME VIOL	ATIONS		0
LAB BLANK DETECT		VE REPORTING	DETECTION LIMIT	0
LAB BLANK DETECT				0
		021/8260 SER	IES INCLUDE THE FOLLOWIN	
- LAB METHOD BL	ANK			Y
- MATRIX SPIKE				Y
- MATRIX SPIKE D	UPLICATE			Y
- BLANK SPIKE	./-			Y
	KE			Y
- SURROGATE SPI				
- SURROGATE SPI		8021/8260 S	ERIES	

MATRIX SPIKE / MATRIX S	PIKE DUPLICATE(S) RPD LESS	THAN 30%	Υ
SURROGATE SPIKES % RE	COVERY BETWEEN 85-115%		Υ
BLANK SPIKE / BLANK SPI	KE DUPLICATES % RECOVERY	BETWEEN 70-130%	Υ
SOIL SAMPLES FOR	8021/8260 SERIES		
MATRIX SPIKE / MATRIX S	SPIKE DUPLICATE(S) % RECOVE	RY BETWEEN 65-135%	n/a
MATRIX SPIKE / MATRIX S	PIKE DUPLICATE(S) RPD LESS	THAN 30%	n/a
SURROGATE SPIKES % RE	COVERY BETWEEN 70-125%		n/a
	COVERY BETWEEN 70-125% KE DUPLICATES % RECOVERY	BETWEEN 70-130%	n/a n/a
BLANK SPIKE / BLANK SPI		BETWEEN 70-130%	•
BLANK SPIKE / BLANK SPI		BETWEEN 70-130%  DETECTIONS >	n/a
BLANK SPIKE / BLANK SPI FIELD QC SAMPLES	KE DUPLICATES % RECOVERY	and the second seco	n/a
BLANK SPIKE / BLANK SPI FIELD QC SAMPLES SAMPLE	KE DUPLICATES % RECOVERY  COLLECTED	and the second seco	n/a

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#### SUCCESSFUL EDF CHECK - NO ERRORS

ORGANIZATION NAME: URS Corporation-Oakland

Office

USER NAME: URSCORP-OAKLAND
DATE CHECKED: 11/24/2004 4:12:44 PM

GLOBAL ID: T0600100106

FILE UPLOADED: ARCO#0374-EDF-MNK0226.zip

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

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

Click here to view the detections report for this upload.

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

6407 TELEGRAPH SAN FRANCISCO BAY RWQCB (REGION 2) -

AVE (BG)

OAKLAND, CA 94609 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 1
- # FIELD FOINTS WITH WATER SAMPLE DETECTIONS ABOVE MCL 1
  SAMPLE MATRIX TYPES WATER

#### METHOD QA/QC REPORT

METHODS USED 8260FA
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

Υ

1

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

TECHNICAL HOLDING TIME VIOLATIONS

METHOD HOLDING TIME VIOLATIONS

LAB BLANK DETECTIONS ABOVE REPORTING DETECTION LIMIT

LAB BLANK DETECTIONS

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

DO ALL BATCHES WITH THE BUZI/8280 SERIES INCLUDE THE POLI

- LAB METHOD BLANK
- MATRIX SPIKE

- MATRIX SPIKE Y
- MATRIX SPIKE DUPLICATE Y

- BLANK SPIKE			Υ
- SURROGATE SPIKE			Υ
MATER CAMPIEC			
	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%			Υ
SURROGATE SPIKES % RECOVERY BETWEEN 85-115%			Υ
BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130%			Ý
•			
SOIL SAMPLES FOR	R 8021/8260 SERIES		
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-			n/a
135%			nya
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30%			n/a
SURROGATE SPIKES % RECOVERY BETWEEN 70-125%			n/a
BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-			n/a
130%			ıγa
FIELD QC SAMPLES	<u>8</u>		
SAMPLE	COLLECTED	<u>DETECTIONS &gt; F</u>	EPDL
QCTB SAMPLES	N	0	
QCEB SAMPLES	N	0	

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