

20-77



Atlantic Richfield Company
(a BP affiliated company)

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RECEIVED
OCT 29 2004
ENVIRONMENTAL SERVICES

October 28, 2004

Re: Third Quarter 2004 Groundwater Monitoring Report
ARCO Service Station #6148
5131 Shattuck Avenue
Oakland, California
URS Project #38486730

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

Submitted by:

Paul Supple
Environmental Business Manager



October 28, 2004

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

**Re: Third Quarter 2004 Groundwater Monitoring Report
ARCO Service Station #6148
5131 Shattuck Avenue
Oakland, California
URS Project #38486730**

Dear Mr. Schultz:

On behalf of Atlantic Richfield Company (RM), a BP affiliated company, URS Corporation (URS) is submitting the *Third Quarter 2004 Groundwater Monitoring Report* for the ARCO Service Station #6148, located at 5131 Shattuck Avenue, Oakland, California.

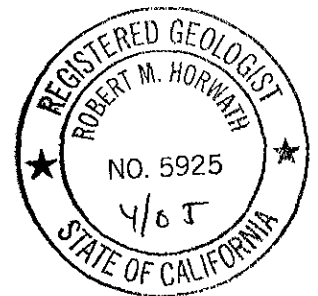
If you have any questions regarding this submission, please call (510) 874-3280.

Sincerely,

URS CORPORATION

Scott Robinson
Project Manager

Robert Horwath, R.G.
Portfolio Manager



Enclosure: 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 #6148
5131 SHATTUCK AVENUE
OAKLAND, CALIFORNIA

Prepared for
RM

October 28, 2004

URS

URS Corporation
1333 Broadway, Suite 800
Oakland, California 94612

38486730

Date: October 28, 2004
Quarter: 3Q 04

RM QUARTERLY GROUNDWATER MONITORING REPORT

Facility No.: 6148 Address: 5131 Shattuck Avenue, Oakland, California
RM Environmental Business Manager: Paul Supple
Consulting Co./Contact Person: URS Corporation / Scott Robinson
Consultant Project No.: 38486730
Primary Agency: Alameda County Health Care Services Agency (ACHCSA)

WORK PERFORMED THIS QUARTER (Third – 2004):

1. Performed third quarter 2004 groundwater monitoring event on August 25, 2004.

WORK PROPOSED FOR NEXT QUARTER (Fourth – 2004):

1. Prepare and submit this third quarter 2004 groundwater monitoring report.
2. Perform fourth quarter 2004 groundwater monitoring event.
3. Prepare and submit fourth quarter 2004 groundwater monitoring report.
4. Permanently remove ORC socks from wells MW-2 and MW-5.

Current Phase of Project: GW monitoring/sampling
Frequency of Groundwater Sampling: Quarterly : MW-1, MW-2, MW-3, & MW-5
Semi-Annually (1st/3rd Quarter): Well MW-4
Annually (3rd Quarter): MW-6 & MW-7
Frequency of Groundwater Monitoring: Quarterly
Is Free Product (FP) Present On-Site: No
Current Remediation Techniques: Natural Attenuation
Previous Remediation Techniques: Soil Vapor Extraction (SVE), Air-Sparge and Air-Bubbling Systems
Bulk Soil Removed to Date: 560 cubic yards
Approximate Depth to Groundwater: 13.95 (MW-6) to 17.28 (MW-1) feet
Groundwater Gradient (direction): Southwest
Groundwater Gradient (magnitude): 0.013 feet per foot

DISCUSSION:

Gasoline Range Organics (GRO) and benzene were not detected at or above laboratory reporting limits in any of the wells sampled this quarter. Methyl-tert-butyl ether (MTBE) was detected above their respective laboratory reporting limits in four wells at concentrations ranging from 0.63 µg/L (MW-2) to 3.3 µg/L (MW-3). No other fuel oxygenates were detected above laboratory reporting limits during this sampling event.

Due to low concentrations of the constituents of concern, ORC socks will be permanently removed from wells MW-2 and MW-5 during the 4th quarter sampling event.

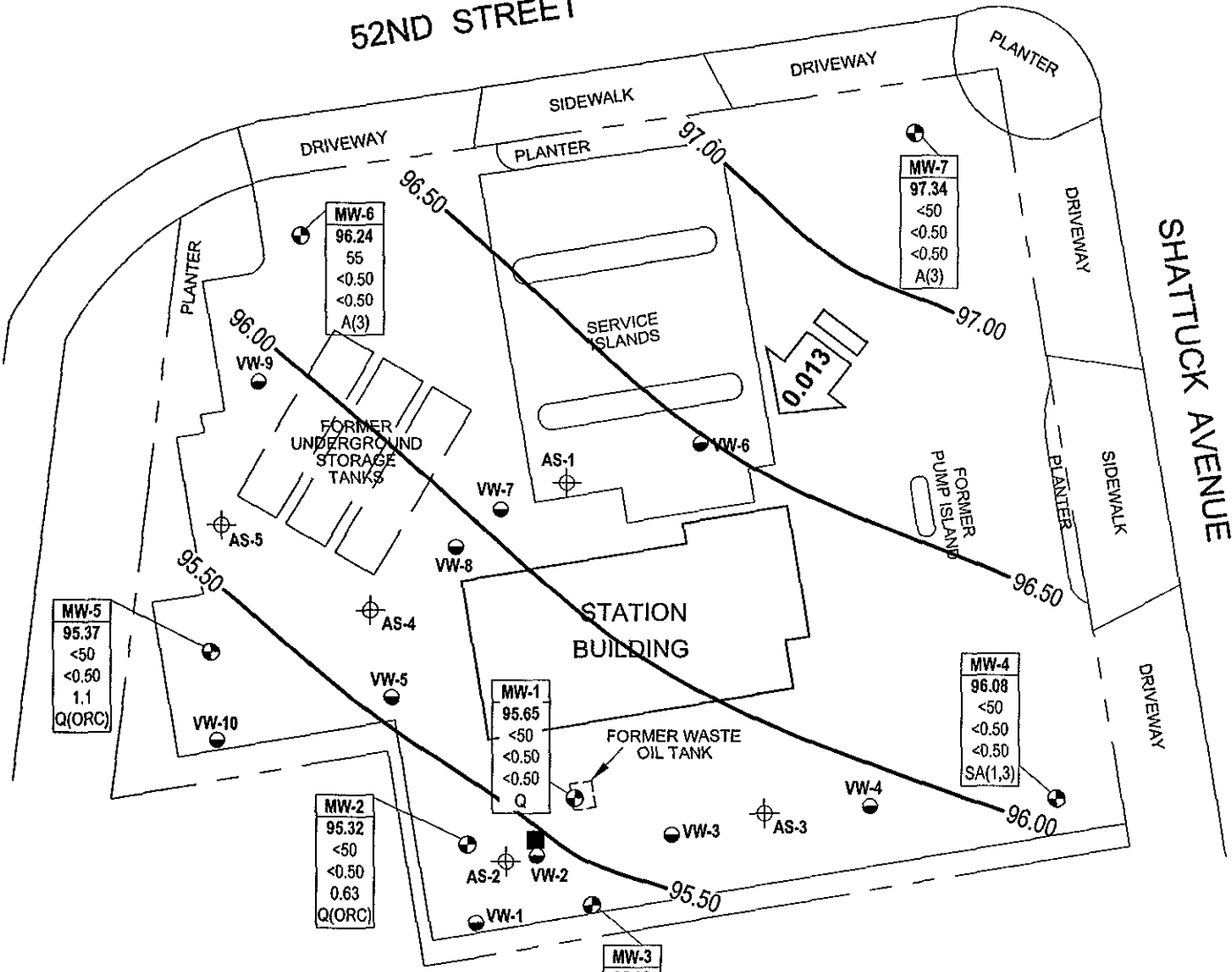
ATTACHMENTS:

ATTACHMENTS:

- Figure 1 – Groundwater Elevation Contour and Analytical Summary Map – August 25, 2004
- Table 1 – Groundwater Elevation and Analytical Data
- Table 2 – Groundwater Flow Direction and Gradient
- Table 3 – Fuel Oxygenate Analytical Data
- 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

52ND STREET

SHATTUCK AVENUE



LEGEND:

- MONITORING WELL
- ⊕ AIR SPARGING WELL
- SOIL VAPOR EXTRACTION WELL
- DESTROYED WELL

Well	WELL DESIGNATION
ELEV	GROUNDWATER ELEVATION (FT ABOVE MSL)
GRO	CONCENTRATION OF GRO, BENZENE AND MTBE IN GROUNDWATER (µg/L)
Benzene	
MTBE	
Q/A/SA	SAMPLING FREQUENCY

- A(3) SAMPLED ANNUALLY, 3RD QUARTER
- Q SAMPLED QUARTERLY
- SA(1,3) SAMPLED SEMI-ANNUALLY, 1ST & 3RD QUARTERS
- ORC OXYGEN RELEASING COMPOUND SOCK

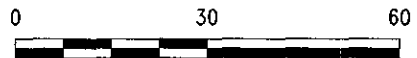
< NOT DETECTED AT OR ABOVE LABORATORY REPORTING LIMITS

0.013 GROUNDWATER FLOW DIRECTION AND GRADIENT (FT/FT)

97.00 GROUNDWATER ELEVATION CONTOUR (FT ABOVE MSL)



NORTH



SCALE IN FEET

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

Oct 22, 2004 - 2:31 pm X:\x_env\waize\BPC\CEM\Site\Scor\Robinson\Paul\Suppl\6148\Monitoring\Qtr 3, 2004\6148-3Q04-GW.dwg



Project No. 38486730
 ARCO Service Station 6148
 5131 Shattuck Avenue
 Oakland, California

**GROUNDWATER ELEVATION CONTOUR
 AND ANALYTICAL SUMMARY MAP**
 Third Quarter 2004 (August 25, 2004)

FIGURE
 1

Table 1
Groundwater Elevation and Analytical Data
 ARCO Station #6148
 5131 Shattuck 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
MW-1	6/21/2000	--		107.80	--	--	17.49	--	90.31	<50	<0.5	<0.5	<0.5	<1.0	<3.0	--	--
	9/20/2000	--		107.80	--	--	17.64	--	90.16	<50	<0.5	0.677	<0.5	0.969	<2.5	--	--
	12/22/2000	--		107.80	--	--	16.87	--	90.93	186	5.38	0.522	9.52	30.2	8.91	--	--
	3/26/2001	--		107.80	--	--	16.60	--	91.20	<50	<0.5	<0.5	<0.5	<0.5	9.1	--	--
	5/30/2001	--		107.80	--	--	17.10	--	90.70	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	9/23/2001	--		107.80	--	--	17.53	--	90.27	<50	<0.5	<0.5	<0.5	<0.5	6.7	--	--
	12/28/2001	--		107.80	--	--	15.57	--	92.23	<50	2.7	<0.5	<0.5	<0.5	20	--	--
	3/21/2002	--		107.80	--	--	15.57	--	92.23	--	--	--	--	--	--	--	--
	4/17/2002	--		107.80	--	--	16.25	--	91.55	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	8/19/2002	--		107.80	--	--	17.69	--	90.11	<50	<0.5	<0.5	<0.5	<0.5	<2.5	2.0	7.1
	11/27/2002	--		107.80	--	--	17.45	--	90.35	<50	<0.50	1.8	0.65	3.5	1.7	1.0	6.3
	2/5/2003	--	d	107.80	--	--	16.93	--	90.87	<50	<0.50	<0.50	<0.50	<0.50	1.1	1.2	7.3
	5/13/2003	--		107.80	--	--	16.95	--	90.85	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.0	6.5
	7/31/2003	--		107.80	--	--	17.74	--	90.06	<50	<0.50	<0.50	<0.50	<0.50	0.55	1.2	6
	12/17/2003	NP		107.80	11.50	25.70	17.03	--	90.77	<50	<0.50	<0.50	<0.50	<0.50	2.5	2.0	6.5
	02/13/2004	NP	e	113.37	11.50	25.70	16.85	--	96.52	<50	<0.50	<0.50	<0.50	<0.50	1.9	1.0	6.4
	05/05/2004	NP		113.37	11.50	25.70	17.28	--	96.09	<50	<0.50	<0.50	<0.50	<0.50	0.60	2.6	6.4
	08/25/2004	NP		113.37	11.50	25.70	17.72	--	95.65	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.2	6.9
MW-2	6/21/2000	--		107.28	--	--	17.19	--	90.09	69	<0.5	<0.5	<0.5	<1.0	12	--	--
	9/20/2000	--		107.28	--	--	17.31	--	89.97	<50	0.964	<0.5	<0.5	<.05	5.05	--	--
	12/22/2000	--		107.28	--	--	16.58	--	90.70	2,140	174	60.2	118	438	123	--	--
	3/26/2001	--		107.28	--	--	16.45	--	90.83	8,490	333	148	495	1,660	<250	--	--
	5/30/2001	--		107.28	--	--	16.83	--	90.45	4,700	200	71	260	780	43	--	--
	9/23/2001	--		107.28	--	--	17.30	--	89.98	160	5.9	1.8	0.8	41	14	--	--
	12/28/2001	--		107.28	--	--	15.38	--	91.90	1,800	54	<5.0	<5.0	240	30	--	--
	3/21/2002	--		107.28	--	--	15.36	--	91.92	--	--	--	--	--	--	--	--
	4/17/2002	--		107.28	--	--	16.01	--	91.27	<50	<0.5	<0.5	<0.5	<0.5	10	--	--
	8/19/2002	--	a	107.28	--	--	17.53	--	89.75	170 (a)	22	0.92	14	26	<2.5	3.0	6.9
	11/27/2002	--		107.28	--	--	17.21	--	90.07	340	22	0.68	13	26	<0.50	1.6	6.6
	2/5/2003	--	d	107.28	--	--	16.72	--	90.56	83	2.7	<0.50	0.97	15	4.3	0.7	7.0
	05/13/03 f	NP		107.28	--	--	16.72	--	90.56	<50	0.91	<0.50	<0.50	0.6	2.8	0.7	6.5
	7/31/2003	--		107.28	--	--	17.51	--	89.77	<50	<0.50	<0.50	<0.50	<0.50	2.0	7.1	6.7
	12/17/2003	NP		107.28	12.00	25.80	16.78	--	90.50	51	1.0	<0.50	<0.50	<0.50	2.4	8.1	7.1

Table 1

Groundwater Elevation and Analytical Data

ARCO Station #6148

5131 Shattuck 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
MW-2	02/13/2004	NP	e	112.87	12.00	25.80	16.63	--	96.24	50	0.70	<0.50	0.54	0.90	1.6	5.6	6.7
	05/05/2004	NP		112.87	12.00	25.80	17.04	--	95.83	<50	<0.50	<0.50	<0.50	<0.50	0.99	4.3	6.9
	08/25/2004	NP		112.87	12.00	25.80	17.55	--	95.32	<50	<0.50	<0.50	<0.50	<0.50	0.63	7.5	6.6
MW-3	6/21/2000	--		107.61	--	--	17.52	--	90.09	200	<0.5	<0.5	<0.5	2.1	24	--	--
	9/20/2000	--		107.61	--	--	17.61	--	90.00	<50	<0.5	<0.5	<0.5	<0.5	20	--	--
	12/22/2000	--		107.61	--	--	16.85	--	90.76	227	4.73	1.06	2.58	5.22	27.3	--	--
	3/26/2001	--		107.61	--	--	16.79	--	90.82	287	6.29	1.58	6.47	12.1	24.2	--	--
	5/30/2001	--		107.61	--	--	17.11	--	90.50	500	10	<0.5	7.00	16	20	--	--
	9/23/2001	--		107.61	--	--	17.57	--	90.04	400	6.4	0.74	<0.5	0.62	22	--	--
	12/28/2001	--		107.61	--	--	15.41	--	92.20	270	2.5	2.4	<0.5	2.3	9.2	--	--
	3/21/2002	--		107.61	--	--	15.58	--	92.03	--	--	--	--	--	--	--	--
	4/17/2002	--		107.61	--	--	16.25	--	91.36	360	2.5	0.72	<0.5	<0.5	12	--	--
	8/19/2002	--	b	107.61	--	--	17.66	--	89.95	750 (b)	11	2.1	<0.5	2.4	14	1.4	6.8
	11/27/2002	--		107.61	--	--	17.69	--	89.92	470	<0.50	<0.50	<0.50	<0.50	<0.50	1.1	6.6
	2/5/2003	--	d	107.61	--	--	16.82	--	90.79	<50	<0.50	<0.50	<0.50	<0.50	2.4	1.3	6.6
	5/13/2003	--		107.61	--	--	17.12	--	90.49	300	<0.50	<0.50	<0.50	<0.50	2.2	1.4	6.7
	7/31/2003	--		107.61	--	--	17.72	--	89.89	320	<0.50	<0.50	<0.50	<0.50	2.1	1.4	6.8
	12/17/2003	NP		107.61	10.00	25.90	16.95	--	90.66	340	0.51	<0.50	<0.50	<0.50	4.8	1.3	6.7
	02/13/2004	NP	e	113.05	10.00	25.90	16.77	--	96.28	<50	<0.50	<0.50	<0.50	<0.50	3.1	2.1	7.1
05/05/2004	NP		113.05	10.00	25.90	17.22	--	95.83	<50	<0.50	<0.50	<0.50	<0.50	1.3	1.2	6.9	
08/25/2004	NP		113.05	10.00	25.90	17.66	--	95.39	<50	<0.50	<0.50	<0.50	<0.50	3.3	1.2	7.1	
MW-4	6/21/2000	--		106.71	--	--	16.00	--	90.71	1,400	5.3	7.3	36	85	4	--	--
	9/20/2000	--		106.71	--	--	16.03	--	90.68	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	12/22/2000	--		106.71	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/26/2001	--		106.71	--	--	15.05	--	91.66	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	5/30/2001	--		106.71	--	--	15.62	--	91.09	--	--	--	--	--	--	--	--
	9/23/2001	--		106.71	--	--	16.07	--	90.64	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	12/28/2001	--		106.71	--	--	13.68	--	93.03	--	--	--	--	--	--	--	--
	3/21/2002	--		106.71	--	--	14.04	--	92.67	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	4/17/2002	--		106.71	--	--	14.78	--	91.93	--	--	--	--	--	--	--	--
	8/19/2002	--		106.71	--	--	16.18	--	90.53	<50	<0.5	<0.5	<0.5	<0.5	<2.5	1.4	6.8
	11/27/2002	--		106.71	--	--	15.89	--	90.82	--	--	--	--	--	--	--	--
2/5/2003	--	d	106.71	--	--	15.40	--	91.31	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.1	6.6	

Table 1

Groundwater Elevation and Analytical Data

ARCO Station #6148

5131 Shattuck 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
MW-4	5/13/2003	--		106.71	--	--	15.42	--	91.29	--	--	--	--	--	--	--	--
	7/31/2003	--		106.71	--	--	16.23	--	90.48	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.4	6.4
	12/17/2003	--		106.71	13.00	26.00	15.57	--	91.14	--	--	--	--	--	--	--	--
	02/13/2004	P	e	112.15	13.00	26.00	15.30	--	96.85	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.1	6.3
	05/05/2004	--		112.15	13.00	26.00	15.69	--	96.46	--	--	--	--	--	--	--	--
	08/25/2004	P		112.15	13.00	26.00	16.07	--	96.08	<50	<0.50	<0.50	<0.50	0.51	<0.50	1.6	6.4
MW-5	3/26/2000	--		106.60	--	--	15.45	--	91.15	767	12.4	<5.0	<5.0	<5.0	163	--	--
	6/21/2000	--		106.60	--	--	16.52	--	90.08	67	<0.5	<0.5	<0.5	<1.0	10	--	--
	9/20/2000	--		106.60	--	--	16.34	--	90.26	<50	<0.5	<0.5	<0.5	<0.5	3.48	--	--
	12/22/2000	--		106.60	--	--	15.58	--	91.02	341	11.5	2.53	4.02	6.25	146	--	--
	5/30/2001	--		106.60	--	--	15.77	--	90.83	110	2.3	<0.5	<0.5	0.81	72	--	--
	9/23/2001	--		106.60	--	--	16.16	--	90.44	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	12/28/2001	--		106.60	--	--	14.09	--	92.51	240	2.8	1.9	<0.5	2.6	48	--	--
	3/21/2002	--		106.60	--	--	14.43	--	92.17	--	<0.5	<0.5	<0.5	<0.5	--	--	--
	4/17/2002	--		106.60	--	--	14.96	--	91.64	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	8/19/2002	--	c	106.60	--	--	16.34	--	90.26	--	--	--	--	--	--	--	--
	11/27/2002	--	c	106.60	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/5/2003	--	c, d	106.60	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/13/2003	NP	f	106.60	--	--	15.43	--	91.17	<50	<0.50	<0.50	<0.50	<0.50	15	1.4	6.2
	7/31/2003	--		106.60	--	--	16.47	--	90.13	<50	<0.50	<0.50	<0.50	<0.50	1.2	14.1	8.1
	12/17/2003	NP		106.60	12.00	25.00	15.99	--	90.61	<50	<0.50	<0.50	<0.50	<0.50	1.8	15.4	8.5
	02/13/2004	NP	e	112.04	12.00	25.00	15.90	--	96.14	<50	<0.50	<0.50	<0.50	<0.50	2.6	11.1	7.0
	05/05/2004	NP		112.04	12.00	25.00	16.28	--	95.76	51	<0.50	<0.50	<0.50	<0.50	1.2	0.8	7.2
	08/25/2004	NP		112.04	12.00	25.00	16.67	--	95.37	<50	<0.50	<0.50	<0.50	<0.50	1.1	10.5	--
MW-6	6/21/2000	--		105.13	--	--	13.91	--	91.22	--	--	--	--	--	--	--	--
	9/20/2000	--		105.13	--	--	14.03	--	91.10	--	--	--	--	--	--	--	--
	12/22/2000	--		105.13	--	--	--	--	NC	--	--	--	--	--	--	--	--
	3/26/2001	--		105.13	--	--	12.59	--	92.54	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	5/30/2001	--		105.13	--	--	13.40	--	91.73	--	--	--	--	--	--	--	--
	9/23/2001	--		105.13	--	--	13.49	--	91.64	--	--	--	--	--	--	--	--
	12/28/2001	--		105.13	--	--	12.07	--	93.06	--	--	--	--	--	--	--	--
	3/21/2002	--		105.13	--	--	11.79	--	93.34	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	4/17/2002	--		105.13	--	--	12.45	--	92.68	--	--	--	--	--	--	--	--

Table 1

Groundwater Elevation and Analytical Data

ARCO Station #6148

5131 Shattuck 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
MW-6	8/19/2002	--		105.13	--	--	13.96	--	91.17	<50	<0.5	<0.5	<0.5	<0.5	<2.5	2.8	6.9
	11/27/2002	--		105.13	--	--	14.07	--	91.06	--	--	--	--	--	--	--	--
	2/5/2003	--	d	105.13	--	--	13.55	--	91.58	--	--	--	--	--	--	--	--
	5/13/2003	--		105.13	--	--	13.57	--	91.56	--	--	--	--	--	--	--	--
	7/31/2003	--		105.13	--	--	14.18	--	90.95	67	<0.50	<0.50	<0.50	<0.50	<0.50	1.8	6.5
	12/17/2003	--		105.13	14.00	26.60	14.12	--	91.01	--	--	--	--	--	--	--	--
	02/13/2004	--	e	110.66	14.00	26.60	13.51	--	97.15	--	--	--	--	--	--	--	--
	05/05/2004	--		110.66	14.00	26.60	13.95	--	96.71	--	--	--	--	--	--	--	--
	08/25/2004	P		110.66	14.00	26.60	14.42	--	96.24	55	<0.50	0.98	<0.50	1.5	<0.50	3.6	6.7
MW-7	6/21/2000	--		107.05	--	--	14.57	--	92.48	--	--	--	--	--	--	--	--
	9/20/2000	--		107.05	--	--	14.58	--	92.47	--	--	--	--	--	--	--	--
	12/22/2000	--		107.05	--	--	13.21	--	93.84	--	--	--	--	--	--	--	--
	3/26/2001	--		107.05	--	--	13.18	--	93.87	71.4	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	5/30/2001	--		107.05	--	--	13.80	--	93.25	--	--	--	--	--	--	--	--
	9/23/2001	--		107.05	--	--	14.27	--	92.78	--	--	--	--	--	--	--	--
	12/28/2001	--		107.05	--	--	12.24	--	94.81	--	--	--	--	--	--	--	--
	3/21/2002	--		107.05	--	--	12.16	--	94.89	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	4/17/2002	--		107.05	--	--	13.08	--	93.97	--	--	--	--	--	--	--	--
	8/19/2002	--		107.05	--	--	14.73	--	92.32	<50	<0.5	<0.5	<0.5	<0.5	<2.5	1.4	6.7
	11/27/2002	--		107.05	--	--	14.76	--	92.29	--	--	--	--	--	--	--	--
	2/5/2003	--	d	107.05	--	--	14.07	--	92.98	--	--	--	--	--	--	--	--
	5/13/2003	--		107.05	--	--	14.00	--	93.05	--	--	--	--	--	--	--	--
	7/31/2003	--		107.05	--	--	14.88	--	92.17	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.6	6.4
	12/17/2003	--		107.05	14.00	27.00	14.10	--	92.95	--	--	--	--	--	--	--	--
	02/13/2004	--	e	112.59	14.00	27.00	13.91	--	98.68	--	--	--	--	--	--	--	--
	05/05/2004	--		112.59	14.00	27.00	14.60	--	97.99	--	--	--	--	--	--	--	--
	08/25/2004	P		112.59	14.00	27.00	15.25	--	97.34	<50	<0.50	0.53	<0.50	0.91	<0.50	1.2	6.4

Table 1

Groundwater Elevation and Analytical Data

ARCO Station #6148

5131 Shattuck Ave., Oakland, CA

Abbreviations:

DTW = Depth to water in feet below ground surface
TOC = Top of casing measured in feet above mean sea level
GWE = Groundwater measured in feet above mean sea level
GRO = Gasoline Range Organics
TPH-g = Total Petroleum Hydrocarbons as Gasoline
MTBE = Methyl tertiary butyl ether analyzed by EPA Method 8021B unless otherwise noted (Prior to 2/5/03)
DO = Dissolved Oxygen
mg/L = Milligrams per liter
ug/L = Micrograms per liter
< = Not detected at or above specified laboratory reporting limit
P = Purge
NP = No Purge
– = Not analyzed/applicable/measured/available

Notes:

Please note that beginning in the Fourth Quarter 2003, the laboratory modified the reported analyte list. TPH-g has been changed to 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.

pH and dissolved oxygen are field measurements.

a = Hydrocarbon pattern is present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel.

b = Chromatogram Pattern: Gasoline C6-C10

c = Well MW-5 not sampled due to ORC sock wedged in well.

d = TPH-g, BTEX, and MTBE analyzed by EPA method 8260B beginning on 1st Quarter Sampling Event (2/5/03)

e = Wells surveyed to NAVD'88 datum on January 29, 2004.

f = During this monitoring event, the oxygen releasing compounds (ORC) were replaced for this well.

Source: The data within this table collected prior to August 2002 was provided to URS by Atlantic Richfield Company (RM) and their previous consultants. URS has not verified the accuracy of this information.

Table 2

Fuel Additives Analytical Data

ARCO Station #6148

5131 Shattuck 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
MW-1	2/5/2003	<40	<20	--	<0.50	<0.50	<0.50	--	NA	
	5/13/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	--	NA	
	7/31/2003	<100	<20	0.55	<0.50	<0.50	<0.50	<0.50	<0.50	
	12/17/2003	<100	<20	2.5	<0.50	<0.50	<0.50	<0.50	<0.50	
	02/13/2004	<100	<20	1.9	<0.50	<0.50	<0.50	<0.50	<0.50	
	05/05/2004	<100	<20	0.60	<0.50	<0.50	<0.50	<0.50	<0.50	
	08/25/2004	<100	<20 (a)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	(a)
MW-2	2/5/2003	<40	<20	--	<0.50	<0.50	<0.50	--	--	
	5/13/2003	<100	<20	--	<0.50	<0.50	<0.50	--	--	
	7/31/2003	<100	<20	2.0	<0.50	<0.50	<0.50	<0.50	<0.50	
	12/17/2003	<100	<20	2.4	<0.50	<0.50	<0.50	<0.50	<0.50	
	02/13/2004	<100	<20	1.6	<0.50	<0.50	<0.50	<0.50	<0.50	
	05/05/2004	<100	<20	0.99	<0.50	<0.50	<0.50	<0.50	<0.50	
	08/25/2004	<100	<20	0.63	<0.50	<0.50	<0.50	<0.50	<0.50	
MW-3	2/5/2003	<40	<20	--	<0.50	<0.50	<0.50	--	--	
	5/13/2003	<100	<20	2.2	<0.50	<0.50	<0.50	--	--	
	7/31/2003	<100	<20	2.1	<0.50	<0.50	<0.50	<0.50	<0.50	
	12/17/2003	<100	<20	4.8	<0.50	<0.50	<0.50	<0.50	<0.50	
	02/13/2004	<100	<20	3.1	<0.50	<0.50	<0.50	<0.50	<0.50	
	05/05/2004	<100	<20	1.3	<0.50	<0.50	<0.50	<0.50	<0.50	
	08/25/2004	<100	<20	3.3	<0.50	<0.50	<0.50	<0.50	<0.50	
MW-4	7/31/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
	02/13/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
	08/25/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
MW-5	5/13/2003	<100	<20	--	<0.50	<0.50	1.1	--	--	
	7/31/2003	<100	<20	1.2	<0.50	<0.50	<0.50	<0.50	<0.50	
	12/17/2003	<100	<20	1.8	<0.50	<0.50	<0.50	<0.50	<0.50	
	02/13/2004	<100	<20	2.6	<0.50	<0.50	<0.50	<0.50	<0.50	
	05/05/2004	<100	<20	1.2	<0.50	<0.50	<0.50	<0.50	<0.50	
	08/25/2004	<100	<20	1.1	<0.50	<0.50	<0.50	<0.50	<0.50	
MW-6	7/31/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
	08/25/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	

Table 2

Fuel Additives Analytical Data

ARCO Station #6148

5131 Shattuck 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
MW-7	7/31/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
	08/25/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	

Table 2

Fuel Additives Analytical Data

ARCO Station #6148

5131 Shattuck Ave., Oakland, CA

Abbreviations:

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 specified laboratory reporting limit

-- = Not available/analyzed/applicable

Notes/Comments:

a = This sample was analyzed beyond the EPA recommended holding time. The results may still be useful for their intended purpose.

Table 3

Groundwater Gradient Data
ARCO Station #6148
5131 Shattuck Ave., Oakland, CA

Date Sampled	Approximate Flow Direction	Approximate Hydraulic Gradient
6/21/2000	South-Southwest	0.016
9/20/2000	South-Southwest	0.017
12/22/2000	South-Southwest	0.022
3/26/2001	South-Southwest	0.02
5/30/2001	South-Southwest	0.02
9/23/2001	South-Southwest	0.019
12/28/2001	Southwest	0.019
3/21/2002	Southwest	0.019
4/17/2002	Southwest	0.017
8/19/2002	Southwest	0.016
11/27/2002	Southwest	0.015
2/5/2003	Southwest	0.017
5/13/2003	Southwest	0.013
7/31/2003	Southwest	0.014
2/13/2004	Southwest	0.016
5/5/2004	Southwest	0.016
8/25/2004	Southwest	0.013

Source: The data within this table collected prior to August 2002 was provided to URS by Atlantic Richfield Company (RM) and their previous consultants. URS has not verified the accuracy of this information.

ATTACHMENT A
FIELD PROCEDURES AND FIELD DATA SHEETS

FIELD PROCEDURES

Sampling Procedures

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

WELL GAUGING DATA

Project # 040825-DW-2 Date 8-25-04 Client Arco 6148

Site 5131 Shattuck 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 TOB	NPD
MW-1	4					17.72	25.50	↓	11.5'
MW-2	4					17.55	25.50		12'
MW-3	4					17.66	21.01		10'
MW-4	4					16.07	26.10		
MW-5	4					16.67	22.10		12'
MW-6	4					14.42	26.42		
MW-7	4					15.25	26.95		

ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>040825-04-2</u>	Station # <u>6148</u>
Sampler: <u>DW</u>	Date: <u>8-25-04</u>
Well I.D.: <u>MW-1</u>	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth: <u>25.50</u>	Depth to Water: <u>17.72</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 ² * 0.163

Purge Method: <input type="checkbox"/> Bailer <input checked="" type="checkbox"/> Disposable Bailer <input type="checkbox"/> Positive Air Displacement <input type="checkbox"/> Electric Submersible Extraction Pump Other: _____	Sampling Method: <input type="checkbox"/> Bailer <input checked="" type="checkbox"/> Disposable Bailer <input type="checkbox"/> Extraction Port Other: _____
--	---

Top of Screen: 11.5' If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

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

Time	Temp (°F)	pH	Conductivity (mS or μ S)	Gals. Removed	Observations
<u>16:15</u>	<u>73.2</u>	<u>6.9</u>	<u>879</u>	—	

Did well dewater? Yes No	Gallons actually evacuated: —	
Sampling Time: <u>16:15</u>	Sampling Date: <u>8-25-04</u>	
Sample I.D.: <u>MW-1</u>	Laboratory: Pace <u>Sequoia</u> Other _____	
Analyzed for: TPH-G <u>BTEX</u> MTBE TPH-D Other: <u>See SOW</u>		
D.O. (if req'd):	Pre-purge: _____ μ g/L	Post-purge: <u>1.2</u> μ g/L
O.R.P. (if req'd):	Pre-purge: _____ mV	Post-purge: _____ mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>040825-DW-2</u>	Station # <u>6148</u>
Sampler: <u>DW</u>	Date: <u>8-25-04</u>
Well I.D.: <u>MW-2</u>	Well Diameter: 2 3 <u>(4)</u> 6 8
Total Well Depth: <u>25.50</u>	Depth to Water: <u>17.55</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>(PVC)</u> Grade	D.O. Meter (if req'd): <u>(YST)</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 ² * 0.163

Purge Method: <input type="checkbox"/> Bailer <input checked="" type="checkbox"/> Disposable Bailer <input type="checkbox"/> Positive Air Displacement <input type="checkbox"/> Electric Submersible Extraction Pump Other: _____	Sampling Method: <input type="checkbox"/> Bailer <input checked="" type="checkbox"/> Disposable Bailer Extraction Port Other: _____
--	--

Top of Screen: 121 If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

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

Time	Temp (°F)	pH	Conductivity (mS or μ S)	Gals. Removed	Observations
<u>16:30</u>	<u>72.6</u>	<u>6.6</u>	<u>588</u>	—	

Did well dewater? Yes No	Gallons actually evacuated: <u>---</u>
Sampling Time: <u>16:30</u>	Sampling Date: <u>8-25-04</u>
Sample I.D.: <u>MW-2</u>	Laboratory: Pace <u>(Sequoia)</u> Other _____
Analyzed for: TPH-G <u>(MTEX)</u> MTBE TPH-D Other: <u>See SOW</u>	
D.O. (if req'd):	Pre-purge: _____ mg/L <u>(Post-purge):</u> <u>7.5</u> mg/L
O.R.P. (if req'd):	Pre-purge: _____ mV Post-purge: _____ mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>040825-DW-2</u>	Station # <u>6148</u>
Sampler: <u>DW</u>	Date: <u>8-25-04</u>
Well I.D.: <u>MW-3</u>	Well Diameter: 2 3 <u>4</u> 6 8 _____
Total Well Depth: <u>21.01</u>	Depth to Water: <u>17.66</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 ² * 0.163

Purge Method: <u>Bailer</u> <input checked="" type="checkbox"/> Disposable Bailer Positive Air Displacement Electric Submersible Extraction Pump Other: _____	Sampling Method: <u>Bailer</u> <input checked="" type="checkbox"/> Disposable Bailer Extraction Port Other: _____
--	--

Top of Screen: 10' If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

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

Time	Temp (°F)	pH	Conductivity (mS or <u>µS</u>)	Gals. Removed	Observations
<u>16:23</u>	<u>71.7</u>	<u>7.1</u>	<u>1531</u>	—	

Did well dewater? Yes <input type="checkbox"/> No <input type="checkbox"/>	Gallons actually evacuated: <u>—</u>
Sampling Time: <u>16:23</u>	Sampling Date: <u>8-25-04</u>
Sample I.D.: <u>MW-3</u>	Laboratory: Pace <u>Sequoia</u> Other _____
Analyzed for: TPH-G <u>MTEx</u> MTBE TPH-D Other: <u>See SOW</u>	
D.O. (if req'd):	Pre-purge: _____ mg/L
	Post-purge: <u>1.2</u> mg/L
O.R.P. (if req'd):	Pre-purge: _____ mV
	Post-purge: _____ mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>040825-DW-2</u>	Station # <u>6148</u>
Sampler: <u>DW</u>	Date: <u>8-25-04</u>
Well I.D.: <u>MW-4</u>	Well Diameter: 2 3 <u>(4)</u> 6 8 _____
Total Well Depth: <u>26.10</u>	Depth to Water: <u>16.07</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 ² * 0.163

Purge Method: <input type="checkbox"/> Bailer <input type="checkbox"/> Disposable Bailer <input type="checkbox"/> Positive Air Displacement <input checked="" type="checkbox"/> Electric Submersible Extraction Pump Other: _____	Sampling Method: <input type="checkbox"/> Bailer <input checked="" type="checkbox"/> 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.

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

Time	Temp (°F)	pH	Conductivity (mS or <u>(µS)</u>)	Gals. Removed	Observations
15:15	73.4	6.5	444	6.5	clear
15:17	73.2	6.4	440	13.0	"
15:18	73.0	6.4	435	19.5	"

Did well dewater? Yes <input checked="" type="checkbox"/> <u>(No)</u>	Gallons actually evacuated: <u>19.5</u>	
Sampling Time: <u>15:20</u>	Sampling Date: <u>8-25-04</u>	
Sample I.D.: <u>MW-4</u>	Laboratory: Pace <u>(Sequoia)</u> Other _____	
Analyzed for: TPH-G <u>(TEX)</u> MTBE TPH-D Other: <u>See SOW</u>		
D.O. (if req'd):	Pre-purge: _____ mg/L	Post-purge: <u>1.6</u> mg/L
O.R.P. (if req'd):	Pre-purge: _____ mV	Post-purge: _____ mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>040825-DW-2</u>	Station # <u>6148</u>
Sampler: <u>DW</u>	Date: <u>8-25-04</u>
Well I.D.: <u>MW-5</u>	Well Diameter: 2 3 <u>(4)</u> 6 8
Total Well Depth: <u>22.10</u>	Depth to Water: <u>16.67</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 ² * 0.163

Purge Method: <u>Bailer</u> <input checked="" type="checkbox"/> Disposable Bailer Positive Air Displacement Electric Submersible Extraction Pump Other: _____	Sampling Method: <u>Bailer</u> <input checked="" type="checkbox"/> Disposable Bailer Extraction Port Other: _____
--	--

Top of Screen: 12' If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

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

Time	Temp (°F)	pH	Conductivity (mS or μ S)	Gals. Removed	Observations
<u>14:50</u>	<u>72.8</u>	<u>6.9</u>	<u>673</u>	—	

Did well dewater? Yes No Gallons actually evacuated: —

Sampling Time: 14:50 Sampling Date: 8-25-04

Sample I.D.: MW-5 Laboratory: Pace (Sequoia) Other _____

Analyzed for: TPH-G (MTEX) MTBE TPH-D Other: See SOW

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	<u>10.5</u> mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>040825-DW-2</u>	Station # <u>6148</u>
Sampler: <u>DW</u>	Date: <u>8-25-04</u>
Well I.D.: <u>MW-6</u>	Well Diameter: 2 3 <u>4</u> 6 8 _____
Total Well Depth: <u>26.42</u>	Depth to Water: <u>14.42</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 ² * 0.163

Purge Method: <input type="checkbox"/> Bailer <input type="checkbox"/> Disposable Bailer <input type="checkbox"/> Positive Air Displacement <input checked="" type="checkbox"/> Electric Submersible Extraction Pump Other: _____	Sampling Method: <input type="checkbox"/> Bailer <input checked="" type="checkbox"/> Disposable Bailer <input type="checkbox"/> Extraction Port Other: _____
---	---

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

<u>7.8</u>	x	<u>3</u>	=	<u>23.4</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or μ S)	Gals. Removed	Observations
15:02	74.1	6.8	478	7.8	cloudy
15:04	72.7	6.8	458	15.6	"
15:06	71.4	6.7	451	23.4	"

Did well dewater? Yes <input type="checkbox"/> <u>No</u>	Gallons actually evacuated: <u>23.4</u>
Sampling Time: <u>15:08</u>	Sampling Date: <u>8-25-04</u>
Sample I.D.: <u>MW-6</u>	Laboratory: Pace <u>Sequoia</u> Other _____
Analyzed for: TPH-G <input checked="" type="checkbox"/> MTBE <input type="checkbox"/> TPH-D <input type="checkbox"/> Other: <u>See SOW</u>	
D.O. (if req'd):	Pre-purge: _____ mg/L Post-purge: <u>3.6</u> mg/L
O.R.P. (if req'd):	Pre-purge: _____ mV Post-purge: _____ mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>040825-DW-2</u>	Station # <u>6148</u>
Sampler: <u>DW</u>	Date: <u>8-25-04</u>
Well I.D.: <u>MW-7</u>	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth: <u>26.95</u>	Depth to Water: <u>15.25</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 ² * 0.163

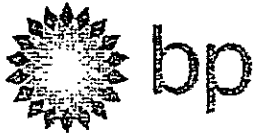
Purge Method: <input type="checkbox"/> Bailer <input type="checkbox"/> Disposable Bailer <input type="checkbox"/> Positive Air Displacement <input checked="" type="checkbox"/> Electric Submersible Extraction Pump Other: _____	Sampling Method: <input type="checkbox"/> Bailer <input checked="" type="checkbox"/> Disposable Bailer <input type="checkbox"/> Extraction Port Other: _____
---	---

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

<u>7.6</u>	x	<u>3</u>	=	<u>22.8</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or μ S)	Gals. Removed	Observations
<u>15:28</u>	<u>72.8</u>	<u>6.4</u>	<u>416</u>	<u>7.6</u>	
<u>15:30</u>	<u>72.6</u>	<u>6.4</u>	<u>413</u>	<u>15.2</u>	
<u>15:32</u>	<u>72.6</u>	<u>6.4</u>	<u>412</u>	<u>22.8</u>	

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: <u>22.8</u>
Sampling Time: <u>15:35</u>	Sampling Date: <u>8-25-04</u>
Sample I.D.: <u>MW-7</u>	Laboratory: Pace <u>Sequoia</u> Other _____
Analyzed for: TPH-G <input checked="" type="checkbox"/> MTBE <input type="checkbox"/> TPH-D <input type="checkbox"/> Other: <u>See SOW</u>	
D.O. (if req'd):	Pre-purge: _____ mg/L Post-purge: <u>1.2</u> mg/L
O.R.P. (if req'd):	Pre-purge: _____ mV Post-purge: _____ mV



Chain of Custody Record

Project Name 6148-GWM-040825-PL-2
 BP BU/GEM CO Portfolio Retail

BP Laboratory Contract Number: Atlantic Richfield Company

Date: 8-25-07

Requested Due Date (mm/dd/yy) 14 day TAT

On-site Time: <u>13:15</u>	Temp: <u>75°</u>
Off-site Time: <u>15:50</u>	Temp: <u>78°</u>
Sky Conditions: <u>Clear</u>	
Meteorological Events:	
Wind Speed: <u> </u>	Direction:

end To:	BP/GEM Facility No.: <u>ARCO 6148</u>	Consultant/Contractor: <u>URS</u>
ab Name: <u>SEQUOIA</u>	BP/GEM Facility Address: <u>5131 Shattuck Ave, OAKLAND, CA</u>	Address: <u>1333 Broadway, Suite 800</u>
ab Address: <u>885 Jarvis Dr.</u>	Site ID No. <u>ARCO 6148</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>T0600100103</u>	Consultant/Contractor Project No.: <u>J5-00006148.01 00427</u>
ab PM <u>Lisa Race</u>	BP/GEM PM Contact: <u>PAUL SUPPLE</u>	Consultant Tele/Fax: <u>510-893-3600/510-874-3268</u>
ele/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 -30769</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 ₂ SO ₄	HNO ₃	HCl	GRO / BTEX (8015/8021/8260)	DRO w/SGC (8015)	MTBE (8021)	MTBE (8260)	MTBE, TAME, ETBE (8260)		DIPE, TBA (8260)	1,2-DCA & EDB (8260)	Ethanol (8260)
1	MW-1	16:15		X			3						X			X	X	X			
2	MW-2	16:30					1						X			X	X	X			
3	MW-3	16:33					1						X			X	X	X			
4	MW-4	15:20					1						X			X	X	X			
5	MW-5	14:30					1						X			X	X	X			
6	MW-6	15:08					1						X			X	X	X			
7	MW-7	15:35					1						X			X	X	X			
8	TB-6148-082504	-					2						X							on hand	
9																					
10																					

Sampler's Name: <u>Dave Walter</u>	Relinquished By / Affiliation: <u>David C. Walter</u>	Date:	Time:	Accepted By / Affiliation:	Date:	Time:
Sampler's Company: <u>BTS</u>						
Shipment Date:						
Shipment Method:						
Shipment Tracking No:						

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

Custody Seals In Place Yes X No Temperature Blank Yes X No Cooler Temperature on Receipt °F/C Trip Blank Yes X No

BP GEM OIL COMPANY TYPE A BILL OF LADING

SOURCE RECORD BILL OF LADING FOR NON-HAZARDOUS PURGEWATER RECOVERED FROM GROUNDWATER WELLS AT BP GEM OIL COMPANY FACILITIES IN THE STATE OF CALIFORNIA. THE NON-HAZARDOUS PURGE- WATER WHICH HAS BEEN RECOVERED FROM GROUND- WATER WELLS IS COLLECTED BY THE CONTRACTOR, MADE UP INTO LOADS OF APPROPRIATE SIZE AND HAULED BY DILLARD ENVIRONMENTAL TO THE ALTAMONT LANDFILL AND RESOURCE RECOVERY FACILITY IN LIVERMORE, CALIFORNIA.

The contractor performing this work is PLAINE TECH SERVICES, INC. (BTS), 1680 Rogers Avenue, San Jose, CA 95112 (phone [408] 573-0555). Blaine Tech Services, Inc. is authorized by BP GEM OIL COMPANY to recover, collect, apportion into loads the Non-Hazardous Well Purgewater that is drawn from wells at the BP GEM Oil Company facility indicated below and deliver that purgewater to BTS. Transport routing of the Non-Hazardous Well Purgewater may be direct from one BP GEM facility to the designated destination point; from one BP GEM facility 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:

6148

Station #

5131 Shattuck Ave Oakland, CA

Station Address

Total Gallons Collected From Groundwater Monitoring Wells:

65

added equip. rinse water 5

any other adjustments _____

TOTAL GALS. RECOVERED 70

loaded onto BTS vehicle # 47

BTS event # 040825-DW-2

time 15:15 date 8/25/04

signature David G. Valt

REC'D AT _____ time _____ date _____

unloaded by _____ signature _____

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

LABORATORY PROCEDURES

Laboratory Procedures

The groundwater samples were analyzed for the presence of the chemicals mentioned in the chain of custody using standard EPA methods. The methods of analysis for the groundwater samples are documented in the certified analytical report. The certified analytical reports and chain-of-custody record are presented in this attachment. The analytical data provided by the laboratory approved by RM have been reviewed and verified by that laboratory.



14 September, 2004

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

RE: ARCO #6148, Oakland, CA
Work Order: MNH0747

Enclosed are the results of analyses for samples received by the laboratory on 08/26/04 18:05. 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 #6148, Oakland, CA
 Project Number: INTRIM-50769
 Project Manager: Scott Robinson

 MNH0747
 Reported:
 09/14/04 13:19

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	MNH0747-01	Water	08/25/04 16:15	08/26/04 18:05
MW-2	MNH0747-02	Water	08/25/04 16:30	08/26/04 18:05
MW-3	MNH0747-03	Water	08/25/04 16:23	08/26/04 18:05
MW-4	MNH0747-05	Water	08/25/04 15:20	08/26/04 18:05
MW-5	MNH0747-06	Water	08/25/04 14:50	08/26/04 18:05
MW-6	MNH0747-07	Water	08/25/04 15:08	08/26/04 18:05
MW-7	MNH0747-08	Water	08/25/04 15:35	08/26/04 18:05
TB-6148-082504	MNH0747-09	Water	08/25/04 00:00	08/26/04 18:05

The carbon range for the TPH-GRO has been changed from C6-C10 to C4-C12. The carbon range for TPH-DRO has been changed from C10-C28 to C10-C36. EPA 8015B has been modified to better meet the requirements of California regulatory agencies. These samples were received with intact custody seals.



URS Corporation [Arco] 1333 Broadway, Suite 800 Oakland CA, 94612	Project: ARCO #6148, Oakland, CA Project Number: INTRIM-50769 Project Manager: Scott Robinson	MNH0747 Reported: 09/14/04 13:19
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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
MW-1 (MNH0747-01) Water Sampled: 08/25/04 16:15 Received: 08/26/04 18:05									
tert-Amyl methyl ether	ND	0.50	ug/l	1	4I08004	09/08/04	09/08/04	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>		107 %	78-129		"	"	"	"	
MW-2 (MNH0747-02) Water Sampled: 08/25/04 16:30 Received: 08/26/04 18:05									
tert-Amyl methyl ether	ND	0.50	ug/l	1	4I08004	09/08/04	09/08/04	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	0.63	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>		107 %	78-129		"	"	"	"	

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

 Project: ARCO #6148, Oakland, CA
 Project Number: INTRIM-50769
 Project Manager: Scott Robinson

 MNH0747
Reported:
 09/14/04 13:19

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (MNH0747-03) Water Sampled: 08/25/04 16:23 Received: 08/26/04 18:05									
tert-Amyl methyl ether	ND	0.50	ug/l	1	4I08004	09/08/04	09/08/04	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	3.3	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	ND	50	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		108 %		78-129	"	"	"	"	
MW-4 (MNH0747-05) Water Sampled: 08/25/04 15:20 Received: 08/26/04 18:05									
tert-Amyl methyl ether	ND	0.50	ug/l	1	4I08004	09/08/04	09/08/04	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)	0.51	0.50	"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	ND	50	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		104 %		78-129	"	"	"	"	

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

 Project: ARCO #6148, Oakland, CA
 Project Number: INTRIM-50769
 Project Manager: Scott Robinson

 MNH0747
 Reported:
 09/14/04 13:19

Volatile Organic Compounds by EPA Method 8260B

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-5 (MNH0747-06) Water Sampled: 08/25/04 14:50 Received: 08/26/04 18:05									
tert-Amyl methyl ether	ND	0.50	ug/l	1	4I08004	09/08/04	09/08/04	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	1.1	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>		90 %		78-129	"	"	"	"	
MW-6 (MNH0747-07) Water Sampled: 08/25/04 15:08 Received: 08/26/04 18:05									
tert-Amyl methyl ether	ND	0.50	ug/l	1	4I08004	09/08/04	09/08/04	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	0.98	0.50	"	"	"	"	"	"	
Xylenes (total)	1.5	0.50	"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	55	50	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		90 %		78-129	"	"	"	"	

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

Project: ARCO #6148, Oakland, CA
Project Number: INTRIM-50769
Project Manager: Scott Robinson

MNH0747
Reported:
09/14/04 13:19

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-7 (MNH0747-08) Water Sampled: 08/25/04 15:35 Received: 08/26/04 18:05									
tert-Amyl methyl ether	ND	0.50	ug/l	1	4108004	09/08/04	09/08/04	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	0.53	0.50	"	"	"	"	"	"	
Xylenes (total)	0.91	0.50	"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	ND	50	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		106 %		78-129	"	"	"	"	

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

 Project: ARCO #6148, Oakland, CA
 Project Number: INTRIM-50769
 Project Manager: Scott Robinson

 MNH0747
 Reported:
 09/14/04 13:19

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 4108004 - EPA 5030B P/T
Blank (4108004-BLK1)

Prepared & Analyzed: 09/08/04

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>	5.27		"	5.00		105	78-129			
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Laboratory Control Sample (4108004-BS1)

Prepared & Analyzed: 09/08/04

tert-Amyl methyl ether	9.84	0.50	ug/l	10.0		98	56-140			
Benzene	9.11	0.50	"	10.0		91	78-124			
tert-Butyl alcohol	46.2	20	"	50.0		92	0-206			
Di-isopropyl ether	9.25	0.50	"	10.0		92	76-130			
1,2-Dibromoethane (EDB)	9.96	0.50	"	10.0		100	77-132			
1,2-Dichloroethane	11.0	0.50	"	10.0		110	77-136			
Ethanol	151	100	"	200		76	31-186			
Ethyl tert-butyl ether	9.54	0.50	"	10.0		95	61-141			
Ethylbenzene	8.73	0.50	"	10.0		87	84-117			
Methyl tert-butyl ether	9.66	0.50	"	10.0		97	63-137			
Toluene	8.83	0.50	"	10.0		88	78-129			
Xylenes (total)	27.7	0.50	"	30.0		92	83-125			

<i>Surrogate: 1,2-Dichloroethane-d4</i>	5.23		"	5.00		105	78-129			
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URS Corporation [Arco]
 1333 Broadway, Suite 800
 Oakland CA, 94612

 Project: ARCO #6148, Oakland, CA
 Project Number: INTRIM-50769
 Project Manager: Scott Robinson

 MNH0747
 Reported:
 09/14/04 13:19

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4I08004 - EPA 5030B P/T										
Laboratory Control Sample (4I08004-BS2)				Prepared & Analyzed: 09/08/04						
Benzene	5.25	0.50	ug/l	6.40		82	78-124			
Ethylbenzene	7.39	0.50	"	6.96		106	84-117			
Methyl tert-butyl ether	8.89	0.50	"	9.92		90	63-137			
Toluene	31.0	0.50	"	29.7		104	78-129			
Xylenes (total)	37.8	0.50	"	33.7		112	83-125			
Gasoline Range Organics (C4-C12)	394	50	"	440		90	70-124			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>5.52</i>		<i>"</i>	<i>5.00</i>		<i>110</i>	<i>78-129</i>			
Laboratory Control Sample Dup (4I08004-BSD1)				Prepared & Analyzed: 09/08/04						
tert-Amyl methyl ether	9.84	0.50	ug/l	10.0		98	56-140	0	12	
Benzene	10.0	0.50	"	10.0		100	78-124	9	12	
tert-Butyl alcohol	50.8	20	"	50.0		102	0-206	9	22	
Di-isopropyl ether	9.76	0.50	"	10.0		98	76-130	5	9	
1,2-Dibromoethane (EDB)	10.6	0.50	"	10.0		106	77-132	6	9	
1,2-Dichloroethane	11.4	0.50	"	10.0		114	77-136	4	13	
Ethanol	124	100	"	200		62	31-186	20	37	IC
Ethyl tert-butyl ether	9.96	0.50	"	10.0		100	61-141	4	9	
Ethylbenzene	9.78	0.50	"	10.0		98	84-117	11	10	RB
Methyl tert-butyl ether	10.1	0.50	"	10.0		101	63-137	4	13	
Toluene	10.0	0.50	"	10.0		100	78-129	12	10	RB
Xylenes (total)	31.7	0.50	"	30.0		106	83-125	13	11	RB
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>5.23</i>		<i>"</i>	<i>5.00</i>		<i>105</i>	<i>78-129</i>			
Matrix Spike (4I08004-MS1)		Source: MNH0748-04			Prepared & Analyzed: 09/08/04					
Benzene	363	10	ug/l	128	340	18	78-124			LN
Ethylbenzene	264	10	"	139	120	104	84-117			
Methyl tert-butyl ether	748	10	"	198	750	NR	63-137			LN
Toluene	645	10	"	594	55	99	78-129			
Xylenes (total)	1110	10	"	674	260	126	83-125			LM
Gasoline Range Organics (C4-C12)	11200	1000	"	8800	4000	82	70-124			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>5.34</i>		<i>"</i>	<i>5.00</i>		<i>107</i>	<i>78-129</i>			

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

Project: ARCO #6148, Oakland, CA
Project Number: INTRIM-50769
Project Manager: Scott Robinson

MNH0747
Reported:
09/14/04 13:19

**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 4I08004 - EPA 5030B P/T

Matrix Spike Dup (4I08004-MSD1)

Source: MNH0748-04

Prepared & Analyzed: 09/08/04

Benzene	372	10	ug/l	128	340	25	78-124	2	12	LN
Ethylbenzene	275	10	"	139	120	112	84-117	4	10	
Methyl tert-butyl ether	765	10	"	198	750	8	63-137	2	13	LN
Toluene	661	10	"	594	55	102	78-129	2	10	
Xylenes (total)	1140	10	"	674	260	131	83-125	3	11	LM
Gasoline Range Organics (C4-C12)	11800	1000	"	8800	4000	89	70-124	5	20	
Surrogate. 1,2-Dichloroethane-d4	5.47		"	5.00		109	78-129			

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

Project: ARCO #6148, Oakland, CA
Project Number: INTRIM-50769
Project Manager: Scott Robinson

MNH0747
Reported:
09/14/04 13:19

Notes and Definitions

RB RPD exceeded method control limit; % recoveries within limits.
LN MS and/or MSD below acceptance limits. See Blank Spike(LCS).
LM MS and/or MSD above acceptance limits. See Blank Spike(LCS).
IC Calib. verif. is within method limits but outside contract limits
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 6148-GWM-040825-04-2
 BP BU/GEM CO Portfolio Retail

MNA 0747

BP Laboratory Contract Number: Atlantic Richfield Company

Date: 8-25-04

Requested Due Date (mm/dd/yy) 14 day TAT

On-site Time: <u>13:15</u>	Temp: <u>75°</u>
Off-site Time: <u>15:50</u>	Temp: <u>78°</u>
Sky Conditions: <u>Sunny</u>	
Meteorological Events:	
Wind Speed:	Direction:

Send To: Lab Name: <u>SEQUOIA</u> Lab Address: <u>885 Jarvis Dr. Morgan Hill, CA 95037</u>	BP/GEM Facility No.: <u>ARCO 6148</u> BP/GEM Facility Address: <u>5131 Shattuck Ave, OAKLAND, CA</u> Site ID No.: <u>ARCO 6148</u> Site Lat/Long: California Global ID #: <u>10600100103</u>	Consultant/Contractor: <u>URS</u> Address: <u>1333 Broadway, Suite 800 Oakland, CA 94612</u> E-mail EDD: <u>donna.cnsper@URSCorp.com</u> Consultant/Contractor Project No.: <u>J5-00006148.01 00427</u> Consultant Tel/Fax: <u>510-893-3600/510-874-3268</u> Consultant/Contractor PM: <u>Scott Robinson</u> Invoice to: Consultant/Contractor of <u>BP/GEM (inlet ocs)</u> BP/GEM Work Release No: <u>ENIRIM -50769</u>
Lab PM: <u>Lisa Race</u> Tel/Fax: <u>408-776-9600 / 408-782-6308</u> Report Type & QC Level: <u>1 Send EDF Reports</u>	BP/GEM PM Contact: <u>PAUL SUPPLE</u> Address: <u>P.O. Box 6549 Moraga, CA 94570</u> Tel/Fax: <u>925-299-8891/925-299-8872</u>	
BP/GEM Account No.:		

Item No.	Sample Description	Time	Matrix				Laboratory No.	No. of containers	Preservatives			Requested Analysis						Sample Point Lat/Long and Comments
			Solid/Solid	Water/Liquid	Sediments	Air			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	GRO/BTEX (8015/8021/8260)	ZRO W/SOC (8015)	MTBE (8021)	MTBE (8260)	MTBE, TAME, FTBE DIPE, TBA (8260)	
1	MW-1	16:15		X			3				X			X	X	X		
2	MW-2	16:30					1				X			X	X	X		
3	MW-3	16:33					1				X			X	X	X		
4	MW-4	15:20					1				X			X	X	X		
5	MW-5	14:50					1				X			X	X	X		
6	MW-6	15:08					1				X			X	X	X		
7	MW-7	15:35					1				X			X	X	X		
8	TB-6148-082504	-					2				X							on Hand
9																		
10																		

Sampler's Name: <u>Dave Walter</u>	Relinquished By / Affiliation: <u>David C. Walt</u>	Date: <u>8/26/04</u>	Time: <u>15:40</u>	Accepted By / Affiliation: <u>[Signature]</u>	Date: <u>8/26/04</u>	Time: <u>15:40</u>
Sampler's Company: <u>BTS</u>						
Shipment Date:						
Shipment Method:						
Shipment Tracking No.:						

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

Custody Seals In Place Yes No
 Temperature Blank Yes No
 Cooler Temperature on Receipt °F/C
 Trip Blank Yes No

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: ARCO 6148
 REC. BY (PRINT): JD
 WORKORDER: LAB # 0747

DATE REC'D AT LAB: 8/26/04
 TIME REC'D AT LAB: 1805
 DATE LOGGED IN: 8-27-04

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) <input checked="" type="radio"/> Present / Absent <input checked="" type="radio"/> Intact / Broken*			ML-1	VOA (3)	HCl	-	W	8/26/04	
2. Chain-of-Custody <input checked="" type="radio"/> Present / Absent*			-2	(3)					
3. Traffic Reports or Packing List: <input checked="" type="radio"/> Present / Absent			-3	(3)					
4. Airbill: <input checked="" type="radio"/> Airbill / Sticker <input checked="" type="radio"/> Present / Absent			-4	(3)					
5. Airbill #:			-5	(3)					
6. Sample Labels: <input checked="" type="radio"/> Present / Absent			-6	(3)					
7. Sample IDs: <input checked="" type="radio"/> Listed / Not Listed on Chain-of-Custody			-7	(3)					
8. Sample Condition: <input checked="" type="radio"/> Intact / Broken* / Leaking*			LB-6148-082504	(2)					
9. Does information on chain-of-custody, traffic reports and sample labels agree? <input checked="" type="radio"/> Yes / No*									
10. Sample received within hold time? <input checked="" type="radio"/> Yes / No*									
11. Adequate sample volume received? <input checked="" type="radio"/> Yes / No*									
12. Proper Preservatives used? <input checked="" type="radio"/> Yes / No*									
13. Trip Blank / Temp Blank Received? (circle which, if yes) <input checked="" type="radio"/> Yes / No*									
14. Temp Rec. at Lab: Is temp 4 ± 2°C? <input checked="" type="radio"/> Yes / No**									
(Acceptance range for samples requiring thermal pres.) **Exception (if any): METALS / DFF ON ICE or Problem COC									

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

ATTACHMENT C

HISTORICAL GROUNDWATER DATA

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

ARCO Service Station 6148
5131 Shattuck Avenue, Oakland, California

Well Number	Date Gauged/ Sampled	Top of Casing Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	TPH					Dissolved Oxygen (mg/L)	Purged/ Not Purged (P/NP)	
						Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)			MTBE (µg/L)
MW-1	03-20-95	108.03	15.75	ND	92.28	830	140	5	41	110	--	--	
MW-1	06-06-95	108.03	17.68	ND	90.35	210	30	<0.5	7.3	16	--	--	
MW-1	08-24-95	107.80	17.45	ND	90.35	Not sampled: well was inaccessible due to construction						--	--
MW-1	11-16-95	107.80	17.64	ND	90.16	<50	5.6	<0.5	1.4	1.2	55	--	
MW-1	02-27-96	107.80	15.21	ND	92.59	1,400	240	88	44	110	200	--	
MW-1	05-15-96	107.80	17.53	ND	90.27	Not sampled: well sampled semi-annually, during the first and third quarter						--	--
MW-1	08-14-96	107.80	17.15	ND	90.65	98	18	<0.5	1.9	1	45	--	
MW-1	11-11-96	107.80	17.78	ND	90.02	Not sampled: well sampled semi-annually, during the first and third quarter						--	--
MW-1	03-25-97	107.80	17.68	ND	90.12	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
MW-1	05-15-97	107.80	17.91	ND	89.89	Not sampled: well sampled semi-annually, during the first and third quarter						--	--
MW-1	10-26-97	107.80	18.85	ND	88.95	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
MW-1	11-10-97	107.80	18.10	ND	89.70	<50	<0.5	<0.5	<0.5	<0.5	4	--	
MW-1	02-13-98	107.80	13.15	ND	94.65	<100	8.4	<1	<1	14	130	--	
MW-1	05-12-98	107.80	12.30	ND	95.50	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
MW-1	07-28-98	107.80	17.04	ND	90.76	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
MW-1	10-28-98	107.80	18.10	ND	89.70	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
MW-1	02-12-99	107.80	15.84	ND	91.95	72	<0.5	<0.5	<0.5	<0.5	23	--	
MW-1	06-03-99	107.80	17.62	ND	90.18	390	33	1.5	12	2.8	250	--	
MW-1	10-26-99	107.80	16.92	ND	90.88	<50	<0.5	<0.5	<0.5	<1	9	--	
											1.44	NP	
											9.58	NP	
MW-2	03-20-95	107.43	15.50	ND#	91.93	Not sampled; floating product entered well during purging						--	--
MW-2	06-06-95	107.43	17.43	ND	90.00	1,200	60	21	35	140	--	--	
MW-2	08-24-95	107.28	17.22	ND	90.06	Not sampled: well was inaccessible due to construction						--	--
MW-2	11-16-95	107.28	17.36	ND	89.92	360	45	1.3	7.1	7.5	210	--	
MW-2	02-27-96	107.28	14.82	ND	92.46	8,900	1,400	980	150	550	940	--	
MW-2	05-15-96	107.28	17.40	ND	89.88	480	82	48	8	48	87	--	
MW-2	08-14-96	107.28	17.00	ND	90.23	130	22	4	2	9	120	--	

OAKS:\ARCO\6148\QTR\Y6148q99.xls:whr:1

Pinnacle

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

ARCO Service Station 6148
5131 Shattuck Avenue, Oakland, California

Well Number	Date Gauged/ Sampled	Top of Casing Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	TPH Gasoline (µg/L)	Beazene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TRPH (mg/L)	Dissolved Oxygen (mg/L)	Purged/ Not Purged (P/NP)
MW-2	11-11-96	107.28	17.55	ND	89.73	1,200	150	120	21	160	110	--		
MW-2	03-25-97	107.28	17.32	ND	89.96	670	23	58	13	120	28	--		
MW-2	05-15-97	107.28	17.61	ND	89.67	<50	<0.5	<0.5	<0.5	<0.5	23	--		
MW-2	10-26-97	107.28	18.43	ND	88.85	<50	<0.5	<0.5	<0.5	<0.5	<3	--		
MW-2	11-10-97	107.28	17.84	ND	89.44	<100	<1	<1	<1	1	74	--		
MW-2	02-13-98	107.28	12.75	ND	94.55	220	9.5	3.9	3.7	48	84	--		
MW-2	05-12-98	107.28	17.02	ND	90.26	3,900	210	280	86	910	35	--		
MW-2	07-28-98	107.28	17.30	ND	89.98	<50	<0.5	<0.5	<0.5	<0.5	<3	--		
MW-2	10-28-98	107.28	17.80	ND	89.48	170	17	<0.5	1.7	5.0	24	--		
MW-2	02-12-99	107.28	15.55	ND	91.73	12,000	620	95	490	2,200	270	--		
MW-2	06-03-99	107.28	17.31	ND	89.97	<50	<0.5	<0.5	<0.5	1.1	8	--	2.53	NP
MW-2	10-26-99	107.28	16.58	ND	90.70	<50	1.0	<0.5	<0.5	3	<3	--	8.17	NP
MW-3	03-20-95	107.77	15.60	ND	92.17	29,000	880	190	760	2,000	--	16		
MW-3	06-06-95	107.77	17.54	ND	90.23	22,000	450	54	380	1,300	--	7.1		
MW-3	08-24-95	107.61	17.42	ND	90.19	Not sampled: well was inaccessible due to construction								
MW-3	11-16-95	107.61	17.58	ND	90.03	13,000	210	<20	320	1,000	790	8.3		
MW-3	02-27-96	107.61	15.03	ND	92.58	9,700	94	15	290	720	430	10		
MW-3	05-15-96	107.61	17.35	ND	90.26	5,600	66	12	37	67	230	--		
MW-3	08-14-96	107.61	17.10	ND	90.51	830	17	<1*	8	7	110	--		
MW-3	11-11-96	107.61	17.73	ND	89.88	500	28	3	12	13	150	--		
MW-3	03-25-97	107.61	17.99	ND	89.62	<50	<0.5	<0.5	<0.5	<0.5	94	--		
MW-3	05-15-97	107.61	17.84	ND	89.77	<50	<0.5	<0.5	<0.5	<0.5	65	--		
MW-3	10-26-97	107.61	18.50	ND	89.11	220	4	<1	<1	<1	160	--		
MW-3	11-10-97	107.61	18.00	ND	89.61	350	8	<2	3	3	230	--		
MW-3	02-13-98	107.61	13.00	ND	94.61	<50	1.3	<0.5	<0.5	1	21	--		
MW-3	05-12-98	107.61	17.20	ND	90.41	120	<0.5	<0.5	<0.5	<0.9	71	--		

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

ARCO Service Station 6148
 5131 Shattuck Avenue, Oakland, California

Well Number	Date Gauged/ Sampled	Top of Casing Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	TPH					Dissolved Oxygen (mg/L)	Purged/ Not Purged (P/NP)	
						Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)			MTBE (µg/L)
MW-3	07-28-98	107.61	17.46	ND	90.15	<50	1.4	<0.5	<0.5	<0.5	52	--	
MW-3	10-28-98	107.61	18.00	ND	89.61	170	<0.5	<0.5	<0.5	0.7	35	--	
MW-3	02-12-99	107.61	15.76	ND	91.85	120	2.0	0.6	<0.5	1.3	37	--	
MW-3	06-03-99	107.61	Well inaccessible: Surveyed well VW-1 as an alternative										
MW-3	10-26-99	107.61	16.69	ND	90.92	630	14	0.7	13	2	38	--	1.24 NP
MW-4	03-20-95	106.58	13.85	ND	92.73	88	1	<0.5	<0.5	0.7	--	--	
MW-4	06-06-95	106.58	15.70	ND	90.88	<50	<0.5	<0.5	<0.5	<0.5	--	--	
MW-4	08-24-95	106.71	15.86	ND	90.85	Not sampled: well was inaccessible due to construction							
MW-4	11-16-95	106.71	16.10	ND	90.61	<50	<0.5	<0.5	<0.5	<0.5	6	--	
MW-4	02-27-96	106.71	13.72	ND	92.99	<50	<0.5	<0.5	<0.5	<0.5	10	--	
MW-4	05-15-96	106.71	15.90	ND	90.81	Not sampled: well sampled semi-annually, during the first and third quarter							
MW-4	08-14-96	106.71	15.68	ND	91.03	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
MW-4	11-11-96	106.71	16.19	ND	90.52	Not sampled: well sampled semi-annually, during the first and third quarter							
MW-4	03-25-97	106.71	16.10	ND	90.61	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
MW-4	05-15-97	106.71	16.38	ND	90.33	Not sampled: well sampled semi-annually, during the first and third quarter							
MW-4	10-26-97	106.71	17.78	ND	88.93	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
MW-4	11-10-97	106.71	16.43	ND	90.28	Not sampled: well sampled semi-annually, during the first and third quarter							
MW-4	02-13-98	106.71	13.05	ND	93.66	<50	1.3	0.7	<0.5	2.3	19	--	
MW-4	05-12-98	106.71	15.69	ND	91.02	Not sampled: well sampled semi-annually, during the first and third quarter							
MW-4	07-28-98	106.71	15.93	ND	90.78	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
MW-4	10-28-98	106.71	16.40	ND	90.31	Not sampled: well sampled semi-annually, during the first and third quarter							
MW-4	02-12-99	106.71	14.13	ND	92.58	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
MW-4	06-03-99	106.71	16.00	ND	90.71	Not sampled: well sampled semi-annually, during the first and third quarter							
MW-4	10-26-99	106.71	15.76	ND	90.95	Not sampled: well sampled semi-annually, during the first and third qtr.							1.72
MW-5	03-20-95	106.68	14.92	ND	91.76	21,000	6,900	450	800	1,300	--	--	

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

ARCO Service Station 6148
5131 Shattuck Avenue, Oakland, California

Well Number	Date Gauged/ Sampled	Top of Casing Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	TPH					Dissolved Oxygen (mg/L)	Purged/ Not Purged (P/NP)	
						Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)			MTBE (µg/L)
MW-5	06-06-95	106.68	16.61	ND	90.07	6,500	1,700	<20	120	69	--	--	
MW-5	08-24-95	106.60	16.47	ND	90.13	Not sampled; well was inaccessible due to construction							
MW-5	11-16-95	106.60	16.69	ND	89.91	1,800	470	<5	17	5	1,000	--	
MW-5	02-27-96	106.60	14.35	ND	92.25	10,000	1,000	71	690	1,000	440/450*	--	
MW-5	05-15-96	106.60	16.58	ND	90.02	3,400	350	6	72	20	220	--	
MW-5	08-14-96	106.60	17.26	ND	89.94	2,100	130	2.7	47	4.7	220	--	
MW-5	11-11-96	106.60	16.62	ND	89.98	1,200	31	1	8	2	130	--	
MW-5	03-25-97	106.60	16.38	ND	90.22	<50	<0.5	<0.5	<0.5	<0.5	5	--	
MW-5	05-15-97	106.60	16.54	ND	90.06	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
MW-5	10-26-97	106.60	17.60	ND	89.00	<50	<0.5	<0.5	<0.5	<0.5	7	--	
MW-5	11-10-97	106.60	16.78	ND	89.82	<50	<0.5	<0.5	<0.5	<0.5	24	--	
MW-5	02-13-98	106.60	12.21	ND	94.39	11,200	51	<10	<10	<10	2,000	--	
MW-5	05-12-98	106.60	NR	ND	NR	Not sampled; well inaccessible							
MW-5	07-28-98	106.60	16.47	ND	90.13	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
MW-5	10-28-98	106.60	16.80	ND	89.80	<50	0.8	<0.5	<0.5	<0.5	99	--	
MW-5	02-12-99	106.60	14.38	ND	91.72	<1,000	<10	<10	<10	<10	1,100	--	
MW-5	06-03-99	106.60	16.65	ND	89.95	290	10	<0.5	<0.5	0.6	200	--	2.45 NP
MW-5	10-26-99	106.60	16.10	ND	90.50	<50	<0.5	<0.5	<0.5	<1	11	--	NM NP
MW-6	03-20-95	105.16	12.13	ND	93.03	<50	<0.5	<0.5	<0.5	<0.5	--	--	
MW-6	06-06-95	105.16	13.95	ND	91.21	<50	<0.5	<0.5	<0.5	<0.5	--	--	
MW-6	08-24-95	105.13	14.07	ND	91.06	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
MW-6	11-16-95	105.13	14.34	ND	90.79	<60	<0.5	<0.5	<0.5	<0.5	--	--	
MW-6	02-27-96	105.13	12.00	ND	93.13	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
MW-6	05-15-96	105.13	14.10	ND	91.03	Not sampled; well sampled annually, during the first quarter							
MW-6	08-14-96	105.13	13.70	ND	91.43	Not sampled; well sampled annually, during the first quarter							
MW-6	11-11-96	105.13	14.11	ND	91.02	Not sampled; well sampled annually, during the first quarter							

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

ARCO Service Station 6148
5131 Shattuck Avenue, Oakland, California

Well Number	Date Ganged/ Sampled	Top of Casing Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	TPH					Dissolved Oxygen (mg/L)	Purged/ Not Purged (P/NP)	
						Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Bfyt- benzene (µg/L)	Total Xylenes (µg/L)			MTBE (µg/L)
MW-6	03-25-97	105.13	14.15	ND	90.98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
MW-6	05-15-97	105.13	14.44	ND	90.69	Not sampled; well sampled annually, during the first quarter							
MW-6	10-26-97	105.13	16.02	ND	89.11	Not sampled; well sampled annually, during the first quarter							
MW-6	11-10-97	105.13	14.52	ND	90.61	Not sampled; well sampled annually, during the first quarter							
MW-6	02-13-98	105.13	10.06	ND	95.07	<50	<0.5	<0.5	<0.5	<0.5	8	--	
MW-6	05-12-98	105.13	13.75	ND	91.38	Not sampled; well sampled annually, during the first quarter							
MW-6	07-28-98	105.13	14.06	ND	91.07	Not sampled; well sampled annually, during the first quarter							
MW-6	10-28-98	105.13	14.71	ND	90.42	Not sampled; well sampled annually, during the first quarter							
MW-6	02-12-99	105.13	12.22	ND	92.91	<100	<1	<1	<1	<1	110	--	
MW-6	06-03-99	105.13	13.95	ND	91.18	Not sampled; well sampled annually, during the first quarter							
MW-6	10-26-99	105.13	14.06	ND	91.07	Not sampled; well sampled annually, during the first quarter						3.94	
MW-7	03-20-95	107.08	12.32	ND	94.76	<50	<0.5	<0.5	<0.5	<0.5	--	--	
MW-7	06-06-95	107.08	14.59	ND	92.49	Not sampled; well sampled semi-annually, during the first and third quarters							
MW-7	08-24-95	107.05	14.64	ND	92.41	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
MW-7	11-16-95	107.05	15.30	ND	91.75	Not sampled; well sampled semi-annually, during the first and third quarters							
MW-7	02-27-96	107.05	12.24	ND	94.81	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
MW-7	05-15-96	107.05	14.65	ND	92.40	Not sampled; well sampled annually, during the first quarter							
MW-7	08-14-96	107.05	14.35	ND	92.70	Not sampled; well sampled annually, during the first quarter							
MW-7	11-11-96	107.05	14.92	ND	92.13	Not sampled; well sampled annually, during the first quarter							
MW-7	03-25-97	107.05	14.80	ND	92.25	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
MW-7	05-15-97	107.05	15.27	ND	91.78	Not sampled; well sampled annually, during the first quarter							
MW-7	10-26-97	107.05	16.68	ND	90.37	Not sampled; well sampled annually, during the first quarter							
MW-7	11-10-97	107.05	15.37	ND	91.68	Not sampled; well sampled annually, during the first quarter							
MW-7	02-13-98	107.05	10.80	ND	96.25	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
MW-7	05-12-98	107.05	14.32	ND	92.73	Not sampled; well sampled annually, during the first quarter							
MW-7	07-21-98	107.05	14.79	ND	92.26	Not sampled; well sampled annually, during the first quarter							

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

ARCO Service Station 6148
5131 Shattuck Avenue, Oakland, California

Well Number	Date Gauged/ Sampled	Top of Casing Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	TPH Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TRPH (mg/L)	Dissolved Oxygen (mg/L)	Purged/ Not Purged (P/NP)	
MW-7	10-28-98	107.05	15.57	ND	91.48	Not sampled; well sampled annually, during the first quarter									
MW-7	02-12-99	107.05	12.46	ND	94.59	<50	<0.5	<0.5	<0.5	<0.5	<3	--			
MW-7	06-03-99	107.05	14.53	ND	92.52	Not sampled; well sampled annually, during the first quarter									
MW-7	10-26-99	107.05	14.74	ND	92.31	Not sampled; well sampled annually, during the first quarter								1.97	
VW-1	06-03-99	NR	17.51	ND	NR	420	23	0.6	2.0	2.2	74	--	1.28	P	

ft-MSL: elevation in feet, relative to mean sea level
TPH: total petroleum hydrocarbons as gasoline, California DHS LIFT Method
BTEX: Benzene, toluene, ethylbenzene, total xylenes by EPA method 8011B. (EPA method 8020 prior to 10/26/99)
MTBE: Methyl tert-butyl ether by EPA method 8021B. (EPA method 8020 prior to 10/26/99).
TRPH: total recoverable petroleum hydrocarbons
µg/L: micrograms per liter
mg/L: milligrams per liter
NR: not reported; data not available
ND: none detected
*: floating product entered the well during purging
--: not analyzed or not applicable
*: confirmed by EPA 8240
**: For previous historical groundwater elevation and analytical data please refer to *Fourth Quarter 1995 Groundwater Monitoring Program Results and Remediation System Performance Evaluation Report, ARCO Service Station 6148, Oakland, California, (EMCON, March 4, 1996).*

ATTACHMENT D

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

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<u>ORGANIZATION NAME:</u>	URS Corporation-Oakland Office
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6148

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SUCCESSFUL EDF CHECK - NO ERRORS

<u>ORGANIZATION NAME:</u>	URS Corporation-Oakland Office
<u>USER NAME:</u>	URSCORP-OAKLAND
<u>DATE CHECKED:</u>	10/26/2004 3:19:35 PM
<u>GLOBAL ID:</u>	T0600100103
<u>FILE UPLOADED:</u>	ARCO#6148-EDF-MNH0747.zip

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ARCO # 06148 5131 SHATTUCK AVE OAKLAND, CA 94609	<u>Regional Board - Case #: 01-0111</u> SAN FRANCISCO BAY RWQCB (REGION 2) - (BG) <u>Local Agency (lead agency) - Case #: 3626</u> ALAMEDA COUNTY LOP - (RWS)
---	--

SAMPLE DETECTIONS REPORT

# FIELD POINTS SAMPLED	7
# FIELD POINTS WITH DETECTIONS	6
# FIELD POINTS WITH WATER SAMPLE DETECTIONS ABOVE MCL	0
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
<u>WATER SAMPLES FOR 8021/8260 SERIES</u>		
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
<u>SOIL SAMPLES FOR 8021/8260 SERIES</u>		
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
<u>FIELD QC SAMPLES</u>		
<u>SAMPLE</u>	<u>COLLECTED</u>	<u>DETECTIONS > REPDL</u>
QCTB SAMPLES	N	0
QCEB SAMPLES	N	0
QCAB SAMPLES	N	0

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Confirmation Number: 1348876535
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Facility Global ID: T0600100103
Facility Name: ARCO # 06148
Submittal Title: 3Q 2004 EDF ARCO Site 6148
Submittal Type: GW Monitoring Report

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ARCO # 06148 5131 SHATTUCK AVE OAKLAND, CA 94609	Regional Board - Case #: 01-0111 SAN FRANCISCO BAY RWQCB (REGION 2) - (BG) Local Agency (lead agency) - Case #: 3626 ALAMEDA COUNTY LOP - (RWS)
---	--

CONF #	TITLE	QUARTER
1348876535	3Q 2004 EDF ARCO Site 6148	Q3 2004
SUBMITTED BY	SUBMIT DATE	STATUS
Srijesh Thapa	10/26/2004	PENDING REVIEW

SAMPLE DETECTIONS REPORT

# FIELD POINTS SAMPLED	7
# FIELD POINTS WITH DETECTIONS	6
# FIELD POINTS WITH WATER SAMPLE DETECTIONS ABOVE MCL	0
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	
SOIL SAMPLES FOR 8021/8260 SERIES		
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135%	n/a	
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30%	n/a	
SURROGATE SPIKES % RECOVERY BETWEEN 70-125%	n/a	
BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130%	n/a	
FIELD QC SAMPLES		
<u>SAMPLE</u>	<u>COLLECTED</u>	<u>DETECTIONS > REPD</u>
QCTB SAMPLES	N	0
QCEB SAMPLES	N	0
QCAB SAMPLES	N	0

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