

April 22, 2003

Ms. Susan Hugo
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Alameda County
APR 30 2003
Environmental Health

**Re: First Quarter 2003 Groundwater Monitoring Report
ARCO Service Station # 4931
731 West MacArthur Boulevard
Oakland, California
URS Project #38486123**

Dear Ms. Hugo:

On behalf of Atlantic Richfield Company (ARCO – an affiliated company of the Group Environmental Management Company), URS Corporation (URS) is submitting the *First Quarter 2003 Groundwater Monitoring Report* for ARCO Service Station #4931, located at 731 West MacArthur Boulevard, Oakland, California.

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

Sincerely,

URS CORPORATION



Scott Robinson
Project Manager



Robert Horwath, R.G. 5925
Portfolio Manager



Enclosure: First Quarter 2003 Groundwater Monitoring Report

cc: Mr. Paul Supple, ARCO, P.O. Box 6549, Moraga, CA 94570
Mr. Chuck Headlee, Regional Water Quality Control Board - San Francisco Bay Region, 1515
Clay Street, Suite 1400, Oakland, CA 94612



Atlantic Richfield Company
(a BP affiliated company)

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



Alameda County
APR 30 2003
Environmental Health
April 22, 2003

Re: First Quarter 2003 Groundwater Monitoring Report
ARCO Station 4931
731 West MacArthur Boulevard
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

Alameda County
APR 30 2003
Environmental Health

**FIRST QUARTER 2003
GROUNDWATER MONITORING**

ARCO SERVICE STATION #4931
731 WEST MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

Prepared for
Atlantic Richfield Company

April 22, 2003

URS

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

38486123

Date: April 22, 2003

Quarter: 1Q 03

ATLANTIC RICHFIELD COMPANY QUARTERLY GROUNDWATER MONITORING REPORT

Former Facility No.: 4931 Address: 731 West MacArthur Boulevard, Oakland, California

Atlantic Richfield Co. Environmental Engineer: Paul Supple

Consulting Co./Contact Person: URS Corporation / Scott Robinson

Consultant Project No.: 38486123

Primary Agency: Alameda County Health Care Services Agency (ACHCSA)

WORK PERFORMED THIS QUARTER (First – 2003):

1. Performed first quarter groundwater monitoring event on January 30, 2003.
2. Prepared and submitted fourth quarter 2002 groundwater monitoring report.
3. Remediation equipment was removed from the site and the equipment compound was demolished on February 28, 2003.
4. Prepared and submitted report on product line removal and upgrade activities.

WORK PROPOSED FOR NEXT QUARTER (Second – 2003):

1. Perform second quarter 2003 groundwater monitoring event.
2. Prepare and submit first quarter 2003 groundwater monitoring report.
3. Replace Oxygen Releasing Compound (ORC) in wells A-4, A-8, A-9, and AR-1.

Current Phase of Project: Remediation/GW monitoring/sampling

Frequency of Groundwater Sampling: Annual (2nd Quarter): A-7, A-13
Semi-Annual (2nd/4th Quarter): A-3, A-5, A-11, A-12
Quarterly: A-2, A-4, A-6, A-8, A-9

Frequency of Groundwater Monitoring: Quarterly

Free Product (FP) Present On-Site: None

Current Remediation Techniques: Intrinsic Bioremediation Enhancement using ORC in A-4, A-8, A-9, and AR-1

Approximate Depth to Groundwater: 3.89 (AR-2) to 8.42 (A-11) feet

Groundwater Gradient (direction): Variable but generally to the northwest

Groundwater Gradient (magnitude): Variable

DISCUSSION:

Beginning this quarter, groundwater samples were analyzed by EPA method 8260B for TPH-g, BTEX, and fuel oxygenates. TPH-g was detected in one of the four wells sampled this quarter at a concentration of 6,000 µg/L (A-4). Well A-8 has a history of containing dissolved TPH-g. This quarter, A-8 was not detected but the laboratory reporting limit was raised to 10,000 µg/L due to the high concentrations of MTBE.

Benzene was detected in two wells at concentrations of 180 µg/L (A-4) and 1,100 µg/L (A-8). MTBE was detected in three wells at concentrations ranging from 1.1 µg/L (A-9) to 2,200 µg/L (A-8). Well A-6 was inaccessible for sampling as it appears to have been paved over.

RECOMMENDATIONS:

We recommend the following changes in sampling frequency due to consistently low or non-detectable concentrations of the constituents of concern: 1) wells A-3 and A-11 from semi-annual to annual, and 2) wells A-2 and A-9 from quarterly to annually. We further recommend adding well A-10 to the annual sampling event.

ATTACHMENTS:

- Table 1 – Groundwater Elevation and Analytical Data
- Table 2 – Groundwater Flow Direction and Gradient
- Table 3 – Oxygenate Analytical Data
- Figure 1 – Groundwater Elevation Contour and Analytical Summary Map – January 30, 2003
- Attachment A – Field Procedures and Field Data Sheets
- Attachment B – Laboratory Procedures, Certified Analytical Reports and Chain-of-Custody Records
- Attachment C – Historic Groundwater Data
- Attachment D – EDCC and EDF/Geowell Submittal Confirmation

Table 1
Groundwater Elevation and Analytical Data

ARCO Service Station #4931
731 West Macarthur Boulevard
Oakland, California

Well Number	Date Sampled	Top of Riser Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPH			Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	D.O. (mg/L)	
					as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)					
A-2	06/21/00	55.48	6.85	48.63	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<3.0	NA	
	09/20/00		10.45	45.03	ND<50	ND< 0.5	ND< 0.5	ND<0.5	ND<0.5	ND<2.5	NA	
	12/26/00		6.27	49.21	ND< 50	ND< 0.5	ND< 0.5	ND< 0.5	ND<0.5	ND<2.5	NA	
	03/20/01		4.57	50.91	ND< 50	ND< 0.5	ND< 0.5	ND< 0.5	ND<0.5	ND<2.5	NA	
	06/12/01		9.27	46.21	ND< 50	ND< 0.5	ND< 0.5	ND< 0.5	ND<0.5	ND<2.5	NA	
	09/23/01		10.75	44.73	ND< 50	ND< 0.5	ND< 0.5	ND< 0.5	ND<0.5	ND<2.5	NA	
	12/31/01		4.13	51.35	ND<50	ND< 0.5	ND< 0.5	1	3.2	ND<2.5	NA	
	03/21/02		3.26	52.22	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA	
	04/17/02		3.72	51.76	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	3.1	NA	
	08/12/02		NP	9.95	45.53	ND<10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.50	NA
	12/06/02		NP	10.01	45.47	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	6.0	3.1
	01/30/02*		NP	5.08	50.40	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	2.6
	A-3		06/21/00	54.66	9.48	45.18	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	46
09/20/00		10.24	44.42		ND<50	ND< 0.5	ND< 0.5	ND<0.5	ND<0.5	89.6	NA	
12/26/00		9.58	45.08		ND< 50	ND< 0.5	ND< 0.5	ND< 0.5	ND<0.5	7.11	NA	
03/20/01		6.34	48.32		NS	NS	NS	NS	NS	NS	NA	
06/12/01		9.76	44.90		ND< 50	ND< 0.5	ND< 0.5	ND< 0.5	ND<0.5	86	NA	
09/23/01		10.55	44.11		NS	NS	NS	NS	NS	NS	NA	
12/31/01		3.70	50.96		ND<50	ND< 0.5	ND< 0.5	ND< 0.5	1	60	NA	
03/21/02		5.75	48.91		NS	NS	NS	NS	NS	NS	NA	
04/17/02		7.27	47.39		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	45	NA	
08/12/02		9.71	44.95		NS	NS	NS	NS	NS	NS	NA	
12/06/02		P	9.55		45.11	ND<500	ND<5.0	ND<5.0	ND<5.0	ND<5.0	150	2.4
01/30/02*			6.05		48.61	NS	NS	NS	NS	NS	NS	NA

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					as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)					
A-4	06/21/00	54.73	9.49	45.24	2,100	110	2.1	11	5.9	2,000	NA	
	09/20/00		10.33	44.40	1,540	127	ND<5.0	9.07	7.42	1,940	NA	
	12/26/00		9.34	45.39	1,550	42.7	ND<5.0	11	10.9	1,210	NA	
	03/20/01		7.56	47.17	913	40.9	ND<5.0	15.5	14.6	ND<25	NA	
	06/12/01		9.83	44.90	2,000	230	ND<20	21	ND<20	4,700	NA	
	09/23/01		10.54	44.19	1,600	35	ND<10	ND<10	ND<10	3,000	NA	
	12/31/01		5.42	49.31	ND<500	ND<5.0	ND<5.0	ND<5.0	ND<5.0	880	NA	
	03/21/02		6.18	48.55	ND<5,000	ND<50	ND<50	ND<50	ND<50	1,400	NA	
	04/17/02		7.34	47.39	1,300	79	31	17	55	2,200	NA	
	08/12/02		P	9.56	45.17	2,400 ^a	120	ND<5.0	ND<5.0	ND<5.0	2,100	NA
	12/06/02		P	10.02	44.71	2,200	110	10	42	56	2,000	NA
	01/30/02*		P	7.55	47.18	6,000	180	ND<50	85	ND<50	2,100	1.8
	A-5		06/21/00	54.17	9.29	44.88	980	ND<0.5	ND<0.5	ND<0.5	ND<1.0	2,000
09/20/00		10.23	43.94		NS	NS	NS	NS	NS	NS	NA	
12/26/00		9.65	44.52		525	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1,200	NA	
03/20/01		8.05	46.12		NS	NS	NS	NS	NS	NS	NA	
06/12/01		9.81	44.36		830	ND<5.0	ND<5.0	ND<5.0	ND<5.0	3,200	NA	
09/23/01		10.42	43.75		NS	NS	NS	NS	NS	NS	NA	
12/31/01		6.03	48.14		320	ND<0.5	ND<0.5	ND<0.5	ND<0.5	60	NA	
03/21/02		6.71	47.46		NS	NS	NS	NS	NS	NS	NA	
04/17/02		8.01	46.16		1,600	ND<10	ND<10	ND<10	ND<10	3,200	NA	
08/12/02		9.87	44.30		NS	NS	NS	NS	NS	NS	NA	
12/06/02		P	9.66		44.51	310	ND<0.50	ND<0.50	ND<0.50	ND<0.50	330	1.9
01/30/02*			7.67		46.50	NS	NS	NS	NS	NS	NS	NA

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					as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)						
A-6	06/21/00	55.17	8.67	46.50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<3.0	NA		
	09/20/00		9.34	45.83	ND<50	ND< 0.5	ND< 0.5	ND<0.5	ND<0.5	ND<2.5	NA		
	12/26/00		8.65	46.52	ND< 50	ND< 0.5	ND< 0.5	ND< 0.5	ND<0.5	ND<2.5	NA		
	03/20/01		6.84	48.33	ND< 50	ND< 0.5	ND< 0.5	ND< 0.5	ND<0.5	ND<2.5	NA		
	06/12/01		8.93	46.24	ND< 50	ND< 0.5	ND< 0.5	ND< 0.5	ND<0.5	7	NA		
	09/23/01		9.74	45.43	ND< 50	ND< 0.5	ND< 0.5	ND< 0.5	ND<0.5	ND<2.5	NA		
	12/31/01		4.81	50.36	ND< 50	ND< 0.5	ND< 0.5	ND< 0.5	ND<0.5	3.2	NA		
	03/21/02		5.44	49.73	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA		
	04/17/02		6.95	48.22	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	3.1	NA		
	08/12/02		NP	8.90	46.27	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA	
	12/06/02			Unable to Sample, Well Paved Over									
	01/30/02*			Unable to Sample, Well Paved Over									
	A-7		06/21/00	54.71	8.58	46.13	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<3.0	NA
			09/20/00		9.19	45.52	NS	NS	NS	NS	NS	NS	NA
12/26/00		8.50	46.21		NS	NS	NS	NS	NS	NS	NA		
03/20/01		6.75	47.96		NS	NS	NS	NS	NS	NS	NA		
06/12/01		8.80	45.91		ND< 50	ND< 0.5	ND< 0.5	ND< 0.5	ND<0.5	ND<2.5	NA		
09/23/01		9.59	45.12		NS	NS	NS	NS	NS	NS	NA		
12/31/01		4.78	49.93		NS	NS	NS	NS	NS	NS	NA		
03/21/02		5.35	49.36		NS	NS	NS	NS	NS	NS	NA		
04/17/02		6.88	47.83		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	2.5	NA		
08/12/02		8.77	45.94		NS	NS	NS	NS	NS	NS	NA		
12/06/02		9.07	45.64		NS	NS	NS	NS	NS	NS	NA		
01/30/02*		6.65	48.06		NS	NS	NS	NS	NS	NS	NA		

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					as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)					
A-8	06/21/00	53.77	9.07	44.70	810	ND<0.5	ND<0.5	ND<0.5	810	1,500	NA	
	09/20/00		9.72	44.05	10,800	2,680	46	439	370	4,410	NA	
	12/26/00		9.20	44.57	7,700	1,440	ND<50	202	106	2,230	NA	
	03/20/01		7.51	46.26	ND<5,000	1,280	ND<50	53.9	ND<50	2,880	NA	
	06/12/01		9.53	44.24	5,600	1,700	ND<50	61	54	2,900	NA	
	09/23/01		10.08	43.69	10,000	3,500	ND<50	110	64	6,500	NA	
	12/31/01		4.34	49.43	4,300	610	ND<10	60	24	520	NA	
	03/21/02		6.67	47.10	6,600	1400	ND<50	130	ND<50	2,700	NA	
	04/17/02		7.72	46.05	3,800	540	ND<10	ND<10	12	3,100	NA	
	08/12/02		NP	9.64	44.13	9,400	1,800	ND<20	35	28	4,200	NA
	12/06/02		NP	9.62	44.15	5,300	1,100	11	11	ND<10	2,200 ^b	1.4
	01/30/02*		NP	7.49	46.28	ND<10,000	1,100	ND<100	ND<100	ND<100	2,200	1.5
A-9	06/21/00	53.04	8.56	44.48	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	5.0	NA	
	09/20/00		9.05	43.99	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA	
	12/26/00		8.49	44.55	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA	
	03/20/01		6.95	46.09	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA	
	06/12/01		8.67	44.37	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	4.8	NA	
	09/23/01		9.21	43.83	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA	
	12/31/01		4.57	48.47	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA	
	03/21/02		5.60	47.44	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA	
	04/17/02		6.89	46.15	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA	
	08/12/02		P	8.71	44.33	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	NA
	12/06/02		P	8.77	44.27	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.0	1.1
	01/30/02*		P	6.88	46.16	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	1.1	0.9

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Well Number	Date Sampled	Top of Riser Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPH			Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	D.O. (mg/L)	
					as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)					
A-10	06/21/00	54.26	10.47	43.79	NS	NS	NS	NS	NS	NS	NA	
	09/20/00		10.76	43.50	NS	NS	NS	NS	NS	NS	NA	
	12/26/00		NM	NC	NS	NS	NS	NS	NS	NS	NM	
	03/20/01		NM	NC	NS	NS	NS	NS	NS	NS	NM	
	09/23/01		NM	NC	NS	NS	NS	NS	NS	NS	NM	
	12/31/01		NM	NC	NS	NS	NS	NS	NS	NS	NM	
	03/21/02		NM	NC	NS	NS	NS	NS	NS	NS	NM	
	04/17/02		NM	NC	NS	NS	NS	NS	NS	NS	NM	
	08/12/02		NM	NC	NS	NS	NS	NS	NS	NS	NM	
	12/06/02		NM	NC	NS	NS	NS	NS	NS	NS	NM	
	01/30/02*		NM	NC	NS	NS	NS	NS	NS	NS	NS	NM
A-11	06/21/00	53.74	9.54	44.20	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	4.0	NA	
	09/20/00		10.62	43.12	NS	NS	NS	NS	NS	NS	NA	
	12/26/00		10.03	43.71	ND< 50	ND< 0.5	ND< 0.5	ND< 0.5	ND<0.5	ND<2.5	NA	
	03/20/01		8.49	45.25	NS	NS	NS	NS	NS	NS	NA	
	06/12/01		10.21	43.53	ND< 50	ND< 0.5	ND< 0.5	ND< 0.5	ND<0.5	ND<2.5	NA	
	09/23/01		10.77	42.97	NS	NS	NS	NS	NS	NS	NA	
	12/31/01		6.06	47.68	ND< 50	ND< 0.5	ND< 0.5	ND< 0.5	ND<0.5	ND<2.5	NA	
	03/21/02		7.14	46.60	NS	NS	NS	NS	NS	NS	NA	
	04/17/02		8.41	45.33	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA	
	08/12/02		10.25	43.49	NS	NS	NS	NS	NS	NS	NA	
	12/06/02		P	10.43	43.31	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.0	2.4
	01/30/02*		8.42	45.32	NS	NS	NS	NS	NS	NS	NS	NA

Table 1
Groundwater Elevation and Analytical Data

ARCO Service Station #4931
731 West Macarthur Boulevard
Oakland, California

Well Number	Date Sampled	Top of Riser Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPH					D.O. (mg/L)		
					Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)		MTBE (µg/L)	
A-12	06/21/00	52.05	9.28	42.77	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	18	NA	
	09/20/00		9.55	42.50	NS	NS	NS	NS	NS	NS	NA	
	12/26/00		9.05	43.00	ND< 50	ND< 0.5	ND< 0.5	ND< 0.5	ND<0.5	17.3	NA	
	03/20/01		7.92	44.13	NS	NS	NS	NS	NS	NS	NA	
	06/12/01		9.26	42.79	ND< 50	ND< 0.5	ND< 0.5	ND< 0.5	ND<0.5	25	NA	
	09/23/01		9.68	42.37	NS	NS	NS	NS	NS	NS	NA	
	12/31/01		5.74	46.31	ND< 50	ND< 0.5	ND< 0.5	ND< 0.5	ND<0.5	9.5	NA	
	03/21/02		6.64	45.41	NS	NS	NS	NS	NS	NS	NA	
	04/17/02		7.68	44.37	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	29	NA	
	08/12/02		9.30	42.75	NS	NS	NS	NS	NS	NS	NA	
	12/06/2002°		P	9.38	42.67	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	13	2.3
	01/30/02*			7.87	44.18	NS	NS	NS	NS	NS	NS	NA
	A-13		06/21/00	55.11	NM	NC	NS	NS	NS	NS	NS	NS
09/20/00		NM	NC		NS	NS	NS	NS	NS	NS	NM	
12/26/00		NM	NC		NS	NS	NS	NS	NS	NS	NM	
03/20/01		NM	NC		NS	NS	NS	NS	NS	NS	NM	
06/12/01		NM	NC		NS	NS	NS	NS	NS	NS	NM	
09/23/01		NM	NC		NS	NS	NS	NS	NS	NS	NM	
12/31/01		NM	NC		NS	NS	NS	NS	NS	NS	NM	
03/21/02		6.70	48.41		NS	NS	NS	NS	NS	NS	NA	
04/17/02		7.95	47.16		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	NA	
08/12/02		10.11	45.00		NS	NS	NS	NS	NS	NS	NA	
12/06/02		10.26	44.85		NS	NS	NS	NS	NS	NS	NA	
01/30/02*		7.81	47.30		NS	NS	NS	NS	NS	NS	NA	

**Table 1
Groundwater Elevation and Analytical Data**

ARCO Service Station #4931
731 West Macarthur Boulevard
Oakland, California

Well Number	Date Sampled	Top of Riser Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPH			Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	D.O. (mg/L)	
					as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)					
AR-1	06/21/00	54.72	NM	NC	NS	NS	NS	NS	NS	NS	NM	
	09/20/00		NM	NC	NS	NS	NS	NS	NS	NS	NM	
	12/26/00		9.95	44.77	NS	NS	NS	NS	NS	NS	NA	
	03/20/01		8.34	46.38	NS	NS	NS	NS	NS	NS	NA	
	06/12/01		10.17	44.55	NS	NS	NS	NS	NS	NS	NA	
	09/23/01		10.72	44.00	NS	NS	NS	NS	NS	NS	NA	
	12/31/01		5.91	48.81	NS	NS	NS	NS	NS	NS	NA	
	03/21/02		7.00	47.72	NS	NS	NS	NS	NS	NS	NA	
	04/17/02		8.33	46.39	NS	NS	NS	NS	NS	NS	NA	
	08/12/02		10.18	44.54	NS	NS	NS	NS	NS	NS	NA	
	12/06/02		10.21	44.51	NS	NS	NS	NS	NS	NS	NA	
	01/30/02*		8.22	46.50	NS	NS	NS	NS	NS	NS	NS	NA
	AR-2		06/21/00	54.77	NM	NC	NS	NS	NS	NS	NS	NS
09/20/00		NM	NC		NS	NS	NS	NS	NS	NS	NM	
12/26/00		NM	NC		NS	NS	NS	NS	NS	NS	NM	
03/20/01		3.13	51.64		NS	NS	NS	NS	NS	NS	NA	
06/12/01		4.51	50.26		NS	NS	NS	NS	NS	NS	NA	
09/23/01		6.05	48.72		NS	NS	NS	NS	NS	NS	NA	
12/31/01		2.79	51.98		NS	NS	NS	NS	NS	NS	NA	
03/21/02		7.75	47.02		NS	NS	NS	NS	NS	NS	NA	
04/17/02		2.24	52.53		NS	NS	NS	NS	NS	NS	NA	
08/12/02		4.93	49.84		NS	NS	NS	NS	NS	NS	NA	
12/06/02		6.09	48.68		NS	NS	NS	NS	NS	NS	NA	
01/30/02*		3.89	50.88		NS	NS	NS	NS	NS	NS	NS	NA

**Table 1
Groundwater Elevation and Analytical Data**

ARCO Service Station #4931
731 West Macarthur Boulevard
Oakland, California

Well Number	Date Sampled	Top of Riser Elevation (ft)	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPH			Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	D.O. (mg/L)	
					as Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)					
AR-3	06/21/00	54.19	NM	NC	NS	NS	NS	NS	NS	NS	NM	
	09/20/00		NM	NC	NS	NS	NS	NS	NS	NS	NM	
	12/26/00		9.70	44.49	NS	NS	NS	NS	NS	NS	NA	
	03/20/01		NM	NC	NS	NS	NS	NS	NS	NS	NM	
	06/12/01		NM	NC	NS	NS	NS	NS	NS	NS	NM	
	09/23/01		10.43	43.76	NS	NS	NS	NS	NS	NS	NA	
	12/31/01		5.18	49.01	NS	NS	NS	NS	NS	NS	NA	
	03/21/02		6.78	47.41	NS	NS	NS	NS	NS	NS	NA	
	04/17/02		8.06	46.13	NS	NS	NS	NS	NS	NS	NA	
	08/12/02		9.94	44.25	NS	NS	NS	NS	NS	NS	NA	
	12/06/02		9.99	44.20	NS	NS	NS	NS	NS	NS	NA	
	01/30/02*		7.96	46.23	NS	NS	NS	NS	NS	NS	NS	NA

- TPH = Total Petroleum Hydrocarbons analyzed using EPA Method 8015B modified
- MTBE = Methyl tertiary butyl ether analyzed by EPA Method 8021B unless otherwise noted
- note = Samples taken 12/06/02 analyzed using DHS LUFT
- µg/L = Micrograms per liter
- NM = Not measured
- NC = Not calculated
- NS = Not sampled
- NA = Not available
- ND< = Not detected at or above the specified laboratory detection limit
- P = Purge
- NP = Not purged
- a = Hydrocarbon pattern is present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel.
- b = The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.
- c = This sample was analyzed beyond the EPA recommended holding time. The results may still be useful for their intended purpose.
- d = The result was reported with a possible high bias due to the continuing calibration verification falling outside acceptance criteria.
- * = Beginning this quarter, groundwater samples were analyzed by EPA method 8260B for TPH-g, BTEX, and fuel oxygenates.

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

ARCO Service Station #4931
731 West Macarthur Boulevard
Oakland, California

Date Measured	Average Flow Direction	Average Hydraulic Gradient
06/21/00	West-Southwest	0.031
09/20/00	Southwest	0.013
12/26/00	West	0.028
03/20/01	West	0.046
06/12/01	West	0.014
09/23/01	West	0.012
12/31/01	West	0.024
03/21/02	West	0.047
04/17/02	West	0.03
08/12/02	West	0.016
12/06/02	West	0.015
01/30/03	West	Variable

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 3
Oxygenate Analytical Data**

ARCO Service Station #771
899 Rincon Avenue, Livermore, California

Well Number	Date Sampled	Ethanol (µg/L)	TBA (µg/L)	MTBE (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-Dichloro-ethane (µg/L)	1,2 Dibromo-ethane (EDB) (µg/L)
A-2	01/30/03	ND<40	ND<20 ^a	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
A-4	01/30/03	ND<4,000	ND<2,000 ^a	2,100	ND<50	ND<50	530	ND<50	ND<50
A-8	01/30/03	ND<8,000	ND<4,000 ^a	2,200	ND<100	ND<100	900	ND<100	ND<100
A-9	01/30/03	ND<40	ND<20	1.1	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50

Note = All fuel oxygenate compounds analyzed using EPA Method 8260B

TBA = tert-Butyl alcohol

MTBE = Methyl tert-butyl ether

DIPE = Di-isopropyl ether

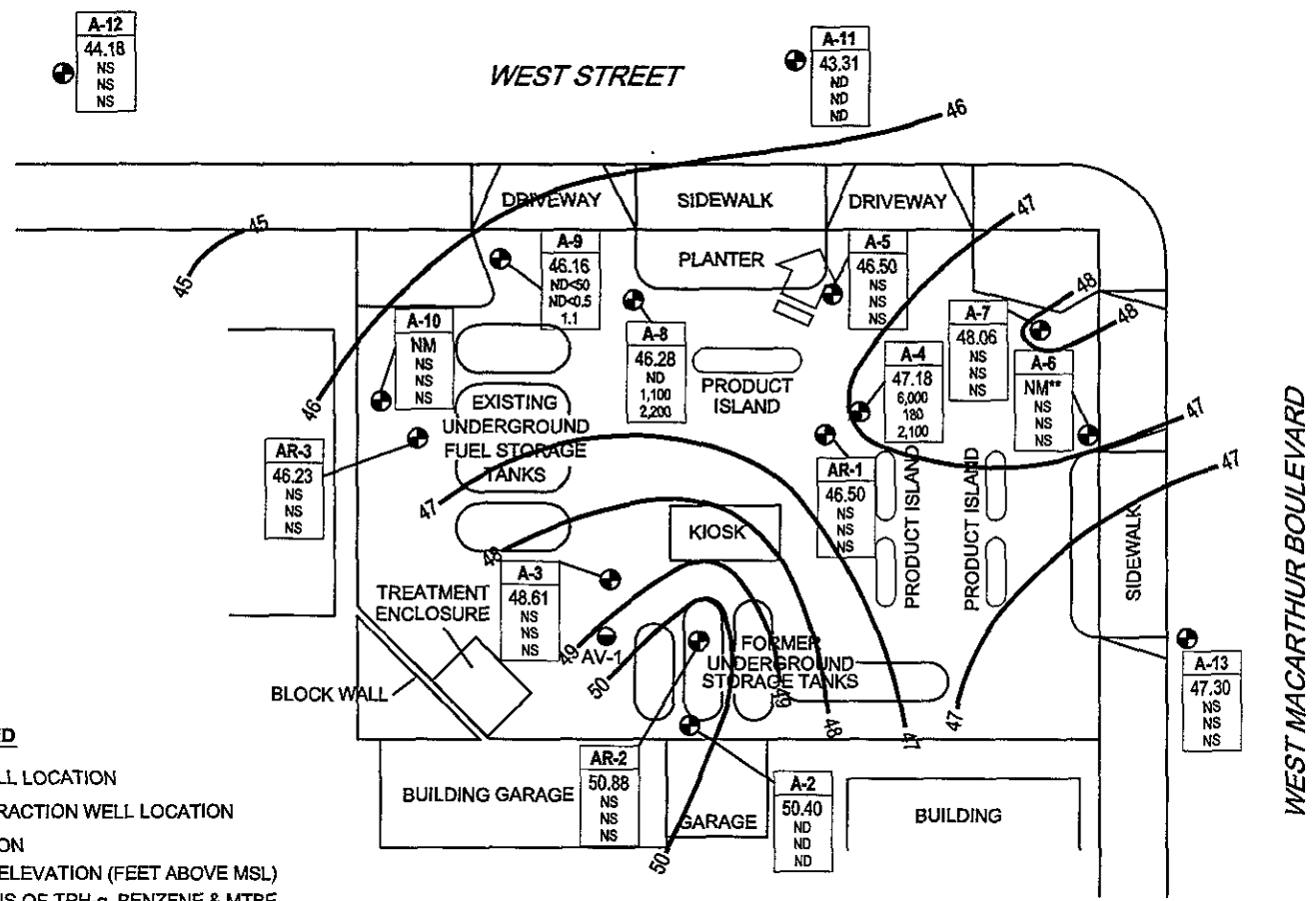
ETBE = Ethyl tert butyl ether

TAME = tert-Amyl methyl ether

µg/L = micrograms per liter

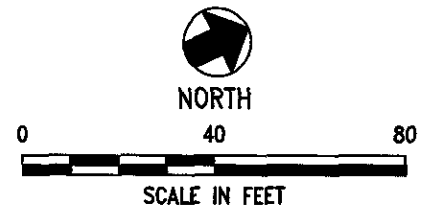
a = The result was reported with a possible high bias due to the continuing calibration verification falling outside acceptance criteria.

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



LEGEND

- ⊕ MONITORING WELL LOCATION
- ⊖ SOIL VAPOR EXTRACTION WELL LOCATION
- Well — WELL DESIGNATION
- ELEV — GROUNDWATER ELEVATION (FEET ABOVE MSL)
- TPH-g — CONCENTRATIONS OF TPH-g, BENZENE & MTBE IN MICROGRAMS PER LITER (µg/L)
- Benzene
- MTBE
- * ELEVATION NOT USED IN CONTOURING
- ** WELL PAVED OVER
- ND< NOT DETECTED AT OR ABOVE LABORATORY REPORTING LIMITS
- NM NOT MEASURED
- NS NOT SAMPLED
- 46 — GROUNDWATER ELEVATION CONTOUR (FEET ABOVE MSL)
- ← GROUNDWATER FLOW DIRECTION AND GRADIENT (FEET/FOOT)



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

URS	Project No. 38486123	GROUNDWATER ELEVATION CONTOUR AND ANALYTICAL SUMMARY MAP	FIGURE 1
	Arco Service Station #4931 731 West MacArthur Boulevard Oakland, California		

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.

ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>030130 - RH3</u>	Station # <u>4931</u>
Sampler: <u>Ryan H</u>	Date: <u>1/30/03</u>
Well I.D.: <u>A-2</u>	Well Diameter: 2 3 <u>4</u> 6 8 <u> </u>
Total Well Depth: <u>19.38</u>	Depth to Water: <u>5.08</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSI</u> HACH

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

Purge Method: <u>Bailer</u> Disposable Bailer Middleburg Electric Submersible Extraction Pump Other: _____	Sampling Method: <u>Bailer</u> Disposable Bailer Extraction Port Other: _____
---	--

Top of Screen: 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.

<u>NP</u>	X	<u>3</u>	=	<u>0</u>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or <u>µS</u>)	Gals. Removed	Observations
<u>1430</u>	<u>64.2</u>	<u>6.7</u>	<u>973</u>	<u>0</u>	<u>clear</u>

Did well dewater? <u>Yes</u> No	Gallons actually evacuated: <u>0</u>
Sampling Time: <u>1430</u>	Sampling Date: <u>1/30/03</u>
Sample I.D.: <u>A-2</u>	Laboratory: Pace <u>Sequoia</u> Other _____
Analyzed for: <u>TPH-G</u> <u>BTEX</u> MTBE TPH-D Other: <u>oxygenates, ethanol</u> by 8260	
D.O. (if req'd):	Pre-purge: _____ mg/L
	Post-purge: <u>2.6</u> mg/L
O.R.P. (if req'd):	Pre-purge: _____ mV
	Post-purge: _____ mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 030130 - R43	Station # 4931
Sampler: Ryan H	Date: 1/30/03
Well I.D.: A-4	Well Diameter: 2 3 4 6 8
Total Well Depth: 19.45	Depth to Water: 7.65
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSL HACH

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

Purge Method: Bailer Sampling Method: Bailer
 Disposable Bailer Disposable Bailer
 Middleburg Extraction Port
 Electric Submersible Other: _____
 Extraction Pump

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

7.8	x	3	=	23.4	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or µS)	Gals. Removed	Observations
1458	66.9	6.7	1494	7.8	cloudy
1459	66.2	6.7	1467	15.6	"
	Well dewatered @ 16.0 gal				DTW = 17.70
1504	66.9	6.8	1485	16.0	cloudy, grey

Did well dewater? Yes No Gallons actually evacuated: 16.0

Sampling Time: 1504 Sampling Date: 1/30/03

Sample I.D.: A-4 Laboratory: Pace **Sequoia** Other _____

Analyzed for: **TPH-G** **BTEX** MTBE TPH-D Other: oxygenates, ethanol by 8260

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	68	mg/L
	O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>030130 - RH3</u>	Station # <u>4931</u>
Sampler: <u>Ryan H</u>	Date: <u>1/30/03</u>
Well I.D.: <u>A-6</u>	Well Diameter: <u>2</u> <u>3</u> <u>4</u> <u>6</u> <u>8</u> _____
Total Well Depth: _____	Depth to Water: _____
Depth to Free Product: _____	Thickness of Free Product (feet): _____
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSI</u> HACH

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

Purge Method: <u>Bailer</u>	Sampling Method: <u>Bailer</u>
<u>Disposable Bailer</u>	<u>Disposable Bailer</u>
<u>Middleburg</u>	<u>Extraction Port</u>
<u>Electric Submersible Extraction Pump</u>	Other: _____
Other: _____	

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

_____	X	<u>3</u>	=	_____
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume Gals.

Time	Temp (°F)	pH	Conductivity (mS or µS)	Gals. Removed	Observations
					<u>Paved Over</u>

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: _____
Sampling Time: _____	Sampling Date: <u>1/30/03</u>
Sample I.D.: <u>A-6</u>	Laboratory: <u>Pace Sequoia</u> Other _____
Analyzed for: <u>TPH-G</u> <u>BTEX</u> MTBE TPH-D Other: <u>oxygenates, ethanol by 8260</u>	
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 #: 030130 - RH3	Station # 4931
Sampler: Ryan H	Date: 1/30/03
Well I.D.: A-8	Well Diameter: 2 <u>3</u> 4 6 8
Total Well Depth: 19.25	Depth to Water: 7.49
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSI</u> HACH

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

Purge Method: <u>Bailer</u> Disposable Bailer Middleburg Electric Submersible Extraction Pump Other: _____	Sampling Method: <u>Bailer</u> Disposable Bailer Extraction Port Other: _____
---	--

Top of Screen: 2' If well is listed as a no-purge, confirm that water level is below the top of screen. Otherwise, the well must be purged.

<u>No purge</u>	x	<u>3</u>	=	0	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or <u>µS</u>)	Gals. Removed	Observations
1400	65.3	6.9	1227	0	clear clear

Did well dewater? Yes ~~No~~ Gallons actually evacuated: ~~0~~

Sampling Time: 1400 Sampling Date: 1/30/03

Sample I.D.: A-8 Laboratory: Pace Sequoia Other _____

Analyzed for: TPH-G BTEX MTBE TPH-D Other: oxygenates, ethanol by 8260

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	1.5	mg/L
	O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 030130 - RH3	Station # 4931
Sampler: Ryan H	Date: 1/30/03
Well I.D.: A-9	Well Diameter: 2 3 4 6 8
Total Well Depth: 37.76	Depth to Water: 6.88
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH

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

Purge Method: Bailer	Sampling Method: Bailer
Disposable Bailer	Disposable Bailer
Middleburg	Extraction Port
Electric Submersible	Other: _____
Extraction Pump	
Other: _____	

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

45	x	3	=	135	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or µS)	Gals. Removed	Observations
1433	66.6	6.6	652	45.0	turbid
1441	66.9	6.8	643	90.0	clear
1449	66.8	6.8	645	135.0	"

Did well dewater? Yes **No** Gallons actually evacuated: 135.0

Sampling Time: 1454 Sampling Date: 1/30/03

Sample I.D.: A-9 Laboratory: Pace **Sequoia** Other _____

Analyzed for: **TPH-G** **BTEX** MTBE TPH-D Other: oxygenates, ethanol by 8260

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	0.9	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: _____

Date: 1/30/03 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.:	Consultant/Contractor: URS
Lab Name: SEQUOIA	BP/GEM Facility Address: 731 W. MACARTHUR BLVD, OAKLAND, CA	Address: 500 12th St., Ste. 200
Lab Address: 885 Jarvis Dr. Morgan Hill, CA 95037	Site ID No. ARCO 4931	Oakland, CA 94609-4014
	Site Lat/Long:	e-mail EDD: syed_rehan@urscorp.com
	California Global ID #: T0600100107	Consultant/Contractor Project No.: J5-00004931.01 00427
Lab PM: Lalonya Pelt	BP/GEM PM Contact: PAUL SUPPLE	Consultant Tele/Fax: 510-874-1735/510-874-3268
Tele/Fax: 408-776-9600 / 408-782-6308	Address:	Consultant/Contractor PM: Scott Robinson
Report Type & QC Level: Send EDF Reports		Invoice to: Consultant/Contractor or <u>BP/GEM</u> (Circle one)
BP/GEM Account No.:	Tele/Fax:	BP/GEM Work Release No:

Item No.	Sample Description	Time	Matrix				Laboratory No.	No. of containers	Preservatives					Requested Analysis					Sample Point Lat/Long and Comments			
			Soil/Solid	Water/Liquid	Sediments	Air			Unpreserved	H ₂ SO ₄	HNO ₃	HCl				TPH-G / BTEX (8260)	TPH-D (8015)	MTBE (8021)		MTBE, TAME, ETBE, DIPE, TBA (8260)	1,2-DCA & EDB (8260)	Enmo (8260)
1	A-2	1430		X			3															
2	A-4	1504		X			↓															
3	A-8	1400		X																		
4	A-9	1454		X																		
5																						
6																						
7																						
8																						
9																						
10																						

Sampler's Name: Ryan Blansiedt	Relinquished By / Affiliation: Jon Nord / BTJ	Date: 1/31/03	Time: 0754	Accepted By / Affiliation: [Signature]	Date: 1/31/03	Time: 754
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

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:

497

Station #

731 W. MacArthur Blvd, Oakland

Station Address

Total Gallons Collected From Groundwater Monitoring Wells:

155.0 150.0

added equip. rinse water

any other adjustments

3

TOTAL GALS. RECOVERED 153.0

loaded onto BTS vehicle # 15

BTS event #

time date

030130-243

1515

1/30/03

signature



REC'D AT

time

date

unloaded by signature

WELLHEAD INSPECTION CHECKLIST

Client Arco Date 1/30/03

Site Address 731. W. MacArthur Blvd, Oakland

Job Number 030130-RH3 Technician Ryan H.

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
A-2								X
A-3				X				X
A-4								X
A-5								X
A-6								
A-7								X
A-8	X							
A-9	X							
A-11								X
A-12								X
A-13								X
AR-1	X							
AR-2	X							
AR-3	X							

NOTES: _____

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.



20 February, 2003

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

RE: ARCO #4931, Oakland, Ca
Sequoia Work Order: MMA0791

Enclosed are the results of analyses for samples received by the laboratory on 01/31/03
08:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Latonya Pelt
Project Manager
CA ELAP Certificate #1210



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

Project: ARCO #4931, Oakland, Ca
Project Number: 731 W. MacArthur Blvd., Oakland, CA
Project Manager: Scott Robinson

MMA0791
Reported:
02/20/03 18:02

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
A-2	MMA0791-01	Water	01/30/03 14:30	01/31/03 08:50
A-4	MMA0791-02	Water	01/30/03 15:04	01/31/03 08:50
A-8	MMA0791-03	Water	01/30/03 14:00	01/31/03 08:50
A-9	MMA0791-04	Water	01/30/03 14:54	01/31/03 08:50

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

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

 Project: ARCO #4931, Oakland, Ca
 Project Number: 731 W. MacArthur Blvd., Oakland, CA
 Project Manager: Scott Robinson

 MMA0791
Reported:
 02/20/03 18:02

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A-2 (MMA0791-01) Water Sampled: 01/30/03 14:30 Received: 01/31/03 08:50									
Ethanol	ND	40	ug/l	1	3B13034	02/12/03	02/13/03	EPA 8260B	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	O-09
Methyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	0.50	"	"	"	"	"	"	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Gasoline Range Organics (C6-C10)	ND	50	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		106 %	78-129		"	"	"	"	
A-4 (MMA0791-02) Water Sampled: 01/30/03 15:04 Received: 01/31/03 08:50									
Ethanol	ND	4000	ug/l	100	3B13034	02/12/03	02/13/03	EPA 8260B	
tert-Butyl alcohol	ND	2000	"	"	"	"	"	"	O-09
Methyl tert-butyl ether	2100	50	"	"	"	"	"	"	
Di-isopropyl ether	ND	50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	50	"	"	"	"	"	"	
tert-Amyl methyl ether	530	50	"	"	"	"	"	"	
Benzene	180	50	"	"	"	"	"	"	
Toluene	ND	50	"	"	"	"	"	"	
Ethylbenzene	85	50	"	"	"	"	"	"	
Xylenes (total)	ND	50	"	"	"	"	"	"	
Gasoline Range Organics (C6-C10)	6000	5000	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		84.0 %	78-129		"	"	"	"	

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

 Project: ARCO #4931, Oakland, Ca
 Project Number: 731 W. MacArthur Blvd., Oakland, CA
 Project Manager: Scott Robinson

 MMA0791
Reported:
 02/20/03 18:02

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A-8 (MMA0791-03) Water Sampled: 01/30/03 14:00 Received: 01/31/03 08:50									
Ethanol	ND	8000	ug/l	200	3B13034	02/12/03	02/13/03	EPA 8260B	
tert-Butyl alcohol	ND	4000	"	"	"	"	"	"	O-09
Methyl tert-butyl ether	2200	100	"	"	"	"	"	"	
Di-isopropyl ether	ND	100	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	100	"	"	"	"	"	"	
tert-Amyl methyl ether	900	100	"	"	"	"	"	"	
Benzene	1100	100	"	"	"	"	"	"	
Toluene	ND	100	"	"	"	"	"	"	
Ethylbenzene	ND	100	"	"	"	"	"	"	
Xylenes (total)	ND	100	"	"	"	"	"	"	
Gasoline Range Organics (C6-C10)	ND	10000	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>93.8 %</i>	<i>78-129</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
A-9 (MMA0791-04) Water Sampled: 01/30/03 14:54 Received: 01/31/03 08:50									
Ethanol	ND	40	ug/l	1	3B13034	02/12/03	02/13/03	EPA 8260B	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	O-09
Methyl tert-butyl ether	1.1	0.50	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	0.50	"	"	"	"	"	"	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Gasoline Range Organics (C6-C10)	ND	50	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>106 %</i>	<i>78-129</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	

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

 Project: ARCO #4931, Oakland, Ca
 Project Number: 731 W. MacArthur Blvd., Oakland, CA
 Project Manager: Scott Robinson

 MMA0791
Reported:
 02/20/03 18:02

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 3B13034 - EPA 5035

Blank (3B13034-BLK1)		Prepared: 02/12/03 Analyzed: 02/13/03								
Ethanol	ND	40	ug/l							
tert-Butyl alcohol	ND	20	"							O-09
Methyl tert-butyl ether	ND	0.50	"							
Di-isopropyl ether	ND	0.50	"							
Ethyl tert-butyl ether	ND	0.50	"							
tert-Amyl methyl ether	ND	0.50	"							
1,2-Dichloroethane	ND	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.50	"							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Gasoline Range Organics (C6-C10)	ND	50	"							

<i>Surrogate: 1,2-Dichloroethane-d4</i>	5.17		"	5.00		103	78-129			
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Laboratory Control Sample (3B13034-BS1)		Prepared: 02/12/03 Analyzed: 02/13/03								
--	--	---------------------------------------	--	--	--	--	--	--	--	--

Methyl tert-butyl ether	11.2	0.50	ug/l	10.0		112	63-137			
Benzene	10.7	0.50	"	10.0		107	78-124			
Toluene	8.97	0.50	"	10.0		89.7	78-129			

<i>Surrogate: 1,2-Dichloroethane-d4</i>	5.16		"	5.00		103	78-129			
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Laboratory Control Sample (3B13034-BS2)		Prepared: 02/12/03 Analyzed: 02/13/03								
--	--	---------------------------------------	--	--	--	--	--	--	--	--

Methyl tert-butyl ether	9.10	0.50	ug/l	9.04		101	63-137			
Benzene	5.42	0.50	"	5.44		99.6	78-124			
Toluene	27.0	0.50	"	32.8		82.3	78-129			
Gasoline Range Organics (C6-C10)	411	50	"	440		93.4	70-113			

<i>Surrogate: 1,2-Dichloroethane-d4</i>	4.87		"	5.00		97.4	78-129			
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URS Corporation
 500 12th Street, Suite 100
 Oakland CA, 94607

 Project: ARCO #4931, Oakland, Ca
 Project Number: 731 W. MacArthur Blvd., Oakland, CA
 Project Manager: Scott Robinson

 MMA0791
Reported:
 02/20/03 18:02

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 3B13034 - EPA 5035
Laboratory Control Sample Dup (3B13034-BSD1)

Prepared: 02/12/03 Analyzed: 02/13/03

Methyl tert-butyl ether	9.84	0.50	ug/l	10.0		98.4	63-137	12.9	13	
Benzene	10.2	0.50	"	10.0		102	78-124	4.78	12	
Toluene	9.55	0.50	"	10.0		95.5	78-129	6.26	10	

Surrogate: 1,2-Dichloroethane-d4

4.36

"

5.00

87.2

78-129

Laboratory Control Sample Dup (3B13034-BSD2)

Prepared: 02/12/03 Analyzed: 02/13/03

Methyl tert-butyl ether	8.92	0.50	ug/l	9.04		98.7	63-137	2.00	13	
Benzene	5.23	0.50	"	5.44		96.1	78-124	3.57	12	
Toluene	27.4	0.50	"	32.8		83.5	78-129	1.47	10	
Gasoline Range Organics (C6-C10)	422	50	"	440		95.9	70-113	2.64	9	

Surrogate: 1,2-Dichloroethane-d4

4.73

"

5.00

94.6

78-129



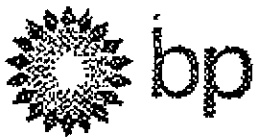
URS Corporation
500 12th Street, Suite 100
Oakland CA, 94607

Project: ARCO #4931, Oakland, Ca
Project Number: 731 W. MacArthur Blvd., Oakland, CA
Project Manager: Scott Robinson

MMA0791
Reported:
02/20/03 18:02

Notes and Definitions

- O-09 The result was reported with a possible high bias due to the continuing calibration verification falling outside acceptance criteria.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference



Chain of Custody Record

Project Name _____
 BP BU/GEM CO Portfolio: _____
 BP Laboratory Contract Number: _____

Date: 1/30/03 Requested Due Date (mm/dd/yyyy) _____

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: 731 W. MACARTHUR BLVD. OAKLAND, CA	Address: 500 12th St., Ste. 200
Lab Address: 885 Jarvis Dr. Morgan Hill, CA 95037	Site ID No. ARCO 4931	Oakland, CA 94609-4014
	Site Lat/Long:	e-mail EDD: syed.rehan@crscorp.com
	California Global ID #: T060050G107	Consultant/Contractor Project No.: JS-00004931.01 00427
Lab PM: Latonya Pelt	BP/GEM PM Contact: PAUL SUPPLE	Consultant Tele/Fax: 510-874-1735/510-874-3288
Tele/Fax: 408-776-9600 / 408-782-8308	Address:	Consultant/Contractor PM: Scott Robinson
Report Type & QC Level: Send EDF Reports		Invoice to: Consultant/Contractor or (BP/GEM) (circle one)
BP/GEM Account No.:	Tele/Fax:	BP/GEM Work Release No.:

MMA0791

Item No.	Sample Description	Time	Matrix				Laboratory No.	No. of containers	Preservatives				Requested Analysis				Sample Point Lat/Long and Comments	
			Soil/Solid	Water/Liquid	Sediments	Air			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	TPIC/BTEX (8015/8016/8017)	TPH-D (8015)	MTBE (8021)	MIPK, TAME, ETBE (8260)		DIPK, TBA (8260)
1	A-2	1430	X				01	3										
2	A-4	1509	X				02	1										
3	A-8	1400	X				03	1										
4	A-9	1454	X				04	1										
5																		
6																		
7																		
8																		
9																		
10																		

Sampler's Name:	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Raymond Stedert	[Signature]	1/31/03	0754	[Signature]	1/31/03	754
Blaine Tech	[Signature]	1/31/03	8:50	[Signature]	1/31/03	8:50

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

Seals in Place Yes No Temperature Blank Yes No Cooler Temperature on Receipt Trip Blank Yes No

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: URS
 REC. BY (PRINT) E.B.
 WORKORDER: MMAB791

DATE Received at Lab: 1-31-03
 TIME Received at Lab: 08:50
 LOG IN DATE: 1-31-03

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 / <input checked="" type="checkbox"/> Absent Intact / Broken*	01	2	A-2	3 WWT HCL	L	1-31-03	Lot # 2018050
2. Chain-of-Custody	<input checked="" type="checkbox"/> Present / Absent*	02	↓	↓	↓	↓	↓	
3. Traffic Reports or Packing List:	Present / <input checked="" type="checkbox"/> Absent	03	↓	↓	↓	↓	↓	
4. Airbill:	Airbill / Sticker Present / <input checked="" type="checkbox"/> Absent	04	↓	↓	↓	↓	↓	
5. Airbill #:								
6. Sample Labels:	<input checked="" type="checkbox"/> Present / Absent							
7. Sample IDs:	<input checked="" type="checkbox"/> Listed / Not Listed on Chain-of-Custody							
8. Sample Condition:	<input checked="" type="checkbox"/> Intact / Broken* / Leaking*							
9. Does information on custody reports, traffic reports and sample labels agree?	<input checked="" type="checkbox"/> Yes / No*							
10. Sample received within hold time:	<input checked="" type="checkbox"/> Yes / No*							
11. Proper Preservatives used:	<input checked="" type="checkbox"/> Yes / No*							
12. Temp Rec. at Lab: Is temp 4 +/- 2°C?	<u>3-8°C</u> <input checked="" type="checkbox"/> Yes / No**							
<small>(Acceptance range for samples requiring thermal pres.)</small>								
<small>**Exception (if any): Metals / DFF on ice? / DFF no ice? or Problem COC</small>								

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

ATTACHMENT C

HISTORIC GROUNDWATER DATA

Table 1
Groundwater Elevation and Analytical Data
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, and MTBE)

ARCO Service Station 4931
731 West MacArthur Boulevard, Oakland, California

Well Number	Date Gauged/ Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOB)	Groundwater Elevation (feet, MSL)	TPH				Total Xylenes (ppb)	MTBE 8021B* (ppb)	MTBE 8260 (ppb)	Dissolved Oxygen (ppm)	Purged/ Not Purged (P/NP)
					Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl- benzene (ppb)					
A-2	03/26/96	55.48	5.37	50.11	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NM	
A-2	05/22/96	55.48	5.25	50.23	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NM	
A-2	08/22/96	55.48	10.45	45.03	<50	1.1	1.8	<0.5	1.3	<2.5	NA	NM	
A-2	12/19/96	55.48	5.53	49.95	<50	<0.5	<0.5	<0.5	<0.5	2.7	NA	NM	
A-2	04/01/97	55.48	8.77	46.71	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	NM	
A-2	05/27/97	55.48	9.87	45.61	<50	<0.5	<0.5	<0.5	<0.5	4.6	NA	NM	
A-2	08/12/97	55.48	11.11	44.37	<50	<0.5	<0.5	<0.5	<0.5	5.6	NA	NM	
A-2	11/14/97	55.48	10.63	44.85	<50	0.9	2.8	<0.5	2.4	27	NA	2.6	
A-2	03/18/98	55.48	3.58	51.90	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	NM	
A-2	05/19/98	55.48	4.82	50.66	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	1.30	P
A-2	07/29/98	55.48	8.94	46.54	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	1.2	NP
A-2	10/09/98	55.48	10.82	44.66	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	0.5	NP
A-2	02/19/99	55.48	4.46	51.02	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	3.0	P
A-2	06/02/99	55.48	5.59	49.89	<50	<0.5	0.6	<0.5	<0.5	<3	NA	5.35	NP
A-2	08/26/99	55.48	10.67	44.81	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	0.79	NP
A-2	10/26/99	55.48	4.61	50.87	<50	<0.5	<0.5	<0.5	<1	<3	NA	2.14	P
A-2	02/25/00	55.48	3.10	52.38	<50	<0.5	<0.5	<0.5	<1	<3	NA	4.21	NP
A-3	03/26/96	54.66	7.20	47.46	Not Sampled: Well Sampled Semiannually								
A-3	05/22/96	54.66	7.70	46.96	<50	1.2	1.9	0.7	1.3	NA	NA	NM	
A-3	08/22/96	54.66	10.88	43.78	Not Sampled: Well Sampled Semiannually								
A-3	12/19/96	54.66	7.70	46.96	5,900	<25	<25	<25	<25	NA	5,300	NM	
A-3	04/01/97	54.66	9.78	44.88	Not Sampled: Well Sampled Semiannually								
A-3	05/27/97	54.66	10.55	44.11	2,300	<20	<20	<20	<20	3,800	NA	NM	
A-3	08/12/97	54.66	11.12	43.54	Not Sampled: Well Sampled Semiannually								
A-3	11/14/97	54.66	8.24	46.42	<1,000	<10	<10	<10	<10	1,500	NA	3.8	
A-3	03/18/98	54.66	5.05	49.61	Not Sampled: Well Sampled Semiannually								
A-3	05/19/98	54.66	9.00	45.66	<250	<2.5	<2.5	<2.5	<2.5	220	NA	4.60	P
A-3	07/29/98	54.66	9.86	44.80	Not Sampled: Well Sampled Semiannually								
A-3	10/09/98	54.66	11.36	43.30	<250	<2.5	<2.5	<2.5	<2.5	260	NA	1.0	NP
A-3	02/19/99	54.66	6.19	48.47	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	2.5	NP
A-3	06/02/99	54.66	10.82	43.84	120	<1	<1	<1	<1	160	NA	2.78	NP

Table 1
Groundwater Elevation and Analytical Data
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, and MTBE)

ARCO Service Station 4931
731 West MacArthur Boulevard, Oakland, California

Well Number	Date Gauged/ Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOB)	Groundwater Elevation (feet, MSL)	TPH				Total Xylenes (ppb)	MTBE 8021B* (ppb)	MTBE 8260 (ppb)	Dissolved Oxygen (ppm)	Purged/ Not Purged (P/NP)
					Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl- benzene (ppb)					
A-3	08/26/99	54.66	10.73	43.93	Not Sampled: Well Sampled Semiannually							0.95	
A-3	10/26/99	54.66	6.58	48.08	<50	<0.5	<0.5	<0.5	<1	32	NA	2.06	NP
A-3	02/25/00	54.66	5.41	49.25	Not Sampled: Well Sampled Semiannually								
A-4	03/26/96	54.73	7.95	46.78	8,900	1,200	21	200	220	NA	NA	NM	
A-4	05/22/96	54.73	8.35	46.38	5,300	700	<10	170	130	NA	NA	NM	
A-4	08/22/96	54.73	11.03	43.70	3,000	480	<5.0	75	26	150	NA	NM	
A-4	12/19/96	54.73	8.67	46.06	<2,000	<20	<20	<20	<20	NA	15,000	NM	
A-4	04/01/97	54.73	11.95	42.78	8,900	1,700	22	310	260	6,900	NA	NM	
A-4	05/27/97	54.73	10.80	43.93	7,100	960	<20	150	74	7,900	NA	NM	
A-4	08/12/97	54.73	11.38	43.35	4,300	670	12	51	27	2,800	NA	NM	
A-4	11/14/97	54.73	7.74	46.99	<20,000	300	500	<200	<200	27,000	NA	2.2	
A-4	03/18/98	54.73	6.80	47.93	4,700	600	<20	99	94	1,200	NA	1.0	
A-4	05/19/98	54.73	9.06	45.67	<2000	<20	<20	<20	720	2,000	NA	1.28	P
A-4	07/29/98	54.73	10.05	44.68	8,400	1,300	<20	290	130	1,800	NA	0.7	NP
A-4	10/09/98	54.73	11.20	43.53	3,500	400	<20	54	<20	1,700	NA	1.0	NP
A-4	02/19/99	54.73	6.85	47.88	<1,000	<10	<10	<10	12	650	NA	0.1	NP
A-4	06/02/99	54.73	11.00	43.73	6,100	760	16	260	89	2,300	NA	1.12	NP
A-4	08/26/99	54.73	10.80	43.93	1,100	68	5	8	4	1,400	NA	1.15	NP
A-4	10/26/99	54.73	10.11	44.62	1,500	39	2.3	9.0	5	1,700	NA	10.12	NP
A-4	02/25/00	54.73	5.90	48.83	870	53	1.1	4.6	20	600	NA	1.72	NP
A-5	03/26/96	54.17	7.93	46.24	Not Sampled: Well Sampled Semiannually								
A-5	05/22/96	54.17	8.20	45.97	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NM	
A-5	08/22/96	54.17	10.70	43.47	Not Sampled: Well Sampled Semiannually								
A-5	12/19/96	54.17	8.39	45.78	9,900	1,100	330	230	700	NA	24	NM	
A-5	04/01/97	54.17	10.83	43.34	Not Sampled: Well Sampled Semiannually								
A-5	05/27/97	54.17	10.65	43.52	100	<0.5	<0.5	<0.5	<0.5	120	NA	NM	
A-5	08/12/97	54.17	11.05	43.12	Not Sampled: Well Sampled Semiannually								
A-5	11/14/97	54.17	10.51	43.66	<50	<0.5	<0.5	<0.5	<0.5	41	NA	4.8	
A-5	03/18/98	54.17	8.10	46.07	Not Sampled: Well Sampled Semiannually								
A-5	05/19/98	54.17	9.31	44.86	590	<5	<5	<5	<5	710	NA	2.48	P

Table 1
Groundwater Elevation and Analytical Data
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, and MTBE)

ARCO Service Station 4931
731 West MacArthur Boulevard, Oakland, California

Well Number	Date Gauged/ Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOB)	Groundwater Elevation (feet, MSL)	TPH Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl- benzene (ppb)	Total Xylenes (ppb)	MTBE 8021B* (ppb)	MTBE 8260 (ppb)	Dissolved Oxygen (ppm)	Purged/ Not Purged (P/NP)	
A-5	07/29/98	54.17	9.89	44.28	Not Sampled: Well Sampled Semiannually									
A-5	10/09/98	54.17	11.02	43.15	690	<5	<5	<5	<5	710	NA	1.0	NP	
A-5	02/19/99	54.17	6.82	47.35	<2,000	<20	<20	<20	<20	2,300	NA	0.6	NP	
A-5	06/02/99	54.17	10.82	43.35	1,500	<0.5	2.3	<0.5	<0.5	2,400	NA	2.81	NP	
A-5	08/26/99	54.17	10.65	43.52	Not Sampled: Well Sampled Semiannually									
A-5	10/26/99	54.17	10.35	43.82	380	<0.5	<0.5	<0.5	<1	440	NA	0.49		
A-5	02/25/00	54.17	6.89	47.28	Not Sampled: Well Sampled Semiannually									1.55
A-6	03/26/96	55.17	7.15	48.02	52	2.7	<0.5	1.1	2.0	NA	NA	NM		
A-6	05/22/96	55.17	7.35	47.82	<50	2.4	<0.5	0.88	1.7	NA	NA	NM		
A-6	08/22/96	55.17	10.12	45.05	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	NM		
A-6	12/19/96	55.17	7.43	47.74	<50	1.7	<0.5	0.78	1.5	<2.5	NA	NM		
A-6	04/01/97	55.17	9.97	45.20	<50	4.7	<0.5	1.9	3.2	<2.5	NA	NM		
A-6	05/27/97	55.17	9.66	45.51	<50	0.69	<0.5	<0.5	<0.5	<2.5	NA	NM		
A-6	08/12/97	55.17	10.43	44.74	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	NM		
A-6	11/14/97	55.17	9.76	45.41	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	<1.0		
A-6	03/18/98	55.17	7.00	48.17	<50	6.2	0.5	2.3	2.6	<3	NA	3.0		
A-6	05/19/98	55.17	8.27	46.90	<50	<0.5	<0.5	1.3	4.7	<3	NA	2.16	P	
A-6	07/29/98	55.17	8.96	46.21	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	0.8	NP	
A-6	10/09/98	55.17	10.23	44.94	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	1.0	NP	
A-6	02/19/99	55.17	5.79	49.38	<50	<0.5	<0.5	<0.5	<0.5	5	NA	0.4	NP	
A-6	06/02/99	55.17	9.71	45.46	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	2.00	NP	
A-6	08/26/99	55.17	9.79	45.38	<50	<0.5	<0.5	<0.5	0.7	<3	NA	0.66	NP	
A-6	10/26/99	55.17	9.70	45.47	<50	<0.5	<0.5	<0.5	<1	<3	NA	1.66	NP	
A-6	02/25/00	55.17	5.68	49.49	<50	<0.5	<0.5	<0.5	<1	<3	NA	1.22	NP	
A-7	03/26/96	54.71	6.90	47.81	Not Sampled: Well Sampled Semiannually									
A-7	05/22/96	54.71	8.27	46.44	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NM		
A-7	08/22/96	54.71	9.80	44.91	Not Sampled: Well Sampled Semiannually									
A-7	12/19/96	54.71	7.19	47.52	Not Sampled: Well Sampled Annually									
A-7	04/01/97	54.71	9.63	45.08	Not Sampled: Well Sampled Annually									
A-7	05/27/97	54.71	9.34	45.37	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	NM		

Table 1
Groundwater Elevation and Analytical Data
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, and MTBE)

ARCO Service Station 4931
731 West MacArthur Boulevard, Oakland, California

Well Number	Date Gauged/ Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOB)	Groundwater Elevation (feet, MSL)	TPH				Total Xylenes (ppb)	MTBE 8021B* (ppb)	MTBE 8260 (ppb)	Dissolved Oxygen (ppm)	Purged/ Not Purged (P/NP)
					Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl- benzene (ppb)					
A-7	08/12/97	54.71	10.10	44.61	Not Sampled: Well Sampled Annually								
A-7	11/14/97	54.71	9.35	45.36	Not Sampled: Well Sampled Annually								
A-7	03/18/98	54.71	6.75	47.96	Not Sampled: Well Sampled Annually								
A-7	05/19/98	54.71	8.85	45.86	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	1.82	P
A-7	07/29/98	54.71	8.84	45.87	Not Sampled: Well Sampled Annually								
A-7	10/09/98	54.71	10.05	44.66	Not Sampled: Well Sampled Annually								
A-7	02/19/99	54.71	5.57	49.14	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	4.7	NP
A-7	06/02/99	54.71	9.56	45.15	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	2.17	NP
A-7	08/26/99	54.71	9.66	45.05	Not Sampled: Well Sampled Annually							0.49	
A-7	10/26/99	54.71	9.54	45.17	Not Sampled: Well Sampled Annually							1.26	
A-7	02/25/00	54.71	5.60	49.11	Not Sampled: Well Sampled Annually								
A-8	03/26/96	53.77	7.10	46.67	48,000	2,600	<100	650	1,100	NA	NA	NM	
A-8	05/22/96	53.77	7.20	46.57	14,000	2,800	160	320	190	NA	NA	NM	
A-8	08/22/96	53.77	11.57	42.20	8,000	1,000	76	150	96	4,300	NA	NM	
A-8	12/19/96	53.77	8.04	45.73	12,000	450	110	210	230	<500	NA	NM	
A-8	04/01/97	53.77	9.98	43.79	Not Sampled: Well Sampled Semiannually								
A-8	05/27/97	53.77	11.45	42.32	11,000	1,600	100	220	210	2,300	NA	NM	
A-8	08/12/97	53.77	11.59	42.18	Not Sampled: Well Sampled Semiannually								
A-8	11/14/97	53.77	9.85	43.92	26,000	2,300	<200	400	400	4,100	NA	2.2	
A-8	03/18/98	53.77	7.80	45.97	Not Sampled: Well Sampled Semiannually								
A-8	05/19/98	53.77	8.78	44.99	88,000	4,200	150	640	600	6,700	NA	1.36	P
A-8	07/29/98	53.77	9.59	44.18	46,000	4,900	160	620	580	13,000	NA	0.5	NP
A-8	10/09/98	53.77	11.23	42.54	130,000	3,700	110	500	770	7,300	NA	1.0	NP
A-8	02/19/99	53.77	6.51	47.26	<1,000	39	<10	<10	<10	840	NA	0.2	NP
A-8	06/02/99	53.77	10.68	43.09	8,500	1,300	32	180	110	6,700	NA	1.31	NP
A-8	08/26/99	53.77	10.43	43.34	6,200	870	17	64	60	3,700	NA	0.69	NP
A-8	10/26/99	53.77	10.23	43.54	15,000	2,800	140	370	360	480	NA	0.62	NP
A-8	02/25/00	53.77	5.93	47.84	2,600	330	6.6	18	26	1,100	NA	1.43	NP
A-9	03/26/96	53.04	7.05	45.99	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NM	
A-9	05/22/96	53.04	7.20	45.84	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NM	

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ARCO Service Station 4931
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Well Number	Date Gauged/ Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOB)	Groundwater Elevation (feet, MSL)	TPH Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl- benzene (ppb)	Total Xylenes (ppb)	MTBE 8021B* (ppb)	MTBE 8260 (ppb)	Dissolved Oxygen (ppm)	Purged/ Not Purged (P/NP)
A-9	08/22/96	53.04	9.68	43.36	<50	<0.5	<0.5	<0.5	<0.5	8.5	NA	NM	
A-9	12/19/96	53.04	7.43	45.61	<50	<0.5	<0.5	<0.5	<0.5	2.6	NA	NM	
A-9	04/01/97	53.04	9.95	43.09	Not Sampled: Well Sampled Semiannually				<0.5	45	NA	NM	
A-9	05/27/97	53.04	9.56	43.48	<50	2.3	<0.5	<0.5	<0.5	45	NA	NM	
A-9	08/12/97	53.04	10.15	42.89	Not Sampled: Well Sampled Semiannually				<0.5	190	NA	9.6	
A-9	11/14/97	53.04	8.64	44.40	<200	<2.0	<2.0	<2.0	<2.0	190	NA	9.6	
A-9	03/18/98	53.04	6.45	46.59	Not Sampled: Well Sampled Semiannually				<0.5	7	NA	1.27	P
A-9	05/19/98	53.04	8.35	44.69	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	0.99	NP
A-9	07/29/98	53.04	8.74	44.30	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	1.0	NP
A-9	10/09/98	53.04	10.05	42.99	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	2.0	NP
A-9	02/19/99	53.04	6.91	46.13	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	2.32	NP
A-9	06/02/99	53.04	9.72	43.32	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	0.71	NP
A-9	08/26/99	53.04	9.48	43.56	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	2.15	NP
A-9	10/26/99	53.04	9.17	43.87	1,500	6.2	0.7	78	11	91	NA	2.15	NP
A-9	02/25/00	53.04	5.84	47.20	<50	<0.5	<0.5	<0.5	<1	<3	NA	1.55	NP
A-10	03/26/96	54.26	8.28	45.98	Not Sampled: Well Removed from Sampling Program								
A-10	05/22/96	54.26	8.60	45.66	Not Sampled: Well Removed from Sampling Program								
A-10	08/22/96	54.26	10.98	43.28	Not Sampled: Well Removed from Sampling Program								
A-10	12/19/96	54.26	8.80	45.46	Not Sampled: Well Removed from Sampling Program								
A-10	04/01/97	54.26	11.15	43.11	Not Sampled: Well Removed from Sampling Program								
A-10	05/27/97	54.26	10.90	43.36	Not Sampled: Well Removed from Sampling Program								
A-10	08/12/97	54.26	11.30	42.96	Not Sampled: Well Removed from Sampling Program								
A-10	11/14/97	54.26	10.80	43.46	Not Sampled: Well Removed from Sampling Program								
A-10	03/18/98				Well Removed from Survey Program								
A-11	03/26/96	53.74	8.10	45.64	Not Sampled: Well Sampled Semiannually				<0.5	NA	NA	NM	
A-11	05/22/96	53.74	8.25	45.49	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NM	
A-11	08/22/96	53.74	10.58	43.16	Not Sampled: Well Sampled Semiannually				<0.5	<2.5	NA	NM	
A-11	12/19/96	53.74	8.37	45.37	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	NM	
A-11	04/01/97	53.74	10.95	42.79	Not Sampled: Well Sampled Semiannually				<0.5	3.1	NA	NM	
A-11	05/27/97	53.74	10.60	43.14	<50	<0.5	<0.5	<0.5	<0.5	3.1	NA	NM	

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Well Number	Date Gauged/ Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOB)	Groundwater Elevation (feet, MSL)	TPH				Total Xylenes (ppb)	MTBE 8021B* (ppb)	MTBE 8260 (ppb)	Dissolved Oxygen (ppm)	Purged/ Not Purged (P/NP)
					Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl- benzene (ppb)					
A-11	08/12/97	53.74	11.07	42.67	Not Sampled: Well Sampled Semiannually								
A-11	11/14/97	53.74	10.58	43.16	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	1.6	
A-11	03/18/98	53.74	8.14	45.60	Not Sampled: Well Sampled Semiannually								
A-11	05/19/98	53.74	9.40	44.34	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	1.13	P
A-11	07/29/98	53.74	10.32	43.42	Not Sampled: Well Sampled Semiannually								
A-11	10/09/98	53.74	10.91	42.83	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	2.0	NP
A-11	02/19/99	53.74	6.77	46.97	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	1.8	NP
A-11	06/02/99	53.74	10.95	42.79	<50	<0.5	<0.5	<0.5	<0.5	6	NA	1.38	NP
A-11	08/26/99	53.74	11.05	42.69	Not Sampled: Well Sampled Semiannually							0.49	
A-11	10/26/99	53.74	10.81	42.93	<50	<0.5	<0.5	<0.5	<1	4	NA	1.27	NP
A-11	02/25/00	53.74	6.70	47.04	Not Sampled: Well Sampled Semiannually								
A-12	03/26/96	52.05	7.83	44.22	Not Sampled: Well Sampled Semiannually								
A-12	05/22/96	52.05	7.80	44.25	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NM	
A-12	08/22/96	52.05	9.97	42.08	Not Sampled: Well Sampled Semiannually								
A-12	12/19/96	52.05	8.18	43.87	85	<0.5	<0.5	<0.5	<0.5	170	NA	NM	
A-12	04/01/97	52.05	10.30	41.75	Not Sampled: Well Sampled Semiannually								
A-12	05/27/97	52.05	10.05	42.00	50	12	<0.5	<0.5	<0.5	96	NA	NM	
A-12	08/12/97	52.05	10.46	41.59	Not Sampled: Well Sampled Semiannually								
A-12	11/14/97	52.05	9.70	42.35	<50	<0.5	<0.5	<0.5	<0.5	75	NA	7.0	
A-12	03/18/98	52.05	8.15	43.90	Not Sampled: Well Sampled Semiannually								
A-12	05/19/98	52.05	9.15	42.90	<50	<0.5	<0.5	<0.5	<0.5	29	NA	1.47	P
A-12	07/29/98	52.05	9.38	42.67	Not Sampled: Well Sampled Semiannually								
A-12	10/09/98	52.05	10.21	41.84	<50	<0.5	<0.5	<0.5	<0.5	7	NA	2.0	NP
A-12	02/19/99	52.05	6.96	45.09	<50	<0.5	<0.5	<0.5	<0.5	<3	NA	5.2	NP
A-12	06/02/99	52.05	10.25	41.80	<50	<0.5	<0.5	<0.5	<0.5	7	NA	1.38	NP
A-12	08/26/99	52.05	9.91	42.14	Not Sampled: Well Sampled Semiannually							0.51	
A-12	10/26/99	52.05	9.73	42.32	<50	<0.5	<0.5	<0.5	<1	12	NA	1.09	NP
A-12	02/25/00	52.05	6.97	45.08	Not Sampled: Well Sampled Semiannually								
A-13	03/26/96	55.11			----- Well Inaccessible -----								
A-13	05/22/96	55.11			----- Well Inaccessible -----								

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ARCO Service Station 4931
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Well Number	Date Gauged/ Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOB)	Groundwater Elevation (feet, MSL)	TPH Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl- benzene (ppb)	Total Xylenes (ppb)	MTBE 8021B* (ppb)	MTBE 8260 (ppb)	Dissolved Oxygen (ppm)	Purged/ Not Purged (P/NP)
A-13	08/22/96	55.11											
A-13	12/19/96	55.11											
A-13	04/01/97	55.11											
A-13	05/27/97	55.11											
A-13	08/12/97	55.11											
A-13	11/14/97	55.11											
A-13	03/18/98	55.11											
A-13	05/19/98	55.11											
A-13	07/29/98	55.11											
A-13	10/09/98	55.11											
A-13	02/19/99	55.11											
A-13	06/02/99	55.11											
A-13	08/26/99	55.11											
A-13	10/26/99	55.11											
A-13	02/25/00	55.11											
AR-1	03/26/96	54.72	8.13	46.59	6,200	110	64	38	520	NA	NA	NM	
AR-1	05/22/96	54.72	8.57	46.15	NS	NS	NS	NS	NS	NS	NS	NM	
AR-1	08/22/96	54.72	10.97	43.75	5,600	100	28	29	310	960	NA	NM	
AR-1	12/19/96	54.72	8.93	45.79	Not Sampled: Well Removed from Sampling Program								
AR-1	04/01/97	54.72	11.78	42.94	Not Sampled: Well Removed from Sampling Program								
AR-1	05/27/97	54.72	10.76	43.96	Not Sampled: Well Removed from Sampling Program								
AR-1	08/12/97	54.72	11.40	43.32	Not Sampled: Well Removed from Sampling Program								
AR-1	11/14/97	54.72	10.80	43.92	Not Sampled: Well Removed from Sampling Program								
AR-1	03/18/98	54.72	NM	NM	Not Sampled: Well Removed from Sampling Program								
AR-1	05/19/98	54.72	NM	NM	Not Sampled: Well Removed from Sampling Program								
AR-1	07/29/98	54.72	10.17	44.55	Not Sampled: Well Removed from Sampling Program								
AR-1	10/09/98	54.72	11.25	43.47	Not Sampled: Well Removed from Sampling Program								
AR-1	02/19/99	54.72	7.02	47.70	Not Sampled: Well Removed from Sampling Program								
AR-1	06/02/99	54.72	11.00	43.72	Not Sampled: Well Removed from Sampling Program								
AR-1	08/26/99	54.72	10.96	43.76	Not Sampled: Well Removed from Sampling Program								0.39
AR-1	10/26/99	54.72	10.68	44.04	Not Sampled: Well Removed from Sampling Program								1.39

Table 1
Groundwater Elevation and Analytical Data
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, and MTBE)

ARCO Service Station 4931
731 West MacArthur Boulevard, Oakland, California

Well Number	Date Gauged/ Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOB)	Groundwater Elevation (feet, MSL)	TPH				Total Xylenes (ppb)	MTBE 8021B* (ppb)	MTBE 8260 (ppb)	Dissolved Oxygen (ppm)	Purged/ Not Purged (P/NP)
					Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl- benzene (ppb)					
AR-1	02/25/00	54.72	7.15	47.57	Not Sampled: Well Removed from Sampling Program								
AR-2	03/26/96	54.77	4.93	49.84	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NM	
AR-2	05/22/96	54.77	5.65	49.12	NS	NS	NS	NS	NS	NS	NS	NM	
AR-2	08/22/96	54.77	7.27	47.50	<50	<0.5	<0.5	<0.5	<0.5	200	NA	NM	
AR-2	12/19/96	54.77	7.78	46.99	Not Sampled: Well Removed from Sampling Program								
AR-2	04/01/97	54.77	6.80	47.97	Not Sampled: Well Removed from Sampling Program								
AR-2	05/27/97	54.77	6.32	48.45	Not Sampled: Well Removed from Sampling Program								
AR-2	08/12/97	54.77	7.43	47.34	Not Sampled: Well Removed from Sampling Program								
AR-2	11/14/97	54.77	8.95	45.82	Not Sampled: Well Removed from Sampling Program								
AR-2	03/18/98	54.77	NM	NM	Not Sampled: Well Removed from Sampling Program								
AR-2	05/19/98	54.77	NM	NM	Not Sampled: Well Removed from Sampling Program								
AR-2	07/29/98	54.77	4.47	50.30	Not Sampled: Well Removed from Sampling Program								
AR-2	10/09/98	54.77	6.90	47.87	Not Sampled: Well Removed from Sampling Program								
AR-2	02/19/99	54.77	3.80	50.97	Not Sampled: Well Removed from Sampling Program								
AR-2	06/02/99	54.77	4.61	50.16	Not Sampled: Well Removed from Sampling Program								
AR-2	08/26/99	54.77	5.22	49.55	Not Sampled: Well Removed from Sampling Program								
AR-2	10/26/99	54.77	3.20	51.57	Not Sampled: Well Removed from Sampling Program								0.44
AR-2	02/25/00	54.77	2.33	52.44	Not Sampled: Well Removed from Sampling Program								1.79
AR-3	03/26/96	54.19	7.95	46.24	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NM	
AR-3	05/22/96	54.19	8.30	45.89	NS	NS	NS	NS	NS	NS	NS	NM	
AR-3	08/22/96	54.19	10.84	43.35	Not Sampled: Well Removed from Sampling Program								
AR-3	12/19/96	54.19	8.56	45.63	Not Sampled: Well Removed from Sampling Program								
AR-3	04/01/97	54.19	11.24	42.95	Not Sampled: Well Removed from Sampling Program								
AR-3	05/27/97	54.19	10.67	43.52	Not Sampled: Well Removed from Sampling Program								
AR-3	08/12/97	54.19	11.10	43.09	Not Sampled: Well Removed from Sampling Program								
AR-3	11/14/97	54.19	10.60	43.59	Not Sampled: Well Removed from Sampling Program								
AR-3	03/18/98	54.19	NM	NM	Not Sampled: Well Removed from Sampling Program								
AR-3	05/19/98	54.19	NM	NM	Not Sampled: Well Removed from Sampling Program								
AR-3	07/29/98	54.19	9.95	44.24	Not Sampled: Well Removed from Sampling Program								
AR-3	10/09/98	54.19	11.20	42.99	Not Sampled: Well Removed from Sampling Program								

**Table 1
Groundwater Elevation and Analytical Data
Total Purgeable Petroleum Hydrocarbons
(TPPH as Gasoline, BTEX Compounds, and MTBE)**

**ARCO Service Station 4931
731 West MacArthur Boulevard, Oakland, California**

Well Number	Date Gauged/ Sampled	Well Elevation (feet, MSL)	Depth to Water (feet, TOB)	Groundwater Elevation (feet, MSL)	TPH				Total Xylenes (ppb)	MTBE 8021B* (ppb)	MTBE 8260 (ppb)	Dissolved Oxygen (ppm)	Purged/ Not Purged (P/NP)
					Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl- benzene (ppb)					
AR-3	02/19/99	54.19	6.98	47.21	Not Sampled: Well Removed from Sampling Program								
AR-3	06/02/99	54.19	10.80	43.39	Not Sampled: Well Removed from Sampling Program								
AR-3	08/26/99	54.19	10.69	43.50	Not Sampled: Well Removed from Sampling Program								
AR-3	10/26/99	54.19	NM	NM	Not Sampled: Well Removed from Sampling Program								
AR-3	02/25/00	54.19	7.21	46.98	Not Sampled: Well Removed from Sampling Program								

TPH = Total petroleum hydrocarbons by modified EPA method 8015
 BTEX = Benzene, toluene, ethylbenzene, total xylenes by EPA method 8021B. (EPA method 8020 prior to 10/26/99).
 MTBE = Methyl tert-butyl ether
 * = EPA method 8020 prior to 10/26/99
 MSL = Mean sea level
 TOB = Top of box
 ppb = Parts per billion
 ppm = Parts per million
 < = Less than laboratory detection limit stated to the right
 NA = Not analyzed
 NM = Not measured
 NS = Not sampled

**Table 2
Groundwater Flow Direction and Gradient**

**ARCO Service Station 4931
731 West MacArthur Boulevard, Oakland, California**

Date Measured	Average Flow Direction	Average Hydraulic Gradient
03/26/96	Southwest	0.03
05/22/96	Southwest	0.04
08/22/96	Southwest	0.02
12/19/96	Southwest	0.03
04/01/97	Southwest	0.03
05/27/97	Southwest	0.04
08/12/97	Southwest	0.02
11/14/97	Southwest	0.02
03/18/98	West	0.03
05/19/98	West-Southwest	0.02
07/29/98	West-Southwest	0.02
10/09/98	Southwest	0.007
02/19/99	Southwest	0.04
06/02/99	West	0.04
08/26/99	West-Southwest	0.02
10/26/99	West-Northwest	0.13
02/25/00	West-Southwest	0.05

ATTACHMENT D

EDCC REPORT AND EDF/GEOWELL SUBMITTAL CONFIRMATION

Error Summary Log

03/04/03

EDF 1.2i All files present in deliverable.

Laboratory:	Sequoia Analytical Laboratories, Inc., Morgan Hill, CA
Project Name:	ARCO #4931, Oakland, Ca
Work Order Number:	MMA0791
Global ID:	T0600100107
Lab Report Number:	MMA0791022020031802

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotct	Run Sub
MMA07910220200 A-2 31802		MMA079101	W	CS	8260+OX	SW5035	01/30/03	02/12/03	02/13/03	3B13034	1
MMA07910220200 A-4 31802		MMA079102	W	CS	8260+OX	SW5035	01/30/03	02/12/03	02/13/03	3B13034	1
MMA07910220200 A-8 31802		MMA079103	W	CS	8260+OX	SW5035	01/30/03	02/12/03	02/13/03	3B13034	1
MMA07910220200 A-9 31802		MMA079104	W	CS	8260+OX	SW5035	01/30/03	02/12/03	02/13/03	3B13034	1
		3B13034BSD1	WQ	BD1	8260+OX	SW5035	//	02/12/03	02/13/03	3B13034	1
		3B13034BSD2	WQ	BD2	8260+OX	SW5035	//	02/12/03	02/13/03	3B13034	1
		3B13034BS1	WQ	BS1	8260+OX	SW5035	//	02/12/03	02/13/03	3B13034	1
		3B13034BS2	WQ	BS2	8260+OX	SW5035	//	02/12/03	02/13/03	3B13034	1
		3B13034BLK1	WQ	LB1	8260+OX	SW5035	//	02/12/03	02/13/03	3B13034	1

EDFSAMP: Error Summary Log

03/04/03

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

EDFTEST: Error Summary Log

03/04/03

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

EDFRES: Error Summary Log

03/04/03

Error type	Labsampid	Qccode	Matrix	Anmcode	Pvccode	Anadate	Run number	Parlabel
Warning: extra parameter	MMA079101	CS	W	8260+OX	PR	02/13/03	1	GROC6C10
Warning: extra parameter	MMA079101	CS	W	8260+OX	PR	02/13/03	1	XYLENES
Warning: extra parameter	MMA079102	CS	W	8260+OX	PR	02/13/03	1	GROC6C10
Warning: extra parameter	MMA079102	CS	W	8260+OX	PR	02/13/03	1	XYLENES
Warning: extra parameter	MMA079103	CS	W	8260+OX	PR	02/13/03	1	GROC6C10
Warning: extra parameter	MMA079103	CS	W	8260+OX	PR	02/13/03	1	XYLENES
Warning: extra parameter	MMA079104	CS	W	8260+OX	PR	02/13/03	1	GROC6C10
Warning: extra parameter	MMA079104	CS	W	8260+OX	PR	02/13/03	1	XYLENES
Warning: extra parameter	3B13034BLK1	LB1	WQ	8260+OX	PR	02/13/03	1	GROC6C10
Warning: extra parameter	3B13034BLK1	LB1	WQ	8260+OX	PR	02/13/03	1	XYLENES
Warning: extra parameter	3B13034BS2	BS2	WQ	8260+OX	PR	02/13/03	1	GROC6C10
Warning: extra parameter	3B13034BSD2	BD2	WQ	8260+OX	PR	02/13/03	1	GROC6C10

EDFQC: Error Summary Log

03/04/03

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

EDFCL: Error Summary Log

03/04/03

Error type	Cirevdate	Anmcode	Exmcode	Parlabel	Cicode
There are no errors in this data file	//				