

January 10, 2005

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

Alameda County
JAN 25 2005
George ...

**Re: Fourth 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 *Fourth Quarter 2004 Groundwater Monitoring Report* for the ARCO Service Station #6148, located at 5131 Shattuck Avenue, Oakland, California.

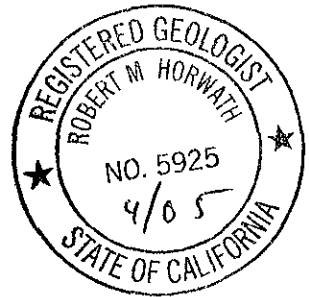
If you have any questions regarding this submission, please call (510) 874-3280.

Sincerely,

URS CORPORATION

Scott Robinson
Project Manager

Robert Horwath, R.G.
Portfolio Manager



Enclosure: Fourth Quarter 2004 Groundwater Monitoring Report

cc: Mr. Paul Supple, Atlantic Richfield Company (RM), electronic copy uploaded to ENFOS
Ms. Janie O'Connor, City of Fremont Fire Department, Haz. Mat Unit, P.O Box 5006
Fremont, CA 94537

R E P O R T

**FOURTH QUARTER 2004
GROUNDWATER MONITORING
REPORT**

**ARCO SERVICE STATION #6148
5131 SHATTUCK AVENUE
OAKLAND, CALIFORNIA**

Prepared for
RM

January 10, 2005

URS

URS Corporation
1333 Broadway, Suite 800
Oakland, California 94612

38486730

Date: January 10, 2005
Quarter: 4Q 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 Environmental Health (ACEH)

WORK PERFORMED THIS QUARTER (Fourth – 2004):

1. Prepared and submitted Third Quarter 2004 Groundwater Monitoring Report.
2. Performed fourth quarter 2004 groundwater monitoring event on November 29, 2004.
3. Permanently removed ORC socks from wells MW-2 and MW-5.

WORK PROPOSED FOR NEXT QUARTER (First – 2005):

1. Perform first quarter 2005 groundwater monitoring event.
2. Prepared and submitted this Fourth Quarter 2004 Groundwater Monitoring Report.
3. Prepare and submit First Quarter 2005 Groundwater Monitoring Report.

SITE SUMMARY:

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 Svstems
Bulk Soil Removed to Date: 560 cubic yards
Approximate Depth to Groundwater: 14.20 (MW-6) to 17.47 (MW-3) feet
Groundwater Gradient (direction): Southwest
Groundwater Gradient (magnitude): 0.013 feet per foot

DISCUSSION:

Gasoline Range Organics (GRO) were detected at or above laboratory reporting limits in two of the four wells sampled this quarter at concentrations of 85 µg/L (MW-2) and 110 µg/L (MW-3). Benzene was detected at or above laboratory reporting limits in one well sampled this quarter at a concentration of 10 µg/L (MW-2). Methyl-tert-butyl ether (MTBE) was detected at or above laboratory reporting limits in all four wells sampled this quarter at concentrations ranging from 0.55 µg/L (MW-2) to 1.4 µg/L (MW-3). Ethylbenzene was detected at or above laboratory reporting limits in one of the four wells sampled this quarter at a concentration of 4.6 µg/L (MW-2). Xylenes were detected at or above laboratory reporting limits in one of the four wells sampled this quarter at a

concentration of 1.0 µg/L (MW-2). No other fuel additives were detected above laboratory reporting limits during this sampling event.

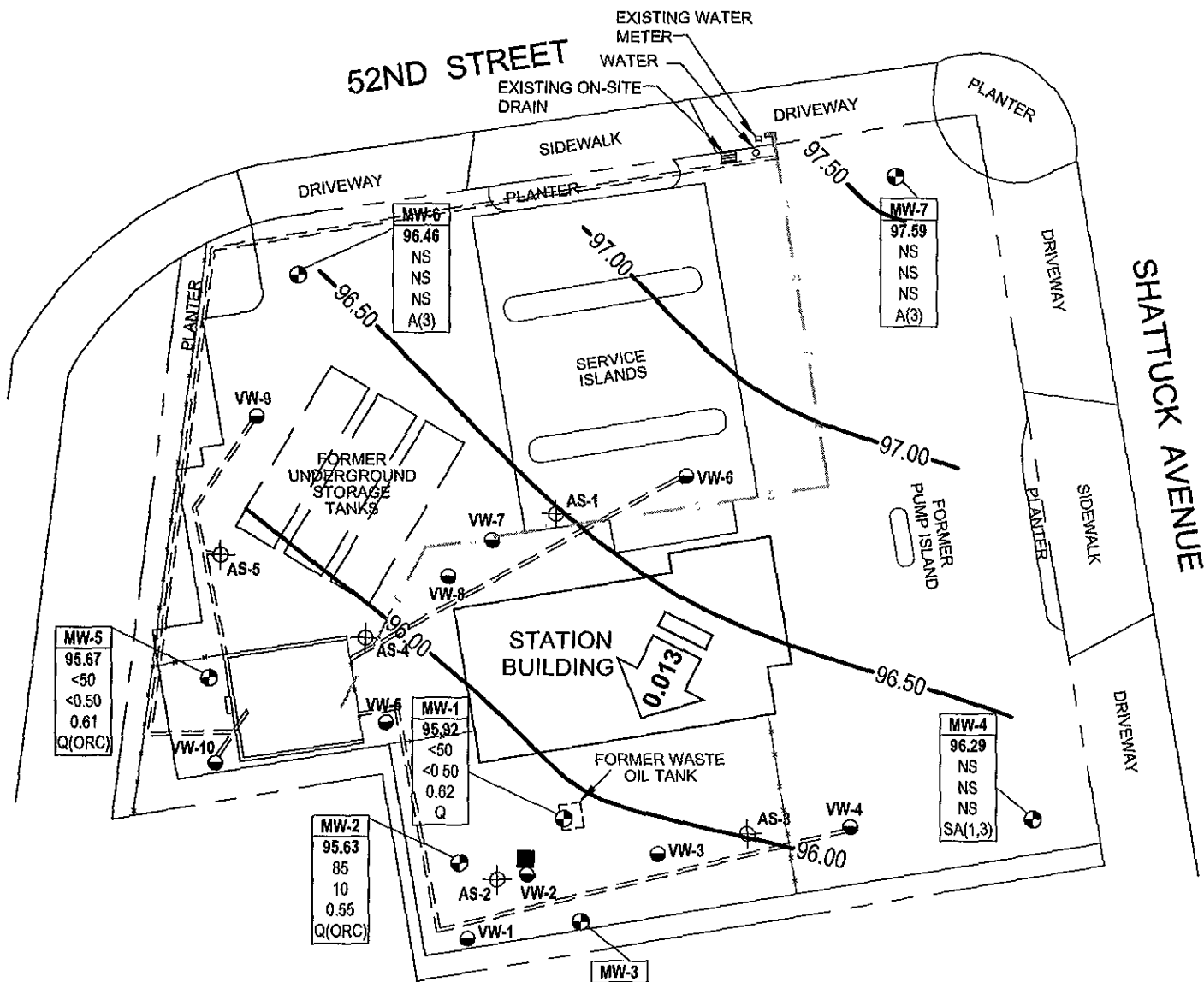
Due to low concentrations of the constituents of concern, ORC socks were permanently removed from wells MW-2 and MW-5 during the 4th quarter sampling event.

ATTACHMENTS:

- Figure 1 – Groundwater Elevation Contour and Analytical Summary Map – November 29, 2004
- Table 1 – Groundwater Elevation and Analytical Data
- Table 2 – Fuel Additives Analytical Data
- Table 3 – Groundwater Gradient Data
- Attachment A – Field Procedures and Field Data Sheets
- Attachment B – Laboratory Procedures, Certified Analytical Reports, and Chain-of-Custody Records
- Attachment C – 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

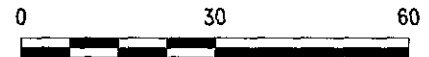
< NOT DETECTED AT OR ABOVE LABORATORY REPORTING LIMITS

GROUNDWATER FLOW DIRECTION AND GRADIENT (FT/FT)

96.00 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.

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

**GROUNDWATER ELEVATION CONTOUR
 AND ANALYTICAL SUMMARY MAP**
 Fourth Quarter 2004 (November 29, 2004)

FIGURE

1

Table 1
Groundwater Elevation and Analytical Data
 ARCO Service Station #6148
 5131 Shattuck Ave., Oakland, CA

Well No.	Date	P/ NP	Footnotes/ Comments	TOC (ft MSL)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (ft bgs)	GWE (ft MSL)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	pH
MW-1	6/21/2000	--		107.80	13.00	26.00	17.49	90.31	<50	<0.5	<0.5	<0.5	<1.0	<3.0	--	--
	9/20/2000	--		107.80	13.00	26.00	17.64	90.16	<50	<0.5	0.677	<0.5	0.969	<2.5	--	--
	12/22/2000	--		107.80	13.00	26.00	16.87	90.93	186	5.38	0.522	9.52	30.2	8.91	--	--
	3/26/2001	--		107.80	13.00	26.00	16.60	91.20	<50	<0.5	<0.5	<0.5	<0.5	9.1	--	--
	5/30/2001	--		107.80	13.00	26.00	17.10	90.70	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	9/23/2001	--		107.80	13.00	26.00	17.53	90.27	<50	<0.5	<0.5	<0.5	<0.5	6.7	--	--
	12/28/2001	--		107.80	13.00	26.00	15.57	92.23	<50	2.7	<0.5	<0.5	<0.5	20	--	--
	3/21/2002	--		107.80	13.00	26.00	15.57	92.23	--	--	--	--	--	--	--	--
	4/17/2002	--		107.80	13.00	26.00	16.25	91.55	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	8/19/2002	--		107.80	13.00	26.00	17.69	90.11	<50	<0.5	<0.5	<0.5	<0.5	<2.5	2.0	7.1
	11/27/2002	--		107.80	13.00	26.00	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	13.00	26.00	16.93	90.87	<50	<0.50	<0.50	<0.50	<0.50	1.1	1.2	7.3
	5/13/2003	--		107.80	13.00	26.00	16.95	90.85	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.0	6.5
	7/31/2003	--		107.80	13.00	26.00	17.74	90.06	<50	<0.50	<0.50	<0.50	<0.50	0.55	1.2	6
	12/17/2003	NP		107.80	13.00	26.00	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	13.00	26.00	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	13.00	26.00	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	13.00	26.00	17.72	95.65	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.2	6.9	
11/29/2004	NP		113.37	13.00	26.00	17.45	95.92	<50	<0.50	<0.50	<0.50	<0.50	0.62	0.92	6.8	
MW-2	6/21/2000	--		107.28	14.00	26.00	17.19	90.09	69	<0.5	<0.5	<0.5	<1.0	12	--	--
	9/20/2000	--		107.28	14.00	26.00	17.31	89.97	<50	0.964	<0.5	<0.5	<.05	5.05	--	--
	12/22/2000	--		107.28	14.00	26.00	16.58	90.70	2,140	174	60.2	118	438	123	--	--
	3/26/2001	--		107.28	14.00	26.00	16.45	90.83	8,490	333	148	495	1,660	<250	--	--
	5/30/2001	--		107.28	14.00	26.00	16.83	90.45	4,700	200	71	260	780	43	--	--
	9/23/2001	--		107.28	14.00	26.00	17.30	89.98	160	5.9	1.8	0.8	41	14	--	--
	12/28/2001	--		107.28	14.00	26.00	15.38	91.90	1,800	54	<5.0	<5.0	240	30	--	--
	3/21/2002	--		107.28	14.00	26.00	15.36	91.92	--	--	--	--	--	--	--	--
	4/17/2002	--		107.28	14.00	26.00	16.01	91.27	<50	<0.5	<0.5	<0.5	<0.5	10	--	--
	8/19/2002	--	a	107.28	14.00	26.00	17.53	89.75	170	22	0.92	14	26	<2.5	3.0	6.9
	11/27/2002	--		107.28	14.00	26.00	17.21	90.07	340	22	0.68	13	26	<0.50	1.6	6.6
2/5/2003	--	d	107.28	14.00	26.00	16.72	90.56	83	2.7	<0.50	0.97	15	4.3	0.7	7.0	
05/13/2003	NP	f	107.28	14.00	26.00	16.72	90.56	<50	0.91	<0.50	<0.50	0.6	2.8	0.7	6.5	
7/31/2003	--		107.28	14.00	26.00	17.51	89.77	<50	<0.50	<0.50	<0.50	<0.50	2.0	7.1	6.7	

Table 1

Groundwater Elevation and Analytical Data

ARCO Service Station #6148
5131 Shattuck Ave., Oakland, CA

Well No.	Date	P/ NP	Footnotes/ Comments	TOC (ft MSL)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (ft bgs)	GWE (ft MSL)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	pH
MW-2	12/17/2003	NP		107.28	14.00	26.00	16.78	90.50	51	1.0	<0.50	<0.50	<0.50	2.4	8.1	7.1
	02/13/2004	NP	e	112.87	14.00	26.00	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	14.00	26.00	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	14.00	26.00	17.55	95.32	<50	<0.50	<0.50	<0.50	<0.50	0.63	7.5	6.6
	11/29/2004	NP		112.87	14.00	26.00	17.24	95.63	85	10	<0.50	4.6	1.0	0.55	1.41	6.9
MW-3	6/21/2000	--		107.61	14.00	26.00	17.52	90.09	200	<0.5	<0.5	<0.5	2.1	24	--	--
	9/20/2000	--		107.61	14.00	26.00	17.61	90.00	<50	<0.5	<0.5	<0.5	<0.5	20	--	--
	12/22/2000	--		107.61	14.00	26.00	16.85	90.76	227	4.73	1.06	2.58	5.22	27.3	--	--
	3/26/2001	--		107.61	14.00	26.00	16.79	90.82	287	6.29	1.58	6.47	12.1	24.2	--	--
	5/30/2001	--		107.61	14.00	26.00	17.11	90.50	500	10	<0.5	7.00	16	20	--	--
	9/23/2001	--		107.61	14.00	26.00	17.57	90.04	400	6.4	0.74	<0.5	0.62	22	--	--
	12/28/2001	--		107.61	14.00	26.00	15.41	92.20	270	2.5	2.4	<0.5	2.3	9.2	--	--
	3/21/2002	--		107.61	14.00	26.00	15.58	92.03	--	--	--	--	--	--	--	--
	4/17/2002	--		107.61	14.00	26.00	16.25	91.36	360	2.5	0.72	<0.5	<0.5	12	--	--
	8/19/2002	--	b	107.61	14.00	26.00	17.66	89.95	750	11	2.1	<0.5	2.4	14	1.4	6.8
	11/27/2002	--		107.61	14.00	26.00	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	14.00	26.00	16.82	90.79	<50	<0.50	<0.50	<0.50	<0.50	2.4	1.3	6.6
	5/13/2003	--		107.61	14.00	26.00	17.12	90.49	300	<0.50	<0.50	<0.50	<0.50	2.2	1.4	6.7
	7/31/2003	--		107.61	14.00	26.00	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	14.00	26.00	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	14.00	26.00	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	14.00	26.00	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	14.00	26.00	17.66	95.39	<50	<0.50	<0.50	<0.50	<0.50	3.3	1.2	7.1	
11/29/2004	NP		113.05	14.00	26.00	17.47	95.58	110	<0.50	<0.50	<0.50	<0.50	1.4	1.0	6.9	
MW-4	6/21/2000	--		106.71	11.50	26.50	16.00	90.71	1,400	5.3	7.3	36	85	4	--	--
	9/20/2000	--		106.71	11.50	26.50	16.03	90.68	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	12/22/2000	--		106.71	11.50	26.50	--	--	--	--	--	--	--	--	--	--
	3/26/2001	--		106.71	11.50	26.50	15.05	91.66	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	5/30/2001	--		106.71	11.50	26.50	15.62	91.09	--	--	--	--	--	--	--	--
	9/23/2001	--		106.71	11.50	26.50	16.07	90.64	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	12/28/2001	--		106.71	11.50	26.50	13.68	93.03	--	--	--	--	--	--	--	--
	3/21/2002	--		106.71	11.50	26.50	14.04	92.67	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	4/17/2002	--		106.71	11.50	26.50	14.78	91.93	--	--	--	--	--	--	--	--

Table 1

Groundwater Elevation and Analytical Data

ARCO Service Station #6148
5131 Shattuck Ave., Oakland, CA

Well No.	Date	P/ NP	Footnotes/ Comments	TOC (ft MSL)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (ft bgs)	GWE (ft MSL)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	pH	
MW-4	8/19/2002	--		106.71	11.50	26.50	16.18	90.53	<50	<0.5	<0.5	<0.5	<0.5	<2.5	1.4	6.8	
	11/27/2002	--		106.71	11.50	26.50	15.89	90.82	--	--	--	--	--	--	--	--	
	2/5/2003	--	d	106.71	11.50	26.50	15.40	91.31	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.1	6.6	
	5/13/2003	--		106.71	11.50	26.50	15.42	91.29	--	--	--	--	--	--	--	--	
	7/31/2003	--		106.71	11.50	26.50	16.23	90.48	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.4	6.4	
	12/17/2003	--		106.71	11.50	26.50	15.57	91.14	--	--	--	--	--	--	--	--	
	02/13/2004	P	e	112.15	11.50	26.50	15.30	96.85	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.1	6.3
	05/05/2004	--		112.15	11.50	26.50	15.69	96.46	--	--	--	--	--	--	--	--	
	08/25/2004	P		112.15	11.50	26.50	16.07	96.08	<50	<0.50	<0.50	<0.50	0.51	<0.50	1.6	6.4	
	11/29/2004	NP		112.15	11.50	26.50	15.86	96.29	--	--	--	--	--	--	--	--	
MW-5	3/26/2000	--		106.60	10.00	25.00	15.45	91.15	767	12.4	<5.0	<5.0	<5.0	163	--	--	
	6/21/2000	--		106.60	10.00	25.00	16.52	90.08	67	<0.5	<0.5	<0.5	<1.0	10	--	--	
	9/20/2000	--		106.60	10.00	25.00	16.34	90.26	<50	<0.5	<0.5	<0.5	<0.5	3.48	--	--	
	12/22/2000	--		106.60	10.00	25.00	15.58	91.02	341	11.5	2.53	4.02	6.25	146	--	--	
	5/30/2001	--		106.60	10.00	25.00	15.77	90.83	110	2.3	<0.5	<0.5	0.81	72	--	--	
	9/23/2001	--		106.60	10.00	25.00	16.16	90.44	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
	12/28/2001	--		106.60	10.00	25.00	14.09	92.51	240	2.8	1.9	<0.5	2.6	48	--	--	
	3/21/2002	--		106.60	10.00	25.00	14.43	92.17	--	<0.5	<0.5	<0.5	<0.5	--	--	--	
	4/17/2002	--		106.60	10.00	25.00	14.96	91.64	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
	8/19/2002	--	c	106.60	10.00	25.00	16.34	90.26	--	--	--	--	--	--	--	--	
	11/27/2002	--	c	106.60	10.00	25.00	--	--	--	--	--	--	--	--	--	--	
	2/5/2003	--	c, d	106.60	10.00	25.00	--	--	--	--	--	--	--	--	--	--	
	5/13/2003	NP	f	106.60	10.00	25.00	15.43	91.17	<50	<0.50	<0.50	<0.50	<0.50	15	1.4	6.2	
	7/31/2003	--		106.60	10.00	25.00	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	10.00	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	10.00	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	10.00	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	10.00	25.00	16.67	95.37	<50	<0.50	<0.50	<0.50	<0.50	1.1	10.5	--		
11/29/2004	NP		112.04	10.00	25.00	16.37	95.67	<50	<0.50	<0.50	<0.50	<0.50	0.61	1.0	7.0		
MW-6	6/21/2000	--		105.13	12.00	27.00	13.91	91.22	--	--	--	--	--	--	--	--	
	9/20/2000	--		105.13	12.00	27.00	14.03	91.10	--	--	--	--	--	--	--	--	
	12/22/2000	--		105.13	12.00	27.00	--	--	--	--	--	--	--	--	--	--	
	3/26/2001	--		105.13	12.00	27.00	12.59	92.54	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	

Table 1

Groundwater Elevation and Analytical Data

ARCO Service Station #6148
5131 Shattuck Ave., Oakland, CA

Well No.	Date	P/ NP	Footnotes/ Comments	TOC (ft MSL)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (ft bgs)	GWE (ft MSL)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	pH
MW-6	5/30/2001	--		105.13	12.00	27.00	13.40	91.73	--	--	--	--	--	--	--	--
	9/23/2001	--		105.13	12.00	27.00	13.49	91.64	--	--	--	--	--	--	--	--
	12/28/2001	--		105.13	12.00	27.00	12.07	93.06	--	--	--	--	--	--	--	--
	3/21/2002	--		105.13	12.00	27.00	11.79	93.34	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	4/17/2002	--		105.13	12.00	27.00	12.45	92.68	--	--	--	--	--	--	--	--
	8/19/2002	--		105.13	12.00	27.00	13.96	91.17	<50	<0.5	<0.5	<0.5	<0.5	<2.5	2.8	6.9
	11/27/2002	--		105.13	12.00	27.00	14.07	91.06	--	--	--	--	--	--	--	--
	2/5/2003	--	d	105.13	12.00	27.00	13.55	91.58	--	--	--	--	--	--	--	--
	5/13/2003	--		105.13	12.00	27.00	13.57	91.56	--	--	--	--	--	--	--	--
	7/31/2003	--		105.13	12.00	27.00	14.18	90.95	67	<0.50	<0.50	<0.50	<0.50	<0.50	1.8	6.5
	12/17/2003	--		105.13	12.00	27.00	14.12	91.01	--	--	--	--	--	--	--	--
	02/13/2004	--	e	110.66	12.00	27.00	13.51	97.15	--	--	--	--	--	--	--	--
	05/05/2004	--		110.66	12.00	27.00	13.95	96.71	--	--	--	--	--	--	--	--
	08/25/2004	P		110.66	12.00	27.00	14.42	96.24	55	<0.50	0.98	<0.50	1.5	<0.50	3.6	6.7
	11/29/2004	NP		110.66	12.00	27.00	14.20	96.46	--	--	--	--	--	--	--	--
MW-7	6/21/2000	--		107.05	12.00	27.00	14.57	92.48	--	--	--	--	--	--	--	--
	9/20/2000	--		107.05	12.00	27.00	14.58	92.47	--	--	--	--	--	--	--	--
	12/22/2000	--		107.05	12.00	27.00	13.21	93.84	--	--	--	--	--	--	--	--
	3/26/2001	--		107.05	12.00	27.00	13.18	93.87	71.4	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	5/30/2001	--		107.05	12.00	27.00	13.80	93.25	--	--	--	--	--	--	--	--
	9/23/2001	--		107.05	12.00	27.00	14.27	92.78	--	--	--	--	--	--	--	--
	12/28/2001	--		107.05	12.00	27.00	12.24	94.81	--	--	--	--	--	--	--	--
	3/21/2002	--		107.05	12.00	27.00	12.16	94.89	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--
	4/17/2002	--		107.05	12.00	27.00	13.08	93.97	--	--	--	--	--	--	--	--
	8/19/2002	--		107.05	12.00	27.00	14.73	92.32	<50	<0.5	<0.5	<0.5	<0.5	<2.5	1.4	6.7
	11/27/2002	--		107.05	12.00	27.00	14.76	92.29	--	--	--	--	--	--	--	--
	2/5/2003	--	d	107.05	12.00	27.00	14.07	92.98	--	--	--	--	--	--	--	--
	5/13/2003	--		107.05	12.00	27.00	14.00	93.05	--	--	--	--	--	--	--	--
	7/31/2003	--		107.05	12.00	27.00	14.00	92.17	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.6	6.4
	12/17/2003	--		107.05	12.00	27.00	14.10	92.95	--	--	--	--	--	--	--	--
	02/13/2004	--	e	112.59	12.00	27.00	13.91	98.68	--	--	--	--	--	--	--	--
	05/05/2004	--		112.59	12.00	27.00	14.60	97.99	--	--	--	--	--	--	--	--
	08/25/2004	P		112.59	12.00	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 Service Station #6148

5131 Shattuck Ave., Oakland, CA

Well No.	Date	P/ NP	Footnotes/ Comments	TOC (ft MSL)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (ft bgs)	GWE (ft MSL)	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DO (mg/L)	pH
MW-7	11/29/2004	NP		112.59	12.00	27.00	15.00	97.59	--	--	--	--	--	--	--	--

Table 1

Groundwater Elevation and Analytical Data

ARCO Service Station #6148
5131 Shattuck Ave., Oakland, CA

SYMBOLS AND ABBREVIATIONS:

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

FOOTNOTES:

a = Hydrocarbon pattern is present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel (TPHg/GRO).
b = Chromatogram Pattern: Gasoline C6-C10 (TPHg/GRO).
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.

NOTES:

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.

The values for pH and DO were obtained from field measurements.

The data within this table collected prior to August 2002 was provided to URS by RM and their previous consultants. URS has not verified the accuracy of this information.

The top and bottom of screen depths for wells MW-1, MW-2 and MW-3 were obtained from EMCON O&M sampling sheets not from well logs.

Table 2

Fuel Additives Analytical Data
 ARCO Service 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)	Footnotes/Comments
MW-1	2/5/2003	<40	<20	1.1	<0.50	<0.50	<0.50	--	--	
	5/13/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	--	--	
	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	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	a
	11/29/2004	<100	<20	0.62	<0.50	<0.50	<0.50	<0.50	<0.50	
MW-2	2/5/2003	<40	<20	4.3	<0.50	<0.50	<0.50	--	--	
	5/13/2003	<100	<20	2.8	<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	
	11/29/2004	<100	<20	0.55	<0.50	<0.50	<0.50	<0.50	<0.50	
MW-3	2/5/2003	<40	<20	2.4	<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	
	11/29/2004	<100	<20	1.4	<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	15	<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	

Table 2**Fuel Additives Analytical Data**ARCO Service 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)	Footnotes/Comments
MW-5	08/25/2004	<100	<20	1.1	<0.50	<0.50	<0.50	<0.50	<0.50	
	11/29/2004	<100	<20	0.61	<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	
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 Service Station #6148
5131 Shattuck Ave., Oakland, CA

SYMBOLS AND ABBREVIATIONS:

< = Not detected at or above the specified laboratory reporting limit

-- = Not available/analyzed/applicable

DIPE = Di-isopropyl ether

EDB = 1,2-Dibromoethane

ETBE = Ethyl tert butyl ether

MTBE = Methyl tert-butyl ether

1,2-DCA = 1,2-Dichloroethane

TAME = tert-Amyl methyl ether

TBA = tert-Butyl alcohol

ug/L = micrograms per liter

FOOTNOTES:

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 Service 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
11/29/2004	Southwest	0.013

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

ATTACHMENT A
FIELD PROCEDURES AND FIELD DATA SHEETS

FIELD PROCEDURES

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 # 04-1129-AMT Date 11/29/04 Client 6148

Site 5131 Shattuck Ave., Oakland, CA

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 <u>TOB</u>	ND
MW-1	4					17.45	25.50		11.5'
MW-2*	4					17.04	25.50		12'
MW-3	4					17.47	21.01		10'
MW-4	4					15.86	26.10		
MW-5*	4					11.37	22.10		12'
MW-6	4					14.20	26.42		
MW-7	4					15.00	26.95		↓
* ORC removed from well and disposed.									

ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>041129-MT1</u>	Station # <u>6148</u>
Sampler: <u>MT</u>	Date: <u>11/29/04</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>17.45</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: Bailer Sampling Method: Bailer
 Disposable Bailer (Disposable Bailer)
 Positive Air Displacement Extraction Port
 Electric Submersible Other: _____
 Extraction Pump
 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 µS)	Gals. Removed	Observations
<u>1045</u>	<u>107.9</u>	<u>10.8</u>	<u>1200</u>	<u>—</u>	

Did well dewater? Yes No Gallons actually evacuated: —

Sampling Time: 1045 Sampling Date: 11/29/04

Sample I.D.: MW-1 Laboratory: Pace (Sequoia) Other _____

Analyzed for: (CRO) (BTEX) MTBE DRO Other: Refer to COC

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>041129-MT1</u>	Station # <u>6148</u>
Sampler: <u>MT</u>	Date: <u>11/29/04</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>17.24</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: Bailor
 Disposable Bailor
 Positive Air Displacement
 Electric Submersible
 Extraction Pump
 Other: _____

Sampling Method: Bailor
 Disposable Bailor
 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.

<u>12</u>	X	_____	=	_____	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or μS)	Gals. Removed	Observations
<u>1105</u>	<u>66.9</u>	<u>6.9</u>	<u>1173</u>	-	

Did well dewater? Yes No

Gallons actually evacuated: -

Sampling Time: 1105 Sampling Date: 11/29/04

Sample I.D.: MW-2 Laboratory: Face Sequoia Other _____

Analyzed for: GRO BTEX MTBE DRO Other: Refer to COC

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	1.41	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:		mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>041129-MT1</u>	Station # <u>614B</u>
Sampler: <u>MT</u>	Date: <u>11/29/04</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>17.47</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> Disposable Bailer Positive Air Displacement Electric Submersible Extraction Pump Other: _____	Sampling Method: <u>Bailer</u> <u>Disposable Bailer</u> 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.

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

Time	Temp (°F)	pH	Conductivity (mS or μS)	Gals. Removed	Observations
<u>1055</u>	<u>64.3</u>	<u>6.9</u>	<u>1101</u>	-	

Did well dewater? Yes No Gallons actually evacuated: -

Sampling Time: 1055 Sampling Date: 11/29/04

Sample I.D.: MW-3 Laboratory: Pace Sequoia Other _____

Analyzed for: CHRO BTEX MTBE DRO Other: Refer to COC

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	<u>1.00</u> mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

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 December, 2004

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

RE: ARCO #6148, Oakland, CA
Work Order: MNL0057

Enclosed are the results of analyses for samples received by the laboratory on 12/01/04 17:00. 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

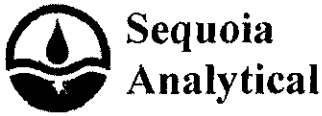
MNL0057
Reported:
12/14/04 16:51

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	MNL0057-01	Water	11/29/04 10:45	12/01/04 17:00
MW-2	MNL0057-02	Water	11/29/04 11:05	12/01/04 17:00
MW-3	MNL0057-03	Water	11/29/04 10:55	12/01/04 17:00
MW-5	MNL0057-04	Water	11/29/04 11:35	12/01/04 17:00
TB-112904-6148	MNL0057-05	Water	11/29/04 00:00	12/01/04 17:00

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.



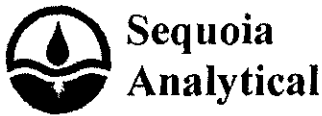
URS Corporation [Arco]
 1333 Broadway, Suite 800
 Oakland CA, 94612

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

MNL0057
 Reported:
 12/14/04 16:51

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

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
MW-1 (MNL0057-01) Water Sampled: 11/29/04 10:45 Received: 12/01/04 17:00										
tert-Amyl methyl ether	ND	0.50		ug/l	1	4L04004	12/04/04	12/04/04	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	0.62	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		"	"	"	"	
MW-2 (MNL0057-02) Water Sampled: 11/29/04 11:05 Received: 12/01/04 17:00										
tert-Amyl methyl ether	ND	0.50		ug/l	1	4L04004	12/04/04	12/04/04	EPA 8260B	
Benzene	10	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	4.6	0.50		"	"	"	"	"	"	
Methyl tert-butyl ether	0.55	0.50		"	"	"	"	"	"	
Toluene	ND	0.50		"	"	"	"	"	"	
Xylenes (total)	1.0	0.50		"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	85	50		"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		84 %		78-129		"	"	"	"	



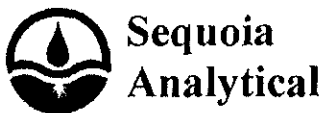
URS Corporation [Arco]
 1333 Broadway, Suite 800
 Oakland CA, 94612

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

MNL0057
 Reported:
 12/14/04 16:51

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (MNL0057-03) Water Sampled: 11/29/04 10:55 Received: 12/01/04 17:00									
tert-Amyl methyl ether	ND	0.50	ug/l	1	4L04004	12/04/04	12/04/04	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	1.4	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Gasoline Range Organics (C4-C12)	110	50	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>87 %</i>	<i>78-129</i>		"	"	"	"	
MW-5 (MNL0057-04) Water Sampled: 11/29/04 11:35 Received: 12/01/04 17:00									
tert-Amyl methyl ether	ND	0.50	ug/l	1	4L04004	12/04/04	12/04/04	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	0.61	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>84 %</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

MNL0057
Reported:
12/14/04 16:51

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 4L04004 - EPA 5030B P/T / EPA 8260B

Blank (4L04004-BLK1)

Prepared & Analyzed: 12/04/04

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

2.07

"

2.50

83

78-129

Laboratory Control Sample (4L04004-BS1)

Prepared & Analyzed: 12/04/04

tert-Amyl methyl ether	11.4	0.50	ug/l	10.0		114	82-140
Benzene	10.9	0.50	"	10.0		109	69-124
tert-Butyl alcohol	52.4	20	"	50.0		105	56-131
Di-isopropyl ether	11.4	0.50	"	10.0		114	76-130
1,2-Dibromoethane (EDB)	9.89	0.50	"	10.0		99	77-132
1,2-Dichloroethane	9.84	0.50	"	10.0		98	77-136
Ethanol	173	100	"	200		86	31-143
Ethyl tert-butyl ether	10.4	0.50	"	10.0		104	81-121
Ethylbenzene	9.35	0.50	"	10.0		94	84-132
Methyl tert-butyl ether	11.7	0.50	"	10.0		117	63-137
Toluene	10.8	0.50	"	10.0		108	78-129
Xylenes (total)	27.0	0.50	"	30.0		90	83-137

Surrogate: 1,2-Dichloroethane-d4

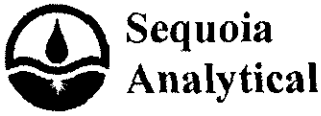
2.14

"

2.50

86

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	MNL0057 Reported: 12/14/04 16:51
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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 4L04004 - EPA 5030B P/T / EPA 8260B

Laboratory Control Sample (4L04004-BS2)				Prepared & Analyzed: 12/04/04						
Benzene	6.15	0.50	ug/l	6.40		96	69-124			
Ethylbenzene	7.54	0.50	"	7.52		100	84-132			
Methyl tert-butyl ether	9.86	0.50	"	9.92		99	63-137			
Toluene	36.2	0.50	"	31.9		113	78-129			
Xylenes (total)	36.3	0.50	"	36.6		99	83-137			
Gasoline Range Organics (C4-C12)	432	50	"	440		98	70-124			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>2.28</i>		<i>"</i>	<i>2.50</i>		<i>91</i>	<i>78-129</i>			

Laboratory Control Sample Dup (4L04004-BSD1)				Prepared: 12/04/04 Analyzed: 12/05/04						
tert-Amyl methyl ether	11.0	0.50	ug/l	10.0		110	82-140	4	20	
Benzene	11.4	0.50	"	10.0		114	69-124	4	20	
tert-Butyl alcohol	60.1	20	"	50.0		120	56-131	14	20	
Di-isopropyl ether	11.8	0.50	"	10.0		118	76-130	3	20	
1,2-Dibromoethane (EDB)	9.80	0.50	"	10.0		98	77-132	0.9	20	
1,2-Dichloroethane	9.57	0.50	"	10.0		96	77-136	3	20	
Ethanol	141	100	"	200		70	31-143	20	20	
Ethyl tert-butyl ether	10.2	0.50	"	10.0		102	81-121	2	20	
Ethylbenzene	9.57	0.50	"	10.0		96	84-132	2	20	
Methyl tert-butyl ether	11.1	0.50	"	10.0		111	63-137	5	20	
Toluene	11.2	0.50	"	10.0		112	78-129	4	20	
Xylenes (total)	27.8	0.50	"	30.0		93	83-137	3	20	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>2.09</i>		<i>"</i>	<i>2.50</i>		<i>84</i>	<i>78-129</i>			

Matrix Spike (4L04004-MS1)				Source: MNL0027-06 Prepared & Analyzed: 12/04/04						
Benzene	2840	100	ug/l	1280	1800	81	69-124			
Ethylbenzene	1860	100	"	1500	390	98	84-132			
Methyl tert-butyl ether	1840	100	"	1980	ND	93	63-137			
Toluene	7790	100	"	6380	1200	103	78-129			
Xylenes (total)	8220	100	"	7310	1200	96	83-137			
Gasoline Range Organics (C4-C12)	87500	10000	"	88000	8300	90	70-124			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>2.11</i>		<i>"</i>	<i>2.50</i>		<i>84</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	MNL0057 Reported: 12/14/04 16:51
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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 4L04004 - EPA 5030B P/T / EPA 8260B

Matrix Spike (4L04004-MS2)	Source: MNL0055-02	Prepared: 12/04/04	Analyzed: 12/05/04							
Benzene	766	50	ug/l	640	360	63	69-124			LN
Ethylbenzene	802	50	"	752	190	81	84-132			LN
Methyl tert-butyl ether	1350	50	"	992	ND	136	63-137			
Toluene	3760	50	"	3190	40	117	78-129			
Xylenes (total)	4430	50	"	3660	290	113	83-137			
Gasoline Range Organics (C4-C12)	45400	5000	"	44000	2400	98	70-124			
Surrogate: 1,2-Dichloroethane-d4	2.04		"	2.50		82	78-129			

Matrix Spike Dup (4L04004-MSD1)	Source: MNL0027-06	Prepared & Analyzed: 12/04/04								
Benzene	3010	100	ug/l	1280	1800	95	69-124	6	20	
Ethylbenzene	1910	100	"	1500	390	101	84-132	3	20	
Methyl tert-butyl ether	1800	100	"	1980	ND	91	63-137	2	20	
Toluene	8120	100	"	6380	1200	108	78-129	4	20	
Xylenes (total)	8500	100	"	7310	1200	100	83-137	3	20	
Gasoline Range Organics (C4-C12)	91500	10000	"	88000	8300	95	70-124	4	20	
Surrogate: 1,2-Dichloroethane-d4	2.17		"	2.50		87	78-129			

Matrix Spike Dup (4L04004-MSD2)	Source: MNL0055-02	Prepared: 12/04/04	Analyzed: 12/05/04							
Benzene	737	50	ug/l	640	360	59	69-124	4	20	LN
Ethylbenzene	766	50	"	752	190	77	84-132	5	20	LN
Methyl tert-butyl ether	1370	50	"	992	ND	138	63-137	1	20	LM
Toluene	3630	50	"	3190	40	113	78-129	4	20	
Xylenes (total)	4320	50	"	3660	290	110	83-137	3	20	
Gasoline Range Organics (C4-C12)	43000	5000	"	44000	2400	92	70-124	5	20	
Surrogate: 1,2-Dichloroethane-d4	1.95		"	2.50		78	78-129			

URS Corporation [Arco]
1333 Broadway, Suite 800
Oakland CA, 94612Project ARCO #6148, Oakland, CA
Project Number: INTRIM-50769
Project Manager: Scott RobinsonMNL0057
Reported:
12/14/04 16:51**Notes and Definitions**

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

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

DET Analyte DETECTED

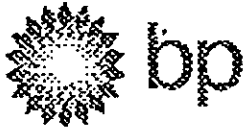
ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

MNL 0057



Chain of Custody Record

Project Name 648 GWM
 BP BU/GEM CO Portfolio Retail
 BP Laboratory Contract Number: Atlantic Richfield Company
 Requested Due Date (w/hold/ly) 14 day TAT

Date: 11/29/04

On-site Time: _____ Temp: _____
 Off-site Time: _____ Temp: _____
 Sky Conditions: Clear
 Meteorological Events: 0
 Wind Speed: 0 Direction: 0

Send To:	BP/GEM Facility No.: <u>ARCO 6148</u>	Consultant/Contractor: <u>URS</u>
Lab Name: <u>SEQUOIA</u>	BP/GEM Facility Address: <u>5131 Shattuck Ave, OAKLAND, CA</u>	Address: <u>1333 Broadway, Suite 800</u>
Lab 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.cospcr@URSCorp.com</u>
Lab PM <u>Lisa Race</u>	California Global ID #: <u>T0600100103</u>	Consultant/Contractor Project No.: <u>J5-000061-03.01 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: <u>Consultant/Contractor of BP/GEM (circle one)</u>
Lab Bottle Order No:	Tele/Fax: <u>925-299-8881/925-299-8872</u>	BP/GEM Work Release No: <u>ENTRIM -50769</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	IL-SO ₄	END ₁	ICI	GRO / BTEX (8015/8021/8026)	DRO w/SCC (8015)	MTBE (8021)	MTBE (8260)	MTBE, TAME, ETBE (8260)	DIPE, THA (8260)		1,2-DCA & EDB (8260)	Ethanol (8260)			
1	<u>MND-1</u>	<u>1045</u>	X				<u>01</u>	<u>W</u>					X			X	X							
2	<u>MND-2</u>	<u>1105</u>	X				<u>02</u>	<u>W</u>					X			X	X							
3	<u>MND-3</u>	<u>1055</u>	X				<u>03</u>	<u>W</u>					X			X	X							
4	<u>MND-5</u>	<u>1135</u>	X				<u>04</u>	<u>W</u>					X			X	X							
5	<u>TB112904/648</u>		X				<u>05</u>	<u>W</u>					X			X	X							<u>ON HOLD</u>
6	<u>TEMP Blank</u>		X				<u>1</u>	<u>1</u>																<u>ms 11/30/04</u>
7																								
8																								
9																								
10																								

Sampler's Name: <u>Miketa</u>	Relinquished By / Affiliation: <u>[Signature]</u>	Date: <u>12/1/04</u>	Time: <u>10:30</u>	Accepted By / Affiliation: <u>[Signature]</u>	Date: <u>12/1/04</u>	Time: <u>10:30</u>
Sampler's Company: <u>Blaine Tech</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 3.2 °F (C) Trip Blank Yes No

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

For Regulatory Purposes?

DRINKING WATER - YES/NO NO

WASTE WATER - YES/NO NO

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

CLIENT NAME: ARCO GUY

DATE REC'D AT LAB: 12/1/04

REC. BY (PRINT): JD

TIME REC'D AT LAB: 1:00

WORKORDER: MNLO057

DATE LOGGED IN: 12/2/04

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 / <input checked="" type="checkbox"/> Absent Intact / Broken*		01	MW-1	VOI - (3)	HCl	-	W	11/21/04	
2. Chain-of-Custody Present / <input checked="" type="checkbox"/> Absent*		02	↓ -2	↓ ↓	↓	↓	↓	↓	
3. Traffic Reports or Packing List: Present / <input checked="" type="checkbox"/> Absent		03	↓ -3	↓ ↓	↓	↓	↓	↓	
4. Airbill: Airbill / Sticker Present / <input checked="" type="checkbox"/> Absent		04	↓ -5	↓ ↓	↓	↓	↓	↓	
5. Airbill #:		05	TR 129-60146	↓ (2)	↓	↓	↓	↓	
6. Sample Labels: Present / Absent									
7. Sample IDs: Listed / Not Listed on Chain-of-Custody									
8. Sample Condition: Intact / Broken* / Leaking*									
9. Does information on chain-of-custody, traffic reports and sample labels agree? Yes / <input checked="" type="checkbox"/> No*									
10. Sample received within hold time? Yes / <input checked="" type="checkbox"/> No*									
11. Adequate sample volume received? Yes / <input checked="" type="checkbox"/> No*									
12. Proper Preservatives used? Yes / <input checked="" type="checkbox"/> No*									
13. Trip Blank / Temp Blank Received? *(circle which, if yes) Yes / <input checked="" type="checkbox"/> No*									
14. Temp Rec. at Lab: Is temp 4 ± 2°C? <u>3.2</u> Yes / <input checked="" type="checkbox"/> No** <small>(Acceptance range for samples requiring thermal pres.)</small>									

**Exception (if any): METALS / DEF ON ICE or Prohibit 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	91.96	72	<0.5	<0.5	<0.5	<0.5	23	--	
MW-1	06-03-99	107.80	17.62	ND	90.18	890	33	1.5	12	2.8	250	--	1.44 NP
MW-1	10-26-99	107.80	16.92	ND	90.88	<50	<0.5	<0.5	<0.5	<1	9	--	9.58 NP
MW-2	03-20-95	137.43	15.50	ND#	91.93	Not sampled: floating product entered well during purging							
MW-2	06-06-95	137.43	17.43	ND	90.00	1,200	60	21	35	140	--	--	
MW-2	08-24-95	137.28	17.22	ND	90.06	Not sampled: well was inaccessible due to construction							
MW-2	11-16-95	137.28	17.36	ND	89.92	360	45	1.3	7.1	7.5	210	--	
MW-2	02-27-96	137.28	14.82	ND	92.46	8,900	1,400	980	150	550	940	--	
MW-2	05-15-96	137.28	17.40	ND	89.88	480	82	48	8	48	87	--	
MW-2	08-14-96	137.28	17.00	ND	90.23	130	22	4	2	9	120	--	

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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					Total Xylenes (µg/L)	MTBE (µg/L)	TRPH (mg/L)	Dissolved Oxygen (mg/L)	Purged/ Not Purged (P/NP)
						Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)						
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	94.53	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	--			

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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)	TRPH (mg/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	90.73	<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	--	--		

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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-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	89.34	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	14.88	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									

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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								
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	07-28-98	107.05	14.79	ND	92.26	Not sampled: well sampled annually, during the first quarter								

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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	2.3	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 LUFT Method
BTEX: Benzene, toluene, ethylbenzene, total xylenes by EPA method 8021B. (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**

Electronic Submittal Information

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SUCCESSFUL EDF CHECK - NO ERRORS

<u>ORGANIZATION NAME:</u>	URS Corporation-Oakland Office
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<u>DATE CHECKED:</u>	
<u>GLOBAL ID:</u>	T0600100103
<u>FILE UPLOADED:</u>	ARCO#6148-EDF-MNL0057.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)
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SAMPLE DETECTIONS REPORT

# FIELD POINTS SAMPLED	4
# FIELD POINTS WITH DETECTIONS	4
# FIELD POINTS WITH WATER SAMPLE DETECTIONS ABOVE MCL	1
SAMPLE MATRIX TYPES	WATER

METHOD QA/QC REPORT

METHODS USED	8260FA
TESTED FOR REQUIRED ANALYTES?	N
MISSING PARAMETERS NOT TESTED:	
- 8260FA REQUIRES DBFM TO BE TESTED	
- 8260FA REQUIRES BR4FBZ TO BE TESTED	
- 8260FA REQUIRES BZMED8 TO BE TESTED	
LAB NOTE DATA QUALIFIERS	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%		N
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 > REPD</u>
QCTB SAMPLES	N	0
QCEB SAMPLES	N	0
QCAB SAMPLES	N	0

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Confirmation Number: 2306315720
Date/Time of Submittal: 12/29/2004 11:43:17 AM
Facility Global ID: T0600100103
Facility Name: ARCO # 06148
Submittal Title: QMR Q4 2004 Site 6148
Submittal Type: GW Monitoring Report

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

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)
---	--

CONF #	TITLE	QUARTER
2306315720	QMR Q4 2004 Site 6148	Q4 2004
SUBMITTED BY	SUBMIT DATE	STATUS
Srijesh Thapa	12/29/2004	PENDING REVIEW

SAMPLE DETECTIONS REPORT

# FIELD POINTS SAMPLED	4
# FIELD POINTS WITH DETECTIONS	4
# FIELD POINTS WITH WATER SAMPLE DETECTIONS ABOVE MCL	1
SAMPLE MATRIX TYPES	WATER

METHOD QA/QC REPORT

METHODS USED	8260FA
TESTED FOR REQUIRED ANALYTES?	N
MISSING PARAMETERS NOT TESTED:	
- 8260FA REQUIRES DBFM TO BE TESTED	
- 8260FA REQUIRES BR4FBZ TO BE TESTED	
- 8260FA REQUIRES BZMED8 TO BE TESTED	
LAB NOTE DATA QUALIFIERS	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%	N
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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 L</u>
QCTB SAMPLES	N	0
QCEB SAMPLES	N	0
QCAB SAMPLES	N	0

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SUCCESSFUL GEO_WELL CHECK - NO ERRORS

<u>ORGANIZATION NAME:</u>	URS Corporation-Oakland Office
<u>USER NAME:</u>	URSCORP-OAKLAND
<u>DATE CHECKED:</u>	12/29/2004 11:29:12 AM

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6148**

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**Confirmation
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