URS

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January 28, 2003

Alameda County
FEB 05 2003
Environmental Health

Mr. Amir Gholami,
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: Third Quarter 2002 Groundwater Monitoring Report
Former ARCO Service Station #6002
6235 Seminary Avenue
Oakland, California 94605
URS Project #38465972

Dear Mr. Gholami:

On behalf of Atlantic Richfield Company (ARCO – an affiliated company of the Group Environmental Management Company), URS Corporation (URS) is submitting the *Third Quarter 2002 Groundwater Monitoring Report* at Former ARCO Service Station #6002, located at 6235 Seminary Avenue, Oakland, California.

If you have any questions regarding this submission, please call us at (510) 893-3600

Sincerely,

URS CORPORATION

Scott Robinson
Project Manager

REGISTERED PROFESSIONAL ENGINEER
AMY BRECKENRIDGE
No. C057141
Exp. 12/31/05
CIVIL
STATE OF CALIFORNIA

Amy P. Breckenridge, P.E.
Portfolio Manager

Enclosure: Third Quarter 2002 Groundwater Monitoring Report,

cc: Mr. Paul Supple, ARCO, PO Box 6549 Moraga, CA 94570

URS Corporation
500 12th Street, Suite 200
Oakland, CA 94607-4014
Tel: 510.893.3600
Fax: 510.874.3268

ARCO Products Company
4 Centerpointe Drive
La Palma, California 90623-1066
Telephone 714 670 5300

Mailing Address: P.O. Box 6549
Moraga, California 94549

January 31, 2003

Re: ARCO Station # 6002 • 6235 Seminary Avenue • Oakland, CA
Third Quarter 2002 Quarterly Monitoring Report

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

Submitted by:

Paul Supple
Environmental Engineer

REPORT

THIRD QUARTER 2002 GROUNDWATER MONITORING

FORMER ARCO SERVICE STATION #6002
6235 SEMINARY AVENUE
OAKLAND, CALIFORNIA

Prepared for
Atlantic Richfield Company

January 28, 2003

URS
URS Corporation
500 12th Street, Suite 200
Oakland, California 94607

38465972

URS

Date: January 28, 2003
Quarter: 3Q 02

ATLANTIC RICHFIELD COMPANY QUARTERLY GROUNDWATER MONITORING REPORT

Former Facility No.:	6002	Address:	6235 Seminary Avenue, Oakland, California
ARCO Environmental Engineer:			Paul Supple
Consulting Co./Contact Person:			URS Corporation / Scott Robinson
Consultant Project No.:			38465972
Primary Agency:			ACHCSA

WORK PERFORMED THIS QUARTER (Third – 2002):

1. Prepared second quarter 2002 groundwater monitoring event.
2. Performed third quarter 2002 groundwater monitoring event.

WORK PROPOSED FOR NEXT QUARTER (Fourth – 2002):

1. Prepare third quarter 2002 groundwater monitoring report.
2. Perform fourth quarter 2002 groundwater monitoring event.

Current Phase of Project:	GW monitoring/sampling
Frequency of Groundwater Sampling:	Annual : MW-3, MW-6 Quarterly: MW-4, MW-5, MW-7, MW-8, VW-1, VW-4 (VW-3 mistakenly sampled this quarter instead of VW-4)
Frequency of Groundwater Monitoring:	Quarterly
Is Free Product (FP) Present On-Site:	No
Bulk Soil Removed to Date :	Approximately 370 cubic yards of TPH impacted soil
Current Remediation Techniques:	Natural Attenuation
Approximate Depth to Groundwater:	7.04 ft (MW-6) to 12.83 ft (MW-5)
Groundwater Gradient (direction):	West-Southwest
Groundwater Gradient (magnitude):	0.088 feet per foot

DISCUSSION:

TPH-g was detected in one of the five wells sampled this quarter, well MW-5, at a concentration of 2,000 micrograms per liter (µg/L). Benzene was not detected in any of the wells. MTBE was detected in three wells at concentrations ranging from 2.5 µg/L in well VW-3 to 520 µg/L in well MW-5. Well VW-3 was mistakenly sampled this quarter instead of well VW-4. Well MW-7 was not sampled because after the well was purged, it did not recharge enough to collect a sample.

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ATTACHMENTS:

- Table 1 - Groundwater Elevation and Analytical Data
- Table 2 - Summary of Groundwater Flow Direction and Gradient
- Figure 1 - Groundwater Elevation Contour and Analytical Summary Map – August 8, 2002
- Attachment A - Field Procedures and Field Data Sheets
- Attachment B - Laboratory Procedures, Certified Analytical Reports and Chain-of-Custody Records
- Attachment C - EDCC and EDF/Geowell Submittal Confirmation

Table 1

Groundwater Elevation and Analytical Data

Former ARCO Service Station #6002

6235 Seminary Avenue

Oakland, California

Well Number	Date Sampled	TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8260 (µg/L)	Dissolved Oxygen (mg/L)
MW-1	03/15/95	247.06	7.37	0.00	239.69	13,000	1,200	44	770	1,100	--	--	
	05/30/95	247.06	8.48	0.00	238.58	19,000	1,600	30	890	1,400	--	--	
	09/01/95	247.06	9.47	0.00	237.59	14,000	1,300	28	480	780	24,000	--	
	11/13/95	247.06	8.78	0.01	238.29[1]	11,000	570	17	260	410	--	25,000[2]	
	02/23/96	247.06	Well was decommissioned on 2-12-96										
MW-2	03/15/95	249.30	8.25	0.00	241.05	<50	<0.5	<0.5	<0.5	<0.5	--	--	
	05/30/95	249.30	9.93	0.00	239.37	<50	<0.5	<0.5	<0.5	<0.5	--	--	
	09/01/95	249.30	10.69	0.00	238.61	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	11/13/95	249.30	10.32	0.00	238.98	<50	<0.5	<0.5	<0.5	<0.5	--	--	
	02/23/96	249.30	Well was decommissioned on 2-12-96										

Table 1

Groundwater Elevation and Analytical Data

Former ARCO Service Station #6002

6235 Seminary Avenue

Oakland, California

Well Number	Date Sampled		TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8260 (µg/L)	Dissolved Oxygen (mg/L)
MW-3	03/15/95		248.35	6.76	0.00	241.59	<50	<0.5	<0.5	<0.5	<0.5	--	--	
	05/30/95			7.81	0.00	240.54	<50	<0.5	<0.5	<0.5	<0.5	--	--	
	09/01/95			8.65	0.00	239.70	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	11/13/95			8.25	0.00	240.10	120	45	0.7	<0.5	6.2	--	--	
	02/23/96			6.64	0.00	241.71	<50	<0.5	<0.5	0.6	1.9	<3	--	
	05/10/96			7.95	0.00	240.40	Not sampled: well sampled annually, during the first quarter							
	08/09/96			8.06	0.00	240.29	Not sampled: well sampled annually, during the first quarter							
	11/08/96			NR	NR	NR	Not sampled: inaccessible							
	03/21/97			8.21	0.00	240.14	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	05/27/97			8.25	0.00	240.10	Not sampled: well sampled annually, during the first quarter							
	08/05/97			8.29	0.00	240.06	Not sampled: well sampled annually, during the first quarter							
	10/29/97			8.58	0.00	239.77	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	02/25/98			7.69	0.00	240.66	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	05/12/98			8.20	0.00	240.15	Not sampled: well sampled annually, during the first quarter							
	07/28/98			8.55	0.00	239.80	Not sampled: well sampled annually, during the first quarter							
	10/27/98			8.30	0.00	240.05	Not sampled: well sampled annually, during the first quarter							
	02/08/99			7.90	0.00	240.45	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	06/01/99			8.40	0.00	239.95	Not sampled: well sampled annually, during the first quarter							
	08/25/99			8.49	0.00	239.86	Not sampled: well sampled annually, during the first quarter							1.67
	10/29/99			8.52	0.00	239.83	Not sampled: well sampled annually, during the first quarter							6.90
	02/16/00	NP		8.03	0.00	240.32	<50	<0.5	0.8	<0.5	<1	<3	--	8.51
	06/23/00			7.55	0.00	240.80	Not sampled: well sampled annually, during the first quarter							2.10
	08/17/00			8.65	0.00	239.70	Not sampled: well sampled annually, during the first quarter							1.10
	11/10/00			7.19	0.00	241.16	Not sampled: well sampled annually, during the first quarter							
	02/12/01	NP		8.60	0.00	239.75	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50		0.81
	04/13/01			6.13	0.00	242.22	Not sampled: well sampled annually, during the first quarter							
	07/18/01			6.47	0.00	241.88	Not sampled: well sampled annually, during the first quarter							
	10/01/01			6.99	0.00	241.36	Not sampled: well sampled annually, during the first quarter							
	01/14/02	NP		5.47	0.00	242.88	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	
	04/03/02			6.95	0.00	241.40	Not sampled: well sampled annually, during the first quarter							
	08/08/02			**8.78**	**0.00**	**239.57**	**Not sampled: well sampled annually, during the first quarter**							

Table 1

Groundwater Elevation and Analytical Data

Former ARCO Service Station #6002

6235 Seminary Avenue

Oakland, California

Well Number	Date Sampled		TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8260 (µg/L)	Dissolved Oxygen (mg/L)
MW-4	03/15/95		242.91	9.37	0.00	233.54	<50	<0.5	<0.5	<0.5	<0.5	--	--	
	05/30/95			11.47	0.00	231.44	<50	<0.5	<0.5	<0.5	<0.5	--	--	
	09/01/95			12.28	0.00	230.63	78	<0.5	0.7	<0.5	<0.5	<3	--	
	11/13/95			11.75	0.00	231.16	<50	<0.5	<0.5	<0.5	<0.5	--	--	
	02/23/96			8.51	0.00	234.40	59	1.2	7.4	1.6	9.3	3	--	
	05/10/96			11.35	0.00	231.56	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	08/09/96			9.70	0.00	233.21	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	11/08/96			11.79	0.00	231.12	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	03/21/97			10.94	0.00	231.97	<50	<0.5	<0.5	<0.5	<0.5	81	--	
	05/27/97			11.51	0.00	231.40	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	08/05/97			11.90	0.00	231.01	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	10/29/97			12.00	0.00	230.91	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	02/25/98			8.34	0.00	234.57	<50	<0.5	0.9	<0.5	0.9	4	--	
	05/12/98			10.93	0.00	231.98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	07/28/98			12.08	0.00	230.83	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	10/27/98			11.40	0.00	231.51	<5,000	<50	<50	160	64	6,400	--	
	02/08/99			8.40	0.00	234.51	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	06/01/99	NP		11.93	0.00	230.98	<50	<0.5	<0.5	<0.5	<0.5	<3	--	4.0
	08/25/99	NP		12.21	0.00	230.70	<50	<0.5	<0.5	<0.5	<0.5	<3	--	1.29
	10/29/99	NP		12.37	0.00	230.54	<50	<0.5	<0.5	<0.5	<1	<3	--	1.50
	02/16/00	NP		7.45	0.00	235.46	<50	<0.5	<0.5	<0.5	<1	<3	--	2.38
	06/23/00	NP		12.31	0.00	230.60	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	--	2.80
DUP	08/17/00			--	--	--	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	--	
	08/17/00	NP		11.92	0.00	230.99	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	--	2.38
	11/10/00	NP		10.80	0.00	232.11	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	--	1.55
	02/12/01	NP		11.65	0.00	231.26	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	--	1.12
	04/13/01	NP		8.17	0.00	234.74	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	--	
DUP	04/13/01			--	--	--	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	--	
	07/18/01	NP		8.51	0.00	234.40	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	
	10/01/01	NP		8.71	0.00	234.20	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	
	01/14/02	NP		7.13	0.00	235.78	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	
DUP	01/14/02			--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	
	04/03/02	NP		10.1	0.00	232.81	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	
	08/08/02	**NP**		**12.64**	**0.00**	**230.27**	**ND<50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<2.5**	**--**	**2.4**

Table 1

Groundwater Elevation and Analytical Data

Former ARCO Service Station #6002

6235 Seminary Avenue

Oakland, California

Well Number	Date Sampled		TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8260 (µg/L)	Dissolved Oxygen (mg/L)
MW-5	03/15/95		244.82	11.99	0.00	232.83	21,000	870	22	1,600	1,900	--	--	
	05/30/95			12.97	0.00	231.85	17,000	2,100	250	1,000	520	--	--	
	09/01/95			14.03	0.00	230.79	19,000	1,500	25	1,600	880	8,300	--	
	11/13/95			13.65	0.00	231.17	21,000	1,300	22	1,400	630	--	--	
	02/23/96			11.93	0.00	232.89	27,000	1,300	<50	1,600	1,500	730	--	
	05/10/96			13.05	0.00	231.77	17,000	460	21	760	480	1,000	--	
	08/09/96			13.22	0.00	231.60	16,000	420	14	870	390	1,500	--	
	11/08/96			NR	NR	NR	Not sampled: well inaccessible							
	03/21/97			13.24	0.00	231.58	18,000	110	<50	730	1,500	1,800	--	
	05/27/97			13.10	0.00	231.72	21,000	86	<20	810	610	1,700	--	
	08/05/97			13.14	0.00	231.68	340	2.2	<0.5	15	8.8	39	--	
	10/29/97			13.03	0.00	231.79	19,000	130	<20	1,400	620	1,700	--	
	02/25/98			11.33	0.00	233.49	8,500	19	13	190	100	170	--	
	05/12/98			12.81	0.00	232.01	10,000	34	<10	390	220	610	--	
	07/28/98			13.12	0.00	231.70	15,000	68	<10	690	620	1,000	--	
	10/27/98			12.90	0.00	231.92	15,000	60	<10	770	400	890	--	
	02/08/99			11.08	0.00	233.74	8,200	23	<10	290	120	<60	--	
	06/01/99	NP		12.95	0.00	231.87	11,000	33	3.3	340	180	580	--	1.0
	08/25/99	NP		12.99	0.00	231.83	9,200	26	14	420	270	1,100	--	0.37
	10/29/99	NP		13.10	0.00	231.72	11,000	19	9.8	260	150	590	--	1.27
	02/16/00	NP		8.21	0.00	236.61	12,000	8.1	10	340	160	130	--	1.42
	06/23/00	NP		12.90	0.00	231.92	9,680	38.0	<20.0	212	114	930	--	1.40
	08/17/00	NP		13.00	0.00	231.82	10,500	15.0	7.98	223	118	430	--	0.68
	11/10/00	NP		12.50	0.00	232.32	7,030	19.7	<10.0	190	43.6	445	--	1.27
	02/12/01	NP		12.81	0.00	232.01	8,840	33.9	<10.0	186	56.4	352	--	0.40
	04/13/01	NP		11.31	0.00	233.51	9,020	54.2	43.3	137	96.0	297	--	
	07/18/01	NP		11.59	0.00	233.23	13,000	19	10	110	49	230	--	
	10/01/01	NP		11.84	0.00	232.98	8,500	6.9	<1.0	87	27	220	--	
	01/14/02	NP		10.75	0.00	234.07	9,500	<20	<20	140	22	<200	--	
	04/03/02	NP		12.50	0.00	232.32	2,400	21	<5.0	91	8.5	130	--	
DUP	04/03/02	NP		--	--	--	2,700	24.0	5.1	92	8.5	130	--	
	08/08/02	**NP**		**12.83**	**0.00**	**231.99**	**2,000**	**ND<20**	**ND<20**	**48**	**ND<20**	**520**	--	**0.8**

Table 1

Groundwater Elevation and Analytical Data

Former ARCO Service Station #6002

6235 Seminary Avenue

Oakland, California

Well Number	Date Sampled		TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8260 (µg/L)	Dissolved Oxygen (mg/L)
MW-6	06/29/95		NR	6.63	0.00	NR	<50	<0.5	<0.5	<0.5	<0.5	--	--	
	09/01/95		NR	NR	NR	NR	Not sampled							
	11/13/95		NR	7.70	0.00	NR	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	02/23/96		NR	9.82	0.00	NR	<50	<0.5	0.8	<0.5	0.6	<3	--	
	05/10/96		NR	15.25	0.00	NR	Not sampled: well sampled annually, during the first quarter							
	08/09/96		252.20	11.11	0.00	241.09	Not sampled: well sampled annually, during the first quarter							
	11/08/96			9.31	0.00	242.89	Not sampled: well sampled annually, during the first quarter							
	03/21/97			9.40	0.00	242.80	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	05/27/97			7.08	0.00	245.12	Not sampled: well sampled annually, during the first quarter							
	08/05/97			7.12	0.00	245.08	Not sampled: well sampled annually, during the first quarter							
	10/29/97			7.42	0.00	244.78	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	02/25/98			10.35	0.00	241.85	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	05/12/98			15.83	0.00	236.37	Not sampled: well sampled annually, during the first quarter							
	07/28/98			11.84	0.00	240.36	Not sampled: well sampled annually, during the first quarter							
	10/27/98			9.73	0.00	242.47	Not sampled: well sampled annually, during the first quarter							
	02/08/99			8.10	0.00	244.10	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	06/01/99			17.84	0.00	234.36	Not sampled: well sampled annually, during the first quarter							
	08/25/99			11.00	0.00	241.20	Not sampled: well sampled annually, during the first quarter							0.77
	10/29/99			9.03	0.00	243.17	Not sampled: well sampled annually, during the first quarter							3.42
	02/16/00	P		7.71	0.00	244.49	<50	<0.5	<0.5	<0.5	<1	<3	--	2.42
	06/23/00			6.69	0.00	245.51	Not sampled: well sampled annually, during the first quarter							2.30
	08/17/00			6.95	0.00	245.25	Not sampled: well sampled annually, during the first quarter							2.51
	11/10/00			11.79	0.00	240.41	Not sampled: well sampled annually, during the first quarter							
	02/12/01	P		7.35	0.00	244.85	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	--	1.66
DUP	02/12/01			--	--	--	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	--	
	04/13/01			10.52	0.00	241.68	Not sampled: well sampled annually, during the first quarter							
	07/18/01			11.03	0.00	241.17	Not sampled: well sampled annually, during the first quarter							
	10/01/01			11.31	0.00	240.89	Not sampled: well sampled annually, during the first quarter							
	01/14/02	P		9.87	0.00	242.33	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--
	04/03/02			12.19	0.00	240.01	Not sampled: well sampled annually, during the first quarter							
	08/08/02			**7.04**	**0.00**	**245.16**	**Not sampled: well sampled annually, during the first quarter**							

Table 1

Groundwater Elevation and Analytical Data

Former ARCO Service Station #6002

6235 Seminary Avenue

Oakland, California

Well Number	Date Sampled		TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8260 (µg/L)	Dissolved Oxygen (mg/L)
MW-7	08/09/96		235.95	NR	NR	NR	Not sampled: well was dry							
	11/08/96			NR	NR	NR	Not sampled: well was dry							
	01/27/97			NR	NR	NR	2,900	29	<5	<5	580	220	--	
	03/21/97		235.95	7.13	0.00	228.82	590	3.5	<0.5	<0.5	1.3	90	--	
	05/27/97			9.02	0.00	226.93	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	08/05/97			12.33	0.00	223.62	110	0.5	<0.5	<0.5	0.8	81	--	
	10/29/97			NR	NR	NR	Not sampled: well was dry							
	02/25/98			8.04	0.00	227.91	<50	<0.5	0.6	<0.5	0.7	<3	--	
	05/12/98			8.88	0.00	227.07	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	07/28/98			10.50	0.00	225.45	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	10/27/98			8.75	0.00	227.20	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	02/08/99			9.35	0.00	226.60	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	06/01/99	NP		9.85	0.00	226.10	250	<0.5	0.6	<0.5	1.6	18	--	1.0
	08/25/99	NP		11.31	0.00	224.64	119	<0.5	5.7	<0.5	<0.5	11	--	0.41
	10/29/99	NP		9.08	0.00	226.87	<50	<0.5	<0.5	<0.5	<1	<3	--	1.29
	02/25/00	NP		8.02	0.00	227.93	<50	<0.5	<0.5	<0.5	<1	38	--	2.10
	06/23/00	NP		10.68	0.00	225.27	<50.0	<0.500	<0.500	<0.500	<0.500	14.4	--	1.60
	08/17/00	NP		11.85	0.00	224.10	70.0	<0.500	0.678	<0.500	1.07	14.2	--	1.59
	11/10/00	NP		9.62	0.00	226.33	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	--	1.09
	02/12/01	NP		12.10	0.00	223.85	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	--	0.84
	04/13/01	P		7.95	0.00	228.00	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	--	
	07/18/01	P		8.20	0.00	227.75	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	
	10/01/01	NP		8.59	0.00	227.36	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	
	01/14/02	P		6.93	0.00	229.02	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	
	04/03/02	P		8.31	0.00	227.64	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	
	08/08/02	**P**		**12.11**	**0.00**	**223.84**	**Not sampled: insufficient water/recharge for purge/sample**							

Table 1

Groundwater Elevation and Analytical Data

Former ARCO Service Station #6002

6235 Seminary Avenue

Oakland, California

Well Number	Date Sampled		TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8260 (µg/L)	Dissolved Oxygen (mg/L)
MW-8	08/09/96		240.37	9.41	0.00	230.96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	11/08/96			9.19	0.00	231.18	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	03/21/97			8.55	0.00	231.82	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	05/27/97			11.06	0.00	229.31	91	0.6	<0.5	<0.5	0.6	66	--	
	08/05/97			9.32	0.00	231.05	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	10/29/97			9.35	0.00	231.02	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	02/25/98			7.08	0.00	233.29	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	05/12/98			8.61	0.00	231.76	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	07/28/98			9.63	0.00	230.74	<50	<0.5	<0.5	<0.5	<0.5	4	--	
	10/27/98			9.30	0.00	231.07	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	02/08/99			5.56	0.00	234.81	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	06/01/99			NR	NR	NR	Not sampled: well inaccessible							
	08/25/99			NR	NR	NR	Not sampled: well inaccessible							
	10/29/99			NR	NR	NR	Not sampled: well inaccessible							
	02/16/00			NR	NR	NR	Not sampled: well inaccessible							
	06/23/00	NP		9.45	0.00	230.92	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50		1.90
	08/17/00	NP		6.40	0.00	233.97	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50		2.56
	11/10/00	NP		6.25	0.00	234.12	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	--	1.93
DUP	11/10/00			--	--	--	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	--	
	02/12/01	NP		8.11	0.00	232.26	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	--	1.65
	04/13/01	P		5.19	0.00	235.18	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	--	
	07/18/01	NP		5.55	0.00	234.82	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	
	10/01/01	NP		6.41	0.00	233.96	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	
	01/14/02	P		5.07	0.00	235.30	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	
	04/03/02	P		8.60	0.00	231.77	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	
	08/08/02	**P**		**9.58**	**0.00**	**230.79**	**ND<50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<2.5**	--	**1.7**

Table 1

Groundwater Elevation and Analytical Data

Former ARCO Service Station #6002

6235 Seminary Avenue

Oakland, California

Well Number	Date Sampled		TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8260 (µg/L)	Dissolved Oxygen (mg/L)
AS-1	06/29/95		NR	9.20	0.00	NR	<50	1.6	<0.5	0.9	0.9	--	--	
VW-1	02/23/96		NR	5.29	0.00	NR	21,000	490	57	520	1,500	240	--	
	05/10/96		NR	6.80	0.00	NR	3,700	61	<5	100	50	200	--	
	08/09/96		NR	7.03	0.00	NR	970	2.7	<2.5	2.7	3.7	180	--	
	11/08/96		NR	NR	NR	NR	Not sampled: well inaccessible							
	03/21/97		NR	7.51	0.00	NR	640	<4	<1	1	3	194	--	
	05/27/97		NR	7.51	0.00	NR	Not sampled: well sampled semi-annually, during the first and third quarters							
	08/05/97		NR	7.51	0.00	NR	630	<1	<1	3	2	120	--	
	10/29/97		NR	7.53	0.00	NR	600	<0.5	<0.5	<0.5	1.6	84	--	
	02/25/98		NR	6.77	0.00	NR	230	<4	<0.7	1.2	0.5	27	--	
	05/12/98		NR	7.43	0.00	NR	340	<0.5	0.5	2.3	0.8	29	--	
	07/28/98		NR	7.00	0.00	NR	240	<0.5	<0.5	<0.5	1.1	54	--	
	10/27/98		NR	7.52	0.00	NR	230	<0.5	<0.5	<0.5	<0.5	65	--	
	02/08/99		NR	7.05	0.00	NR	<50	<0.5	<0.5	<0.5	<0.5	<3	36[3]	
	06/01/99	NP	NR	7.55	0.00	NR	180	<0.5	<0.5	<0.5	<0.5	23	--	1.0
	08/25/99	NP	NR	7.66	0.00	NR	130	<0.5	5.6	<0.5	<0.5	40	--	0.39
	10/29/99	NP	NR	7.59	0.00	NR	200	1.0	<0.5	0.6	1.6	36	--	0.89
	02/16/00	NP	NR	7.03	0.00	NR	210	<0.5	0.9	2.2	1.9	11	--	1.41
	06/23/00	NP	NR	7.71	0.00	NR	175	1.04	<0.500	<0.500	<0.500	14.4	--	1.90
	08/17/00	NP	NR	7.75	0.00	NR	180	<0.500	<0.500	0.622	0.760	23.7	--	0.63
	11/10/00	NP	NR	6.83	0.00	NR	157	0.955	<0.500	0.973	<0.500	32.5	--	1.03
	02/12/01	NP	NR	7.85	0.00	NR	273	0.627	<0.500	<0.500	0.507	9.19	--	0.47
	04/13/01	P	NR	5.11	0.00	NR	213	<0.500	<0.500	<0.500	<0.500	6.38	--	
	07/18/01	P	NR	5.39	0.00	NR	270	<0.50	<0.50	<0.50	<0.50	20	--	
	10/01/01	NP	NR	6.50	0.00	NR	200	<0.50	<0.50	<0.50	0.81	14	--	
	01/14/02	P	NR	5.04	0.00	NR	110	<0.50	<0.50	<0.50	<0.50	6.4	--	
	04/03/02	P	NR	7.51	0.00	NR	91	0.72	<0.50	<0.50	<0.50	12.0	--	
	08/08/02	**P**	**NR**	**7.72**	**0.00**	**NR**	**ND<50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**33.0**	--	**0.6**

Table 1

Groundwater Elevation and Analytical Data

Former ARCO Service Station #6002

6235 Seminary Avenue

Oakland, California

Well Number	Date Sampled		TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8260 (µg/L)	Dissolved Oxygen (mg/L)
VW-2	02/23/96		NR	6.92	0.00	NR	Not sampled: well not part of sampling program							
	08/08/02		**NR**	**10.51**	**0.00**	**NR**	**Not sampled: well not part of sampling program**							
VW-3	**08/08/02**	**[4]**	**NR**	**8.85**	**0.00**	**NR**	**ND<50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**2.5**	--	**0.7**
VW-4	05/10/96		NR	8.58	0.00	NR	13,000	2,500	41	420	660	43,000	--	
	08/09/96		NR	11.70	0.00	NR	<50	<0.5	<0.5	<0.5	<0.5	6,200	--	
	11/08/96		NR	9.38	0.00	NR	7,800	510	7	180	370	21,000	--	
	03/21/97		NR	9.11	0.00	NR	10,000	290	10	270	230	8,900	--	
	05/27/97		NR	9.34	0.00	NR	Not sampled: well sampled semi-annually, during the first and third quarters							
	08/05/97		NR	9.47	0.00	NR	<10,000	180	<100	<100	110	12,000	--	
	10/29/97		NR	9.35	0.00	NR	9,800	200	69	260	360	4,900	--	
	02/25/98		NR	7.08	0.00	NR	<50	2.5	<0.5	<0.5	0.7	<3	--	
	05/12/98		NR	9.17	0.00	NR	3,200	<20	22	29	52	2,100	--	
	07/28/98		NR	9.55	0.00	NR	<10,000	<100	<100	<100	<100	5,100	--	
	10/27/98		NR	9.92	0.00	NR	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	02/08/99		NR	7.50	0.00	NR	<2,500	<25	<25	28	<25	2,400	3,100[3]	
	06/01/99	NP	NR	9.87	0.00	NR	2,100	2.5	1.1	2.5	15	3,300	--	2.0
	08/25/99	NP	NR	9.78	0.00	NR	1,300	4.4	4.9	1.7	2.9	4,600	--	0.36
	10/29/99	NP	NR	9.93	0.00	NR	1,400	<0.5	1.8	1.6	3.0	4,200	--	1.18
	02/16/00	NP	NR	7.45	0.00	NR	1,800	<0.5	2.9	15	10	3,400	--	1.01
DUP 1	06/23/00		--	--	--	--	1,260	<2.00	<2.00	<2.00	2.73	2,720	--	
	06/23/00	NP	NR	9.74	0.00	NR	1,360	<2.00	2.26	<2.00	2.25	4,900	--	1.50
	08/17/00	NP	NR	9.95	0.00	NR	2,230	<10.0	<10.0	<10.0	<10.0	5,310	--	1.13
	11/10/00	NP	NR	9.22	0.00	NR	1,390	18.5	<5.00	<5.00	<5.00	8,840	--	1.25
	02/12/01	NP	NR	8.99	0.00	NR	1,400	9.42	<2.00	17.8	16.1	3,570	--	0.91
	04/13/01	NP	NR	7.80	0.00	NR	556	3.82	<1.25	<1.25	<1.25	2,450	--	
	07/18/01	NP	NR	7.73	0.00	NR	2,100	9.2	<2.0	<2.0	<2.0	3,700	--	
DUP 1	07/18/01		--	--	--	--	2,000	8.7	2.2	<2.0	<2.0	3,400	--	
	10/01/01	NP	NR	6.69	0.00	NR	2,000	<10	<10	<10	13	5,900	--	
DUP	10/01/01		--	--	--	--	1,800	<10	<10	<10	<10	5,800	--	
	01/14/02	P	NR	5.93	0.00	NR	580	<2.0	<2.0	<2.0	<2.0	2,700	--	
	04/03/02	NP	NR	9.6	0.00	NR	1,400	5.2	16.0	<5.0	9.6	2,200	--	
	08/08/02	**[4]**	**NR**	**10.01**	**0.00**	**NR**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**

Table 1

Groundwater Elevation and Analytical Data

Former ARCO Service Station #6002

6235 Seminary Avenue

Oakland, California

Well Number	Date Sampled	TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8260 (µg/L)	Dissolved Oxygen (mg/L)

TPH -g = Total petroleum hydrocarbons as gasoline by modified EPA method 8015

BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA method 8021B. (EPA method 8020 prior to 10/29/99).

MTBE = Methyl tertiary butyl ether

* = EPA method 8020 prior to 10/29/99

TOC = Top of Casing

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

µg/L = micrograms per liter

mg/L = milligrams per liter

NR = not reported; data not available or not measurable

-- = not analyzed or not applicable

< = less than laboratory detection limit stated to the right

DUP = duplicate

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

[2] = analyzed by EPA method 8240

[3] = also analyzed for fuel oxygenates

[4] = VW-3 was mistakenly sampled in place of VW-4

** = For previous historical groundwater elevation data please refer to Fourth Quarter 1995 Groundwater Monitoring Program Results, ARCO Service Station 6002, Oakland, California, (EMCON, February 23, 1996)

Source = The data within this table collected prior to August 2002 was provided to URS by Group Environmental Management Company and their previous consultants. URS has not verified the accuracy of this information.

Table 2

Groundwater Flow Direction and Gradient

Former ARCO Service Station 6002

6235 Seminary Avenue

Oakland, California

Date Measured	Average Flow Direction	Average Hydraulic Gradient
03/15/95	West-Southwest	0.08
05/30/95	West-Southwest	0.08
09/01/95	West-Southwest	0.09
11/13/95	West-Southwest	0.08
02/23/96	West-Southwest	0.08
05/10/96	West-Southwest	0.08
08/09/96	Southwest	0.08
11/08/96	Southwest	0.055
03/21/97	West-Southwest	0.051
05/27/97	West-Southwest	0.069
08/05/97	West	0.076
10/29/97	West-Southwest	0.036
02/25/98	West-Southwest	0.052
05/12/98	West	0.07
07/28/98	West	0.07
10/27/98	West-Southwest	0.06
02/08/99	West-Southwest	0.07
06/01/99	West-Northwest	0.07
08/25/99	West-Southwest	0.07
10/29/99	West	0.07
02/16/00	Southwest	0.05
06/23/00	West	0.042
08/17/00	West	0.087
11/10/00	West-Southwest	0.080
02/12/01	West-Southwest	0.074
04/13/01	West	0.085
07/18/01	West	0.075
10/01/01	West-Southwest	0.083
01/14/02	West-Southwest	0.072
04/03/02	West-Southwest	0.084
08/08/02	**West-Southwest**	**0.088**

Source = The data within this table collected prior to August 2002 was provided to URS by Group Environmental Management Company and their previous consultants. URS has not verified the accuracy of this information.

SEMINARY AVENUE

OVERDALE AVENUE

SUNNYMERE AVENUE

SIDEWALK

DRIVEWAY

SIDEWALK

DRIVEWAY

GRAVEL

6150

6152

6154

GARAGE

6209
(APTS.)

6217
(APTS.)

STAIRS

Gate

Gate

CONCRETE

CONCRETE

PLANTER

MW-7
223.84
NS
NS
NS

MW-4
230.27
ND
ND
ND

MW-5
231.99
2,000
ND
520

MW-8
230.79
ND
ND
ND

MW-3
239.57
NS
NS
NS

MW-2

MW-1

AS-1

VW-1
NA
ND
ND
33

VW-2
NA
NS
NS
NS

VW-3
NA
ND
ND
2.5

VW-4
NA
NS
NS
NS

SERVICE ISLAND

SERVICE STATION BUILDING

Former UST and concrete pad

4' block wall (Typ.)

8" block wall

0.088

224

226

228

230

232

234

236

238

240

242

244

580 ON RAMP

580 ON RAMP

MW-6
245.16
NS
NS
NS

6166

6267

6174

Elevation 8' lower than ARCO property

Garage

Gate

planter

Approximate property line (Typ.)

N

0 15 30 60

Scale (ft)

EXPLANATION

- MW-2 — Monitoring Well Location
- MW-1 — Decommissioned monitoring well
- VW-1 — Vapor extraction well
- AS-1 — Air sparge well
- Well ID — Well Designation
- ELEV — Groundwater Elevation above MSL
- TPH-g, Benzene, MTBE — Concentration of TPH-g, Benzene and MTBE in micrograms per Liter (µg/L)
- NA — Not Available
- ND — Not Detected
- NS — Not Sampled
- 240 — Groundwater elevation contour
- 0.088 — Approximate groundwater flow direction and gradient

NOTE: SITE MAP ADAPTED FROM CAMBRIA ENVIRONMENTAL FIGURES. SITE DIMESIONS AND FACILITY LOCATIONS NOT VERIFIED.

URS	Project No. 38465972 Arco Service Station #6002 6235 Seminary Avenue Oakland, California	Groundwater Elevation Contour and Analytical Summary Map Third Quarter 2002 (August 08, 2002)	FIGURE 1

X:\x_env_waste\BP GEM\Sites\Scott Robinson\Paul Supple\6002\Reports\Monitoring\Qtr.3.2002\Drawings\GWEC-AS_8-8.dwg

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 # 020808-BA2 Date 8/8/02 Client Arco 6002

Site 6235 Seminary Ave, Oakland

Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	
MW-3	4					8.78	24.54	TOC	
MW-4	4					12.64	24.12		
MW-5	4					12.83	24.31		
MW-6	2					7.04	32.01		
MW-7	Note: 2	Has green	"Irrigation	Control Valve" lid		12.11	13.25		
MW-8	Note: 2	Has green	"Irrigation	Control Valve" lid		9.52	14.00		
VW-1	4					7.72	13.96		
VW-2	4					10.51	13.69		
VW-3	4					8.85	14.26		
VW-4	Note: 4	located in	gas island			10.01	14.94		

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 020808-BA2	Station # 6002
Sampler: Brian Allcorn	Date: 8/8/02
Well I.D.: MW-4	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 24.12	Depth to Water: 12.64
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	(4")	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Purge Method: Bailer / ~~Disposable Bailer~~ / ~~Middleburg~~ / ~~Electric Submersible~~ / ~~Extraction Pump~~ / ~~Other: _____~~

Sampling Method: Bailer / (Disposable Bailer) / Extraction Port / Other: _____

Top of Screen: NP@ 4.5' If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

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

Time	Temp (°F)	pH	Conductivity (mS or (µS))	Gals. Removed	Observations
1510	74.3	8.1	406	Ø	clear

Did well dewater? Yes (No)		Gallons actually evacuated: Ø	
Sampling Time: 1510		Sampling Date: 8/8/02	
Sample I.D.: MW-4		Laboratory: Pace (Sequoia) Other ___	
Analyzed for: (TPH-G BTEX MTBE) TPH-D		Other:	
D.O. (if req'd):	Pre-purge: ___ mg/L	(Post-purge:)	2.4 mg/L
O.R.P. (if req'd):	Pre-purge: ___ mV	Post-purge:	___ mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 020808-BA2	Station # 6002
Sampler: Brian Allcorn	Date: 8/8/02
Well I.D.: MW-5	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth: 24.31	Depth to Water: 12.83
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Purge Method: Bailer / ~~Disposable Bailer~~ / Middleburg / ~~Electric Submersible~~ / ~~Extraction Pump~~ / Other: ____

Sampling Method: Bailer / (Disposable Bailer) / Extraction Port / Other: ____

Top of Screen: MP@ 6' If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

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

Time	Temp (°F)	pH	Conductivity (mS or µS)	Gals. Removed	Observations
1525	74.9	6.9	610	∅	clear mild odor

Did well dewater? Yes (No)		Gallons actually evacuated: ∅	
Sampling Time: 1526		Sampling Date: 8/8/02	
Sample I.D.: MW-5		Laboratory: Pace (Sequoia) Other____	
Analyzed for: (TPH-G BTEX MTBE) TPH-D Other:			
D.O. (if req'd): Pre-purge:	mg/L	(Post-purge:) 0.8	mg/L
O.R.P. (if req'd): Pre-purge:	mV	Post-purge:	mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 020808-BA2	Station # 6002
Sampler: BRIAN ALCORN	Date: 8/8/02
Well I.D.: MW-7	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth: 13.25	Depth to Water: 12.11
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
(2")	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Purge Method: Bailer; (Disposable Bailer); Middleburg; Electric Submersible; Extraction Pump; Other: _____

Sampling Method: Bailer; (Disposable Bailer); Extraction Port; Other: _____

Top of Screen: N/A

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

0.2 (1 Case Volume (Gals.)) X 3 (Specified Volumes) = 0.6 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Conductivity (mS or µS)	Gals. Removed	Observations
DEWATERED				0.2	DTW 13.20
INSUFFICIENT WATER/RECHARGE FOR PURGE/SAMPLE					

Did well dewater? (Yes) No		Gallons actually evacuated: 0.2	
Sampling Time:		Sampling Date: 8/8/02	
Sample I.D.: MW-7		Laboratory: Pace (Sequoia) Other_____	
Analyzed for: (TPH-G) (BTEX) (MTBE) TPH-D		Other:	
D.O. (if req'd):	Pre-purge: ___ mg/L	(Post-purge:) —	mg/L
O.R.P. (if req'd):	Pre-purge: ___ mV	Post-purge:	mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 020808-BA2	Station # 6002
Sampler: Brian Allcorn	Date: 8/8/02
Well I.D.: MW-8	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth: 14.00	Depth to Water: 9.58
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
(2")	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Purge Method: Bailer; (Disposable Bailer); Middleburg; Electric Submersible; Extraction Pump; Other: _____

Sampling Method: Bailer; (Disposable Bailer); Extraction Port; Other: _____

Top of Screen: N/A

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

0.7 (1 Case Volume (Gals.)) x 3 (Specified Volumes) = 2.1 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Conductivity (mS or µS)	Gals. Removed	Observations
1547	69.4	7.3.4	395	0.5	very cloudy brown
1551	68.1	7.2	396	1.0	"
1554	69.0	7.0	398	1.5	very cloudy silty darkebrown
NOTE: WELL DID NOT RECHARGE - HAD JUST ENOUGH TO PURGE SAMPLE BEFORE IT DEWATERED					

Did well dewater? Yes (No)		Gallons actually evacuated: 1.5	
Sampling Time: 1600		Sampling Date: 8/8/02	
Sample I.D.: MW-8		Laboratory: Pace (Sequoia) Other_____	
Analyzed for: (TPH-G) (BTEX) (MTBE) TPH-D Other:			
D.O. (if req'd):	Pre-purge: ___ mg/L	(Post-purge:)	1.7 mg/L
O.R.P. (if req'd):	Pre-purge: ___ mV	Post-purge:	___ mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 020808-BA2	Station # 6002
Sampler: Brian Allcorn/Dave W	Date: 8/8/02
Well I.D.: VW-1	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 13.96	Depth to Water: 7.72
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	(4")	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Purge Method: Bailer / Disposable Bailer / Middleburg / X Electric Submersible / Extraction Pump / Other: ___

Sampling Method: Bailer / (Disposable Bailer) / Extraction Port / Other: ___

Top of Screen: N/A

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

4.1 (1 Case Volume (Gals.)) x 3 (Specified Volumes) = 12.3 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Conductivity (mS or (µS))	Gals. Removed	Observations
1558	75.4	6.2	764	5	odor/cloudy
16:00	73.1	6.3	611	10	
16:02	73.0	6.3	635	15	

Did well dewater? Yes (No) Gallons actually evacuated: 15

Sampling Time: 16:07 Sampling Date: 8/8/02

Sample I.D.: VW-1 Laboratory: Pace (Sequoia) Other ___

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

D.O. (if req'd):	Pre-purge:	mg/L	(Post-purge:)	0.6	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:		mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 020808-BA2	Station # 6002
Sampler: Brian Allcorn / Dave W.	Date: 8/8/02
Well I.D.: VW-3	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth: 14.16	Depth to Water: 8.85
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	(4")	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Purge Method:
- Bailer
- Disposable Bailer
- Middleburg
- X Electric Submersible
- Extraction Pump
- Other: _____

Sampling Method:
- Bailer
- (Disposable Bailer)
- Extraction Port
- Other: _____

Top of Screen: N/A

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

3.5 (1 Case Volume (Gals.)) x 3 (Specified Volumes) = 10.5 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Conductivity (mS or (µS))	Gals. Removed	Observations
15:37	79.7	5.9	514	4	very turbid / brown
15:39	76.8	5.9	447	8	
15:41	76.8	6.1	510	12	

Did well dewater? Yes (No)		Gallons actually evacuated: 12	
Sampling Time: 15:46		Sampling Date: 8/8/02	
Sample I.D.: VW-3		Laboratory: Pace (Sequoia) Other ____	
Analyzed for: (TPH-G BTEX MTBE) TPH-D	Other:		
D.O. (if req'd): Pre-purge:	mg/L	(Post-purge:)	0.7 mg/L
O.R.P. (if req'd): Pre-purge:	mV	Post-purge:	mV

Chain of Custody Record

Project Name

BP BU/GEM CO Portfolio:

BP Laboratory Contract Number:

ate: 8/8/02

Requested Due Date (mm/dd/yy) Standard Turnaround

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

ıd To:	BP/GEM Facility No.:	Consultant/Contractor: URS
Name: SEQUOIA	BP/GEM Facility Address: 6235 Seminary Ave, OAKLAND, CA	Address: 500 12th St., Ste. 200
Address: 885 Jarvis Dr.	Site ID No. ARCO 6002	Oakland, CA 94609-4014
Morgan Hill, CA 95037	Site Lat/Long:	e-mail EDD: syed_rehan@urscorp.com
	California Global ID #: T0600100105	Consultant/Contractor Project No.: J5-00006002.01 00427
PM: Latonya Pelt	BP/GEM PM Contact: PAUL SUPPLE	Consultant Tele/Fax: 510-874-1735/510-874-3268
ɛ/Fax: 408-776-9600 / 408-782-6308	Address:	Consultant/Contractor PM: Scott Robinson
ɔort Type & QC Level: Send EDF Reports		Invoice to: Consultant/Contractor or BP/GEM (Circle one)
GEM Account No.:	Tele/Fax:	BP/GEM Work Release No:

Bottle Order No:

ɪn No.	Sample Description	Time	Matrix: Soil/Solid	Water/Liquid	Sediments	Air	Laboratory No.	No. of containers	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl			Requested Analysis: TPH-G / BTEX (8015 / 8021)	TPH -D (8015)	MTBE (8021)	MTBE, TAME, ETBE DIPE, TBA (8260)	1,2-DCA & EDB (8260)						Sample Point Lat/Long and Comments
1	MW-4	1510		X				6				X			X		X								[illegible]
2	MW-5	1525		X				6				X			X		X								[illegible]
3	MW-8	1600		X				6				X			X		X								
4	VW-1	1607		X				6				X			X		X								
5	VW-3	1546		X				6				X			X		X								
6																									
7																									
8																									
9																									
10																									

	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
ɪnpler's Name: Bruin Alcorn						
ɪnpler's Company: Blaine Tech	[signature]	8/9/02	0940	[signature]	8/9/02	940
ipment Date:						
ipment Method:						
ipment Tracking No:						

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

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

WELLHEAD INSPECTION CHECKLIST AND REPAIR ORDER

Client ARCO Inspection Date 8/8/02

Site Address 6235 SEMINARY AVE, OAKLAND Inspected By BRIAN ALLORD

1. Lid on box?	6. Casing secure?	12. Water standing in wellbox?	15. Well cap functional?
2. Lid broken?	7. Casing cut level?	12a. Standing above the top of casing?	16. Can cap be pulled loose?
3. Lid bolts missing?	8. Debris in wellbox?	12b. Standing below the top of casing?	17. Can cap seal out water?
4. Lid bolts stripped?	9. Wellbox is too far above grade?	12c. Water even with the top of casing?	18. Padlock present?
5. Lid seal intact?	10. Wellbox is too far below grade?	13. Well cap present?	19. Padlock functional?
	11. Wellbox is crushed/damaged?	14. Well cap found secure?	

☐ Check box if no deficiencies were found. Note below deficiencies you were able to correct.

Well I.D.	Deficiency	Corrective Action Taken

Note below all defiencies that could not be corrected and still need to be corrected.

Well I.D.	Persisting Deficiency	BTS Office assigns or defers Correction to:	Date assigned	Date corrected
MW-6	(9) not level (18) No Lock (15) Bad Cap-corroded			
MW-8	(15/19) rusted lock bad cap			
MW-7	(4) packing peanuts plastic bags/wrappers/found uncapped w/lid partially off (15/19) Dolphin lock bad cap			
MW-4	(15/19) bad lock/cap			
MW-3	(18) No Lock (5) one 15/16" (4/11) Bolt doesn't tighten (2) lid bolt mount broken off			
VW-2	(15) Bad cap			

VW-3 (15/19) Dolphin Lock-rusted Bad cap

VW-1 (18) No lock (15) Bad cap (2) lid bolt mount broken (3) one 15/16" bolt (4) Bolt Stripped

VW-4 (4/11) one bolt doesn't tighten (15/19) rusted cap/lock

MW-5 (4/11) Bolts don't tighten / bolt mount in box broken (15/19) Bad cap/lock

BP GEM OIL COMPANY TYPE **A** BILL OF LADING

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

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

This **Source Record BILL OF LADING** was initiated to cover the recovery of Non-Hazardous Well Purgewater from wells at the BP GEM Oil Company facility described below:

6002

Station #

6235 Seminary Ave, Oakland

Station Address

Total Gallons Collected From Groundwater Monitoring Wells:

29

added equip. rinse water 6

any other adjustments

TOTAL GALS. RECOVERED 35

loaded onto BTS vehicle #

BTS event # 020308-BA2

time 1700

date 3/8/02

signature

* *

REC'D AT

time

date

unloaded by signature

ATTACHMENT B

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

LABORATORY PROCEDURES

Laboratory Procedures

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

Sequoia Analytical

885 Jarvis Drive
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

21 August, 2002

Scott Robinson
URS Corporation
500 12th Street, Suite 100
Oakland, CA 94607

RE: ARCO #6002, Oakland, Ca
Sequoia Report: MLH0210

Enclosed are the results of analyses for samples received by the laboratory on 08/09/02 11:55. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Latonya K. Pelt

Latonya Pelt
Project Manager

CA ELAP Certificate #1210

Sequoia Analytical

885 Jarvis Drive
Morgan Hill, CA 95037
(408) 778-0680
FAX (408) 782-6308
www.sequoialabs.com

URS Corporation	Project: ARCO #6002, Oakland, Ca	
500 12th Street, Suite 100	Project Number: Arco #6002, Oakland, Ca	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	08/22/02 10:27

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-4	MLH0210-01	Water	08/08/02 15:10	08/09/02 11:55
MW-5	MLH0210-02	Water	08/08/02 15:25	08/09/02 11:55
MW-8	MLH0210-03	Water	08/08/02 16:00	08/09/02 11:55
VW-1	MLH0210-04	Water	08/08/02 16:07	08/09/02 11:55
VW-3	MLH0210-05	Water	08/08/02 15:46	08/09/02 11:55

Sequoia Analytical - Morgan Hill

Latonya K. Pelt

Latonya Pelt, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Sequoia Analytical

885 Jarvis Drive
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

URS Corporation	Project: ARCO #6002, Oakland, Ca	
500 12th Street, Suite 100	Project Number: Arco #6002, Oakland, Ca	Reported:
Oakland CA, 94607	Project Manager: Scott Robinson	08/21/02 10:27

Total Purgeable Hydrocarbons (C6-C10) by EPA 8015B modified, BTEXM by EPA 8021B

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 (MLH0210-01) Water Sampled: 08/08/02 15:10 Received: 08/09/02 11:55									
Gasoline Range Organics (C6-C10)	ND	50	ug/l	1	2H14004	08/14/02	08/14/02	8015Bm/8021B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*95.0 %*		*70-130*	"	"	"	"	
MW-5 (MLH0210-02) Water Sampled: 08/08/02 15:25 Received: 08/09/02 11:55									
Gasoline Range Organics (C6-C10)	2000	2000	ug/l	40	2H19017	08/19/02	08/20/02	8015Bm/8021B	HC-12
Benzene	ND	20	"	"	"	"	"	"	
Toluene	ND	20	"	"	"	"	"	"	
Ethylbenzene	48	20	"	"	"	"	"	"	
Xylenes (total)	ND	20	"	"	"	"	"	"	
Methyl tert-butyl ether	520	100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*97.0 %*		*70-130*	"	"	"	"	
MW-8 (MLH0210-03) Water Sampled: 08/08/02 16:00 Received: 08/09/02 11:55									
Gasoline Range Organics (C6-C10)	ND	50	ug/l	1	2H14004	08/14/02	08/14/02	8015Bm/8021B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*94.6 %*		*70-130*	"	"	"	"	

Sequoia Analytical

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Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

URS Corporation	Project: ARCO #6002, Oakland, Ca	
500 12th Street, Suite 100	Project Number: Arco #6002, Oakland, Ca	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	08/21/02 10:27

Total Purgeable Hydrocarbons (C6-C10) by EPA 8015B modified, BTEXM by EPA 8021B

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
VW-1 (MLH0210-04) Water Sampled: 08/08/02 16:07 Received: 08/09/02 11:55									
Gasoline Range Organics (C6-C10)	ND	50	ug/l	1	2H15002	08/15/02	08/15/02	8015Bm/8021B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	33	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*89.9 %*		*70-130*	"	"	"	"	
VW-3 (MLH0210-05) Water Sampled: 08/08/02 15:46 Received: 08/09/02 11:55									
Gasoline Range Organics (C6-C10)	ND	50	ug/l	1	2H14004	08/14/02	08/14/02	8015Bm/8021B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	2.5	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*102 %*		*70-130*	"	"	"	"	

Sequoia Analytical

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URS Corporation	Project: ARCO #6002, Oakland, Ca	
500 12th Street, Suite 100	Project Number: Arco #6002, Oakland, Ca	Reported:
Oakland CA, 94607	Project Manager: Scott Robinson	08/21/02 10:27

Total Purgeable Hydrocarbons (C6-C10) by EPA 8015B modified, BTEXM by EPA 8021B - Quality Control
Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2H14004 - EPA 5030B [P/T]										
Blank (2H14004-BLK1)				Prepared & Analyzed: 08/14/02						
Gasoline Range Organics (C6-C10)	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.5	"							
Surrogate: a,a,a-Trifluorotoluene	*10.6*		"	*10.0*		*106*	*70-130*			
LCS (2H14004-BS1)				Prepared & Analyzed: 08/14/02						
Benzene	11.0	0.50	ug/l	10.0		110	70-130			
Toluene	10.5	0.50	"	10.0		105	70-130			
Ethylbenzene	10.3	0.50	"	10.0		103	70-130			
Xylenes (total)	30.5	0.50	"	30.0		102	70-130			
Surrogate: a,a,a-Trifluorotoluene	*10.2*		"	*10.0*		*102*	*70-130*			
LCS (2H14004-BS2)				Prepared & Analyzed: 08/14/02						
Gasoline Range Organics (C6-C10)	264	50	ug/l	250		106	70-130			
Surrogate: a,a,a-Trifluorotoluene	*13.7*		"	*10.0*		*137*	*70-130*			*S-02*
Matrix Spike (2H14004-MS1)	Source: MLH0210-01			Prepared & Analyzed: 08/14/02						
Gasoline Range Organics (C6-C10)	384	50	ug/l	550	ND	69.8	60-140			
Benzene	8.75	0.50	"	6.60	ND	133	60-140			
Toluene	44.8	0.50	"	39.7	ND	113	60-140			
Ethylbenzene	9.66	0.50	"	9.20	ND	105	60-140			
Xylenes (total)	48.4	0.50	"	46.1	ND	105	60-140			
Surrogate: a,a,a-Trifluorotoluene	*6.38*		"	*10.0*		*63.8*	*70-130*			*QM-07*
Matrix Spike Dup (2H14004-MSD1)	Source: MLH0210-01			Prepared & Analyzed: 08/14/02						
Gasoline Range Organics (C6-C10)	410	50	ug/l	550	ND	74.5	60-140	6.55	25	
Benzene	8.36	0.50	"	6.60	ND	127	60-140	4.56	25	
Toluene	43.5	0.50	"	39.7	ND	110	60-140	2.94	25	
Ethylbenzene	9.23	0.50	"	9.20	ND	100	60-140	4.55	25	
Xylenes (total)	46.1	0.50	"	46.1	ND	100	60-140	4.87	25	
Surrogate: a,a,a-Trifluorotoluene	*5.77*		"	*10.0*		*57.7*	*70-130*			*QM-07*

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URS Corporation	Project: ARCO #6002, Oakland, Ca	
500 12th Street, Suite 100	Project Number: Arco #6002, Oakland, Ca	Reported:
Oakland CA, 94607	Project Manager: Scott Robinson	08/21/02 10:27

Total Purgeable Hydrocarbons (C6-C10) by EPA 8015B modified, BTEXM by EPA 8021B - Quality Control

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2H15002 - EPA 5030B [P/T]										
Blank (2H15002-BLK1)				Prepared & Analyzed: 08/15/02						
Gasoline Range Organics (C6-C10)	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.5	"							
Surrogate: a,a,a-Trifluorotoluene	*10.2*		"	*10.0*		*102*	*70-130*			
LCS (2H15002-BS1)				Prepared & Analyzed: 08/15/02						
Benzene	9.05	0.50	ug/l	10.0		90.5	70-130			
Toluene	9.71	0.50	"	10.0		97.1	70-130			
Ethylbenzene	10.3	0.50	"	10.0		103	70-130			
Xylenes (total)	30.6	0.50	"	30.0		102	70-130			
Surrogate: a,a,a-Trifluorotoluene	*9.74*		"	*10.0*		*97.4*	*70-130*			
LCS (2H15002-BS2)				Prepared & Analyzed: 08/15/02						
Gasoline Range Organics (C6-C10)	217	50	ug/l	250		86.8	70-130			
Surrogate: a,a,a-Trifluorotoluene	*8.26*		"	*10.0*		*82.6*	*70-130*			
Matrix Spike (2H15002-MS1)		Source: MLH0252-04		Prepared & Analyzed: 08/15/02						
Gasoline Range Organics (C6-C10)	387	50	ug/l	550	ND	70.4	60-140			
Benzene	10.2	0.50	"	6.60	ND	155	60-140			QM-07
Toluene	39.2	0.50	"	39.7	ND	98.7	60-140			
Ethylbenzene	9.81	0.50	"	9.20	ND	107	60-140			
Xylenes (total)	47.0	0.50	"	46.1	ND	102	60-140			
Surrogate: a,a,a-Trifluorotoluene	*9.04*		"	*10.0*		*90.4*	*70-130*			
Matrix Spike Dup (2H15002-MSD1)		Source: MLH0252-04		Prepared & Analyzed: 08/15/02						
Gasoline Range Organics (C6-C10)	409	50	ug/l	550	ND	74.4	60-140	5.53	25	
Benzene	9.96	0.50	"	6.60	ND	151	60-140	2.38	25	QM-07
Toluene	37.4	0.50	"	39.7	ND	94.2	60-140	4.70	25	
Ethylbenzene	9.20	0.50	"	9.20	ND	100	60-140	6.42	25	
Xylenes (total)	44.3	0.50	"	46.1	ND	96.7	60-140	5.91	25	
Surrogate: a,a,a-Trifluorotoluene	*8.24*		"	*10.0*		*82.4*	*70-130*			

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URS Corporation	Project: ARCO #6002, Oakland, Ca	
500 12th Street, Suite 100	Project Number: Arco #6002, Oakland, Ca	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	08/21/02 10:27

Total Purgeable Hydrocarbons (C6-C10) by EPA 8015B modified, BTEXM by EPA 8021B - Quality Control

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2H19017 - EPA 5030B [P/T]										
Blank (2H19017-BLK1)				Prepared & Analyzed: 08/19/02						
Gasoline Range Organics (C6-C10)	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.5	"							
Surrogate: a,a,a-Trifluorotoluene	*9.75*		"	*10.0*		*97.5*	*70-130*			
LCS (2H19017-BS1)				Prepared & Analyzed: 08/19/02						
Benzene	10.3	0.50	ug/l	10.0		103	70-130			
Toluene	10.5	0.50	"	10.0		105	70-130			
Ethylbenzene	10.0	0.50	"	10.0		100	70-130			
Xylenes (total)	32.3	0.50	"	30.0		108	70-130			
Surrogate: a,a,a-Trifluorotoluene	*9.88*		"	*10.0*		*98.8*	*70-130*			
LCS (2H19017-BS2)				Prepared & Analyzed: 08/19/02						
Gasoline Range Organics (C6-C10)	228	50	ug/l	250		91.2	70-130			
Surrogate: a,a,a-Trifluorotoluene	*10.7*		"	*10.0*		*107*	*70-130*			
Matrix Spike (2H19017-MS1)	**Source: MLH0242-03**			Prepared & Analyzed: 08/19/02						
Gasoline Range Organics (C6-C10)	418	50	ug/l	550	ND	76.0	60-140			
Benzene	8.54	0.50	"	6.60	ND	129	60-140			
Toluene	39.9	0.50	"	39.7	ND	101	60-140			
Ethylbenzene	9.07	0.50	"	9.20	ND	98.7	60-140			
Xylenes (total)	46.6	0.50	"	46.1	ND	101	60-140			
Surrogate: a,a,a-Trifluorotoluene	*11.5*		"	*10.0*		*115*	*70-130*			
Matrix Spike Dup (2H19017-MSD1)	**Source: MLH0242-03**			Prepared & Analyzed: 08/19/02						
Gasoline Range Organics (C6-C10)	452	50	ug/l	550	ND	82.2	60-140	7.82	25	
Benzene	8.97	0.50	"	6.60	ND	136	60-140	4.91	25	
Toluene	42.4	0.50	"	39.7	ND	107	60-140	6.08	25	
Ethylbenzene	9.63	0.50	"	9.20	ND	105	60-140	5.99	25	
Xylenes (total)	49.6	0.50	"	46.1	ND	108	60-140	6.24	25	
Surrogate: a,a,a-Trifluorotoluene	*11.7*		"	*10.0*		*117*	*70-130*			

Sequoia Analytical

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URS Corporation	Project: ARCO #6002, Oakland, Ca	
500 12th Street, Suite 100	Project Number: Arco #6002, Oakland, Ca	Reported:
Oakland CA, 94607	Project Manager: Scott Robinson	08/21/02 10:27

Notes and Definitions

HC-12	Hydrocarbon pattern is present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel.
QM-07	The spike recovery was outside control limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
S-02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample.
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

bp

Chain of Custody Record

MLH0210

Project Name

BP BU/GEM CO Portfolio:

BP Laboratory Contract Number:

Requested Due Date (mm/dd/yy) Standard Turnaround

Date: 8/8/02

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

Send To:		BP/GEM Facility No.:	Consultant/Contractor: URS
Lab Name: SEQUOIA		BP/GEM Facility Address: 6235 Seminary Ave, OAKLAND, CA	Address: 500 12th St., Ste. 200 Oakland, CA 94607-4014
Lab Address: 885 Jarvis Dr Morgan Hill, CA 95037		Site ID No. ARCO 6002	e-mail EDD: syed_rehan@urscorp.com
		Site Lat/Long:	Consultant/Contractor Project No.: 38-00000092.01 00437
		California Global ID #: T0600100105	Consultant Tele/Fax: 510-874-1735/510-874-3268
Lab PM: Lalanya Pat.		BP/GEM PM Contact: PAUL SUPPLE	Consultant/Contractor PM: Scott Robinson
Tele/Fax: 408-776-9600 / 408-782-6308		Address:	Invoice to: Consultant/Contractor or BP/GEM (circle one)
Report Type & QC Level: Std/EDF Reports			BP/GEM Work Release No:
BP/GEM Account No.:		Tele/Fax:	
Bulk Order No:			

Item No.	Sample Description	Time	Matrix: Soil/Solid	Matrix: Water/Liquid	Matrix: Sediment	Matrix: Air	Laboratory No.	No. of Containers	Preservatives: Unpreserved	Preservatives: H_2SO_4	Preservatives: HNO_3	Preservatives: HCl		Requested Analysis: TPH-G / BTEX (8015 / 8021)	TPH-D (8015)	MTBE (8260)	MTBE, TAME, ETBE, DIPE, TBA (8260)	1,2-DCA & EDB (8260)				Sample Point Lat/Long and Comments
1	MW-11	1610		X				6				X		X		X						
2	MW-5	1626		X				6				X		X		X						
3	MW-8	1600		X				6				X		X		X						
4	VW-1	1607		X				6				X		X		X						
5	VW-3	1546		X				6				X		X		X						
6																						
7																						
8																						
9																						
10																						

	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Name: Bruce Alcorn	MMB	8/9/02	0940	[signature]	8/9/02	940
Sampler's Company: Blaine Tech						
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

BP COC Rev. 1 10/01

Distribution: ... Laboratory / Yellow Copy - BP/GEM / Pink Copy - Consultant/Contractor

ATTACHMENT C

EDCC REPORT AND EDF/GEOWELL SUBMITTAL CONFIRMATION

Error Summary Log

12/20/02

EDF 1.2i All files present in deliverable.

Laboratory:	Sequoia Analytical Laboratories, Inc., Morgan Hill, CA
Project Name:	ARCO #6002, Oakland, Ca
Work Order Number:	MLH0210
Global ID:	T0600100105
Lab Report Number:	MLH0210082120021027

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run	Sub
MLH02100821200 21027	MW-4	MLH021001	W	CS	SW8020F	SW5030B	08/08/02	08/14/02	08/14/02	2H14004	1	
MLH02100821200 21027	MW-5	MLH021002	W	CS	SW8020F	SW5030B	08/08/02	08/19/02	08/20/02	2H19017	1	
MLH02100821200 21027	MW-8	MLH021003	W	CS	SW8020F	SW5030B	08/08/02	08/14/02	08/14/02	2H14004	1	
MLH02100821200 21027	VW-1	MLH021004	W	CS	SW8020F	SW5030B	08/08/02	08/15/02	08/15/02	2H15002	1	
MLH02100821200 21027	VW-3	MLH021005	W	CS	SW8020F	SW5030B	08/08/02	08/14/02	08/14/02	2H14004	1	
		MLH024203	W	NC	SW8020F	SW5030B	/ /	08/19/02	08/19/02	2H19017	1	
		MLH025204	W	NC	SW8020F	SW5030B	/ /	08/15/02	08/15/02	2H15002	1	
		2H14004BS1	WQ	BS1	SW8020F	SW5030B	/ /	08/14/02	08/14/02	2H14004	1	
		2H14004BS2	WQ	BS2	SW8020F	SW5030B	/ /	08/14/02	08/14/02	2H14004	1	
		2H14004BLK1	WQ	LB1	SW8020F	SW5030B	/ /	08/14/02	08/14/02	2H14004	1	
		2H14004MS1	W	MS1	SW8020F	SW5030B	/ /	08/14/02	08/14/02	2H14004	1	
		2H14004MSD1	W	SD1	SW8020F	SW5030B	/ /	08/14/02	08/14/02	2H14004	1	
		2H15002BS1	WQ	BS1	SW8020F	SW5030B	/ /	08/15/02	08/15/02	2H15002	1	
		2H15002BS2	WQ	BS2	SW8020F	SW5030B	/ /	08/15/02	08/15/02	2H15002	1	
		2H15002BLK1	WQ	LB1	SW8020F	SW5030B	/ /	08/15/02	08/15/02	2H15002	1	
		2H15002MS1	W	MS1	SW8020F	SW5030B	/ /	08/15/02	08/15/02	2H15002	1	
		2H15002MSD1	W	SD1	SW8020F	SW5030B	/ /	08/15/02	08/15/02	2H15002	1	
		2H19017BS1	WQ	BS1	SW8020F	SW5030B	/ /	08/19/02	08/19/02	2H19017	1	
		2H19017BS2	WQ	BS2	SW8020F	SW5030B	/ /	08/19/02	08/19/02	2H19017	1	
		2H19017BLK1	WQ	LB1	SW8020F	SW5030B	/ /	08/19/02	08/19/02	2H19017	1	
		2H19017MS1	W	MS1	SW8020F	SW5030B	/ /	08/19/02	08/19/02	2H19017	1	
		2H19017MSD1	W	SD1	SW8020F	SW5030B	/ /	08/19/02	08/19/02	2H19017	1	

EDFSAMP: Error Summary Log

12/20/02

Error type	Logcode	Projname	Npdlwo	Sampid	Matrix
There are no errors in this data file					

EDFTEST: Error Summary Log

12/20/02

Error type	Labsampid	Qccode	Anmcode	Exmcode	Anadate	Run number
There are no errors in this data file					/ /	0

EDFRES: Error Summary Log

12/20/02

Error type	Labsampid	Qccode	Matrix	Anmcode	Pvccode	Anadate	Run number	Parlabel
Warning: extra parameter	2H14004MS1	MS1	W	SW8020F	PR	08/14/02	1	AAATFBZME
Warning: extra parameter	2H14004MS1	MS1	W	SW8020F	PR	08/14/02	1	GROC6C10
Warning: extra parameter	2H14004MSD1	SD1	W	SW8020F	PR	08/14/02	1	AAATFBZME
Warning: extra parameter	2H14004MSD1	SD1	W	SW8020F	PR	08/14/02	1	GROC6C10
Warning: extra parameter	2H15002MS1	MS1	W	SW8020F	PR	08/15/02	1	AAATFBZME
Warning: extra parameter	2H15002MS1	MS1	W	SW8020F	PR	08/15/02	1	GROC6C10
Warning: extra parameter	2H15002MSD1	SD1	W	SW8020F	PR	08/15/02	1	AAATFBZME
Warning: extra parameter	2H15002MSD1	SD1	W	SW8020F	PR	08/15/02	1	GROC6C10
Warning: extra parameter	2H19017MS1	MS1	W	SW8020F	PR	08/19/02	1	AAATFBZME
Warning: extra parameter	2H19017MS1	MS1	W	SW8020F	PR	08/19/02	1	GROC6C10
Warning: extra parameter	2H19017MSD1	SD1	W	SW8020F	PR	08/19/02	1	AAATFBZME
Warning: extra parameter	2H19017MSD1	SD1	W	SW8020F	PR	08/19/02	1	GROC6C10
Warning: extra parameter	MLH021001	CS	W	SW8020F	PR	08/14/02	1	AAATFBZME
Warning: extra parameter	MLH021001	CS	W	SW8020F	PR	08/14/02	1	GROC6C10
Warning: extra parameter	MLH021001	CS	W	SW8020F	PR	08/14/02	1	MTBE
Warning: extra parameter	MLH021002	CS	W	SW8020F	PR	08/20/02	1	AAATFBZME
Warning: extra parameter	MLH021002	CS	W	SW8020F	PR	08/20/02	1	GROC6C10
Warning: extra parameter	MLH021002	CS	W	SW8020F	PR	08/20/02	1	MTBE
Warning: extra parameter	MLH021003	CS	W	SW8020F	PR	08/14/02	1	AAATFBZME
Warning: extra parameter	MLH021003	CS	W	SW8020F	PR	08/14/02	1	GROC6C10
Warning: extra parameter	MLH021003	CS	W	SW8020F	PR	08/14/02	1	MTBE
Warning: extra parameter	MLH021004	CS	W	SW8020F	PR	08/15/02	1	AAATFBZME
Warning: extra parameter	MLH021004	CS	W	SW8020F	PR	08/15/02	1	GROC6C10
Warning: extra parameter	MLH021004	CS	W	SW8020F	PR	08/15/02	1	MTBE
Warning: extra parameter	MLH021005	CS	W	SW8020F	PR	08/14/02	1	AAATFBZME

Error type	Labsampid	Qccode	Matrix	Anmcode	Pvccode	Anadate	Run number	Parlabel
Warning: extra parameter	MLH021005	CS	W	SW8020F	PR	08/14/02	1	GROC6C10
Warning: extra parameter	MLH021005	CS	W	SW8020F	PR	08/14/02	1	MTBE
Warning: extra parameter	MLH024203	NC	W	SW8020F	PR	08/19/02	1	AAATFBZME
Warning: extra parameter	MLH024203	NC	W	SW8020F	PR	08/19/02	1	GROC6C10
Warning: extra parameter	MLH025204	NC	W	SW8020F	PR	08/15/02	1	AAATFBZME
Warning: extra parameter	MLH025204	NC	W	SW8020F	PR	08/15/02	1	GROC6C10
Warning: extra parameter	2H14004BLK1	LB1	WQ	SW8020F	PR	08/14/02	1	AAATFBZME
Warning: extra parameter	2H14004BLK1	LB1	WQ	SW8020F	PR	08/14/02	1	GROC6C10
Warning: extra parameter	2H14004BLK1	LB1	WQ	SW8020F	PR	08/14/02	1	MTBE
Warning: extra parameter	2H14004BS1	BS1	WQ	SW8020F	PR	08/14/02	1	AAATFBZME
Warning: extra parameter	2H14004BS2	BS2	WQ	SW8020F	PR	08/14/02	1	AAATFBZME
Warning: extra parameter	2H14004BS2	BS2	WQ	SW8020F	PR	08/14/02	1	GROC6C10
Warning: extra parameter	2H15002BLK1	LB1	WQ	SW8020F	PR	08/15/02	1	AAATFBZME
Warning: extra parameter	2H15002BLK1	LB1	WQ	SW8020F	PR	08/15/02	1	GROC6C10
Warning: extra parameter	2H15002BLK1	LB1	WQ	SW8020F	PR	08/15/02	1	MTBE
Warning: extra parameter	2H15002BS1	BS1	WQ	SW8020F	PR	08/15/02	1	AAATFBZME
Warning: extra parameter	2H15002BS2	BS2	WQ	SW8020F	PR	08/15/02	1	AAATFBZME
Warning: extra parameter	2H15002BS2	BS2	WQ	SW8020F	PR	08/15/02	1	GROC6C10
Warning: extra parameter	2H19017BLK1	LB1	WQ	SW8020F	PR	08/19/02	1	AAATFBZME
Warning: extra parameter	2H19017BLK1	LB1	WQ	SW8020F	PR	08/19/02	1	GROC6C10
Warning: extra parameter	2H19017BLK1	LB1	WQ	SW8020F	PR	08/19/02	1	MTBE
Warning: extra parameter	2H19017BS1	BS1	WQ	SW8020F	PR	08/19/02	1	AAATFBZME
Warning: extra parameter	2H19017BS2	BS2	WQ	SW8020F	PR	08/19/02	1	AAATFBZME
Warning: extra parameter	2H19017BS2	BS2	WQ	SW8020F	PR	08/19/02	1	GROC6C10

EDFQC: Error Summary Log

12/20/02

Error type	Lablotctl	Anmcode	Parlabel	Qccode	Labqcid
There are no errors in this data files					

EDFCL: Error Summary Log

12/20/02

Error type	Clrevdate	Anmcode	Exmcode	Parlabel	Clcode
There are no errors in this data file	/ /				

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Your EDF file has been succcessfully uploaded!

Confirmation Number: 3691621959
Date/Time of Submittal: 12/20/2002 1:45:58 PM
Facility Global ID: T0600100105
Facility Name: ARCO
Submittal Title: EDCC Report for # 6002
Submittal Type: Additional Information Report

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UPLOADING A GEO_WELL FILE

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

Submittal Title:	**Geowell # 6002**
Submittal Date/Time:	**12/20/2002 1:31:53 PM**
Confirmation Number:	**3032653629**

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