



April 30, 2003

Ms. Eva Chu  
Hazardous Materials Specialist  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

Alameda County  
MAY 02 2003  
Environmental Health

**Re: First Quarter 2003 Groundwater Monitoring Report  
ARCO Service Station # 6041  
7249 Village Parkway  
Dublin, California  
URS Project #38486131**

Dear Ms. Chu:

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 the ARCO Service Station #6041, located at 7249 Village Parkway, Dublin, California.

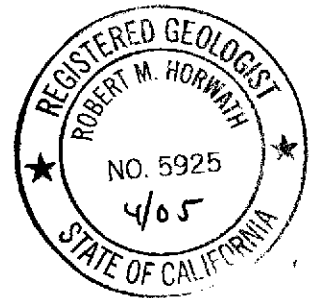
If you have any questions regarding this submission, please call (510) 874-3280.

Sincerely,

**URS CORPORATION**

Scott Robinson  
Project Manager

Robert Horwath R.G. #5925  
Portfolio Manager



Enclosure: First Quarter 2003 Groundwater Monitoring Report

cc: Ms. Karen Petryna, Equiva Services, LLC, PO Box 7869, Burbank, California 91510-7869  
Mr. Paul Supple, ARCO, PO Box 6549 Moraga, CA 94570z



Atlantic Richfield Company  
(a BP affiliated company)

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



**Alameda County**  
**MAY 02 2003**  
**Environmental Health**

April 30, 2003

Re: First Quarter 2003 Groundwater Monitoring Report  
ARCO Station 6041  
7249 Village Pkwy.  
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

**R E P O R T**

**FIRST QUARTER 2003  
GROUNDWATER MONITORING**

ARCO SERVICE STATION #6041  
7249 VILLAGE PARKWAY  
DUBLIN, CALIFORNIA

*Prepared for*  
Atlantic Richfield Company

April 30, 2003

**URS**

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

38486131

Date: April 30, 2003

Quarter: 1Q 03

### ATLANTIC RICHFIELD COMPANY QUARTERLY GROUNDWATER MONITORING REPORT

Former Facility No.: 6041 Address: 7249 Village Parkway, Dublin, California  
Atlantic Richfield Co. Environmental Engineer: Paul Supple  
Consulting Co./Contact Person: URS Corporation / Scott Robinson  
Consultant Project No.: 38486131  
Primary Agency: ACHCSA

#### WORK PERFORMED THIS QUARTER (First - 2003):

1. Performed first quarter 2003 groundwater monitoring event on March 12, 2003.
2. Prepared and submitted fourth quarter 2002 groundwater monitoring report.
3. Repaired MW-2 and MW-3

#### 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. Re-survey wells MW-2, MW-3 MW-7 and MW-8.

Current Phase of Project:	<u>GW monitoring/sampling</u>
Frequency of Groundwater Sampling:	<u>Wells MW-2 through MW-8</u>
Frequency of Groundwater Monitoring:	<u>Quarterly</u>
Is Free Product (FP) Present On-Site:	<u>No</u>
Bulk Soil Removed to Date:	<u>3,208 cubic yards</u>
Current Remediation Techniques:	<u>Natural Attenuation</u>
Approximate Depth to Groundwater:	<u>7.33 (MW-2) to 8.41 (MW-6)</u>
Groundwater Gradient (direction):	<u>South-southwest</u>
Groundwater Gradient (magnitude):	<u>0.008 feet per foot</u>

#### DISCUSSION:

All samples were analyzed by EPA Method 8260B. Five off the six wells to be sampled this quarter were sampled. MW-7 was not sampled because it was dry. TPH-g was not detected in any of the wells. Benzene was detected in two wells at concentrations of 1.6 micrograms per liter ( $\mu\text{g/L}$ ) (MW-2) and 89  $\mu\text{g/L}$  (MW-8). MTBE was detected in all five wells at concentrations ranging from 0.64  $\mu\text{g/L}$  (MW-6) to 740  $\mu\text{g/L}$  (MW-8). TBA was detected in three wells at concentrations ranging between 540  $\mu\text{g/L}$  (MW-2) to 6,100  $\mu\text{g/L}$  (MW-3).

#### RECOMMENDATIONS:

We recommend changing well MW-6 from quarterly to bi-annual sampling. This well is the farthest upgradient well and historically has either been non-detect or had very low detections for the constituents of concern.

**ATTACHMENTS:**

- Table 1 - Groundwater Elevation and Analytical Data
- Table 2 - Groundwater Flow Direction and Gradient
- Table 3 - Fuel Oxygenate Analytical Data
- Figure 1 - Groundwater Elevation Contour and Analytical Summary Map – March 12, 2003
- Attachment A - Field Procedures and Field Data Sheets
- Attachment B - Laboratory Procedures, Certified Analytical Reports and Chain-of-Custody Records
- Attachment C - EDCC and EDF/Geowell Submittal Confirmation

**Table 1  
Groundwater Elevation and Analytical Data**

ARCO Service Station #6041  
7249 Village Parkway  
Dublin, California

Well Number	Date of Sampling/ Monitoring	TOC Elevation (ft-MSL)	Depth to Water (feet)	Groundwater Elevation (ft-MSL)	TPH Gasoline (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	02/15/95	336.56	8.53	328.03	820	15	<1	5.2	1.4	--	--		
	05/24/95		9.00	327.56	640	12	<1	7.3	<1	--	--		
	08/25/95		10.30	326.26	780	2	<1	2	2	2,500	--		
	11/28/95		11.01	325.55	570	2.2	<0.5	1.4	0.9	--	--		
	02/26/96		7.35	329.21	1,100	28	<7	13	7	3,400	--		
	05/23/96		8.73	327.83	560	8.5	<1	1.1	<1	3,900	--		
	08/23/96		10.25	326.31	860	<1	<1	<4	2	5,600	--		
	03/21/97		9.35	327.21	520	12	<0.5	2.7	1.5	6,200	--		
	08/20/97		10.75	325.81	<5,000	<50	<50	<50	<50	7,400	--		
	11/21/97		11.10	325.46	<5,000	<50	<50	<50	<50	8,500	--		
	02/12/98		P	7.05	329.51	210	<0.5	<0.5	<0.5	<0.5	8,900	--	1.71
	07/31/98		P	10.04	326.52	<20,000	<200	<200	<200	<200	18,000	--	2.43
	02/17/99			8.50	328.06	<20,000	<200	<200	<200	<200	16,000	--	1.0
	08/24/99		P	10.40	326.16	190	<0.5	4.4	<0.5	1.1	15,000	--	
	03/01/00		P	8.85	327.71	310	20	0.5	7.6	4	80,000	--	1.57
	08/18/00		P	9.35	327.21	<10,000	<100	<100	<100	<100	48,400	63,700	1.50
12/27/00	P	10.81	325.75	<10,000	309	<100	<100	289	44,400	--	0.51		
02/09/01	P	10.65	325.91	2,820	368	<25.0	116	176	23,300	--	0.58		
DUP	02/09/01	NR	NR	NR	3,490	432	9.56	146	235	31,800	--		
	04/17/01	P	11.09	325.47	2,900	66.0	<10.0	33.2	25.1	46,500	--	0.63	
DUP	04/17/01	NR	NR	NR	2,600	70.1	<20.0	32.7	30.6	45,400	--		
	07/17/01	P	11.07	325.49	<10,000	<100	<100	130	520	42,000	--	0.69	
	12/21/01	Well abandoned during station upgrade activities											

**Table 1**  
**Groundwater Elevation and Analytical Data**

ARCO Service Station #6041  
7249 Village Parkway  
Dublin, California

Well Number	Date of Sampling/ Monitoring	TOC Elevation (ft-MSL)	Depth to Water (feet)	Groundwater Elevation (ft-MSL)	TPH Gasoline (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-2	02/15/95	334.80	6.75	328.05	730	110	1.7	25	66	--	--		
	05/24/95		6.88	327.92	370	110	<1	17	1.9	--	--		
	08/25/95		7.91	326.89	150	6	<1	<1	<1	2,700	--	--	
	11/28/95		9.06	325.74	<50	<0.5	<0.5	<0.5	0.8	--	--		
	02/26/96		6.65	328.15	350	66	<0.5	11	1.7	<3	--	--	
	05/23/96		6.90	327.90	540	140	<2.5	13	<2.5	4,600	--	--	
	08/23/96		8.45	326.35	180	0.8	2	0.7	2.6	4,000	--	--	
	03/21/97		7.28	327.52	410	90	<1	14	4	3,800	--	--	
	08/20/97		8.87	325.93	<5,000	<50	<50	<50	<50	3,100	--	--	
	11/21/97		9.28	325.52	<2,000	<20	<20	<20	<20	2,600	--	--	
	02/12/98		P	5.90	328.90	310	54	<0.5	6.2	1.1	3,800	--	3.76
	07/31/98		P	8.12	326.68	6,100	52	220	110	1100	7,700	--	2.96
	02/17/99		P	7.18	327.62	<5,000	<50	<50	<50	<50	4,200	--	1.0
	08/24/99		P	8.68	326.12	200	1.8	16	3.0	32	3,100	--	
	03/01/00		P	7.02	327.78	760	24	12	13	59	6,300	--	1.92
	08/18/00		P	7.75	327.05	<500	<5.00	<5.00	<5.00	<5.00	1,610	1,980	2.03
	12/27/00			8.85	325.95	Not Sampled: Well sampled during first and third quarters							
	02/09/01		P	8.50	326.30	<50.0	<0.500	<0.500	<0.500	<0.500	9.11	--	0.53
	04/17/01			9.12	325.68	Not Sampled: Well sampled during first and third quarters							
	07/17/01		P	8.99	325.81	1,200	<10	<10	<10	<10	4,200	--	0.69
DUP	07/17/01	NR	NR	NR	3,500	<10	<10	<10	<10	3,500	--		
	12/21/01	NP	8.65	326.15	65	<0.50	1.2	0.61	6.7	11	6.5	0.48	
	03/06/02	NP	8.61	326.19	<50	<0.50	<0.50	<0.50	1.8	31	--	0.35	
	04/26/02	NP	8.20	326.60	92	<0.5	<0.50	<0.50	0.64	98	180	0.19	
	09/23/02	P	8.50 <sup>4</sup>	326.30 <sup>4</sup>	250 <sup>1</sup>	<1.2	<1.2	<1.2	<1.2	NA	1,500	2.1	
	12/27/02	P	7.15 <sup>4</sup>	327.65 <sup>4</sup>	440 <sup>1</sup>	<2.5	<2.5	<2.5	<2.5	NA	790	1.4	
	3/12/2003 <sup>7</sup>	P	7.33	NR <sup>6</sup>	ND<50	1.6	ND<0.50	ND<0.50	1.2	NA	11	2.7	

**Table 1  
Groundwater Elevation and Analytical Data**

ARCO Service Station #6041  
7249 Village Parkway  
Dublin, California

Well Number	Date of Sampling/ Monitoring	TOC Elevation (ft-MSL)	Depth to Water (feet)	Groundwater Elevation (ft-MSL)	TPH Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8260 (µg/L)	Dissolved Oxygen (mg/L)	
MW-3	02/15/95	335.53	8.55	326.98	100	14	<0.5	6.3	<0.5	--	--		
	05/24/95		8.17	327.36	110	8	<0.5	2.7	<0.5	--	--		
	08/25/95		9.27	326.26	210	3.6	<0.5	2.9	0.6	20,000	--		
	11/28/95		9.91	325.62	81	1.5	<0.5	1.4	<0.5	--	15,000		
	02/26/96		8.42	327.11	16,000	1,600	1,200	300	2,000	9,500	--		
	05/23/96		7.70	327.83	6,500	690	<10	120	14	8,600	--		
	08/23/96		9.25	326.28	1,700	85	2	61	5.3	11,000	--		
	03/21/97		8.72	326.81	100	2	<1	1	<1	6,600	--		
	08/20/97		9.73	325.80	<5,000	<50	<50	<50	<50	7,700	--		
	11/21/97		10.10	325.43	<5,000	<50	<50	<50	<50	9,700	--		
	02/12/98		P	6.68	328.85	110	11	<0.5	<0.5	1.9	10,000	--	1.02
	07/31/98		P	7.98	327.55	<10,000	<100	<100	<100	<100	13,000	--	2.59
	02/17/99		P	8.40	327.13	<20,000	<200	<200	<200	<200	23,000	--	1.0
	08/24/99		P	9.45	326.08	200	0.6	5.6	0.6	1.7	22,000	--	
03/01/00	P	8.32	327.21	320	32	1.0	6.1	4	58,000	--	2.42		
08/18/00	P	8.35	327.18	<10,000	<100	<100	<100	<100	46,200	55,600	1.59		
DUP	08/18/00	NR	NR	NR	<10,000	<100	<100	<100	<100	45,500	51,700		
	12/27/00	P	9.75	325.78	29,700	1,620	1,730	<250	6,230	62,600	--	1.59	
	02/09/01	P	9.61	325.92	29,300	2,590	3,530	440	7,080	85,500	--	0.51	
	04/17/01	P	9.94	325.59	16,400	1,680	<25.0	310	2,290	48,700	--	0.41	
	07/17/01	P	9.93	325.60	21,000	1,500	<100	1,100	690	82,000	--	0.51	
	12/21/01	P	9.40	326.13	<5,000	<50	<50	<50	4,300	3,800	3,500	0.40	
DUP	12/21/01	NR	NR	NR	<5,000	<50	<50	<50	<50	4,500	3,500		
	03/06/02	P	9.33	326.20	<50	1.2	<0.50	1.1	13	880	--	0.43	
	04/26/02	P	9.19	326.34	260	3.7	<1.0	1.1	1.80	460	940	0.2	
	09/23/02	P	9.30 <sup>4</sup>	326.23 <sup>4</sup>	1,500 <sup>2</sup>	41	2.4	9.8	14	NA	980	1.5	
	12/27/02	P	7.30 <sup>4</sup>	328.23 <sup>4</sup>	1,500 <sup>3</sup>	300	100	21	66	NA	1,100	2.2	
	3/12/2003 <sup>7</sup>	P	8.06	NR <sup>6</sup>	ND<1,000	ND<10	ND<10	ND<10	ND<10	NA	45	1.6	



**Table 1**  
**Groundwater Elevation and Analytical Data**

ARCO Service Station #6041  
7249 Village Parkway  
Dublin, California

Well Number	Date of Sampling/ Monitoring	TOC Elevation (ft-MSL)	Depth to Water (feet)	Groundwater Elevation (ft-MSL)	TPH Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8260 (µg/L)	Dissolved Oxygen (mg/L)
MW-4	02/15/95	334.22	7.85	326.37	<50	<0.5	<0.5	<0.5	<0.5	--	--	
	05/24/95		6.68	327.54	Not sampled: well sampled semi-annually, during the first and third quarters							
	08/25/95		6.93	327.29	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	11/28/95		8.21	326.01	Not sampled: well sampled semi-annually, during the first and third quarters							
	02/26/96		6.65	327.57	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	05/23/96		6.47	327.75	Not sampled: well sampled semi-annually, during the first and third quarters							
	08/23/96		7.66	326.56	Not sampled: well not part of sampling program							
	03/21/97		6.84	327.38	Not sampled: well not part of sampling program							
	08/20/97		8.32	325.90	Not sampled: well not part of sampling program							
	11/21/97		8.65	325.57	Not sampled: well not part of sampling program							
	02/12/98		6.35	327.87	Not sampled: well not part of sampling program							
	07/31/98		6.84	327.38	Not sampled: well not part of sampling program							
	02/17/99		7.50	326.72	Not sampled: well not part of sampling program							
	08/24/99		9.50	324.72	Not sampled: well not part of sampling program							
	03/01/00		6.93	327.29	Not sampled: well not part of sampling program							
	08/18/00		7.03	327.19	Not sampled: well not part of sampling program							
	12/27/00		8.10	326.12	Not sampled: well not part of sampling program							
	02/09/01		7.97	326.25	Not sampled: well not part of sampling program							
	04/17/01		8.90	325.32	Not sampled: well not part of sampling program							
	07/17/01		8.59	325.63	Not sampled: well not part of sampling program							
	12/21/01	NP	8.31	325.91	<50	<0.50	<0.50	<0.50	<0.50	4.1	2.0	0.68
	03/06/02	P	8.27	325.95	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	0.37
	04/26/02	P	8.05	326.17	<50	<0.50	<0.50	<0.50	<0.50	3.6	--	0.3
	09/23/02	P	7.94	326.28	<50	<0.50	<0.50	<0.50	<0.50	NA	2.9	4.1
	12/27/02	P	7.56	326.66	<50	<0.50	<0.50	<0.50	<0.50	NA	2.6	2.1
	3/12/2003 <sup>7</sup>	P	7.67	326.55	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	NA	1.6	2.8

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**Groundwater Elevation and Analytical Data**

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7249 Village Parkway  
Dublin, California

Well Number	Date of Sampling/ Monitoring	TOC Elevation (ft-MSL)	Depth to Water (feet)	Groundwater Elevation (ft-MSL)	TPH Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8260 (µg/L)	Dissolved Oxygen (mg/L)
MW-5	02/15/95	335.87	7.80	328.07	<50	<0.5	<0.5	<0.5	<0.5	--	--	
	05/24/95		8.10	327.77	Not sampled: well sampled annually, during the first quarter							
	08/25/95		9.43	326.44	Not sampled: well sampled annually, during the first quarter							
	11/28/95		10.12	325.75	Not sampled: well sampled annually, during the first quarter							
	02/26/96		6.73	329.14	03-13-96	<0.5	<0.5	<0.5	<0.5	<3	--	
	05/23/96		7.87	328.00	Not sampled: well sampled annually, during the first quarter							
	08/23/96		9.46	326.41	Not sampled: well not part of sampling program							
	03/21/97		8.23	327.64	Not sampled: well not part of sampling program							
	08/20/97		9.92	325.95	Not sampled: well not part of sampling program							
	11/21/97		10.18	325.69	Not sampled: well not part of sampling program							
	02/12/98		6.45	329.42	Not sampled: well not part of sampling program							
	07/31/98		8.98	326.89	Not sampled: well not part of sampling program							
	02/17/99		7.65	328.22	Not sampled: well not part of sampling program							
	08/24/99		8.10	327.77	Not sampled: well not part of sampling program							
	03/01/00		7.31	328.56	Not sampled: well not part of sampling program							
	08/18/00		8.65	327.22	Not sampled: well not part of sampling program							
	12/27/00		9.80	326.07	Not sampled: well not part of sampling program							
	02/09/01		9.65	326.22	Not sampled: well not part of sampling program							
	04/17/01		9.92	325.95	Not sampled: well not part of sampling program							
	07/17/01		9.95	325.92	Not sampled: well not part of sampling program							
	12/21/01		Well inaccessible									
	03/06/02		Well inaccessible									
	04/26/02		Well inaccessible									
	09/23/02		7.94	327.93	Not sampled: well not part of sampling program							
	12/27/02	P	7.57	328.30	<50	<0.50	<0.50	<0.50	0.76	NA	15	0.7
	3/12/2003 <sup>7</sup>		8.32	327.55	NS	NS	NS	NS	NS	NS	NS	NA

**Table 1**  
**Groundwater Elevation and Analytical Data**

ARCO Service Station #6041  
7249 Village Parkway  
Dublin, California

Well Number	Date of Sampling/ Monitoring	TOC Elevation (ft-MSL)	Depth to Water (feet)	Groundwater Elevation (ft-MSL)	TPH			Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8260 (µg/L)	Dissolved Oxygen (mg/L)
					Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)					
MW-6	02/15/95	335.84	7.81	328.03	<50	<0.5	<0.5	<0.5	<0.5	--	--	
	05/24/95		8.35	327.49	Not sampled: well sampled annually, during the first quarter							
	08/25/95		9.71	326.13	Not sampled: well sampled annually, during the first quarter							
	11/28/95		10.28	325.56	Not sampled: well sampled annually, during the first quarter							
	02/26/96		6.60	329.24	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	05/23/96		8.05	327.79	Not sampled: well sampled annually, during the first quarter							
	08/23/96		9.58	326.26	Not sampled: well not part of sampling program							
	03/21/97		8.39	327.45	Not sampled: well not part of sampling program							
	08/20/97		9.98	325.86	Not sampled: well not part of sampling program							
	11/21/97		10.31	325.53	Not sampled: well not part of sampling program							
	02/12/98		3.15	332.69	Not sampled: well not part of sampling program							
	07/31/98		9.29	326.55	Not sampled: well not part of sampling program							
	02/17/99		7.72	328.12	Not sampled: well not part of sampling program							
	08/24/99		9.65	326.19	Not sampled: well not part of sampling program							
	03/01/00		7.35	328.49	Not sampled: well not part of sampling program							
	08/18/00		8.65	327.19	Not sampled: well not part of sampling program							
	12/27/00		9.83	326.01	Not sampled: well not part of sampling program							
	02/09/01		9.62	326.22	Not sampled: well not part of sampling program							
	04/17/01		10.03	325.81	Not sampled: well not part of sampling program							
	07/17/01		9.95	325.89	Not sampled: well not part of sampling program							
12/21/01	NP	9.47	326.37	<50	<0.50	<0.50	<0.50	0.57	<2.5	--	0.55	
03/06/02	P	9.31	326.53	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	0.33	
04/26/02	P	9.09	326.75	<50	<0.50	<0.50	<0.50	0.7	<2.5	--	0.31	
09/23/02	P	9.14	326.70	<50	<0.50	<0.50	<0.50	<0.50	NA	<0.50	2.1	
12/27/02	P	7.26	328.58	<50	<0.50	<0.50	<0.50	0.63	NA	0.91	0.8	
3/12/2003 <sup>7</sup>	P	8.41	327.43	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	NA	0.64	1.3	

**Table 1**  
**Groundwater Elevation and Analytical Data**

ARCO Service Station #6041  
7249 Village Parkway  
Dublin, California

Well Number	Date of Sampling/ Monitoring	TOC Elevation (ft-MSL)	Depth to Water (feet)	Groundwater Elevation (ft-MSL)	TPH Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8260 (µg/L)	Dissolved Oxygen (mg/L)	
MW-7	12/21/01	NR	NR	NR	Not sampled: well dry								
	03/06/02	NR	NR	NR	Not sampled: well dry								
	04/26/02	NR	NR	NR	Not sampled: well dry								
	09/23/02	NR	NR	NR	Not sampled: well dry								
	12/27/02	P <sup>5</sup>	NR	7.74	NR	<50	<0.50	<0.50	<0.50	<0.50	NA	4.7	2.7
	3/12/2003 <sup>7</sup>	NR	<b>DRY</b>	NR	<b>Not sampled: well dry</b>								
MW-8	12/21/01	NP	NR	8.70	NR	<5,000	67	<50	<50	<50	2,400	1,300	0.60
	03/06/02	P	NR	8.63	NR	210	41	0.64	0.79	2.0	940	--	0.25
DUP	03/06/02		NR	NR	NR	170	37	0.67	0.70	1.9	740	--	
	04/26/02	P	NR	8.15	NR	680	95	<1.0	14	2.5	490	--	0.31
DUP	04/26/02		NR	NR	NR	480	74	3.5	11.00	<1.0	640	--	
	09/30/02	P	NR	9.37	NR	1,100 <sup>3</sup>	120	<5.0	57	8.7	NA	1,100	1.3
	12/27/02	P	NR	7.55	NR	350 <sup>2</sup>	13	<0.50	2.4	2.2	NA	73	0.8
	3/12/2003 <sup>7</sup>	P	NR	<b>8.25</b>	NR	<b>ND&lt;2,500</b>	<b>89</b>	<b>ND&lt;25</b>	<b>ND&lt;25</b>	<b>ND&lt;25</b>	<b>NA</b>	<b>740</b>	<b>1.4</b>
VW-2	03/21/97		NR	8.22	NR	150	8.9	<0.5	<0.5	0.6	270	--	
	08/20/97		NR	9.16	NR	Not sampled: well not part of sampling program							
	11/21/97		NR	8.27	NR	<200	3	<2	<2	180	--		
	02/12/98		NR	6.65	NR	200	19	<0.5	0.6	<0.5	2,200	--	
	07/31/98		NR	7.01	NR	Not sampled: well not part of sampling program							
	02/17/99		NR	8.47	NR	Not sampled: well not part of sampling program							
	08/24/99		NR	8.20	NR	Not sampled: well not part of sampling program							
	03/01/00		NR	8.72	NR	Not sampled: well not part of sampling program							
	08/18/00	NP	NR	8.40	NR	<250	<2.50	<2.50	<2.50	<2.50	537	--	1.59
	12/27/00		NR	8.95	NR	Not sampled: Well Dry							
	02/09/01		NR	8.87	NR	Not sampled: Well Dry							
	04/17/01		NR	9.00	NR	Not sampled: Well Dry							
	07/17/01		NR	8.97	NR	Not sampled: Well Dry							
	12/21/01		Well abandoned during station upgrade activities										

**Table 1  
Groundwater Elevation and Analytical Data**

ARCO Service Station #6041  
7249 Village Parkway  
Dublin, California

Well Number	Date of Sampling/ Monitoring	TOC Elevation (ft-MSL)	Depth to Water (feet)	Groundwater Elevation (ft-MSL)	TPH Gasoline (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)	
Shell MW-6 DUP	12/27/00	P	NR	9.13	NR	74.7	<0.500	<0.500	<0.500	<0.500	<2.50	--	1.30
	12/27/00		NR	NR	NR	79.3	<0.500	<0.500	<0.500	<0.500	<2.50	--	
	02/09/01	P	NR	9.05	NR	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	--	1.29
	04/17/01	P	NR	10.17	NR	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	--	0.95
	07/17/01	P	NR	9.50	NR	<50	<0.50	<0.50	<0.50	<0.50	4.2	--	1.03
	12/21/01	P	NR	9.98	NR	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	0.97
	03/06/02	P	NR	9.90	NR	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	0.97
	04/26/02	P	NR	9.47	NR	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	0.97
09/27/02		Well destroyed											
Shell MW-7	12/27/00	P	NR	6.45	NR	<50.0	<0.500	0.696	<0.500	0.795	<2.50	--	1.33
	02/09/01	P	NR	6.39	NR	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	--	1.13
	04/17/01	P	NR	7.22	NR	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	--	1.12
	07/17/01	P	NR	6.93	NR	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	1.05
	12/21/01	P	NR	7.15	NR	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	
	03/06/02	P	NR	7.03	NR	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	0.95
	04/26/02	P	NR	7.15	NR	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	0.95
	09/27/02		Well destroyed										

- Notes:
- TOC = Top of casing
  - ft-MSL = Elevation in feet, relative to mean sea level
  - TPH = Total Petroleum Hydrocarbons analyzed using EPA Method 8015B modified
  - BTEX = Benzene, toluene, ethylbenzene, total xylenes by EPA method 8021B. (EPA method 8020 prior to 03/01/00).
  - MTBE = Methyl tert-butyl ether analyzed using EPA Method 8260B
  - EPA = United States Environmental Protection Agency
  - \* = EPA method 8020 prior to 03/01/00
  - µg/L = Micrograms per liter
  - mg/L = Milligrams per liter
  - NR = Not reported; data not available or not measurable
  - = Not analyzed or not applicable
  - < = Denotes concentration not present at or above laboratory detection limit stated to the right.
  - \*\* = For previous historical groundwater elevation and analytical data please refer to Fourth Quarter 1995 Groundwater Monitoring Program Results, ARCO Service Station 6041, Dublin, California, (EMCON, February 26, 1996).
  - DUP = Duplicate
  - 1 = Discrete peak at C6-C7.
  - 2 = Hydrocarbon pattern is present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel.
  - 3 = Chromatogram Pattern: C6-C10
  - 4 = Well casing broken, TOC unknown.
  - 5 = Well mistakenly sampled this quarter
  - 6 = Well casing was repaired and needs to be resurveyed.
  - 7 = TPH-g, BTEX and MTBE analyzed by EPA Method 8260B.

Source The data within this table collected prior to September 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 #6041  
7249 Village Parkway  
Dublin, California

<b>Date Measured</b>	<b>Average Flow Direction</b>	<b>Average Hydraulic Gradient</b>
02/15/95	NR	NR
05/24/95	East-Southeast	0.002
08/25/95	Northwest	0.006
11/28/95	North	0.006
02/26/96	East	0.012
05/23/96	Flat Gradient	Flat Gradient
08/23/96	Flat Gradient	Flat Gradient
03/21/97	South-Southeast	0.005
08/20/97	South-Southwest	0.001
11/21/97	South-Southwest	0.002
02/12/98	East	0.024
07/31/98	Northwest	0.01
02/17/99	Southeast	0.007
08/24/99	South-Southwest	0.013
03/01/00	South-Southeast	0.005
09/26/00	South-Southeast	0.002
12/27/00	West-Southwest	0.003
02/09/01	West-Southwest	0.003
04/17/01	South-Southwest	0.015
07/17/01	South-Southwest	0.003
12/21/01	East	0.002
03/06/02	East	0.003
04/26/02	Southeast	0.003
09/27/02	South	0.013
12/27/02	Southeast	0.011
<b>03/12/03</b>	<b>South-Southeast</b>	<b>0.008</b>

Source:

The data within this table collected prior to September 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**  
**Fuel Oxygenate Analytical Data**

ARCO Service Station #6041  
7249 Village Parkway  
Dublin, California

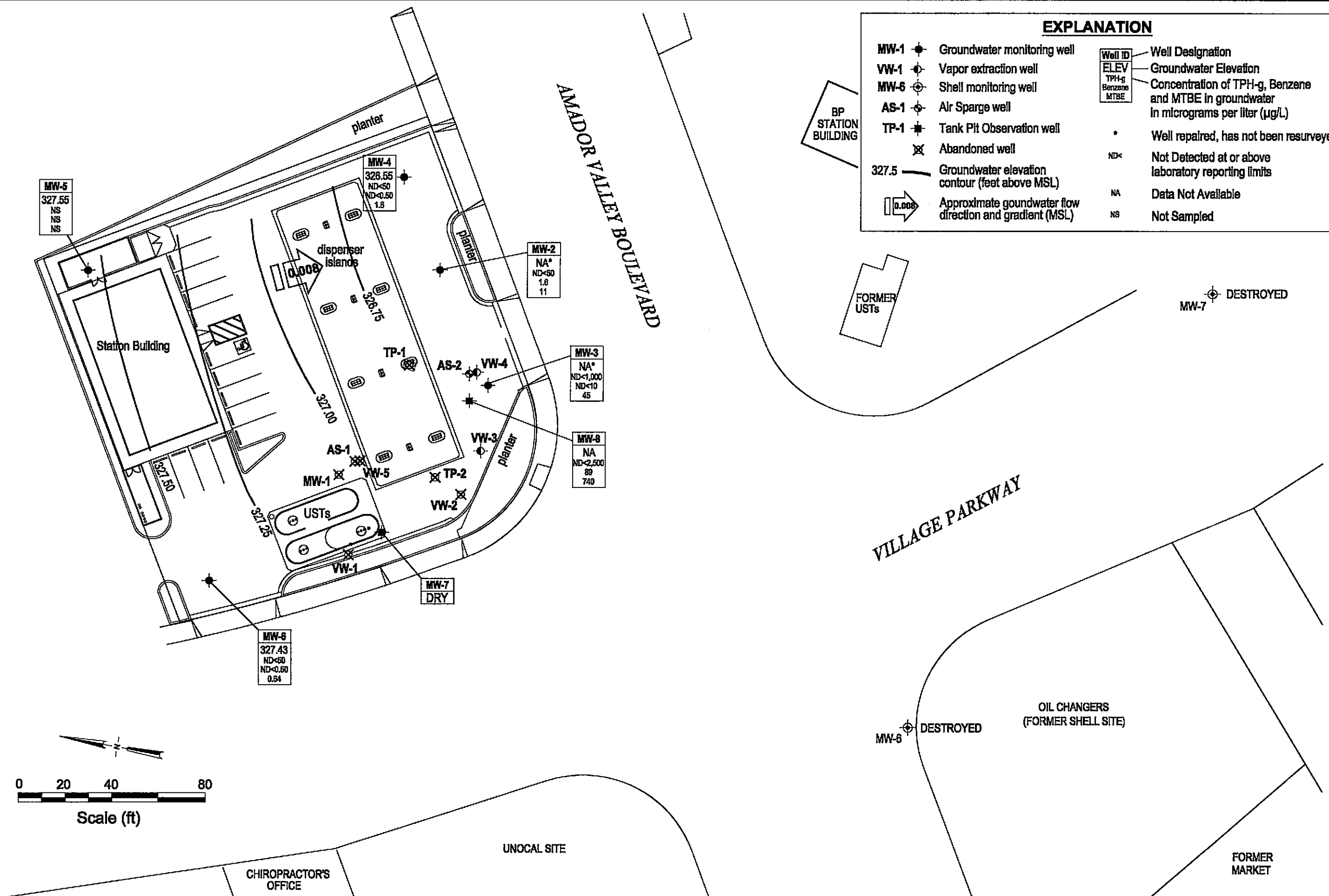
Well Number	Date Sampled	Ethanol (µg/L)	TBA (µg/L)	MTBE (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-Dichloroethane (µg/L)	Ethylene Dibromide (µg/L)
MW-2	12/27/02	ND<20,000	ND<10,000	790	ND<250	ND<250	ND<250	ND<250	ND<250
<b>MW-2</b>	<b>03/12/03</b>	<b>ND&lt;100</b>	<b>540</b>	<b>11</b>	<b>ND&lt;0.50</b>	<b>ND&lt;0.50</b>	<b>ND&lt;0.50</b>	<b>ND&lt;0.50</b>	<b>ND&lt;0.50</b>
MW-3	12/27/02	ND<40,000	ND<20,000	1,100	ND<500	ND<500	ND<500	ND<500	ND<500
<b>MW-3</b>	<b>03/12/03</b>	<b>ND&lt;2,000</b>	<b>6,100</b>	<b>45</b>	<b>ND&lt;10</b>	<b>ND&lt;10</b>	<b>ND&lt;10</b>	<b>ND&lt;10</b>	<b>ND&lt;10</b>
MW-4	12/27/02	ND<40	ND<20	2.6	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
<b>MW-4</b>	<b>03/12/03</b>	<b>ND&lt;100</b>	<b>ND&lt;20</b>	<b>1.6</b>	<b>ND&lt;0.50</b>	<b>ND&lt;0.50</b>	<b>ND&lt;0.50</b>	<b>ND&lt;0.50</b>	<b>ND&lt;0.50</b>
MW-5	12/27/2002	ND<40	ND<20	15	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
<b>MW-5</b>	<b>03/12/03</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>
MW-6	12/27/02	ND<40	ND<20	0.91	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
<b>MW-6</b>	<b>03/12/03</b>	<b>ND&lt;100</b>	<b>ND&lt;20</b>	<b>0.64</b>	<b>ND&lt;0.50</b>	<b>ND&lt;0.50</b>	<b>ND&lt;0.50</b>	<b>ND&lt;0.50</b>	<b>ND&lt;0.50</b>
MW-7	12/27/02	ND<40	ND<20	4.7	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
<b>MW-7</b>	<b>03/12/03</b>	<b>Not sampled - well dry</b>							
MW-8	12/27/02	ND<400	260	73	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
<b>MW-8</b>	<b>03/12/03</b>	<b>ND&lt;5,000</b>	<b>2,200</b>	<b>740</b>	<b>ND&lt;25</b>	<b>ND&lt;25</b>	<b>ND&lt;25</b>	<b>ND&lt;25</b>	<b>ND&lt;25</b>

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  
NS = Not Sampled

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**EXPLANATION**

MW-1	Groundwater monitoring well	Well ID	Well Designation
VW-1	Vapor extraction well	ELEV	Groundwater Elevation
MW-6	Shell monitoring well	TPH-g	Concentration of TPH-g, Benzene and MTBE in groundwater in micrograms per liter (µg/L)
AS-1	Air Sparge well	Benzene	
TP-1	Tank Pit Observation well	MTBE	
	Abandoned well		
327.5	Groundwater elevation contour (feet above MSL)		
	Approximate groundwater flow direction and gradient (MSL)		
		•	Well repaired, has not been resurveyed
		ND<	Not Detected at or above laboratory reporting limits
		NA	Data Not Available
		NS	Not Sampled



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

	Project No. 38486131	<b>Groundwater Elevation Contour and Analytical Summary Map</b> First Quarter 2003 (March 12, 2003)	FIGURE <b>1</b>
	Arco Service Station #6041 7249 Village Parkway Dublin, California		



**ATTACHMENT A**  
**FIELD PROCEDURES AND FIELD DATA SHEETS**

## FIELD PROCEDURES

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### **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 # 030312-AC1 Date 3-12-03 Client Area 6041

Site 7249 Village Pkwy Dublin

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 TOG	
MW-2	4					7.33	9.60	TOC	NP 101
MW-3	4	gauged w/ stinger in well				8.06	14.10	↓	
MW-4	4				7.67	14.56			
MW-5	4				8.32	17.53			
MW-6	4				8.41	12.34			
MW-7	4				DRY	8.16			
MW-8	4				8.25	12.66			

## ARCO / BP WELL MONITORING DATA SHEET

BTS #: <b>030312-HC1</b>	Station # <b>Area 6041</b>
Sampler: <b>AC</b>	Date: <b>3-12-03</b>
Well I.D.: <b>MW-2</b>	Well Diameter: 2 3 <b>(4)</b> 6 8
Total Well Depth: <b>9.60</b>	Depth to Water: <b>7.33</b>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <b>(PVC)</b> Grade	D.O. Meter (if req'd): <b>(YSI)</b> HACH

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

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

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

<b>1.4</b>	X	<b>3</b>	=	<b>4.2</b>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or $\mu$ S)	Gals. Removed	Observations
0858	67.4	7.9	3491	1.5	brown
0901	67.8	7.4	3347	3	"
well dewatered @ 3.5 gal					DTW = 8.76
1020	69.0	7.0	3543	—	
					DTW @ sample = 7.61

Did well dewater? <b>(Yes)</b> No	Gallons actually evacuated: <b>3.5</b>
Sampling Time: <b>1020</b>	Sampling Date: <b>3-12-03</b>
Sample I.D.: <b>MW-2</b>	Laboratory: Pace <b>(Sequoia)</b> Other _____

Analyzed for: <b>(TPH-G) (BTEX)</b> MTBE TPH-D Other: <b>DX's, Ethanol, 1,2-DCA, EDB by 8260</b>		
D.O. (if req'd):	Pre-purge: _____ mg/L	Post-purge: <b>2.7</b> mg/L
O.R.P. (if req'd):	Pre-purge: _____ mV	Post-purge: _____ mV

## ARCO / BP WELL MONITORING DATA SHEET

BTS #: <b>030312-HC1</b>	Station # <b>Area 6041</b>
Sampler: <b>AC</b>	Date: <b>3-12-03</b>
Well I.D.: <b>MW-3</b>	Well Diameter: 2 3 <b>4</b> 6 8
Total Well Depth: <b>14.10</b>	Depth to Water: <b>8.06</b>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <b>(PVC)</b> Grade	D.O. Meter (if req'd): <b>(YSI)</b> HACH

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

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

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

<b>4</b>	X	<b>3</b>	=	<b>12</b>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or $\mu$ S)	Gals. Removed	Observations
0918	69.4	7.5	1733	4	light brown
					well dewatered @ 5 gal
1030	67.9	7.4	1701	—	DTW = 12.60
					DTW @ sample = 7.84

Did well dewater? <b>(Yes)</b> No	Gallons actually evacuated: <b>5</b>
Sampling Time: <b>1030</b>	Sampling Date: <b>3-12-03</b>
Sample I.D.: <b>MW-3</b>	Laboratory: Pace <b>(Sequoia)</b> Other _____
Analyzed for: <b>(TPH-C) (BTEX)</b> MTBE TPH-D Other: <b>DNV's, Ethanol, 1,2-DCA, EDB by 8260</b>	
D.O. (if req'd):	Pre-purge: _____ mg/L
	Post-purge: <b>1.6</b> mg/L
O.R.P. (if req'd):	Pre-purge: _____ mV
	Post-purge: _____ mV

**ARCO / BP WELL MONITORING DATA SHEET**

BTS #: <u>030312-HC1</u>	Station # <u>Area 6041</u>
Sampler: <u>AC</u>	Date: <u>3-12-03</u>
Well I.D.: <u>MW-4</u>	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth: <u>14.56</u>	Depth to Water: <u>7.67</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSI</u> HACH

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

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

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

<u>4.4</u>	X	<u>3</u>	=	<u>13.2</u> Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume

Time	Temp (°F)	pH	Conductivity (mS or <u>µS</u> )	Gals. Removed	Observations
<u>0847</u>	<u>64.8</u>	<u>7.0</u>	<u>4864</u>	<u>4.5</u>	<u>clear, slight odor</u>
<u>0848</u>	<u>65.7</u>	<u>6.9</u>	<u>5076</u>	<u>9</u>	<u>" " "</u>
<u>well</u>	<u>dewatered @</u>	<u>10 gal</u>			<u>DTW = 12.17</u>
<u>1010</u>	<u>67.4</u>	<u>6.8</u>	<u>4735</u>	<u>—</u>	
					<u>DTW @ sample = 7.81</u>

Did well dewater? <u>Yes</u> No	Gallons actually evacuated: <u>10</u>
Sampling Time: <u>1010</u>	Sampling Date: <u>3-12-03</u>
Sample I.D.: <u>MW-4</u>	Laboratory: Pace <u>Sequoia</u> Other _____
Analyzed for: <u>TPH-C</u> <u>BTEX</u> MTBE TPH-D Other: <u>Dxy's, Ethanol, 1,2-DCA, EDB by 8260</u>	
D.O. (if req'd):	Pre-purge: _____ <sup>mg/L</sup> <u>Post-purge</u> : <u>2.8</u> <sup>mg/L</sup>
O.R.P. (if req'd):	Pre-purge: _____ <sup>mV</sup> <u>Post-purge</u> : _____ <sup>mV</sup>

**ARCO / BP WELL MONITORING DATA SHEET**

BTS #: <b>030312-HC1</b>	Station # <b>Area 6041</b>
Sampler: <b>AC</b>	Date: <b>3-12-03</b>
Well I.D.: <b>mw-6</b>	Well Diameter: 2 3 <b>4</b> 6 8 _____
Total Well Depth: <b>12.34</b>	Depth to Water: <b>8.41</b>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <b>PVC</b> Grade	D.O. Meter (if req'd): <b>YSI</b> HACH

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

Purge Method: <b>Bailer</b> Disposable Bailer Middleburg *Electric Submersible Extraction Pump Other: _____	Sampling Method: <b>Bailer</b> <input checked="" type="checkbox"/> Disposable Bailer Extraction Port Other: _____
--	--

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

<b>7.5</b>	<b>X</b>	<b>3</b>	<b>=</b>	<b>7.5</b>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or $\mu$ S)	Gals. Removed	Observations
0935	69.1	7.2	2825	2.5	clear, slight odor
	well dewatered @ 3 gal				DTW = 10.68
1040	68.1	7.2	2789	-	
					DTW @ sample = 8.85

Did well dewater? <b>Yes</b> No	Gallons actually evacuated: <b>3</b>
Sampling Time: <b>1040</b>	Sampling Date: <b>3-12-03</b>
Sample I.D.: <b>mw-6</b>	Laboratory: Pace <b>Sequoia</b> Other _____
Analyzed for: <b>TPH-G</b> <b>RTX</b> MTBE TPH-D Other: <b>oxy's, Ethanol, 1,2-DcA, EDB by 8260</b>	
D.O. (if req'd):	Pre-purge: _____ mg/L
	Post-purge: <b>1.3</b> mg/L
O.R.P. (if req'd):	Pre-purge: _____ mV
	Post-purge: _____ mV

## ARCO / BP WELL MONITORING DATA SHEET

BTS #: <u>030312-HC1</u>	Station # <u>Area 6041</u>
Sampler: <u>AC</u>	Date: <u>3-12-03</u>
Well I.D.: <u>MW-7</u>	Well Diameter: 2 3 <u>(4)</u> 6 8 _____
Total Well Depth: <u>8.16</u>	Depth to Water: <u>DRY</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 <sup>2</sup> * 0.163

Purge Method: <u>Bailer</u> <u>Disposable Bailer</u> <u>Middleburg</u> <u>Electric Submersible</u> <u>Extraction Pump</u> Other: _____	Sampling Method: <u>Bailer</u> <u>(X) Disposable Bailer</u> <u>Extraction Port</u> 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>	=	_____ Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume

Time	Temp (°F)	pH	Conductivity (mS or <u>(µS)</u> )	Gals. Removed	Observations
<u>WELL IS DRY</u>					

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: _____
Sampling Time: _____	Sampling Date: <u>3-12-03</u>
Sample I.D.: <u>MW-7</u>	Laboratory: Pace <u>(Sequoia)</u> Other _____
Analyzed for: <u>(TPH-C)</u> <u>(BTEX)</u> MTBE TPH-D Other: <u>DX's, Ethanol, 1,2-DCA, EDB by 8260</u>	
D.O. (if req'd):	Pre-purge: _____ mg/L
	<u>(Post-purge)</u> _____ mg/L
O.R.P. (if req'd):	Pre-purge: _____ mV
	Post-purge: _____ mV



## ARCO / BP WELL MONITORING DATA SHEET

BTS #: <b>030312-HC1</b>	Station # <b>Area 6041</b>
Sampler: <b>AC</b>	Date: <b>3-12-03</b>
Well I.D.: <b>mw-8</b>	Well Diameter: 2 3 <b>4</b> 6 8 _____
Total Well Depth: <b>12.66</b>	Depth to Water: <b>8.25</b>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <b>PVC</b> Grade	D.O. Meter (if req'd): <b>YSI</b> HACH

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

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

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

<b>3</b>	x	<b>3</b>	=	<b>9</b>	Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume	

Time	Temp (°F)	pH	Conductivity (mS or <b>µS</b> )	Gals. Removed	Observations
0949	68.2	7.0	1801	3	clear, odor
0950	68.0	6.9	1449	6	" "
0951	67.7	6.9	1429	9	" "

Did well dewater? Yes <input type="checkbox"/> <b>No</b> <input checked="" type="checkbox"/>	Gallons actually evacuated: <b>9</b>
Sampling Time: <b>1000</b>	Sampling Date: <b>3-12-03</b>
Sample I.D.: <b>mw-8</b>	Laboratory: Pace <b>Sequoia</b> Other _____
Analyzed for: <b>TPH-G</b> <b>BTEX</b> MTBE TPH-D Other: <b>Ox's, Ethanol, 1,2-DCA, EDB by 8260</b>	
D.O. (if req'd):	Pre-purge: _____ mg/L <b>Post-purge</b> : <b>1.4</b> mg/L
O.R.P. (if req'd):	Pre-purge: _____ mV <b>Post-purge</b> : _____ mV

# WELLHEAD INSPECTION CHECKLIST

Page 1 of 1

Client Arco 6041 Date 3-12-03

Site Address 7249 Village Pkwy Dublin

Job Number 030312-AC1 Technician AC

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-2	X							
MW-3	X							
MW-4	X							
MW-5	X							
MW-6	X							
MW-7	X							
MW-8	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 PLAINTECH 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:

Arco 6041

Station #

7249 Village Pkwy Dublin

Station Address

Total Gallons Collected From Groundwater Monitoring Wells:

55

added equip.  
rinse water

10

any other  
adjustments

TOTAL GALS.  
RECOVERED

65

loaded onto  
BTS vehicle #

11

BTS event #

030312-AC1

time

1050

date

3/12/03

signature

*Don Coffey*

\*\*\*\*\*

REC'D AT

time

date

unloaded by  
signature

1/1

**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.



28 March, 2003

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

RE: ARCO #6041, Dublin, Ca  
Sequoia Work Order: MMC0455

Enclosed are the results of analyses for samples received by the laboratory on 03/13/03 16:30. 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 #6041, Dublin, Ca  
Project Number: ARCO #6041, Dublin, CA  
Project Manager: Scott Robinson

MMC0455  
**Reported:**  
03/28/03 16:26

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-2	MMC0455-01	Water	03/12/03 10:20	03/13/03 16:30
MW-3	MMC0455-02	Water	03/12/03 10:30	03/13/03 16:30
MW-4	MMC0455-03	Water	03/12/03 10:10	03/13/03 16:30
MW-6	MMC0455-04	Water	03/12/03 10:40	03/13/03 16:30
MW-8	MMC0455-05	Water	03/12/03 10:00	03/13/03 16:30

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



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

Project: ARCO #6041, Dublin, Ca  
Project Number: ARCO #6041, Dublin, CA  
Project Manager: Scott Robinson

MMC0455  
Reported:  
03/28/03 16:26

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-2 (MMC0455-01) Water Sampled: 03/12/03 10:20 Received: 03/13/03 16:30</b>									
Ethanol	ND	100	ug/l	1	3C26010	03/26/03	03/26/03	EPA 8260B	
tert-Butyl alcohol	540	20	"	"	"	"	"	"	"
Methyl tert-butyl ether	11	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	"	"	"	"	"	"	"
<b>Benzene</b>	<b>1.6</b>	<b>0.50</b>	"	"	"	"	"	"	"
Toluene	ND	0.50	"	"	"	"	"	"	"
Ethylbenzene	ND	0.50	"	"	"	"	"	"	"
<b>Xylenes (total)</b>	<b>1.2</b>	<b>0.50</b>	"	"	"	"	"	"	"
Gasoline Range Organics (C6-C10)	ND	50	"	"	"	"	"	"	"
<i>Surrogate: 1,2-Dichloroethane-d4</i>		92.0 %	78-129	"	"	"	"	"	"
<b>MW-3 (MMC0455-02) Water Sampled: 03/12/03 10:30 Received: 03/13/03 16:30</b>									
Ethanol	ND	2000	ug/l	20	3C25039	03/25/03	03/25/03	EPA 8260B	
tert-Butyl alcohol	6100	400	"	"	"	"	"	"	"
Methyl tert-butyl ether	45	10	"	"	"	"	"	"	"
Di-isopropyl ether	ND	10	"	"	"	"	"	"	"
Ethyl tert-butyl ether	ND	10	"	"	"	"	"	"	"
tert-Amyl methyl ether	ND	10	"	"	"	"	"	"	"
1,2-Dichloroethane	ND	10	"	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	10	"	"	"	"	"	"	"
Benzene	ND	10	"	"	"	"	"	"	"
Toluene	ND	10	"	"	"	"	"	"	"
Ethylbenzene	ND	10	"	"	"	"	"	"	"
Xylenes (total)	ND	10	"	"	"	"	"	"	"
Gasoline Range Organics (C6-C10)	ND	1000	"	"	"	"	"	"	"
<i>Surrogate: 1,2-Dichloroethane-d4</i>		102 %	78-129	"	"	"	"	"	"

Sequoia Analytical - Morgan Hill

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. Unless otherwise stated, results are reported on a wet weight basis. This analytical report must be reproduced in its entirety.*





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

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

Project: ARCO #6041, Dublin, Ca  
 Project Number: ARCO #6041, Dublin, CA  
 Project Manager: Scott Robinson

MMC0455  
 Reported:  
 03/28/03 16:26

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-4 (MMC0455-03) Water Sampled: 03/12/03 10:10 Received: 03/13/03 16:30</b>									
Ethanol	ND	100	ug/l	1	3C25039	03/25/03	03/25/03	EPA 8260B	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>1.6</b>	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>		105 %	78-129	"	"	"	"	"	
<b>MW-6 (MMC0455-04) Water Sampled: 03/12/03 10:40 Received: 03/13/03 16:30</b>									
Ethanol	ND	100	ug/l	1	3C25039	03/25/03	03/25/03	EPA 8260B	
tert-Butyl alcohol	ND	20	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>0.64</b>	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>		103 %	78-129	"	"	"	"	"	

Sequoia Analytical - Morgan Hill

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

Project: ARCO #6041, Dublin, Ca  
Project Number: ARCO #6041, Dublin, CA  
Project Manager: Scott Robinson

MMC0455  
**Reported:**  
03/28/03 16:26

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-8 (MMC0455-05) Water    Sampled: 03/12/03 10:00    Received: 03/13/03 16:30</b>									
Ethanol	ND	5000	ug/l	50	3C25039	03/25/03	03/26/03	EPA 8260B	
tert-Butyl alcohol	<b>2200</b>	1000	"	"	"	"	"	"	
Methyl tert-butyl ether	<b>740</b>	25	"	"	"	"	"	"	
Di-isopropyl ether	ND	25	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	25	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	25	"	"	"	"	"	"	
1,2-Dichloroethane	ND	25	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	25	"	"	"	"	"	"	
<b>Benzene</b>	<b>89</b>	25	"	"	"	"	"	"	
Toluene	ND	25	"	"	"	"	"	"	
Ethylbenzene	ND	25	"	"	"	"	"	"	
Xylenes (total)	ND	25	"	"	"	"	"	"	
Gasoline Range Organics (C6-C10)	ND	2500	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		114 %		78-129	"	"	"	"	"



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

Project: ARCO #6041, Dublin, Ca  
Project Number: ARCO #6041, Dublin, CA  
Project Manager: Scott Robinson

MMC0455  
Reported:  
03/28/03 16:26

**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 3C25039 - EPA 5030B P/T**

**Blank (3C25039-BLK1)**

Prepared & Analyzed: 03/25/03

Ethanol	ND	100	ug/l							
tert-Butyl alcohol	ND	20	"							
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	"							

Surrogate: 1,2-Dichloroethane-d4      5.39      "      5.00      108      78-129

**Laboratory Control Sample (3C25039-BS1)**

Prepared & Analyzed: 03/25/03

Methyl tert-butyl ether	9.35	0.50	ug/l	10.0		93.5	63-137			
Benzene	10.4	0.50	"	10.0		104	78-124			
Toluene	9.78	0.50	"	10.0		97.8	78-129			

Surrogate: 1,2-Dichloroethane-d4      5.29      "      5.00      106      78-129

**Laboratory Control Sample (3C25039-BS2)**

Prepared & Analyzed: 03/25/03

Methyl tert-butyl ether	7.99	0.50	ug/l	9.04		88.4	63-137			
Benzene	5.35	0.50	"	5.44		98.3	78-124			
Toluene	32.0	0.50	"	32.8		97.6	78-129			
Gasoline Range Organics (C6-C10)	366	50	"	440		83.2	70-113			

Surrogate: 1,2-Dichloroethane-d4      5.20      "      5.00      104      78-129

Sequoia Analytical - Morgan Hill

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

Project: ARCO #6041, Dublin, Ca  
Project Number: ARCO #6041, Dublin, CA  
Project Manager: Scott Robinson

MMC0455  
Reported:  
03/28/03 16:26

**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 3C25039 - EPA 5030B P/T**

**Matrix Spike (3C25039-MS1)** Source: MMC0455-05 Prepared: 03/25/03 Analyzed: 03/26/03

Methyl tert-butyl ether	1140	25	ug/l	452	740	88.5	63-137			
Benzene	356	25	"	272	89	98.2	78-124			
Toluene	1620	25	"	1640	ND	98.8	78-129			
Gasoline Range Organics (C6-C10)	18600	2500	"	22000	1300	78.6	70-113			

Surrogate: 1,2-Dichloroethane-d4 5.33 " 5.00 107 78-129

**Matrix Spike Dup (3C25039-MSD1)** Source: MMC0455-05 Prepared: 03/25/03 Analyzed: 03/26/03

Methyl tert-butyl ether	1140	25	ug/l	452	740	88.5	63-137	0.00	13	
Benzene	349	25	"	272	89	95.6	78-124	1.99	12	
Toluene	1630	25	"	1640	ND	99.4	78-129	0.615	10	
Gasoline Range Organics (C6-C10)	18600	2500	"	22000	1300	78.6	70-113	0.00	9	

Surrogate: 1,2-Dichloroethane-d4 5.31 " 5.00 106 78-129

**Batch 3C26010 - EPA 5030B P/T**

**Blank (3C26010-BLK1)** Prepared & Analyzed: 03/26/03

Ethanol	ND	100	ug/l							
tert-Butyl alcohol	ND	20	"							
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	"							

Surrogate: 1,2-Dichloroethane-d4 5.14 " 5.00 103 78-129

Sequoia Analytical - Morgan Hill

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. Unless otherwise stated, results are reported on a wet weight basis. This analytical report must be reproduced in its entirety.*



885 Jarvis Dr  
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(408) 776-9600  
FAX (408) 782-6308  
www.sequoialabs.com

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

Project: ARCO #6041, Dublin, Ca  
Project Number: ARCO #6041, Dublin, CA  
Project Manager: Scott Robinson

MMC0455  
Reported:  
03/28/03 16:26

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	RPD	RPD	Notes
---------	--------	-----------------	-------	-------------	---------------	-----------	-----	-----	-------

**Batch 3C26010 - EPA 5030B P/T**

<b>Laboratory Control Sample (3C26010-BS1)</b>			Prepared & Analyzed: 03/26/03						
Methyl tert-butyl ether	9.09	0.50	ug/l	10.0		90.9	63-137		
Benzene	9.82	0.50	"	10.0		98.2	78-124		
Toluene	9.39	0.50	"	10.0		93.9	78-129		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>5.12</i>		<i>"</i>	<i>5.00</i>		<i>102</i>	<i>78-129</i>		

<b>Laboratory Control Sample (3C26010-BS2)</b>			Prepared & Analyzed: 03/26/03						
Methyl tert-butyl ether	7.95	0.50	ug/l	9.04		87.9	63-137		
Benzene	5.40	0.50	"	5.44		99.3	78-124		
Toluene	31.7	0.50	"	32.8		96.6	78-129		
Gasoline Range Organics (C6-C10)	353	50	"	440		80.2	70-113		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>5.31</i>		<i>"</i>	<i>5.00</i>		<i>106</i>	<i>78-129</i>		

<b>Matrix Spike (3C26010-MS1)</b>			Source: MMC0677-11		Prepared & Analyzed: 03/26/03				
Methyl tert-butyl ether	917	5.0	ug/l	90.4	830	96.2	63-137		
Benzene	58.4	5.0	"	54.4	7.3	93.9	78-124		
Toluene	327	5.0	"	328	0.80	99.5	78-129		
Gasoline Range Organics (C6-C10)	4630	500	"	4400	1200	78.0	70-113		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>5.13</i>		<i>"</i>	<i>5.00</i>		<i>103</i>	<i>78-129</i>		

<b>Matrix Spike Dup (3C26010-MSD1)</b>			Source: MMC0677-11		Prepared & Analyzed: 03/26/03				
Methyl tert-butyl ether	919	5.0	ug/l	90.4	830	98.5	63-137	0.218	13
Benzene	59.0	5.0	"	54.4	7.3	95.0	78-124	1.02	12
Toluene	326	5.0	"	328	0.80	99.1	78-129	0.306	10
Gasoline Range Organics (C6-C10)	4630	500	"	4400	1200	78.0	70-113	0.00	9
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>5.14</i>		<i>"</i>	<i>5.00</i>		<i>103</i>	<i>78-129</i>		

Sequoia Analytical - Morgan Hill

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. Unless otherwise stated, results are reported on a wet weight basis. This analytical report must be reproduced in its entirety.*



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

Project: ARCO #6041, Dublin, Ca  
Project Number: ARCO #6041, Dublin, CA  
Project Manager: Scott Robinson

MMC0455  
**Reported:**  
03/28/03 16:26

#### Notes and Definitions

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 030312-AC1  
 BP BP/GEM CO Portfolio: \_\_\_\_\_  
 BP Laboratory Contract Number: \_\_\_\_\_

Date: 3-12-03

Requested Due Date (mm/dd/yyyy) MM0455

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: 7249 Village PKWY, DUBLIN, CA	Address: 500 12th St., Ste. 200
Lab Address: 885 Jarvis Dr. Morgan Hill, CA 95037	Site ID No. ARCO 8041	Oakland, CA 94609-4014
	Site Lat/Long:	e-mail EDI: syed_rehan@urscorp.com
	California Global ID #:	Consultant/Contractor Project No.: J5-00006041.01 00427
Lab PM: Latonya 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	Tele/Fax:	Invoiced to: Consultant/Contractor or (BP/GEM) (circle one)
BP/GEM Account No.:		BP/GEM Work Release No: INTRIM-50691

Item No.	Sample Description	Time	Matrix			Laboratory No.	No. of containers	Preservatives			Requested Analysis					Sample Point Lat/Long and Comments	
			Solid/Solid	Water/Liquid	Sediments			Air	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	TPH-G/STEX (8260)	TPH-D (8015)	MTBE (8021)		MTBE, TAME, STBE DIPPE, PEA (8260)
1	MW-2	1020	X				3				X		X	X	X		
2	MW-3	1030	X				3				X		X	X	X		
3	MW-4	1010	X				3				X		X	X	X		
4	MW-6	1040	X				3				X		X	X	X		
5	MW-8	1000	X				3				X		X	X	X		
6																	
7																	
8																	
9																	
10																	

Sampler's Name: <u>Pravin Costa</u>	Relinquished By / Affiliation: <u>Pravin Costa / Blake Tech</u>	Date: <u>3/12/03</u>	Time: <u>2:27</u>	Accepted By / Affiliation: <u>[Signature]</u>	Date: <u>3/13/03</u>	Time: <u>2:27</u>
Sampler's Company: <u>Blake Tech</u>						
Shipment Date:						
Shipment Method:						
Shipment Tracking No.:						

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 5°C Trip Blank Yes  No

**SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG**

CLIENT NAME: BP  
 REC. BY (PRINT) [Signature]  
 WORKORDER: MHC 0455

DATE Received at Lab: 3/13/03  
 TIME Received at Lab: 16:30  
 LOG IN DATE: 3-14-03

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="radio"/> Absent Intact / Broken*	01		MW-2	(3) VOCs IICL	L	3/12/03	
2. Chain-of-Custody	<input checked="" type="radio"/> Present / Absent*	02		MW-3	↓	↓	↓	22-18050
3. Traffic Reports or Packing List:	Present / <input checked="" type="radio"/> Absent	03		MW-4	↓	↓	↓	
4. Airbill:	Airbill / Sticker Present / <input checked="" type="radio"/> Absent	04		MW-6	↓	↓	↓	
5. Airbill #:		05		MW-8	↓	↓	↓	
6. Sample Labels:	<input checked="" type="radio"/> Present / Absent							
7. Sample IDs:	<input checked="" type="radio"/> 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?	<input checked="" type="radio"/> Yes / No*							
10. Sample received within hold time:	<input checked="" type="radio"/> Yes / No*							
11. Proper Preservatives used:	<input checked="" type="radio"/> Yes / No*							
12. Temp Rec. at Lab: Is temp 4 +/- 2°C?	<input checked="" type="radio"/> Yes / No**							
(Acceptance range for samples requiring thermal pres.)								
**Exception (if any): Metals / DEF on Ice? / DPH no Ice? or Problem COC								

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



**ATTACHMENT C**

**EDCC REPORT AND EDF/GEOWELL SUBMITTAL CONFIRMATION**

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## Error Summary Log

04/07/03

EDF 1.2i All files present in deliverable.

---

Laboratory:	Sequoia Analytical Laboratories, Inc., Morgan Hill, CA
Project Name:	ARCO #6041, Dublin, Ca
Work Order Number:	MMC0455
Global ID:	NA
Lab Report Number:	MMC0455032820031632

## Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run	Sub
MMC04550328200 MW-2 31632		MMC045501	W	CS	8260+OX	SW5030B	03/12/03	03/26/03	03/26/03	3C26010	1	
MMC04550328200 MW-3 31632		MMC045502	W	CS	8260+OX	SW5030B	03/12/03	03/25/03	03/25/03	3C25039	1	
MMC04550328200 MW-4 31632		MMC045503	W	CS	8260+OX	SW5030B	03/12/03	03/25/03	03/25/03	3C25039	1	
MMC04550328200 MW-6 31632		MMC045504	W	CS	8260+OX	SW5030B	03/12/03	03/25/03	03/25/03	3C25039	1	
MMC04550328200 MW-8 31632		MMC045505	W	CS	8260+OX	SW5030B	03/12/03	03/25/03	03/26/03	3C25039	1	
		MMC067711	W	NC	8260+OX	SW5030B	//	03/26/03	03/26/03	3C26010	1	
		3C25039BS1	WQ	BS1	8260+OX	SW5030B	//	03/25/03	03/25/03	3C25039	1	
		3C25039BS2	WQ	BS2	8260+OX	SW5030B	//	03/25/03	03/25/03	3C25039	1	
		3C25039BLK1	WQ	LB1	8260+OX	SW5030B	//	03/25/03	03/25/03	3C25039	1	
		3C25039MS1	W	MS1	8260+OX	SW5030B	//	03/25/03	03/26/03	3C25039	1	
		3C25039MSD1	W	SD1	8260+OX	SW5030B	//	03/25/03	03/26/03	3C25039	1	
		3C26010BS1	WQ	BS1	8260+OX	SW5030B	//	03/26/03	03/26/03	3C26010	1	
		3C26010BS2	WQ	BS2	8260+OX	SW5030B	//	03/26/03	03/26/03	3C26010	1	
		3C26010BLK1	WQ	LB1	8260+OX	SW5030B	//	03/26/03	03/26/03	3C26010	1	
		3C26010MS1	W	MS1	8260+OX	SW5030B	//	03/26/03	03/26/03	3C26010	1	
		3C26010MSD1	W	SD1	8260+OX	SW5030B	//	03/26/03	03/26/03	3C26010	1	

# EDFSAMP: Error Summary Log

04/07/03

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

# EDFTEST: Error Summary Log

04/07/03

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

# EDFRES: Error Summary Log

04/07/03

Error type	Labsampid	Qccode	Matrix	Anmcode	Pvccode	Anadate	Run number	Parlabel
Warning: extra parameter	3C25039MS1	MS1	W	8260+OX	PR	03/26/03	1	GROC6C10
Warning: extra parameter	3C25039MSD1	SD1	W	8260+OX	PR	03/26/03	1	GROC6C10
Warning: extra parameter	3C26010MS1	MS1	W	8260+OX	PR	03/26/03	1	GROC6C10
Warning: extra parameter	3C26010MSD1	SD1	W	8260+OX	PR	03/26/03	1	GROC6C10
Warning: extra parameter	MMC045501	CS	W	8260+OX	PR	03/26/03	1	GROC6C10
Warning: extra parameter	MMC045501	CS	W	8260+OX	PR	03/26/03	1	XYLENES
Warning: extra parameter	MMC045502	CS	W	8260+OX	PR	03/25/03	1	GROC6C10
Warning: extra parameter	MMC045502	CS	W	8260+OX	PR	03/25/03	1	XYLENES
Warning: extra parameter	MMC045503	CS	W	8260+OX	PR	03/25/03	1	GROC6C10
Warning: extra parameter	MMC045503	CS	W	8260+OX	PR	03/25/03	1	XYLENES
Warning: extra parameter	MMC045504	CS	W	8260+OX	PR	03/25/03	1	GROC6C10
Warning: extra parameter	MMC045504	CS	W	8260+OX	PR	03/25/03	1	XYLENES
Warning: extra parameter	MMC045505	CS	W	8260+OX	PR	03/26/03	1	GROC6C10
Warning: extra parameter	MMC045505	CS	W	8260+OX	PR	03/26/03	1	XYLENES
Warning: extra parameter	MMC067711	NC	W	8260+OX	PR	03/26/03	1	GROC6C10
Warning: extra parameter	3C25039BLK1	LB1	WQ	8260+OX	PR	03/25/03	1	GROC6C10
Warning: extra parameter	3C25039BLK1	LB1	WQ	8260+OX	PR	03/25/03	1	XYLENES
Warning: extra parameter	3C25039BS2	BS2	WQ	8260+OX	PR	03/25/03	1	GROC6C10
Warning: extra parameter	3C26010BLK1	LB1	WQ	8260+OX	PR	03/26/03	1	GROC6C10
Warning: extra parameter	3C26010BLK1	LB1	WQ	8260+OX	PR	03/26/03	1	XYLENES
Warning: extra parameter	3C26010BS2	BS2	WQ	8260+OX	PR	03/26/03	1	GROC6C10

---

## EDFQC: Error Summary Log

04/07/03

---

Error type	Lablctfl	Anmcode	Parlabel	Qccode	Labqid
There are no errors in this data files					

# EDFCL: Error Summary Log

04/07/03

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



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**Confirmation Number:** 8797529220

**Date/Time of Submittal:** 4/7/2003 3:17:49 PM

**Facility Global ID:** T0600100109

**Facility Name:** ARCO

**Submittal Title:** 1st Qtr 2003 Monitoring Report for #6041

**Submittal Type:** GW Monitoring Report

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<b><u>Submittal Title:</u></b>	<b>1q03 qmr 6041</b>
<b><u>Submittal Date/Time:</u></b>	<b>4/1/2003 10:04:09 AM</b>
<b><u>Confirmation Number:</u></b>	<b>7740040421</b>

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