

October 26, 2004

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

OCT 28 2004

**Re: Third Quarter 2004 Groundwater Monitoring Report  
ARCO Service Station #2169  
889 West Grand Avenue  
Oakland, California  
URS Project #38486719**

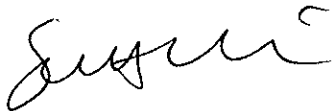
Dear Mr. Schultz:

On behalf of Atlantic Richfield Company, a BP affiliated company, URS Corporation (URS) is submitting the *Third Quarter 2004 Groundwater Monitoring Report* for ARCO Service Station #2169, located at 889 West Grand Avenue, Oakland, California.

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

Sincerely,

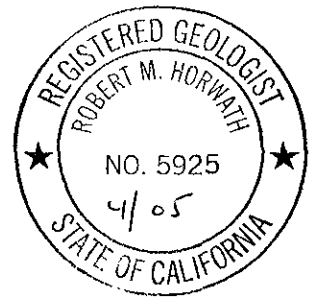
**URS CORPORATION**



Scott Robinson  
Project Manager



Robert Horwath, R.G.  
Portfolio Manager



Enclosure: Third Quarter 2004 Groundwater Monitoring Report

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

**R E P O R T**

**THIRD QUARTER 2004  
GROUNDWATER MONITORING**

ARCO SERVICE STATION #2169  
889 WEST GRAND AVENUE  
OAKLAND, CALIFORNIA

*Prepared for*  
RM

October 26, 2004

**URS**

URS Corporation  
1333 Broadway, Suite 800  
Oakland, California 94612

38486719

Date: October 26, 2004  
Quarter: 3Q 04

### RM QUARTERLY GROUNDWATER MONITORING REPORT

Facility No.: 2169 Address: 889 West Grand Avenue, Oakland, California  
RM Environmental Business Manager: Paul Supple  
Consulting Co./Contact Person: URS Corporation / Scott Robinson  
Consultant Project No.: 38486719  
Primary Agency: Alameda County Environmental Health (ACEH)

#### WORK PERFORMED THIS QUARTER (Third – 2004):

1. Performed third quarter 2004 groundwater monitoring event on September 2 and 20, 2004.
2. Prepared and submitted second quarter 2004 groundwater monitoring report.

#### WORK PROPOSED FOR NEXT QUARTER (Fourth – 2004):

1. Perform fourth quarter 2004 groundwater monitoring event.
2. Prepare and submit third quarter 2004 groundwater monitoring report.
3. Permanently remove Oxygen Releasing Compound (ORC) socks from wells A-1, A-5, A-6, AR-2 and ADR-1.
4. Prepare and submit fourth quarter 2004 groundwater monitoring report.

Current Phase of Project: GW monitoring/sampling  
Frequency of Groundwater Sampling: Beginning fourth quarter 2003:  
Annual: (3<sup>rd</sup> Quarter): A-2, AR-1, AR-2, ADR-2  
Quarterly: A-1, A-5, A-6 and ADR-1  
Frequency of Groundwater Monitoring: Quarterly  
Is Free Product (FP) Present On-Site: No  
FP Recovered this Quarter: None  
Cumulative FP Recovered to Date: 4.8 gallons, wells ADR-1 and ADR-2  
Bulk Soil Removed This Quarter: None  
Bulk Soil Removed to Date: 2,196 cubic yards of TPH impacted soil  
Current Remediation Techniques: Natural Attenuation / ORC; A-1, A-5, A-6, AR-2, and ADR-1  
Approximate Depth to Groundwater: 10.47 (AR-6) to 12.15 (A-3) feet  
Groundwater Gradient (direction): West-Northwest  
Groundwater Gradient (magnitude): 0.005 feet per foot

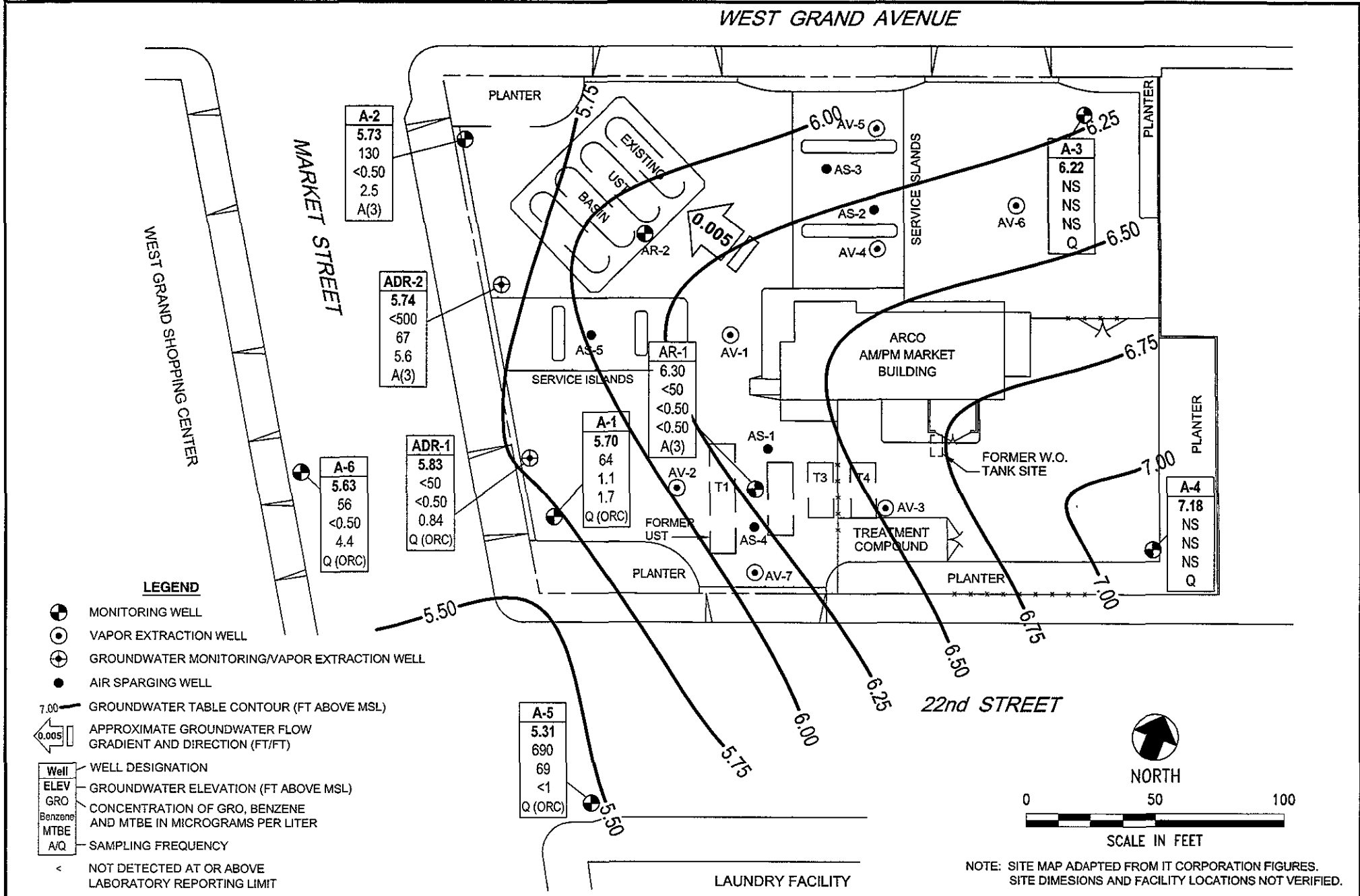
#### DISCUSSION:

Gasoline range organics (GRO) were detected at or above the laboratory reporting limit in four of the nine wells sampled this quarter at concentrations ranging from 56 micrograms per liter ( $\mu\text{g/L}$ ) (A-6) to 690  $\mu\text{g/L}$  (A-5). Benzene was detected at or above the laboratory reporting limit in three wells at concentrations ranging from 1.1  $\mu\text{g/L}$  (A-1) to 69  $\mu\text{g/L}$  (A-5). Methyl tert-butyl ether (MTBE) was detected at or above the laboratory reporting limit in five wells at concentrations ranging from 0.84  $\mu\text{g/L}$  (ADR-1) to 5.6  $\mu\text{g/L}$  (ADR-2).

Also, well AR-2 was sampled on September 20 because a car was parked on it during the initial event on September 2.

**ATTACHMENTS:**

- Figure 1 – Groundwater Elevation Contour and Analytical Summary Map – September 2, 2004
- Table 1 – Groundwater Elevation and Analytical Data
- Table 2 -- Fuel Additive 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



**LEGEND**

- MONITORING WELL
- VAPOR EXTRACTION WELL
- GROUNDWATER MONITORING/VAPOR EXTRACTION WELL
- AIR SPARGING WELL
- 7.00 GROUNDWATER TABLE CONTOUR (FT ABOVE MSL)
- APPROXIMATE GROUNDWATER FLOW GRADIENT AND DIRECTION (FT/FT)
- | Well | ELEV | GRO | Benzene | MTBE | A/Q |
|------|------|-----|---------|------|-----|
|      |      |     |         |      |     |

 WELL DESIGNATION
- | Well | ELEV | GRO | Benzene | MTBE | A/Q |
|------|------|-----|---------|------|-----|
|      |      |     |         |      |     |

 GROUNDWATER ELEVATION (FT ABOVE MSL)
- | Well | ELEV | GRO | Benzene | MTBE | A/Q |
|------|------|-----|---------|------|-----|
|      |      |     |         |      |     |

 CONCENTRATION OF GRO, BENZENE AND MTBE IN MICROGRAMS PER LITER
- | Well | ELEV | GRO | Benzene | MTBE | A/Q |
|------|------|-----|---------|------|-----|
|      |      |     |         |      |     |

 SAMPLING FREQUENCY

- < NOT DETECTED AT OR ABOVE LABORATORY REPORTING LIMIT
- NS NOT SAMPLED
- A(3) SAMPLED ANNUALLY, 3RD QUARTER
- Q SAMPLED QUARTERLY
- ORC OXYGEN RELEASING COMPOUND SOCK

NOTE: SITE MAP ADAPTED FROM IT CORPORATION FIGURES. SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

	Project No. 38486719	<b>GROUNDWATER ELEVATION CONTOUR AND ANALYTICAL SUMMARY MAP</b> Third Quarter 2004 (September 2, 2004)	FIGURE <b>1</b>
	ARCO Service Station 2169 889 West Grand Avenue Oakland, California		

Table 1

## Groundwater Elevation and Analytical Data

ARCO Station #2169

889 W. Grand Ave., Oakland, CA

Well No.	Date	P/ NP	Notes	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Product Thickness (feet)	GWE (feet)	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-1	6/26/2000	--	e	14.16	8.00	28.00	10.75	--	3.41	--	--	--	--	--	--	--	--
	7/20/2000	--		14.16	8.00	28.00	11.01	--	3.15	3,900	1,100	28	12	46	25	--	--
	9/19/2000	--		14.16	8.00	28.00	11.26	--	2.90	4,800	2,400	27	20	57	32	--	--
	12/26/2000	--		14.16	8.00	28.00	10.96	--	3.20	429	104	2.85	12.2	9.91	18.7	--	--
	3/20/2001	--		14.16	8.00	28.00	9.59	--	4.57	<500	13.9	7.12	13.9	23.2	<25	--	--
	6/12/2001	--		14.16	8.00	28.00	10.83	--	3.33	140	2.2	<0.5	8.7	9.2	25	--	--
	9/23/2001	--		14.16	8.00	28.00	11.43	--	2.73	<50	<0.50	<0.50	<0.50	<0.50	4.5	--	--
	12/28/2001	--		14.16	8.00	28.00	8.66	--	5.50	930	250	7.6	21	13	<25	--	--
	3/21/2002	--		14.16	8.00	28.00	8.43	--	5.73	<50	<0.5	<0.5	<0.5	1.2	<2.5	--	--
	4/17/2002	--		14.16	8.00	28.00	9.36	--	4.80	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	8/14/2002	--	b (TPH-g)	14.16	8.00	28.00	11.12	--	3.04	170	8.4	<0.5	<0.5	1.4	4.9	5.7	7.4
	11/27/2002	--	b (TPH-g)	14.16	8.00	28.00	11.11	--	3.05	98	2.9	0.75	<0.5	<0.5	6.4	1.6	7.0
	2/12/2003	--	d	14.16	8.00	28.00	10.10	--	4.06	73	9.3	<0.50	1	0.53	2.9	2.1	7.2
	5/22/2003	--		14.16	8.00	28.00	10.18	--	3.98	400	88	1.6	4.6	11	4.9	1.3	7.4
	7/23/2003	--		14.16	8.00	28.00	10.85	--	3.31	140	3.2	<0.50	<0.50	0.56	10	10.8	7.4
	11/13/2003	P	f	14.16	8.00	28.00	11.35	--	2.81	<50	0.64	<0.50	<0.50	<0.50	4.2	4.3	7.75
02/16/2004	P	f, i	16.75	8.00	28.00	9.65	--	7.10	99	18	<0.50	1.2	0.96	3.2	7.2	7.6	
05/06/2004	P		16.75	8.00	28.00	10.57	--	6.18	<50	0.73	<0.50	<0.50	<0.50	1.9	1.23	6.93	
09/02/2004	P		16.75	8.00	28.00	11.05	--	5.70	64	1.1	<0.50	<0.50	<0.50	1.7	12.1	8.7	
A-2	6/26/2000	--	e	14.55	8.50	28.50	11.27	--	3.28	--	--	--	--	--	--	--	--
	7/20/2000	--		14.55	8.50	28.50	11.52	--	3.03	<50	<0.5	<0.5	<0.5	<1.0	<3	--	--
	9/19/2000	--		14.55	8.50	28.50	11.63	--	2.92	--	--	--	--	--	--	--	--
	12/26/2000	--		14.55	8.50	28.50	11.44	--	3.11	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	3/20/2001	--		14.55	8.50	28.50	10.08	--	4.47	--	--	--	--	--	--	--	--
	6/12/2001	--		14.55	8.50	28.50	11.35	--	3.20	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	9/23/2001	--		14.55	8.50	28.50	11.92	--	2.63	--	--	--	--	--	--	--	--
	12/28/2001	--		14.55	8.50	28.50	9.31	--	5.24	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	3/21/2002	--		14.55	8.50	28.50	9.05	--	5.50	--	--	--	--	--	--	--	--
	4/17/2002	--		14.55	8.50	28.50	9.88	--	4.67	52	<0.5	<0.5	<0.5	<0.5	26	--	--
	8/14/2002	--	c (X)	14.55	8.50	28.50	11.62	--	2.93	<50	<0.5	<0.5	<0.5	1.2	<2.5	3.7	7.2
	11/27/2002	--		14.55	8.50	28.50	11.56	--	2.99	--	--	--	--	--	--	--	--
2/12/2003	--	d	14.55	8.50	28.50	10.75	--	3.80	<50	<0.50	<0.50	<0.50	<0.50	12	2.9	7.1	
5/22/2003	--		14.55	8.50	28.50	10.72	--	3.83	--	--	--	--	--	--	--	--	

Table 1

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Well No.	Date	P/ NP	Notes	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Product Thickness (feet)	GWE (feet)	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-2	7/23/2003	--		14.55	8.50	28.50	11.39	--	3.16	<50	<0.50	<0.50	<0.50	<0.50	2.6	1.3	6.8
	11/13/2003	--		14.55	8.50	28.50	11.60	--	2.95	--	--	--	--	--	--	--	--
	02/16/2004	--	i	17.18	8.50	28.50	10.27	--	6.91	--	--	--	--	--	--	--	--
	05/06/2004	--		17.18	8.50	28.50	11.05	--	6.13	--	--	--	--	--	--	--	--
	09/02/2004	P		17.18	8.50	28.50	11.45	--	5.73	130	<0.50	<0.50	<0.50	<0.50	2.5	5.1	7.4
A-3	6/26/2000	--	e	15.75	5.00	21.90	11.98	--	3.77	--	--	--	--	--	--	--	--
	7/20/2000	--		15.75	5.00	21.90	12.21	--	3.54	--	--	--	--	--	--	--	--
	9/19/2000	--		15.75	5.00	21.90	12.50	--	3.25	--	--	--	--	--	--	--	--
	12/26/2000	--		15.75	5.00	21.90	12.17	--	3.58	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	3/20/2001	--		15.75	5.00	21.90	10.70	--	5.05	--	--	--	--	--	--	--	--
	6/12/2001	--		15.75	5.00	21.90	12.09	--	3.66	--	--	--	--	--	--	--	--
	9/23/2001	--		15.75	5.00	21.90	12.65	--	3.10	--	--	--	--	--	--	--	--
	12/28/2001	--		15.75	5.00	21.90	9.94	--	5.81	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	3/21/2002	--		15.75	5.00	21.90	9.69	--	6.06	--	--	--	--	--	--	--	--
	4/17/2002	--		15.75	5.00	21.90	10.61	--	5.14	--	--	--	--	--	--	--	--
	8/14/2002	--		15.75	5.00	21.90	12.27	--	3.48	--	--	--	--	--	--	--	--
	11/27/2002	--		15.75	5.00	21.90	12.22	--	3.53	--	--	--	--	--	--	--	--
	2/12/2003	--	d	15.75	5.00	21.90	11.40	--	4.35	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.2	6.9
	5/22/2003	--		15.75	5.00	21.90	11.42	--	4.33	--	--	--	--	--	--	--	--
	7/23/2003	--		15.75	5.00	21.90	12.00	--	3.75	--	--	--	--	--	--	--	--
	02/16/2004	--	g, i	18.37	5.00	21.90	10.94	--	7.43	--	--	--	--	--	--	--	--
05/06/2004	--		18.37	5.00	21.90	11.75	--	6.62	--	--	--	--	--	--	--	--	
09/02/2004	--		18.37	5.00	21.90	12.15	--	6.22	--	--	--	--	--	--	--	--	
A-4	6/26/2000	--	e	15.25	5.00	26.30	10.99	--	4.26	--	--	--	--	--	--	--	--
	7/20/2000	--		15.25	5.00	26.30	11.16	--	4.09	--	--	--	--	--	--	--	--
	9/19/2000	--		15.25	5.00	26.30	11.97	--	3.28	--	--	--	--	--	--	--	--
	12/26/2000	--		15.25	5.00	26.30	11.19	--	4.06	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	3/20/2001	--		15.25	5.00	26.30	9.81	--	5.44	--	--	--	--	--	--	--	--
	6/12/2001	--		15.25	5.00	26.30	11.12	--	4.13	--	--	--	--	--	--	--	--
	9/23/2001	--		15.25	5.00	26.30	11.63	--	3.62	--	--	--	--	--	--	--	--
	12/28/2001	--		15.25	5.00	26.30	8.41	--	6.84	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	3/21/2002	--		15.25	5.00	26.30	8.63	--	6.62	--	--	--	--	--	--	--	--
4/17/2002	--		15.25	5.00	26.30	9.68	--	5.57	--	--	--	--	--	--	--	--	

Table 1

## Groundwater Elevation and Analytical Data

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Well No.	Date	P/ NP	Notes	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Product Thickness (feet)	GWE (feet)	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-4	8/14/2002	--		15.25	5.00	26.30	11.31	--	3.94	--	--	--	--	--	--	--	--
	11/27/2002	--		15.25	5.00	26.30	11.25	--	4.00	--	--	--	--	--	--	--	--
	2/12/2003	--	d	15.25	5.00	26.30	10.37	--	4.88	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.9	7.1
	5/22/2003	--		15.25	5.00	26.30	10.42	--	4.83	--	--	--	--	--	--	--	--
	7/23/2003	--		15.25	5.00	26.30	11.02	--	4.23	--	--	--	--	--	--	--	--
	02/16/2004	--	g, i	18.01	5.00	26.30	9.65	--	8.36	--	--	--	--	--	--	--	--
	05/06/2004	--		18.01	5.00	26.30	10.68	--	7.33	--	--	--	--	--	--	--	--
	09/02/2004	--		18.01	5.00	26.30	10.83	--	7.18	--	--	--	--	--	--	--	--
A-5	6/26/2000	--		13.51	8.51		10.04	--	3.47	--	--	--	--	--	--	--	--
	7/20/2000	--		13.51	8.51		10.31	--	3.20	730	140	11	<0.5	8.9	3	--	--
	9/19/2000	--		13.51	8.51		10.55	--	2.96	160	13	<0.5	2.8	1.9	<3	--	--
	12/26/2000	--		13.51	8.51		10.37	--	3.14	8,120	465	108	659	1,450	<250	--	--
	3/20/2001	--		13.51	8.51		8.81	--	4.70	7,990	1,110	473	611	1,580	<250	--	--
	6/12/2001	--		13.51	8.51		10.13	--	3.38	450	91	18	35	95	<5.0	--	--
	9/23/2001	--		13.51	8.51		10.80	--	2.71	110	20	<0.5	5	5	2.7	--	--
	12/28/2001	--		13.51	8.51		8.17	--	5.34	320	24	2	20	27	5	--	--
	3/21/2002	--		13.51	8.51		7.78	--	5.73	2,500	420	85	130	350	31	--	--
	4/17/2002	--		13.51	8.51		8.68	--	4.83	1,300	190	36	67	210	<25	--	--
	8/14/2002	--	b (TPH-g)	13.51	8.51		10.41	--	3.10	840	150	<5.0	68	41	<25	1.4	6.8
	11/27/2002	--	b (TPH-g)	13.51	8.51		10.50	--	3.01	300	26	2.3	17	6	<0.5	1.16	7.2
	2/12/2003	--	d	13.51	8.51		10.81	--	2.70	<500	74	7	34	45	<5.0	1.0	7.3
	5/22/2003	--		13.51	8.51		9.46	--	4.05	500	100	9	28	47	<5.0	1.0	7.6
	7/23/2003	--		13.51	8.51		10.29	--	3.22	900	100	5.7	65	57	<5.0	4.5	8.4
	11/13/2003	NP	f	13.51	9.00	--	11.24	--	2.27	1,800	210	5.1	190	140	<5.0	4.3	7.32
02/16/2004	NP	h, i	16.09	9.00	25.00	9.45	--	6.64	680	52	15	50	77	<0.50	5.0	7.8	
05/06/2004	P		16.09	9.00	25.00	10.28	--	5.81	1,500	140	13	72	110	<2.5	1.03	6.93	
09/02/2004	NP		16.09	9.00	25.00	10.78	--	5.31	690	69	1.3	42	35	<1.0	1.3	7.1	
A-6	6/26/2000	--	e	13.51	10.00	25.00	10.09	--	3.42	--	--	--	--	--	--	--	--
	7/20/2000	--		13.51	10.00	25.00	10.91	--	2.60	170	<0.5	<0.5	0.6	2	6	--	--
	9/19/2000	--		13.51	10.00	25.00	11.27	--	2.24	<50	<0.5	<0.5	<0.5	<1.0	6	--	--
	12/26/2000	--		13.51	10.00	25.00	10.65	--	2.86	56.2	<0.5	<0.5	<0.5	<0.5	8.17	--	--
	3/20/2001	--		13.51	10.00	25.00	8.72	--	4.79	216	<0.5	<0.5	<0.5	1.8	19.9	--	--
	6/12/2001	--		13.51	10.00	25.00	10.80	--	2.71	80	0.62	<0.5	<0.5	<0.5	15	--	--



Table 1

## Groundwater Elevation and Analytical Data

ARCO Station #2169

889 W. Grand Ave., Oakland, CA

Well No.	Date	P/ NP	Notes	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Product Thickness (feet)	GWE (feet)	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	9/23/2001	--		13.51	10.00	25.00	10.79	--	2.72	450	1.7	1.9	2.3	3.3	53	--	--
	12/28/2001	--		13.51	10.00	25.00	8.05	--	5.46	270	0.98	3.5	0.77	1.4	26	--	--
	3/21/2002	--		13.51	10.00	25.00	7.83	--	5.68	130	<0.5	<0.5	<0.5	<0.5	19	--	--
	4/17/2002	--		13.51	10.00	25.00	8.73	--	4.78	<50	<0.5	<0.5	<0.5	<0.5	16	--	--
	8/14/2002	--	b (TPH-g)	13.51	10.00	25.00	10.43	--	3.08	980	4.8	2.6	2	4.9	75	1.5	7.1
	11/27/2002	--	b (TPH-g)	13.51	10.00	25.00	10.47	--	3.04	280	<0.5	0.74	<0.5	<0.5	16	0.9	6.9
	2/12/2003	--	d	13.51	10.00	25.00	10.44	--	3.07	51	<0.50	<0.50	<0.50	<0.50	9.9	0.8	7.1
	5/22/2003	--		13.51	10.00	25.00	9.43	--	4.08	<50	<0.50	<0.50	<0.50	<0.50	11	1.2	8.2
	7/23/2003	--		13.51	10.00	25.00	10.27	--	3.24	120	<0.50	<0.50	<0.50	<0.50	14	>20	9.6
	11/13/2003	NP	f	13.51	10.00	--	11.20	--	2.31	<50	<0.50	<0.50	<0.50	<0.50	2.3	6.2	9.0
	02/16/2004	NP	h, i	16.10	10.00	25.00	9.76	--	6.34	50	<0.50	<0.50	<0.50	<0.50	3.9	6.5	8.3
	05/06/2004	P		16.10	10.00	25.00	10.03	--	6.07	110	<0.50	<0.50	<0.50	<0.50	7.1	1.01	7.02
	09/02/2004	NP		16.10	10.00	25.00	10.47	--	5.63	56	<0.50	<0.50	<0.50	<0.50	4.4	3.2	7.4
ADR-1	6/26/2000	--	e	13.95	9.00	29.50	10.55	--	3.40	--	--	--	--	--	--	--	--
	7/20/2000	--		13.95	9.00	29.50	10.85	--	3.10	180	29	<0.5	0.8	<1.0	22	--	--
	9/19/2000	--		13.95	9.00	29.50	11.08	--	2.87	120	7.4	<0.5	1.2	<1.0	22	--	--
	12/26/2000	--		13.95	9.00	29.50	10.93	--	3.02	<50	1.29	<0.5	<0.5	<0.5	14.7	--	--
	3/20/2001	--		13.95	9.00	29.50	9.32	--	4.63	225	23.4	<0.5	8.71	4.13	10.8	--	--
	6/12/2001	--		13.95	9.00	29.50	10.65	--	3.30	250	23	0.5	13	4.2	7.5	--	--
	9/23/2001	--		13.95	9.00	29.50	11.25	--	2.70	<50	1.4	<0.5	<0.5	0.57	2.8	--	--
	12/28/2001	--		13.95	9.00	29.50	8.43	--	5.52	250	16	<0.5	1.2	4.1	6.8	--	--
	3/21/2002	--		13.95	9.00	29.50	8.27	--	5.68	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	4/17/2002	--		13.95	9.00	29.50	9.17	--	4.78	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	8/14/2002	--		13.95	9.00	29.50	11.88	--	2.07	<50	1.1	<0.5	<0.5	<0.5	<2.5	3.4	6.7
	11/27/2002	--		13.95	9.00	29.50	10.91	--	3.04	<50	0.54	<0.5	<0.5	<0.5	1.1	1.8	6.8
	2/12/2003	--	d	13.95	9.00	29.50	9.95	--	4.00	<50	<0.50	<0.50	<0.50	<0.50	0.73	1.9	7.2
	5/22/2003	--		13.95	9.00	29.50	9.86	--	4.09	<50	0.96	<0.50	<0.50	<0.50	3.5	1.2	7.3
	7/23/2003	--		13.95	9.00	29.50	10.59	--	3.36	<50	2.5	<0.50	0.56	<0.50	4	>20	9.4
	11/13/2003	--	f	13.95	9.00	29.50	11.15	--	2.80	<50	0.60	<0.50	<0.50	<0.50	1.6	8.5	8.2
	02/16/2004	NP	f, i	16.56	9.00	29.50	9.43	--	7.13	<50	<0.50	<0.50	<0.50	<0.50	1.6	5.5	9.6
	05/07/2004	NP		16.56	9.00	29.50	10.41	--	6.15	<500	5.3	<5.0	<5.0	<5.0	<5.0	1.72	7.0
	09/02/2004	NP		16.56	9.00	29.50	10.73	--	5.83	<50	<0.50	<0.50	<0.50	<0.50	0.84	18.1	8.4
ADR-2	6/26/2000	--	e	14.64	8.00	28.00	11.22	--	3.42	--	--	--	--	--	--	--	--

Table 1

## Groundwater Elevation and Analytical Data

ARCO Station #2169

889 W. Grand Ave., Oakland, CA

Well No.	Date	P/ NP	Notes	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Product Thickness (feet)	GWE (feet)	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
ADR-2	7/20/2000	--		14.64	8.00	28.00	11.60	--	3.04	12,000	410	2.5	540	720	23	--	--
	9/19/2000	--		14.64	8.00	28.00	11.81	--	2.83	1,400	530	5	680	740	34	--	--
	12/26/2000	--		14.64	8.00	28.00	11.52	--	3.12	901	26.6	<5.0	21.4	32.5	32.8	--	--
	3/20/2001	--	Sheen	14.64	8.00	28.00	10.10	--	4.54	--	--	--	--	--	--	--	--
	6/12/2001	--	Sheen	14.64	8.00	28.00	11.41	--	3.23	--	--	--	--	--	--	--	--
	9/23/2001	--		14.64	8.00	28.00	11.98	--	2.66	5,300	370	<5.0	550	96	60	--	--
	12/28/2001	--		14.64	8.00	28.00	9.48	--	5.16	2,600	190	<5.0	160	29	61	--	--
	3/21/2002	--		14.64	8.00	28.00	9.10	--	5.54	180	6	<0.5	4.5	3.2	15	--	--
	4/17/2002	--		14.64	8.00	28.00	9.93	--	4.71	730	86	<0.5	13	<0.5	<25	--	--
	8/14/2002	--	b (TPH-g)	14.64	8.00	28.00	12.09	--	2.55	1,300	170	<10	100	47	<50	0.9	7.0
	11/27/2002	--	b (TPH-g)	14.64	8.00	28.00	11.66	--	2.98	1,800	240	3.1	120	14	74	0.6	6.9
	2/12/2003	--	d	14.64	8.00	28.00	10.74	--	3.90	760	120	<5.0	15	5.2	22	1.3	7.1
	5/22/2003	--		14.64	8.00	28.00	10.67	--	3.97	520	110	<5.0	7.1	<5.0	9.7	0.7	7.6
	7/23/2003	--		14.64	8.00	28.00	11.38	--	3.26	140	2.8	<0.50	5	0.98	8.4	>20	9.4
	02/16/2004	--	f, i	17.24	8.00	28.00	10.26	--	6.98	--	--	--	--	--	--	--	--
	05/06/2004	--		17.24	8.00	28.00	11.05	--	6.19	--	--	--	--	--	--	--	--
	09/02/2004	P		17.24	8.00	28.00	11.50	--	5.74	<500	67	<5.0	71	12	5.6	0.7	7.4
AR-1	6/26/2000	--		15.61	5.00	--	11.59	--	4.02	--	--	--	--	--	--	--	--
	7/20/2000	--		15.61	5.00	--	12.06	--	3.55	<50	<0.5	<0.5	<0.5	<1.0	6	--	--
	9/19/2000	--		15.61	5.00	--	11.89	--	3.72	<50	<0.5	<0.5	<0.5	<1.0	<3	--	--
	12/26/2000	--		15.61	5.00	--	11.95	--	3.66	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	03/20/01	--	a	15.61	5.00	--	--	--	--	--	--	--	--	--	--	--	--
	6/12/2001	--		15.61	5.00	--	11.87	--	3.74	<50	<0.5	<0.5	<0.5	<0.5	17	--	--
	9/23/2001	--		15.61	5.00	--	12.42	--	3.19	--	--	--	--	--	--	--	--
	12/28/2001	--		15.61	5.00	--	7.62	--	7.99	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	3/21/2002	--		15.61	5.00	--	9.37	--	6.24	--	--	--	--	--	--	--	--
	4/17/2002	--		15.61	5.00	--	10.43	--	5.18	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	8/14/2002	--		15.61	5.00	--	12.08	--	3.53	<50	<0.5	<0.5	<0.5	1.3	<2.5	2.2	7.9
	11/27/2002	--		15.61	5.00	--	12.00	--	3.61	--	--	--	--	--	--	--	--
	2/12/2003	--	d	15.61	5.00	--	10.89	--	4.72	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.8	7.9
	5/22/2003	--		15.61	5.00	--	11.18	--	4.43	--	--	--	--	--	--	--	--
	7/23/2003	--		15.61	5.00	--	11.73	--	3.88	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.3	7.7
	11/13/2003	--		15.61	5.00	--	12.05	--	3.56	--	--	--	--	--	--	--	--

**Table 1**  
**Groundwater Elevation and Analytical Data**  
 ARCO Station #2169  
 889 W. Grand Ave., Oakland, CA

Well No.	Date	P/ NP	Notes	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Product Thickness (feet)	GWE (feet)	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-1	02/16/2004	--		18.18	5.00	--	10.35	--	7.83	--	--	--	--	--	--	--	--	
	05/06/2004	--		18.18	5.00	--	11.60	--	6.58	--	--	--	--	--	--	--	--	
	09/02/2004	P		18.18	5.00	--	11.88	--	6.30	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.2	7.8	
AR-2	6/26/2000	--	e	15.28	5.00	--	11.79	--	3.49	--	--	--	--	--	--	--	--	
	7/20/2000	--		15.28	5.00	--	12.07	--	3.21	<50	<0.5	<0.5	<0.5	<1.0	<3	--	--	
	9/19/2000	--		15.28	5.00	--	12.08	--	3.20	<50	<0.5	<0.5	<0.5	<1.0	<3	--	--	
	12/26/2000	--		15.28	5.00	--	11.95	--	3.33	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
	3/20/2001	--		15.28	5.00	--	10.50	--	4.78	--	--	--	--	--	--	--	--	
	6/12/2001	--		15.28	5.00	--	11.73	--	3.55	<50	<0.5	<0.5	<0.5	<0.5	82	--	--	
	9/23/2001	--		15.28	5.00	--	12.43	--	2.85	--	--	--	--	--	--	--	--	
	12/28/2001	--		15.28	5.00	--	8.60	--	6.68	<50	<0.5	<0.5	<0.5	<0.5	30	--	--	
	3/21/2002	--		15.28	5.00	--	9.49	--	5.79	--	--	--	--	--	--	--	--	
	4/17/2002	--		15.28	5.00	--	10.37	--	4.91	<50	<0.5	<0.5	<0.5	<0.5	3.2	--	--	
	8/14/2002	--		15.28	5.00	--	12.13	--	3.15	<50	<0.5	<0.5	<0.5	<0.5	<2.5	1.4	7.9	
	11/27/2002	--		15.28	5.00	--	12.08	--	3.20	--	--	--	--	--	--	--	--	
	2/12/2003	--	d	15.28	5.00	--	11.15	--	4.13	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.2	7.5	
	5/22/2003	--		15.28	5.00	--	11.18	--	4.10	--	--	--	--	--	--	--	--	
	7/23/2003	--		15.28	5.00	--	11.85	--	3.43	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.3	8.2	
	11/13/2003	--	f	15.28	5.00	--	11.98	--	3.30	--	--	--	--	--	--	--	--	
	02/16/2004	--	f, i	17.87	5.00	--	10.69	--	7.18	--	--	--	--	--	--	--	--	
	05/06/2004	--		17.87	5.00	--	11.55	--	6.32	--	--	--	--	--	--	--	--	
	09/02/2004	--		Well inaccessible Blocked	17.87	5.00	--	--	--	--	--	--	--	--	--	--	--	--
	09/20/2004	NP			17.87	5.00	--	11.98	--	5.89	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.2	10.4

## Table 1

### Groundwater Elevation and Analytical Data

ARCO Station #2169

889 W. Grand Ave., Oakland, CA

GRO = Gasoline Range Organics  
TPH = Total Petroleum Hydrocarbons  
MTBE = Methyl tertiary butyl ether analyzed by EPA Method 8021B unless otherwise noted  
X = Total xylenes  
ug/L = Micrograms per liter  
mg/L = Milligrams per liter  
MSL = Mean Sea Level  
TOC = Top of Casing  
ft = Feet

-- = Not measured, calculated, analyzed, available, applicable or sampled  
< = Not detected at or above specified laboratory reporting limit  
a = Well was covered by stockpiled soil and not accessible  
b = Chromatogram Pattern: Gasoline C6-C10  
c = Primary and confirmation results varied by greater than 40% RPD. The values may still be useful for their intended purpose  
d = TPH-g, BTEX, and MTBE analyzed using EPA Method 8260B starting first quarter 2003  
e = Dissolved oxygen and pH values are field measurements  
f = ORC sock in well  
g = Well removed from annual sampling schedule  
h = ORC sock removed prior to gauging  
i = Site re-survey to NAV'88 datum on January 30, 2004

#### Notes:

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.

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 inclusion of non-TPH-g analytes within the requested fuel range resulting in a higher concentration being reported. Beginning in the second quarter 2004, the carbon range for GRO was changed from C6-C10 to C4-C12.

**Table 2**  
**Fuel Additives Analytical Data**  
 ARCO Station #2169  
 889 W. Grand Ave., 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)	Comments
A-1	2/12/2003	<40	<20	2.9	<0.50	<0.50	<0.50	--	--	
	5/22/2003	<100	<20	4.9	<0.50	<0.50	<0.50	--	--	
	7/23/2003	<100	<20	10	<0.50	<0.50	<0.50	<0.50	<0.50	
	11/13/2003	<100	<20	4.2	<0.50	<0.50	<0.50	--	--	
	02/16/2004	<100	<20	3.2	<0.50	<0.50	<0.50	<0.50	<0.50	
	05/06/2004	<100	<20	1.9	<0.50	<0.50	<0.50	<0.50	<0.50	
	09/02/2004	<100	<20	1.7	<0.50	<0.50	<0.50	<0.50	<0.50	
A-2	2/12/2003	<40	<20	12	<0.50	<0.50	<0.50	--	--	
	5/22/2003	--	--	--	--	--	--	--	--	
	7/23/2003	<100	<20	2.6	<0.50	<0.50	<0.50	<0.50	<0.50	
	09/02/2004	<100	<20	2.5	<0.50	<0.50	<0.50	<0.50	<0.50	
A-3	2/12/2003	<40	<20	<0.50	<0.50	<0.50	<0.50	--	--	
	5/22/2003	--	--	--	--	--	--	--	--	
	7/23/2003	--	--	--	--	--	--	--	--	
A-4	2/12/2003	<40	<20	<0.50	<0.50	<0.50	<0.50	--	--	
	5/22/2003	--	--	--	--	--	--	--	--	
	7/23/2003	--	--	--	--	--	--	--	--	
A-5	2/12/2003	<400	<200	<5.0	<5.0	<5.0	<5.0	--	--	
	5/22/2003	<1,000	<200	<5.0	<5.0	<5.0	<5.0	--	--	
	7/23/2003	<1,000	<200	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
	11/13/2003	<1,000	<200	<5.0	<5.0	<5.0	<5.0	--	--	
	02/16/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
	05/06/2004	<500	<100	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	
	09/02/2004	<200	<40	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
A-6	2/12/2003	<40	<20	9.9	<0.50	<0.50	<0.50	--	--	
	5/22/2003	<100	<20	11	<0.50	<0.50	0.6	--	--	
	7/23/2003	<100	<20	14	<0.50	<0.50	0.54	<0.50	<0.50	
	11/13/2003	<100	<20	2.3	<0.50	<0.50	<0.50	--	--	
	02/16/2004	<100	<20	3.9	<0.50	<0.50	<0.50	<0.50	<0.50	
	05/06/2004	<100	<20	7.1	<0.50	<0.50	<0.50	<0.50	<0.50	
	09/02/2004	<100	<20	4.4	<0.50	<0.50	<0.50	<0.50	<0.50	

**Table 2**  
**Fuel Additives Analytical Data**  
 ARCO Station #2169  
 889 W. Grand Ave., 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)	Comments
ADR-1	2/12/2003	<40	<20	0.73	<0.50	<0.50	<0.50	--	--	
	5/22/2003	<100	<20	3.5	<0.50	<0.50	<0.50	--	--	
	7/23/2003	<100	<20	4	<0.50	<0.50	<0.50	<0.50	<0.50	
	11/13/2003	<100	<20	1.6	<0.50	<0.50	<0.50	--	--	
	02/16/2004	<100	<20	1.6	<0.50	<0.50	<0.50	<0.50	<0.50	
	05/07/2004	<1,000	<200	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
	09/02/2004	<100	<20	0.84	<0.50	<0.50	<0.50	<0.50	<0.50	
ADR-2	2/12/2003	<400	<200	22	<5.0	<5.0	<5.0	--	--	
	5/22/2003	<1,000	<200	9.7	<5.0	<5.0	<5.0	--	--	
	7/23/2003	<100	<20	8.4	<0.50	<0.50	<0.50	<0.50	<0.50	
	09/02/2004	<1,000	<200	5.6	<5.0	<5.0	<5.0	<5.0	<5.0	
AR-1	2/12/2003	<40	<20	<0.50	<0.50	<0.50	<0.50	--	--	
	5/22/2003	--	--	--	--	--	--	--	--	
	7/23/2003	<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	
AR-2	2/12/2003	<40	<20	<0.50	<0.50	<0.50	<0.50	--	--	
	5/22/2003	--	--	--	--	--	--	--	--	
	7/23/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
	09/20/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	

**Table 2**

**Fuel Additives Analytical Data**

ARCO Station #2169

889 W. Grand Ave., Oakland, CA

TBA = tert-Butyl alcohol

MTBE = Methyl tert-Butyl ether

DIPE = Di-isopropyl ether

ETBE = Ethyl tert Butyl ether

TAME = tert-Amyl Methyl ether

1,2-DCA = 1,2-Dichloroethane

EDB = 1,2-Dibromoethane

ug/L = micrograms per liter

< = Not detected at or above the laboratory reporting limit

— = Not sampled, analyzed or applicable

**Table 3**  
**Groundwater Gradient Data**  
 ARCO Station #2169  
 889 W. Grand Ave., Oakland, CA

<b>Date Sampled</b>	<b>Approximate Flow Direction</b>	<b>Approximate Hydraulic Gradient</b>
7/20/2000	Northwest	0.004
9/19/2000	West-Northwest	0.003
12/26/2000	Northwest	0.004
3/20/2001	Northwest	0.003
6/12/2001	Northwest	0.004
9/23/2001	Northwest	0.004
12/28/2001	Variable	Variable
3/21/2002	Northwest	0.004
4/17/2002	Northwest	0.003
8/14/2002	West	0.003
11/27/2002	West	0.003
2/12/2003	South	0.005
5/22/2003	West to Northwest	0.002 to 0.003
7/23/2003	Southwest to Northwest	0.005 to 0.004
11/13/2003	Southwest	0.009
2/16/2004	Southwest	0.009
5/6/2004	Southwest	0.004
9/2/2004	West-Northwest	0.005

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. Source: The data within this table collected prior to August 2002 was provided to URS by Remediation Management 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.



## ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>040920 - M61</u>	Station # <u>2/69</u>
Sampler: <u>M6</u>	Date: <u>9/20/04</u>
Well I.D.: <u>AR-2</u>	Well Diameter: 2 3 <u>(4)</u> 6 8 <u>    </u>
Total Well Depth: <u>28.57</u>	Depth to Water: <u>11.98</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>	Sampling Method: <u>Bailer</u>
<input type="checkbox"/> Disposable Bailer	<input checked="" type="checkbox"/> Disposable Bailer
<input type="checkbox"/> Positive Air Displacement	<input type="checkbox"/> Extraction Port
<input type="checkbox"/> Electric Submersible	Other: _____
<input type="checkbox"/> Extraction Pump	
Other: _____	

Top of Screen: 8.5 If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

1 Case Volume (Gals.)	x <u>No Purge</u>	Gals.
	Specified Volumes	Calculated Volume

Time	Temp (°F)	pH	Conductivity (mS or $\mu$ S)	Gals. Removed	Observations
<u>949</u>	<u>70.7</u>	<u>10.4</u>	<u>768</u>	<u>—</u>	<u>✓ pH calibration</u>

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: <u>    </u>
Sampling Time: <u>950</u>	Sampling Date: <u>9/20/04</u>
Sample I.D.: <u>AR-2</u>	Laboratory: <u>Pace</u> <u>Sequoia</u> Other _____
Analyzed for: <u>GRO</u> <u>BTEX</u> MTBE DRO	Other: <u>Oxy's, 1,2-DCA, EDB, Ethanol</u>
D.O. (if req'd):	Pre-purge: _____ mg/L
	Post-purge: <u>2.2</u> mg/L
O.R.P. (if req'd):	Pre-purge: _____ mV
	Post-purge: _____ mV

REPAIR DATA SHEET

Client Arco #2169 Date 9/20/04

Site Address 889 W. Grand Ave, Oakland

Job Number 040920-1161 Technician MB

Repair Location AR #2

Deficiencies Corrected Well lid stuck in rim. Pounded out edge of rim so well lid does not get stuck in rim.

Materials Used \_\_\_\_\_

Repair Location \_\_\_\_\_

Deficiencies Corrected \_\_\_\_\_

Materials Used \_\_\_\_\_

Repair Location \_\_\_\_\_

Deficiencies Corrected \_\_\_\_\_

Materials Used \_\_\_\_\_

Repair Location \_\_\_\_\_

Deficiencies Corrected \_\_\_\_\_

Materials Used \_\_\_\_\_

Repair Location \_\_\_\_\_

Deficiencies Corrected \_\_\_\_\_

Materials Used \_\_\_\_\_

Repair Location \_\_\_\_\_

Deficiencies Corrected \_\_\_\_\_

Materials Used \_\_\_\_\_

WELL GAUGING DATA

Project # 040902-BA1 Date 9/2/04 Client Arco 2169

Site 889 W. Grand Ave., 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 TOC	
A-1	3					11.05	23.71	TOC	VAULT
A-2	3					11.45	24.56		VAULT
60 A-3	3					12.15	28.33		VAULT
60 A-4	3					10.83	27.60		VAULT
5' A-5	2					10.78*	24.12		
5' A-6	2					10.47*	26.91		
AR-1	6					11.88	27.59		VAULT
8.5' AR-2	4	Unable to access wellbox - lid stuck							VAULT
5' ADR-1	4					10.73	21.90		VAULT
5' ADR-2	4					11.50	26.30	→	VAULT
* Removed ORCs to gauge									

## ARCO / BP WELL MONITORING DATA SHEET

BTS #: 040902-BA1	Station # 2169
Sampler: Brian Alcom	Date: 9/2/04
Well I.D.: A-1	Well Diameter: 2 (3) 4 6 8
Total Well Depth: 23.71	Depth to Water: 11.05
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) FACH

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  
 Positive Air Displacement  
 ~~Electric Submersible~~  
 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>4.75</u>	x	<u>3</u>	=	<u>14.25</u> Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume

Time	Temp (°F)	pH	Conductivity (mS or $\mu$ S)	Gals. Removed	Observations
1454	74.7	8.9	1,062	3.0	clear
Well Dewatered @ 3 gallons					
1525	75.1	8.7	1,106	3.0	"

Did well dewater?  Yes     No      Gallons actually evacuated: 3.0

Sampling Time: 1525      Sampling Date: 9/2/04

Sample I.D.: A-1      Laboratory: Pace (Sequoia) Other \_\_\_\_\_

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge: <u>12.1</u>	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

## ARCO / BP WELL MONITORING DATA SHEET

BTS #: 040902-BA1	Station # 2169
Sampler: Brian Alcom	Date: 9/2/04
Well I.D.: A-2	Well Diameter: 2 (3) 4 6 8
Total Well Depth: 24.56	Depth to Water: 11.45
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI 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 Disposable Bailer Positive Air Displacement Electric Submersible Extraction Pump Other: _____	Sampling Method: Bailer <del>Disposable Bailer</del> 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.

5.0	X	3	=	15.0	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or (RS))	Gals. Removed	Observations
1508	73.0	7.3	980	5.0	clear
					Well Dewatered @ 5.0 gallons
1515	74.5	7.4	1020	6.0	"

Did well dewater? (Yes) No      Gallons actually evacuated: 6.0

Sampling Time: 1515 @ departure      Sampling Date: 9/2/04

Sample I.D.: A-2      Laboratory: Pace (Sequoia) Other: \_\_\_\_\_

Analyzed for: TPH-G BTEX MTBE TPH-D Other: \_\_\_\_\_

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	5.1	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:		mV



## ARCO / BP WELL MONITORING DATA SHEET

BTS #: 040902-BA1	Station # 2169
Sampler: Brian Alcom	Date: 9/2/04
Well I.D.: A-5	Well Diameter: (2) 3 4 6 8
Total Well Depth: 24.12	Depth to Water: 10.78
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI 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~~  
~~Disposable Bailer~~  
~~Positive Air Displacement~~  
~~Electric Submersible~~  
~~Extraction Pump~~  
 Other: \_\_\_\_\_

Sampling Method: Bailer  
 Disposable Bailer  
 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.

No Purge @ 5'

1 Case Volume (Gals.)	X	Specified Volumes	=	Calculated Volume	Gals.
-----------------------	---	-------------------	---	-------------------	-------

Time	Temp (°F)	pH	Conductivity (mS or µS)	Gals. Removed	Observations
1415	72.6	7.1	1,071	—	cloudy gray, odor

Did well dewater? Yes  No  Gallons actually evacuated: —

Sampling Time: 1415 Sampling Date: 9/2/04

Sample I.D.: A-5 Laboratory: Pace (Sequoia) Other \_\_\_\_\_

Analyzed for: TPH-G BTEX MTBE TPH-D Other: \_\_\_\_\_

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	1.3 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

## ARCO / BP WELL MONITORING DATA SHEET

BTS #: 040902-BA1	Station # 2169
Sampler: Brian Alcum	Date: 9/2/04
Well I.D.: A-6	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth: 26.91	Depth to Water: 10.47
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>                     Bailer                      Disposable Bailer                      Positive Air Displacement                      Electric Submersible                      Extraction Pump                      Other: _____                 </del>	Sampling Method: <u>Bailer</u> <del>Disposable Bailer</del> 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.

No Purge 25'

_____	X	_____	=	_____ Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume

Time	Temp (°F)	pH	Conductivity (mS or <u>µS</u> )	Gals. Removed	Observations
1400	74.3	7.4	1,153	—	cloudy gray, odor

Did well dewater? Yes    No	Gallons actually evacuated: —
Sampling Time: 1400	Sampling Date: 9/2/04
Sample I.D.: A-6	Laboratory: Pace <u>Sequon</u> Other _____
Analyzed for: GRO BTEX MTBE DRO	Other: _____
D.O. (if req'd):	Pre-purge: _____ mg/L <u>Post-purge:</u> 3.2 mg/L
O.R.P. (if req'd):	Pre-purge: _____ mV    Post-purge: _____ mV

## ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>040902-BA1</u>	Station # <u>2169</u>
Sampler: <u>Brian Alcom</u>	Date: <u>9/2/04</u>
Well I.D.: <u>AR-1</u>	Well Diameter: 2 3 4 <u>(6)</u> 8
Total Well Depth: <u>27.59</u>	Depth to Water: <u>11.88</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: Bailer      Sampling Method: Bailer  
    Disposable Bailer      Disposable Bailer  
    Positive Air Displacement      Extraction Port  
    Electric Submersible      Other: \_\_\_\_\_  
    Extraction Pump

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>23.0</u>	x	<u>3</u>	=	<u>69.0</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or <u>µS</u> )	Gals. Removed	Observations
1432	74.8	7.6	443	23.0	cloudy gray
	Well Dewatered @ 35 gallons				
1520	76.1	7.8	790	35.0	"

Did well dewater? Yes No      Gallons actually evacuated: 35.0

Sampling Time: 1520 @ departure      Sampling Date: 9/2/04

Sample I.D.: AR-1      Laboratory: Pace Sequoia Other \_\_\_\_\_

Analyzed for: GRO BTEX MTBE DRO      Other: \_\_\_\_\_

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

**ARCO / BP WELL MONITORING DATA SHEET**

BTS #: <u>CH0902-BA1</u>	Station # <u>2169</u>
Sampler: <u>Brian Alcorn</u>	Date: <u>9/2/04</u>
Well I.D.: <u>AR-2</u>	Well Diameter: 2 3 <u>(4)</u> 6 8
Total Well Depth: _____	Depth to Water: _____
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>3</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: _____
--	--

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.

*No Purge @ 8.5'*

_____	X	_____	=	_____	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or µS)	Gals. Removed	Observations
					<u>Unable to access well - lid stuck</u>

Did well dewater? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Gallons actually evacuated: _____
Sampling Time: _____	Sampling Date: <u>9/2/04</u>
Sample I.D.: <u>AR-2</u>	Laboratory: Pace <u>Sequoia</u> Other _____
Analyzed for: GRO BTEX MTBE DRO Other: _____	
D.O. (if req'd):	Pre-purge: _____ mg/L <u>Post-purge:</u> _____ mg/L
O.R.P. (if req'd):	Pre-purge: _____ mV <u>Post-purge:</u> _____ mV

## ARCO / BP WELL MONITORING DATA SHEET

BTS #: 040902-BA1	Station # 2169
Sampler: Brian Alcom	Date: 9/2/04
Well I.D.: ADR-1	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth: 21.90	Depth to Water: 10.73
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~~  
~~Disposable Bailer~~  
~~Positive Air Displacement~~  
~~Electric Submersible~~  
~~Extraction Pump~~  
 Other: \_\_\_\_\_

Sampling Method: Bailer  
Disposable Bailer  
 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.

No Purge @ 5'

_____	X	_____	=	_____	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or <u>µS</u> )	Gals. Removed	Observations
1345	75.5	8.4	1,628	—	clear

Did well dewater? Yes      No      Gallons actually evacuated: —

Sampling Time: 1345      Sampling Date: 9/2/04

Sample I.D.: ADR-1      Laboratory: Pace Sequoia Other \_\_\_\_\_

Analyzed for: GRO BTEX MTBE DRO Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	18.1	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:		mV

## ARCO / BP WELL MONITORING DATA SHEET

BTS #: 040902-BA1	Station # 2169
Sampler: Brian Alcom	Date: 9/2/04
Well I.D.: ADR-2	Well Diameter: 2 3 <u>(4)</u> 6 8
Total Well Depth: 26.30	Depth to Water: 11.50
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~~  
 Disposable Bailer  
 Positive Air Displacement  
 Electric Submersible  
 Extraction Pump  
 Other: \_\_\_\_\_

Sampling Method: Bailer  
 Disposable Baites  
 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.

No Purge @ 5'

_____	X	_____	=	_____ Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume

Time	Temp (°F)	pH	Conductivity (mS or <u>µS</u> )	Gals. Removed	Observations
1320	74.4	7.4	2,280	—	clean strong odor

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

Sampling Time: 1320      Sampling Date: 9/2/04

Sample I.D.: ADR-2      Laboratory: Pace Sequonia Other \_\_\_\_\_

Analyzed for: GRO BTEX MTBE DRO Other: \_\_\_\_\_

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	0.7 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

**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 BLAINE 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:

2169

Station #

W-Grand  
889 ~~Oakland~~, , Oakland

Station Address

Total Gallons Collected From Groundwater Monitoring Wells:

added equip. \_\_\_\_\_  
rinse water \_\_\_\_\_

any other adjustments \_\_\_\_\_

TOTAL GALS.  
RECOVERED 44

loaded onto  
BTS vehicle # 58

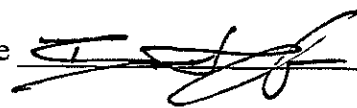
BTS event #

time date

040902-3A1

1545 9 2 04

signature



\*\*\*\*\*

REC'D AT

time date

unloaded by  
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.



20 September, 2004

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

RE: ARCO #2169, Oakland, CA  
Work Order: MNI0204

Enclosed are the results of analyses for samples received by the laboratory on 09/03/04 15:10. 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 #2169, Oakland, CA  
Project Number: INTRIM-50325  
Project Manager: Scott Robinson

MNI0204  
**Reported:**  
09/20/04 19:28

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
A-1	MNI0204-01	Water	09/02/04 15:25	09/03/04 15:10
A-2	MNI0204-02	Water	09/02/04 15:15	09/03/04 15:10
A-5	MNI0204-03	Water	09/02/04 14:15	09/03/04 15:10
A-6	MNI0204-04	Water	09/02/04 14:00	09/03/04 15:10
AR-1	MNI0204-05	Water	09/02/04 15:20	09/03/04 15:10
ADR-1	MNI0204-06	Water	09/02/04 13:45	09/03/04 15:10
ADR-2	MNI0204-07	Water	09/02/04 13:20	09/03/04 15:10
TB-2169-09022004	MNI0204-08	Water	09/02/04 15:45	09/03/04 15:10

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 #2169, Oakland, CA  
Project Number: INTRIM-50325  
Project Manager: Scott Robinson

MNI0204  
Reported:  
09/20/04 19:28

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

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>A-1 (MNI0204-01) Water</b> <b>Sampled: 09/02/04 15:25</b> <b>Received: 09/03/04 15:10</b>										
tert-Amyl methyl ether	ND	0.50		ug/l	1	4I14006	09/14/04	09/15/04	EPA 8260B	
<b>Benzene</b>	<b>1.1</b>	<b>0.50</b>		"	"	"	"	"	"	
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		"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.50		"	"	"	"	"	"	
Ethylbenzene	ND	0.50		"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>1.7</b>	<b>0.50</b>		"	"	"	"	"	"	
Toluene	ND	0.50		"	"	"	"	"	"	
Xylenes (total)	ND	0.50		"	"	"	"	"	"	
<b>Gasoline Range Organics (C4-C12)</b>	<b>64</b>	<b>50</b>		"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>91 %</i>		<i>78-129</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<b>A-2 (MNI0204-02) Water</b> <b>Sampled: 09/02/04 15:15</b> <b>Received: 09/03/04 15:10</b>										
tert-Amyl methyl ether	ND	0.50		ug/l	1	4I14006	09/14/04	09/15/04	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		"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.50		"	"	"	"	"	"	
Ethylbenzene	ND	0.50		"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>2.5</b>	<b>0.50</b>		"	"	"	"	"	"	
Toluene	ND	0.50		"	"	"	"	"	"	
Xylenes (total)	ND	0.50		"	"	"	"	"	"	
<b>Gasoline Range Organics (C4-C12)</b>	<b>130</b>	<b>50</b>		"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>92 %</i>		<i>78-129</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	

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

 Project: ARCO #2169, Oakland, CA  
 Project Number: INTRIM-50325  
 Project Manager: Scott Robinson

 MNI0204  
 Reported:  
 09/20/04 19:28

**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 (MNI0204-03) Water    Sampled: 09/02/04 14:15    Received: 09/03/04 15:10</b>									
tert-Amyl methyl ether	ND	1.0	ug/l	2	4I14006	09/14/04	09/15/04	EPA 8260B	
<b>Benzene</b>	<b>69</b>	1.0	"	"	"	"	"	"	
tert-Butyl alcohol	ND	40	"	"	"	"	"	"	
Di-isopropyl ether	ND	1.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	1.0	"	"	"	"	"	"	
Ethanol	ND	200	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>42</b>	1.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	1.0	"	"	"	"	"	"	
<b>Toluene</b>	<b>1.3</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>35</b>	1.0	"	"	"	"	"	"	
<b>Gasoline Range Organics (C4-C12)</b>	<b>690</b>	100	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		91 %	78-129		"	"	"	"	
<b>A-6 (MNI0204-04) Water    Sampled: 09/02/04 14:00    Received: 09/03/04 15:10</b>									
tert-Amyl methyl ether	ND	0.50	ug/l	1	4I16028	09/16/04	09/16/04	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	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>4.4</b>	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
<b>Gasoline Range Organics (C4-C12)</b>	<b>56</b>	50	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		87 %	78-129		"	"	"	"	

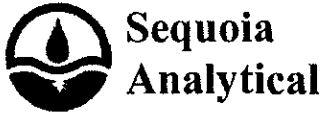
URS Corporation [Arco]  
1333 Broadway, Suite 800  
Oakland CA, 94612

Project: ARCO #2169, Oakland, CA  
Project Number: INTRIM-50325  
Project Manager: Scott Robinson

MNI0204  
Reported:  
09/20/04 19:28

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

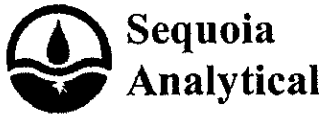
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>AR-1 (MNI0204-05) Water    Sampled: 09/02/04 15:20    Received: 09/03/04 15:10</b>									
tert-Amyl methyl ether	ND	0.50	ug/l	1	4116003	09/16/04	09/16/04	EPA 8260B	
Benzene	ND	0.50	"	"	"	"	"	"	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
Ethanol	ND	100	"	"	"	"	"	"	
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>		88 %		78-129	"	"	"	"	
<b>ADR-1 (MNI0204-06) Water    Sampled: 09/02/04 13:45    Received: 09/03/04 15:10</b>									
tert-Amyl methyl ether	ND	0.50	ug/l	1	4116003	09/16/04	09/16/04	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	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	<b>0.84</b>	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>		88 %		78-129	"	"	"	"	



URS Corporation [Arco] 1333 Broadway, Suite 800 Oakland CA, 94612	Project: ARCO #2169, Oakland, CA Project Number: INTRIM-50325 Project Manager: Scott Robinson	MNI0204 Reported: 09/20/04 19:28
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**Volatile Organic Compounds by EPA Method 8260B**  
**Sequoia Analytical - Morgan Hill**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>ADR-2 (MNI0204-07) Water    Sampled: 09/02/04 13:20    Received: 09/03/04 15:10</b>									
tert-Amyl methyl ether	ND	5.0	ug/l	10	4116028	09/16/04	09/16/04	EPA 8260B	
<b>Benzene</b>	<b>67</b>	5.0	"	"	"	"	"	"	
tert-Butyl alcohol	ND	200	"	"	"	"	"	"	
Di-isopropyl ether	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>71</b>	5.0	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>5.6</b>	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>12</b>	5.0	"	"	"	"	"	"	
<b>Gasoline Range Organics (C4-C12)</b>	<b>ND</b>	500	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		86 %		78-129		"	"	"	



URS Corporation [Arco] 1333 Broadway, Suite 800 Oakland CA, 94612	Project: ARCO #2169, Oakland, CA Project Number: INTRIM-50325 Project Manager: Scott Robinson	MNI0204 Reported: 09/20/04 19:28
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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 4I14006 - EPA 5030B P/T**

<b>Blank (4I14006-BLK1)</b>				Prepared & Analyzed: 09/14/04						
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	"							
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>	4.75		"	5.00		95	78-129			

<b>Laboratory Control Sample (4I14006-BS1)</b>				Prepared & Analyzed: 09/14/04						
tert-Amyl methyl ether	8.94	0.50	ug/l	10.0		89	82-140			
Benzene	9.26	0.50	"	10.0		93	69-124			
tert-Butyl alcohol	47.8	20	"	50.0		96	56-131			
Di-isopropyl ether	8.67	0.50	"	10.0		87	76-130			
1,2-Dibromoethane (EDB)	9.92	0.50	"	10.0		99	77-132			
1,2-Dichloroethane	9.71	0.50	"	10.0		97	77-136			
Ethanol	190	100	"	200		95	31-143			
Ethyl tert-butyl ether	8.94	0.50	"	10.0		89	81-121			
Ethylbenzene	8.75	0.50	"	10.0		88	84-132			
Methyl tert-butyl ether	9.18	0.50	"	10.0		92	63-137			
Toluene	8.82	0.50	"	10.0		88	78-129			
Xylenes (total)	26.1	0.50	"	30.0		87	83-137			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	3.58		"	5.00		72	78-129			LG





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

Project: ARCO #2169, Oakland, CA  
Project Number: INTRIM-50325  
Project Manager: Scott Robinson

MNI0204  
Reported:  
09/20/04 19:28

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4I14006 - EPA 5030B P/T**

**Laboratory Control Sample (4I14006-BS2)**

Prepared & Analyzed: 09/14/04

Benzene	5.32	0.50	ug/l	6.40		83	69-124			
Ethylbenzene	7.23	0.50	"	7.52		96	84-132			
Methyl tert-butyl ether	8.21	0.50	"	9.92		83	63-137			
Toluene	32.8	0.50	"	31.9		103	78-129			
Xylenes (total)	36.0	0.50	"	36.6		98	83-137			
Gasoline Range Organics (C4-C12)	359	50	"	440		82	70-124			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>4.45</i>		<i>"</i>	<i>5.00</i>		<i>89</i>	<i>78-129</i>			

**Laboratory Control Sample Dup (4I14006-BSD1)**

Prepared & Analyzed: 09/14/04

tert-Amyl methyl ether	8.87	0.50	ug/l	10.0		89	82-140	0.8	20	
Benzene	9.68	0.50	"	10.0		97	69-124	4	20	
tert-Butyl alcohol	46.7	20	"	50.0		93	56-131	2	20	
Di-isopropyl ether	8.68	0.50	"	10.0		87	76-130	0.1	20	
1,2-Dibromoethane (EDB)	10.0	0.50	"	10.0		100	77-132	0.8	20	
1,2-Dichloroethane	9.89	0.50	"	10.0		99	77-136	2	20	
Ethanol	162	100	"	200		81	31-143	16	20	
Ethyl tert-butyl ether	8.90	0.50	"	10.0		89	81-121	0.4	20	
Ethylbenzene	8.93	0.50	"	10.0		89	84-132	2	20	
Methyl tert-butyl ether	8.95	0.50	"	10.0		90	63-137	3	20	
Toluene	9.30	0.50	"	10.0		93	78-129	5	20	
Xylenes (total)	26.4	0.50	"	30.0		88	83-137	1	20	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>4.43</i>		<i>"</i>	<i>5.00</i>		<i>89</i>	<i>78-129</i>			

**Matrix Spike (4I14006-MS1)**

Source: MNI0063-03

Prepared & Analyzed: 09/14/04

Benzene	537	50	ug/l	640	ND	84	69-124			
Ethylbenzene	720	50	"	752	ND	96	84-132			
Methyl tert-butyl ether	2610	50	"	992	1800	82	63-137			
Toluene	3310	50	"	3190	ND	104	78-129			
Xylenes (total)	3620	50	"	3660	ND	99	83-137			
Gasoline Range Organics (C4-C12)	37500	5000	"	44000	4100	76	70-124			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>4.63</i>		<i>"</i>	<i>5.00</i>		<i>93</i>	<i>78-129</i>			

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 #2169, Oakland, CA  
Project Number: INTRIM-50325  
Project Manager: Scott Robinson

MNI0204  
Reported:  
09/20/04 19:28

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4I14006 - EPA 5030B P/T**

Matrix Spike Dup (4I14006-MSD1)	Source: MNI0063-03			Prepared & Analyzed: 09/14/04						
Benzene	566	50	ug/l	640	ND	88	69-124	5	20	
Ethylbenzene	767	50	"	752	ND	102	84-132	6	20	
Methyl tert-butyl ether	2700	50	"	992	1800	91	63-137	3	20	
Toluene	3500	50	"	3190	ND	110	78-129	6	20	
Xylenes (total)	3790	50	"	3660	ND	104	83-137	5	20	
Gasoline Range Organics (C4-C12)	40100	5000	"	44000	4100	82	70-124	7	20	
Surrogate: 1,2-Dichloroethane-d4	4.70		"	5.00		94	78-129			

**Batch 4I16003 - EPA 5030B P/T**

Blank (4I16003-BLK1)	Prepared & Analyzed: 09/16/04									
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	"							
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	2.19		"	2.50		88	78-129			

**Laboratory Control Sample (4I16003-BS1)**

Laboratory Control Sample (4I16003-BS1)	Prepared & Analyzed: 09/16/04									
tert-Amyl methyl ether	10.1	0.50	ug/l	10.0		101	82-140			
Benzene	10.5	0.50	"	10.0		105	69-124			
tert-Butyl alcohol	45.4	20	"	50.0		91	56-131			
Di-isopropyl ether	9.90	0.50	"	10.0		99	76-130			
1,2-Dibromoethane (EDB)	11.0	0.50	"	10.0		110	77-132			
1,2-Dichloroethane	10.2	0.50	"	10.0		102	77-136			
Ethanol	195	100	"	200		98	31-143			
Ethyl tert-butyl ether	10.4	0.50	"	10.0		104	81-121			
Ethylbenzene	10.8	0.50	"	10.0		108	84-132			
Methyl tert-butyl ether	9.58	0.50	"	10.0		96	63-137			

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 #2169, Oakland, CA  
 Project Number: INTRIM-50325  
 Project Manager: Scott Robinson

 MNI0204  
 Reported:  
 09/20/04 19:28

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4I16003 - EPA 5030B P/T**
**Laboratory Control Sample (4I16003-BS1)**

Prepared &amp; Analyzed: 09/16/04

Toluene	9.84	0.50	ug/l	10.0		98	78-129			
Xylenes (total)	32.7	0.50	"	30.0		109	83-137			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>2.19</i>		<i>"</i>	<i>2.50</i>		<i>88</i>	<i>78-129</i>			

**Laboratory Control Sample (4I16003-BS2)**

Prepared &amp; Analyzed: 09/16/04

Benzene	5.70	0.50	ug/l	6.40		89	69-124			
Ethylbenzene	8.27	0.50	"	7.52		110	84-132			
Methyl tert-butyl ether	8.71	0.50	"	9.92		88	63-137			
Toluene	32.2	0.50	"	31.9		101	78-129			
Xylenes (total)	40.9	0.50	"	36.6		112	83-137			
Gasoline Range Organics (C4-C12)	415	50	"	440		94	70-124			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>1.95</i>		<i>"</i>	<i>2.50</i>		<i>78</i>	<i>78-129</i>			

**Laboratory Control Sample Dup (4I16003-BSD1)**

Prepared &amp; Analyzed: 09/16/04

tert-Amyl methyl ether	10.3	0.50	ug/l	10.0		103	82-140	2	20	
Benzene	10.4	0.50	"	10.0		104	69-124	1	20	
tert-Butyl alcohol	49.2	20	"	50.0		98	56-131	8	20	
Di-isopropyl ether	10.1	0.50	"	10.0		101	76-130	2	20	
1,2-Dibromoethane (EDB)	11.0	0.50	"	10.0		110	77-132	0	20	
1,2-Dichloroethane	10.7	0.50	"	10.0		107	77-136	5	20	
Ethanol	208	100	"	200		104	31-143	6	20	
Ethyl tert-butyl ether	10.8	0.50	"	10.0		108	81-121	4	20	
Ethylbenzene	10.8	0.50	"	10.0		108	84-132	0	20	
Methyl tert-butyl ether	9.84	0.50	"	10.0		98	63-137	3	20	
Toluene	10.0	0.50	"	10.0		100	78-129	2	20	
Xylenes (total)	32.4	0.50	"	30.0		108	83-137	0.9	20	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>2.21</i>		<i>"</i>	<i>2.50</i>		<i>88</i>	<i>78-129</i>			

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

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MNI0204  
Reported:  
09/20/04 19:28

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4I16003 - EPA 5030B P/T**
**Laboratory Control Sample Dup (4I16003-BSD2)**

Prepared &amp; Analyzed: 09/16/04

Benzene	5.93	0.50	ug/l	6.40		93	69-124	4	20	
Ethylbenzene	8.52	0.50	"	7.52		113	84-132	3	20	
Methyl tert-butyl ether	9.17	0.50	"	9.92		92	63-137	5	20	
Toluene	32.9	0.50	"	31.9		103	78-129	2	20	
Xylenes (total)	42.2	0.50	"	36.6		115	83-137	3	20	
Gasoline Range Organics (C4-C12)	415	50	"	440		94	70-124	0	20	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.07		"	2.50		83	78-129			

**Matrix Spike (4I16003-MS1)**

Source: MNI0328-02

Prepared &amp; Analyzed: 09/16/04

tert-Amyl methyl ether	508	25	ug/l	500	ND	102	82-140			
Benzene	525	25	"	500	ND	105	69-124			
tert-Butyl alcohol	2650	1000	"	2500	ND	106	56-131			
Di-isopropyl ether	502	25	"	500	ND	100	76-130			
1,2-Dibromoethane (EDB)	548	25	"	500	ND	110	77-132			
1,2-Dichloroethane	529	25	"	500	ND	106	77-136			
Ethanol	9510	5000	"	10000	ND	95	31-143			
Ethyl tert-butyl ether	532	25	"	500	ND	106	81-121			
Ethylbenzene	546	25	"	500	ND	109	84-132			
Methyl tert-butyl ether	2110	25	"	500	1700	82	63-137			
Toluene	502	25	"	500	ND	100	78-129			
Xylenes (total)	1640	25	"	1500	ND	109	83-137			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.19		"	2.50		88	78-129			

**Matrix Spike Dup (4I16003-MSD1)**

Source: MNI0328-02

Prepared &amp; Analyzed: 09/16/04

tert-Amyl methyl ether	512	25	ug/l	500	ND	102	82-140	0.8	20	
Benzene	536	25	"	500	ND	107	69-124	2	20	
tert-Butyl alcohol	2810	1000	"	2500	ND	112	56-131	6	20	
Di-isopropyl ether	511	25	"	500	ND	102	76-130	2	20	
1,2-Dibromoethane (EDB)	567	25	"	500	ND	113	77-132	3	20	
1,2-Dichloroethane	538	25	"	500	ND	108	77-136	2	20	
Ethanol	9740	5000	"	10000	ND	97	31-143	2	20	
Ethyl tert-butyl ether	545	25	"	500	ND	109	81-121	2	20	
Ethylbenzene	557	25	"	500	ND	111	84-132	2	20	
Methyl tert-butyl ether	2090	25	"	500	1700	78	63-137	1	20	
Toluene	520	25	"	500	ND	104	78-129	4	20	
Xylenes (total)	1700	25	"	1500	ND	113	83-137	4	20	

Sequoia Analytical - Morgan Hill

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

 Project: ARCO #2169, Oakland, CA  
 Project Number: INTRIM-50325  
 Project Manager: Scott Robinson

 MNI0204  
 Reported:  
 09/20/04 19:28

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4I16003 - EPA 5030B P/T**
**Matrix Spike Dup (4I16003-MSD1)**

Source: MNI0328-02

Prepared &amp; Analyzed: 09/16/04

<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.13		ug/l	2.50		85	78-129			
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**Batch 4I16028 - EPA 5030B P/T**
**Blank (4I16028-BLK1)**

Prepared &amp; Analyzed: 09/16/04

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	"							
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>	2.01		"	2.50		80	78-129			

**Laboratory Control Sample (4I16028-BS1)**

Prepared &amp; Analyzed: 09/16/04

tert-Amyl methyl ether	9.98	0.50	ug/l	10.0		100	82-140			
Benzene	10.6	0.50	"	10.0		106	69-124			
tert-Butyl alcohol	52.8	20	"	50.0		106	56-131			
Di-isopropyl ether	10.1	0.50	"	10.0		101	76-130			
1,2-Dibromoethane (EDB)	11.1	0.50	"	10.0		111	77-132			
1,2-Dichloroethane	10.9	0.50	"	10.0		109	77-136			
Ethanol	187	100	"	200		94	31-143			
Ethyl tert-butyl ether	10.5	0.50	"	10.0		105	81-121			
Ethylbenzene	10.9	0.50	"	10.0		109	84-132			
Methyl tert-butyl ether	9.66	0.50	"	10.0		97	63-137			
Toluene	9.99	0.50	"	10.0		100	78-129			
Xylenes (total)	33.2	0.50	"	30.0		111	83-137			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.10		"	2.50		84	78-129			

Sequoia Analytical - Morgan Hill

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URS Corporation [Arco] 1333 Broadway, Suite 800 Oakland CA, 94612	Project: ARCO #2169, Oakland, CA Project Number: INTRIM-50325 Project Manager: Scott Robinson	MNI0204 Reported: 09/20/04 19:28
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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 4I16028 - EPA 5030B P/T**

Laboratory Control Sample (4I16028-BS2)			Prepared: 09/16/04 Analyzed: 09/17/04							
Benzene	6.14	0.50	ug/l	6.40		96	69-124			
Ethylbenzene	9.12	0.50	"	7.52		121	84-132			
Methyl tert-butyl ether	9.45	0.50	"	9.92		95	63-137			
Toluene	35.2	0.50	"	31.9		110	78-129			
Xylenes (total)	44.7	0.50	"	36.6		122	83-137			
Gasoline Range Organics (C4-C12)	436	50	"	440		99	70-124			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>2.04</i>		<i>"</i>	<i>2.50</i>		<i>82</i>	<i>78-129</i>			

Laboratory Control Sample Dup (4I16028-BSD1)			Prepared: 09/16/04 Analyzed: 09/17/04							
tert-Amyl methyl ether	10.7	0.50	ug/l	10.0		107	82-140	7	20	
Benzene	11.1	0.50	"	10.0		111	69-124	5	20	
tert-Butyl alcohol	54.3	20	"	50.0		109	56-131	3	20	
Di-isopropyl ether	10.4	0.50	"	10.0		104	76-130	3	20	
1,2-Dibromoethane (EDB)	11.5	0.50	"	10.0		115	77-132	4	20	
1,2-Dichloroethane	11.2	0.50	"	10.0		112	77-136	3	20	
Ethanol	217	100	"	200		108	31-143	15	20	
Ethyl tert-butyl ether	11.2	0.50	"	10.0		112	81-121	6	20	
Ethylbenzene	11.4	0.50	"	10.0		114	84-132	4	20	
Methyl tert-butyl ether	9.91	0.50	"	10.0		99	63-137	3	20	
Toluene	10.4	0.50	"	10.0		104	78-129	4	20	
Xylenes (total)	34.6	0.50	"	30.0		115	83-137	4	20	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>2.06</i>		<i>"</i>	<i>2.50</i>		<i>82</i>	<i>78-129</i>			

Matrix Spike (4I16028-MS1)			Source: MNI0192-06		Prepared: 09/16/04 Analyzed: 09/17/04					
Benzene	340	25	ug/l	320	30	97	69-124			
Ethylbenzene	441	25	"	376	ND	117	84-132			
Methyl tert-butyl ether	1150	25	"	496	680	95	63-137			
Toluene	1690	25	"	1600	ND	106	78-129			
Xylenes (total)	2160	25	"	1830	ND	118	83-137			
Gasoline Range Organics (C4-C12)	22200	2500	"	22000	1200	95	70-124			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>2.06</i>		<i>"</i>	<i>2.50</i>		<i>82</i>	<i>78-129</i>			

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

Project: ARCO #2169, Oakland, CA  
Project Number: INTRIM-50325  
Project Manager: Scott Robinson

MNI0204  
Reported:  
09/20/04 19:28

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4I16028 - EPA 5030B P/T**

Matrix Spike Dup (4I16028-MSD1)	Source: MNI0192-06		Prepared: 09/16/04		Analyzed: 09/17/04					
Benzene	341	25	ug/l	320	30	97	69-124	0.3	20	
Ethylbenzene	454	25	"	376	ND	121	84-132	3	20	
Methyl tert-butyl ether	1120	25	"	496	680	89	63-137	3	20	
Toluene	1730	25	"	1600	ND	108	78-129	2	20	
Xylenes (total)	2230	25	"	1830	ND	122	83-137	3	20	
Gasoline Range Organics (C4-C12)	23500	2500	"	22000	1200	101	70-124	6	20	
Surrogate: 1,2-Dichloroethane-d4	2.12		"	2.50		85	78-129			

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

Project: ARCO #2169, Oakland, CA  
Project Number: INTRIM-50325  
Project Manager: Scott Robinson

MNI0204  
**Reported:**  
09/20/04 19:28

### Notes and Definitions

LG Surrogate recovery below the acceptance limits.  
DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference





### Chain of Custody Record

Project Name 2169 GWM  
 BP BU/GEM CO Portfolio Retail MN10204  
 BP Laboratory Contract Number: Affantc Richfield Company  
 Date: 9/2/04 Requested Due Date (mm/dd/yy) 14 day TAT

On-site Time: 1245 Temp: 78  
 Off-site Time: 1545 Temp: 85  
 Sky Conditions: clear  
 Meteorological Events:  
 Wind Speed:      Direction:     

Send To:	BP/GEM Facility No.: <u>ARCO 2169</u>	Consultant/Contractor: <u>URS</u>
Lab Name: <u>SEQUOIA</u>	BP/GEM Facility Address: <u>889 W. GRAND AVE, OAKLAND, CA</u>	Address: <u>1333 Broadway, Suite 800</u>
Lab Address: <u>885 Jarvis Dr.</u>	Site ID No. <u>ARCO 2169</u>	<u>Oakland, CA 94612</u>
<u>Morgan Hill, CA 95037</u>	Site Lat/Long:	e-mail EDD: <u>donna.casper@URSCorp.com</u>
Lab PM <u>Lisa Race</u>	California Global ID #: <u>T0600100112</u>	Consultant/Contractor Project No.: <u>J5-00002169.01 00427</u>
Tele/Fax: <u>408-776-9600 / 408-782-6308</u>	BP/GEM PM Contact: <u>PAUL SUPPLE</u>	Consultant Tele/Fax: <u>510-893-3600/510-874-3268</u>
Report Type & QC Level: <u>1 Send EDF Reports</u>	Address: <u>P.O. Box 6549</u>	Consultant/Contractor PM: <u>Scott Robinson</u>
BP/GEM Account No.:	<u>Moraga, CA 94570</u>	Invoice to: Consultant/Contractor of <u>BP/GEM</u> (Circle one)
Lab Bottle Order No:	Tele/Fax: <u>925-299-8891/925-299-8872</u>	BP/GEM Work Release No: <u>INTRIM -50325</u>

Item No.	Sample Description	Time	Matrix				Laboratory No.	No. of containers	Preservatives				Requested Analysis							Sample Point Lat/Long and Comments				
			Soil/Solid	Water/Liquid	Sediments	Air			Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	GRO / BTEX D8015/8021/8260	DRO w/SGC (8015)	MTBE (8021)	MTBE (8260)	MTBE, TAME, ETBE DIPE, TBA (8260)	1,2-DCA & EDB (8260)	Ethanol (8260)					
1	A-1	1525		X			MN10204	3						X	X	X								
2	A-2	1515		X				2						X	X	X								
3	A-5	1415		X				3						X	X	X								
4	A-6	1400		X				4						X	X	X								
5	AR-1	1520		X				5						X	X	X								
6	AR-2			X				6						X	X	X								
7	ADR-1	1345		X				7						X	X	X								
8	ADR-2	1320		X				8						X	X	X								
9	TB-2169-01022004	1545		X				8															ON HOLD	
10																								

Sampler's Name: <u>Brian Alcorn</u>	Relinquished By / Affiliation: <u>[Signature]</u>	Date: <u>9/3/04</u>	Time: <u>1510</u>	Accepted By / Affiliation: <u>[Signature]</u>	Date: <u>9/3/04</u>	Time: <u>1110</u>
Sampler's Company: <u>Blaine Tech Services</u>	Shipment Date: <u>9/3/04</u>	Shipment Method: <u>[Signature]</u>	Shipment Tracking No:			

Special Instructions: Address Invoice to BP/GEM but send to URS for approval

Dry Seals In Place Yes  No     
  Temperature Blank Yes  No     
  Cooler Temperature on Receipt  No/C     
  Trip Blank Yes  No

# SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: Acio 2169  
 REC. BY (PRINT): PP (MH)  
 WORKORDER: MN10204

DATE REC'D AT LAB: 9/3/04  
 TIME REC'D AT LAB: 1500  
 DATE LOGGED IN: 9/2/04

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) <input checked="" type="checkbox"/> Present / Absent <input type="checkbox"/> <input checked="" type="checkbox"/> Intact / Broken* <input type="checkbox"/>			A-1	BOA 3	HCl	-	W	9/2/04	
2. Chain-of-Custody <input checked="" type="checkbox"/> Present / Absent* <input type="checkbox"/>			A-2						
3. Traffic Reports or Packing List: <input type="checkbox"/> Present / <input checked="" type="checkbox"/> Absent			A-5						
4. Airbill: <input type="checkbox"/> Airbill / Sticker <input checked="" type="checkbox"/> Present / <input type="checkbox"/> Absent			A-6						
5. Airbill #: _____			ADR-1						
6. Sample Labels: <input checked="" type="checkbox"/> Present / <input type="checkbox"/> Absent			ADR-2						
7. Sample IDs: <input checked="" type="checkbox"/> Listed / <input type="checkbox"/> Not Listed on Chain-of-Custody			TS-216A-09022004	BOA 2					
8. Sample Condition: <input checked="" type="checkbox"/> Intact / <input type="checkbox"/> Broken* / <input type="checkbox"/> Leaking*									
9. Does information on chain-of-custody, traffic reports and sample labels agree? <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No*									
10. Sample received within hold time? <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No*									
11. Adequate sample volume received? <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No*									
12. Proper Preservatives used? <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No*									
13. Trip Blank / <input checked="" type="checkbox"/> Temp Blank Received? (circle which, if yes) <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No*									
14. Temp Rec. at Lab: <u>3°C</u> Is temp 4 ± 2°C? <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No**									

9/2/04

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



5 October, 2004

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

RE: ARCO #2169, Oakland, CA  
Work Order: MNI0648

Enclosed are the results of analyses for samples received by the laboratory on 09/21/04 14:23. 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

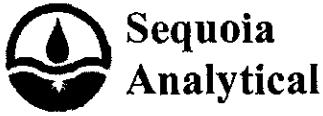
Project: ARCO #2169, Oakland, CA  
Project Number: INTRIM-50325  
Project Manager: Scott Robinson

MNI0648  
**Reported:**  
10/05/04 16:32

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AR-2	MNI0648-01	Water	09/20/04 09:50	09/21/04 14:23

The carbon range for the TPH-GRO has been changed from C6-C10 to C4-C12. The carbon range for TPH-DRO has been changed from C10-C28 to C10-C36. EPA 8015B has been modified to better meet the requirements of California regulatory agencies. These samples were received with no custody seals.



URS Corporation [Arco] 1333 Broadway, Suite 800 Oakland CA, 94612	Project: ARCO #2169, Oakland, CA Project Number: INTRIM-50325 Project Manager: Scott Robinson	MNI0648 Reported: 10/05/04 16:32
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**Volatile Organic Compounds by EPA Method 8260B  
Sequoia Analytical - Morgan Hill**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>AR-2 (MNI0648-01) Water    Sampled: 09/20/04 09:50    Received: 09/21/04 14:23</b>									
tert-Amyl methyl ether	ND	0.50	ug/l	1	4I29001	09/29/04	09/30/04	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	"	"	"	"	"	"	
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>		87 %		78-129	"	"	"	"	

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

Project: ARCO #2169, Oakland, CA  
Project Number: INTRIM-50325  
Project Manager: Scott Robinson

MNI0648  
Reported:  
10/05/04 16:32

**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 4I29001 - EPA 5030B P/T**

<b>Blank (4I29001-BLK1)</b>				Prepared & Analyzed: 09/29/04						
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>2.14</i>		<i>"</i>	<i>2.50</i>		<i>86</i>	<i>78-129</i>			

<b>Laboratory Control Sample (4I29001-BS1)</b>				Prepared & Analyzed: 09/29/04						
tert-Amyl methyl ether	9.89	0.50	ug/l	10.0		99	82-140			
Benzene	10.7	0.50	"	10.0		107	69-124			
tert-Butyl alcohol	56.8	20	"	50.0		114	56-131			
Di-isopropyl ether	9.91	0.50	"	10.0		99	76-130			
1,2-Dibromoethane (EDB)	10.6	0.50	"	10.0		106	77-132			
1,2-Dichloroethane	10.2	0.50	"	10.0		102	77-136			
Ethanol	401	100	"	200		200	31-143			IC, HL
Ethyl tert-butyl ether	10.5	0.50	"	10.0		105	81-121			
Ethylbenzene	11.3	0.50	"	10.0		113	84-132			
Methyl tert-butyl ether	8.83	0.50	"	10.0		88	63-137			
Toluene	10.4	0.50	"	10.0		104	78-129			
Xylenes (total)	33.9	0.50	"	30.0		113	83-137			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>2.04</i>		<i>"</i>	<i>2.50</i>		<i>82</i>	<i>78-129</i>			



URS Corporation [Arco] 1333 Broadway, Suite 800 Oakland CA, 94612	Project: ARCO #2169, Oakland, CA Project Number: INTRIM-50325 Project Manager: Scott Robinson	MNI0648 Reported: 10/05/04 16:32
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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 4I29001 - EPA 5030B P/T**

Laboratory Control Sample (4I29001-BS2)			Prepared & Analyzed: 09/29/04							
Benzene	6.00	0.50	ug/l	6.40		94	69-124			
Ethylbenzene	8.95	0.50	"	7.52		119	84-132			
Methyl tert-butyl ether	8.93	0.50	"	9.92		90	63-137			
Toluene	34.3	0.50	"	31.9		108	78-129			
Xylenes (total)	44.1	0.50	"	36.6		120	83-137			
Gasoline Range Organics (C4-C12)	464	50	"	440		105	70-124			
Surrogate: 1,2-Dichloroethane-d4	2.06		"	2.50		82	78-129			

Laboratory Control Sample Dup (4I29001-BSD1)			Prepared & Analyzed: 09/29/04							
tert-Amyl methyl ether	10.1	0.50	ug/l	10.0		101	82-140	2	20	
Benzene	10.6	0.50	"	10.0		106	69-124	0.9	20	
tert-Butyl alcohol	47.4	20	"	50.0		95	56-131	18	20	
Di-isopropyl ether	10.0	0.50	"	10.0		100	76-130	0.9	20	
1,2-Dibromoethane (EDB)	11.7	0.50	"	10.0		117	77-132	10	20	
1,2-Dichloroethane	10.5	0.50	"	10.0		105	77-136	3	20	
Ethanol	388	100	"	200		194	31-143	3	20	HL
Ethyl tert-butyl ether	10.6	0.50	"	10.0		106	81-121	0.9	20	
Ethylbenzene	11.6	0.50	"	10.0		116	84-132	3	20	
Methyl tert-butyl ether	9.06	0.50	"	10.0		91	63-137	3	20	
Toluene	10.5	0.50	"	10.0		105	78-129	1	20	
Xylenes (total)	35.3	0.50	"	30.0		118	83-137	4	20	
Surrogate: 1,2-Dichloroethane-d4	1.97		"	2.50		79	78-129			

Matrix Spike (4I29001-MS1)			Source: MNI0659-11		Prepared & Analyzed: 09/29/04					
Benzene	842	10	ug/l	128	720	95	69-124			
Ethylbenzene	531	10	"	150	370	107	84-132			
Methyl tert-butyl ether	289	10	"	198	130	80	63-137			
Toluene	665	10	"	638	47	97	78-129			
Xylenes (total)	1200	10	"	731	420	107	83-137			
Gasoline Range Organics (C4-C12)	17100	1000	"	8800	9500	86	70-124			
Surrogate: 1,2-Dichloroethane-d4	2.03		"	2.50		81	78-129			

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

Project: ARCO #2169, Oakland, CA  
Project Number: INTRIM-50325  
Project Manager: Scott Robinson

MNI0648  
Reported:  
10/05/04 16:32

**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 4I29001 - EPA 5030B P/T**

<b>Matrix Spike Dup (4I29001-MSD1)</b>	<b>Source: MNI0659-11</b>			<b>Prepared &amp; Analyzed: 09/29/04</b>						
Benzene	880	10	ug/l	128	720	125	69-124	4	20	BB,LM
Ethylbenzene	570	10	"	150	370	133	84-132	7	20	LM
Methyl tert-butyl ether	286	10	"	198	130	79	63-137	1	20	
Toluene	720	10	"	638	47	105	78-129	8	20	
Xylenes (total)	1290	10	"	731	420	119	83-137	7	20	
Gasoline Range Organics (C4-C12)	18700	1000	"	8800	9500	105	70-124	9	20	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>2.13</i>		<i>"</i>	<i>2.50</i>		<i>85</i>	<i>78-129</i>			



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

Project: ARCO #2169, Oakland, CA  
Project Number: INTRIM-50325  
Project Manager: Scott Robinson

MNI0648  
**Reported:**  
10/05/04 16:32

### Notes and Definitions

LM MS and/or MSD above acceptance limits. See Blank Spike(LCS).  
IC Calib. verif. is within method limits but outside contract limits  
HL Analyte recovery above established limit  
BB,LM Sample > 4x spike concentration. MS and/or MSD above acceptance limits. See Blank Spike(LCS).  
DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference



### Chain of Custody Record

Project Name GWM  
 BP BU/GEM CO Portfolio Retail MN110648  
 BP Laboratory Contract Number: Atlantic Richfield Company  
 Date: 9/20/04 Requested Due Date (mm/dd/yy) 14 day TAT

On-site Time: 920 Temp: 65  
 Off-site Time: 1040 Temp: 68  
 Sky Conditions: Partly Cloudy  
 Meteorological Events:  
 Wind Speed: 5-10 Direction: NW

Send To:	BP/GEM Facility No.: <u>ARCO 2169</u>	Consultant/Contractor: <u>URS</u>
Lab Name: <u>SEQUOIA</u>	BP/GEM Facility Address: <u>889 W. GRAND AVE, OAKLAND, CA</u>	Address: <u>1333 Broadway, Suite 800</u>
Lab Address: <u>885 Jarvis Dr.</u>	Site ID No. <u>ARCO 2169</u>	<u>Oakland, CA 94612</u>
<u>Morgan Hill, CA 95037</u>	Site Lat/Long:	e-mail EDD: <u>donna_casper@URSCorp.com</u>
	California Global ID #: <u>T0600100112</u>	Consultant/Contractor Project No.: <u>J5-00002169.01 00427</u>
Lab PM <u>Lisa Race</u>	BP/GEM PM Contact: <u>PAUL SUPPLE</u>	Consultant Tele/Fax: <u>510-893-3600/510-874-3268</u>
Tele/Fax: <u>408-776-9600 / 408-782-6308</u>	Address: <u>P.O. Box 6549</u>	Consultant/Contractor PM: <u>Scott Robinson</u>
Report Type & QC Level: <u>1 Send EDF Reports</u>	<u>Moraga, CA 94570</u>	Invoice to: Consultant/Contractor of <u>BP/GEM</u> (Circle one)
BP/GEM Account No.:	Tele/Fax: <u>925-299-8891/925-299-8872</u>	BP/GEM Work Release No: <u>INTRIM -50325</u>

Item No.	Sample Description	Time	Matrix				Laboratory No.	No. of containers	Preservatives				Requested Analysis						Sample Point Lat/Long and Comments
			Soil/Solid	Water/Liquid	Sediments	Air			Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	GRO/BTEX (8015/8021/8260)	DRO w/SGC (8015)	MTBE (8021)	MTBE (8260)	MTBE, TAME, ETBE DIPN, TBA (8260)	1,2-DCA & EDB (8260)	
1	AR-2	950	X				<u>MN110648-13</u>					X			X	X	X		
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Sampler's Name: <u>Morgan Gillies</u>	Relinquished By / Affiliation: <u>[Signature]</u>	Date: <u>9/21/04</u>	Time: <u>1545</u>	Accepted By / Affiliation: <u>[Signature]</u>	Date: <u>9/21/04</u>	Time: <u>1652</u>
Sampler's Company: <u>Blaine Tech</u>						
Equipment Date:						
Equipment Method:						
Equipment Tracking No:						

Instructions: Address Invoice to BP/GEM but send to URS for approval

Labels In Place Yes No Temperature Blank Yes No Cooler Temperature on Receipt 0 F/C Trip Blank Yes No

# SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: ARCO 2169  
 REC. BY (PRINT): JD  
 WORKORDER: ANN10648

DATE REC'D AT LAB: 9/21/04  
 TIME REC'D AT LAB: 1652  
 DATE LOGGED IN: 9/22/04

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

(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 / <u>Absent</u> Intact / Broken*			AR-2	VOL (3)	HCl		W	9/20/04	JD 9/21/04 (A large diagonal line is drawn across the table from the bottom-left to the top-right.)
2. Chain-of-Custody	<u>Present</u> / Absent*									
3. Traffic Reports or Packing List:	Present / <u>Absent</u>									
4. Airbill:	Airbill / Sticker <u>Present</u> / Absent									
5. Airbill #:										
6. Sample Labels:	<u>Present</u> / Absent									
7. Sample IDs:	<u>Listed</u> / Not Listed on Chain-of-Custody									
8. Sample Condition:	<u>Intact</u> / Broken* / Leaking*									
9. Does information on chain-of-custody, traffic reports and sample labels agree?	<u>Yes</u> / No*									
10. Sample received within hold time?	<u>Yes</u> / No*									
11. Adequate sample volume received?	<u>Yes</u> / No*									
12. Proper Preservatives used?	<u>Yes</u> / No*									
13. Trip Blank / Temp Blank Received? (circle which, if yes)	Yes / <u>No</u>									
14. Temp Rec. at Lab: Is temp 4 +/- 2°C? (Acceptance range for samples requiring thermal pres.)	<u>3.2</u> <u>Yes</u> / No**									

\*\*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**  
**Historical Groundwater Elevation and Analytical Data**  
**Petroleum Hydrocarbons and Their Constituents**  
**1995 - Present\*\*\***

**ARCO Service Station 2169**  
**889 West Grand Avenue, Oakland, California**

Well Number	Date Gauged	TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	Date Sampled	TPH					Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8260 (µg/L)	TPH Diesel (µg/L)	Dissolved Oxygen (mg/L)	Purged/ Not Purged (P/NP)	
							Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)								
A-1	03-24-95	14.16	8.10	ND	6.06	03-24-95												
A-1	06-05-95	14.16	11.13	ND	3.03	06-05-95	1,200	230	39	34	66	--	--					
A-1	08-17-95	14.16	11.71	ND	2.45	08-18-95	1,500	310	27	36	76	--	--	160				
A-1	12-04-95	14.16	12.28	ND	1.88	12-04-95	1,600	470	35	48	110	120	--	710				
A-1	03-01-96	14.16	8.78	ND	5.38	03-13-96	1,200	240	17	25	56	--	--	240				
A-1	05-29-96	14.16	9.85	ND	4.31	05-29-96	1,300	300	74	29	73	100	120	--				
A-1	11-21-96	14.16	11.08	ND	3.08	08-29-96	Not sampled: well sampled semi-annually, during the first and third quarters											
A-1	03-26-97	14.16	10.54	ND	3.62	11-21-96	1,200	320	5.9	25	27	110	--	--				
A-1	05-21-97	14.16	10.55	ND	3.61	03-26-97	Not sampled: well sampled semi-annually, during the first and third quarters											
A-1	08-08-97	14.16	11.10	ND	3.06	05-21-97	<50	0.8	<0.5	<0.5	<0.5	64	--	--				
A-1	11-18-97	14.16	11.32	ND	2.84	08-08-97	Not sampled: well sampled semi-annually, during the first and third quarters											
A-1	02-20-98	14.16	3.46	ND	10.70	11-18-97	91	7	<0.5	0.5	3.9	--	--					
A-1	05-11-98	14.16	7.10	ND	7.06	02-23-98	54	<0.5	<0.5	<0.5	0.6	27	--	--				
A-1	07-30-98	14.16	9.87	ND	4.29	05-11-98	590	160	22	15	28	70	--	--				
A-1	10-08-98	14.16	10.73	ND	3.43	07-30-98	280	26	<0.5	0.8	2.3	6	--	--				
A-1	02-18-99	14.16	11.15	ND	3.01	10-08-98	1,000	210	5	<5	38	<30	--	--				
A-1	05-26-99	14.16	8.00	ND	6.16	02-18-99	3,100	740	11	<10	24	<60	--	--				
A-1	08-23-99	14.16	10.60	ND	3.56	05-26-99	510	87	7.1	6.4	13	52	--	--				
A-1	10-27-99	14.16	11.22	ND	2.94	08-23-99	240	26	<0.5	1.2	6.2	34	--	--				
A-1	01-31-00	14.16	11.37	ND	2.79	10-27-99	79	3.9	0.6	<0.5	1.7	38	--	--				
A-1			9.44	ND	4.72	01-31-00	110	2.2	<0.5	<0.5	<1	25	--	--	0.68	NP		
							<50	<0.5	<0.5	<0.5	<1	<1	--	--	0.80	NP		
													--	--	1.0	NP		

Table 1  
 Historical Groundwater Elevation and Analytical Data  
 Petroleum Hydrocarbons and Their Constituents  
 1995 - Present\*\*

ARCO Service Station 2169  
 889 West Grand Avenue, Oakland, California

Well Number	Date Gauged	TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	Date Sampled	TPH							Dissolved Oxygen (mg/L)	Purged/ Not Purged (R/NP)	
							Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl-benzene (ug/L)	Total Xylenes (ug/L)	MTBE 8021B* (ug/L)	MIBE 8260 (ug/L)			TPH Diesel (ug/L)
A-2	03-24-95	14.55	8.64	ND	5.91											
A-2	06-05-95	14.55	11.72	ND	2.83	03-24-95	<50	<0.5	<0.5	<0.5	<0.5					
A-2	08-17-95	14.55	12.35	ND	2.20	06-05-95	<50	<0.5	<0.5	<0.5	<0.5	..	..	..		
A-2	12-04-95	14.55	12.74	ND	1.81	08-17-95	<50	<0.5	<0.5	<0.5	<0.5	..	..	..		
A-2	03-01-96	14.55	9.34	ND	5.21	12-04-95	<50	<0.5	<0.5	<0.5	<0.5	12	..	..		
A-2	05-29-96	14.55	10.40	ND	4.15	03-13-96	<50	<0.5	0.6	<0.5	<0.5	..	..	..		
A-2	08-29-96	14.55	11.50	ND	3.05	05-29-96	<50	<0.5	<0.5	<0.5	1.3	<9	..	..		
A-2	11-21-96	14.55	11.06	ND	3.49	08-29-96	<50	<0.5	<0.5	<0.5	<0.5	<20	..	..		
A-2	03-26-97	14.55	11.12	ND	3.43	11-21-96	<50	<0.5	<0.5	<0.5	<0.5	<39	..	..		
A-2	05-21-97	14.55	11.58	ND	2.97	03-26-97	<50	<0.5	<0.5	<0.5	<0.5	<30	..	..		
A-2	08-08-97	14.55	11.82	ND	2.73	05-21-97	Not sampled: well sampled semi-annually, during the first and third quarters							..	..	
A-2	11-18-97	14.55	3.33	ND	11.22	08-08-97	<50	<0.5	<0.5	<0.5	<0.5	<20	..	..		
A-2	02-20-98	14.55	7.68	ND	6.87	11-18-97	Not sampled: well sampled semi-annually, during the first and third quarters							..	..	
A-2	05-11-98	14.55	10.45	ND	4.10	02-20-98	<50	<0.5	<0.5	<0.5	<0.5	17	..	..		
A-2	07-30-98	14.55	11.23	ND	3.32	05-11-98	Not sampled							..	..	
A-2	10-08-98	14.55	11.62	ND	2.93	07-30-98	Not sampled: well sampled semi-annually, during the first and second quarters							..	..	
A-2	02-18-99	14.55	8.62	ND	5.93	10-08-98	Not sampled: well sampled semi-annually, during the first and second quarters							..	..	
A-2	05-26-99	14.55	11.16	ND	3.39	02-18-99	93	<0.5	<0.5	<0.5	<1	26	..	..		
A-2	08-23-99	14.55	11.69	ND	2.86	05-26-99	<50	<0.5	<0.5	<0.5	<0.5	<3	..	..		
A-2	10-27-99	14.55	11.88	ND	2.67	08-23-99	Not sampled: well sampled semi-annually, during the first and second quarters							..	..	
A-2	01-31-00	14.55	10.17	ND	4.38	10-27-99	Not sampled: well sampled semi-annually, during the first and second quarters							0.59		
						01-31-00	<50	<0.5	<0.5	<0.5	<1	<3	..	..	0.59	
															1.0	NP

**Table 1**  
**Historical Groundwater Elevation and Analytical Data**  
**Petroleum Hydrocarbons and Their Constituents**  
**1995 - Present\*\*\***

**ARCO Service Station 2169**  
**889 West Grand Avenue, Oakland, California**

Well Number	Date Gauged	TOC Elevation (ft.-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft.-MSL)	Date Sampled	TPH			Bitylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8260 (µg/L)	TPH Diesel (µg/L)	Dissolved Oxygen (mg/L)	Purged/Not Purged (P/NP)
							Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)							
A-3	03-24-95	15.75	8.83	ND	6.92	03-24-95	<50	<0.5	<0.5	<0.5	<0.5	--	--	--		
A-3	06-05-95	15.75	12.44	ND	3.31	06-05-95	Not sampled: well sampled annually									
A-3	08-17-95	15.75	13.04	ND	2.71	08-17-95	Not sampled: well sampled annually									
A-3	12-04-95	15.75	13.57	ND	2.18	12-04-95	Not sampled: well sampled annually									
A-3	03-01-96	15.75	9.90	ND	5.85	03-01-96	Not sampled: well sampled annually									
A-3	05-29-96	15.75	11.08	ND	4.67	05-29-96	<50	<0.5	<0.5	<0.5	<0.5	3	--	--		
A-3	08-29-96	15.75	12.38	ND	3.37	08-29-96	Not sampled: well sampled annually									
A-3	11-21-96	15.75	11.86	ND	3.89	11-21-96	Not sampled: well sampled annually									
A-3	03-26-97	15.75	11.81	ND	3.94	03-26-97	Not sampled: well sampled annually									
A-3	05-21-97	15.75	12.35	ND	3.40	05-21-97	<50	<0.5	<0.5	<0.5	<0.5	3	--	--		
A-3	08-08-97	15.75	12.62	ND	3.13	08-08-97	Not sampled: well sampled annually									
A-3	11-18-97	15.75	3.75	ND	12.00	11-18-97	Not sampled: well sampled annually									
A-3	02-20-98	15.75	8.06	ND	7.69	02-20-98	Not sampled: well sampled annually									
A-3	05-11-98	15.75	11.19	ND	4.56	05-11-98	<50	<0.5	<0.5	<0.5	<0.5	3	--	--		
A-3	07-30-98	15.75	12.05	ND	3.70	07-30-98	Not sampled: well sampled annually									
A-3	10-08-98	15.75	12.43	ND	3.32	10-08-98	Not sampled: well sampled annually									
A-3	02-18-99	15.75	9.05	ND	6.70	02-18-99	Not sampled: well sampled annually									
A-3	05-26-99	15.75	11.93	ND	3.82	05-26-99	Not sampled: well sampled annually									
A-3	08-23-99	15.75	12.57	ND	3.18	08-23-99	<50	<0.5	<0.5	<0.5	<0.5	3	--	--		
A-3	10-27-99	15.75	12.65	ND	3.10	10-27-99	Not sampled: well sampled annually									
A-3	01-31-00	15.75	9.55	ND	6.20	01-31-00	Not sampled: well sampled annually									
							<50	<0.5	<0.5	<0.5	<1	9	--	--	0.88	
															1.0	NP

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**Table 1**  
**Historical Groundwater Elevation and Analytical Data**  
**Petroleum Hydrocarbons and Their Constituents**  
**1995 - Present\*\*\***

**ARCO Service Station 2169**  
**889 West Grand Avenue, Oakland, California**

Well Number	Date Gauged	TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	Date Sampled	TPH Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE #260 (µg/L)	TPH Diesel (µg/L)	Dissolved Oxygen (mg/L)	Purged/Not Purged (Y/NP)
A-4	03-24-95	15.25	7.20	ND	3.05	03-24-95										
A-4	06-05-95	15.25	11.70	ND	3.55	06-05-95	<50	<0.5	<0.5	<0.5	<0.5					
A-4	08-17-95	15.25	12.28	ND	2.97	08-17-95	Not sampled; well sampled annually									
A-4	12-04-95	15.25	12.63	ND	2.62	12-04-95	Not sampled; well sampled annually									
A-4	03-01-96	15.25	8.55	ND	6.70	03-01-96	Not sampled; well sampled annually									
A-4	05-29-96	15.25	10.32	ND	4.93	05-29-96	<50	<0.5	<0.5	<0.5	<0.5					
A-4	08-29-96	15.25	11.55	ND	3.70	08-29-96	Not sampled; well sampled annually									
A-4	11-21-96	15.25	10.83	ND	4.42	11-21-96	Not sampled; well sampled annually									
A-4	03-26-97	15.25	10.97	ND	4.28	03-26-97	<50	<0.5	<0.5	<0.5	<0.5					
A-4	05-21-97	15.25	11.51	ND	3.74	05-21-97	Not sampled; well sampled annually									
A-4	08-08-97	15.25	11.73	ND	3.52	08-08-97	Not sampled; well sampled annually									
A-4	11-18-97	15.25	4.37	ND	10.88	11-18-97	Not sampled; well sampled annually									
A-4	02-20-98	15.25	6.25	ND	9.00	02-20-98	Not sampled; well sampled annually									
A-4	05-11-98	15.25	10.33	ND	4.92	05-11-98	<50	<0.5	<0.5	<0.5	<0.5					
A-4	07-30-98	15.25	11.25	ND	4.00	07-30-98	Not sampled; well sampled annually									
A-4	10-08-98	15.25	11.62	ND	3.63	10-08-98	Not sampled; well sampled annually									
A-4	02-18-99	15.25	7.12	ND	8.13	02-18-99	Not sampled; well sampled annually									
A-4	05-26-99	15.25	11.12	ND	4.13	05-26-99	<50	<0.5	<0.5	<0.5	<0.5					
A-4	08-23-99	15.25	11.62	ND	3.63	08-23-99	Not sampled; well sampled annually									
A-4	10-27-99	15.25	11.74	ND	3.51	10-27-99	Not sampled; well sampled annually									
A-4	01-31-00	15.25	9.45	ND	3.80	01-31-00	<50	<0.5	<0.5	<0.5	<0.5				0.54	
															1.0	NP

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**Table 1**  
**Historical Groundwater Elevation and Analytical Data**  
**Petroleum Hydrocarbons and Their Constituents**  
**1995 - Present\*\*\***

**ARCO Service Station 2169**  
**889 West Grand Avenue, Oakland, California**

Well Number	Date Gauged	TOC Elevation (ft.-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft.-MSL)	Date Sampled	TPH Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8260 (µg/L)	TPH Diesel (µg/L)	Dissolved Oxygen (mg/L)	Purged/Not Purged (P/NP)		
A-5	03-24-95	13.51	7.40	ND	6.11													
A-5	06-05-95	13.51	10.43	ND	3.08	03-24-95	3,300	200	310	130	460							
A-5	08-17-95	13.51	11.15	ND	2.36	06-05-95	57,000	2,700	4,600	1,500	6,800							
A-5	12-04-95	13.51	11.42	ND	2.09	08-18-95	34,000	1,600	2,700	1,100	5,100							
A-5	03-01-96	13.51	8.11	ND	5.40	12-04-95	61	<0.5	<0.5	<0.5	<0.5	<28						
A-5	05-29-96	13.51	9.30	ND	4.21	03-13-96	11,000	860	960	380	1,600							
A-5	08-29-96	13.51	10.60	ND	2.91	05-29-96	19,000	1,600	1,900	880	3,300	<100						
A-5	11-21-96	13.51	10.05	ND	3.46	08-29-96	7,700	490	450	260	990	<190						
A-5	03-26-97	13.51	9.87	ND	3.64	11-21-96	8,000	450	550	340	1,100	<30						
A-5	05-21-97	13.51	10.25	ND	3.26	03-26-97	3,100	190	140	130	340	<30						
A-5	08-08-97	13.51	10.42	ND	3.09	05-21-97	16,000	1,500	900	700	2,700	<30						
A-5	11-18-97	13.51				02-08-97	9,000	690	240	440	1,300	<120						
A-5	02-20-98	13.51										<30						
A-5	05-11-98	13.51																
A-5	07-30-98	13.51																
A-5	10-08-98	13.51																
A-5	02-18-99	13.51																
A-5	05-26-99	13.51	7.63	ND	5.88													
A-5	08-23-99	13.51	9.85	ND	3.66	02-18-99	<50	10.8	<0.5	<0.5	1.5	<10						
A-5	10-27-99	13.51	10.60	ND	2.91	05-26-99	1,700	240	41	110	330	<12						
A-5	01-31-00	13.51	10.72	ND	2.79	08-23-99	560	65	3	30	52							
			9.37	ND	4.14	10-27-99	480	93	1.0	16	19							
						01-31-00	Not sampled; well was inaccessible										0.73	NP
															0.65	NP		

**Table 1**  
**Historical Groundwater Elevation and Analytical Data**  
**Petroleum Hydrocarbons and Their Constituents**  
**1995 - Present\*\*\***

**ARCO Service Station 2169**  
**889 West Grand Avenue, Oakland, California**

Well Number	Date Gauged	TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	Date Sampled	TPH Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE #260 (µg/L)	TPH Diesel (µg/L)	Dissolved Oxygen (mg/L)	Purged/Not Purged (P/NP)
A-6	03-24-95	13.51	7.89	ND	5.62	03-24-95	120	<0.5	<1	<0.5	<1.5	..	..	..		
A-6	06-05-95	13.51	10.06	ND	3.45	06-05-95	160	<0.5	<0.6	<0.5	<0.5	..	..	..		
A-6	08-17-95	13.51	11.10	ND	2.41	08-18-95	330	<0.5	<0.5	<2.4	<4.2	..	..	..		
A-6	12-04-95	13.51	11.52	ND	1.99	12-04-95	28,000	1,600	1,800	880	3,600	..	..	..		
A-6	03-01-96	13.51	8.21	ND	5.30	03-13-96	1,400	<1	<1.5	<1	<10	<20	..	..		
A-6	05-29-96	13.51	9.25	ND	4.26	05-29-96	410	<1	<1.5	<1	<10	..	..	..		
A-6	08-29-96	13.51	10.52	ND	2.99	08-29-96	80	<0.5	<0.5	<0.5	<0.5	3	..	..		
A-6	11-21-96	13.51	10.54	ND	2.97	11-21-96	62	<0.5	<0.5	<0.5	<0.5	6	..	..		
A-6	03-26-97	13.51	9.93	ND	3.58	03-26-97	110	<0.5	<0.5	<0.5	<0.5	12	..	..		
A-6	05-21-97	13.51	10.54	ND	2.97	05-21-97	600	0.6	0.6	1	1.4	15	..	..		
A-6	08-08-97	13.51	10.77	ND	2.74	08-08-97	850	<0.5	<0.5	<1	2.7	<1	..	..		
A-6	11-18-97	13.51	3.41	ND	10.10	11-18-97	690	<0.5	<0.5	6.1	<0.5	<4	..	..		
A-6	02-20-98	13.51	6.73	ND	6.78	02-20-98	60	<0.5	<1	3	2	7	..	..		
A-6	05-11-98	13.51	9.26	ND	4.25	05-11-98	140	<0.5	0.6	1.3	0.5	4	..	..		
A-6	07-30-98	13.51	10.12	ND	3.39	07-30-98	910	<0.5	0.7	0.6	<0.5	6	..	..		
A-6	10-08-98	13.51	10.53	ND	2.98	10-08-98	1,300	<1	<1	3	7	34	..	..		
A-6	02-18-99	13.51	7.50	ND	6.01	02-18-99	150	<0.5	4	3	4	21	..	..		
A-6	05-26-99	13.51	10.00	ND	3.51	05-26-99	100	<0.5	<0.5	1.4	1.7	35	..	..		
A-6	08-23-99	13.51	10.70	ND	2.81	08-23-99	98	<0.5	<0.5	<0.5	<0.5	17	..	..		
A-6	10-27-99	13.51	11.00	ND	2.51	10-27-99	<0.5	0.6	<0.5	1.1	4.3	13	..	..	2.42	NP
A-6	01-31-00	13.51	9.31	ND	4.20	01-31-00	<0.5	<0.5	<0.5	<0.5	<1	7	..	..	13.23	NP
												9	..	..	1.0	NP

**Table 1**  
**Historical Groundwater Elevation and Analytical Data**  
**Petroleum Hydrocarbons and Their Constituents**  
**1995 - Present\*\***

**ARCO Service Station 2169**  
**889 West Grand Avenue, Oakland, California**

Well Number	Date Gauged	TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	Data Sampled	TPH					Total Xylenes (ug/L)	MTBE 8021B* (ug/L)	MTBE 8260 (ug/L)	TPH Diesel (ug/L)	Dissolved Oxygen (mg/L)	Purged/ Not Purged (P/NP)
							Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)							
AR-1	03-24-95	15.61	7.25	ND	8.36												
AR-1	06-05-95	15.61	11.37	ND	4.24	03-24-95	270	14	0.6	2.5	2.1	--	--				
AR-1	08-17-95	15.61	12.40	ND	3.21	06-05-95	190	10	<0.5	0.8	0.5	--	--	130			
AR-1	12-04-95	15.61	12.90	ND	2.71	08-17-95	960	110	12	4.5	150	14	--	580			
AR-1	03-01-96	15.61	8.19	ND	7.42	12-04-95	<50	1.5	<0.5	<0.5	0.8	--	--	<50			
AR-1	05-29-96	15.61	10.41	ND	5.20	03-13-96	150	3.8	0.5	1.4	1.3	<3	--	--			
AR-1	08-29-96	15.61	12.12	ND	3.49	05-29-96	Not sampled; well sampled semi-annually, during the first and third quarters										
AR-1	11-21-96	15.61	11.52	ND	4.09	08-29-96	<50	<0.5	<0.5	<0.5	0.8	<3	--	--			
AR-1	03-26-97	15.61	11.33	ND	4.28	11-21-96	Not sampled; well sampled semi-annually, during the first and third quarters										
AR-1	05-21-97	15.61	12.02	ND	3.59	03-26-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--			
AR-1	08-08-97	15.61	12.31	ND	3.30	05-21-97	Not sampled; well sampled semi-annually, during the first and third quarters										
AR-1	11-18-97	15.61	3.97	ND	11.64	08-08-97	<50	0.7	<0.5	1	<0.5	<3	--	--			
AR-1	02-20-98	15.61	6.42	ND	9.19	11-18-97	Not sampled; well sampled semi-annually, during the first and third quarters										
AR-1	05-11-98	15.61	10.93	ND	4.68	02-20-98	<200	<2	<2	<2	<2	160	--	--			
AR-1	07-30-98	15.61	11.82	ND	3.79	05-11-98	<50	<0.5	<0.5	<0.5	<0.5	4	--	--			
AR-1	10-08-98	15.61	12.24	ND	3.37	07-30-98	<50	<0.5	<0.5	<0.5	<0.5	6	--	--			
AR-1	02-18-99	15.61	7.75	ND	7.86	10-08-98	<50	<0.5	<0.5	<0.5	<0.5	6	--	--			
AR-1	05-26-99	15.61	11.62	ND	3.99	02-18-99	<50	<0.5	<0.5	<0.5	<0.5	6	--	--			
AR-1	08-23-99	15.61	9.32	ND	6.29	05-26-99	<50	<0.5	<0.5	<0.5	<1.0	<10	--	--			
AR-1	10-27-99	15.61	12.14	ND	3.47	08-23-99	Not sampled; well sampled semi-annually, during the first and second quarters										
AR-1	01-31-00	15.61	Not surveyed; well inaccessible														
						10-27-99	Not sampled; well sampled semi-annually, during the first and second quarters										

**Table 1**  
**Historical Groundwater Elevation and Analytical Data**  
**Petroleum Hydrocarbons and Their Constituents**  
**1985 - Present\*\***

**ARCO Service Station 2169**  
**889 West Grand Avenue, Oakland, California**

Well Number	Date Gauged	TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	Date Sampled	TPH							Dissolved Oxygen (mg/L)	Purged/Not Purged (P/NP)
							Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE #260 (µg/L)		
AR-2	03-24-95	15.28	9.13	ND	6.15										
AR-2	06-05-95	15.28	12.09	ND	3.19	03-24-95	<50	6.2	<0.5	<0.5	0.6	--	--	<50	
AR-2	08-17-95	15.28	12.78	ND	2.50	06-05-95	<50	<0.5	<0.5	<0.5	<0.5	--	--	<50	
AR-2	12-04-95	15.28	11.44	ND	3.84	12-04-95	<50	<0.5	<0.5	<0.5	<0.5	4	--	<50	
AR-2	03-01-96	15.28	9.83	ND	5.45	12-13-95	<50	<0.5	<0.5	<0.5	<0.5	--	--	<50	
AR-2	05-29-96	15.28	10.97	ND	4.31	03-13-96	190	26	2.6	3.3	13	200	--	--	
AR-2	08-29-96	15.28	12.20	ND	3.08	05-29-96	Not sampled: well sampled semi-annually, during the first and third quarters							--	--
AR-2	11-21-96	15.28	11.57	ND	3.71	08-29-96	<50	<0.5	<0.5	<0.5	<0.5	95	--	--	
AR-2	03-26-97	15.28	11.60	ND	3.68	11-21-96	Not sampled: well sampled semi-annually, during the first and third quarters							--	--
AR-2	05-21-97	15.28	12.12	ND	3.16	03-26-97	<50	<0.5	<0.5	<0.5	<0.5	9	--	--	
AR-2	08-08-97	15.28	12.35	ND	2.93	05-21-97	Not sampled: well sampled semi-annually, during the first and third quarters							--	--
AR-2	11-18-97	15.28	3.48	ND	11.80	08-08-97	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	
AR-2	02-20-98	15.28	8.00	ND	7.28	11-18-97	Not sampled: well sampled semi-annually, during the first and third quarters							--	--
AR-2	05-11-98	15.28	10.97	ND	4.31	02-20-98	<50	<0.5	<0.5	<0.5	<0.5	43	--	--	
AR-2	07-30-98	15.28	11.76	ND	3.52	05-11-98	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	
AR-2	10-08-98	15.28	12.17	ND	3.11	07-30-98	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	
AR-2	02-18-99	15.28	9.17	ND	6.11	10-08-98	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	
AR-2	05-26-99	15.28	11.72	ND	3.56	02-18-99	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	
AR-2	08-23-99	15.28	12.31	ND	2.97	05-26-99	<50	<0.5	<0.5	<0.5	<1.0	<10	--	--	
AR-2	10-27-99	15.28	12.42	ND	2.86	08-23-99	Not sampled: well sampled semi-annually, during the first and second quarters							--	--
AR-2	01-31-00	15.28	10.31	ND	4.97	10-27-99	Not sampled: well sampled semi-annually, during the first and second quarters							0.61	
						01-31-00	Not sampled								

**Table 1**  
**Historical Groundwater Elevation and Analytical Data**  
**Petroleum Hydrocarbons and Their Constituents**  
**1995 - Present\*\***

**ARCO Service Station 2189**  
**889 West Grand Avenue, Oakland, California**

Well Number	Date Gaged	TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	Date Sampled	TPH Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE 8021B* (ug/L)	MTBE 8260 (ug/L)	TPH Diesel (ug/L)	Dissolved Oxygen (mg/L)	Purged/Not Purged (P/NP)
ADR-1	03-24-95	13.95	8.04	0.01	** 5.92											
ADR-1	06-05-95	13.95	11.02	ND	2.93	03-24-95	Not sampled: well contained floating product									
ADR-1	08-17-95	13.95	11.86	ND	2.09	06-05-95	23,000	310	420	300	1,900	--	--	13,000		
ADR-1	12-04-95	13.95	10.05	ND	3.90	08-18-95	4,400	150	120	95	620	120	--	4,500		
ADR-1	03-01-96	13.95	8.76	ND	5.19	12-13-95	8,800	100	130	120	990	--	--	--		
ADR-1	05-29-96	13.95	9.74	ND	4.21	03-13-96	89,000	370	1,000	840	3,100	<500	--	--		
ADR-1	08-29-96	13.95	10.77	ND	3.18	05-30-96	27,000	230	380	370	2,700	<100	--	--		
ADR-1	11-21-96	13.95	10.49	ND	3.46	08-29-96	5,300	190	58	76	470	85	--	--		
ADR-1	03-26-97	13.95	10.37	ND	3.58	11-21-96	1,900	82	21	32	270	110	--	--		
ADR-1	05-21-97	13.95	10.90	ND	3.05	03-26-97	1,300	260	6	39	27	95	--	--		
ADR-1	08-08-97	13.95	11.12	ND	2.83	05-21-97	2,100	300	18	37	200	79	--	--		
ADR-1	11-18-97	13.95	3.47	ND	10.48	08-08-97	3,900	620	49	110	470	<200	--	--		
ADR-1	02-20-98	13.95				11-18-97	18,000	900	140	360	2,700	<60	--	--		
ADR-1	05-11-98	13.95														
ADR-1	07-30-98	13.95														
ADR-1	10-08-98	13.95														
ADR-1	02-18-99	13.95														
ADR-1	05-26-99	13.95	7.80	ND	6.15											
ADR-1	08-23-99	13.95	10.40	ND	3.35	02-18-99	200	4.4	<0.5	1.3	1.3	43	--	--		
ADR-1	10-27-99	13.95	10.70	ND	3.25	05-26-99	160	10	<0.5	1.7	1.8	43	--	--		
ADR-1	01-31-00	13.95	10.82	ND	3.13	08-23-99	7,400	310	16	210	970	18	--	--		
			9.21	ND	4.74	10-27-99	5,000	210	6.3	180	490	5	--	--	0.37	NP
						01-31-00	290	3.6	<0.5	1.1	<1	26	--	--	0.73	NP
															1.0	NP

**Table 1**  
**Historical Groundwater Elevation and Analytical Data**  
**Petroleum Hydrocarbons and Their Constituents**  
**1995 - Present\*\***

**ARCO Service Station 2169**  
**889 West Grand Avenue, Oakland, California**

Well Number	Date Gauged	TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	Date Sampled	TEH										Dissolved Oxygen (mg/L)	Purged/Not Purged (Y/N)
							Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE 8021B* (ug/L)	MTBE 8260 (ug/L)	IPH Diesel (ug/L)				
ADR-2	03-24-95	14.64	8.41	>3.00	NR[1]	03-24-95	Not sampled: well contained floating product											
ADR-2	06-05-95	14.64	11.45	>3.00	NR[1]	06-05-95	Not sampled: well contained floating product											
ADR-2	08-17-95	14.64	12.10	0.03	** 2.56	08-17-95	Not sampled: well contained floating product											
ADR-2	12-04-95	14.64	10.93	0.03	** 3.73	12-04-95	Not sampled: well contained floating product											
ADR-2	03-01-96	14.64	8.74	ND	5.90	03-01-96	Not sampled: well contained floating product											
ADR-2	05-29-96	14.64	10.43	ND	4.21	05-29-96	29,000	1,100	1,200	710	3,800	<500	--	--				
ADR-2	08-29-96	14.64	11.64	ND	3.00	08-29-96	33,000	510	500	470	2,300	120	--	--				
ADR-2	11-21-96	14.64	11.23	ND	3.41	11-21-96	8,000	230	180	150	730	53	--	--				
ADR-2	03-26-97	14.64	11.13	ND	3.51	03-26-97	15,000	630	440	390	2,100	75	--	--				
ADR-2	05-21-97	14.64	11.64	ND	3.00	05-21-97	6,100	320	23	180	400	32	--	--				
ADR-2	08-08-97	14.64	11.85	ND	2.79	08-08-97	6,100	380	22	210	320	<30	--	--				
ADR-2	11-18-97	14.64	3.33	ND	11.31	11-18-97	8,400	380	35	230	910	<30	--	--				
ADR-2	02-20-98	14.64	7.67	ND	6.97	02-20-98	11,000	230	29	300	1,200	<60	--	--				
ADR-2	05-11-98	14.64	16.47	ND	4.17	05-11-98	4,700	320	30	130	360	20	--	--				
ADR-2	07-30-98	14.64	Not surveyed; well inaccessible			11.67	Not sampled											
ADR-2	10-08-98	14.64	Not surveyed; well inaccessible			2.97												
ADR-2	02-18-99	14.64	Not surveyed; well inaccessible															
ADR-2	05-26-99	14.64	11.02	ND	3.62	10-08-99	Not sampled											
ADR-2	08-23-99	14.64	9.82	ND	4.82	05-26-99	5,900	670										
ADR-2	10-27-99	14.64	9.85	ND	4.79	08-23-99	9,100	570	5	340	104	16	--	--				
ADR-2	01-31-00	14.64	10.15	ND	4.49	10-27-99	7,700	289	12	410	1,000	28	--	--				
						01-31-00	7,700	289	3.4	370	390	23	--	--	0.50	NP		
															0.65	NP		
															2.0	NP		

Q:\ARC\ARCO\2169\QTR\1\Historical Data\_xlstak1

**Table 1  
Historical Groundwater Elevation and Analytical Data  
Petroleum Hydrocarbons and their Constituents  
1985 - Present\*\***

**ARCO Service Station 2169  
888 West Grand Avenue, Oakland, California**

Well Number	Date Gauged	TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	Date Sampled	TPH Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE 3021B* (µg/L)	MTBE 8260 (µg/L)	TPH Diesel (µg/L)	Dissolved Oxygen (mg/L)	Purged/Not Purged (P/NP)
-------------	-------------	------------------------	-----------------------	---------------------	--------------------------------	--------------	---------------------	----------------	----------------	---------------------	----------------------	--------------------	------------------	-------------------	-------------------------	--------------------------

TOC: top of casing

ft-MSL: elevation in feet, relative to mean sea level

TPH: total petroleum hydrocarbons, California DFS LUFT Method

BTX: benzene, toluene, ethylbenzene, total xylenes by EPA method 8021B. (EPA method 8020 prior to 10/27/99)

MTBE: Methyl tert-butyl ether

µg/L: micrograms per liter

mg/L: milligrams per liter

ND: none detected

NR: not reported; data not available or not measurable

-: not analyzed or not applicable

< denotes concentration not present at or above laboratory detection limit stated to the right.

(1): well contained more than 3 feet of floating product; exact product thickness and groundwater elevation could not be measured

\*: EPA method 8020 prior to 10/27/99

\*\* : [corrected elevation (Z')] = Z + (h \* 0.73) where: Z = measured elevation, h = floating product thickness, 0.73 = density ratio of oil to water

\*\*\*: For previous historical groundwater elevation data please refer to Fourth Quarter 1995 Groundwater Monitoring Program Results and Remediation System Performance Evaluation Report, ARCO Service Station 2169, 888 West Grand Avenue, Oakland, California, (EMCON, March 4, 1996).

**Table 2**  
**Groundwater Flow Direction and Gradient**

**ARCO Service Station 2169**  
**889 West Grand Avenue, Oakland, California**

<b>Date Measured</b>	<b>Average Flow Direction</b>	<b>Average Hydraulic Gradient</b>
03-24-95	Northwest	0.009
06-05-95	Northwest	0.002
08-17-95	West	0.001
12-04-95	North-Northwest	0.002
03-01-96	Northwest	0.003
05-29-96	Northwest	0.002
08-29-96	West	0.002
11-21-96	West-Northwest	0.002
03-26-97	Northwest	0.002
05-21-97	North-Northwest	0.002
08-08-97	North-Northwest	0.002
11-18-97	North-Northwest	0.003
02-20-98	North	0.013
05-11-98	North	0.03
07-30-98	North	0.002
10-08-98	North-Northwest	0.002
02-18-99	Northwest	0.008
05-26-99	North-Northwest	0.003
08-23-99	Variable	Variable
10-27-99	Variable	Variable
01-31-00	West-Northwest	0.006



**ATTACHMENT D**

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

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<b>ARCO # 02169</b> 889 GRAND AVE W OAKLAND, CA 94607	<b><u>Regional Board - Case #: 01-0120</u></b> SAN FRANCISCO BAY RWQCB (REGION 2) - (BG) <b><u>Local Agency (lead agency) - Case #: 3793</u></b> ALAMEDA COUNTY LOP - (UNK)
---	--

### SAMPLE DETECTIONS REPORT

# FIELD POINTS SAMPLED	7
# FIELD POINTS WITH DETECTIONS	6
# FIELD POINTS WITH WATER SAMPLE DETECTIONS ABOVE MCL	2
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
<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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**Facility Global ID:** T0600100112  
**Facility Name:** ARCO # 02169  
**Submittal Title:** Third Quarter 2004. Site #2169  
**Submittal Type:** GW Monitoring Report

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<b>ARCO # 02169</b> 889 GRAND AVE W OAKLAND, CA 94607	<b>Regional Board - Case #: 01-0120</b> SAN FRANCISCO BAY RWQCB (REGION 2) - (BG) <b>Local Agency (lead agency) - Case #: 3793</b> ALAMEDA COUNTY LOP - (UNK)
---	--

<b>CONF #</b>	<b>TITLE</b>	<b>QUARTER</b>
1994673609	Third Quarter 2004. Site #2169	Q3 2004
<b>SUBMITTED BY</b>	<b>SUBMIT DATE</b>	<b>STATUS</b>
Srijesh Thapa	10/6/2004	PENDING REVIEW

### SAMPLE DETECTIONS REPORT

# FIELD POINTS SAMPLED	7
# FIELD POINTS WITH DETECTIONS	6
# FIELD POINTS WITH WATER SAMPLE DETECTIONS ABOVE MCL	2
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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