



Alameda County  
JAN 31 2003  
Environmental Health

January 27, 2003

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

**Re: Second Quarter 2002 Groundwater Monitoring Report  
ARCO Station #6041  
7249 Village Parkway  
Dublin, California  
URS Project #38465976**


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 *Second Quarter 2002 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 me at (510) 874-3280.

Sincerely,

**URS CORPORATION**

  
Scott Robinson  
Project Manager

Amy Breckenridge, P.E.  
Portfolio Manager



Attachment: Second Quarter 2002 Groundwater Monitoring Report,

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

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

**R E P O R T**

**SECOND QUARTER 2002  
GROUNDWATER MONITORING**

**ARCO SERVICE STATION #6041  
7249 VILLAGE PARKWAY  
DUBLIN, CALIFORNIA**

*Prepared for*  
Atlantic Richfield Company

January 27, 2003

**URS**

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

38465976

Date: January 28, 2003  
Quarter: 2Q02

### ATLANTIC RICHFIELD COMPANY QUARTERLY GROUNDWATER MONITORING REPORT

Facility No.: 6041 Address: 7249 Village Parkway, Dublin, California  
Atlantic Richfield Co. Environmental Engineer: Paul Supple  
Consulting Co./Contact Person: URS Corporation/Scott Robinson/(510) 874-3280  
Consultant Project No.: 38465976  
Primary Agency/Regulatory ID No.: Alameda County Water District

#### WORK PERFORMED THIS QUARTER (Second – 2002):

1. Site transferred from Cambria to URS Corporation.
2. Cambria prepared and submitted first quarter 2002 groundwater monitoring report.
3. Cambria performed second quarter monitoring event.

#### WORK PROPOSED FOR NEXT QUARTER (Third – 2002):

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

Current Phase of Project:	<u>GW monitoring/sampling</u>
Frequency of Groundwater Sampling:	<u>Quarterly: MW-2, MW-3, MW-4, Shell MW-6, Shell MW-7</u> <u>Annual: MW-5, MW-6</u>
Frequency of Groundwater Monitoring:	<u>Quarterly/Annually</u>
Is Free Product (FP) Present On-Site:	<u>No</u>
Bulk Soil Removed to Date	<u>750 Cubic Yards of TPH Impacted Soils</u>
Current Remediation Techniques:	<u>None</u>
Approximate Depth to Groundwater:	<u>8.05 (MW-4) to 9.19 (MW-3) feet</u>
Groundwater Gradient (direction):	<u>Southeast</u>
Groundwater Gradient (magnitude):	<u>0.003 feet per foot</u>

#### DISCUSSION:

Based on field measurements collected on April 26, 2002, groundwater beneath the site flows towards the southeast direction at a gradient of 0.003 feet per foot. MWs-3, 4 & 6 were used to calculate groundwater flow direction and gradient.

Hydrocarbon and MTBE concentrations detected this quarter were similar to the previous sampling event. TPH-g was detected in three of five wells sampled with concentrations ranging from 92 micrograms per liter ( $\mu\text{g/L}$ ) in well MW-2 to 680  $\mu\text{g/L}$  in well MW-8. Benzene was detected in four of five wells sampled with concentrations ranging from 3.6 micrograms per liter ( $\mu\text{g/L}$ ) in well MW-4 to 940  $\mu\text{g/L}$  in well MW-3. MTBE was detected in two of five wells sampled with concentrations ranging from 3.7 micrograms per liter ( $\mu\text{g/L}$ ) in well MW-3 to 74  $\mu\text{g/L}$  in well MW-8.

**ATTACHMENTS:**

- Table 1 – Groundwater Elevation and Analytical Data
- Table 2 – Groundwater Flow Direction and Gradient
- Figure 1 – Groundwater Elevation Contour and Analytical Summary Map – April 26, 2002
- Attachment A – Field Procedures
- Attachment B – Laboratory Procedures, Certified Analytical Reports, and Chain-of-Custody Records

**Table 1**  
**Summary of Groundwater Elevation and Analytical Data**  
**Petroleum Hydrocarbons and Their Constituents**  
**1995 - Present\*\***

**ARCO Service Station 6041**  
**7249 Village Parkway, Dublin, California**

Well Number	Date Gauged	TOC Elevation to (ft-MSL)	Depth Water (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	Date Sampled	TPH			Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8260 (µg/L)	Dissolved Oxygen (mg/L)	Purged/ Not Purged (P/NP)
							Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)						
MW-1	02-15-95	336.56	8.53	0.00	328.03	02-15-95	820	15	<1	5.2	1.4	--	--		
MW-1	05-24-95	336.56	9.00	0.00	327.56	05-24-95	640	12	<1	7.3	<1	--	--		
MW-1	08-25-95	336.56	10.30	0.00	326.26	08-25-95	780	2	<1	2	2	2,500	--		
MW-1	11-28-95	336.56	11.01	0.00	325.55	11-28-95	570	2.2	<0.5	1.4	0.9	--	--		
MW-1	02-26-96	336.56	7.35	0.00	329.21	03-13-96	1,100	28	<7	13	7	3,400	--		
MW-1	05-23-96	336.56	8.73	0.00	327.83	05-23-96	560	8.5	<1	1.1	<1	3,900	--		
MW-1	08-23-96	336.56	10.25	0.00	326.31	08-23-96	860	<1	<1	<4	2	5,600	--		
MW-1	03-21-97	336.56	9.35	0.00	327.21	03-21-97	520	12	<0.5	2.7	1.5	6,200	--		
MW-1	08-20-97	336.56	10.75	0.00	325.81	08-20-97	<5,000	<50	<50	<50	<50	7,400	--		
MW-1	11-21-97	336.56	11.10	0.00	325.46	11-21-97	<5,000	<50	<50	<50	<50	8,500	--		
MW-1	02-12-98	336.56	7.05	0.00	329.51	02-12-98	210	<0.5	<0.5	<0.5	<0.5	8,900	--	1.71 P	
MW-1	07-31-98	336.56	10.04	0.00	326.52	07-31-98	<20,000	<200	<200	<200	<200	18,000	--	2.43 P	
MW-1	02-17-99	336.56	8.50	0.00	328.06	02-17-99	<20,000	<200	<200	<200	<200	16,000	--	1.0	
MW-1	08-24-99	336.56	10.40	0.00	326.16	08-24-99	190	<0.5	4.4	<0.5	1.1	15,000	--	P	
MW-1	03-01-00	336.56	8.85	0.00	327.71	03-01-00	310	20	0.5	7.6	4	80,000	--	1.57 P	
MW-1	08-18-00	336.56	9.35	0.00	327.21	08-18-00	<10,000	<100	<100	<100	<100	48,400	63,700	1.50 P	
MW-1	12-27-00	336.56	10.81	0.00	325.75	12-27-00	<10,000	309	<100	<100	289	44,400	--	0.51 P	
MW-1	02-09-01	336.56	10.65	0.00	325.91	02-09-01	2,820	368	<25.0	116	176	23,300	--	0.58 P	
DUP	02-09-01	NR	NR	NR	NR	02-09-01	3,490	432	9.56	146	235	31,800	--		
MW-1	04-17-01	336.56	11.09	0.00	325.47	04-17-01	2,900	66.0	<10.0	33.2	25.1	46,500	--	0.63 P	
DUP	04-17-01	NR	NR	NR	NR	04-17-01	2,600	70.1	<20.0	32.7	30.6	45,400	--		
MW-1	07-17-01	336.56	11.07	0.00	325.49	07-17-01	<10,000	<100	<100	130	520	42,000	--	0.69 P	
MW-1	12-21-01	Well abandoned during station upgrade activities													
MW-2	02-15-95	334.80	6.75	0.00	328.05	02-15-95	730	110	1.7	25	66	--	--		
MW-2	05-24-95	334.80	6.88	0.00	327.92	05-24-95	370	110	<1	17	1.9	--	--		
MW-2	08-25-95	334.80	7.91	0.00	326.89	08-25-95	150	6	<1	<1	<1	2,700	--		
MW-2	11-28-95	334.80	9.06	0.00	325.74	11-28-95	<50	<0.5	<0.5	<0.5	0.8	--	--		
MW-2	02-26-96	334.80	6.65	0.00	328.15	03-13-96	350	66	<0.5	11	1.7	<3	--		
MW-2	05-23-96	334.80	6.90	0.00	327.90	05-23-96	540	140	<2.5	13	<2.5	4,600	--		
MW-2	08-23-96	334.80	8.45	0.00	326.35	08-23-96	180	0.8	2	0.7	2.6	4,000	--		
MW-2	03-21-97	334.80	7.28	0.00	327.52	03-21-97	410	90	<1	14	4	3,800	--		
MW-2	08-20-97	334.80	8.87	0.00	325.93	08-20-97	<5,000	<50	<50	<50	<50	3,100	--		

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**Petroleum Hydrocarbons and Their Constituents**  
**1995 - Present\*\***

**ARCO Service Station 6041**  
**7249 Village Parkway, Dublin, California**

Well Number	Date Gauged	TOC Elevation to Water (ft-MSL)	Depth (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	Date Sampled	TPH				Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8260 (µg/L)	Dissolved Oxygen (mg/L)	Purged/Not Purged (P/NP)
							Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)					
MW-2	11-21-97	334.80	9.28	0.00	325.52	11-21-97	<2,000	<20	<20	<20	<20	2,600	--		
MW-2	02-12-98	334.80	5.90	0.00	328.90	02-12-98	310	54	<0.5	6.2	1.1	3,800	--	3.76	P
MW-2	07-31-98	334.80	8.12	0.00	326.68	07-31-98	6,100	52	220	110	1100	7,700	--	2.96	P
MW-2	02-17-99	334.80	7.18	0.00	327.62	02-17-99	<5,000	<50	<50	<50	<50	4,200	--	1.0	P
MW-2	08-24-99	334.80	8.68	0.00	326.12	08-24-99	200	1.8	16	3.0	32	3,100	--		P
MW-2	03-01-00	334.80	7.02	0.00	327.78	03-01-00	760	24	12	13	59	6,300	--	1.92	P
MW-2	08-18-00	334.80	7.75	0.00	327.05	08-18-00	<500	<5.00	<5.00	<5.00	<5.00	1,610	1,980	2.03	P
MW-2	12-27-00	334.80	8.85	0.00	325.95	Not Sampled: Well sampled during first and third quarters									
MW-2	02-09-01	334.80	8.50	0.00	326.30	02-09-01	<50.0	<0.500	<0.500	<0.500	<0.500	9.11	--	0.53	P
MW-2	04-17-01	334.80	9.12	0.00	325.68	Not Sampled: Well sampled during first and third quarters									
MW-2	07-17-01	334.80	8.99	0.00	325.81	07-17-01	1,200	<10	<10	<10	<10	4,200	--	0.69	P
DUP	07-17-01	NR	NR	NR	NR	07-17-01	3,500	<10	<10	<10	<10	3,500	--		
MW-2	12-21-01	334.80	8.65	0.00	326.15	12-21-01	65	<0.50	1.2	0.61	6.7	11	6.5	0.48	NP
MW-2	03-06-02	334.80	8.61	0.00	326.19	03-06-02	<50	<0.50	<0.50	<0.50	1.8	31	--	0.35	NP
<b>MW-2</b>	<b>04-26-02</b>	<b>334.80</b>	<b>8.20</b>	<b>0.00</b>	<b>326.60</b>	<b>04-26-02</b>	<b>92</b>	<b>&lt;0.5</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>0.64</b>	<b>98</b>	<b>180</b>	<b>0.19</b>	<b>NP</b>
MW-3	02-15-95	335.53	8.55	0.00	326.98	02-15-95	100	14	<0.5	6.3	<0.5	--	--		
MW-3	05-24-95	335.53	8.17	0.00	327.36	05-24-95	110	8	<0.5	2.7	<0.5	--	--		
MW-3	08-25-95	335.53	9.27	0.00	326.26	08-25-95	210	3.6	<0.5	2.9	0.6	20,000	--		
MW-3	11-28-95	335.53	9.91	0.00	325.62	11-28-95	81	1.5	<0.5	1.4	<0.5	--	15,000		
MW-3	02-26-96	335.53	8.42	0.00	327.11	03-13-96	16,000	1,600	1,200	300	2,000	9,500	--		
MW-3	05-23-96	335.53	7.70	0.00	327.83	05-23-96	6,500	690	<10	120	14	8,600	--		
MW-3	08-23-96	335.53	9.25	0.00	326.28	08-23-96	1,700	85	2	61	5.3	11,000	--		
MW-3	03-21-97	335.53	8.72	0.00	326.81	03-21-97	100	2	<1	1	<1	6,600	--		
MW-3	08-20-97	335.53	9.73	0.00	325.80	08-20-97	<5,000	<50	<50	<50	<50	7,700	--		
MW-3	11-21-97	335.53	10.10	0.00	325.43	11-21-97	<5,000	<50	<50	<50	<50	9,700	--		
MW-3	02-12-98	335.53	6.68	0.00	328.85	02-12-98	110	11	<0.5	<0.5	1.9	10,000	--	1.02	P
MW-3	07-31-98	335.53	7.98	0.00	327.55	07-31-98	<10,000	<100	<100	<100	<100	13,000	--	2.59	P
MW-3	02-17-99	335.53	8.40	0.00	327.13	02-17-99	<20,000	<200	<200	<200	<200	23,000	--	1.0	P

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**Petroleum Hydrocarbons and Their Constituents**  
**1995 - Present\*\***

**ARCO Service Station 6041**  
**7249 Village Parkway, Dublin, California**

Well Number	Date Gauged	TOC	Depth	FP	Groundwater	Date Sampled	TPH				Ethyl- Xylenes	Total 8021B*	MTBE 8260	Dissolved Oxygen	Purged/ Not Purged (P/NP)
		Elevation to Water (ft-MSL)	Water Thickness (feet)	Thickness (feet)	Elevation (ft-MSL)		Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	benzene (µg/L)					
MW-3	08-24-99	335.53	9.45	0.00	326.08	08-24-99	200	0.6	5.6	0.6	1.7	22,000	--		P
MW-3	03-01-00	335.53	8.32	0.00	327.21	03-01-00	320	32	1.0	6.1	4	58,000	--	2.42	P
MW-3	08-18-00	335.53	8.35	0.00	327.18	08-18-00	<10,000	<100	<100	<100	<100	46,200	55,600	1.59	P
DUP	08-18-00	NR	NR	NR	NR	08-18-00	<10,000	<100	<100	<100	<100	45,500	51,700		
MW-3	12-27-00	335.53	9.75	0.00	325.78	12-27-00	29,700	1,620	1,730	<250	6,230	62,600	--	1.59	P
MW-3	02-09-01	335.53	9.61	0.00	325.92	02-09-01	29,300	2,590	3,530	440	7,080	85,500	--	0.51	P
MW-3	04-17-01	335.53	9.94	0.00	325.59	04-17-01	16,400	1,680	<25.0	310	2,290	48,700	--	0.41	P
MW-3	07-17-01	335.53	9.93	0.00	325.60	07-17-01	21,000	1,500	<100	1,100	690	82,000	--	0.51	P
MW-3	12-21-01	335.53	9.40	0.00	326.13	12-21-01	<5,000	<50	<50	<50	<50	4,300	3,800	0.40	P
DUP	12-21-01	NR	NR	NR	NR	12-21-01	<5,000	<50	<50	<50	<50	4,500	3,500		
MW-3	03-06-02	335.53	9.33	0.00	326.20	03-06-02	<50	1.2	<0.50	1.1	13	880	--	0.43	P
<b>MW-3</b>	<b>04-26-02</b>	<b>335.53</b>	<b>9.19</b>	<b>0.00</b>	<b>326.34</b>	<b>04-26-02</b>	<b>260</b>	<b>3.7</b>	<b>&lt;1.0</b>	<b>1.1</b>	<b>1.80</b>	<b>460</b>	<b>940</b>	<b>0.2</b>	<b>P</b>
MW-4	02-15-95	334.22	7.85	0.00	326.37	02-15-95	<50	<0.5	<0.5	<0.5	<0.5	--	--		
MW-4	05-24-95	334.22	6.68	0.00	327.54	Not sampled: well sampled semi-annually, during the first and third quarters									
MW-4	08-25-95	334.22	6.93	0.00	327.29	08-25-95	<50	<0.5	<0.5	<0.5	<0.5	<3	--		
MW-4	11-28-95	334.22	8.21	0.00	326.01	Not sampled: well sampled semi-annually, during the first and third quarters									
MW-4	02-26-96	334.22	6.65	0.00	327.57	03-13-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--		
MW-4	05-23-96	334.22	6.47	0.00	327.75	Not sampled: well sampled semi-annually, during the first and third quarters									
MW-4	08-23-96	334.22	7.66	0.00	326.56	Not sampled: well not part of sampling program									
MW-4	03-21-97	334.22	6.84	0.00	327.38	Not sampled: well not part of sampling program									
MW-4	08-20-97	334.22	8.32	0.00	325.90	Not sampled: well not part of sampling program									
MW-4	11-21-97	334.22	8.65	0.00	325.57	Not sampled: well not part of sampling program									
MW-4	02-12-98	334.22	6.35	0.00	327.87	Not sampled: well not part of sampling program									
MW-4	07-31-98	334.22	6.84	0.00	327.38	Not sampled: well not part of sampling program									
MW-4	02-17-99	334.22	7.50	0.00	326.72	Not sampled: well not part of sampling program									
MW-4	08-24-99	334.22	9.50	0.00	324.72	Not sampled: well not part of sampling program									
MW-4	03-01-00	334.22	6.93	0.00	327.29	Not sampled: well not part of sampling program									
MW-4	08-18-00	334.22	7.03	0.00	327.19	Not sampled: well not part of sampling program									
MW-4	12-27-00	334.22	8.10	0.00	326.12	Not sampled: well not part of sampling program									
MW-4	02-09-01	334.22	7.97	0.00	326.25	Not sampled: well not part of sampling program									
MW-4	04-17-01	334.22	8.90	0.00	325.32	Not sampled: well not part of sampling program									
MW-4	07-17-01	334.22	8.59	0.00	325.63	Not sampled: well not part of sampling program									
MW-4	12-21-01	334.22	8.31	0.00	325.91	12-21-01	<50	<0.50	<0.50	<0.50	<0.50	4.1	2.0	0.68	NP
MW-4	03-06-02	334.22	8.27	0.00	325.95	03-06-02	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	0.37	P
<b>MW-4</b>	<b>04-26-02</b>	<b>334.22</b>	<b>8.05</b>	<b>0.00</b>	<b>326.17</b>	<b>04-26-02</b>	<b>&lt;50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>3.6</b>	<b>--</b>	<b>0.3</b>	<b>P</b>

**Table 1**  
**Summary of Groundwater Elevation and Analytical Data**  
**Petroleum Hydrocarbons and Their Constituents**  
**1995 - Present\*\***

**ARCO Service Station 6041**  
**7249 Village Parkway, Dublin, California**

Well Number	Date Gauged	TOC Elevation to Water (ft-MSL)	Depth (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	Date Sampled	TPH					Dissolved Oxygen (mg/L)	Purged/Not Purged (P/NP)
							Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)		
MW-5	02-15-95	335.87	7.80	0.00	328.07	02-15-95	<50	<0.5	<0.5	<0.5	<0.5	--	--
MW-5	05-24-95	335.87	8.10	0.00	327.77	Not sampled; well sampled annually, during the first quarter							
MW-5	08-25-95	335.87	9.43	0.00	326.44	Not sampled; well sampled annually, during the first quarter							
MW-5	11-28-95	335.87	10.12	0.00	325.75	Not sampled; well sampled annually, during the first quarter							
MW-5	02-26-96	335.87	6.73	0.00	329.14	03-13-96	<50	<0.5	<0.5	<0.5	<3	--	--
MW-5	05-23-96	335.87	7.87	0.00	328.00	Not sampled; well sampled annually, during the first quarter							
MW-5	08-23-96	335.87	9.46	0.00	326.41	Not sampled; well not part of sampling program							
MW-5	03-21-97	335.87	8.23	0.00	327.64	Not sampled; well not part of sampling program							
MW-5	08-20-97	335.87	9.92	0.00	325.95	Not sampled; well not part of sampling program							
MW-5	11-21-97	335.87	10.18	0.00	325.69	Not sampled; well not part of sampling program							
MW-5	02-12-98	335.87	6.45	0.00	329.42	Not sampled; well not part of sampling program							
MW-5	07-31-98	335.87	8.98	0.00	326.89	Not sampled; well not part of sampling program							
MW-5	02-17-99	335.87	7.65	0.00	328.22	Not sampled; well not part of sampling program							
MW-5	08-24-99	335.87	8.10	0.00	327.77	Not sampled; well not part of sampling program							
MW-5	03-01-00	335.87	7.31	0.00	328.56	Not sampled; well not part of sampling program							
MW-5	08-18-00	335.87	8.65	0.00	327.22	Not sampled; well not part of sampling program							
MW-5	12-27-00	335.87	9.80	0.00	326.07	Not sampled; well not part of sampling program							
MW-5	02-09-01	335.87	9.65	0.00	326.22	Not sampled; well not part of sampling program							
MW-5	04-17-01	335.87	9.92	0.00	325.95	Not sampled; well not part of sampling program							
MW-5	07-17-01	335.87	9.95	0.00	325.92	Not sampled; well not part of sampling program							
MW-5	12-21-01	335.87	Well inaccessible										
MW-5	03-06-02	335.87	Well inaccessible										
<b>MW-5</b>	<b>04-26-02</b>	<b>335.87</b>	<b>Well inaccessible</b>										
MW-6	02-15-95	335.84	7.81	0.00	328.03	02-15-95	<50	<0.5	<0.5	<0.5	<0.5	--	--
MW-6	05-24-95	335.84	8.35	0.00	327.49	Not sampled; well sampled annually, during the first quarter							
MW-6	08-25-95	335.84	9.71	0.00	326.13	Not sampled; well sampled annually, during the first quarter							
MW-6	11-28-95	335.84	10.28	0.00	325.56	Not sampled; well sampled annually, during the first quarter							
MW-6	02-26-96	335.84	6.60	0.00	329.24	03-13-96	<50	<0.5	<0.5	<0.5	<3	--	--
MW-6	05-23-96	335.84	8.05	0.00	327.79	Not sampled; well sampled annually, during the first quarter							
MW-6	08-23-96	335.84	9.58	0.00	326.26	Not sampled; well not part of sampling program							
MW-6	03-21-97	335.84	8.39	0.00	327.45	Not sampled; well not part of sampling program							



**Table 1**  
**Summary of Groundwater Elevation and Analytical Data**  
**Petroleum Hydrocarbons and Their Constituents**  
**1995 - Present\*\***

**ARCO Service Station 6041**  
**7249 Village Parkway, Dublin, California**

Well Number	Date Gauged	TOC Elevation to (ft-MSL)	Depth (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	Date Sampled	TPH				Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8260 (µg/L)	Dissolved Oxygen (mg/L)	Purged/Not Purged (P/NP)
							Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)					
MW-6	08-20-97	335.84	9.98	0.00	325.86	Not sampled: well not part of sampling program									
MW-6	11-21-97	335.84	10.31	0.00	325.53	Not sampled: well not part of sampling program									
MW-6	02-12-98	335.84	3.15	0.00	332.69	Not sampled: well not part of sampling program									
MW-6	07-31-98	335.84	9.29	0.00	326.55	Not sampled: well not part of sampling program									
MW-6	02-17-99	335.84	7.72	0.00	328.12	Not sampled: well not part of sampling program									
MW-6	08-24-99	335.84	9.65	0.00	326.19	Not sampled: well not part of sampling program									
MW-6	03-01-00	335.84	7.35	0.00	328.49	Not sampled: well not part of sampling program									
MW-6	08-18-00	335.84	8.65	0.00	327.19	Not sampled: well not part of sampling program									
MW-6	12-27-00	335.84	9.83	0.00	326.01	Not sampled: well not part of sampling program									
MW-6	02-09-01	335.84	9.62	0.00	326.22	Not sampled: well not part of sampling program									
MW-6	04-17-01	335.84	10.03	0.00	325.81	Not sampled: well not part of sampling program									
MW-6	07-17-01	335.84	9.95	0.00	325.89	Not sampled: well not part of sampling program									
MW-6	12-21-01	335.84	9.47	0.00	326.37	12/21/01	<50	<0.50	<0.50	<0.50	0.57	<2.5	--	0.55	NP
MW-6	03-06-02	335.84	9.31	0.00	326.53	03-06-02	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	0.33	P
<b>MW-6</b>	<b>04-26-02</b>	<b>335.84</b>	<b>9.09</b>	<b>0.00</b>	<b>326.75</b>	<b>04-26-02</b>	<b>&lt;50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>0.7</b>	<b>&lt;2.5</b>	<b>--</b>	<b>0.31</b>	<b>P</b>
MW-7	12-21-01	NR	NR	NR	NR	Not sampled: well dry									
MW-7	03-06-02	NR	NR	NR	NR	Not sampled: well dry									
<b>MW-7</b>	<b>04-26-02</b>	<b>NR</b>	<b>NR</b>	<b>NR</b>	<b>NR</b>	<b>Not sampled: well dry</b>									
MW-8	12-21-01	NR	8.70	0.00	NR	12/21/01	<5,000	67	<50	<50	<50	2,400	1,300	0.60	NP
MW-8	03-06-02	NR	8.63	0.00	NR	03-06-02	210	41	0.64	0.79	2.0	940	--	0.25	P
DUP	03-06-02	NR	NR	NR	NR	03-06-02	170	37	0.67	0.70	1.9	740	--		
<b>MW-8</b>	<b>04-26-02</b>	<b>NR</b>	<b>8.15</b>	<b>0.00</b>	<b>NR</b>	<b>04-26-02</b>	<b>680</b>	<b>95</b>	<b>&lt;1.0</b>	<b>14</b>	<b>2.5</b>	<b>490</b>	<b>--</b>	<b>0.31</b>	<b>P</b>
<b>DUP</b>	<b>04-26-02</b>	<b>NR</b>	<b>NR</b>	<b>NR</b>	<b>NR</b>	<b>04-26-02</b>	<b>480</b>	<b>74</b>	<b>3.5</b>	<b>11.00</b>	<b>&lt;1.0</b>	<b>640</b>	<b>--</b>		

**Table 1**  
**Summary of Groundwater Elevation and Analytical Data**  
**Petroleum Hydrocarbons and Their Constituents**  
**1995 - Present\*\***

**ARCO Service Station 6041**  
**7249 Village Parkway, Dublin, California**

Well Number	Date Gauged	TOC Elevation to (ft-MSL)	Depth (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	Date Sampled	TPH				Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8260 (µg/L)	Dissolved Oxygen (mg/L)	Purged/Not Purged (P/NP)
							Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	benzene (µg/L)					
VW-2	03-21-97	NR	8.22	0.00	NR	03-21-97	150	8.9	<0.5	<0.5	0.6	270	--		
VW-2	08-20-97	NR	9.16	0.00	NR	08-20-97	Not sampled: well not part of sampling program								
VW-2	11-21-97	NR	8.27	0.00	NR	11-21-97	<200	3	<2	<2	<2	180	--		
VW-2	02-12-98	NR	6.65	0.00	NR	02-12-98	200	19	<0.5	0.6	<0.5	2,200	--		
VW-2	07-31-98	NR	7.01	0.00	NR	07-31-98	Not sampled: well not part of sampling program								
VW-2	02-17-99	NR	8.47	0.00	NR	02-17-99	Not sampled: well not part of sampling program								
VW-2	08-24-99	NR	8.20	0.00	NR	08-24-99	Not sampled: well not part of sampling program								
VW-2	03-01-00	NR	8.72	0.00	NR	03-01-00	Not sampled: well not part of sampling program								
VW-2	08-18-00	NR	8.40	0.00	NR	08-18-00	<250	<2.50	<2.50	<2.50	<2.50	537	--	1.59	NP
VW-2	12-27-00	NR	8.95	0.00	NR	Not sampled: Well Dry									
VW-2	02-09-01	NR	8.87	0.00	NR	Not sampled: Well Dry									
VW-2	04-17-01	NR	9.00	0.00	NR	Not sampled: Well Dry									
VW-2	07-17-01	NR	8.97	0.00	NR	Not sampled: Well Dry									
VW-2	12-21-01	Well abandoned during station upgrade activities													

**Table 1**  
**Summary of Groundwater Elevation and Analytical Data**  
**Petroleum Hydrocarbons and Their Constituents**  
**1995 - Present\*\***

**ARCO Service Station 6041**  
**7249 Village Parkway, Dublin, California**

Well Number	Date Gauged	TOC Elevation to (ft-MSL)	Depth (feet)	FP Thickness (feet)	Groundwater Elevation (ft-MSL)	Date Sampled	TPH			Ethyl-Xylenes (µg/L)	Total MTBE 8021B* (µg/L)	MTBE 8260 (µg/L)	Dissolved Oxygen (mg/L)	Purged/Not Purged (P/NP)	
							Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)						
Shell MW-6	12-27-00	NR	9.13	0.00	NR	12-27-00	74.7	<0.500	<0.500	<0.500	<0.500	<2.50	--	1.30	P
DUP	12-27-00	NR	NR	NR	NR	12-27-00	79.3	<0.500	<0.500	<0.500	<0.500	<2.50	--		
Shell MW-6	02-09-01	NR	9.05	0.00	NR	02-09-01	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	--	1.29	P
Shell MW-6	04-17-01	NR	10.17	0.00	NR	04-17-01	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	--	0.95	P
Shell MW-6	07-17-01	NR	9.50	0.00	NR	07-17-01	<50	<0.50	<0.50	<0.50	<0.50	4.2	--	1.03	P
Shell MW-6	12-21-01	NR	9.98	0.00	NR	12-21-01	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	0.97	P
Shell MW-6	03-06-02	NR	9.90	0.00	NR	03-06-02	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	0.97	P
Shell MW-6	04-26-02	NR	9.47	0.00	NR	04-26-02	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	0.97	P
Shell MW-7	12-27-00	NR	6.45	0.00	NR	12-27-00	<50.0	<0.500	0.696	<0.500	0.795	<2.50	--	1.33	P
Shell MW-7	02-09-01	NR	6.39	0.00	NR	02-09-01	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	--	1.13	P
Shell MW-7	04-17-01	NR	7.22	0.00	NR	04-17-01	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	--	1.12	P
Shell MW-7	07-17-01	NR	6.93	0.00	NR	07-17-01	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	1.05	P
Shell MW-7	12-21-01	NR	7.15	0.00	NR	12-21-01	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--		P
Shell MW-7	03-06-02	NR	7.03	0.00	NR	03-06-02	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	0.95	P
Shell MW-7	04-26-02	NR	7.15	0.00	NR	04-26-02	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	0.95	P

Notes:

TOC: top of casing

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

TPH: total petroleum hydrocarbons, California DHS LUFT Method

BTEX: benzene, toluene, ethylbenzene, total xylenes by EPA method 8021B. (EPA method 8020 prior to 03/01/00).

MTBE: Methyl tert-butyl ether

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

Note: All data within this table was provided to URS by Cambria Environmental Consulting. URS has not verified the accuracy of this data.

**Table 2**  
**Groundwater Flow Direction and Gradient**

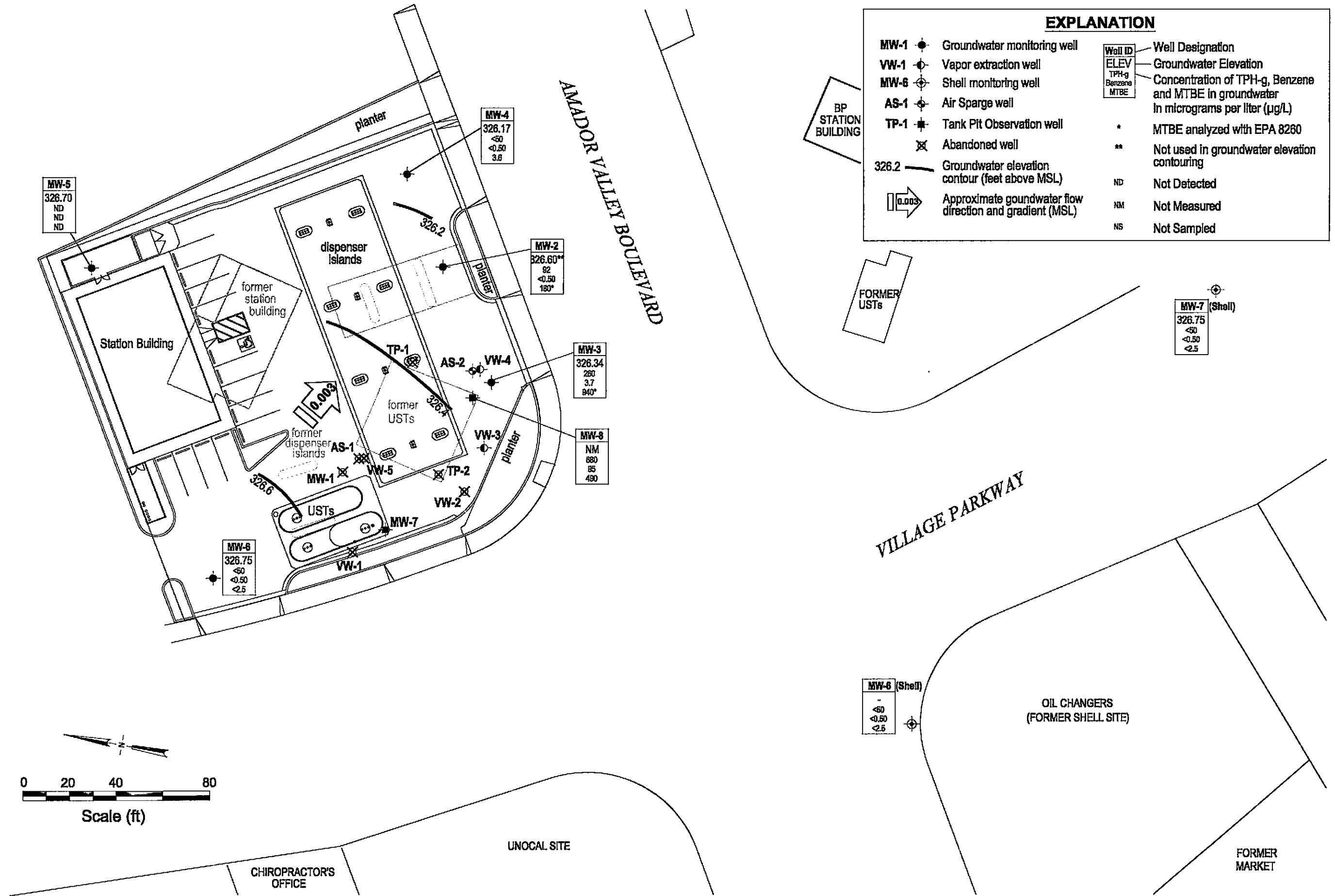
**ARCO Service Station 6041**  
**7249 Village Parkway, Dublin, California**

Date Measured	Average Flow Direction	Average Hydraulic Gradient
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
<b>04-26-02</b>	<b>Southeast</b>	<b>0.003</b>

Note:

All data within this table was provided to URS by Cambria Environmental.  
URS has not verified the accuracy of this data.

X:\a\_emv\_westa\BP\_GEM\Sites\Scott\_Robinson\Paul\_Suppel\6041\ResponalMonitoring\Chr\_2\2002\Drawings\GWEC-AS\_4-28.dwg



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

<b>URS</b>	Project No. 38465976	<b>Groundwater Elevation Contour and Analytical Summary Map</b> Second Quarter 2002 (April 26, 2002)	FIGURE <b>1</b>
	Arco Service Station #6041 7249 Village Parkway Dublin, California		

**ATTACHMENT A**  
**FIELD PROCEDURES**

## 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<sup>TM</sup> 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.

**ATTACHMENT B**

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



## **LABORATORY PROCEDURES**

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### **Laboratory Procedures**

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



**Sequoia  
Analytical**

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

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14 May, 2002

Ron Scheele  
Cambria - Emeryville  
6262 Hollis St.  
Emeryville, CA 94608

RE: Facility 6041, Dublin  
Sequoia Report: MLD0580

Enclosed are the results of analyses for samples received by the laboratory on 04/29/02 18:35. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Latonya Pelt  
Project Manager

CA ELAP Certificate #1210



Cambria - Emeryville  
6262 Hollis St.  
Emeryville CA, 94608

Project: Facility 6041, Dublin  
Project Number: ARCO #6041, Dublin, CA  
Project Manager: Ron Scheele

**Reported:**  
05/14/02 13:00

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-2	MLD0580-01	Water	04/26/02 05:55	04/29/02 18:35
MW-3	MLD0580-02	Water	04/26/02 05:50	04/29/02 18:35
MW-4	MLD0580-03	Water	04/26/02 05:25	04/29/02 18:35
MW-6	MLD0580-04	Water	04/26/02 04:35	04/29/02 18:35
MW-8	MLD0580-05	Water	04/26/02 05:00	04/29/02 18:35
Shell MW-6	MLD0580-06	Water	04/26/02 04:05	04/29/02 18:35
Shell MW-7	MLD0580-07	Water	04/26/02 03:35	04/29/02 18:35
DUP	MLD0580-08	Water	04/26/02 00:00	04/29/02 18:35

Sequoia Analytical - Morgan Hill

Latonya Pelt, Project Manager

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

Cambria - Emeryville  
 6262 Hollis St.  
 Emeryville CA, 94608

 Project: Facility 6041, Dublin  
 Project Number: ARCO #6041, Dublin, CA  
 Project Manager: Ron Scheele

**Reported:**  
 05/14/02 13:00

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-2 (MLD0580-01) Water</b> Sampled: 04/26/02 05:55 Received: 04/29/02 18:35									
<b>Gasoline Range Organics (C6-C10)</b>	<b>92</b>	50	ug/l	1	2E07002	05/07/02	05/07/02	8015Bm/8021 B	P-03
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	<b>0.64</b>	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	<b>98</b>	2.5	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		82.7 %	70-130		"	"	"	"	
<b>MW-3 (MLD0580-02) Water</b> Sampled: 04/26/02 05:50 Received: 04/29/02 18:35									
<b>Gasoline Range Organics (C6-C10)</b>	<b>260</b>	100	ug/l	2	2E07002	05/07/02	05/07/02	8015Bm/8021 B	P-03
Benzene	3.7	1.0	"	"	"	"	"	"	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	<b>1.1</b>	1.0	"	"	"	"	"	"	
Xylenes (total)	<b>1.8</b>	1.0	"	"	"	"	"	"	
Methyl tert-butyl ether	<b>460</b>	5.0	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		139 %	70-130		"	"	"	"	S-04
<b>MW-4 (MLD0580-03) Water</b> Sampled: 04/26/02 05:25 Received: 04/29/02 18:35									
<b>Gasoline Range Organics (C6-C10)</b>	ND	50	ug/l	1	2E07002	05/07/02	05/07/02	8015Bm/8021 B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	<b>3.6</b>	2.5	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		86.7 %	70-130		"	"	"	"	



Cambria - Emeryville  
6262 Hollis St.  
Emeryville CA, 94608

Project: Facility 6041, Dublin  
Project Number: ARCO #6041, Dublin, CA  
Project Manager: Ron Scheele

**Reported:**  
05/14/02 13:00

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-6 (MLD0580-04) Water</b> Sampled: 04/26/02 04:35 Received: 04/29/02 18:35									
Gasoline Range Organics (C6-C10)	ND	50	ug/l	1	2E07002	05/07/02	05/07/02	8015Bm/8021 B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	0.70	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		99.0 %		70-130	"	"	"	"	
<b>MW-8 (MLD0580-05) Water</b> Sampled: 04/26/02 05:00 Received: 04/29/02 18:35									
Gasoline Range Organics (C6-C10)	680	100	ug/l	2	2E07002	05/07/02	05/07/02	8015Bm/8021 B	P-01
Benzene	95	1.0	"	"	"	"	"	"	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	14	1.0	"	"	"	"	"	"	
Xylenes (total)	2.5	1.0	"	"	"	"	"	"	
Methyl tert-butyl ether	490	5.0	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		92.2 %		70-130	"	"	"	"	
<b>Shell MW-6 (MLD0580-06) Water</b> Sampled: 04/26/02 04:05 Received: 04/29/02 18:35									
Gasoline Range Organics (C6-C10)	ND	50	ug/l	1	2E07002	05/07/02	05/07/02	8015Bm/8021 B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		91.7 %		70-130	"	"	"	"	



Cambria - Emeryville  
6262 Hollis St.  
Emeryville CA, 94608

Project: Facility 6041, Dublin  
Project Number: ARCO #6041, Dublin, CA  
Project Manager: Ron Scheele

**Reported:**  
05/14/02 13:00

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Shell MW-7 (MLD0580-07) Water</b> <b>Sampled: 04/26/02 03:35</b> <b>Received: 04/29/02 18:35</b>									
Gasoline Range Organics (C6-C10)	ND	50	ug/l	1	2E09004	05/09/02	05/09/02	8015Bm/8021 B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		120 %	70-130		"	"	"	"	
<b>DUP (MLD0580-08) Water</b> <b>Sampled: 04/26/02 00:00</b> <b>Received: 04/29/02 18:35</b>									
Gasoline Range Organics (C6-C10)	<b>480</b>	100	ug/l	2	2E09004	05/09/02	05/09/02	8015Bm/8021 B	P-01
<b>Benzene</b>	<b>74</b>	1.0	"	"	"	"	"	"	
<b>Toluene</b>	<b>3.5</b>	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>11</b>	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>640</b>	5.0	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		93.0 %	70-130		"	"	"	"	



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Project Manager: Ron Scheele

**Reported:**  
05/14/02 13:00

**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 (MLD0580-01) Water Sampled: 04/26/02 05:55 Received: 04/29/02 18:35</b>									
Ethanol	ND	400	ug/l	10	2E07018	05/06/02	05/06/02	EPA 8260B	
tert-Butyl alcohol	ND	200	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>180</b>	5.0	"	"	"	"	"	"	
Di-isopropyl ether	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Ethylene dibromide	ND	5.0	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		93.8 %	60-140	"	"	"	"	"	
<b>MW-3 (MLD0580-02) Water Sampled: 04/26/02 05:50 Received: 04/29/02 18:35</b>									
Ethanol	ND	4000	ug/l	100	2E07018	05/06/02	05/06/02	EPA 8260B	
<b>tert-Butyl alcohol</b>	<b>3600</b>	2000	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>940</b>	50	"	"	"	"	"	"	
Di-isopropyl ether	ND	50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	50	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	50	"	"	"	"	"	"	
Ethylene dibromide	ND	50	"	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		96.0 %	60-140	"	"	"	"	"	



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**Reported:**  
05/14/02 13:00

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2E07002 - EPA 5030B [P/T]</b>										
<b>Blank (2E07002-BLK1)</b> <span style="float:right">Prepared &amp; Analyzed: 05/07/02</span>										
Gasoline Range Organics (C6-C10)	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.5	"							
Surrogate: a,a,a-Trifluorotoluene	11.9		"	10.0		119	70-130			
<b>LCS (2E07002-BS1)</b> <span style="float:right">Prepared &amp; Analyzed: 05/07/02</span>										
Benzene	11.8	0.50	ug/l	10.0		118	70-130			
Toluene	11.7	0.50	"	10.0		117	70-130			
Ethylbenzene	12.1	0.50	"	10.0		121	70-130			
Xylenes (total)	35.4	0.50	"	30.0		118	70-130			
Surrogate: a,a,a-Trifluorotoluene	12.5		"	10.0		125	70-130			
<b>LCS (2E07002-BS2)</b> <span style="float:right">Prepared &amp; Analyzed: 05/07/02</span>										
Gasoline Range Organics (C6-C10)	217	50	ug/l	250		86.8	70-130			
Surrogate: a,a,a-Trifluorotoluene	13.4		"	10.0		134	70-130			S-02
<b>LCS Dup (2E07002-BSD1)</b> <span style="float:right">Prepared &amp; Analyzed: 05/07/02</span>										
Benzene	10.8	0.50	ug/l	10.0		108	70-130	8.85	25	
Toluene	10.7	0.50	"	10.0		107	70-130	8.93	25	
Ethylbenzene	11.0	0.50	"	10.0		110	70-130	9.52	25	
Xylenes (total)	32.2	0.50	"	30.0		107	70-130	9.47	25	
Surrogate: a,a,a-Trifluorotoluene	10.5		"	10.0		105	70-130			
<b>LCS Dup (2E07002-BSD2)</b> <span style="float:right">Prepared &amp; Analyzed: 05/07/02</span>										
Gasoline Range Organics (C6-C10)	211	50	ug/l	250		84.4	70-130	2.80	25	
Surrogate: a,a,a-Trifluorotoluene	9.02		"	10.0		90.2	70-130			





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Cambria - Emeryville  
6262 Hollis St.  
Emeryville CA, 94608

Project: Facility 6041, Dublin  
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**Reported:**  
05/14/02 13:00

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2E09004 - EPA 5030B [P/T]</b>										
<b>Blank (2E09004-BLK1)</b> Prepared & Analyzed: 05/09/02										
Gasoline Range Organics (C6-C10)	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.5	"							
<i>Surrogate: a,a,a-Trifluorotoluene</i>	10.2		"	10.0		102	70-130			
<b>LCS (2E09004-BS1)</b> Prepared & Analyzed: 05/09/02										
Benzene	10.5	0.50	ug/l	10.0		105	70-130			
Toluene	9.08	0.50	"	10.0		90.8	70-130			
Ethylbenzene	10.5	0.50	"	10.0		105	70-130			
Xylenes (total)	32.5	0.50	"	30.0		108	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	10.7		"	10.0		107	70-130			
<b>LCS (2E09004-BS2)</b> Prepared & Analyzed: 05/09/02										
Gasoline Range Organics (C6-C10)	238	50	ug/l	250		95.2	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	13.5		"	10.0		135	70-130			S-02
<b>Matrix Spike (2E09004-MS1)</b> Source: MLD0580-07 Prepared & Analyzed: 05/09/02										
Gasoline Range Organics (C6-C10)	470	50	ug/l	550	ND	85.5	60-140			
Benzene	6.96	0.50	"	6.60	ND	105	60-140			
Toluene	38.8	0.50	"	39.7	ND	97.7	60-140			
Ethylbenzene	10.9	0.50	"	9.20	ND	118	60-140			
Xylenes (total)	55.2	0.50	"	46.1	ND	120	60-140			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	14.5		"	10.0		145	70-130			S-04
<b>Matrix Spike Dup (2E09004-MSD1)</b> Source: MLD0580-07 Prepared & Analyzed: 05/09/02										
Gasoline Range Organics (C6-C10)	490	50	ug/l	550	ND	89.1	60-140	4.17	25	
Benzene	5.72	0.50	"	6.60	ND	86.7	60-140	19.6	25	
Toluene	34.4	0.50	"	39.7	ND	86.6	60-140	12.0	25	
Ethylbenzene	10.0	0.50	"	9.20	ND	109	60-140	8.61	25	
Xylenes (total)	53.5	0.50	"	46.1	ND	116	60-140	3.13	25	
Methyl tert-butyl ether	14.6	2.5	"	10.5	ND	139	60-140		25	
<i>Surrogate: a,a,a-Trifluorotoluene</i>	16.1		"	10.0		161	70-130			S-04

Sequoia Analytical - Morgan Hill

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



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**Reported:**  
05/14/02 13:00

**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 2E07018 - EPA 5030B P/T**

**Blank (2E07018-BLK1)**

Prepared & Analyzed: 05/06/02

Ethanol	ND	40	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	"							
Ethylene dibromide	ND	0.50	"							

*Surrogate: 1,2-Dichloroethane-d4*      4.75      "      5.00      95.0      60-140

**LCS (2E07018-BS1)**

Prepared & Analyzed: 05/06/02

Methyl tert-butyl ether	10.2	0.50	ug/l	10.0	75	102	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	4.85		"	5.00		97.0	60-140			

**Matrix Spike (2E07018-MS1)**

Source: MLD0579-06

Prepared: 05/06/02 Analyzed: 05/07/02

Methyl tert-butyl ether	192	5.0	ug/l	100	75	117	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	5.18		"	5.00		104	60-140			

**Matrix Spike Dup (2E07018-MSD1)**

Source: MLD0579-06

Prepared: 05/06/02 Analyzed: 05/07/02

Methyl tert-butyl ether	191	5.0	ug/l	100	75	116	70-130	0.522	25	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	5.04		"	5.00		101	60-140			



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**Reported:**  
05/14/02 13:00

#### Notes and Definitions

P-01 Chromatogram Pattern: Gasoline C6-C10

P-03 Chromatogram Pattern: Unidentified Hydrocarbons C6-C10

S-02 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample.

S-04 The surrogate recovery for this sample is outside control limits due to interference from the sample matrix.

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

RAT#8

Task Order No. 28857.00

ARCO Facility no. 6041	City (Facility) Dublin	Project manager (Consultant) Ron Scheels	Laboratory name Sequoia
ARCO engineer Paul Supale	Telephone no. (ARCO) 925-299-8381	Telephone no. (Consultant) 510-450-1983	Contract number
Consultant name Cambria Env Tech	Address (Consultant) 6262 Hollis St. Emeryville, Ca		

Sample I.D.	Lab no.	Container no.	Matrix			Preservation		Sampling date	Sampling time	BTEX 8002 EPA 8090	EPA 8210 MTEF EPA 8012 8013 8016	TTH Modified 8015 Gas <input type="checkbox"/> Diesel <input type="checkbox"/>	Oil and Grease 415.1 <input type="checkbox"/> 415.2 <input type="checkbox"/>	TPH EPA 418-1/84/503E	EPA 601/6010	EPA 624/6240	EPA 625/6270	ICLP Semi VOLATILE NONVOLATILE	CHLORIDES EPA 8210 TRUC STC	Lead Cadmium EPA 7430/7421 U	Copper Zinc Manganese Nickel EPA 8210 for 8210	Method of shipment	
			Soil	Water	Other	Ice	Acid																
MW-2	01	7		X		X	X	4-26-02	5:55		X												Special detection Limit/Reporting Lowest Possible
MW-3	02	7		X		X	X	4-26-02	5:50		X												
MW-4	03	4		X		X	X	4-26-02	5:25		X												Special QAVC
MW-6	04	4		X		X	X	4-26-02	4:35		X												
MW-8	05	4		X		X	X	4-26-02	5:00		X												Remarks Report results in EDF format
Shell MW-4	06	4		X		X	X	4-26-02	4:05		X												
Shell MW-7	07	4		X		X	X	4-26-02	3:35		X												
DUPD	08	4		X		X	X	4-26-02			X												

Lab number:  
**MWD0580**

Condition of sample:	Temperature received:	Priority Rush 1 Business Day <input type="checkbox"/>
Relinquished by sampler J. Hill	Date 4-28-02	Time 5:00
Relinquished by Ron Scheels	Date 4/29/02	Time 2:15pm
Relinquished by Curtis SEA	Date 4/29/02	Time 1835
Received by SCHEELS location	Received by WPP SEA	Received by 
	Date 4/29/02	Time 1835

Turnaround time

Priority Rush  
1 Business Day

Rush  
2 Business Days

Expedited  
5 Business Days

Standard  
10 Business Days