

February 15, 2005

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

Alameda County  
MAR 14 2005  
Environmental Health

**RE: Electronic Report Submission**

Dear Mr. Schultz:

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

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

Sincerely,

**URS CORPORATION**



Rachel Lindvall  
QMR Coordinator

# Electronic Submittal Information

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<b>Facility Name:</b>	ARCO # 04931
<b>Global ID:</b>	T0600100110
<b>Title:</b>	1Q 2005 QMR Site 4931
<b>Document Type:</b>	Reports - Other
<b>Submittal Type:</b>	GEO_REPORT
<b>Submittal Date/Time:</b>	3/4/2005 8:50:10 AM
<b>Confirmation Number:</b>	4268262565

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Atlantic Richfield Company  
(a BP affiliated company)

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



February 25, 2005

**Re: First Quarter 2005 Groundwater Monitoring Report  
ARCO Service Station #4931  
731 West MacArthur Boulevard  
Oakland, California  
URS Project #38487182**

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

Submitted by:

Paul Supple  
Environmental Business Manager



February 25, 2005

Mr. Robert Schultz  
Alameda County Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577

**Re: First Quarter 2005 Groundwater Monitoring Report  
ARCO Service Station #4931  
731 West MacArthur Boulevard  
Oakland, California  
URS Project #38487182**

Dear Mr. Schultz:

On behalf of Atlantic Richfield Company, a BP affiliated company, URS Corporation (URS) is submitting the *First Quarter 2005 Groundwater Monitoring Report* for ARCO Service Station #4931, located at 731 West MacArthur Boulevard, Oakland, California.

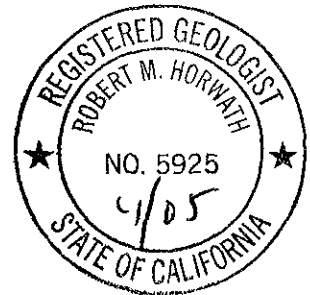
If you have any questions regarding this submission, please call (510) 874-3280.

Sincerely,

**URS CORPORATION**

Scott Robinson  
Project Manager

Robert Horwath, R.G.  
Portfolio Manager



Enclosure: First Quarter 2005 Groundwater Monitoring Report

cc: Mr. Paul Supple, Atlantic Richfield Company (RM), electronic copy uploaded to ENFOS  
Mr. Chuck Headlee, Regional Water Quality Control Board - San Francisco Bay Region, 1515  
Clay Street, Suite 1400, Oakland, CA 94612 and uploaded to RWQCB ftp site.  
Mr. Nick Goyal, Owner, electronic copy e-mailed (nick@vintersdist.com)

**REPORT**

Alameda County  
February 14, 2005  
Environmental Section

# FIRST QUARTER 2005 GROUNDWATER MONITORING REPORT

ARCO SERVICE STATION #4931  
731 WEST MACARTHUR BOULEVARD  
OAKLAND, CALIFORNIA

*Prepared for*  
RM

February 25, 2005

**URS**

URS Corporation  
1333 Broadway, Suite 800  
Oakland, California 94612

38487182

**BP GEM QA/QC Review Form**

Report Quarter  
**1Q 2005**

Site Number:  
**4931**

Site Address:  
**731 W. MacArthur Blvd. Oakland, CA**

Charge Number:  
**38487182.0A143**

Sample Date: 2/2/2005  
Due Date: 3/19/2005

Report Preparer: Rick Murray  
Date Prepared: 2/17/2005

Hours Charged for Processing:  
Hours Charged for Changes:

Report Reviewer:  
Date Reviewed:

Hours Budgeted: 2 hours  
Hours Charged:

PM Review: Scott  
Date Reviewed: 2/22

	Preparer Check	Reviewer Check	PM Check	General Comments
<b>Transmittal Letters</b>				
General Info (title, date, etc.)	X	✓ edbs	0	
URS Transmittal Letter	X	✓ edbs	0	
BP ARCO Cover Letter	X			
<b>Title Page</b>				
General Info (title, date, etc.)	X	✓ edbs	0	
<b>Summary Page</b>				
General Info (title, date, etc.)	X	✓ edbs	0	
Work Performed this QTR	X	✓	0	
Work Proposed next QTR	X	✓	0	
Discussion	X	✓ edbs	0	
Attachments	✓	✓	0	
<b>Tables</b>				
Table 1 - GW Elevation & Data	X	✓ edbs	0	
Table 2 - GW Direction & Gradient	X	✓ edbs	0	
Table 3 - Oxygenate Data	X	✓ edbs	0	
<b>Figure</b>				
Groundwater Contours & Gradient		✓ edbs	0	
Analytical & Field Data		✓	0	
North Arrow Orientation Verification		✓		
<b>Attachments</b>				
Field Procedures	X	✓		
Field Data Sheets	X	✓		
Laboratory Procedures	X	✓		
Laboratory Data	X	✓		
Chain of Custody Form(s)	X	✓		
Historical Groundwater Data		✓		
Co-op Data		✓		
EDCC Geotracker Report	X	✓		
EDF Confirmation Page	X	✓		
Geowell Confirmation Page	X	✓		
Ethanol Hit:		ND 5000		
PM Notified of Ethanol Hit:		N/A		
Overall Trend of Concentrations:				

Date Key Wells Uploaded to EMS \_\_\_\_\_, \_\_\_\_\_ initials

Date Report Sent \_\_\_\_\_, \_\_\_\_\_ initials

Date Report PDF'd 2.2.05, LM initials

Date Report PDF Saved to Electronic Folder 3.4.05, LM initials

Date Report Uploaded to Enfos 3.4.05, LM initials

Date "Sent Date" Uploaded to EMS \_\_\_\_\_, \_\_\_\_\_ initials

Date Copy placed in Project File \_\_\_\_\_, \_\_\_\_\_ initials

UPLOADED TO GEOTRACKER 3.4.05 LM

(ETP) BWD/CB 3.4.05 LM

ENR/COO 3.10.05 LM

X:\X\_ENVL\_WASTE\BP GEM\QMR QA/QC FORM TEMPLATE

Date: February 25, 2005  
Quarter: 1Q 05

**RM QUARTERLY GROUNDWATER MONITORING REPORT**

Facility No.: 4931 Address: 731 West MacArthur Boulevard, Oakland, California  
RM Environmental Business Manager: Paul Supple  
Consulting Co./Contact Person: URS Corporation / Scott Robinson  
Consultant Project No.: 38487182  
Primary Agency: Alameda County Environmental Health (ACEH)

**WORK PERFORMED THIS QUARTER (First – 2005):**

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

**WORK PROPOSED FOR NEXT QUARTER (Second – 2005):**

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

**SITE SUMMARY:**

Current Phase of Project: Remediation/Groundwater monitoring/sampling  
Frequency of Groundwater Sampling: Quarterly: A-4, A-6, A-8  
Semi-Annual (1<sup>st</sup>/3<sup>rd</sup> Quarter): A-3, A-5, A-12  
Annual (3<sup>rd</sup> Quarter): A-2, A-7, A-9, A-10, A-11, A-13  
Frequency of Groundwater Monitoring: Quarterly: All wells including AR-1, AR-2, AR-3  
Free Product (FP) Present On-Site: No  
Current Remediation Techniques: Natural Attenuation  
Approximate Depth to Groundwater: 2.62 (AR-2) to 7.95 (A-11) feet  
Groundwater Gradient (direction): West-Southwest  
Groundwater Gradient (magnitude): 0.04 feet per foot

**DISCUSSION:**

Gasoline range organics were detected at or above the laboratory reporting limit in three of the five wells sampled this quarter at concentrations ranging from 68 µg/L (A-5) to 5,000 µg/L (A-8). Benzene was detected at or above the laboratory reporting limit in two wells at concentrations of 120 µg/L (A-4) and 890 µg/L (A-8). Methyl tert-butyl ether (MTBE) was detected at or above the laboratory reporting limit in all five wells at concentrations ranging from 6.8 µg/L (A-8) to 1,900 µg/L (A-8). Tert-butyl alcohol was detected at or above laboratory reporting limits in two wells at concentrations of 840 µg/L (A-5) and 2,100 µg/L (A-4). Tert-amyl methyl ether was detected at or above the laboratory reporting limit in all five wells at concentrations ranging from 2.2 µg/L (A-12) to 510 µg/L (A-8). Xylenes were detected in one well at a total concentration of 11 µg/L (A-4). No other fuel components were detected at or above laboratory reporting limits. During sampling, well A-4 dewatered after purging 13 gallons and well A-3 dewatered after 7.5 gallons. Well A-6 was inaccessible for sampling as it appears to have been paved over.

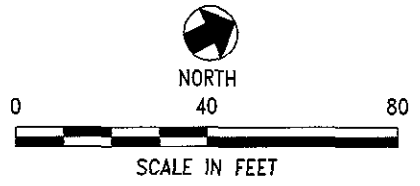
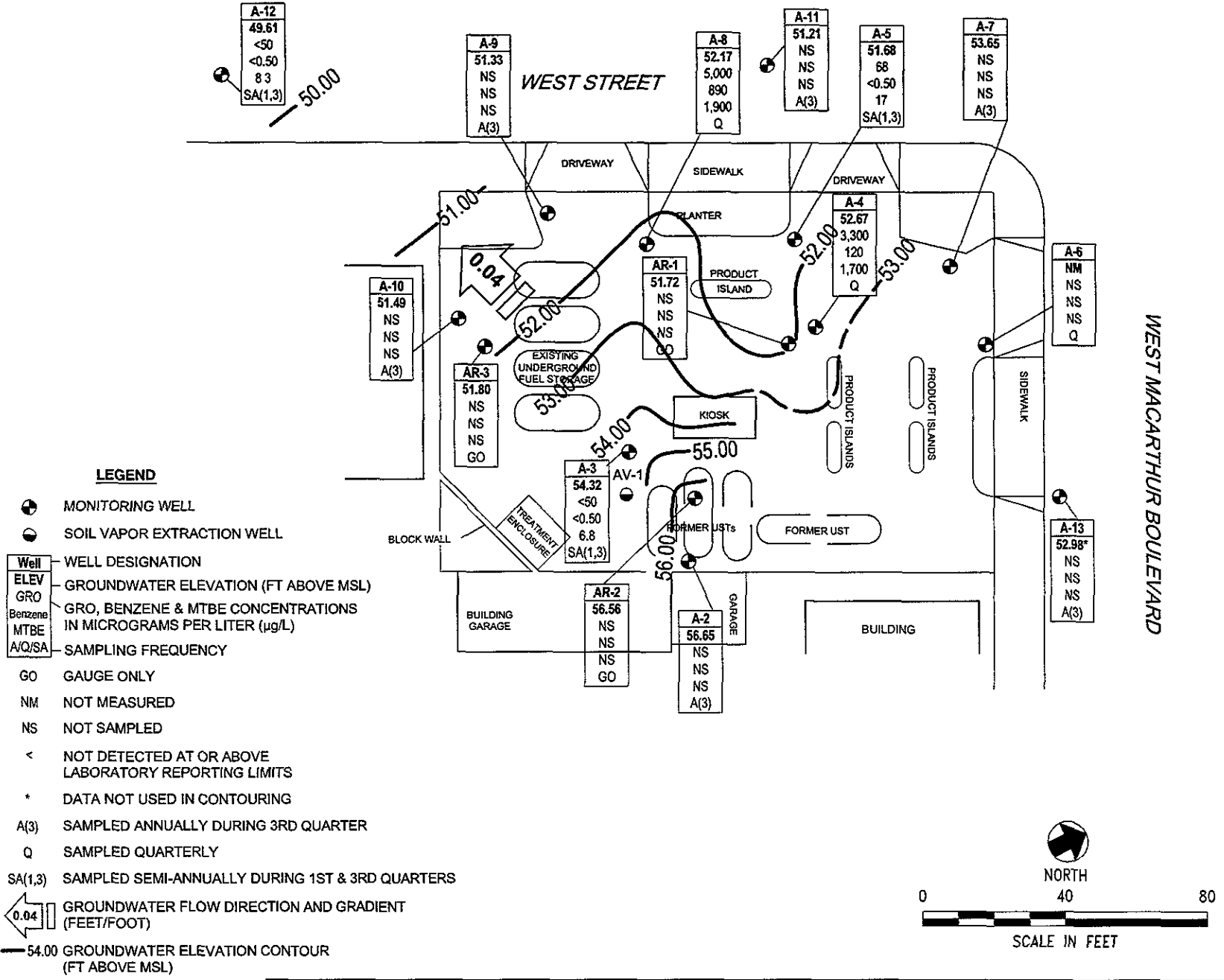
**RECOMMENDATIONS:**

URS recommends reducing the sampling frequency of well A-12 from semi-annual to annual and removing well A-13 from the sampling schedule. Well A-12 has continually shown low to non-detect readings for all analytes and is downgradient from wells A-9 and A-10 which have also shown low to non-detect readings for all analytes. Well A-13 has shown low to non-detect reading for all analytes tested and is upgradient from the source.

**ATTACHMENTS:**

- Figure 1 – Groundwater Elevation Contour and Analytical Summary Map – February 2, 2005
- 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 – Historical Groundwater Data
- Attachment D – Error Check Reports and EDF/Geowell Submittal Confirmations





<b>URS</b>	Project No. 38487182	<b>GROUNDWATER ELEVATION CONTOUR AND ANALYTICAL SUMMARY MAP</b>	FIGURE <b>1</b>
	ARCO Service Station #4931 731 West MacArthur Boulevard Oakland, California		

Table 1

## Groundwater Elevation and Analytical Data

ARCO Service Station #4931

731 West MacArthur Blvd., Oakland, CA

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)	pH
A-2	6/21/2000	--		55.48	5.00	20.00	6.85	48.63	<50	<0.5	<0.5	<0.5	<1.0	<3.0	--	--
	9/20/2000	--		55.48	5.00	20.00	10.45	45.03	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	12/26/2000	--		55.48	5.00	20.00	6.27	49.21	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	3/20/2001	--		55.48	5.00	20.00	4.57	50.91	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	6/12/2001	--		55.48	5.00	20.00	9.27	46.21	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	9/23/2001	--		55.48	5.00	20.00	10.75	44.73	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	12/31/2001	--		55.48	5.00	20.00	4.13	51.35	<50	<0.5	<0.5	1	3.2	<2.5	--	--
	3/21/2002	--		55.48	5.00	20.00	3.26	52.22	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	4/17/2002	--		55.48	5.00	20.00	3.72	51.76	<50	<0.5	<0.5	<0.5	<0.5	3.1	--	--
	8/12/2002	NP		55.48	5.00	20.00	9.95	45.53	<10	<0.10	<0.10	<0.10	<0.10	<0.50	3.1	7.7
	12/6/2002	NP		55.48	5.00	20.00	10.01	45.47	<50	<0.50	<0.50	<0.50	<0.50	6	3.1	6.1
	1/30/2003	NP		55.48	5.00	20.00	5.08	50.40	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.6	6.7
	5/28/2003	--		55.48	5.00	20.00	4.82	50.66	<50	<0.50	<0.50	<0.50	<0.50	1.1	5.7	6.8
	8/6/2003	--		55.48	5.00	20.00	9.73	45.75	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.3	7.7
	11/14/2003	--		55.48	5.00	20.00	9.36	46.12	--	--	--	--	--	--	--	--
	02/02/2004	--	g	60.65	5.00	20.00	4.45	56.20	--	--	--	--	--	--	--	--
05/04/2004	--		60.65	5.00	20.00	6.79	53.86	--	--	--	--	--	--	--	--	
09/02/2004	NP		60.65	5.00	20.00	10.51	50.14	<50	<0.50	<0.50	<0.50	<0.50	<0.50	3.1	--	
11/10/2004	--		60.65	5.00	20.00	6.10	54.55	--	--	--	--	--	--	--	--	
02/02/2005	--		60.65	5.00	20.00	4.00	56.65	--	--	--	--	--	--	--	--	
A-3	6/21/2000	--		54.66	5.00	20.00	9.48	45.18	<50	<0.5	<0.5	<0.5	<1.0	46	--	--
	9/20/2000	--		54.66	5.00	20.00	10.24	44.42	<50	<0.5	<0.5	<0.5	<0.5	89.6	--	--
	12/26/2000	--		54.66	5.00	20.00	9.58	45.08	<50	<0.5	<0.5	<0.5	<0.5	7.11	--	--
	3/20/2001	--		54.66	5.00	20.00	6.34	48.32	--	--	--	--	--	--	--	--
	6/12/2001	--		54.66	5.00	20.00	9.76	44.90	<50	<0.5	<0.5	<0.5	<0.5	86	--	--
	9/23/2001	--		54.66	5.00	20.00	10.55	44.11	--	--	--	--	--	--	--	--
	12/31/2001	--		54.66	5.00	20.00	3.70	50.96	<50	<0.5	<0.5	<0.5	1	60	--	--
	3/21/2002	--		54.66	5.00	20.00	5.75	48.91	--	--	--	--	--	--	--	--
	4/17/2002	--		54.66	5.00	20.00	7.27	47.39	<50	<0.5	<0.5	<0.5	<0.5	45	--	--
	8/12/2002	--		54.66	5.00	20.00	9.71	44.95	--	--	--	--	--	--	--	--
12/6/2002	P		54.66	5.00	20.00	9.55	45.11	<500	<5.0	<5.0	<5.0	<5.0	150	2.4	6.6	
1/30/2003	--		54.66	5.00	20.00	6.05	48.61	--	--	--	--	--	--	--	--	
5/28/2003	--		54.66	5.00	20.00	8.06	46.60	74	<0.50	<0.50	<0.50	<0.50	43	1.5	6.9	

**Table 1**  
**Groundwater Elevation and Analytical Data**  
 ARCO Service Station #4931  
 731 West MacArthur Blvd., Oakland, CA

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)	pH
A-3	8/6/2003	--		54.66	5.00	20.00	9.91	44.75	--	--	--	--	--	--	--	--
	11/14/2003	--		54.66	5.00	20.00	9.52	45.14	--	--	--	--	--	--	--	--
	02/02/2004	P	g	59.32	5.00	20.00	5.63	53.69	<50	<0.50	<0.50	<0.50	<0.50	13	1.2	7.1
	05/04/2004	--		59.32	5.00	20.00	8.14	51.18	--	--	--	--	--	--	--	--
	09/02/2004	P		59.32	5.00	20.00	10.10	49.22	<250	<2.5	<2.5	<2.5	<2.5	62	1.3	6.6
	11/10/2004	--		59.32	5.00	20.00	7.89	51.43	--	--	--	--	--	--	--	--
	02/02/2005	P		59.32	5.00	20.00	5.00	54.32	<50	<0.50	<0.50	<0.50	<0.50	6.8	1.9	6.9
A-4	6/21/2000	--		54.73	5.00	20.00	9.49	45.24	2,100	110	2.1	11	5.9	2,000	--	--
	9/20/2000	--		54.73	5.00	20.00	10.33	44.40	1,540	127	<5.0	9.07	7.42	1,940	--	--
	12/26/2000	--		54.73	5.00	20.00	9.34	45.39	1,550	42.7	<5.0	11	10.9	1,210	--	--
	3/20/2001	--		54.73	5.00	20.00	7.56	47.17	913	40.9	<5.0	15.5	14.6	<25	--	--
	6/12/2001	--		54.73	5.00	20.00	9.83	44.90	2,000	230	<20	21	<20	4,700	--	--
	9/23/2001	--		54.73	5.00	20.00	10.54	44.19	1,600	35	<10	<10	<10	3,000	--	--
	12/31/2001	--		54.73	5.00	20.00	5.42	49.31	<500	<5.0	<5.0	<5.0	<5.0	880	--	--
	3/21/2002	--		54.73	5.00	20.00	6.18	48.55	<5,000	<50	<50	<50	<50	1,400	--	--
	4/17/2002	--		54.73	5.00	20.00	7.34	47.39	1,300	79	31	17	55	2,200	--	--
	8/12/2002	P	a	54.73	5.00	20.00	9.56	45.17	2,400	120	<5.0	<5.0	<5.0	2,100	2	7.2
	12/6/2002	P		54.73	5.00	20.00	10.02	44.71	2,200	110	10	42	56	2,000	--	6.7
	1/30/2003	P		54.73	5.00	20.00	7.55	47.18	6,000	180	<50	85	<50	2,100	1.8	6.8
	5/28/2003	--		54.73	5.00	20.00	8.94	45.79	6,000	120	<50	<50	<50	2,500	1.5	6.7
	8/6/2003	--		54.73	5.00	20.00	10.03	44.70	5,800	100	<25	<25	33	2,500	1.5	6.7
	11/14/2003	P	d, f	54.73	5.00	20.00	10.37	44.36	1,000	17	<5.0	<5.0	<5.0	310	1.6	6.8
	02/02/2004	P	d, g	59.59	5.00	20.00	6.70	52.89	3,600	46	<25	<25	<25	1,500	1.0	7.1
	05/04/2004	P	d	59.59	5.00	20.00	9.12	50.47	<5,000	<50	<50	<50	<50	2,300	6.4	6.8
09/02/2004	P		59.59	5.00	20.00	9.95	49.64	3,000	<25	<25	<25	<25	1,200	9.1	6.8	
11/10/2004	P		59.59	5.00	20.00	8.68	50.91	1,800	16	<10	<10	<10	1,100	2.0	7.2	
02/02/2005	P		59.59	5.00	20.00	6.92	52.67	3,300	120	<10	66	11	1,700	1.5	6.5	
A-5	6/21/2000	--		54.17	3.00	24.00	9.29	44.88	980	<0.5	<0.5	<0.5	<1.0	2,000	--	--
	9/20/2000	--		54.17	3.00	24.00	10.23	43.94	--	--	--	--	--	--	--	--
	12/26/2000	--		54.17	3.00	24.00	9.65	44.52	525	<0.5	<0.5	<0.5	<0.5	1,200	--	--
	3/20/2001	--		54.17	3.00	24.00	8.05	46.12	--	--	--	--	--	--	--	--
	6/12/2001	--		54.17	3.00	24.00	9.81	44.36	830	<5.0	<5.0	<5.0	<5.0	3,200	--	--
	9/23/2001	--		54.17	3.00	24.00	10.42	43.75	--	--	--	--	--	--	--	--

**Table 1**  
**Groundwater Elevation and Analytical Data**  
 ARCO Service Station #4931  
 731 West MacArthur Blvd., Oakland, CA

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)	pH
A-5	12/31/2001	--		54.17	3.00	24.00	6.03	48.14	320	<0.5	<0.5	<0.5	<0.5	60	--	--
	3/21/2002	--		54.17	3.00	24.00	6.71	47.46	--	--	--	--	--	--	--	--
	4/17/2002	--		54.17	3.00	24.00	8.01	46.16	1,600	<10	<10	<10	<10	3,200	--	--
	8/12/2002	--		54.17	3.00	24.00	9.87	44.30	--	--	--	--	--	--	--	--
	12/6/2002	P		54.17	3.00	24.00	9.66	44.51	310	<0.50	<0.50	<0.50	<0.50	330	1.9	6.6
	1/30/2003	--		54.17	3.00	24.00	7.67	46.50	--	--	--	--	--	--	--	--
	5/28/2003	--		54.17	3.00	24.00	8.56	45.61	<5,000	<50	<50	<50	<50	1,500	1.6	6.6
	8/6/2003	--		54.17	3.00	24.00	9.58	44.59	--	--	--	--	--	--	--	--
	11/14/2003	--		54.17	3.00	24.00	9.81	44.36	--	--	--	--	--	--	--	--
	02/02/2004	P	g	58.78	3.00	24.00	7.43	51.35	390	<2.5	9.2	<2.5	2.6	140	1.0	6.8
	05/04/2004	--		58.78	3.00	24.00	9.98	48.80	--	--	--	--	--	--	--	--
	09/02/2004	P		58.78	3.00	24.00	9.65	49.13	<250	<2.5	<2.5	<2.5	<2.5	66	1.1	6.4
	11/10/2004	--		58.78	3.00	24.00	8.48	50.30	--	--	--	--	--	--	--	--
	02/02/2005	P		58.78	3.00	24.00	7.10	51.68	68	<0.50	<0.50	<0.50	<0.50	17	1.0	7.2
A-6	6/21/2000	--		55.17	3.00	25.00	8.67	46.50	<50	<0.5	<0.5	<0.5	<1.0	<3.0	--	--
	9/20/2000	--		55.17	3.00	25.00	9.34	45.83	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	12/26/2000	--		55.17	3.00	25.00	8.65	46.52	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	3/20/2001	--		55.17	3.00	25.00	6.84	48.33	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	6/12/2001	--		55.17	3.00	25.00	8.93	46.24	<50	<0.5	<0.5	<0.5	<0.5	7	--	--
	9/23/2001	--		55.17	3.00	25.00	9.74	45.43	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	12/31/2001	--		55.17	3.00	25.00	4.81	50.36	<50	<0.5	<0.5	<0.5	<0.5	3.2	--	--
	3/21/2002	--		55.17	3.00	25.00	5.44	49.73	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	4/17/2002	--		55.17	3.00	25.00	6.95	48.22	<50	<0.5	<0.5	<0.5	<0.5	3.1	--	--
	8/12/2002	NP		55.17	3.00	25.00	8.90	46.27	<50	<0.5	<0.5	<0.5	<0.5	<2.5	4.3	7.9
	12/6/2002	--	e	55.17	3.00	25.00	--	--	--	--	--	--	--	--	--	--
	1/30/2003	--	e	55.17	3.00	25.00	--	--	--	--	--	--	--	--	--	--
	5/28/2003	--	e	55.17	3.00	25.00	--	--	--	--	--	--	--	--	--	--
	8/6/2003	--	e	55.17	3.00	25.00	--	--	--	--	--	--	--	--	--	--
	11/14/2003	--		55.17	3.00	25.00	--	--	--	--	--	--	--	--	--	--
	02/02/2004	--		55.17	3.00	25.00	--	--	--	--	--	--	--	--	--	--
	05/04/2004	--		55.17	3.00	25.00	--	--	--	--	--	--	--	--	--	--
	09/02/2004	--		55.17	3.00	25.00	--	--	--	--	--	--	--	--	--	--
	11/10/2004	--		55.17	3.00	25.00	--	--	--	--	--	--	--	--	--	--

**Table 1**  
**Groundwater Elevation and Analytical Data**  
 ARCO Service Station #4931  
 731 West MacArthur Blvd., Oakland, CA

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)	pH
A-6	02/02/2005	--	e	55.17	3.00	25.00	--	--	--	--	--	--	--	--	--	--
A-7	6/21/2000	--		54.71	3.00	22.00	8.58	46.13	<50	<0.5	<0.5	<0.5	<1.0	<3.0	--	--
	9/20/2000	--		54.71	3.00	22.00	9.19	45.52	--	--	--	--	--	--	--	--
	12/26/2000	--		54.71	3.00	22.00	8.50	46.21	--	--	--	--	--	--	--	--
	3/20/2001	--		54.71	3.00	22.00	6.75	47.96	--	--	--	--	--	--	--	--
	6/12/2001	--		54.71	3.00	22.00	8.80	45.91	< 50	< 0.5	< 0.5	< 0.5	<0.5	<2.5	--	--
	9/23/2001	--		54.71	3.00	22.00	9.59	45.12	--	--	--	--	--	--	--	--
	12/31/2001	--		54.71	3.00	22.00	4.78	49.93	--	--	--	--	--	--	--	--
	3/21/2002	--		54.71	3.00	22.00	5.35	49.36	--	--	--	--	--	--	--	--
	4/17/2002	--		54.71	3.00	22.00	6.88	47.83	<50	<0.5	<0.5	<0.5	<0.5	2.5	--	--
	8/12/2002	--		54.71	3.00	22.00	8.77	45.94	--	--	--	--	--	--	--	--
	12/6/2002	--		54.71	3.00	22.00	9.07	45.64	--	--	--	--	--	--	--	--
	1/30/2003	--		54.71	3.00	22.00	6.65	48.06	--	--	--	--	--	--	--	--
	5/28/2003	--		54.71	3.00	22.00	7.63	47.08	<50	<0.50	<0.50	<0.50	<0.50	3.8	2.3	6.7
	8/6/2003	--		54.71	3.00	22.00	8.90	45.81	--	--	--	--	--	--	--	--
	11/14/2003	--		54.71	3.00	22.00	9.08	45.63	--	--	--	--	--	--	--	--
	02/02/2004	--	g	59.75	3.00	22.00	5.96	53.79	--	--	--	--	--	--	--	--
	05/04/2004	--		59.75	3.00	22.00	8.21	51.54	--	--	--	--	--	--	--	--
	09/02/2004	P		59.75	3.00	22.00	9.02	50.73	<50	<0.50	<0.50	<0.50	<0.50	8.9	3.0	6.7
	11/10/2004	--		59.75	3.00	22.00	7.50	52.25	--	--	--	--	--	--	--	--
	02/02/2005	--		59.75	3.00	22.00	6.10	53.65	--	--	--	--	--	--	--	--
A-8	6/21/2000	--		53.77	3.00	25.00	9.07	44.70	810	<0.5	<0.5	<0.5	810	1,500	--	--
	9/20/2000	--		53.77	3.00	25.00	9.72	44.05	10,800	2,680	46	439	370	4,410	--	--
	12/26/2000	--		53.77	3.00	25.00	9.20	44.57	7,700	1,440	<50	202	106	2,230	--	--
	3/20/2001	--		53.77	3.00	25.00	7.51	46.26	<5,000	1,280	<50	53.9	<50	2,880	--	--
	6/12/2001	--		53.77	3.00	25.00	9.53	44.24	5,600	1,700	<50	61	54	2,900	--	--
	9/23/2001	--		53.77	3.00	25.00	10.08	43.69	10,000	3,500	<50	110	64	6,500	--	--
	12/31/2001	--		53.77	3.00	25.00	4.34	49.43	4,300	610	<10	60	24	520	--	--
	3/21/2002	--		53.77	3.00	25.00	6.67	47.10	6,600	1,400	<50	130	<50	2,700	--	--
	4/17/2002	--		53.77	3.00	25.00	7.72	46.05	3,800	540	<10	<10	12	3,100	--	--
	8/12/2002	NP		53.77	3.00	25.00	9.64	44.13	9,400	1,800	<20	35	28	4,200	1	6.7
	12/6/2002	NP	b	53.77	3.00	25.00	9.62	44.15	5,300	1,100	11	11	<10	2,200	1.4	6.7
	1/30/2003	NP		53.77	3.00	25.00	7.49	46.28	<10,000	1,100	<100	<100	<100	2,200	1.5	6.9

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**ARCO Service Station #4931**  
**731 West MacArthur Blvd., Oakland, CA**

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)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	pH
A-8	5/28/2003	--		53.77	3.00	25.00	9.17	44.60	7,700	1,700	<50	<50	<50	2,100	1	6.8
	8/6/2003	--		53.77	3.00	25.00	9.67	44.10	13,000	2,400	<50	<50	<50	3,000	0.9	6.5
	11/14/2003	NP	d	53.77	3.00	25.00	9.80	43.97	3,100	570	<5.0	<5.0	<5.0	850	2.3	6.2
	02/02/2004	NP	d, g	58.70	3.00	25.00	7.10	51.60	3,900	300	<25	<25	<25	1,100	1.1	6.8
	05/04/2004	NP		58.70	3.00	25.00	9.44	49.26	<5,000	490	<50	<50	<50	1,600	1.0	6.9
	09/02/2004	NP		58.70	3.00	25.00	9.67	49.03	<2,500	30	<25	<25	<25	680	1.0	6.2
	11/10/2004	NP		58.70	3.00	25.00	8.15	50.55	580	61	<2.5	<2.5	<2.5	290	1.5	6.4
	02/02/2005	NP		58.70	3.00	25.00	6.53	52.17	5,000	890	<25	<25	<25	1,900	1.0	7.4
	A-9	6/21/2000	--		53.04	5.00	40.00	8.56	44.48	<50	<0.5	<0.5	<0.5	<1.0	5	--
9/20/2000		--		53.04	5.00	40.00	9.05	43.99	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
12/26/2000		--		53.04	5.00	40.00	8.49	44.55	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
3/20/2001		--		53.04	5.00	40.00	6.95	46.09	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
6/12/2001		--		53.04	5.00	40.00	8.67	44.37	<50	<0.5	<0.5	<0.5	<0.5	4.8	--	--
9/23/2001		--		53.04	5.00	40.00	9.21	43.83	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
12/31/2001		--		53.04	5.00	40.00	4.57	48.47	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
3/21/2002		--		53.04	5.00	40.00	5.60	47.44	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
4/17/2002		--		53.04	5.00	40.00	6.89	46.15	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
8/12/2002		P		53.04	5.00	40.00	8.71	44.33	<50	<0.50	<0.50	<0.50	<0.50	<2.5	4	7.6
12/6/2002		P		53.04	5.00	40.00	8.77	44.27	<50	<0.50	<0.50	<0.50	<0.50	<2.0	1.1	6.7
1/30/2003		P		53.04	5.00	40.00	6.88	46.16	<50	<0.50	<0.50	<0.50	<0.50	1.1	0.9	6.8
5/28/2003		--		53.04	5.00	40.00	9.75	43.29	<50	<0.50	<0.50	<0.50	<0.50	0.74	1.9	6.8
8/6/2003		--		53.04	5.00	40.00	9.00	44.04	<50	<0.50	<0.50	<0.50	<0.50	1.8	2.2	6.7
11/14/2003		--	d	53.04	5.00	40.00	8.82	44.22	--	--	--	--	--	--	--	--
02/02/2004		--	d, g	57.73	5.00	40.00	7.10	50.63	--	--	--	--	--	--	--	--
05/04/2004		--		57.73	5.00	40.00	8.12	49.61	--	--	--	--	--	--	--	--
09/02/2004	P		57.73	5.00	40.00	8.78	48.95	<50	<0.50	<0.50	<0.50	<0.50	<0.50	6.6	6.5	
11/10/2004	--		57.73	5.00	40.00	7.88	49.85	--	--	--	--	--	--	--	--	
02/02/2005	--		57.73	5.00	40.00	6.40	51.33	--	--	--	--	--	--	--	--	
A-10	6/21/2000	--		54.26	5.00	30.00	10.47	43.79	--	--	--	--	--	--	--	--
	9/20/2000	--		54.26	5.00	30.00	10.76	43.50	--	--	--	--	--	--	--	--
	12/26/2000	--		54.26	5.00	30.00	--	--	--	--	--	--	--	--	--	--
	3/20/2001	--		54.26	5.00	30.00	--	--	--	--	--	--	--	--	--	--
	9/23/2001	--		54.26	5.00	30.00	--	--	--	--	--	--	--	--	--	--

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**Groundwater Elevation and Analytical Data**  
 ARCO Service Station #4931  
 731 West MacArthur Blvd., Oakland, CA

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)	pH
A-10	12/31/2001	--		54.26	5.00	30.00	--	--	--	--	--	--	--	--	--	--
	3/21/2002	--		54.26	5.00	30.00	--	--	--	--	--	--	--	--	--	--
	4/17/2002	--		54.26	5.00	30.00	--	--	--	--	--	--	--	--	--	--
	8/12/2002	--		54.26	5.00	30.00	--	--	--	--	--	--	--	--	--	--
	12/6/2002	--		54.26	5.00	30.00	--	--	--	--	--	--	--	--	--	--
	1/30/2003	--		54.26	5.00	30.00	--	--	--	--	--	--	--	--	--	--
	5/28/2003	--		54.26	5.00	30.00	--	--	--	--	--	--	--	--	--	--
	8/6/2003	--		54.26	5.00	30.00	--	--	--	--	--	--	--	--	--	--
	11/14/2003	--		54.26	5.00	30.00	10.37	43.89	--	--	--	--	--	--	--	--
	02/02/2004	--	g	59.39	5.00	30.00	7.97	51.42	--	--	--	--	--	--	--	--
	05/04/2004	--		59.39	5.00	30.00	8.69	50.70	--	--	--	--	--	--	--	--
	09/02/2004	P		59.39	5.00	30.00	10.55	48.84	<500	<5.0	<5.0	<5.0	<5.0	270	0.8	6.6
	11/10/2004	--		59.39	5.00	30.00	9.16	50.23	--	--	--	--	--	--	--	--
	02/02/2005	--		59.39	5.00	30.00	7.90	51.49	--	--	--	--	--	--	--	--
A-11	6/21/2000	--		53.74	5.00	30.00	9.54	44.20	<50	<0.5	<0.5	<0.5	<1.0	4	--	--
	9/20/2000	--		53.74	5.00	30.00	10.62	43.12	--	--	--	--	--	--	--	--
	12/26/2000	--		53.74	5.00	30.00	10.03	43.71	< 50	< 0.5	< 0.5	< 0.5	<0.5	<2.5	--	--
	3/20/2001	--		53.74	5.00	30.00	8.49	45.25	--	--	--	--	--	--	--	--
	6/12/2001	--		53.74	5.00	30.00	10.21	43.53	< 50	< 0.5	< 0.5	< 0.5	<0.5	<2.5	--	--
	9/23/2001	--		53.74	5.00	30.00	10.77	42.97	--	--	--	--	--	--	--	--
	12/31/2001	--		53.74	5.00	30.00	6.06	47.68	< 50	< 0.5	< 0.5	< 0.5	<0.5	<2.5	--	--
	3/21/2002	--		53.74	5.00	30.00	7.14	46.60	--	--	--	--	--	--	--	--
	4/17/2002	--		53.74	5.00	30.00	8.41	45.33	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	8/12/2002	--		53.74	5.00	30.00	10.25	43.49	--	--	--	--	--	--	--	--
	12/6/2002	P		53.74	5.00	30.00	10.43	43.31	<50	<0.50	<0.50	<0.50	<0.50	<2.0	2.4	6.7
	1/30/2003	--		53.74	5.00	30.00	8.42	45.32	--	--	--	--	--	--	--	--
	5/28/2003	--		53.74	5.00	30.00	9.30	44.44	<50	<0.50	<0.50	<0.50	<0.50	0.53	1.8	7
	8/6/2003	--		53.74	5.00	30.00	10.28	43.46	--	--	--	--	--	--	--	--
	11/14/2003	--		53.74	5.00	30.00	10.40	43.34	--	--	--	--	--	--	--	--
	02/02/2004	--	g	59.16	5.00	30.00	7.95	51.21	--	--	--	--	--	--	--	--
	05/04/2004	--		59.16	5.00	30.00	8.72	50.44	--	--	--	--	--	--	--	--
	09/02/2004	P		59.16	5.00	30.00	10.44	48.72	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.6	6.6
	11/10/2004	--		59.16	5.00	30.00	9.20	49.96	--	--	--	--	--	--	--	--

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 731 West MacArthur Blvd., Oakland, CA

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)	pH
A-11	02/02/2005	--		59.16	5.00	30.00	7.95	51.21	--	--	--	--	--	--	--	--
A-12	6/21/2000	--		52.05	5.00	30.00	9.28	42.77	<50	<0.5	<0.5	<0.5	<1.0	18	--	--
	9/20/2000	--		52.05	5.00	30.00	9.55	42.50	--	--	--	--	--	--	--	--
	12/26/2000	--		52.05	5.00	30.00	9.05	43.00	< 50	< 0.5	< 0.5	< 0.5	<0.5	17.3	--	--
	3/20/2001	--		52.05	5.00	30.00	7.92	44.13	--	--	--	--	--	--	--	--
	6/12/2001	--		52.05	5.00	30.00	9.26	42.79	< 50	< 0.5	< 0.5	< 0.5	<0.5	25	--	--
	9/23/2001	--		52.05	5.00	30.00	9.68	42.37	--	--	--	--	--	--	--	--
	12/31/2001	--		52.05	5.00	30.00	5.74	46.31	< 50	< 0.5	< 0.5	< 0.5	<0.5	9.5	--	--
	3/21/2002	--		52.05	5.00	30.00	6.64	45.41	--	--	--	--	--	--	--	--
	4/17/2002	--		52.05	5.00	30.00	7.68	44.37	<50	<0.5	<0.5	<0.5	<0.5	29	--	--
	8/12/2002	--		52.05	5.00	30.00	9.30	42.75	--	--	--	--	--	--	--	--
	12/06/02	P	c	52.05	5.00	30.00	9.38	42.67	<50	<0.50	<0.50	<0.50	<0.50	13	2.3	6.5
	1/30/2003	--		52.05	5.00	30.00	7.87	44.18	--	--	--	--	--	--	--	--
	5/28/2003	--		52.05	5.00	30.00	8.51	43.54	50	<0.50	<0.50	<0.50	<0.50	10	1.4	7
	8/6/2003	--		52.05	5.00	30.00	9.28	42.77	--	--	--	--	--	--	--	--
	11/14/2003	--		52.05	5.00	30.00	9.37	42.68	--	--	--	--	--	--	--	--
	02/02/2004	P	g	57.06	5.00	30.00	7.90	49.16	<50	<0.50	<0.50	<0.50	<0.50	0.91	1.0	6.9
	05/04/2004	--		57.06	5.00	30.00	8.74	48.32	--	--	--	--	--	--	--	--
	09/02/2004	P		57.06	5.00	30.00	9.41	47.65	<50	<0.50	<0.50	<0.50	<0.50	6.2	1.1	6.5
	11/10/2004	--		57.06	5.00	30.00	8.32	48.74	--	--	--	--	--	--	--	--
	02/02/2005	P		57.06	5.00	30.00	7.45	49.61	<50	<0.50	<0.50	<0.50	<0.50	8.3	1.4	7.1
A-13	6/21/2000	--		55.11	10.00	10.00	--	--	--	--	--	--	--	--	--	--
	9/20/2000	--		55.11	10.00	10.00	--	--	--	--	--	--	--	--	--	--
	12/26/2000	--		55.11	10.00	10.00	--	--	--	--	--	--	--	--	--	--
	3/20/2001	--		55.11	10.00	10.00	--	--	--	--	--	--	--	--	--	--
	6/12/2001	--		55.11	10.00	10.00	--	--	--	--	--	--	--	--	--	--
	9/23/2001	--		55.11	10.00	10.00	--	--	--	--	--	--	--	--	--	--
	12/31/2001	--		55.11	10.00	10.00	--	--	--	--	--	--	--	--	--	--
	3/21/2002	--		55.11	10.00	10.00	6.70	48.41	--	--	--	--	--	--	--	--
	4/17/2002	--		55.11	10.00	10.00	7.95	47.16	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	8/12/2002	--		55.11	10.00	10.00	10.11	45.00	--	--	--	--	--	--	--	--
	12/6/2002	--		55.11	10.00	10.00	10.26	44.85	--	--	--	--	--	--	--	--
	1/30/2003	--		55.11	10.00	10.00	7.81	47.30	--	--	--	--	--	--	--	--



Table 1

## Groundwater Elevation and Analytical Data

ARCO Service Station #4931

731 West MacArthur Blvd., Oakland, CA

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)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	pH
A-13	5/28/2003	--		55.11	10.00	10.00	9.06	46.05	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.9	6.5
	8/6/2003	--		55.11	10.00	10.00	10.22	44.89	--	--	--	--	--	--	--	--
	11/14/2003	--		55.11	10.00	10.00	10.27	44.84	--	--	--	--	--	--	--	--
	02/02/2004	--	g	60.26	10.00	10.00	7.92	52.34	--	--	--	--	--	--	--	--
	05/04/2004	--		60.26	10.00	10.00	10.06	50.20	--	--	--	--	--	--	--	--
	09/02/2004	P		60.26	10.00	10.00	10.34	49.92	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.0	6.6
	11/10/2004	--		60.26	10.00	10.00	8.95	51.31	--	--	--	--	--	--	--	--
	02/02/2005	--		60.26	10.00	10.00	7.28	52.98	--	--	--	--	--	--	--	--
	AR-1	6/21/2000	--		54.72	10.00	30.00	--	--	--	--	--	--	--	--	--
9/20/2000		--		54.72	10.00	30.00	--	--	--	--	--	--	--	--	--	--
12/26/2000		--		54.72	10.00	30.00	9.95	44.77	--	--	--	--	--	--	--	--
3/20/2001		--		54.72	10.00	30.00	8.34	46.38	--	--	--	--	--	--	--	--
6/12/2001		--		54.72	10.00	30.00	10.17	44.55	--	--	--	--	--	--	--	--
9/23/2001		--		54.72	10.00	30.00	10.72	44.00	--	--	--	--	--	--	--	--
12/31/2001		--		54.72	10.00	30.00	5.91	48.81	--	--	--	--	--	--	--	--
3/21/2002		--		54.72	10.00	30.00	7.00	47.72	--	--	--	--	--	--	--	--
4/17/2002		--		54.72	10.00	30.00	8.33	46.39	--	--	--	--	--	--	--	--
8/12/2002		--		54.72	10.00	30.00	10.18	44.54	--	--	--	--	--	--	--	--
12/6/2002		--		54.72	10.00	30.00	10.21	44.51	--	--	--	--	--	--	--	--
1/30/2003		--		54.72	10.00	30.00	8.22	46.50	--	--	--	--	--	--	--	--
5/28/2003		--		54.72	10.00	30.00	9.62	45.10	--	--	--	--	--	--	--	--
8/6/2003		--		54.72	10.00	30.00	10.47	44.25	--	--	--	--	--	--	--	--
11/14/2003		--	d	54.72	10.00	30.00	10.40	44.32	--	--	--	--	--	--	--	--
02/02/2004		--	d, g	59.52	10.00	30.00	7.96	51.56	--	--	--	--	--	--	--	--
05/04/2004		--	d	59.52	10.00	30.00	10.17	49.35	--	--	--	--	--	--	--	--
09/02/2004	--		59.52	10.00	30.00	10.28	49.24	--	--	--	--	--	--	--	--	
11/10/2004	--		59.52	10.00	30.00	9.15	50.37	--	--	--	--	--	--	--	--	
02/02/2005	--		59.52	10.00	30.00	7.80	51.72	--	--	--	--	--	--	--	--	
AR-2	6/21/2000	--		54.77	8.00	28.00	--	--	--	--	--	--	--	--	--	--
	9/20/2000	--		54.77	8.00	28.00	--	--	--	--	--	--	--	--	--	--
	12/26/2000	--		54.77	8.00	28.00	--	--	--	--	--	--	--	--	--	--
	3/20/2001	--		54.77	8.00	28.00	3.13	51.64	--	--	--	--	--	--	--	--
	6/12/2001	--		54.77	8.00	28.00	4.51	50.26	--	--	--	--	--	--	--	--

**Table 1**  
**Groundwater Elevation and Analytical Data**  
 ARCO Service Station #4931  
 731 West MacArthur Blvd., Oakland, CA

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)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	pH
AR-2	9/23/2001	--		54.77	8.00	28.00	6.05	48.72	--	--	--	--	--	--	--	--
	12/31/2001	--		54.77	8.00	28.00	2.79	51.98	--	--	--	--	--	--	--	--
	3/21/2002	--		54.77	8.00	28.00	7.75	47.02	--	--	--	--	--	--	--	--
	4/17/2002	--		54.77	8.00	28.00	2.24	52.53	--	--	--	--	--	--	--	--
	8/12/2002	--		54.77	8.00	28.00	4.93	49.84	--	--	--	--	--	--	--	--
	12/6/2002	--		54.77	8.00	28.00	6.09	48.68	--	--	--	--	--	--	--	--
	1/30/2003	--		54.77	8.00	28.00	3.89	50.88	--	--	--	--	--	--	--	--
	5/28/2003	--		54.77	8.00	28.00	3.33	51.44	--	--	--	--	--	--	--	--
	8/6/2003	--		54.77	8.00	28.00	5.05	49.72	--	--	--	--	--	--	--	--
	11/14/2003	--		54.77	8.00	28.00	6.01	48.76	--	--	--	--	--	--	--	--
	02/02/2004	--	g	59.18	8.00	28.00	3.88	55.30	--	--	--	--	--	--	--	--
	05/04/2004	--		59.18	8.00	28.00	6.01	53.17	--	--	--	--	--	--	--	--
	09/02/2004	--		59.18	8.00	28.00	5.65	53.53	--	--	--	--	--	--	--	--
	11/10/2004	--		59.18	8.00	28.00	5.48	53.70	--	--	--	--	--	--	--	--
	02/02/2005	--		59.18	8.00	28.00	2.62	56.56	--	--	--	--	--	--	--	--
AR-3	6/21/2000	--		54.19	10.00	30.00	--	--	--	--	--	--	--	--	--	--
	9/20/2000	--		54.19	10.00	30.00	--	--	--	--	--	--	--	--	--	--
	12/26/2000	--		54.19	10.00	30.00	9.70	44.49	--	--	--	--	--	--	--	--
	3/20/2001	--		54.19	10.00	30.00	--	--	--	--	--	--	--	--	--	--
	6/12/2001	--		54.19	10.00	30.00	--	--	--	--	--	--	--	--	--	--
	9/23/2001	--		54.19	10.00	30.00	10.43	43.76	--	--	--	--	--	--	--	--
	12/31/2001	--		54.19	10.00	30.00	5.18	49.01	--	--	--	--	--	--	--	--
	3/21/2002	--		54.19	10.00	30.00	6.78	47.41	--	--	--	--	--	--	--	--
	4/17/2002	--		54.19	10.00	30.00	8.06	46.13	--	--	--	--	--	--	--	--
	8/12/2002	--		54.19	10.00	30.00	9.94	44.25	--	--	--	--	--	--	--	--
	12/6/2002	--		54.19	10.00	30.00	9.99	44.20	--	--	--	--	--	--	--	--
	1/30/2003	--		54.19	10.00	30.00	7.96	46.23	--	--	--	--	--	--	--	--
	5/28/2003	--		54.19	10.00	30.00	8.94	45.25	--	--	--	--	--	--	--	--
	8/6/2003	--		54.19	10.00	30.00	9.94	44.25	--	--	--	--	--	--	--	--
	11/14/2003	--		54.19	10.00	30.00	10.03	44.16	--	--	--	--	--	--	--	--
	02/02/2004	--	g	59.10	10.00	30.00	6.90	52.20	--	--	--	--	--	--	--	--
	05/04/2004	--		59.10	10.00	30.00	9.12	49.98	--	--	--	--	--	--	--	--
	09/02/2004	--		59.10	10.00	30.00	10.15	48.95	--	--	--	--	--	--	--	--

**Table 1**

**Groundwater Elevation and Analytical Data**

ARCO Service Station #4931

731 West MacArthur Blvd., Oakland, CA

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)	pH
AR-3	11/10/2004	-		59.10	10.00	30.00	8.79	50.31	--	--	--	--	--	--	--	--
	02/02/2005	-		59.10	10.00	30.00	7.30	51.80	--	--	--	--	--	--	--	--

**Table 1**

**Groundwater Elevation and Analytical Data**  
ARCO Service Station #4931  
731 West MacArthur Blvd., 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 = 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 = Hydrocarbon pattern is present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel for GRO/TPH-g.  
b = The concentration indicated for this analyte (MTBE) is an estimated value above the calibration range of the instrument.  
c = This sample was analyzed beyond the EPA recommended holding time. The results may still be useful for their intended purpose.  
d = ORC sock in well.  
e = Well inaccessible; well paved over.  
f = Sheen in well.  
g = Well surveyed to NAVD '88 datum on January 28, 2004.

**NOTES:**

Top and bottom of screen measurements for wells A-2 through A-5 were estimated from the EMCON sampling sheet.

Beginning in the first quarter 2003 (1/30/2003), groundwater samples were analyzed by EPA method 8260B for TPH-g, BTEX, and fuel oxygenates. Prior to 1/30/03, TPH-g was analyzed using EPA Method 8015B modified and MTBE by 8021B unless otherwise noted.

Beginning in the fourth quarter 2003, the laboratory modified the reported analyte list. Total petroleum hydrocarbons as gasoline (TPH-g) 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 quarter 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.

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**  
**ARCO Service Station #4931**  
**731 West MacArthur Blvd., Oakland, CA**

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
A-2	1/30/2003	<40	<20	--	<0.50	<0.50	<0.50	--	--	a
	5/28/2003	<100	<20	1.1	<0.50	<0.50	<0.50	--	--	
	8/6/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
	09/02/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
A-3	1/30/2003	--	--	--	--	--	--	--	--	
	5/28/2003	<100	<20	43	<0.50	<0.50	24	--	--	
	8/6/2003	--	--	--	--	--	--	--	--	
	02/02/2004	<100	<20	13	<0.50	<0.50	4.6	<0.50	<0.50	
	09/02/2004	<500	<100	62	<2.5	<2.5	15	<2.5	<2.5	
	02/02/2005	<100	<20	6.8	<0.50	<0.50	2.4	<0.50	<0.50	b
A-4	1/30/2003	<4,000	<2,000	2,100	<50	<50	530	--	--	a
	5/28/2003	<10,000	<2,000	2,500	<50	<50	590	--	--	
	8/6/2003	<5,000	<1,000	2,500	<25	<25	560	<25	<25	
	11/14/2003	<1,000	320	310	<5.0	<5.0	76	--	--	
	02/02/2004	<5,000	<1,000	1,500	<25	<25	350	<25	<25	
	05/04/2004	<10,000	<2,000	2,300	<50	<50	510	<50	<50	
	09/02/2004	<5,000	1,200	1,200	<25	<25	280	<25	<25	
	11/10/2004	<2,000	910	1,100	<10	<10	270	<10	<10	
	02/02/2005	<2,000	2,100	1,700	<10	<10	430	<10	<10	b
A-5	1/30/2003	--	--	--	--	--	--	--	--	
	5/28/2003	<10,000	<2,000	1,500	<50	<50	620	--	--	
	8/6/2003	--	--	--	--	--	--	--	--	
	02/02/2004	<500	170	140	<2.5	<2.5	54	<2.5	<2.5	
	09/02/2004	<500	150	66	<2.5	<2.5	29	<2.5	<2.5	
	02/02/2005	<100	840	17	<0.50	<0.50	7.6	<0.50	<0.50	
A-7	1/30/2003	--	--	--	--	--	--	--	--	
	5/28/2003	<100	<20	3.8	<0.50	<0.50	0.94	--	--	
	8/6/2003	--	--	--	--	--	--	--	--	
	09/02/2004	<100	<20	8.9	<0.50	<0.50	3.0	<0.50	<0.50	
A-8	1/30/2003	<8,000	<4,000	2,200	<100	<100	900	--	--	a
	5/28/2003	<10,000	<2,000	2,100	<50	<50	1,100	--	--	
	8/6/2003	<10,000	<2,000	3,000	<50	<50	1,200	<50	<50	

Table 2

**Fuel Additives Analytical Data**  
 ARCO Service Station #4931  
 731 West MacArthur Blvd., Oakland, CA

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
A-8	11/14/2003	<1,000	<200	850	<5.0	<5.0	320	--	--	
	02/02/2004	<5,000	<1,000	1,100	<25	<25	380	<25	<25	
	05/04/2004	<10,000	<2,000	1,600	<50	<50	440	<50	<50	
	09/02/2004	<5,000	<1,000	680	<25	<25	170	<25	<25	
	11/10/2004	<500	<100	290	<2.5	<2.5	66	<2.5	<2.5	
	02/02/2005	<5,000	<1,000	1,900	<25	<25	510	<25	<25	b
A-9	1/30/2003	<40	<20	1.1	<0.50	<0.50	<0.50	--	--	
	5/28/2003	<100	<20	0.74	<0.50	<0.50	<0.50	--	--	
	8/6/2003	<100	<20	1.8	<0.50	<0.50	<0.50	<0.50	<0.50	
	09/02/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
A-10	09/02/2004	<1,000	<200	270	<5.0	<5.0	44	<5.0	<5.0	
A-11	1/30/2003	--	--	--	--	--	--	--	--	
	5/28/2003	<100	<20	0.53	<0.50	<0.50	<0.50	--	--	
	8/6/2003	--	--	--	--	--	--	--	--	
	09/02/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
A-12	1/30/2003	--	--	--	--	--	--	--	--	
	5/28/2003	<100	<20	10	<0.50	<0.50	2.5	--	--	
	8/6/2003	--	--	--	--	--	--	--	--	
	02/02/2004	<100	<20	0.91	<0.50	<0.50	<0.50	<0.50	<0.50	
	09/02/2004	<100	<20	6.2	<0.50	<0.50	1.7	<0.50	<0.50	
	02/02/2005	<100	<20	8.3	<0.50	<0.50	2.2	<0.50	<0.50	b
A-13	1/30/2003	--	--	--	--	--	--	--	--	
	5/28/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	--	--	
	8/6/2003	--	--	--	--	--	--	--	--	
	09/02/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	

## Table 2

### Fuel Additives Analytical Data

ARCO Service Station #4931  
731 West MacArthur Blvd., 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 result for TBA was reported with a possible high bias due to the continuing calibration verification falling outside acceptance criteria.  
b = The calibration verification for ethanol was within the method limits but outside the contract limits.

#### NOTES:

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

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 3**

**Groundwater Gradient Data**  
ARCO Service Station #4931  
731 West MacArthur Blvd., Oakland, CA

<b>Date Sampled</b>	<b>Approximate Flow Direction</b>	<b>Approximate Hydraulic Gradient</b>
6/21/2000	West-Southwest	0.031
9/20/2000	Southwest	0.013
12/26/2000	West	0.028
3/20/2001	West	0.046
6/12/2001	West	0.014
9/23/2001	West	0.012
12/31/2001	West	0.024
3/21/2002	West	0.047
4/17/2002	West	0.03
8/12/2002	West	0.016
12/6/2002	West	0.015
1/30/2003	West	Variable
5/28/2003	West	0.022 a
8/6/2003	West-Southwest	0.018
11/14/2003	West	0.02
2/2/2004	West	0.04
5/4/2004	West to North	0.025 to 0.033
9/2/2004	West	0.033
11/10/2004	West	0.031
2/2/2005	West-Southwest	0.04

**FOOTNOTES:**

a = using wells AR-1 and A-9

**NOTES:**

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.



**ATTACHMENT A**  
**FIELD PROCEDURES AND FIELD DATA SHEETS**

## **FIELD PROCEDURES**

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### **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™ 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 # 050202-551 Date 2/2/05 Client ARCO 4931

Site 731 W. MACARTHUR BLVD. OAKLAND

Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TGB		
A-2	4					4.00	19.42			
S A-3	4					5.00	16.24			
S A-4	4					6.92	19.36			
S A-5	3					7.10	24.54			
S A-6	well is covered.						—			MPE 2'
A-7	3					6.10	22.15			
S A-8	3					6.53	18.60			MPE 2'
A-9	6					6.40	28.00			Bad Cap
A-10	3					7.90	29.70			
A-11	3					7.95	29.70			
S A-12	3					7.45	29.72			Bad Cap
A-13	3					7.28	29.04			
AR-1	6					7.80	28.98			
AR-2	6					2.62	28.31			
AR-3	4					7.90	29.00			

## ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>050202-551</u>	Station # <u>ARCO 4931</u>
Sampler: <u>GOOCH (BRIAN)</u>	Date: <u>2/2/05</u>
Well I.D.: <u>A-3</u>	Well Diameter: 2 3 <u>(4)</u> 6 8 _____
Total Well Depth: <u>16.24</u>	Depth to Water: <u>5.00</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>(PVC)</u> Grade	D.O. Meter (if req'd): <u>(YSI)</u> HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Purge Method: <u>Bailer</u> Disposable Bailer Positive Air Displacement <u>Electric Submersible</u> Extraction Pump Other: _____	Sampling Method: <u>Bailer</u> Disposable <u>Bailer</u> Extraction Port Other: _____
---	---

Top of Screen: \_\_\_\_\_ If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

<u>7.3</u>	x	<u>3</u>	=	<u>21.9</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or <u>(µS)</u> )	Gals. Removed	Observations
<u>0948</u>	<u>63.1</u>	<u>7.8</u>	<u>1085</u>	<u>7.5</u>	<u>brown</u>
					<u>Well Dewatered @ 7.5 gallons</u>
<u>1000</u>	<u>64.4</u>	<u>6.9</u>	<u>514</u>	<u>7.5</u>	<u>brown</u>

Did well dewater? (Yes) No      Gallons actually evacuated: 7.5

Sampling Time: 1000 @ departure      Sampling Date: 2/2/05

Sample I.D.: A-3      Laboratory: Pace (Sequoia) Other \_\_\_\_\_

Analyzed for: (GRO) (BTEX) MTBE DRO      Other: DXYS, EDB, 1,2-DCA & ETHANOL DL 9260

D.O. (if req'd):      Pre-purge: \_\_\_\_\_ mg/L      Post-purge: 1.9 mg/L

O.R.P. (if req'd):      Pre-purge: \_\_\_\_\_ mV      Post-purge: \_\_\_\_\_ mV

## ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>050202-551</u>	Station # <u>ARCO 4931</u>
Sampler: <u>SOOCH / BRIAN</u>	Date: <u>2/2/05</u>
Well I.D.: <u>A-4</u>	Well Diameter: 2 3 <u>(4)</u> 6 8 _____
Total Well Depth: <u>19.36</u>	Depth to Water: <u>6.92</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>(PVC)</u> Grade	D.O. Meter (if req'd): <u>(YSI)</u> HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	$\text{inches}^2 \times 0.163$

Purge Method: <u>Bailer</u> <u>Disposable Bailer</u> <u>Positive Air Displacement</u> <u>Electric Submersible</u> <u>Extraction Pump</u> Other: _____	Sampling Method: <u>Bailer</u> <u>Disposable Bailer</u> <u>Extraction Port</u> Other: _____
--	--

Top of Screen: \_\_\_\_\_ If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

<u>8.1</u>	x	<u>3</u>	=	<u>24.3</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or <u>µS</u> )	Gals. Removed	Observations
<u>0955</u>	<u>65.0</u>	<u>6.4</u>	<u>1,294</u>	<u>8.5</u>	<u>gray, odor</u>
					<u>Well Dewatered @ 13 gallons</u>
<u>1010</u>	<u>65.5</u>	<u>6.5</u>	<u>1,194</u>	<u>13.0</u>	<u>" "</u>

Did well dewater? <u>(Yes)</u> No	Gallons actually evacuated: <u>13.0</u>
Sampling Time: <u>1010</u>	Sampling Date: <u>2/2/05</u>
Sample I.D.: <u>A-4</u>	Laboratory: Pace <u>(Sequoia)</u> Other _____
Analyzed for: <u>(GRO)</u> <u>(BTEX)</u> MTBE DRO	Other: <u>OXY'S, EOB, 1,2-DCA &amp; ETHANOL CU 0260</u>
D.O. (if req'd):	Pre-purge: _____ mg/L
	Post-purge: <u>1.5</u> mg/L
O.R.P. (if req'd):	Pre-purge: _____ mV
	Post-purge: _____ mV

## ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>050202-551</u>	Station # <u>ARCO 4931</u>
Sampler: <u>SOOCH / BRIAN</u>	Date: <u>2/2/05</u>
Well I.D.: <u>A-5</u>	Well Diameter: 2 <u>(3)</u> 4 6 8 _____
Total Well Depth: <u>24.54</u>	Depth to Water: <u>7.10</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>(PVC)</u> Grade	D.O. Meter (if req'd): <u>(YSI)</u> HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Purge Method: <u>Bailer</u> Disposable Bailer Positive Air Displacement Electric Submersible Extraction Pump Other: _____	Sampling Method: <u>Bailer</u> Disposable Bailer Extraction Port Other: _____
--	--

*cracked casing  
max. 4 wli*

Top of Screen: \_\_\_\_\_ If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

<u>6.5</u>	X	<u>3</u>	=	<u>19.5</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or <del>µS</del> )	Gals. Removed	Observations
<u>1015</u>	<u>65.3</u>	<u>7.0</u>	<u>866</u>	<u>6.5</u>	<u>condy</u>
<u>1016</u>	<u>66.0</u>	<u>7.1</u>	<u>900</u>	<u>13.0</u>	"
<u>1019</u>	<u>66.2</u>	<u>7.2</u>	<u>879</u>	<u>19.5</u>	"

Did well dewater? Yes <u>(No)</u>	Gallons actually evacuated: <u>19.5</u>
Sampling Time: <u>1022</u>	Sampling Date: <u>2/2/05</u>
Sample I.D.: <u>A-5</u>	Laboratory: Pace <u>(Sequoia)</u> Other _____
Analyzed for: <u>(GRO)</u> <u>(BTEX)</u> MTBE DRO	Other: <u>OXY'S, EDB, 1,2-DCA &amp; ETHANOL</u> <u>det 0260</u>
D.O. (if req'd): Pre-purge: _____ mg/L	Post-purge: <u>1.0</u> mg/L
O.R.P. (if req'd): Pre-purge: _____ mV	Post-purge: _____ mV

## ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>050202-SS1</u>	Station # <u>ARCO 4931</u>
Sampler: <u>GOOCH / BRIAN</u>	Date: <u>2/2/05</u>
Well I.D.: <u>A-6</u>	Well Diameter: 2 3 4 6 8 <u>    </u>
Total Well Depth: <u>    </u>	Depth to Water: <u>    </u>
Depth to Free Product: <u>    </u>	Thickness of Free Product (feet): <u>    </u>
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSI</u> HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Purge Method: <u>Bailer</u> Disposable Bailer Positive Air Displacement Electric Submersible Extraction Pump Other: <u>    </u>	Sampling Method: <u>Bailer</u> Disposable Bailer Extraction Port Other: <u>    </u>
---	--

Top of Screen:      If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

$\frac{\text{1 Case Volume (Gals.)}}{\text{X}}$	X	$\frac{\text{Specified Volumes}}{\text{=}}$	=	$\frac{\text{Gals.}}{\text{Calculated Volume}}$
---	---	---	---	---

Time	Temp (°F)	pH	Conductivity (mS or µS)	Gals. Removed	Observations
<u>Well Paved Over - Unable to purge or sample</u>					

Did well dewater? Yes <u>    </u> No <u>    </u>	Gallons actually evacuated: <u>    </u>
Sampling Time: <u>    </u>	Sampling Date: <u>    </u>
Sample I.D.: <u>    </u>	Laboratory: Pace <u>    </u> Sequoia <u>    </u> Other <u>    </u>
Analyzed for: <u>PRO</u> <u>ETEX</u> MTBE DRO	Other: <u>OXY'S, EDB, 1,2-DCA &amp; CTANOL</u> <u>4L 0260</u>
D.O. (if req'd): <u>    </u>	Pre-purge: <u>    </u> mg/L Post-purge: <u>    </u> mg/L
O.R.P. (if req'd): <u>    </u>	Pre-purge: <u>    </u> mV Post-purge: <u>    </u> mV

## ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>050202-551</u>	Station # <u>ARCO 4931</u>
Sampler: <u>GOOCH / BRIAN</u>	Date: <u>2/2/05</u>
Well I.D.: <u>1-8</u>	Well Diameter: 2 <u>(3)</u> 4 6 8 _____
Total Well Depth: <u>18.60</u>	Depth to Water: <u>6.53</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>(PVC)</u> Grade	D.O. Meter (if req'd): <u>(YSI)</u> HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Purge Method: <del>                     Bailler                      Disposable Bailler                      Positive Air Displacement                      Electric Submersible                      Extraction Pump                      Other: _____                 </del>	Sampling Method: <u>Bailler</u> <del>Disposable Bailler</del> Extraction Port Other: _____
--	---

Top of Screen: 2' If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

<u>GAL</u>	X	_____	=	_____	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or <u>μS</u> )	Gals. Removed	Observations
<u>1030</u>	<u>63.8</u>	<u>7.4</u>	<u>989</u>	—	<u>cloudy</u>

Did well dewater? Yes ~~No~~ Gallons actually evacuated: \_\_\_\_\_

Sampling Time: 1030 Sampling Date: 2/2/05

Sample I.D.: A-8 Laboratory: Pace Sequoia Other \_\_\_\_\_

Analyzed for: (GRO) (BTEX) MTBE DRO Other: OXY'S, EDB, 1,2-DCA & ETHANOL & 0260

D.O. (if req'd): Pre-purge: \_\_\_\_\_ mg/L Post-purge: 1.0 mg/L

O.R.P. (if req'd): Pre-purge: \_\_\_\_\_ mV Post-purge: \_\_\_\_\_ mV



**ARCO / BP WELL MONITORING DATA SHEET**

BTS #: 050202-SS1	Station #: ARCO 4931
Sampler: 5004 / BIRMAN	Date: 2/2/05
Well I.D.: A-12	Well Diameter: 2 <u>(3)</u> 4 6 8
Total Well Depth: 29.72	Depth to Water: 7.45
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>(PVC)</u> Grade	D.O. Meter (if req'd): <u>(YSI)</u> HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Purge Method:	Bailer	Sampling Method:	Bailer
	Disposable Bailer		<u>(Disposable Bailer)</u>
	<u>(Positive Air Displacement)</u>		Extraction Port
	Electric Submersible	Other:	_____
	Extraction Pump		
Other:	_____		

Top of Screen: \_\_\_\_\_ If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

<u>8.2</u>	x	<u>3</u>	=	<u>24.6</u>	Gals.
I Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or <u>(µS)</u> )	Gals. Removed	Observations
942	64.2	7.1	692	8.2	TRUB ID
952	64.3	7.1	599	16.4	"
1002	64.4	7.1	601	24.6	"

Did well dewater? Yes  No  Gallons actually evacuated: 24.6

Sampling Time: 1006 Sampling Date: 2/2/05

Sample I.D.: A-12 Laboratory: Pace Sequoia Other: \_\_\_\_\_

Analyzed for: (GRO) (BTEX) MTBE DRO Other: OXY'S, EDB, 1,2-DCA & ETHANOL DEC 0260

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	1.4	mg/L
------------------	------------	------	-------------	-----	------

O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV
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**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 to the designated destination point via another BP GEM facility; from a BP GEM facility to the designated destination point via the contractor's 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:

4931

Station # \_\_\_\_\_

Station Address 731 W. MacArthur Blvd OAKLAND

Total Gallons Collected From Groundwater Monitoring Wells: \_\_\_\_\_

added equip. \_\_\_\_\_ any other adjustments \_\_\_\_\_  
 rinse water \_\_\_\_\_

TOTAL GALS. RECOVERED 65 loaded onto BTS vehicle # 54

BTS event # \_\_\_\_\_ time \_\_\_\_\_ date \_\_\_\_\_  
090202-55 1100 2/2/05

signature [Signature]

\*\*\*\*\*

REC'D AT \_\_\_\_\_ time \_\_\_\_\_ date \_\_\_\_\_  
BTS 1600 2/2/05

unloaded by \_\_\_\_\_ signature [Signature]

**ATTACHMENT B**

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

## **LABORATORY PROCEDURES**

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### **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.



16 February, 2005

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

RE: ARCO #4931, Oakland, CA  
Work Order: MOB0194

Enclosed are the results of analyses for samples received by the laboratory on 02/03/05 16:51. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Lisa Race  
Senior Project Manager

CA ELAP Certificate #1210

URS Corporation [Arco] 1333 Broadway, Suite 800 Oakland CA, 94612	Project: ARCO #4931, Oakland, CA Project Number: G09JZ-0202 Project Manager: Scott Robinson	MOB0194 Reported: 02/16/05 15:21
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**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
A-3	MOB0194-01	Water	02/02/05 10:00	02/03/05 16:51
A-4	MOB0194-02	Water	02/02/05 10:10	02/03/05 16:51
A-5	MOB0194-03	Water	02/02/05 10:22	02/03/05 16:51
A-8	MOB0194-04	Water	02/02/05 10:30	02/03/05 16:51
A-12	MOB0194-05	Water	02/02/05 10:06	02/03/05 16:51
TB-02022005-4931	MOB0194-06	Water	02/02/05 00:00	02/03/05 16:51

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.



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

Project: ARCO #4931, Oakland, CA  
Project Number: G09JZ-0202  
Project Manager: Scott Robinson

MOB0194  
Reported:  
02/16/05 15:21

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>A-3 (MOB0194-01) Water</b> <b>Sampled: 02/02/05 10:00</b> <b>Received: 02/03/05 16:51</b>									
tert-Amyl methyl ether	2.4	0.50	ug/l	1	5B09017	02/09/05	02/09/05	EPA 8260B	
Benzene	ND	0.50	"	"	"	"	"	"	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
Ethanol	ND	100	"	"	"	"	"	"	IC
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	6.8	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	ND	50	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		108 %	60-135	"	"	"	"	"	
<b>A-4 (MOB0194-02) Water</b> <b>Sampled: 02/02/05 10:10</b> <b>Received: 02/03/05 16:51</b>									
tert-Amyl methyl ether	430	10	ug/l	20	5B11008	02/11/05	02/11/05	EPA 8260B	
Benzene	120	10	"	"	"	"	"	"	
tert-Butyl alcohol	2100	400	"	"	"	"	"	"	
Di-isopropyl ether	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	10	"	"	"	"	"	"	
1,2-Dichloroethane	ND	10	"	"	"	"	"	"	
Ethanol	ND	2000	"	"	"	"	"	"	IC
Ethyl tert-butyl ether	ND	10	"	"	"	"	"	"	
Ethylbenzene	66	10	"	"	"	"	"	"	
Methyl tert-butyl ether	1700	10	"	"	"	"	"	"	
Toluene	ND	10	"	"	"	"	"	"	
Xylenes (total)	11	10	"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	3300	1000	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		111 %	60-135	"	"	"	"	"	

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

 Project: ARCO #4931, Oakland, CA  
 Project Number: G09JZ-0202  
 Project Manager: Scott Robinson

 MOB0194  
 Reported:  
 02/16/05 15:21

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>A-5 (MOB0194-03) Water</b> <b>Sampled: 02/02/05 10:22</b> <b>Received: 02/03/05 16:51</b>									
tert-Amyl methyl ether	7.6	0.50	ug/l	1	5B14013	02/14/05	02/15/05	EPA 8260B	
Benzene	ND	0.50	"	"	"	"	"	"	
tert-Butyl alcohol	840	20	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
Ethanol	ND	100	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	17	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
<b>Gasoline Range Organics (C4-C12)</b>	<b>68</b>	<b>50</b>	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		92 %	60-135	"	"	"	"	"	
<b>A-8 (MOB0194-04) Water</b> <b>Sampled: 02/02/05 10:30</b> <b>Received: 02/03/05 16:51</b>									
tert-Amyl methyl ether	510	25	ug/l	50	5B09017	02/09/05	02/10/05	EPA 8260B	
Benzene	890	25	"	"	"	"	"	"	
tert-Butyl alcohol	ND	1000	"	"	"	"	"	"	
Di-isopropyl ether	ND	25	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	25	"	"	"	"	"	"	
1,2-Dichloroethane	ND	25	"	"	"	"	"	"	
Ethanol	ND	5000	"	"	"	"	"	"	IC
Ethyl tert-butyl ether	ND	25	"	"	"	"	"	"	
Ethylbenzene	ND	25	"	"	"	"	"	"	
Methyl tert-butyl ether	1900	25	"	"	"	"	"	"	
Toluene	ND	25	"	"	"	"	"	"	
Xylenes (total)	ND	25	"	"	"	"	"	"	
<b>Gasoline Range Organics (C4-C12)</b>	<b>5000</b>	<b>2500</b>	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		109 %	60-135	"	"	"	"	"	



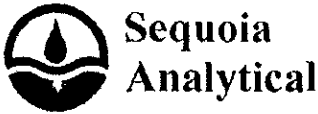
URS Corporation [Arco]  
1333 Broadway, Suite 800  
Oakland CA, 94612

Project: ARCO #4931, Oakland, CA  
Project Number: G09JZ-0202  
Project Manager: Scott Robinson

MOB0194  
Reported:  
02/16/05 15:21

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>A-12 (MOB0194-05) Water    Sampled: 02/02/05 10:06    Received: 02/03/05 16:51</b>									
tert-Amyl methyl ether	2.2	0.50	ug/l	1	5B09017	02/09/05	02/10/05	EPA 8260B	
Benzene	ND	0.50	"	"	"	"	"	"	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
Ethanol	ND	100	"	"	"	"	"	"	IC
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	8.3	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	ND	50	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		105 %		60-135	"	"	"	"	



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 Reported:  
 02/16/05 15:21

**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
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**Batch 5B09017 - EPA 5030B P/T / EPA 8260B**

**Blank (5B09017-BLK1)**

Prepared & Analyzed: 02/09/05

tert-Amyl methyl ether	ND	0.50	ug/l							
Benzene	ND	0.50	"							
tert-Butyl alcohol	ND	20	"							
Di-isopropyl ether	ND	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.50	"							
1,2-Dichloroethane	ND	0.50	"							
Ethanol	ND	100	"							IC
Ethyl tert-butyl ether	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Methyl tert-butyl ether	ND	0.50	"							
Toluene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Gasoline Range Organics (C4-C12)	ND	50	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>5.59</i>		<i>"</i>	<i>5.00</i>		<i>112</i>	<i>60-135</i>			

**Laboratory Control Sample (5B09017-BS1)**

Prepared & Analyzed: 02/09/05

tert-Amyl methyl ether	9.70	0.50	ug/l	10.0		97	80-115			
Benzene	8.37	0.50	"	10.0		84	65-115			
tert-Butyl alcohol	45.8	20	"	50.0		92	75-150			
Di-isopropyl ether	7.73	0.50	"	10.0		77	75-125			
1,2-Dibromoethane (EDB)	11.2	0.50	"	10.0		112	85-120			
1,2-Dichloroethane	10.7	0.50	"	10.0		107	85-130			
Ethanol	107	100	"	200		54	70-135			IC, HM
Ethyl tert-butyl ether	8.95	0.50	"	10.0		90	75-130			
Ethylbenzene	9.24	0.50	"	10.0		92	75-135			
Methyl tert-butyl ether	9.95	0.50	"	10.0		100	65-125			
Toluene	9.04	0.50	"	10.0		90	85-120			
Xylenes (total)	27.0	0.50	"	30.0		90	85-125			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>5.48</i>		<i>"</i>	<i>5.00</i>		<i>110</i>	<i>60-135</i>			

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 Project Manager: Scott Robinson

 MOB0194  
 Reported:  
 02/16/05 15:21

**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
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**Batch 5B09017 - EPA 5030B P/T / EPA 8260B**
**Laboratory Control Sample (5B09017-BS2)**

Prepared &amp; Analyzed: 02/09/05

Benzene	5.03	0.50	ug/l	6.08		83	65-115			
Ethylbenzene	7.71	0.50	"	7.84		98	75-135			
Methyl tert-butyl ether	8.41	0.50	"	9.60		88	65-125			
Toluene	30.7	0.50	"	32.9		93	85-120			
Xylenes (total)	37.7	0.50	"	38.5		98	85-125			
Gasoline Range Organics (C4-C12)	374	50	"	440		85	70-124			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>5.19</i>		<i>"</i>	<i>5.00</i>		<i>104</i>	<i>60-135</i>			

**Laboratory Control Sample Dup (5B09017-BSD1)**

Prepared: 02/09/05 Analyzed: 02/10/05

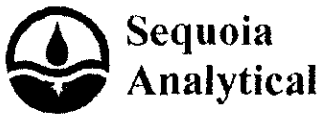
tert-Amyl methyl ether	9.49	0.50	ug/l	10.0		95	80-115	2	15	
Benzene	9.15	0.50	"	10.0		92	65-115	9	20	
tert-Butyl alcohol	47.4	20	"	50.0		95	75-150	3	25	
Di-isopropyl ether	8.28	0.50	"	10.0		83	75-125	7	15	
1,2-Dibromoethane (EDB)	10.7	0.50	"	10.0		107	85-120	5	15	
1,2-Dichloroethane	11.1	0.50	"	10.0		111	85-130	4	20	
Ethanol	136	100	"	200		68	70-135	24	35	IC, HM
Ethyl tert-butyl ether	9.16	0.50	"	10.0		92	75-130	2	25	
Ethylbenzene	9.96	0.50	"	10.0		100	75-135	8	15	
Methyl tert-butyl ether	9.96	0.50	"	10.0		100	65-125	0.1	20	
Toluene	9.85	0.50	"	10.0		98	85-120	9	20	
Xylenes (total)	29.4	0.50	"	30.0		98	85-125	9	20	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>5.21</i>		<i>"</i>	<i>5.00</i>		<i>104</i>	<i>60-135</i>			

**Matrix Spike (5B09017-MS1)**

Source: MOB0194-04

Prepared: 02/09/05 Analyzed: 02/10/05

Benzene	1130	25	ug/l	304	890	79	65-115			
Ethylbenzene	403	25	"	392	6.0	101	75-135			
Methyl tert-butyl ether	2090	25	"	480	1900	40	65-125			LN
Toluene	1580	25	"	1640	9.5	96	85-120			
Xylenes (total)	1960	25	"	1920	ND	102	85-125			
Gasoline Range Organics (C4-C12)	23900	2500	"	22000	5000	86	70-124			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>5.26</i>		<i>"</i>	<i>5.00</i>		<i>105</i>	<i>60-135</i>			



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Reported:  
02/16/05 15:21

**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
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**Batch 5B09017 - EPA 5030B P/T / EPA 8260B**

Matrix Spike Dup (5B09017-MSD1)	Source: MOB0194-04	Prepared: 02/09/05	Analyzed: 02/10/05							
Benzene	1090	25	ug/l	304	890	66	65-115	4	20	
Ethylbenzene	389	25	"	392	6.0	98	75-135	4	15	
Methyl tert-butyl ether	2200	25	"	480	1900	62	65-125	5	20	LN
Toluene	1540	25	"	1640	9.5	93	85-120	3	20	
Xylenes (total)	1890	25	"	1920	ND	98	85-125	4	20	
Gasoline Range Organics (C4-C12)	23400	2500	"	22000	5000	84	70-124	2	20	
Surrogate: 1,2-Dichloroethane-d4	5.38		"	5.00		108	60-135			

**Batch 5B11008 - EPA 5030B P/T / EPA 8260B**

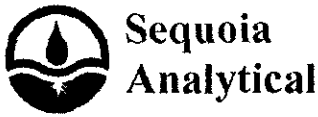
Blank (5B11008-BLK1)	Prepared & Analyzed: 02/11/05									
tert-Amyl methyl ether	ND	0.50	ug/l							
Benzene	ND	0.50	"							
tert-Butyl alcohol	ND	20	"							
Di-isopropyl ether	ND	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.50	"							
1,2-Dichloroethane	ND	0.50	"							
Ethanol	ND	100	"							IC
Ethyl tert-butyl ether	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Methyl tert-butyl ether	ND	0.50	"							
Toluene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Gasoline Range Organics (C4-C12)	ND	50	"							
Surrogate: 1,2-Dichloroethane-d4	5.42		"	5.00		108	60-135			

**Laboratory Control Sample (5B11008-BS1)**

Laboratory Control Sample (5B11008-BS1)	Prepared & Analyzed: 02/11/05									
tert-Amyl methyl ether	9.36	0.50	ug/l	10.0		94	80-115			
Benzene	9.06	0.50	"	10.0		91	65-115			
tert-Butyl alcohol	47.6	20	"	50.0		95	75-150			
Di-isopropyl ether	7.71	0.50	"	10.0		77	75-125			
1,2-Dibromoethane (EDB)	10.6	0.50	"	10.0		106	85-120			
1,2-Dichloroethane	10.1	0.50	"	10.0		101	85-130			
Ethanol	147	100	"	200		74	70-135			IC
Ethyl tert-butyl ether	8.66	0.50	"	10.0		87	75-130			
Ethylbenzene	10.1	0.50	"	10.0		101	75-135			
Methyl tert-butyl ether	9.67	0.50	"	10.0		97	65-125			

Sequoia Analytical - Morgan Hill

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



URS Corporation [Arco] 1333 Broadway, Suite 800 Oakland CA, 94612	Project: ARCO #4931, Oakland, CA Project Number: G09JZ-0202 Project Manager: Scott Robinson	MOB0194 Reported: 02/16/05 15:21
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**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
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**Batch 5B11008 - EPA 5030B P/T / EPA 8260B**

**Laboratory Control Sample (5B11008-BS1) Prepared & Analyzed: 02/11/05**

Toluene	9.69	0.50	ug/l	10.0		97	85-120			
Xylenes (total)	30.5	0.50	"	30.0		102	85-125			
Surrogate: 1,2-Dichloroethane-d4	4.77		"	5.00		95	60-135			

**Laboratory Control Sample (5B11008-BS2) Prepared & Analyzed: 02/11/05**

Benzene	4.90	0.50	ug/l	6.08		81	65-115			
Ethylbenzene	7.67	0.50	"	7.84		98	75-135			
Methyl tert-butyl ether	9.01	0.50	"	9.60		94	65-125			
Toluene	31.6	0.50	"	32.9		96	85-120			
Xylenes (total)	37.3	0.50	"	38.5		97	85-125			
Gasoline Range Organics (C4-C12)	393	50	"	440		89	70-124			
Surrogate: 1,2-Dichloroethane-d4	5.59		"	5.00		112	60-135			

**Laboratory Control Sample Dup (5B11008-BSD1) Prepared & Analyzed: 02/11/05**

tert-Amyl methyl ether	9.77	0.50	ug/l	10.0		98	80-115	4	15	
Benzene	8.70	0.50	"	10.0		87	65-115	4	20	
tert-Butyl alcohol	48.7	20	"	50.0		97	75-150	2	25	
Di-isopropyl ether	7.69	0.50	"	10.0		77	75-125	0.3	15	
1,2-Dibromoethane (EDB)	11.1	0.50	"	10.0		111	85-120	5	15	
1,2-Dichloroethane	11.0	0.50	"	10.0		110	85-130	9	20	
Ethanol	157	100	"	200		78	70-135	7	35	IC
Ethyl tert-butyl ether	8.89	0.50	"	10.0		89	75-130	3	25	
Ethylbenzene	9.37	0.50	"	10.0		94	75-135	7	15	
Methyl tert-butyl ether	10.1	0.50	"	10.0		101	65-125	4	20	
Toluene	9.14	0.50	"	10.0		91	85-120	6	20	
Xylenes (total)	27.7	0.50	"	30.0		92	85-125	10	20	
Surrogate: 1,2-Dichloroethane-d4	5.30		"	5.00		106	60-135			

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

 Project: ARCO #4931, Oakland, CA  
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 Project Manager: Scott Robinson

 MOB0194  
 Reported:  
 02/16/05 15:21

**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
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**Batch 5B11008 - EPA 5030B P/T / EPA 8260B**

<b>Matrix Spike (5B11008-MS1)</b>		<b>Source: MOB0200-05</b>			<b>Prepared &amp; Analyzed: 02/11/05</b>					
Benzene	63.1	5.0	ug/l	60.8	15	79	65-115			
Ethylbenzene	111	5.0	"	78.4	36	96	75-135			
Methyl tert-butyl ether	88.8	5.0	"	96.0	0.90	92	65-125			
Toluene	326	5.0	"	329	ND	99	85-120			
Xylenes (total)	373	5.0	"	385	3.2	96	85-125			
Gasoline Range Organics (C4-C12)	5950	500	"	4400	2700	74	70-124			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>5.36</i>		<i>"</i>	<i>5.00</i>		<i>107</i>	<i>60-135</i>			

<b>Matrix Spike Dup (5B11008-MSD1)</b>		<b>Source: MOB0200-05</b>			<b>Prepared &amp; Analyzed: 02/11/05</b>					
Benzene	61.0	5.0	ug/l	60.8	15	76	65-115	3	20	
Ethylbenzene	111	5.0	"	78.4	36	96	75-135	0	15	
Methyl tert-butyl ether	89.6	5.0	"	96.0	0.90	92	65-125	0.9	20	
Toluene	315	5.0	"	329	ND	96	85-120	3	20	
Xylenes (total)	383	5.0	"	385	3.2	99	85-125	3	20	
Gasoline Range Organics (C4-C12)	5780	500	"	4400	2700	70	70-124	3	20	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>5.34</i>		<i>"</i>	<i>5.00</i>		<i>107</i>	<i>60-135</i>			

**Batch 5B14013 - EPA 5030B P/T / EPA 8260B**

<b>Blank (5B14013-BLK1)</b>		<b>Prepared &amp; Analyzed: 02/14/05</b>								
tert-Amyl methyl ether	ND	0.50	ug/l							
Benzene	ND	0.50	"							
tert-Butyl alcohol	ND	5.0	"							
Di-isopropyl ether	ND	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.50	"							
1,2-Dichloroethane	ND	0.50	"							
Ethanol	ND	100	"							
Ethyl tert-butyl ether	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Methyl tert-butyl ether	ND	0.50	"							
Toluene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Gasoline Range Organics (C4-C12)	ND	50	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>5.04</i>		<i>"</i>	<i>5.00</i>		<i>101</i>	<i>60-135</i>			



URS Corporation [Arco]  
1333 Broadway, Suite 800  
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Project Manager: Scott Robinson

MOB0194  
Reported:  
02/16/05 15:21

**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
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**Batch 5B14013 - EPA 5030B P/T / EPA 8260B**

**Laboratory Control Sample (5B14013-BS1)**

Prepared & Analyzed: 02/14/05

tert-Amyl methyl ether	9.96	0.50	ug/l	10.0		100	80-115			
Benzene	9.68	0.50	"	10.0		97	65-115			
tert-Butyl alcohol	48.7	20	"	50.0		97	75-150			
Di-isopropyl ether	10.0	0.50	"	10.0		100	75-125			
1,2-Dibromoethane (EDB)	10.7	0.50	"	10.0		107	85-120			
1,2-Dichloroethane	10.1	0.50	"	10.0		101	85-130			
Ethanol	195	100	"	200		98	70-135			
Ethyl tert-butyl ether	10.2	0.50	"	10.0		102	75-130			
Ethylbenzene	10.7	0.50	"	10.0		107	75-135			
Methyl tert-butyl ether	9.89	0.50	"	10.0		99	65-125			
Toluene	9.68	0.50	"	10.0		97	85-120			
Xylenes (total)	30.0	0.50	"	30.0		100	85-125			

Surrogate: 1,2-Dichloroethane-d4 4.83 " 5.00 97 60-135

**Laboratory Control Sample (5B14013-BS2)**

Prepared & Analyzed: 02/14/05

Benzene	4.79	0.50	ug/l	6.08		79	65-115			
Ethylbenzene	8.48	0.50	"	7.84		108	75-135			
Methyl tert-butyl ether	8.88	0.50	"	9.60		92	65-125			
Toluene	33.0	0.50	"	32.9		100	85-120			
Xylenes (total)	39.1	0.50	"	38.5		102	85-125			
Gasoline Range Organics (C4-C12)	398	50	"	440		90	70-124			

Surrogate: 1,2-Dichloroethane-d4 4.94 " 5.00 99 60-135

**Laboratory Control Sample Dup (5B14013-BSD1)**

Prepared & Analyzed: 02/14/05

tert-Amyl methyl ether	9.50	0.50	ug/l	10.0		95	80-115	5	15	
Benzene	9.42	0.50	"	10.0		94	65-115	3	20	
tert-Butyl alcohol	50.3	20	"	50.0		101	75-150	3	25	
Di-isopropyl ether	9.56	0.50	"	10.0		96	75-125	4	15	
1,2-Dibromoethane (EDB)	10.6	0.50	"	10.0		106	85-120	0.9	15	
1,2-Dichloroethane	10.0	0.50	"	10.0		100	85-130	1	20	
Ethanol	204	100	"	200		102	70-135	5	35	
Ethyl tert-butyl ether	9.69	0.50	"	10.0		97	75-130	5	25	
Ethylbenzene	10.4	0.50	"	10.0		104	75-135	3	15	
Methyl tert-butyl ether	9.62	0.50	"	10.0		96	65-125	3	20	
Toluene	9.39	0.50	"	10.0		94	85-120	3	20	
Xylenes (total)	29.7	0.50	"	30.0		99	85-125	1	20	

Sequoia Analytical - Morgan Hill

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

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

 Project: ARCO #4931, Oakland, CA  
 Project Number: G09JZ-0202  
 Project Manager: Scott Robinson

 MOB0194  
 Reported:  
 02/16/05 15:21

**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
<b>Batch 5B14013 - EPA 5030B P/T / EPA 8260B</b>										
<b>Laboratory Control Sample Dup (5B14013-BSD1)</b>					Prepared & Analyzed: 02/14/05					
<i>Surrogate: 1,2-Dichloroethane-d4</i>	4.50		ug/l	5.00		90	60-135			
<b>Matrix Spike (5B14013-MS1)</b>					Source: MOB0204-01 Prepared & Analyzed: 02/14/05					
Benzene	340	5.0	ug/l	60.8	290	82	65-115			
Ethylbenzene	85.6	5.0	"	78.4	ND	109	75-135			
Methyl tert-butyl ether	84.5	5.0	"	96.0	3.1	85	65-125			
Toluene	324	5.0	"	329	1.6	98	85-120			
Xylenes (total)	390	5.0	"	385	5.2	100	85-125			
Gasoline Range Organics (C4-C12)	4980	500	"	4400	1600	77	70-124			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	4.52		"	5.00		90	60-135			
<b>Matrix Spike Dup (5B14013-MSD1)</b>					Source: MOB0204-01 Prepared & Analyzed: 02/14/05					
Benzene	326	5.0	ug/l	60.8	290	59	65-115	4	20	BB, LN
Ethylbenzene	82.1	5.0	"	78.4	ND	105	75-135	4	15	
Methyl tert-butyl ether	87.2	5.0	"	96.0	3.1	88	65-125	3	20	
Toluene	306	5.0	"	329	1.6	93	85-120	6	20	
Xylenes (total)	380	5.0	"	385	5.2	97	85-125	3	20	
Gasoline Range Organics (C4-C12)	4910	500	"	4400	1600	75	70-124	1	20	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	4.25		"	5.00		85	60-135			



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02/16/05 15:21

#### Notes and Definitions

LN MS and/or MSD below acceptance limits. See Blank Spike(LCS).

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

HM Analyte recovery below established limit

BB, LN Sample > 4x spike concentration.

DET Analyte DETECTED

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

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference



# Chain of Custody Record

Project Name: ARCO 4931 Analytical for QMR sampling  
 BP BU/AR Region/Enfos Segment: BP > Americas > West Coast > Retail > WCOBU > CA > Central > 4931 > Historical/BL  
 State or Lead Regulatory Agency: Alameda County Environmental Health Agency  
 Requested Due Date (mm/dd/yyyy): 10 Day 'AT'

On-site Time: <u>900</u>	Temp: <u>65°</u>
Off-site Time: <u>1100</u>	Temp: <u>85°</u>
Sky Conditions: <u>clear</u>	
Meteorological Events: <u>                    </u>	
Wind Speed: <u>                    </u>	Direction: <u>                    </u>

Lab Name: <u>Sequoia</u>	BP/AR Facility No.: <u>4931</u>	Consultant/Contractor: <u>URS</u>
Address: <u>885 Jarvis Drive</u> <u>Morgan Hill, CA 95037</u>	BP/AR Facility Address: <u>731 West MacArthur Blvd., Oakland, CA 946</u>	Address: <u>1333 Broadway, Suite 800</u> <u>Oakland, CA 94612</u>
Lab PM: <u>Lisa Race</u>	Site Lat/Long: <u>37.80773 / -122.2413</u>	Consultant/Contractor Project No.: <u>38486571</u>
Tele/Fax: <u>408.782.8156 / 408.782.6308</u>	California Global ID No.: <u>T0600100110</u>	Consultant/Contractor PM: <u>Scott Robinson</u>
BP/AR PM Contact: <u>Paul Supple</u>	Enfos Project No.: <u>G09J7-0202</u>	Tele/Fax: <u>510.874.3280 / 510.874.3268</u>
Address: <u>P.O. Box 6549</u> <u>Moraga, CA 94570</u>	Provision or RCOP: <u>Provision</u>	Report Type & QCL Level: <u>Level 1 with EDF</u>
Tele/Fax: <u>925.299.8891 / 925.299.8872</u>	Phase/WBS: <u>04 - Mon/Remed by Natural Attenuation</u>	E-mail EDD To: <u>Donna_Cosper@urscorp.com</u>
	Sub Phase/Task: <u>03 - Analytical</u>	Invoice to: <u>Atlantic Richfield Company</u>
	Cost Element: <u>05 - Subcontracted Costs</u>	

Item No.	Sample Description	Time	Date	Matrix			Laboratory No.	No. of Containers	Preservative					Requested Analysis				Sample Point Lat/Long and Comments			
				Soil/Solid	Water/Liquid	Air			Unpreserved	FeSO <sub>4</sub>	HNO <sub>3</sub>	HCl	Mediantol	GROBTEX (8260)	MILIB, PAMK, WFBK, DEB, TBA (8260)	DEB, LADICA (8260)	Ethanol (8260)				
1	A-3	1000	10/6/05		X		01	3					X	X	X	X					
2	A-4	1010					02	1					X	X	X	X					
3	A-5	1022					03	1					X	X	X	X					
4	A-8	1030					04	1					X	X	X	X					
5	A-12	1006					05	1					X	X	X	X					
6	TB-02027005-4931						06	2												on hold	
7																					
8																					
9																					
10																					

MOBB199

on hold

Sampler's Name: <u>Sachon Sung</u>	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company: <u>BTS</u>	<u>[Signature]</u>	<u>10/6/05</u>	<u>1445</u>	<u>[Signature]</u>	<u>10/6/05</u>	<u>1445</u>
Shipment Date:					<u>10/11/05</u>	<u>1621</u>
Shipment Method:						
Shipment Tracking No:						

Special Instructions:

Custody Seals In Place Yes  No  Temp Blank Yes  No  Cooler Temperature on Receipt 97C Trip Blank Yes  No

# SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: ARCO 4931  
 REG. BY (PRINT): TD  
 WORKORDER: MOB0194

DATE REC'D AT LAB: 2/3/05  
 TIME REC'D AT LAB: 1051  
 DATE LOGGED IN: 2-6-05

For Regulatory Purposes?  
 DRINKING WATER YES  NO  
 WASTE WATER YES  NO

(For clients requiring preservation checks at receipt, document here ↓)

CIRCLE THE APPROPRIATE RESPONSE	LAB SAMPLE #	DASH #	CLIENT ID	CONTAINER DESCRIPTION	PRESERVATIVE	pH	SAMPLE MATRIX	DATE SAMPLED	REMARKS: CONDITION (ETC.)
1. Custody Seal(s) Present / Absent Intact / Broken*	01	AC	A-3	V0A 13)	HCl	-	W	2/2/05	
2. Chain-of-Custody Present / Absent*	02	↓	-4	↓	↓	↓	↓	↓	
3. Traffic Reports or Packing List: Present / Absent	03	↓	-5	↓	↓	↓	↓	↓	
4. Airbill: Airbill / Sticker Present / Absent	04	AB	TB-0202005-4911	↓	↓	↓	↓	↓	
5. Airbill #:									
6. Sample Labels: Present / Absent									
7. Sample IDs: Listed / Not Listed on Chain-of-Custody									
8. Sample Condition: Intact / Broken* / Leaking*									
9. Does information on chain-of-custody, traffic reports and sample labels agree? Yes / No*									
10. Sample received within hold time? Yes / No*									
11. Adequate sample volume received? Yes / No*									
12. Proper Preservatives used? Yes / No*									
13. Trip Blank / Temp Blank Received? (circle which, if yes) Yes / No*									
14. Temp Rec. at Lab: Is temp 4 +/- 2°C? Yes / No**									

(Acceptance range for samples requiring thermal pres.)  
 \*\*Exception (if any): METALS / DFF ON ICE or Problem COC

\*IF CIRCLED, CONTACT PROJECT MANAGER AND ATTACH RECORD OF RESOLUTION.

**ATTACHMENT C**

**HISTORICAL GROUNDWATER DATA**

**Table 1**  
**Groundwater Elevation and Analytical Data**  
**Total Purgeable Petroleum Hydrocarbons**  
**(TPPH as Gasoline, BTEX Compounds, and MTBE)**

**ARCO Service Station 4931**  
**731 West MacArthur Boulevard, Oakland, California**

Well Number	Date Ganged/ Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOB)	Groundwater Elevation (feet, MSL)	TPH Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl- benzene (ppb)	Total Xylenes (ppb)	MTBE 8021B* (ppb)	MTBE 8260 (ppb)	Dissolved Oxygen (ppm)	Purged/ Not Purged (P/NP)
A-2	03/26/96	55.48	5.37	50.11	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NM	
A-2	05/22/96	55.48	5.25	50.23	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NM	
A-2	08/22/96	55.48	10.45	45.03	<50	1.1	1.8	<0.5	1.3	<2.5	NA	NM	
A-2	12/19/96	55.48	5.53	49.95	<50	<0.5	<0.5	<0.5	<0.5	2.7	NA	NM	
A-2	04/01/97	55.48	8.77	46.71	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	NM	
A-2	05/27/97	55.48	9.87	45.61	<50	<0.5	<0.5	<0.5	<0.5	4.6	NA	NM	
A-2	08/12/97	55.48	11.11	44.37	<50	<0.5	<0.5	<0.5	<0.5	5.6	NA	NM	
A-2	11/14/97	55.48	10.63	44.85	<50	0.9	2.8	<0.5	2.4	27	NA	2.6	
A-2	03/18/98	55.48	3.58	51.90	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	NM	
A-2	05/19/98	55.48	4.82	50.66	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	1.30	P
A-2	07/29/98	55.48	8.94	46.54	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	1.2	NP
A-2	10/09/98	55.48	10.82	44.66	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	0.5	NP
A-2	02/19/99	55.48	4.46	51.02	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	3.0	P
A-2	06/02/99	55.48	5.59	49.89	<50	<0.5	0.6	<0.5	<0.5	<3	NA	5.35	NP
A-2	08/26/99	55.48	10.67	44.81	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	0.79	NP
A-2	10/26/99	55.48	4.61	50.87	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	2.14	P
A-2	02/25/00	55.48	3.10	52.38	<50	<0.5	<0.5	<0.5	<1	<3	NA	4.21	NP
A-3	03/26/96	54.66	7.20	47.46	Not Sampled: Well Sampled Semiannually				1.3	NA	NA	NM	
A-3	05/22/96	54.66	7.70	46.96	<50	1.2	1.9	0.7					
A-3	08/22/96	54.66	10.88	43.78	Not Sampled: Well Sampled Semiannually				<25	NA	5,300	NM	
A-3	12/19/96	54.66	7.70	46.96	5,900	<25	<25	<25	<25	NA			
A-3	04/01/97	54.66	9.78	44.88	Not Sampled: Well Sampled Semiannually				<20	3,800	NA	NM	
A-3	05/27/97	54.66	10.55	44.11	2,300	<20	<20	<20	<20				
A-3	08/12/97	54.66	11.12	43.54	Not Sampled: Well Sampled Semiannually				<10	1,500	NA	3.8	
A-3	11/14/97	54.66	8.24	46.42	<1,000	<10	<10	<10	<10				
A-3	03/18/98	54.66	5.05	49.61	Not Sampled: Well Sampled Semiannually				<2.5	220	NA	4.60	P
A-3	05/19/98	54.66	9.00	45.66	<250	<2.5	<2.5	<2.5	<2.5				
A-3	07/29/98	54.66	9.86	44.80	Not Sampled: Well Sampled Semiannually				<2.5				
A-3	10/09/98	54.66	11.36	43.30	<250	<2.5	<2.5	<2.5	<2.5	260	NA	1.0	NP
A-3	02/19/99	54.66	6.19	48.47	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	2.5	NP
A-3	06/02/99	54.66	10.82	43.84	120	<1	<1	<1	<1	160	NA	2.78	NP

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 Recreated from electronic data provided by IT Corporation.

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**Table 1**  
**Groundwater Elevation and Analytical Data**  
**Total Purgeable Petroleum Hydrocarbons**  
**(TPPH as Gasoline, BTEX Compounds, and MTBE)**

**ARCO Service Station 4931**  
**731 West MacArthur Boulevard, Oakland, California**

Well Number	Date Gauged/ Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOB)	Groundwater Elevation (feet, MSL)	TPH Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl- benzene (ppb)	Total Xylenes (ppb)	MTBE 8021B* (ppb)	MTBE 8260 (ppb)	Dissolved Oxygen (ppm)	Purged/ Not Purged (P/NP)	
A-3	08/26/99	54.66	10.73	43.93	Not Sampled: Well Sampled Semiannually									
A-3	10/26/99	54.66	6.58	48.08	<50	<0.5	<0.5	<0.5				0.95		
A-3	02/25/00	54.66	5.41	49.25	Not Sampled: Well Sampled Semiannually				<1	32	NA	2.06	NP	
A-4	03/26/96	54.73	7.95	46.78	8,900	1,200	21	200	220	NA	NA	NM		
A-4	05/22/96	54.73	8.35	46.38	5,300	700	<10	170	130	NA	NA	NM		
A-4	08/22/96	54.73	11.03	43.70	3,000	480	<5.0	75	26	150	NA	NM		
A-4	12/19/96	54.73	8.67	46.06	<2,000	<20	<20	<20	<20	NA	15,000	NM		
A-4	04/01/97	54.73	11.95	42.78	8,900	1,700	22	310	260	6,900	NA	NM		
A-4	05/27/97	54.73	10.80	43.93	7,100	960	<20	150	74	7,900	NA	NM		
A-4	08/12/97	54.73	11.38	43.35	4,300	670	12	51	27	2,800	NA	NM		
A-4	11/14/97	54.73	7.74	46.99	<20,000	300	500	<200	<200	27,000	NA	2.2		
A-4	03/18/98	54.73	6.80	47.93	4,700	600	<20	99	94	1,200	NA	1.0		
A-4	05/19/98	54.73	9.06	45.67	<2000	<20	<20	<20	720	2,000	NA	1.28	P	
A-4	07/29/98	54.73	10.05	44.68	8,400	1,300	<20	290	130	1,800	NA	0.7	NP	
A-4	10/09/98	54.73	11.20	43.53	3,500	400	<20	54	<20	1,700	NA	1.0	NP	
A-4	02/19/99	54.73	6.85	47.88	<1,000	<10	<10	<10	12	650	NA	0.1	NP	
A-4	06/02/99	54.73	11.00	43.73	6,100	760	16	260	89	2,300	NA	1.12	NP	
A-4	08/26/99	54.73	10.80	43.93	1,100	68	5	8	4	1,400	NA	1.15	NP	
A-4	10/26/99	54.73	10.11	44.62	1,500	39	2.3	9.0	5	1,700	NA	10.12	NP	
A-4	02/25/00	54.73	5.90	48.83	870	53	1.1	4.6	20	600	NA	1.72	NP	
A-5	03/26/96	54.17	7.93	46.24	Not Sampled: Well Sampled Semiannually									
A-5	05/22/96	54.17	8.20	45.97	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NM		
A-5	08/22/96	54.17	10.70	43.47	Not Sampled: Well Sampled Semiannually									
A-5	12/19/96	54.17	8.39	45.78	9,900	1,100	330	230	700	NA	24	NM		
A-5	04/01/97	54.17	10.83	43.34	Not Sampled: Well Sampled Semiannually									
A-5	05/27/97	54.17	10.65	43.52	100	<0.5	<0.5	<0.5	<0.5	120	NA	NM		
A-5	08/12/97	54.17	11.05	43.12	Not Sampled: Well Sampled Semiannually									
A-5	11/14/97	54.17	10.51	43.66	<50	<0.5	<0.5	<0.5	<0.5	41	NA	4.8		
A-5	03/18/98	54.17	8.10	46.07	Not Sampled: Well Sampled Semiannually									
A-5	05/19/98	54.17	9.31	44.86	590	<5	<5	<5	<5	710	NA	2.48	P	

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IT CORPORATION

**Table 1**  
**Groundwater Elevation and Analytical Data**  
**Total Purgeable Petroleum Hydrocarbons**  
**(TPPH as Gasoline, BTEX Compounds, and MTBE)**  
**ARCO Service Station 4931**  
**731 West MacArthur Boulevard, Oakland, California**

Well Number	Date Gauged/ Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOB)	Groundwater Elevation (feet, MSL)	TPH Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl- benzene (ppb)	Total Xylenes (ppb)	MTBE 8021B* (ppb)	MTBE 8260 (ppb)	Dissolved Oxygen (ppm)	Purged/ Not Purged (P/NP)
A-5	07/29/98	54.17	9.89	44.28	Not Sampled: Well Sampled Semiannually								
A-5	10/09/98	54.17	11.02	43.15	690	<5	<5	<5	<5	710	NA	1.0	NP
A-5	02/19/99	54.17	6.82	47.35	<2,000	<20	<20	<20	<20	2,300	NA	0.6	NP
A-5	06/02/99	54.17	10.82	43.35	1,500	<0.5	2.3	<0.5	<0.5	2,400	NA	2.81	NP
A-5	08/26/99	54.17	10.65	43.52	Not Sampled: Well Sampled Semiannually								
A-5	10/26/99	54.17	10.35	43.82	380	<0.5	<0.5	<0.5	<1	440	NA	0.49	NP
A-5	02/25/00	54.17	6.89	47.28	Not Sampled: Well Sampled Semiannually								
A-6	03/26/96	55.17	7.15	48.02	52	2.7	<0.5	1.1	2.0	NA	NA	NM	
A-6	05/22/96	55.17	7.35	47.82	<50	2.4	<0.5	0.88	1.7	NA	NA	NM	
A-6	08/22/96	55.17	10.12	45.05	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	NM	
A-6	12/19/96	55.17	7.43	47.74	<50	1.7	<0.5	<0.5	1.5	<2.5	NA	NM	
A-6	04/01/97	55.17	9.97	45.20	<50	4.7	<0.5	1.9	3.2	<2.5	NA	NM	
A-6	05/27/97	55.17	9.66	45.51	<50	0.69	<0.5	<0.5	<0.5	<2.5	NA	NM	
A-6	08/12/97	55.17	10.43	44.74	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	NM	
A-6	11/14/97	55.17	9.76	45.41	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	NM	
A-6	03/18/98	55.17	7.00	48.17	<50	6.2	0.5	2.3	2.6	<3	NA	<1.0	
A-6	05/19/98	55.17	8.27	46.90	<50	<0.5	<0.5	1.3	4.7	<3	NA	3.0	
A-6	07/29/98	55.17	8.96	46.21	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	2.16	P
A-6	10/09/98	55.17	10.23	44.94	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	0.8	NP
A-6	02/19/99	55.17	5.79	49.38	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	1.0	NP
A-6	06/02/99	55.17	9.71	45.46	<50	<0.5	<0.5	<0.5	<0.5	5	NA	0.4	NP
A-6	08/26/99	55.17	9.79	45.38	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	2.00	NP
A-6	10/26/99	55.17	9.70	45.47	<50	<0.5	<0.5	<0.5	0.7	<3	NA	0.66	NP
A-6	02/25/00	55.17	5.68	49.49	<50	<0.5	<0.5	<0.5	<1	<3	NA	1.66	NP
A-7	03/26/96	54.71	6.90	47.81	Not Sampled: Well Sampled Semiannually								
A-7	05/22/96	54.71	8.27	46.44	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NM	
A-7	08/22/96	54.71	9.80	44.91	Not Sampled: Well Sampled Semiannually								
A-7	12/19/96	54.71	7.19	47.52	Not Sampled: Well Sampled Annually								
A-7	04/01/97	54.71	9.63	45.08	Not Sampled: Well Sampled Annually								
A-7	05/27/97	54.71	9.34	45.37	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	NM	

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**Table 1**  
**Groundwater Elevation and Analytical Data**  
**Total Purgeable Petroleum Hydrocarbons**  
**(TPPH as Gasoline, BTEX Compounds, and MTBE)**

**ARCO Service Station 4931**  
**731 West MacArthur Boulevard, Oakland, California**

Well Number	Date Gauged/ Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOB)	Groundwater Elevation (feet, MSL)	TPH Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl- benzene (ppb)	Total Xylenes (ppb)	MTBE 8021B* (ppb)	MTBE 8260 (ppb)	Dissolved Oxygen (ppm)	Purged/ Not Purged (P/NP)	
A-7	08/12/97	54.71	10.10	44.61	Not Sampled: Well Sampled Annually									
A-7	11/14/97	54.71	9.35	45.36	Not Sampled: Well Sampled Annually									
A-7	03/18/98	54.71	6.75	47.96	Not Sampled: Well Sampled Annually									
A-7	05/19/98	54.71	8.85	45.86	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	1.82	P	
A-7	07/29/98	54.71	8.84	45.87	Not Sampled: Well Sampled Annually									
A-7	10/09/98	54.71	10.05	44.66	Not Sampled: Well Sampled Annually									
A-7	02/19/99	54.71	5.57	49.14	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	4.7	NP	
A-7	06/02/99	54.71	9.56	45.15	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	2.17	NP	
A-7	08/26/99	54.71	9.66	45.05	Not Sampled: Well Sampled Annually									0.49
A-7	10/26/99	54.71	9.54	45.17	Not Sampled: Well Sampled Annually									1.26
A-7	02/25/00	54.71	5.60	49.11	Not Sampled: Well Sampled Annually									
A-8	03/26/96	53.77	7.10	46.67	48,000	2,600	<100	650	1,100	NA	NA	NM		
A-8	05/22/96	53.77	7.20	46.57	14,000	2,800	160	320	190	NA	NA	NM		
A-8	08/22/96	53.77	11.57	42.20	8,000	1,000	76	150	96	4,300	NA	NM		
A-8	12/19/96	53.77	8.04	45.73	12,000	450	110	210	230	<500	NA	NM		
A-8	04/01/97	53.77	9.98	43.79	Not Sampled: Well Sampled Semiannually									
A-8	05/27/97	53.77	11.45	42.32	11,000	1,600	100	220	210	2,300	NA	NM		
A-8	08/12/97	53.77	11.59	42.18	Not Sampled: Well Sampled Semiannually									
A-8	11/14/97	53.77	9.85	43.92	26,000	2,300	<200	400	400	4,100	NA	2.2		
A-8	03/18/98	53.77	7.80	45.97	Not Sampled: Well Sampled Semiannually									
A-8	05/19/98	53.77	8.78	44.99	88,000	4,200	150	640	600	6,700	NA	1.36	P	
A-8	07/29/98	53.77	9.59	44.18	46,000	4,900	160	620	580	13,000	NA	0.5	NP	
A-8	10/09/98	53.77	11.23	42.54	130,000	3,700	110	500	770	7,300	NA	1.0	NP	
A-8	06/02/99	53.77	6.51	47.26	<1,000	39	<10	<10	<10	840	NA	0.2	NP	
A-8	08/26/99	53.77	10.68	43.09	8,500	1,300	32	180	110	6,700	NA	1.31	NP	
A-8	10/26/99	53.77	10.43	43.34	6,200	870	17	64	60	3,700	NA	0.69	NP	
A-8	02/25/00	53.77	5.93	47.84	15,000	2,800	140	370	360	480	NA	0.62	NP	
A-8					2,600	330	6.6	18	26	1,100	NA	1.43	NP	
A-9	03/26/96	53.04	7.05	45.99	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NM		
A-9	05/22/96	53.04	7.20	45.84	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NM		

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**Table 1**  
**Groundwater Elevation and Analytical Data**  
**Total Purgeable Petroleum Hydrocarbons**  
**(TPPH as Gasoline, BTEX Compounds, and MTBE)**

**ARCO Service Station 4931**  
**731 West MacArthur Boulevard, Oakland, California**

Well Number	Date Gauged/ Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOB)	Groundwater Elevation (feet, MSL)	TPH Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl- benzene (ppb)	Total Xylenes (ppb)	MTBB 8021B* (ppb)	MTBE 8260 (ppb)	Dissolved Oxygen (ppm)	Purged/ Not Purged (P/NP)	
A-9	08/22/96	53.04	9.68	43.36	<50	<0.5	<0.5	<0.5	<0.5	8.5	NA	NM		
A-9	12/19/96	53.04	7.43	45.61	<50	<0.5	<0.5	<0.5	<0.5	2.6	NA	NM		
A-9	04/01/97	53.04	9.95	43.09	Not Sampled: Well Sampled Semiannually									
A-9	05/27/97	53.04	9.56	43.48	<50	23	<0.5	<0.5	<0.5	45	NA	NM		
A-9	08/12/97	53.04	10.15	42.89	Not Sampled: Well Sampled Semiannually									
A-9	11/14/97	53.04	8.64	44.40	<200	<2.0	<2.0	<2.0	<2.0	190	NA	9.6		
A-9	03/18/98	53.04	6.45	46.59	Not Sampled: Well Sampled Semiannually									
A-9	05/19/98	53.04	8.35	44.69	<50	<0.5	<0.5	<0.5	<0.5	7	NA	1.27	P	
A-9	07/29/98	53.04	8.74	44.30	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	0.99	NP	
A-9	10/09/98	53.04	10.05	42.99	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	1.0	NP	
A-9	02/19/99	53.04	6.91	46.13	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	2.0	NP	
A-9	06/02/99	53.04	9.72	43.32	<50	<0.5	<0.5	<0.5	<0.5	16	NA	2.32	NP	
A-9	08/26/99	53.04	9.48	43.56	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	0.71	NP	
A-9	10/26/99	53.04	9.17	43.87	1,500	62	0.7	78	11	91	NA	2.15	NP	
A-9	02/25/00	53.04	5.84	47.20	<50	<0.5	<0.5	<0.5	<1	<3	NA	1.55	NP	
A-10	03/26/96	54.26	8.28	45.98	Not Sampled: Well Removed from Sampling Program									
A-10	05/22/96	54.26	8.60	45.66	Not Sampled: Well Removed from Sampling Program									
A-10	08/22/96	54.26	10.98	43.28	Not Sampled: Well Removed from Sampling Program									
A-10	12/19/96	54.26	8.80	45.46	Not Sampled: Well Removed from Sampling Program									
A-10	04/01/97	54.26	11.15	43.11	Not Sampled: Well Removed from Sampling Program									
A-10	05/27/97	54.26	10.90	43.36	Not Sampled: Well Removed from Sampling Program									
A-10	08/12/97	54.26	11.30	42.96	Not Sampled: Well Removed from Sampling Program									
A-10	11/14/97	54.26	10.80	43.46	Not Sampled: Well Removed from Sampling Program									
A-10	03/18/98				Well Removed from Survey Program									
A-11	03/26/96	53.74	8.10	45.64	Not Sampled: Well Sampled Semiannually									
A-11	05/22/96	53.74	8.25	45.49	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NM		
A-11	08/22/96	53.74	10.58	43.16	Not Sampled: Well Sampled Semiannually									
A-11	12/19/96	53.74	8.37	45.37	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	NM		
A-11	04/01/97	53.74	10.95	42.79	Not Sampled: Well Sampled Semiannually									
A-11	05/27/97	53.74	10.60	43.14	<50	<0.5	<0.5	<0.5	<0.5	3.1	NA	NM		

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**Table 1**  
**Groundwater Elevation and Analytical Data**  
**Total Purgeable Petroleum Hydrocarbons**  
**(TPPH as Gasoline, BTEX Compounds, and MTBE)**

**ARCO Service Station 4931**  
**731 West MacArthur Boulevard, Oakland, California**

Well Number	Date Gauged/ Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOB)	Groundwater Elevation (feet, MSL)	TPH Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl- benzene (ppb)	Total Xylenes (ppb)	MTBE 8021B* (ppb)	MTBE 8260 (ppb)	Dissolved Oxygen (ppm)	Purged/ Not Purged (P/NP)
A-11	08/12/97	53.74	11.07	42.67	Not Sampled: Well Sampled Semiannually								
A-11	11/14/97	53.74	10.58	43.16	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	1.6	
A-11	03/18/98	53.74	8.14	45.60	Not Sampled: Well Sampled Semiannually								
A-11	05/19/98	53.74	9.40	44.34	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	1.13	P
A-11	07/29/98	53.74	10.32	43.42	Not Sampled: Well Sampled Semiannually								
A-11	10/09/98	53.74	10.91	42.83	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	2.0	NP
A-11	02/19/99	53.74	6.77	46.97	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	1.8	NP
A-11	06/02/99	53.74	10.95	42.79	<50	<0.5	<0.5	<0.5	<0.5	6	NA	1.38	NP
A-11	08/26/99	53.74	11.05	42.69	Not Sampled: Well Sampled Semiannually								
A-11	10/26/99	53.74	10.81	42.93	<50	<0.5	<0.5	<0.5	<1	4	NA	0.49	NP
A-11	02/25/00	53.74	6.70	47.04	Not Sampled: Well Sampled Semiannually								
A-12	03/26/96	52.05	7.83	44.22	Not Sampled: Well Sampled Semiannually								
A-12	05/22/96	52.05	7.80	44.25	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NM	
A-12	08/22/96	52.05	9.97	42.08	Not Sampled: Well Sampled Semiannually								
A-12	12/19/96	52.05	8.18	43.87	85	<0.5	<0.5	<0.5	<0.5	170	NA	NM	
A-12	04/01/97	52.05	10.30	41.75	Not Sampled: Well Sampled Semiannually								
A-12	05/27/97	52.05	10.05	42.00	50	12	<0.5	<0.5	<0.5	96	NA	NM	
A-12	08/12/97	52.05	10.46	41.59	Not Sampled: Well Sampled Semiannually								
A-12	11/14/97	52.05	9.70	42.35	<50	<0.5	<0.5	<0.5	<0.5	75	NA	7.0	
A-12	03/18/98	52.05	8.15	43.90	Not Sampled: Well Sampled Semiannually								
A-12	05/19/98	52.05	9.15	42.90	<50	<0.5	<0.5	<0.5	<0.5	29	NA	1.47	P
A-12	07/29/98	52.05	9.38	42.67	Not Sampled: Well Sampled Semiannually								
A-12	10/09/98	52.05	10.21	41.84	<50	<0.5	<0.5	<0.5	<0.5	7	NA	2.0	NP
A-12	02/19/99	52.05	6.96	45.09	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	5.2	NP
A-12	06/02/99	52.05	10.25	41.80	<50	<0.5	<0.5	<0.5	<0.5	7	NA	1.38	NP
A-12	08/26/99	52.05	9.91	42.14	Not Sampled: Well Sampled Semiannually								
A-12	10/26/99	52.05	9.73	42.32	<50	<0.5	<0.5	<0.5	<1	12	NA	0.51	NP
A-12	02/25/00	52.05	6.97	45.08	Not Sampled: Well Sampled Semiannually								
A-13	03/26/96	55.11			Well Inaccessible								
A-13	05/22/96	55.11			Well Inaccessible								

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**Table 1**  
**Groundwater Elevation and Analytical Data**  
**Total Purgeable Petroleum Hydrocarbons**  
**(TPPH as Gasoline, BTEX Compounds, and MTBE)**  
**ARCO Service Station 4931**  
**731 West MacArthur Boulevard, Oakland, California**

Well Number	Date Gauged/ Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOB)	Groundwater Elevation (feet, MSL)	TPH Gasolines (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl- benzene (ppb)	Total Xylenes (ppb)	MTBE 8021B* (ppb)	MTBE 8260 (ppb)	Dissolved Oxygen (ppm)	Purged/ Not Purged (P/NP)
A-13	08/22/96	55.11											
A-13	12/19/96	55.11											Well Inaccessible
A-13	04/01/97	55.11											Well Inaccessible
A-13	05/27/97	55.11											Well Inaccessible
A-13	08/12/97	55.11											Well Inaccessible
A-13	11/14/97	55.11											Well Inaccessible
A-13	03/18/98	55.11											Well Inaccessible
A-13	05/19/98	55.11											Well Inaccessible
A-13	07/29/98	55.11											Well Inaccessible
A-13	10/09/98	55.11											Well Inaccessible
A-13	02/19/99	55.11											Well Inaccessible
A-13	06/02/99	55.11											Well Inaccessible
A-13	08/26/99	55.11											Well Inaccessible
A-13	10/26/99	55.11											Well Inaccessible
A-13	02/25/00	55.11											Well Inaccessible
AR-1	03/26/96	54.72	8.13	46.59	6,200	110	64	38	520	NA	NA		NM
AR-1	05/22/96	54.72	8.57	46.15	NS	NS	NS	NS	NS	NS	NS		NM
AR-1	08/22/96	54.72	10.97	43.75	5,600	100	28	29	310	960	NA		NM
AR-1	12/19/96	54.72	8.93	45.79	Not Sampled: Well Removed from Sampling Program								
AR-1	04/01/97	54.72	11.78	42.94	Not Sampled: Well Removed from Sampling Program								
AR-1	05/27/97	54.72	10.76	43.96	Not Sampled: Well Removed from Sampling Program								
AR-1	08/12/97	54.72	11.40	43.32	Not Sampled: Well Removed from Sampling Program								
AR-1	11/14/97	54.72	10.80	43.92	Not Sampled: Well Removed from Sampling Program								
AR-1	03/18/98	54.72	NM	NM	Not Sampled: Well Removed from Sampling Program								
AR-1	05/19/98	54.72	NM	NM	Not Sampled: Well Removed from Sampling Program								
AR-1	07/29/98	54.72	10.17	44.55	Not Sampled: Well Removed from Sampling Program								
AR-1	10/09/98	54.72	11.25	43.47	Not Sampled: Well Removed from Sampling Program								
AR-1	02/19/99	54.72	7.02	47.70	Not Sampled: Well Removed from Sampling Program								
AR-1	06/02/99	54.72	11.00	43.72	Not Sampled: Well Removed from Sampling Program								
AR-1	08/26/99	54.72	10.96	43.76	Not Sampled: Well Removed from Sampling Program								
AR-1	10/26/99	54.72	10.68	44.04	Not Sampled: Well Removed from Sampling Program								0.39
													1.39

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**Table 1**  
**Groundwater Elevation and Analytical Data**  
**Total Purgeable Petroleum Hydrocarbons**  
**(TPPH as Gasoline, BTEX Compounds, and MTBE)**

**ARCO Service Station 4931**  
**731 West MacArthur Boulevard, Oakland, California**

Well Number	Date Gauged/ Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOB)	Groundwater Elevation (feet, MSL)	TPH Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl- benzene (ppb)	Total Xylenes (ppb)	MTBE 8021B* (ppb)	MTBE 8260 (ppb)	Dissolved Oxygen (ppm)	Purged/ Not Purged (P/NP)
AR-1	02/25/00	54.72	7.15	47.57	Not Sampled: Well Removed from Sampling Program								
AR-2	03/26/96	54.77	4.93	49.84	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NM	
AR-2	05/22/96	54.77	5.65	49.12	NS	NS	NS	NS	NS	NS	NS	NM	
AR-2	08/22/96	54.77	7.27	47.50	<50	<0.5	<0.5	<0.5	<0.5	NS	NS	NM	
AR-2	12/19/96	54.77	7.78	46.99	Not Sampled: Well Removed from Sampling Program								
AR-2	04/01/97	54.77	6.80	47.97	Not Sampled: Well Removed from Sampling Program								
AR-2	05/27/97	54.77	6.32	48.45	Not Sampled: Well Removed from Sampling Program								
AR-2	08/12/97	54.77	7.43	47.34	Not Sampled: Well Removed from Sampling Program								
AR-2	11/14/97	54.77	8.95	45.82	Not Sampled: Well Removed from Sampling Program								
AR-2	03/18/98	54.77	NM	NM	Not Sampled: Well Removed from Sampling Program								
AR-2	05/19/98	54.77	NM	NM	Not Sampled: Well Removed from Sampling Program								
AR-2	07/29/98	54.77	4.47	50.30	Not Sampled: Well Removed from Sampling Program								
AR-2	10/09/98	54.77	6.90	47.87	Not Sampled: Well Removed from Sampling Program								
AR-2	02/19/99	54.77	3.80	50.97	Not Sampled: Well Removed from Sampling Program								
AR-2	06/02/99	54.77	4.61	50.16	Not Sampled: Well Removed from Sampling Program								
AR-2	08/26/99	54.77	5.22	49.55	Not Sampled: Well Removed from Sampling Program								
AR-2	10/26/99	54.77	3.20	51.57	Not Sampled: Well Removed from Sampling Program								
AR-2	02/25/00	54.77	2.33	52.44	Not Sampled: Well Removed from Sampling Program								
AR-3	03/26/96	54.19	7.95	46.24	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NM	
AR-3	05/22/96	54.19	8.30	45.89	NS	NS	NS	NS	NS	NS	NS	NM	
AR-3	08/22/96	54.19	10.84	43.35	Not Sampled: Well Removed from Sampling Program								
AR-3	12/19/96	54.19	8.56	45.63	Not Sampled: Well Removed from Sampling Program								
AR-3	04/01/97	54.19	11.24	42.95	Not Sampled: Well Removed from Sampling Program								
AR-3	05/27/97	54.19	10.67	43.52	Not Sampled: Well Removed from Sampling Program								
AR-3	08/12/97	54.19	11.10	43.09	Not Sampled: Well Removed from Sampling Program								
AR-3	11/14/97	54.19	10.60	43.59	Not Sampled: Well Removed from Sampling Program								
AR-3	03/18/98	54.19	NM	NM	Not Sampled: Well Removed from Sampling Program								
AR-3	05/19/98	54.19	NM	NM	Not Sampled: Well Removed from Sampling Program								
AR-3	07/29/98	54.19	9.95	44.24	Not Sampled: Well Removed from Sampling Program								
AR-3	10/09/98	54.19	11.20	42.99	Not Sampled: Well Removed from Sampling Program								

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**Table 1**  
**Groundwater Elevation and Analytical Data**  
**Total Purgeable Petroleum Hydrocarbons**  
**(TPPH as Gasoline, BTEX Compounds, and MTBE)**

**ARCO Service Station 4931**  
**731 West MacArthur Boulevard, Oakland, California**

Well Number	Date Gauged/ Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOB)	Groundwater Elevation (feet, MSL)	TPH Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl- benzene (ppb)	Total Xylenes (ppb)	MTBE 8021B* (ppb)	MTBE 8260 (ppb)	Dissolved Oxygen (ppm)	Purged/ Not Purged (P/NP)	
AR-3	02/19/99	54.19	6.98	47.21	Not Sampled: Well Removed from Sampling Program									
AR-3	06/02/99	54.19	10.80	43.39	Not Sampled: Well Removed from Sampling Program									
AR-3	08/26/99	54.19	10.69	43.50	Not Sampled: Well Removed from Sampling Program									
AR-3	10/26/99	54.19	NM	NM	Not Sampled: Well Removed from Sampling Program								0.40	
AR-3	02/25/00	54.19	7.21	46.98	Not Sampled: Well Removed from Sampling Program									

TPH	- Total petroleum hydrocarbons by modified EPA method 8015
BTEX	- Benzene, toluene, ethylbenzene, total xylenes by EPA method 8021B. (EPA method 8020 prior to 10/26/99).
MTBE	- Methyl tert-butyl ether
*	- EPA method 8020 prior to 10/26/99
MSL	- Mean sea level
TOB	- Top of box
ppb	- Parts per billion
ppm	- Parts per million
<	- Less than laboratory detection limit stated to the right
NA	- Not analyzed
NM	- Not measured
NS	- Not sampled

**Table 2  
Groundwater Flow Direction and Gradient**

**ARCO Service Station 4931  
731 West MacArthur Boulevard, Oakland, California**

<b>Date Measured</b>	<b>Average Flow Direction</b>	<b>Average Hydraulic Gradient</b>
03/26/96	Southwest	0.03
05/22/96	Southwest	0.04
08/22/96	Southwest	0.02
12/19/96	Southwest	0.03
04/01/97	Southwest	0.03
05/27/97	Southwest	0.04
08/12/97	Southwest	0.02
11/14/97	Southwest	0.02
03/18/98	West	0.03
05/19/98	West-Southwest	0.02
07/29/98	West-Southwest	0.02
10/09/98	Southwest	0.007
02/19/99	Southwest	0.04
06/02/99	West	0.04
08/26/99	West-Southwest	0.02
10/26/99	West-Northwest	0.13
02/25/00	West-Southwest	0.05

**ATTACHMENT D**

**ERROR CHECK REPORTS AND EDF/GEOWELL SUBMITTAL  
CONFIRMATIONS**

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**Submittal Title: 1Q05 Geowell Submittal Site  
4931**

**Submittal Date/Time: 2/17/2005 4:48:15 PM**

**Confirmation  
Number: 9887573063**

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**Confirmation Number:** 3968174874  
**Date/Time of Submittal:** 2/17/2005 4:31:15 PM  
**Facility Global ID:** T0600100110  
**Facility Name:** ARCO # 04931  
**Submittal Title:** 1Q05 GW Monitoring Report Site 4931  
**Submittal Type:** GW Monitoring Report

Click [here](#) to view the detections report for this upload.

<b>ARCO # 04931</b> 731 MACARTHUR BLVD W OAKLAND, CA 94609	<b>Regional Board - Case #: 01-0118</b> SAN FRANCISCO BAY RWQCB (REGION 2) - (BG) <b>Local Agency (lead agency) - Case #: 3874</b> ALAMEDA COUNTY LOP - (AG)
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<b>CONF #</b>	<b>TITLE</b>	<b>QUARTER</b>
3968174874	1Q05 GW Monitoring Report Site 4931	Q1 2005
<b>SUBMITTED BY</b>	<b>SUBMIT DATE</b>	<b>STATUS</b>
Srijesh Thapa	2/17/2005	PENDING REVIEW

**SAMPLE DETECTIONS REPORT**

# FIELD POINTS SAMPLED	5
# FIELD POINTS WITH DETECTIONS	5
# FIELD POINTS WITH WATER SAMPLE DETECTIONS ABOVE MCL	3
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	Y

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

TECHNICAL HOLDING TIME VIOLATIONS	0
METHOD HOLDING TIME VIOLATIONS	0
LAB BLANK DETECTIONS ABOVE REPORTING DETECTION LIMIT	0
LAB BLANK DETECTIONS	0
DO ALL BATCHES WITH THE 8021/8260 SERIES INCLUDE THE FOLLOWING?	
- LAB METHOD BLANK	Y
- MATRIX SPIKE	Y
- MATRIX SPIKE DUPLICATE	Y
- BLANK SPIKE	Y
- SURROGATE SPIKE	Y

**WATER SAMPLES FOR 8021/8260 SERIES**

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

MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30%	Y	
SURROGATE SPIKES % RECOVERY BETWEEN 85-115%	Y	
BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130%	Y	
<b>SOIL SAMPLES FOR 8021/8260 SERIES</b>		
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135%	n/a	
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 70-130%	n/a	
<b>FIELD QC SAMPLES</b>		
<u>SAMPLE</u>	<u>COLLECTED</u>	<u>DETECTIONS &gt; REPD</u>
QCTB SAMPLES	N	0
QCEB SAMPLES	N	0
QCAB SAMPLES	N	0

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<u>GLOBAL ID:</u>	T0600100110
<u>FILE UPLOADED:</u>	ARCO#4931-EDF-MOB0194.zip

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Click [here](#) to view the detections report for this upload.

<b>ARCO # 04931</b>	<b><u>Regional Board - Case #: 01-0118</u></b>
731 MACARTHUR BLVD	SAN FRANCISCO BAY RWQCB (REGION
W	2) - (BG)
OAKLAND, CA 94609	<b><u>Local Agency (lead agency) - Case #: 3874</u></b>
	ALAMEDA COUNTY LOP - (AG)

#### SAMPLE DETECTIONS REPORT

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# FIELD POINTS WITH DETECTIONS	5
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- 8260FA REQUIRES BR4FBZ TO BE TESTED	
- 8260FA REQUIRES BZMED8 TO BE TESTED	
LAB NOTE DATA QUALIFIERS	Y

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

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

- BLANK SPIKE		Y
- SURROGATE SPIKE		Y
<b><u>WATER SAMPLES FOR 8021/8260 SERIES</u></b>		
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135%		Y
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30%		Y
SURROGATE SPIKES % RECOVERY BETWEEN 85-115%		Y
BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130%		Y
<b><u>SOIL SAMPLES FOR 8021/8260 SERIES</u></b>		
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135%		n/a
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 70-130%		n/a
<b><u>FIELD QC SAMPLES</u></b>		
<u>SAMPLE</u>	<u>COLLECTED</u>	<u>DETECTIONS &gt; REPD</u>
QCTB SAMPLES	N	0
QCEB SAMPLES	N	0
QCAB SAMPLES	N	0

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