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URS

February 25, 2003

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

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

Dear Mr. Gholami:

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

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

Sincerely,

URS CORPORATION

Scott Robinson
Project Manager

Erin Garner, CHG
Project Director

REGISTERED GEOLOGIST
ERIN GARNER
No. 0243
CERTIFIED HYDROGEOLOGIST
EXP 12/9
STATE OF CALIFORNIA

Enclosure: Fourth 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

Atlantic Richfield Company
(a BP affiliated company)

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

February 25, 2003

Re: Fourth Quarter 2002 Groundwater Monitoring Report
ARCO Station 6002
6235 Seminary Ave
Oakland, CA.

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

Submitted by:

Paul Supple
Environmental Business Manager

REPORT

FOURTH QUARTER 2002 GROUNDWATER MONITORING

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

Prepared for
Atlantic Richfield Company

February 25, 2003

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

38465972

Date: February 25, 2003

Quarter: 4Q02

ATLANTIC RICHFIELD COMPANY QUARTERLY GROUNDWATER MONITORING REPORT

Former Facility No.:	6002	Address:	6235 Seminary Avenue, Oakland, California
Atlantic Richfield Co. Environmental Engineer:			Paul Supple
Consulting Co./Contact Person:			URS Corporation / Scott Robinson
Consultant Project No.:			38465972
Primary Agency			Alameda County Health Care Services Agency Department of Environmental Health

WORK PERFORMED THIS QUARTER (Fourth – 2002):

1. Submitted third quarter 2002 groundwater monitoring event.
2. Performed fourth quarter 2002 groundwater monitoring event on November 27, 2002.

WORK PROPOSED FOR NEXT QUARTER (First – 2003):

1. Prepare and submit fourth quarter 2002 groundwater monitoring report.
2. Perform first quarter 2003 groundwater monitoring event.

Current Phase of Project:	GW monitoring/sampling
Frequency of Groundwater Sampling:	Annual : MW-3, MW-6 (first quarter) Quarterly: MW-4, MW-5, MW-7, MW-8, VW-1, 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:	6.85 (MW-6) to 13.01 (MW-7) feet
Groundwater Gradient (direction):	West-Southwest
Groundwater Gradient (magnitude):	0.075 feet per foot

DISCUSSION:

TPH-g was detected in two of the five wells sampled this quarter at concentrations of 52 µg/L (VW-1) and 2,200 µg/L (MW-5). Benzene was detected in one well (VW-1) at a concentration of 0.72 µg/L. MTBE was detected in four wells at concentrations ranging from 4.7 µg/L (MW-4) to 3,800 µg/L (VW-4). Well MW-7 was not sampled due to insufficient water in the well.

RECOMMENDATION:

We recommend changing the sampling frequency of wells MW-4 , MW-7 and MW-8 from quarterly to annual. MW-4 and MW-8 are cross gradient, while MW-7 is downgradient. All of these wells have consistently had low to no detections above the laboratory reporting limits for the constituents of concern.

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 – November 27, 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
Summary of Groundwater Elevation and Analytical Data

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	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	- -	- -	
	05-30-95		249.30	9.93	0.00	239.37	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	- -	- -	
	09-01-95		249.30	10.69	0.00	238.61	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	- -	
	11-13-95		249.30	10.32	0.00	238.98	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	- -	- -	
	02-23-96		249.30	Well was decommissioned on 2-12-96										
MW-3	03-15-95		248.35	6.76	0.00	241.59	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	- -	- -	
	05-30-95			7.81	0.00	240.54	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	- -	- -	
	09-01-95			8.65	0.00	239.70	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	- -	
	11-13-95			8.25	0.00	240.10	120	45	0.7	ND<0.5	6.2	- -	- -	
	02-23-96			6.64	0.00	241.71	ND<50	ND<0.5	ND<0.5	0.6	1.9	ND<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	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<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	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	- -	
	02-25-98			7.69	0.00	240.66	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<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	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<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	ND<50	ND<0.5	0.8	ND<0.5	ND<1	ND<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	ND<50.0	ND<0.500	ND<0.500	ND<0.500	ND<0.500	ND<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							

Table 1
Summary of Groundwater Elevation and Analytical Data

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)
	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	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<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							
	11-27-02			**8.52**	**0.00**	**239.83**	**Not sampled: well sampled annually, during the first quarter**							
MW-4	03-15-95		242.91	9.37	0.00	233.54	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	- -	- -	
	05-30-95			11.47	0.00	231.44	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	- -	- -	
	09-01-95			12.28	0.00	230.63	78	ND<0.5	0.7	ND<0.5	ND<0.5	ND<3	- -	
	11-13-95			11.75	0.00	231.16	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<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	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	- -	
	08-09-96			9.70	0.00	233.21	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	- -	
	11-08-96			11.79	0.00	231.12	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	- -	
	03-21-97			10.94	0.00	231.97	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	81	- -	
	05-27-97			11.51	0.00	231.40	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	- -	
	08-05-97			11.90	0.00	231.01	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	- -	
	10-29-97			12.00	0.00	230.91	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	- -	
	02-25-98			8.34	0.00	234.57	ND<50	ND<0.5	0.9	ND<0.5	0.9	4	- -	
	05-12-98			10.93	0.00	231.98	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	- -	
	07-28-98			12.08	0.00	230.83	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	- -	
	10-27-98			11.40	0.00	231.51	ND<5,000	ND<50	ND<50	160	64	6,400	- -	
	02-08-99			8.40	0.00	234.51	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	- -	
	06-01-99	NP		11.93	0.00	230.98	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	- -	4.0
	08-25-99	NP		12.21	0.00	230.70	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	- -	1.29
	10-29-99	NP		12.37	0.00	230.54	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1	ND<3	- -	1.50
	02-16-00	NP		7.45	0.00	235.46	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1	ND<3	- -	2.38
	06-23-00	NP		12.31	0.00	230.60	ND<50.0	ND<0.500	ND<0.500	ND<0.500	ND<0.500	ND<2.50	- -	2.80
DUP	08-17-00			- -	- -	- -	ND<50.0	ND<0.500	ND<0.500	ND<0.500	ND<0.500	ND<2.50	- -	
	08-17-00	NP		11.92	0.00	230.99	ND<50.0	ND<0.500	ND<0.500	ND<0.500	ND<0.500	ND<2.50	- -	2.38
	11-10-00	NP		10.80	0.00	232.11	ND<50.0	ND<0.500	ND<0.500	ND<0.500	ND<0.500	ND<2.50	- -	1.55
	02-12-01	NP		11.65	0.00	231.26	ND<50.0	ND<0.500	ND<0.500	ND<0.500	ND<0.500	ND<2.50	- -	1.12
	04-13-01	NP		8.17	0.00	234.74	ND<50.0	ND<0.500	ND<0.500	ND<0.500	ND<0.500	ND<2.50	- -	
DUP	04-13-01			- -	- -	- -	ND<50.0	ND<0.500	ND<0.500	ND<0.500	ND<0.500	ND<2.50	- -	
	07-18-01	NP		8.51	0.00	234.40	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	- -	
	10-01-01	NP		8.71	0.00	234.20	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	- -	
	01-14-02	NP		7.13	0.00	235.78	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	- -	
DUP	01-14-02			--	--	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	- -	
	04-03-02	NP		10.1	0.00	232.81	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	- -	

Table 1
Summary of Groundwater Elevation and Analytical Data

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)
	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
	11-27-02	**NP**		**12.01**	**0.00**	**230.90**	**ND<50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**--**	**4.7**	**2.5**
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	ND<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	ND<50	730	1,500	1,800	--	
	05-27-97			13.10	0.00	231.72	21,000	86	ND<20	810	610	1,700	--	
	08-05-97			13.14	0.00	231.68	340	2.2	ND<0.5	15	8.8	39	--	
	10-29-97			13.03	0.00	231.79	19,000	130	ND<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	ND<10	390	220	610	--	
	07-28-98			13.12	0.00	231.70	15,000	68	ND<10	690	620	1,000	--	
	10-27-98			12.90	0.00	231.92	15,000	60	ND<10	770	400	890	--	
	02-08-99			11.08	0.00	233.74	8,200	23	ND<10	290	120	ND<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	ND<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	ND<10.0	190	43.6	445	--	1.27
	02-12-01	NP		12.81	0.00	232.01	8,840	33.9	ND<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	ND<1.0	87	27	220	--	
	01-14-02	NP		10.75	0.00	234.07	9,500	ND<20	ND<20	140	22	ND<200	--	
	04-03-02	NP		12.50	0.00	232.32	2,400	21	ND<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
	11-27-02	**NP**		**12.79**	**0.00**	**232.03**	**2,200**	**ND<10**	**ND<10**	**33**	**ND<10**	**--**	**150**	**0.8**
MW-6	06-29-95		NR	6.63	0.00	NR	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	
	09-01-95		NR	NR	NR	NR	Not sampled							

Table 1
Summary of Groundwater Elevation and Analytical Data

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)
	11-13-95		NR	7.70	0.00	NR	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	- -	
	02-23-96		NR	9.82	0.00	NR	ND<50	ND<0.5	0.8	ND<0.5	0.6	ND<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	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<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	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	- -	
	02-25-98			10.35	0.00	241.85	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<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	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<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	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1	ND<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	ND<50.0	ND<0.500	ND<0.500	ND<0.500	ND<0.500	ND<2.50	- -	1.66
DUP	02-12-01			- -	- -	- -	ND<50.0	ND<0.500	ND<0.500	ND<0.500	ND<0.500	ND<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	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<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							
	11-27-02			**6.85**	**0.00**	**245.35**	**Not sampled: well sampled annually, during the first quarter**							
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	ND<5	ND<5	580	220	- -	
	03-21-97			7.13	0.00	228.82	590	3.5	ND<0.5	ND<0.5	1.3	90	- -	
	05-27-97			9.02	0.00	226.93	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	- -	
	08-05-97			12.33	0.00	223.62	110	0.5	ND<0.5	ND<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	ND<50	ND<0.5	0.6	ND<0.5	0.7	ND<3	- -	

Table 1
Summary of Groundwater Elevation and Analytical Data

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)
	05-12-98			8.88	0.00	227.07	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	- -	
	07-28-98			10.50	0.00	225.45	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	- -	
	10-27-98			8.75	0.00	227.20	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	- -	
	02-08-99			9.35	0.00	226.60	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	- -	
	06-01-99	NP		9.85	0.00	226.10	250	ND<0.5	0.6	ND<0.5	1.6	18	- -	1.0
	08-25-99	NP		11.31	0.00	224.64	119	ND<0.5	5.7	ND<0.5	ND<0.5	11	- -	0.41
	10-29-99	NP		9.08	0.00	226.87	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1	ND<3	- -	1.29
	02-25-00	NP		8.02	0.00	227.93	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1	38	- -	2.10
	06-23-00	NP		10.68	0.00	225.27	ND<50.0	ND<0.500	ND<0.500	ND<0.500	ND<0.500	14.4	- -	1.60
	08-17-00	NP		11.85	0.00	224.10	70.0	ND<0.500	0.678	ND<0.500	1.07	14.2	- -	1.59
	11-10-00	NP		9.62	0.00	226.33	ND<50.0	ND<0.500	ND<0.500	ND<0.500	ND<0.500	ND<2.50	- -	1.09
	02-12-01	NP		12.10	0.00	223.85	ND<50.0	ND<0.500	ND<0.500	ND<0.500	ND<0.500	ND<2.50	- -	0.84
	04-13-01	P		7.95	0.00	228.00	ND<50.0	ND<0.500	ND<0.500	ND<0.500	ND<0.500	ND<2.50	- -	
	07-18-01	P		8.20	0.00	227.75	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	- -	
	10-01-01	NP		8.59	0.00	227.36	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	- -	
	01-14-02	P		6.93	0.00	229.02	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	- -	
	04-03-02	P		8.31	0.00	227.64	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	- -	
	08-08-02	P		12.11	0.00	223.84	Not sampled: insufficient water/recharge for purge/sample							
	11-27-02	**NP**		**13.01**	**0.00**	**222.94**	**Not sampled: insufficient water**							
MW-8	08-09-96		240.37	9.41	0.00	230.96	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	- -	
	11-08-96			9.19	0.00	231.18	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	- -	
	03-21-97			8.55	0.00	231.82	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	- -	
	05-27-97			11.06	0.00	229.31	91	0.6	ND<0.5	ND<0.5	0.6	66	- -	
	08-05-97			9.32	0.00	231.05	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	- -	
	10-29-97			9.35	0.00	231.02	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	- -	
	02-25-98			7.08	0.00	233.29	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	- -	
	05-12-98			8.61	0.00	231.76	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	- -	
	07-28-98			9.63	0.00	230.74	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	4	- -	
	10-27-98			9.30	0.00	231.07	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	- -	
	02-08-99			5.56	0.00	234.81	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<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	ND<50.0	ND<0.500	ND<0.500	ND<0.500	ND<0.500	ND<2.50	- -	1.90
	08-17-00	NP		6.40	0.00	233.97	ND<50.0	ND<0.500	ND<0.500	ND<0.500	ND<0.500	ND<2.50	- -	2.56
	11-10-00	NP		6.25	0.00	234.12	ND<50.0	ND<0.500	ND<0.500	ND<0.500	ND<0.500	ND<2.50	- -	1.93
DUP	11-10-00			- -	- -	- -	ND<50.0	ND<0.500	ND<0.500	ND<0.500	ND<0.500	ND<2.50	- -	

Table 1
Summary of Groundwater Elevation and Analytical Data

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)
	02-12-01	NP		8.11	0.00	232.26	ND<50.0	ND<0.500	ND<0.500	ND<0.500	ND<0.500	ND<2.50	- -	1.65
	04-13-01	P		5.19	0.00	235.18	ND<50.0	ND<0.500	ND<0.500	ND<0.500	ND<0.500	ND<2.50	- -	
	07-18-01	NP		5.55	0.00	234.82	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	- -	
	10-01-01	NP		6.41	0.00	233.96	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	- -	
	01-14-02	P		5.07	0.00	235.30	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	- -	
	04-03-02	P		8.60	0.00	231.77	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<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
	11-27-02	**P**		**9.15**	**0.00**	**231.22**	**ND<50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**- -**	**ND<0.50**	**3.1**
AS-1	06-29-95		NR	9.20	0.00	NR	ND<50	1.6	ND<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	ND<5	100	50	200	- -	
	08-09-96		NR	7.03	0.00	NR	970	2.7	ND<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	ND<4	ND<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	ND<1	ND<1	3	2	120	- -	
	10-29-97		NR	7.53	0.00	NR	600	ND<0.5	ND<0.5	ND<0.5	1.6	84	- -	
	02-25-98		NR	6.77	0.00	NR	230	ND<4	ND<0.7	1.2	0.5	27	- -	
	05-12-98		NR	7.43	0.00	NR	340	ND<0.5	0.5	2.3	0.8	29	- -	
	07-28-98		NR	7.00	0.00	NR	240	ND<0.5	ND<0.5	ND<0.5	1.1	54	- -	
	10-27-98		NR	7.52	0.00	NR	230	ND<0.5	ND<0.5	ND<0.5	ND<0.5	65	- -	
	02-08-99		NR	7.05	0.00	NR	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	36[3]	
	06-01-99	NP	NR	7.55	0.00	NR	180	ND<0.5	ND<0.5	ND<0.5	ND<0.5	23	- -	1.0
	08-25-99	NP	NR	7.66	0.00	NR	130	ND<0.5	5.6	ND<0.5	ND<0.5	40	- -	0.39
	10-29-99	NP	NR	7.59	0.00	NR	200	1.0	ND<0.5	0.6	1.6	36	- -	0.89
	02-16-00	NP	NR	7.03	0.00	NR	210	ND<0.5	0.9	2.2	1.9	11	- -	1.41
	06-23-00	NP	NR	7.71	0.00	NR	175	1.04	ND<0.500	ND<0.500	ND<0.500	14.4	- -	1.90
	08-17-00	NP	NR	7.75	0.00	NR	180	ND<0.500	ND<0.500	0.622	0.760	23.7	- -	0.63
	11-10-00	NP	NR	6.83	0.00	NR	157	0.955	ND<0.500	0.973	ND<0.500	32.5	- -	1.03
	02-12-01	NP	NR	7.85	0.00	NR	273	0.627	ND<0.500	ND<0.500	0.507	9.19	- -	0.47
	04-13-01	P	NR	5.11	0.00	NR	213	ND<0.500	ND<0.500	ND<0.500	ND<0.500	6.38	- -	
	07-18-01	P	NR	5.39	0.00	NR	270	ND<0.50	ND<0.50	ND<0.50	ND<0.50	20	- -	
	10-01-01	NP	NR	6.50	0.00	NR	200	ND<0.50	ND<0.50	ND<0.50	0.81	14	- -	
	01-14-02	P	NR	5.04	0.00	NR	110	ND<0.50	ND<0.50	ND<0.50	ND<0.50	6.4	- -	
	04-03-02	P	NR	7.51	0.00	NR	91	0.72	ND<0.50	ND<0.50	ND<0.50	12.0	- -	
	08-08-02	P	NR	9.58	0.00	NR	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	33.0	- -	0.6
	11-17-02	**P**	**NR**	**7.42**	**0.00**	**NR**	**52**	**0.72**	**0.78**	**ND<0.50**	**ND<0.50**	**- -**	**21**	**1.0**

Table 1
Summary of Groundwater Elevation and Analytical Data

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		NR	8.85	0.00	NR	NDND<50	NDND<0.50	NDND<0.50	NDND<0.50	NDND<0.50	2.5	--	0.7
	11-27-02		**NR**	**8.80**	**0.00**	**NR**	**Not sampled: well not part of sampling program**							
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	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<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	ND<10,000	180	ND<100	ND<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	ND<50	2.5	ND<0.5	ND<0.5	0.7	ND<3	--	
	05-12-98		NR	9.17	0.00	NR	3,200	ND<20	22	29	52	2,100	--	
	07-28-98		NR	9.55	0.00	NR	ND<10,000	ND<100	ND<100	ND<100	ND<100	5,100	--	
	10-27-98		NR	9.92	0.00	NR	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	02-08-99		NR	7.50	0.00	NR	ND<2,500	ND<25	ND<25	28	ND<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	ND<0.5	1.8	1.6	3.0	4,200	--	1.18
	02-16-00	NP	NR	7.45	0.00	NR	1,800	ND<0.5	2.9	15	10	3,400	--	1.01
DUP 1	06-23-00		--	--	--	--	1,260	ND<2.00	ND<2.00	ND<2.00	2.73	2,720	--	
	06-23-00	NP	NR	9.74	0.00	NR	1,360	ND<2.00	2.26	ND<2.00	2.25	4,900	--	1.50
	08-17-00	NP	NR	9.95	0.00	NR	2,230	ND<10.0	ND<10.0	ND<10.0	ND<10.0	5,310	--	1.13
	11-10-00	NP	NR	9.22	0.00	NR	1,390	18.5	ND<5.00	ND<5.00	ND<5.00	8,840	--	1.25
	02-12-01	NP	NR	8.99	0.00	NR	1,400	9.42	ND<2.00	17.8	16.1	3,570	--	0.91
	04-13-01	NP	NR	7.80	0.00	NR	556	3.82	ND<1.25	ND<1.25	ND<1.25	2,450	--	
	07-18-01	NP	NR	7.73	0.00	NR	2,100	9.2	ND<2.0	ND<2.0	ND<2.0	3,700	--	
DUP 1	07-18-01		--	--	--	--	2,000	8.7	2.2	ND<2.0	ND<2.0	3,400	--	
	10-01-01	NP	NR	6.69	0.00	NR	2,000	ND<10	ND<10	ND<10	13	5,900	--	
DUP	10-01-01		--	--	--	--	1,800	ND<10	ND<10	ND<10	ND<10	5,800	--	
	01-14-02	P	NR	5.93	0.00	NR	580	ND<2.0	ND<2.0	ND<2.0	ND<2.0	2,700	--	
	04-03-02	NP	NR	9.6	0.00	NR	1,400	5.2	16.0	ND<5.0	9.6	2,200	--	
	08-08-02		NR	10.01	0.00	NR	NS	NS	NS	NS	NS	NS	NS	NS
	11-27-02	**P**	**NR**	**10.30**	**0.00**	**NR**	**ND<10,000**	**ND<100**	**ND<100**	**ND<100**	**ND<100**	--	**3,800**	**1.7**

Table 1
Summary of Groundwater Elevation and Analytical Data

ARCO Service Station #6002
6235 Seminary Avenue, Oakland, California

Abbreviation

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
ND<	= not detected at or above the laboratory detection limit.
[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
**	= 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)
DUP	= duplicate

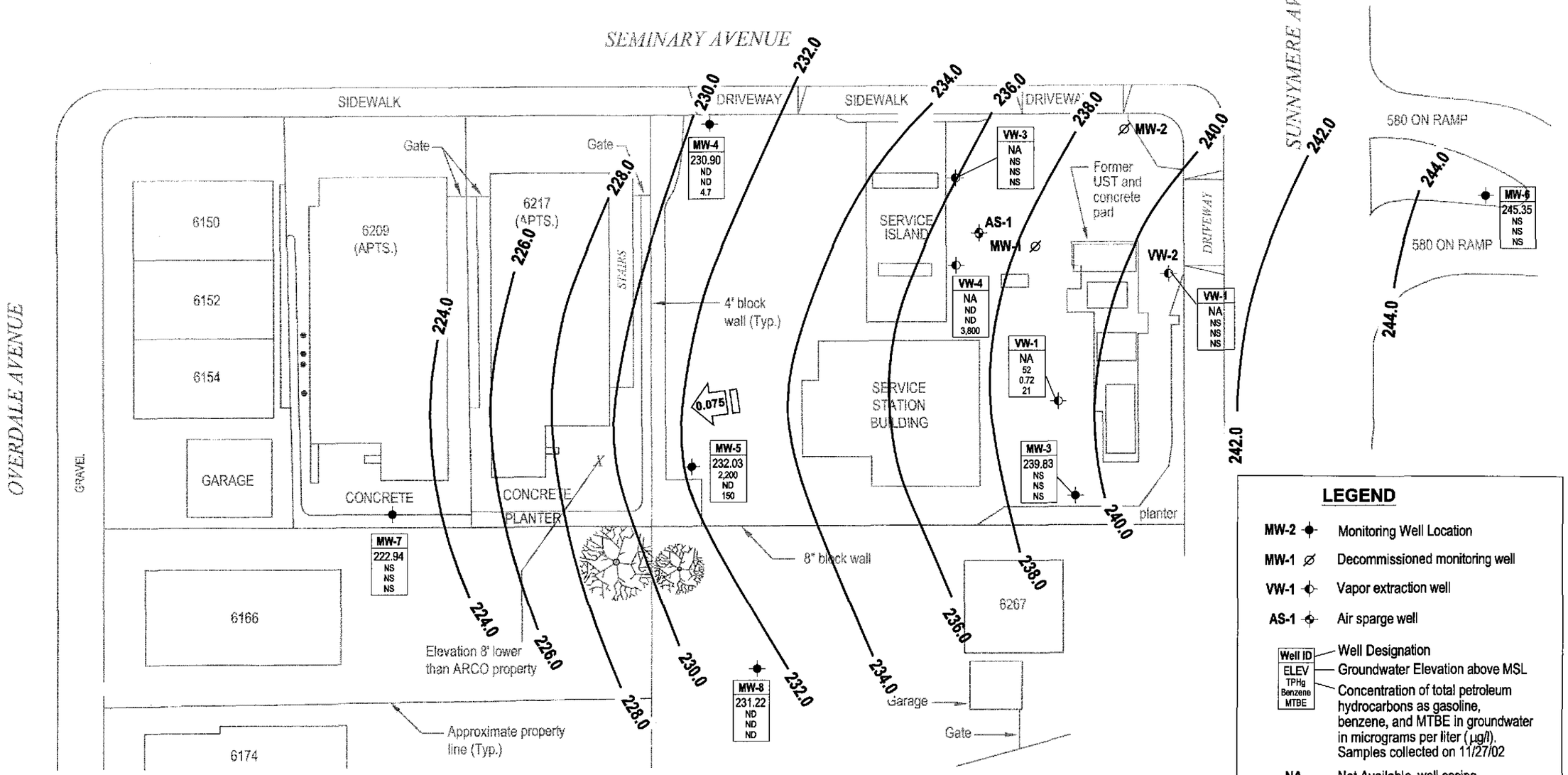
Source: The data within this table collected prior to April 2002 was provided to URS by Group Environmental Management Company and their previous consultants. URS has not verified the accuracy of this information.

Table 2
Groundwater Flow Direction and Gradient

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
11-27-02	West-Southwest	0.075

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



LEGEND

MW-2 ⊕	Monitoring Well Location
MW-1 ⌀	Decommissioned monitoring well
VW-1 ⊕	Vapor extraction well
AS-1 ⊕	Air sparge well
Well ID ELEV TPHg Benzene MTBE	Well Designation Groundwater Elevation above MSL Concentration of total petroleum hydrocarbons as gasoline, benzene, and MTBE in groundwater in micrograms per liter (µg/l). Samples collected on 11/27/02
NA	Not Available, well casing
NS	not sampled
ND	Not detected at or above lab reporting limits
240.00	Groundwater elevation contour
0.075	Approximate groundwater flow direction and gradient

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

N

0 15 30 60
Scale (ft)

URS

Project No. 38465961

Arco Service Station #6002
6235 Seminary Avenue
Oakland, California

Groundwater Elevation Contour and Analytical Summary Map Fourth Quarter 2002 (November 27, 2002)

FIGURE 1

X:\x_env_waste\BP GEM\Sites\Scott Robinson\Paul Supple\6002\Reports\Monitoring\Qtr.4.2002\Drawings\GWEC-AS_11-27.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 # 021127-MW1 Date 11/27/02 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 TOS	
MW-3	4					8.52	24.54		~~NP@5~~ 60
MW-4	4					12.01	24.12		NP@45"
6 MW-5	4					12.79	24.31		NP@5"
MW-6	2					6.85	32.01		R60
MW-7	2					13.01	13.25		NP@10'
MW-8	2					9.15	14.00		P
VW-1	4					7.42	13.96		P
~~VW-2~~	~~4~~						~~13.69~~		
VW-3	4					8.80	14.16 ~~14.16~~		60
5 VW-4	4					10.30	14.94	TOB	P

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 021126-MW1	Station # 6002
Sampler: Mike N.	Date: 11/26/02
Well I.D.: MW-4	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth: 24.12	Depth to Water: 12.01
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 / X Disposable Bailer / Extraction Port / Other: _____

Top of Screen: NP @ 45

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
		& No Purge	Gals.

Time	Temp (°F)	pH	Conductivity (mS or (uS))	Gals. Removed	Observations
1100	66.8	6.5	395	0	Clear

Did well dewater? Yes (No)		Gallons actually evacuated: 0		
Sampling Time: 1100		Sampling Date: 11/26/02		
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:) 2.5	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 021126-MN1	Station # 6002
Sampler: Mike N.	Date: 11/26/02
Well I.D.: MW-5	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth: 24.31	Depth to Water: 12.79
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 / X Disposable Bailer / Extraction Port / Other: _____

Top of Screen: NP@5ft

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 No Purge	Gals.

Time	Temp (°F)	pH	Conductivity (mS or (µS))	Gals. Removed	Observations
1052	67.6	6.4	559	0	Clear

Did well dewater? Yes (No)		Gallons actually evacuated: 0	
Sampling Time: 1052		Sampling Date: 11/26/02	
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): .8	mg/L
O.R.P. (if req'd):	Pre-purge: ____ mV	Post-purge:	mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 02-112-6-MW1	Station # 6007
Sampler: Mike N.	Date: 11/26/02
Well I.D.: MW-7	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth: 13.25	Depth to Water: 13.01
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 @ 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.

_____ (1 Case Volume (Gals.)) X 3 No Purge (Specified Volumes) = _____ Gals. (Calculated Volume)

Time	Temp (°F)	pH	Conductivity (mS or µS)	Gals. Removed	Observations
1106	No	Sample. Insufficient water. Disp. bailer			
	down	hole brought up no	water.		

Did well dewater? Yes No Gallons actually evacuated:

Sampling Time: 1106 Sampling Date: 11/26/02

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 #: 021126-MN1	Station # 6002
Sampler: Mike N.	Date: 11/26/02
Well I.D.: MW-8	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth: 14.00	Depth to Water: 9.15
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
- X Disposable Bailer
- Middleburg
- Electric Submersible
- Extraction Pump
- Other: ____

Sampling Method:
- Bailer
- X Disposable Bailer
- Extraction Port
- Other: ____

Top of Screen: Purge

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
.80	X	3	=	2.4 Gals.

Time	Temp (°F)	pH	Conductivity (mS or (µS))	Gals. Removed	Observations
1039	64.5	7.0	392	.8	Brown, cloudy
1040	65.1	6.7	390	1.6	" "
1041	65.0	6.7	391	2.4	" increased cloudiness

Did well dewater? Yes (No)		Gallons actually evacuated: 2.4	
Sampling Time: 1045		Sampling Date: 11/26/02	
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:)	3.1 mg/L
O.R.P. (if req'd): Pre-purge:	mV	Post-purge:	mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 021127-MN1	Station # 6002
Sampler: Mica N.	Date: 11/27/02
Well I.D.: MW-1	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth: 13.96	Depth to Water: 7.42
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 / X Disposable Bailer / Extraction Port / Other: ____

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

4.5 (1 Case Volume (Gals.)) x 3 (Specified Volumes) = 13.5 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Conductivity (mS or (µS))	Gals. Removed	Observations
957	64.8	6.0	1197	4.5	Brown, cloudy
959	66.9	6.0	944	9.0	Brown, slightly less cloudy
1000	67.4	6.1	891	13.5	Brown, slightly less cloudy

Did well dewater? Yes (No) Gallons actually evacuated: 13.5

Sampling Time: 1005 Sampling Date: 11/26/02

Sample I.D.: MW-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:)	1.0	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:		mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 02-11-26-MN1	Station # 6002
Sampler: Mike N.	Date: 11/26/02
Well I.D.: MW-4	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth: 14.94	Depth to Water: 10.30
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 / X Disposable Bailer / Middleburg / Electric Submersible / Extraction Pump / Other: ____

Sampling Method: Bailer / X Disposable Bailer / Extraction Port / Other: ____

Top of Screen: Purge

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

3.0 (1 Case Volume (Gals.)) x 3 (Specified Volumes) = 9.0 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Conductivity (mS or (µS))	Gals. Removed	Observations
1017	66.5	6.5	779	3.0	Brown, Slightly Cloudy
1021	66.9	6.6	779	6.0	Brown, Cloudy
1025	67.3	6.7	780	9.0	" "

Did well dewater? Yes (No)		Gallons actually evacuated: 9.0	
Sampling Time: 1030		Sampling Date: 11/26/02	
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:)	1.7 mg/L
O.R.P. (if req'd):	Pre-purge: ____ mV	Post-purge:	____ mV

bp

Chain of Custody Record

Project Name 021127-MW1

BP BU/GEM CO Portfolio:

BP Laboratory Contract Number:

Requested Due Date (mm/dd/yy)

ate: 11/27/02

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

id 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
:/Fax: 408-776-9600 / 408-782-6308	Address:	Consultant/Contractor PM: Scott Robinson
ort 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: INTRIM -50675

Bottle Order No:

n No.	Sample Description	Time	Matrix: Soil/Solid	Matrix: Water/Liquid	Matrix: Sediments	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)	Requested Analysis: TPH-D (8015)	Requested Analysis: MTBE (8021)	Requested Analysis: MTBE, TAME, ETBE DIPE, TBA (8260)	Requested Analysis: 1,2-DCA & EDB (8260)	Sample Point Lat/Long and Comments
1	MW-4	1100		X				3				X	X		X			
2	MW-5	1052		↓				↓				↓	X		X			
3	MW-8	1045											X		X			
4	VW-1	1005											X		X			
5	VW-4	1030		↓				↓				↓	X		X			
6																		
7																		
8																		
9																		
10																		

	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
ıpler's Name: Michael Nicolaou						
ıpler's Company: Blaine Tech	/BTS	12/3/02	1217		12/3/02	1327
ɔment Date:						
ɔment Method:						
ɔment Tracking No:						

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

tody Seals In Place Yes___ No___ Temperature Blank Yes___ No X Cooler Temperature on Receipt ___°F/C Trip Blank Yes___ No___

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

BP COC Rev. 1 2/5/02

WELLHEAD INSPECTION CHECKLIST

Client URS Arco #6609 Date 11/26/02

Site Address 6235 Seminary Ave, Oakland

Job Number 021126-MW1 Technician MDW

Well ID	Well Inspected - No Corrective Action Required	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)	Repair Order Submitted
MW-3					X			
VW-1					X			
VW-3				X	X			

NOTES:

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:

added equip. rinse water 10.0

any other adjustments

TOTAL GALS. RECOVERED 35.0

loaded onto BTS vehicle # 47

BTS event #	time	date
021127-MW1	1100	11/27/02

signature

* *

REC'D AT	time	date
BTS	1700	11/27/02

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

19 December, 2002

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

RE: ARCO #6002, Oakland, Ca
Sequoia Work Order: MLL0089

Enclosed are the results of analyses for samples received by the laboratory on 12/03/02 14:50. 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 Dr
Morgan Hill, CA 95037
(408) 776-9600
FAX (408) 782-6308
www.sequoialabs.com

URS Corporation	Project: ARCO #6002, Oakland, Ca	MLL0089
500 12th Street, Suite 100	Project Number: ARCO #6002, Oakland, CA	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	12/19/02 08:53

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-4	MLL0089-01	Water	11/27/02 11:00	12/03/02 14:50
MW-5	MLL0089-02	Water	11/27/02 10:52	12/03/02 14:50
MW-8	MLL0089-03	Water	11/27/02 10:45	12/03/02 14:50
VW-1	MLL0089-04	Water	11/27/02 10:05	12/03/02 14:50
VW-4	MLL0089-05	Water	11/27/02 10:30	12/03/02 14:50

There were no custody seals that were received with this project.

Sequoia Analytical

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

URS Corporation	Project: ARCO #6002, Oakland, Ca	MLL0089
500 12th Street, Suite 100	Project Number: ARCO #6002, Oakland, CA	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	12/19/02 08:53

Volatile Organic Compounds by EPA Method 8260B

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 (MLL0089-01) Water Sampled: 11/27/02 11:00 Received: 12/03/02 14:50									**A-01**
Methyl tert-butyl ether	**4.7**	0.50	ug/l	1	2L09008	12/09/02	12/10/02	EPA 8260B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Gasoline Range Organics (C6-C10)	ND	50	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*87.8 %*	*78-129*		"	"	"	"	
MW-5 (MLL0089-02) Water Sampled: 11/27/02 10:52 Received: 12/03/02 14:50									**A-01**
Methyl tert-butyl ether	**150**	10	ug/l	20	2L09008	12/09/02	12/10/02	EPA 8260B	
Benzene	ND	10	"	"	"	"	"	"	
Toluene	ND	10	"	"	"	"	"	"	
Ethylbenzene	**33**	10	"	"	"	"	"	"	
Xylenes (total)	ND	10	"	"	"	"	"	"	
Gasoline Range Organics (C6-C10)	**2200**	1000	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*88.8 %*	*78-129*		"	"	"	"	
MW-8 (MLL0089-03) Water Sampled: 11/27/02 10:45 Received: 12/03/02 14:50									**A-01**
Methyl tert-butyl ether	ND	0.50	ug/l	1	2L09008	12/09/02	12/10/02	EPA 8260B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Gasoline Range Organics (C6-C10)	ND	50	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*89.0 %*	*78-129*		"	"	"	"	

Sequoia Analytical

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FAX (408) 782-6308
www.sequoialabs.com

URS Corporation	Project: ARCO #6002, Oakland, Ca	MLL0089
500 12th Street, Suite 100	Project Number: ARCO #6002, Oakland, CA	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	12/19/02 08:53

Volatile Organic Compounds by EPA Method 8260B

Sequoia Analytical - Morgan Hill

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
VW-1 (MLL0089-04) Water Sampled: 11/27/02 10:05 Received: 12/03/02 14:50									**A-01**
Methyl tert-butyl ether	**21**	0.50	ug/l	1	2L09008	12/09/02	12/10/02	EPA 8260B	
Benzene	**0.72**	0.50	"	"	"	"	"	"	
Toluene	**0.78**	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Gasoline Range Organics (C6-C10)	**52**	50	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*89.2 %*	*78-129*		"	"	"	"	
VW-4 (MLL0089-05) Water Sampled: 11/27/02 10:30 Received: 12/03/02 14:50									
Methyl tert-butyl ether	**3800**	100	ug/l	200	2L10015	12/10/02	12/10/02	EPA 8260B	
Benzene	ND	100	"	"	"	"	"	"	
Toluene	ND	100	"	"	"	"	"	"	
Ethylbenzene	ND	100	"	"	"	"	"	"	
Xylenes (total)	ND	100	"	"	"	"	"	"	
Gasoline Range Organics (C6-C10)	ND	10000	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*86.2 %*	*78-129*		"	"	"	"	

Sequoia Analytical

885 Jarvis Dr
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URS Corporation	Project: ARCO #6002, Oakland, Ca	MLL0089
500 12th Street, Suite 100	Project Number: ARCO #6002, Oakland, CA	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	12/19/02 08:53

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2L09008 - EPA 5035										
Blank (2L09008-BLK1)				Prepared & Analyzed: 12/09/02						**A-01**
Methyl tert-butyl ether	ND	0.50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Gasoline Range Organics (C6-C10)	ND	50	"							
Surrogate: 1,2-Dichloroethane-d4	*4.33*		"	*5.00*		*86.6*	*78-129*			
Laboratory Control Sample (2L09008-BS1)				Prepared & Analyzed: 12/09/02						**A-01**
Methyl tert-butyl ether	10.6	0.50	ug/l	10.0		106	63-137			
Benzene	9.70	0.50	"	10.0		97.0	78-124			
Toluene	9.77	0.50	"	10.0		97.7	78-129			
Surrogate: 1,2-Dichloroethane-d4	*4.13*		"	*5.00*		*82.6*	*78-129*			
Laboratory Control Sample (2L09008-BS2)				Prepared & Analyzed: 12/09/02						**A-01**
Methyl tert-butyl ether	9.71	0.50	ug/l	8.40		116	63-137			
Benzene	5.04	0.50	"	5.28		95.5	78-124			
Toluene	29.3	0.50	"	31.8		92.1	78-129			
Gasoline Range Organics (C6-C10)	340	50	"	440		77.3	70-113			
Surrogate: 1,2-Dichloroethane-d4	*4.17*		"	*5.00*		*83.4*	*78-129*			
Laboratory Control Sample Dup (2L09008-BSD1)				Prepared: 12/09/02 Analyzed: 12/10/02						**A-01**
Methyl tert-butyl ether	12.3	0.50	ug/l	10.0		123	63-137	14.8	13	QR-02
Benzene	10.5	0.50	"	10.0		105	78-124	7.92	12	
Toluene	9.54	0.50	"	10.0		95.4	78-129	2.38	10	
Surrogate: 1,2-Dichloroethane-d4	*4.46*		"	*5.00*		*89.2*	*78-129*			
Laboratory Control Sample Dup (2L09008-BSD2)				Prepared: 12/09/02 Analyzed: 12/10/02						**A-01**
Methyl tert-butyl ether	10.2	0.50	ug/l	8.40		121	63-137	4.92	13	
Benzene	5.31	0.50	"	5.28		101	78-124	5.22	12	

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URS Corporation	Project: ARCO #6002, Oakland, Ca	MLL0089
500 12th Street, Suite 100	Project Number: ARCO #6002, Oakland, CA	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	12/19/02 08:53

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2L09008 - EPA 5035										
Laboratory Control Sample Dup (2L09008-BSD2)				Prepared: 12/09/02 Analyzed: 12/10/02						**A-01**
Toluene	30.8	0.50	ug/l	31.8		96.9	78-129	4.99	10	
Gasoline Range Organics (C6-C10)	459	50	"	440		104	70-113	29.8	9	A-02,QR-02
Surrogate: 1,2-Dichloroethane-d4	*4.37*		"	*5.00*		*87.4*	*78-129*			
Batch 2L10015 - EPA 5035										
Blank (2L10015-BLK1)				Prepared & Analyzed: 12/10/02						
Methyl tert-butyl ether	ND	0.50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Gasoline Range Organics (C6-C10)	ND	50	"							
Surrogate: 1,2-Dichloroethane-d4	*4.34*		"	*5.00*		*86.8*	*78-129*			
Laboratory Control Sample (2L10015-BS1)				Prepared & Analyzed: 12/10/02						
Methyl tert-butyl ether	11.6	0.50	ug/l	10.0		116	63-137			
Benzene	10.4	0.50	"	10.0		104	78-124			
Toluene	9.77	0.50	"	10.0		97.7	78-129			
Surrogate: 1,2-Dichloroethane-d4	*4.49*		"	*5.00*		*89.8*	*78-129*			
Laboratory Control Sample (2L10015-BS2)				Prepared & Analyzed: 12/10/02						
Methyl tert-butyl ether	10.0	0.50	ug/l	8.40		119	63-137			
Benzene	5.29	0.50	"	5.28		100	78-124			
Toluene	33.0	0.50	"	31.8		104	78-129			
Gasoline Range Organics (C6-C10)	444	50	"	440		101	70-113			
Surrogate: 1,2-Dichloroethane-d4	*4.20*		"	*5.00*		*84.0*	*78-129*			

Sequoia Analytical

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URS Corporation	Project: ARCO #6002, Oakland, Ca	MLL0089
500 12th Street, Suite 100	Project Number: ARCO #6002, Oakland, CA	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	12/19/02 08:53

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2L10015 - EPA 5035										
Laboratory Control Sample Dup (2L10015-BSD1)				Prepared & Analyzed: 12/10/02						
Methyl tert-butyl ether	12.0	0.50	ug/l	10.0		120	63-137	3.39	13	
Benzene	9.98	0.50	"	10.0		99.8	78-124	4.12	12	
Toluene	9.51	0.50	"	10.0		95.1	78-129	2.70	10	
Surrogate: 1,2-Dichloroethane-d4	*4.35*		"	*5.00*		*87.0*	*78-129*			
Laboratory Control Sample Dup (2L10015-BSD2)				Prepared & Analyzed: 12/10/02						
Methyl tert-butyl ether	10.6	0.50	ug/l	8.40		126	63-137	5.83	13	
Benzene	5.15	0.50	"	5.28		97.5	78-124	2.68	12	
Toluene	29.5	0.50	"	31.8		92.8	78-129	11.2	10	QR-02
Gasoline Range Organics (C6-C10)	481	50	"	440		109	70-113	8.00	9	
Surrogate: 1,2-Dichloroethane-d4	*4.60*		"	*5.00*		*92.0*	*78-129*			

Sequoia Analytical

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URS Corporation	Project: ARCO #6002, Oakland, Ca	MLL0089
500 12th Street, Suite 100	Project Number: ARCO #6002, Oakland, CA	**Reported:**
Oakland CA, 94607	Project Manager: Scott Robinson	12/19/02 08:53

Notes and Definitions

A-01	Vinyl chloride exceeds the CCC criteria for the continuing calibration. All target compounds pass the individual compound criteria for the continuing calibration.
A-02	This sample exceeded the 12 hour analysis window for this analyte.
QR-02	The RPD result exceeded the control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
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

MLL0089

Page 1 of 1

Project Name 28-1127-7021

BP BU/GEM CO Portfolio:

BP Laboratory Contract Number:

Date: 11/27/02

Requested Due Date (mm/dd/yy)

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

Send To:	BP/GEM Facility No.:
Lab Name: SEQUOIA	BP/GEM Facility Address: 6235 Seminary Ave, OAKLAND, CA
Lab Address: 885 Jarvis Dr. Morgan Hill, CA 95037	Site ID No. ARCO 6002
	Site Lat/Long:
	California Global ID #: T0600100105
Lab PM: Latonya Pelt	BP/GEM PM Contact: PAUL SUPPLE
Tele/Fax: 408-776-9600 / 408-782-6308	Address:
Report Type & QC Level: Send EDF Reports	
BP/GEM Account No.:	Tele/Fax:

Consultant/Contractor: URS	
Address: 500 12th St., Ste. 200 Oakland, CA 94609-4014	
e-mail: EDD: syed_rehan@urscorp.com	
Consultant/Contractor Project No.: 35-00006002.01 00427	
Consultant Tele/Fax: 510-874-1735/510-874-3268	
Consultant/Contractor PM: Scott Robinson	
Invoice to: Consultant/Contractor or BP/GEM (circle one)	
BP/GEM Work Release No: INTRIM -50675	

Lab Bottle Order No:

Item No.	Sample Description	Time	Matrix: Soil/Solid	Matrix: Water/Liquid	Matrix: Sediments	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)	Requested Analysis: TPH-D (8015)	Requested Analysis: MTBE (8021)	Requested Analysis: MTBE, TAME, ETBE DIPE, TBA (8260)	Requested Analysis: 1,2-DCA & EDB (8260)	Sample Point Lat/Long and Comments
1	MW-4	1100		X			01	3				X	X		X			
2	MW-5	1052		"			02	"				"	X		X			
3	MW-8	1045		"			03	"				"	X		X			
4	VW-1	1005		"			04	"				"	X		X			
5	VW-4	1030		"			05	"				"	X		X			
6																		
7																		
8																		
9																		
10																		

	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Name: Michael Nusbaum						
Sampler's Company: Blaine Tech		12/3/02	1327		12/3/02	1327
Shipment Date:		12/3/02	1450		12/3/02	1450
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 4 °F/C Trip Blank Yes ___ No ✓

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

BP COC Rev. 1 2/5/02

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: IRS
REC. BY (PRINT): T
WORKORDER: 212-0089

DATE Received at Lab: 12/03/02
TIME Received at Lab: 1450
LOGIN DATE: 12-4-02

Drinking water for regulatory purposes: YES / (NO)
Wastewater for regulatory purposes: YES / (NO)

CIRCLE THE APPROPRIATE RESPONSE	LAB SAMPLE #	#	CLIENT ID	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMPLED	REMARKS: CONDITION (ETC.)
1. Custody Seal(s) — Present / Absent Intact / Broken*	1		MW-4	(3) Voas HCl	(L)	11/27/02	no lot numbers
2. Chain-of-Custody — Present / Absent*	2		MW-5	↓	↓	↓	
3. Traffic Reports or Packing List: Present / Absent	3		MW-8				
4. Airbill: Airbill / Sticker Present / Absent	4		VW-1				
5. Airbill #:	5		VW-4				
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 custody reports, traffic reports and sample labels agree? Yes / No*							
10. Sample received within hold time: Yes / No*							
11. Proper Preservatives used: Yes / No*							
12. Temp Rec. at Lab: 4°C (Acceptance range for samples requiring thermal pres.:4+/-2°C) Yes / No** **Exception (if any):							

*If Circled, contact Project Manager and attach record of resolution.

Sample Receipt Log
Revision 2.2 (04/11/02)
Replaces: Revision 2.1 (11/10/00)
Active 04/15/02

ATTACHMENT C

EDCC REPORT AND EDF/GEOWELL SUBMITTAL CONFIRMATION

Error Summary Log

01/06/03

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:	MLL0089
Global ID:	T0600100105
Lab Report Number:	MLL0089121920020853

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run	Sub
MLL00891219200 20853	MW-4	MLL008901	W	CS	8260+OX	SW5035	11/27/02	12/09/02	12/10/02	2L09008	1	
MLL00891219200 20853	MW-5	MLL008902	W	CS	8260+OX	SW5035	11/27/02	12/09/02	12/10/02	2L09008	1	
MLL00891219200 20853	MW-8	MLL008903	W	CS	8260+OX	SW5035	11/27/02	12/09/02	12/10/02	2L09008	1	
MLL00891219200 20853	VW-1	MLL008904	W	CS	8260+OX	SW5035	11/27/02	12/09/02	12/10/02	2L09008	1	
MLL00891219200 20853	VW-4	MLL008905	W	CS	8260+OX	SW5035	11/27/02	12/10/02	12/10/02	2L10015	1	
		2L09008BSD1	WQ	BD1	8260+OX	SW5035	/ /	12/09/02	12/10/02	2L09008	1	
		2L09008BSD2	WQ	BD2	8260+OX	SW5035	/ /	12/09/02	12/10/02	2L09008	1	
		2L09008BS1	WQ	BS1	8260+OX	SW5035	/ /	12/09/02	12/09/02	2L09008	1	
		2L09008BS2	WQ	BS2	8260+OX	SW5035	/ /	12/09/02	12/09/02	2L09008	1	
		2L09008BLK1	WQ	LB1	8260+OX	SW5035	/ /	12/09/02	12/09/02	2L09008	1	
		2L10015BSD1	WQ	BD1	8260+OX	SW5035	/ /	12/10/02	12/10/02	2L10015	1	
		2L10015BSD2	WQ	BD2	8260+OX	SW5035	/ /	12/10/02	12/10/02	2L10015	1	
		2L10015BS1	WQ	BS1	8260+OX	SW5035	/ /	12/10/02	12/10/02	2L10015	1	
		2L10015BS2	WQ	BS2	8260+OX	SW5035	/ /	12/10/02	12/10/02	2L10015	1	
		2L10015BLK1	WQ	LB1	8260+OX	SW5035	/ /	12/10/02	12/10/02	2L10015	1	

EDFSAMP: Error Summary Log

01/06/03

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

EDFTEST: Error Summary Log

01/06/03

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

EDFRES: Error Summary Log

01/06/03

Error type	Labsampid	Qccode	Matrix	Anmcode	Pvccode	Anadate	Run number	Parlabel
Warning: extra parameter	MLL008901	CS	W	8260+OX	PR	12/10/02	1	GROC6C10
Warning: extra parameter	MLL008901	CS	W	8260+OX	PR	12/10/02	1	XYLENES
Warning: extra parameter	MLL008902	CS	W	8260+OX	PR	12/10/02	1	GROC6C10
Warning: extra parameter	MLL008902	CS	W	8260+OX	PR	12/10/02	1	XYLENES
Warning: extra parameter	MLL008903	CS	W	8260+OX	PR	12/10/02	1	GROC6C10
Warning: extra parameter	MLL008903	CS	W	8260+OX	PR	12/10/02	1	XYLENES
Warning: extra parameter	MLL008904	CS	W	8260+OX	PR	12/10/02	1	GROC6C10
Warning: extra parameter	MLL008904	CS	W	8260+OX	PR	12/10/02	1	XYLENES
Warning: extra parameter	MLL008905	CS	W	8260+OX	PR	12/10/02	1	GROC6C10
Warning: extra parameter	MLL008905	CS	W	8260+OX	PR	12/10/02	1	XYLENES
Warning: extra parameter	2L09008BLK1	LB1	WQ	8260+OX	PR	12/09/02	1	GROC6C10
Warning: extra parameter	2L09008BLK1	LB1	WQ	8260+OX	PR	12/09/02	1	XYLENES
Warning: extra parameter	2L09008BS2	BS2	WQ	8260+OX	PR	12/09/02	1	GROC6C10
Warning: extra parameter	2L09008BSD2	BD2	WQ	8260+OX	PR	12/10/02	1	GROC6C10
Warning: extra parameter	2L10015BLK1	LB1	WQ	8260+OX	PR	12/10/02	1	GROC6C10
Warning: extra parameter	2L10015BLK1	LB1	WQ	8260+OX	PR	12/10/02	1	XYLENES
Warning: extra parameter	2L10015BS2	BS2	WQ	8260+OX	PR	12/10/02	1	GROC6C10
Warning: extra parameter	2L10015BSD2	BD2	WQ	8260+OX	PR	12/10/02	1	GROC6C10

EDFQC: Error Summary Log

01/06/03

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

EDFCL: Error Summary Log

01/06/03

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

AB2886 Electronic Delivery

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Your EDF file has been succcessfully uploaded!

Confirmation Number: 2164257347
Date/Time of Submittal: 1/20/2003 2:43:20 PM
Facility Global ID: T0600100105
Facility Name: ARCO
Submittal Title: 4th Qtr 2002 Monitoring Report for #6002
Submittal Type: GW Monitoring Report

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AB2886 Electronic Delivery

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Processing is complete. No errors were found!
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Submittal Title:	**4th Qtr 2002 Monitoring Report for # 6002**
Submittal Date/Time:	**1/20/2003 2:51:39 PM**
Confirmation Number:	**5691090226**

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