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By dehloptoxic at 2:52 pm, Oct 31, 2006



Atlantic Richfield Company  
(a BP affiliated company)

P.O. Box 1257  
San Ramon, CA 94583  
Phone: (925) 275-3801  
Fax: (925) 275-3815

18 October 2006

Re: Third Quarter 2006 Status Report  
Atlantic Richfield Company Station #2035  
1001 San Pablo Avenue  
Albany, California  
ACEH Case # RO0000100

"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 Manger

**Third Quarter 2006 Status Report**  
Atlantic Richfield Company Station #2035  
1001 San Pablo Avenue  
Albany, California

Prepared for

Mr. Paul Supple  
Environmental Business Manager  
Atlantic Richfield Company  
P.O. Box 1257  
San Ramon, California 94583

Prepared by



1324 Mangrove Avenue, Suite 212  
Chico, California 95926  
(530) 566-1400  
*www.broadbentinc.com*

18 October 2006

Project No. 06-08-610

Broadbent & Associates, Inc.  
1324 Mangrove Ave., Suite 212  
Chico, CA 95926  
Voice (530) 566-1400  
Fax (530) 566-1401



18 October 2006

Project No. 06-08-610

Atlantic Richfield Company  
P.O. Box 1257  
San Ramon, CA 94583  
Submitted via ENFOS

Attn.: Mr. Paul Supple

Re: Third Quarter 2006 Status Report, Atlantic Richfield Company (a BP affiliated company)  
Station #2035, 1001 San Pablo Avenue, Albany, California. ACEH Case #RO0000100.

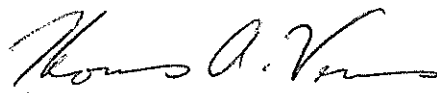
Dear Mr. Supple:

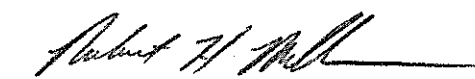
Attached is the *Third Quarter 2006 Status Report* for Atlantic Richfield Company Station #2035 (herein referred to as Station #2035) located at 1001 San Pablo Avenue, Albany, Alameda County, California.

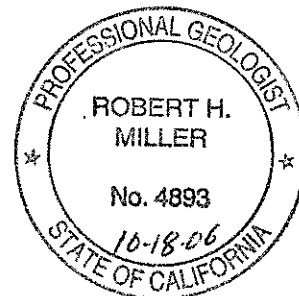
A remediation treatment modification letter was submitted to Alameda County Environmental Health (ACEH) by URS on 15 July 2004. This letter proposed shutting down the treatment system permanently and treating ground water by natural attenuation, and is currently awaiting ACEH approval. A copy of this previous submittal is included as an attachment to this status report.

Should you have questions regarding the work performed or results obtained, please do not hesitate to contact us at (530) 566-1400.

Sincerely,  
BROADBENT & ASSOCIATES, INC.

  
Thomas A. Venus, P.E.  
Senior Engineer

  
Rob Miller, P.G., C.HG.  
Principal Hydrogeologist



Enclosures

cc: Mr. Steven Plunkett, Alameda County Environmental Health (Submitted via ACEH ftp site)  
Barbara & James A. Lestrangle, 6 La Canada Court, Saint Helena, CA 94574  
Muriel & Emile Turpin, Trustees, 2 La Canada Court, Saint Helena, CA 94574-1250  
Mr. Robert Cave, Bay Area Air Quality Management District - Permit Division, 939 Ellis Street, San Francisco, CA 94109

## STATION # 2035 REMEDIATION SYSTEM STATUS REPORT

Facility: #2035	Address: 1001 San Pablo Avenue, Albany, California
Environmental Business Manager:	Mr. Paul Supple
Consulting Co./Contact Persons:	Broadbent & Associates, Inc.(BAI)/Rob Miller & Tom Venus (530) 566-1400
Consultant Project No.:	06-02-610
Primary Agency/Regulatory ID No.:	Alameda County Environmental Health (ACEH) ACEH Case # RO0000100
Permitting Agency/Facility Permits:	Bay Area Air Quality Management District (BAAQMD) BAAQMD Permit # 8694

### WORK PERFORMED THIS QUARTER (Third Quarter 2006):

1. Prepared and submitted the Second Quarter 2006 Ground-Water Monitoring and Remediation System Status Report. Work performed by BAI.
2. No field work was performed at this Site during the Third Quarter 2006.

### WORK PROPOSED FOR NEXT QUARTER (Fourth Quarter 2006):

1. Prepared and submitted the Third Quarter 2006 Status Report (contained herein).
2. Conduct annual ground-water monitoring/sampling for Fourth Quarter 2006. Work to be performed by Stratus Environmental, Inc.
3. Prepare and submit the Fourth Quarter 2006 Ground-Water Monitoring and Remediation System Status Report.

### SITE SUMMARY:

Current phase of project:	<b>Remediation/Natural Attenuation/Ground-water monitoring/sampling</b>
Frequency of ground-water sampling:	<b>Wells MW-1 through MW-4, RW-1, S-5: Semi-Annually (2Q and 4Q) Wells MW-5 and MW-6: Annually (4Q)</b>
Frequency of ground-water monitoring:	<b>Semi-Annually (2Q and 4Q)</b>
Is free product (FP) present on-site:	<b>No</b>
Depth to ground water (below TOC):	<b>7.36 ft (MW-1) to 12.35 ft (MW-6) (5/31/2006)</b>
General ground-water flow direction:	<b>West (5/31/2006)</b>
Approximate hydraulic gradient:	<b>0.04 ft/ft</b>
Current remediation techniques:	<b>Air Sparge (AS) / Soil Vapor Extraction (SVE)</b>
Equipment Inventory:	<b>Therm Tech Model VAC-10 Thermal/Catalytic Oxidizer</b>
Operating Mode:	<b>Catalytic Oxidation</b>
TPH Conc. End of Period (lab):	<b>NA (System shut down temporarily)</b>
Benzene Conc. End of Period (lab):	<b>NA (System shut down temporarily)</b>
SVE Flow Rate, End of Period:	<b>NA (System shut down temporarily)</b>
Total HC Destroyed This Period:	<b>NA (System shut down temporarily)</b>
Total HC Destroyed to Date:	<b>3,967 pounds</b>
Utility Usage This Period, Electric (kWh)	<b>0 (System shut down temporarily)</b>
Gas (cu/ft)	<b>0 (System shut down temporarily)</b>
Operating Hours This Period:	<b>0 (System shut down temporarily)</b>
Operating Hours to Date:	<b>23,392</b>
Percent Operational This Period:	<b>0%</b>

**SITE SUMMARY (Continued):**

Unit Maintenance:	<u>NA (System shut down temporarily)</u>
Number of Auto Shut Downs:	<u>NA (System shut down temporarily)</u>
Destruction Efficiency Permit Requirement:	<u>98.5% (POC &gt;2,000 ppmv); 97% (POC &gt;200ppmv); 90% (POC &lt;200 ppmv)</u>
Percent TPH Conversion:	<u>NA (System shut down temporarily)</u>
Average Stack Temperature:	<u>652°F (Prior to current shutdown)</u>
Average SVE Source Flow	<u>52 scfm (Prior to current shutdown)</u>
Average SVE Process Flow:	<u>78 scfm (Prior to current shutdown)</u>
Average Source Vacuum:	<u>20 inches of H<sub>2</sub>O (Prior to current shutdown)</u>

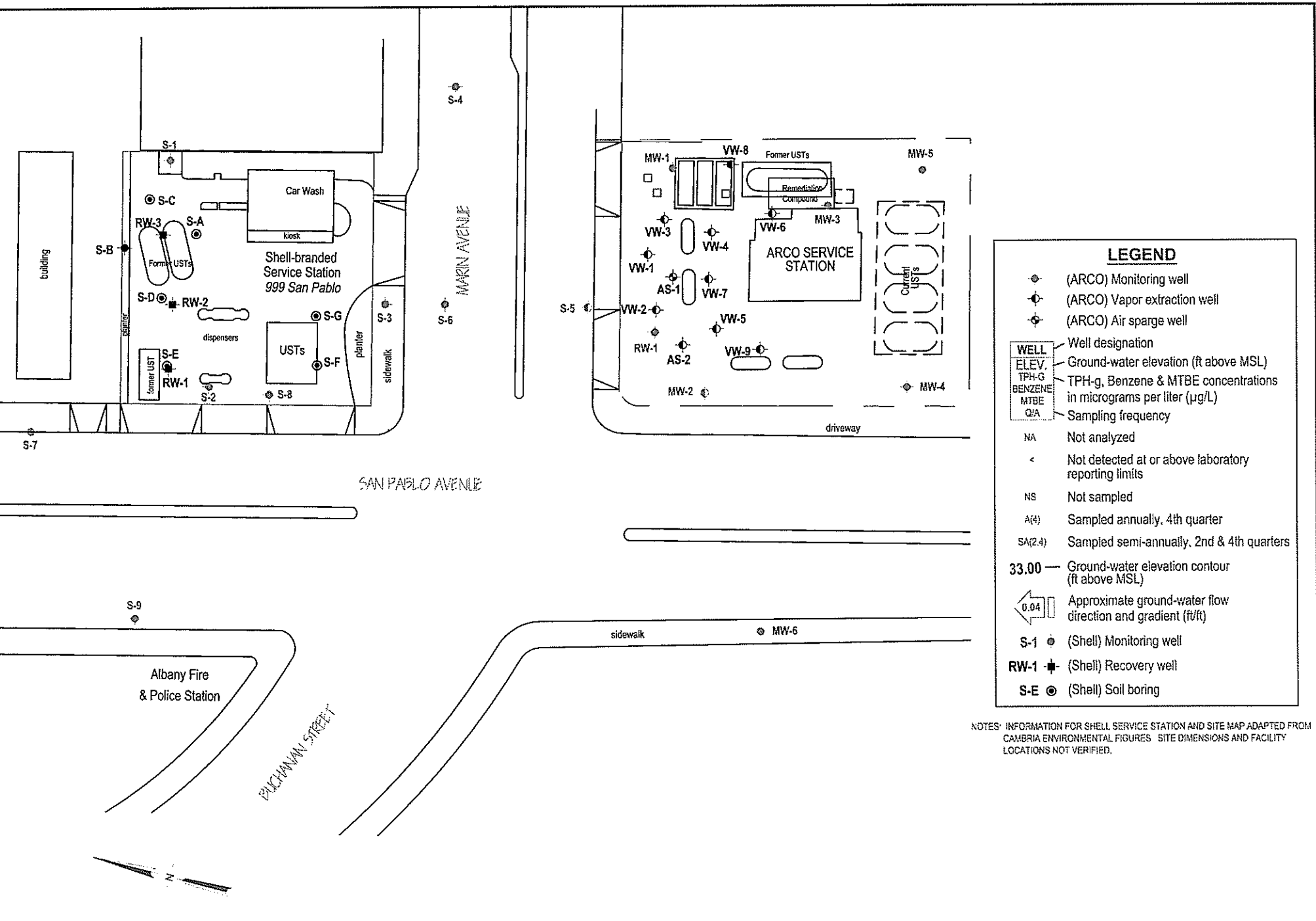
**DISCUSSION:**

The Air Apage / Soil Vapor Extraction remediation system has remained off-line since the fourth quarter 2004, due to elevated water levels observed at the Site. Monthly depth to water monitoring has indicated that a majority of the well screens remained partly submerged under water. The monthly depth to water monitoring was discontinued after the February 2005 event. The semi-annual monitoring event on 31 May 2006 indicated that the screen in well RW-1 remained completely submerged.

On 15 July 2004, URS submitted a remediation treatment modification letter to ACEH, proposing to shut down the treatment system permanently and treat groundwater by natural attenuation. BP is currently awaiting the agency's approval. A copy of this previous submittal is included as an attachment to this status report.

**ATTACHMENTS:**

- Drawing 1. Site Map, ARCO Service Station #2035, 1001 San Pablo Avenue, Albany, California
- Appendix A. Remediation Treatment Modification Proposal, Atlantic Richfield Company Service Station #2035 (URS, 15 July 2004)



### LEGEND

- (ARCO) Monitoring well
- (ARCO) Vapor extraction well
- (ARCO) Air sparge well

<b>WELL</b>	Well designation
<b>ELEV.</b>	Ground-water elevation (ft above MSL)
<b>TPH-G</b>	TPH-g, Benzene & MTBE concentrations in micrograms per liter (µg/L)
<b>BENZENE</b>	
<b>MTBE</b>	
<b>Q/A</b>	Sampling frequency

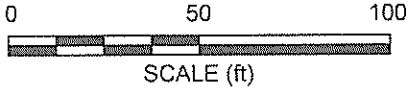
- NA Not analyzed
- < Not detected at or above laboratory reporting limits
- NS Not sampled
- A(4) Sampled annually, 4th quarter
- SA(2,4) Sampled semi-annually, 2nd & 4th quarters

**33.00** — Ground-water elevation contour (ft above MSL)

0.04 Approximate ground-water flow direction and gradient (ft/ft)

- S-1** (Shell) Monitoring well
- RW-1** (Shell) Recovery well
- S-E** (Shell) Soil boring

NOTES: INFORMATION FOR SHELL SERVICE STATION AND SITE MAP ADAPTED FROM CAMBRIA ENVIRONMENTAL FIGURES. SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.



**BROADBENT & ASSOCIATES, INC.**  
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL  
1324 Mangrove Ave. Suite 212. Chico, California  
Project No.: 06-08-610 Date: 10/18/06

ARCO Service Station #2035  
1001 San Pablo Avenue  
Albany, California

Site Map

Drawing  
**1**

**APPENDIX A**

REMEDICATION TREATMENT MODIFICATION PROPOSAL  
(URS, 15 July 2004)



Atlantic Richfield Company  
(a BP affiliated company)

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

July 15, 2004

Mr. Robert Schultz  
Alameda County Environmental Health Department  
1131 Harbor Bay Parkway, 2nd Floor  
Alameda, CA 94502

Re: Remediation Treatment Modification Proposal  
Atlantic Richfield Company Service Station #2035  
1001 San Pablo Avenue  
Albany, California  
URS Project #38486319

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

Submitted by:

Paul Supple  
Environmental Business Manager





July 15, 2004

Mr. Robert Schultz  
Alameda County Environmental Health Department  
1131 Harbor Bay Parkway, 2nd Floor  
Alameda, California 94502

**Re: REMEDIATION TREATMENT MODIFICATION PROPOSAL  
Atlantic Richfield Company Service Station #2035  
1001 San Pablo Avenue  
Albany, California  
URS Project #38486319**

Dear Mr. Schultz,

On behalf of Atlantic Richfield Company (RM), a BP affiliated company, URS Corporation (URS) is submitting this *Remediation Treatment Modification Proposal* to Alameda County Environmental Health (ACEH) for the Atlantic Richfield Company Service Station #2035, located at 1001 San Pablo Avenue, Albany, California (the Site) (Figure 1). In order to remediate petroleum hydrocarbons in the subsurface, a Soil Vapor Extraction (SVE) system is operational at the Site. Emissions from the SVE system are abated using a catalytic oxidizer (Model No. VAC-10). The remediation system has been temporarily shut down since February 10, 2004, due to raised groundwater elevations and low to non-detect influent hydrocarbon concentrations.

URS has operated the remediation system at the Site since system restart on June 24, 2003 (Tables 1 and 3). Influent concentrations have dropped significantly since the initial system start up in 1997 (Table 2). System influent concentrations in 2003 and early 2004 remained primarily non-detect except for one sample collected on October 24, 2003, which contained Total Petroleum Hydrocarbons (TPH-g) at 13 parts per million by volume (ppmv), benzene at 0.23 ppmv and methyl-tert-butyl ether (MTBE) at 0.27 ppmv. Recent and historical groundwater analytical results indicate that TPH-g, BTEX and MTBE concentrations in groundwater show a decreasing trend (Table 4). Currently, hydrocarbon concentrations in groundwater are limited to the vicinity of wells S-5 (28,000 µg/L GRO, 760 µg/L benzene, 79 µg/L toluene, 910 µg/L ethyl benzene, and 5,000 µg/L total xylenes) and RW-1 (66 µg/L benzene) resulting in a small area of concern. Groundwater monitoring results also indicate that the area of concern is contained and is not migrating.

URS Corporation  
1333 Broadway, Suite 800  
Oakland, CA 94612-1924  
Tel: 510.893.3600  
Fax: 510.874.3268

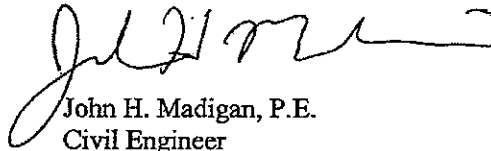
Groundwater concentrations in this small area of concern at the Site can be reliably abated by natural attenuation. URS proposes shutting down the existing SVE system and performing natural attenuation monitoring at the Site. Upon obtaining levels acceptable to ACEH in groundwater at the Site, URS will evaluate the Site for Case Closure.

If you have any questions or need additional information please contact Mr. Scott Robinson at (510) 874 3280.

Sincerely,  
URS CORPORATION



Scott Robinson  
Project Manager



John H. Madigan, P.E.  
Civil Engineer

Attachments:

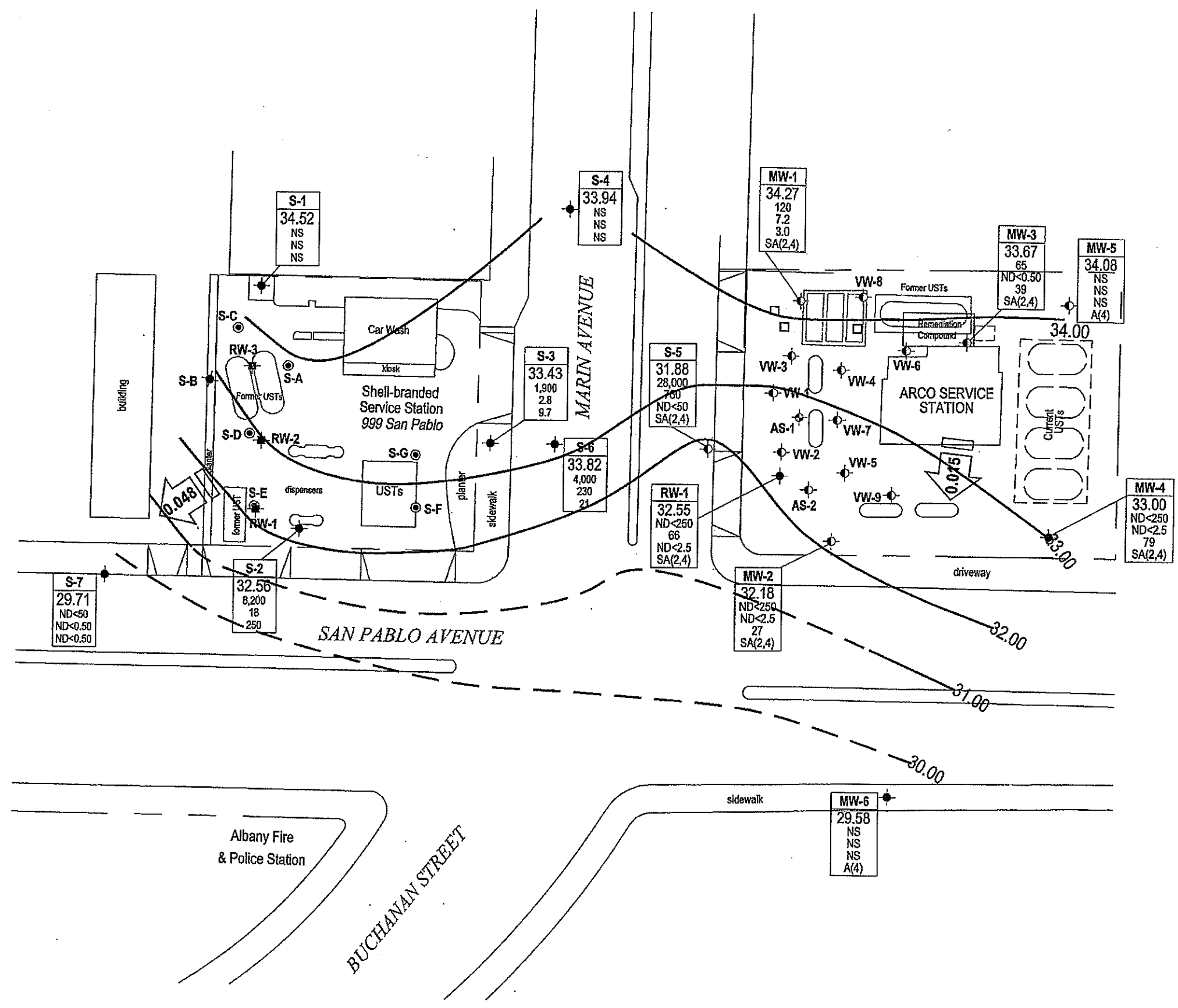
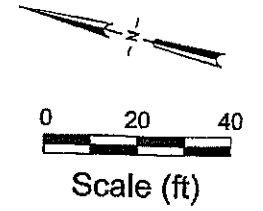
- Figure 1      Groundwater Elevation Contour and Analytical Summary Map – 2<sup>nd</sup> Quarter, 2004
- Table 1      Soil Vapor Extraction (SVE) System Extraction Rates, Emission Rates,  
Destruction Efficiency, and Mass Removed
- Table 2      Soil Vapor Extraction (SVE) Historical Flow Rates and Analytical Results of  
Air Samples
- Table 3      Historical Operational Uptime Information
- Table 4      Groundwater Elevation and Analytical Data

cc.      Mr. Paul Supple, Atlantic Richfield Company (electronic copy uploaded to ENFOS)  
Mr. Robert Cave, BAAQMD – Permit Division, 939 Ellis St., San Francisco, CA 94109

**EXPLANATION**

- ◆ (Arco) Monitoring well
- ◇ (Arco) Vapor extraction well
- ⊕ (Arco) Air sparge well
- Well — Well designation
- ELEV — Groundwater elevation (ft above MSL)
- TPH-g, Benzene, MTBE — TPH-g, Benzene & MTBE concentrations in micrograms per liter (µg/L)
- A/SA — Sampling frequency
- NA — Not analyzed
- ND< — Not detected at or above laboratory reporting limits
- NS — Not sampled
- A(4) — Sampled annually, 4th quarter
- SA(2,4) — Sampled semi-annually, 2nd & 4th quarters
- 29.5 — Groundwater elevation contour (ft above MSL)
- ← 0.048 — Approximate groundwater flow direction and gradient (ft/ft)
- S-1 ◆ (Shell) Monitoring well
- RW-1 ◆ (Shell) Recovery well
- SB-1 ● (Shell) Soil boring

NOTES: INFORMATION FOR SHELL SERVICE STATION AND SITE MAP ADAPTED FROM CAMBRIA ENVIRONMENTAL FIGURES. SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.



**Table 1**  
**Soil Vapor Extraction System**  
**Extraction Rates, Emission Rates, Destruction Efficiency, and Mass Removed**

Atlantic Richfield Company Service Station #2035  
1001 San Pablo Avenue, Albany, California

Date	Extraction Rate from Wellfield <sup>1</sup>		Emission Rate to Atmosphere <sup>2</sup>		Destruction Efficiency <sup>3</sup>		Period Removal <sup>4</sup>		Cumulative Removal	
	TPHg (lbs/day)	Benzene (lbs/day)	TPHg (lbs/day)	Benzene (lbs/day)	TPHg (%)	Benzene (%)	TPHg (lbs)	Benzene (lbs)	TPHg (lbs)	Benzene (lbs)
12/01/97	13.0	0.0381	0.651	ND<0.0064	95	NC	183.3	0.5	3022.6	250.5
09/02/98	6.11	0.0000	0.306	ND<0.0027	95	NC	0.1	0.0	3022.7	250.5
10/19/98	0.55	0.0000	ND<0.196	ND<0.0031	NC	NC	18.2	0.0	3040.8	250.5
11/10/98	0.07	0.0000	ND<0.196	ND<0.0031	NC	NC	1.5	0.0	3042.3	250.5
06/10/99	2.47	0.0097	ND<0.0138	ND<0.0021	NC	NC	0.1	0.0	3042.4	250.5
09/09/99	1.61	0.0180	ND<0.0169	ND<0.0026	NC	NC	22.6	0.3	3065.0	250.8
10/06/99	7.59	0.0247	0.229	ND<0.0020	97.00	NC	95.9	0.3	3160.9	251.1
12/01/99	7.00	0.0182	ND<0.212	ND<0.0033	NC	NC	274.4	0.7	3435.3	251.8
01/05/00	1.27	0.0044	ND<0.205	ND<0.0032	NC	NC	19.0	0.1	3454.3	251.9
03/01/00	1.90	0.0357	ND<0.212	ND<0.0033	NC	NC	43.7	0.8	3498.0	252.7
10/17/00	0.77	0.0110	ND<0.226	ND<0.0013	71	88	17.0	0.2	3515.0	252.9
02/26/01	2.84	0.0374	ND<0.160	ND<0.0014	NC	NC	74.1	1.0	3589.2	253.9
04/19/01	7.29	0.0633	ND<0.405	ND<0.0047	NC	NC	173.6	1.5	3762.8	255.4
05/14/01	1.03	0.0100	ND<0.0715	ND<0.0006	NC	NC	24.6	0.2	3787.4	255.7
06/25/01	0.23	ND<0.0085	ND<0.0847	ND<0.0085	NC	NC	6.8	0.3	3794.2	255.9
08/09/01	0.14	0.0009	ND<0.0914	ND<0.0008	NC	NC	6.3	0.0	3800.5	256.0
09/05/01	0.19	0.0011	ND<0.1020	ND<0.0009	NC	NC	5.1	0.0	3805.6	256.0
10/01/01	2.24	0.0130	ND<0.2022	ND<0.0018	NC	NC	36.9	0.2	3842.5	256.2
11/07/01	0.46	0.0018	ND<0.2005	ND<0.0018	NC	NC	17.1	0.1	3859.6	256.3
12/05/01	0.47	0.0078	ND<0.1749	ND<0.0016	NC	NC	13.0	0.2	3872.6	256.5
01/09/02	2.82	0.0255	ND<0.1755	ND<0.0016	NC	NC	62.2	0.6	3934.8	257.0
02/05/02	1.42	0.0077	ND<0.1734	ND<0.0015	NC	NC	32.5	0.2	3967.3	257.2
08/05/03	0.00	0.0000	ND<2.4	ND<0.031	NC	NC	0.0	0.0	3967.3	257.2
09/23/03	0.00	0.0005	ND<2.4	ND<0.031	NC	NC	0.0	0.3	3967.3	257.5
10/24/03	NC	NC	ND<2.4	ND<0.031	NC	NC	NC	NC	3967.3	257.5
12/09/03	0.00	0.0000	ND<2.5	ND<0.031	NC	NC	0.0	0.0	3967.3	257.5
01/09/04	0.00	0.0000	ND<9.8	ND<0.031	NC	NC	0.0	0.0	3967.3	257.5

**Table 1**  
**Soil Vapor Extraction System**  
**Extraction Rates, Emission Rates, Destruction Efficiency, and Mass Removed**

ARCO Service Station #2035  
1001 San Pablo Avenue, Albany, California

- 
- <sup>1</sup> Extraction Rate, lbs/day = (Influent Flow, cfm)(Influent conc., ppmv)(g/mole)(60 min/hr)(24 hr/day)(28.3 L/cf) / (10<sup>6</sup>)(24.45 moles/L)(453.6 g/lb)  
where TPHg = 100 g/mole and Benzene = 78.1 g/mole; Influent conc. = 0, if reported as non-detect
- <sup>2</sup> Emission Rate, lbs/day = (Effluent Flow, cfm)(Effluent conc., ppmv)(g/mole)(60 min/hr)(24 hr/day)(28.3 L/cf) / (10<sup>6</sup>)(24.45 moles/L)(453.6 g/lb)  
where TPHg = 100 g/mole and Benzene = 78.1 g/mole; Effluent conc. = Method Reporting Limit, if reported as non-detect
- <sup>3</sup> Destruction Efficiency, % = (Extraction Rate - Emission Rate)(100) / (Extraction Rate); NC = Not Calculated due to non-detection.
- <sup>4</sup> Period Removal, lbs = (Extraction Rate)(Uptime)

NC = Not Calculated

ND< = Not detected at or above the specified laboratory reporting limit

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

**Table 2**  
**Soil Vapor Extraction System**  
**Flow Rates and Analytical Results of Air Samples**

Atlantic Richfield Company Service Station #2035  
1001 San Pablo Avenue, Albany, California

Date	Sample Location	Vacuum (in H <sub>2</sub> O)	Velocity		Flowrate <sup>1,2,3</sup> (scfm)	Hydrocarbon Concentrations (ppmv)					
			/Actual Flow (fpm*/acfm)			TPHg	Benzene	Toluene	Ethylbenzene	Xylene	MTBE
12/01/97	Influent				221	160	0.6	ND<0.1	1.6	2.5	
	Effluent					8	ND<0.1	0.1	ND<0.1	0.3	
01/27/98	Influent	NA	NA		NA	NA	NA	NA	NA	NA	
	Effluent										
08/12/98	Influent	NA	NA		NA	NA	NA	NA	NA	NA	
	Effluent										
09/02/98	Influent	30.0	600		27	610	ND<1	ND<1	2	3	
	Effluent		1050		92	9	ND<0.1	ND<0.1	0.1	ND<0.2	
10/19/98	Influent	20.0	500		23	64	ND<0.1	0.7	ND<0.1	ND<0.2	
	Effluent		1200		106	ND<5	ND<0.1	ND<0.1	ND<0.1	ND<0.2	
11/10/98	Influent	20.0	500		23	8	ND<0.1	0.1	ND<0.1	ND<0.2	
	Effluent		1200		106	ND<5	ND<0.1	ND<0.1	ND<0.1	ND<0.2	
06/10/99	Influent	35.0	1500		67	100	0.5	3	ND<0.1	0.9	ND<1
	Effluent		975		75	ND<5	ND<0.1	ND<0.1	ND<0.1	ND<0.2	ND<1
09/09/99	Influent	15.4	1900		90	ND<49	0.7	1.1	ND<0.1	ND<0.2	33
	Effluent		1200		92	ND<5	ND<0.1	ND<0.1	ND<0.1	ND<0.2	ND<0.8
10/06/99	Influent	16.0	1825		86	240	1	2.9	ND<0.1	0.7	67
	Effluent		900		69	9	ND<0.1	0.1	0.1	ND<0.2	ND<0.8
12/01/99	Influent	11.0	1900		91	210	0.7	0.8	ND<0.2	0.2	61
	Effluent		1500		115	ND<5	ND<0.1	ND<0.1	ND<0.1	ND<0.2	1.4
01/05/00	Influent	9.8	800		38	90	0.4	0.7	0.1	ND<0.2	33
	Effluent		1450		111	ND<5	ND<0.1	ND<0.1	ND<0.1	ND<0.2	ND<0.8
03/01/00	Influent	9.8	2000		96	54	1.3	4.8	1.1	7.2	19
	Effluent		1500		115	ND<5	ND<0.1	ND<0.1	ND<0.1	ND<0.2	ND<0.8
10/17/00	Influent	10.0	-		27	77	1.4	1.8	0.33	1.4	20
	Effluent		-		103	6.0	0.044	0.16	0.055	0.38	0.59

**Table 2**  
**Soil Vapor Extraction System**  
**Flow Rates and Analytical Results of Air Samples**

ARCO Service Station #2035  
 1001 San Pablo Avenue, Albany, California

Date	Sample Location	Vacuum (in. H2O)	Velocity /Actual Flow (fpm/acfm)	Flowrate <sup>1,2</sup> (scfm)	Hydrocarbon Concentrations (ppmv)					
					TPHg	Benzene	Toluene	Ethylbenzene	Xylene	MTBE
02/26/01	Influent	60.0	180	153	50.4	0.850	3.84	0.390	2.02	11.6
	Effluent		180	153	ND<2.84	ND<0.0314	0.0769	ND<0.0230	0.754	0.132
04/19/01	Influent	45.0	124	110	180	2.0	2.6	0.25	2.0	ND<1.5
	Effluent		124	110	ND<10.0	ND<0.15	0.24	ND<0.15	0.79	ND<1.5
05/14/01	Influent	40.0	76	69	41.0	0.511	0.299	0.0357	0.293	0.492
	Effluent		76	69	ND<2.84	ND<0.0314	ND<0.0266	ND<0.0230	ND<0.0230	ND<0.111
06/05/01	Influent	45.0	108	96	6.6	ND<0.31	0.41	0.072	0.32	2.2
	Effluent		108	96	ND<2.4	ND<0.31	ND<0.027	ND<0.023	0.068	ND<0.14
08/09/01	Influent	40.0	98.5	89	4.3	0.034	0.19	ND<0.024	0.15	0.20
	Effluent		98.5	89	ND<2.8	ND<0.032	0.026	ND<0.024	0.13	ND<0.11
09/05/01	Influent	50.0	113	99	5.2	0.038	0.39	0.025	0.14	0.83
	Effluent		113	99	ND<2.8	ND<0.032	ND<0.026	ND<0.024	0.027	ND<0.11
10/01/01	Influent	40.0	218	197	31	0.23	0.56	0.077	0.30	2.1
	Effluent		218	197	ND<2.8	ND<0.032	0.071	ND<0.024	0.036	ND<0.11
11/07/01	Influent	48.0	221	195	6.4	ND<0.032	0.33	0.029	0.14	1.4
	Effluent		221	195	ND<2.8	ND<0.032	ND<0.026	ND<0.024	ND<0.024	ND<0.11
12/05/01	Influent	61.0	200	170	7.5	0.16	0.52	ND<0.024	0.11	
	Effluent		200	170	ND<2.8	ND<0.032	ND<0.026	ND<0.024	ND<0.024	
01/09/02	Influent	65.0	203	171	45	0.52	2.4	0.22	1.3	5.6
	Effluent		203	171	ND<2.8	ND<0.032	0.049	ND<0.024	0.052	ND<0.11
02/05/02	Influent	64.0	200	169	23	0.16	1.4	0.15	0.84	4.8
	Effluent		200	169	ND<2.8	ND<0.032	0.076	ND<0.024	0.059	ND<0.11
04/02/02	Influent	NA	NA	NA	45	0.38	1.00	0.18	1.50	20.00
	Effluent		NA	NA	ND<2.4	ND<0.031	ND<0.027	ND<0.023	0.05	ND<0.14
08/05/03	Influent	25	1200	37	ND<2.4	ND<0.031	0.035	ND<0.023	0.040	ND<0.14
	Effluent		2200	60	ND<2.4	ND<0.031	ND<0.027	ND<0.023	0.087	ND<0.14
09/23/03	Influent	20	1400	43	ND<2.4	0.039	ND<0.027	ND<0.023	ND<0.047	ND<0.14
	Effluent		2250	95	ND<2.4	ND<0.031	ND<0.027	ND<0.023	ND<0.047	ND<0.14

**Table 2**  
**Soil Vapor Extraction System**  
**Flow Rates and Analytical Results of Air Samples**

ARCO Service Station #2035  
 1001 San Pablo Avenue, Albany, California

Date	Sample Location	Vacuum (in H <sub>2</sub> O)	Velocity /Actual Flow (fpm*/acfm)	Flowrate <sup>1,2,3</sup> (scfm)	Hydrocarbon Concentrations (ppmv)					
					TPHg	Benzene	Toluene	Ethylbenzene	Xylene	MTBE
10/24/03	Influent	10	NA**	NA	13	0.23	0.045	ND<0.023	0.071	0.27
	Effluent		NA**	NA	ND<2.4	ND<0.031	ND<0.027	ND<0.023	0.048	ND<0.14
12/09/03	Influent	25	1700	75	ND<9.8	ND<0.31	ND<0.27	ND<0.23	ND<0.23	ND<0.14
	Effluent		2700	79	ND<9.8	ND<0.31	ND<0.27	ND<0.23	ND<0.23	ND<0.14
01/09/04	Influent	20	1600	74	ND<9.8	ND<0.031	0.055	ND<0.045	0.11	ND<0.055
	Effluent		3600	74	ND<9.8	ND<0.031	0.028	ND<0.045	ND<0.068	ND<0.055

<sup>1</sup> Influent Flow Rate previous to 10/17/00, cfm = (Velocity, fpm)(Influent Pipe Area, sq. ft.)(406.8 in.H2O - Vacuum, in.H2O) / (406.8 in.H2O)  
 where Influent Pipe Diameter = 3"

Effluent Flow Rate, cfm = (Velocity, fpm)(Effluent Pipe Area, sq.ft.)/[(460° R + 77° F) / (460° R + Vapor Temp F)]  
 where Effluent (after blower) Pipe Diameter = 4"

<sup>4</sup> Influent Flow Rate 10/17/00 to 4/2/02 cfm = (Actual flow, acfm)(406.8 in.H2O - Vacuum, in.H2O) / (406.8 in.H2O)

Effluent Flow Rate 10/17/00 to 4/2/02 scfm = (Actual flow, acfm)/[(460° R + 77° F) / (460° R + Vapor Temp F)]  
 when dilution valve is open. If dilution valve is closed, influent flow = effluent flow

<sup>3</sup> Influent Flow Rate 08/05/03 to present, scfm = 128.8 \* K \* D<sup>2</sup> \* {[(14.7 in psi - Vacuum Pressure, psi) \* (Pressure Differential, in H<sub>2</sub>O)] / (460° R + T° F) \* Ss]<sup>1/2</sup>}

Effluent Flow Rate 10/17/00 to present, scfm = (Actual flow, acfm)/[(460° R + 77° F) / (460° R + Vapor Temp F)]  
 when dilution valve is open. If dilution valve is closed, influent flow = effluent flow

Where: K = Flow Coefficient (0.645 for 3" Schedule 40 PVC Pipe)  
 D = Internal Diameter (3.042 inches for 3" Schedule 40 PVC Pipe)  
 T = Temperature at Blower (100 °F)  
 Ss = Specific Gravity of Gas at 60 oF (Estimated as air at 1 for low concentration of other constituents)

\* Reported in feet per minute (ft/min) with exception of February 2001 through February 2002 that reported in cubic feet per minute (acfm)

\*\* Gage broken, reading not taken.

ND< = Not detected at or above the specified laboratory reporting limit

NA = Not Analyzed/ Not Measured

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



**Table 3**  
**Soil Vapor Extraction System**  
**Operational Uptime Information**

Atlantic Richfield Company Service Station #2035  
 1001 San Pablo Avenue, Albany, California

Date	Period Operation					Cumulative Operation				
	Meter (hours)	Total (days)	Uptime (days)	Downtime (days)	Uptime (%)	Total (days)	Uptime (days)	Downtime (days)	Uptime (%)	Total Operating Time (hours)
11/01/97						1425	335	1090	24%	6873
12/01/97	11484	30	14	16	47	1455	349	1106	24%	7211
01/27/98	11484	57	0	57	0	1512	349	1163	23%	7211
08/12/98	11484	197	0	197	0	1709	349	1360	20%	7211
09/02/98	11485	21	0	21	0	1730	349	1381	20%	7211
10/19/98	12280	47	33	14	70	1777	382	1395	22%	8006
11/10/98	12809	22	22	0	100	1799	404	1395	22%	8536
01/22/99	12809	73	0	73	0	1872	404	1468	22%	8536
02/11/99	12810	20	0	20	0	1892	404	1488	21%	8536
04/01/99	12810	49	0	49	0	1941	404	1537	21%	8536
06/10/99	12810	70	0	70	0	2011	404	1607	20%	8537
06/24/99	13146	14	14	0	100	2025	418	1607	21%	8873
08/17/99	13146	54	0	54	0	2079	418	1661	20%	8873
09/09/99	13147	23	0	23	0	2102	418	1684	20%	8873
09/21/99	13435	12	12	0	100	2114	430	1684	20%	9162
10/06/99	13450	15	1	14	4	2129	431	1698	20%	9177
10/20/99	13475	14	1	13	7	2143	432	1711	20%	9202
11/03/99	13812	14	14	0	100	2157	446	1711	21%	9538
11/17/99	14148	14	14	0	100	2171	460	1711	21%	9875
12/01/99	14391	14	10	4	72	2185	470	1715	22%	10118
12/16/99	14751	15	15	0	100	2200	485	1715	22%	10478
01/05/00	14751	20	0	20	0	2220	485	1735	22%	10478
01/19/00	15087	14	14	0	100	2234	499	1735	22%	10814
02/21/00	15087	33	0	33	0	2267	499	1768	22%	10814
03/01/00	15303	9	9	0	100	2276	508	1768	22%	11030
03/23/00	15831	22	22	0	100	2298	530	1768	23%	11557

**Table 3  
Soil Vapor Extraction System  
Operational Uptime Information**

Atlantic Richfield Company Service Station #2035  
1001 San Pablo Avenue, Albany, California

Date	Period Operation					Cumulative Operation				
	Meter (hours)	Total (days)	Uptime (days)	Downtime (days)	Uptime (%)	Total (days)	Uptime (days)	Downtime (days)	Uptime (%)	Total Operating Time (hours)
10/17/00	15832	208	0	208	0	2506	530	1976	21%	11559
10/24/00	15998	7	7	0	99	2513	537	1976	21%	11725
11/13/00	16319	20	13	7	67	2533	551	1982	22%	12045
11/28/00	16319	15	0	15	0	2548	551	1997	22%	12046
12/20/00	16319	22	0	22	0	2570	551	2019	21%	12046
01/17/01	16324	28	0	28	1	2598	551	2047	21%	12050
02/14/01	16346	28	1	27	3	2626	552	2074	21%	12072
02/26/01	16458	12	5	7	39	2638	556	2082	21%	12185
03/13/01	16466	15	0	15	2	2653	557	2096	21%	12193
03/30/01	16872	17	17	0	99	2670	574	2096	21%	12599
04/19/01	17029	20	7	13	33	2690	580	2110	22%	12756
04/30/01	17292	11	11	0	99	2701	591	2110	22%	13018
05/14/01	17601	14	13	1	92	2715	604	2111	22%	13327
05/22/01	17793	8	8	0	100	2723	612	2111	22%	13520
06/05/01	18126	14	14	0	99	2737	626	2111	23%	13852
06/25/01	18305	20	7	13	37	2757	633	2124	23%	14032
07/06/01	18569	11	11	0	100	2768	644	2124	23%	14296
07/18/01	18856	12	12	0	100	2780	656	2124	24%	14583
07/31/01	19166	13	13	0	99	2793	669	2124	24%	14893
08/09/01	19388	9	9	0	103	2802	643	2159	23%	15115
08/23/01	19720	14	14	0	99	2816	656	2160	23%	15447
09/05/01	20029	13	13	0	99	2829	655	2174	23%	15756
09/17/01	20321	12	12	0	101	2841	668	2173	23%	16048
09/24/01	20420	7	4	3	59	2848	672	2176	24%	16146
10/01/01	20425	7	0	7	3	2855	672	2183	24%	16152

**Table 3  
Soil Vapor Extraction System  
Operational Uptime Information**

Atlantic Richfield Company Service Station #2035  
1001 San Pablo Avenue, Albany, California

Date	Period Operation					Cumulative Operation				
	Meter (hours)	Total (days)	Uptime (days)	Downtime (days)	Uptime (%)	Total (days)	Uptime (days)	Downtime (days)	Uptime (%)	Total Operating Time (hours)
10/09/01	20621	8	8	0	102	2863	680	2183	24%	16347
10/15/01	20762	6	6	0	98	2869	686	2183	24%	16489
11/07/01	21320	23	23	0	101	2892	709	2183	25%	17047
11/21/01	21650	14	14	0	98	2906	723	2183	25%	17377
12/05/01	21986	14	14	0	100	2920	737	2183	25%	17713
12/27/01	22514	22	22	0	100	2942	759	2183	26%	18241
01/09/02	22516	13	0	13	1	2955	759	2196	26%	18242
01/21/02	22803	12	12	0	100	2967	771	2196	26%	18530
02/05/02	23063	15	11	4	72	2982	782	2200	26%	18789
07/01/03	23888	512	34	477	7	3494	816	2677	23%	19615
07/08/03	24056	7	7	0	99	3501	823	2677	24%	19782
07/22/03	24389	14	14	0	100	3514	837	2677	24%	20116
08/05/03	24721	14	14	0	100	3528	851	2677	24%	20447
09/09/03	25231	35	21	13	61	3563	872	2691	24%	20958
09/23/03	25554	14	13	1	96	3577	886	2691	25%	21280
10/24/03	26105	31	23	8	74	3608	909	2699	25%	21831
11/19/03	26278	26	7	19	28	3634	916	2718	25%	22005
11/26/03	26323	7	2	5	27	3641	918	2723	25%	22050
12/09/03	26636	13	13	0	100	3654	931	2723	25%	22362
12/22/03	26657	13	1	12	7	3667	932	2735	25%	22383
01/09/04	26896	18	10	8	55	3685	942	2743	26%	22622
01/30/04	27405	21	21	0	101	3706	963	2743	26%	23131
02/10/04	27666	11	11	0	99	3717	974	2743	26%	23392

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

**Table 4  
Groundwater Elevation and Analytical Data**

ARCO Service Station #2035  
1001 San Pablo Avenue, Albany, California

Well Number	Date Gauged	TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation [1] (ft-MSL)	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8240/8260 (µg/L)	Dissolved Oxygen (mg/L)
MW-1	03/24/95	--	41.41	6.21	0.00	35.20	8,800	3,600	<50	62	99	--	--
	05/24/95	--		9.37	0.00	32.04	4,800	2,000	<20	52	<20	--	--
	08/22/95	--		10.30	0.00	31.11	780	310	<2.5	12	<2.5	14	--
	11/09/95	--		12.25	0.00	29.16	58	14	<0.5	<0.5	<0.5	--	--
	02/27/96	--		9.08	0.00	32.33	2,700	930	12	18	32	51	--
	04/22/96	--		9.11	0.00	32.30	2,700	1,000	<10	22	<10	<60	--
	08/15/96	--		10.37	0.00	31.04	300	52	<0.5	0.9	<0.5	22	--
	12/10/96	--		8.79	0.00	32.62	270	63	0.7	<0.5	1	25	--
	03/27/97	--		9.80	0.00	31.61	1,500	610	<5	15	7	56	--
	05/22/97	--		9.65	0.00	31.76	110	6	<0.5	<0.5	0.7	10	--
	09/04/97	--		10.22	0.00	31.19	180	40	<0.5	1.2	0.5	26	--
	11/03/97	--		10.68	0.00	30.73	83	8	<0.5	<0.5	<0.5	13	--
	02/20/98	--		6.92	0.00	34.49	1,800	540	7	27	31	46	--
	05/18/98	--		9.28	0.00	32.13	4,500	1,300	20	57	20	<60	--
	08/20/98	--		10.05	0.00	31.36	530	110	<5	<5	<5	400	--
	10/20/98	--		10.42	0.00	30.99	66	9.1	<0.5	<0.5	<0.5	8	--
	02/16/99	--		8.10	0.00	33.31	1,200	390	<5	<5	6	45	--
	05/24/99	--		9.53	0.00	31.88	1,300	600	3	13	3	26	--
	08/24/99	P		10.03	0.00	31.38	100	21	1.3	<0.5	<0.5	8	--
	11/16/99	P		9.80	0.00	31.61	99	10	0.6	<0.5	<1	7	--
	02/01/00	P		8.82	0.00	32.59	400	93	1.6	3.6	3.7	19	--
	06/21/00	--	--	--	--	--	416	88.4	<2.50	4.61	1.56	<5.00	--
	06/21/00	P		9.60	0.00	31.81	444	100	<2.50	4.15	<2.50	15.9	--
	11/06/00	P		9.50	0.00	31.91	73.2	17.8	<0.500	<0.500	<0.500	7.80	--
	05/04/01	P		9.28	0.00	32.13	714	392	<5.00	<5.00	<5.00	26.1	--
	10/03/01	P		10.50	0.00	30.91	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--
DUP 1	10/03/01	--	--	--	--	--	<50	<0.50	<0.50	<0.50	0.52	<2.5	--
	04/11/02	P		10.73	0.00	30.68	800	360	<5.0	<5.0	<5.0	<50	--
	11/27/02	P		10.22	0.00	31.19	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	1.7	--
	06/03/03	P		9.14	0.00	32.27	1,700	430	ND<5.0	24	11	8.6	--
	11/13/03	P	43.55	10.17	0.00	33.38	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	0.95	--
	05/12/04	P		9.28	0.00	34.27	120	7	ND<0.50	ND<0.50	ND<0.50	3.0	--

**Table 4**  
**Groundwater Elevation and Analytical Data**

ARCO Service Station #2035  
1001 San Pablo Avenue, Albany, California

Well Number	Date Gauged	TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation [1] (ft-MSL)	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8240/8260 (µg/L)	Dissolved Oxygen (mg/L)	
MW-2	03/24/95	--	40.38	6.96	0.00	33.42	<50	<0.5	<0.5	<0.5	<0.5	--	--	
	05/24/95			10.02	0.00	30.36	Not sampled: well sampled semi-annually, during the first and third quarters						--	
	08/22/95	--		10.87	0.00	29.51	<50	<0.5	<0.5	<0.5	<3	--	--	
	11/09/95			13.12	0.00	27.26	Not sampled: well sampled semi-annually, during the first and third quarters						--	
	02/27/96	--		10.25	0.00	30.13	<50	<0.5	<0.5	<0.5	<3	--	--	
	04/22/96			9.98	0.00	30.40	Not sampled: well sampled semi-annually, during the first and third quarters						--	
	08/15/96	--		11.10	0.00	29.28	<50	<0.5	<0.5	<0.5	4	--	--	
	12/10/96			10.00	0.00	30.38	Not sampled: well sampled semi-annually, during the first and third quarters						--	
	03/27/97	--		10.38	0.00	30.00	<50	<0.5	<0.5	<0.5	12	--	--	
	05/22/97			10.65	0.00	29.73	Not sampled: well sampled semi-annually, during the first and third quarters						--	
	09/04/97	--		10.87	0.00	29.51	<50	<0.5	<0.5	<0.5	19	--	--	
	11/03/97	--		11.25	0.00	29.13	<50	<0.5	<0.5	<0.5	18	--	--	
	02/20/98	--		7.69	0.00	32.69	<50	0.5	<0.5	<0.5	12	--	--	
	05/18/98	--		9.88	0.00	30.50	<50	<0.5	<0.5	<0.5	10	--	--	
	08/20/98	--		10.62	0.00	29.76	<50	<0.5	<0.5	<0.5	3	--	--	
	10/20/98	--		11.00	0.00	29.38	<50	<0.5	<0.5	<0.5	31	--	--	
	02/16/99	--		9.04	0.00	31.34	<50	<0.5	<0.5	<0.5	13	--	--	
	05/24/99	--		9.90	0.00	30.48	<50	0.6	<0.5	<0.5	47	--	--	
	08/24/99	P		10.60	0.00	29.78	<50	<0.5	<0.5	<0.5	20	--	0.88	
	11/16/99	P		10.45	0.00	29.93	<50	<0.5	<0.5	<1	<3	--	2.5	
	02/01/00	P		9.49	0.00	30.89	<50	<0.5	<0.5	<1	59	--	1.0	
	06/21/00	P		10.30	0.00	30.08	<50.0	<0.500	<0.500	<0.500	<0.500	4.17	--	1.5
	11/06/00	P		10.19	0.00	30.19	<50.0	<0.500	<0.500	<0.500	<0.500	30.6	--	1.27
	05/04/01	P		10.15	0.00	30.23	<50.0	<0.500	<0.500	<0.500	<0.500	32.7	--	--
DUP	05/04/01	--	--	--	--	--	<50.0	<0.500	<0.500	<0.500	1.18	31.5	--	--
	10/03/01	P		10.97	0.00	29.41	<50	<0.50	<0.50	<0.50	<2.5	--	0.63	
	04/11/02	P	40.38	11.05	0.00	29.33	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	24	--	NA
	11/27/02	P		10.51	0.00	29.87	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	5.4	--	2.6
	06/03/03	P		9.78	0.00	30.60	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	23	--	1.7
	11/13/03	P	42.52	10.69	0.00	31.83	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	9.5	--	2.3
	05/12/04	P		10.34	0.00	32.18	ND <250	ND <2.5	ND <2.5	ND <2.5	ND <2.5	27	--	2.2

**Table 4**  
**Groundwater Elevation and Analytical Data**

ARCO Service Station #2035  
1001 San Pablo Avenue, Albany, California

Well Number	Date Gauged	TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation [1] (ft-MSL)	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8240/8260 (µg/L)	Dissolved Oxygen (mg/L)	
MW-3	03/24/95	--	41.44	7.29	0.00	34.15	51	0.8	<0.5	2.4	<0.5	--	--	
	05/24/95	--		9.53	0.00	31.91	<50	<0.5	<0.5	<0.5	<0.5	--	--	
	08/22/95	--		11.19	0.00	30.25	<50	<0.5	<0.5	<0.5	79	--	--	
	11/09/95	--		12.77	0.00	28.67	<50	<0.5	<0.5	<0.5	--	--	--	
	02/27/96	--		9.41	0.00	32.03	120	3.6	<0.5	2.2	3.7	90	--	
	04/22/96	--		9.63	0.00	31.81	<50	<0.5	<0.5	<0.5	90	--	--	
	08/15/96	--		11.12	0.00	30.32	<50	<0.5	<0.5	<0.5	54	--	--	
	12/10/96	--		10.34	0.00	31.10	71	<0.5	<0.5	<0.5	130	--	--	
	03/27/97	--		10.28	0.00	31.16	<100	<1	<1	<1	170	--	--	
	05/22/97	--		10.40	0.00	31.04	<100	<1	<1	<1	95	--	--	
	09/04/97	--		10.75	0.00	30.69	<50	<0.5	<0.5	<0.5	37	--	--	
	11/03/97	--		11.44	0.00	30.00	<200	<2	<2	<2	130	--	--	
	02/20/98	--		7.48	0.00	33.96	<200	<2	5	<2	8	140	--	
	05/18/98	--		9.87	0.00	31.57	<100	<1	<1	<1	150	--	--	
	08/20/98	--		10.72	0.00	30.72	<200	<2	<2	<2	210	--	--	
	10/20/98	--		11.30	0.00	30.14	<200	<2	<2	<2	270	--	--	
	02/16/99	--		8.60	0.00	32.84	<500	<5	<5	<5	700	--	--	
	05/24/99	--		9.87	0.00	31.57	<50	<0.5	<0.5	<0.5	150	140	--	
	08/24/99	P		10.83	0.00	30.61	<50	<0.5	<0.5	<0.5	54	71	0.41	
	11/16/99	P		10.54	0.00	30.90	100	<0.5	3.3	<0.5	500	--	6.2	
	02/01/00	P		5.69	0.00	35.75	18,000	1,000	45	1,500	940	100	2.12	
	06/21/00	P		9.99	0.00	31.45	90.9	1.52	<0.500	<0.500	<0.500	187	--	2.6
	11/06/00	P		10.15	0.00	31.29	138	2.37	<0.500	<0.500	<0.500	216	--	0.47
	05/04/01	P		10.17	0.00	31.27	316	15.7	1.14	<0.500	<0.500	178	--	--
	10/03/01	P		10.99	0.00	30.45	120	<0.50	<0.50	<0.50	<0.50	120	--	0.47
	04/11/02	P		11.05	0.00	0.00	250	9.4	ND <0.50	ND <0.50	ND <0.50	120	--	NA
	11/27/02	P		10.49	0.00	0.00	ND <100	ND <1.0	ND <1.0	ND <1.0	2.5	56	--	2.2
	06/03/03	P		9.44	0.00	0.00	130	ND <0.50	ND <0.50	ND <0.50	ND <0.50	47	--	4.1
	11/13/03	P	43.62	10.68	0.00	0.00	53	ND <0.50	ND <0.50	ND <0.50	ND <0.50	36	--	3.8
	05/12/04	P		9.95	0.00	33.67	65	ND <0.50	ND <0.50	ND <0.50	ND <0.50	39	--	4.2

**Table 4**  
**Groundwater Elevation and Analytical Data**

ARCO Service Station #2035  
1001 San Pablo Avenue, Albany, California

Well Number	Date Gauged	TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation [1] (ft-MSL)	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8240/8260 (µg/L)	Dissolved Oxygen (mg/L)	
MW-4	03/24/95	--	40.33	5.92	0.00	34.41	<50	<0.5	<0.5	<0.5	<0.5	--	--	
	05/24/95	--		9.23	0.00	31.10	<50	<0.5	<0.5	<0.5	<0.5	--	--	
	08/22/95	--		10.61	0.00	29.72	<50	<0.5	<0.5	<0.5	99	--	--	
	11/09/95	--		11.97	0.00	28.36	<50	<0.5	<0.5	<0.5	--	89	--	
	02/27/96	--		8.84	0.00	31.49	<50	0.8	<0.5	<0.5	<3	--	--	
	04/22/96	--		9.15	0.00	31.18	Not sampled: well sampled annually, during the first quarter						--	
	08/15/96	--		10.35	0.00	29.98	Not sampled: well sampled annually, during the first quarter						--	
	12/10/96	--		8.70	0.00	31.63	Not sampled: well sampled annually, during the first quarter						--	
	03/27/97	--		9.75	0.00	30.58	<5,000	<50	<50	<50	<50	4,200	--	
	05/22/97	--		9.91	0.00	30.42	Not sampled: well sampled annually, during the first quarter						--	
	09/04/97	--		10.25	0.00	30.08	Not sampled: well sampled annually, during the first quarter						--	
	11/03/97	--		10.79	0.00	29.54	<50	<0.5	<0.5	<0.5	<3	--	--	
	02/20/98	--		6.78	0.00	33.55	<2,000	<20	<20	<20	<20	3,300	--	
	05/18/98	--		9.26	0.00	31.07	<50	<0.5	<0.5	<0.5	<0.5	<3	--	
	08/20/98	--		10.10	0.00	30.23	<50	<0.5	<0.5	<0.5	<0.5	9	--	
	10/20/98	--		10.43	0.00	29.90	<50	<0.5	<0.5	<0.5	<0.5	17	--	
	02/16/99	--		8.56	0.00	31.77	<500	<5	<5	<5	<5	400	--	
	05/24/99	--		9.52	0.00	30.81	<50	<0.5	<0.5	<0.5	<0.5	10	7.6	
	08/24/99	NP		9.99	0.00	30.34	<2,500	<25	<25	<25	<25	1,200	1,300	0.84
	11/16/99	NP		9.80	0.00	30.53	<50	<0.5	<0.5	<0.5	<1	<3	--	0.0
	02/01/00	NP		9.11	0.00	31.22	<50	<0.5	<0.5	<0.5	<1	1,200	--	1.0
	06/21/00	NP		9.60	0.00	30.73	<50.0	<0.500	<0.500	<0.500	<0.500	60.5	--	1.3
	11/06/00	NP		9.53	0.00	30.80	<50.0	<0.500	<0.500	<0.500	<0.500	14.0	--	0.71
	05/04/01	NP		9.21	0.00	31.12	<50.0	<0.500	<0.500	<0.500	<0.500	83.6	--	--
	10/03/01	NP		10.74	0.00	29.59	<50	<0.50	<0.50	<0.50	<0.50	260	--	0.59
	04/11/02	NP		10.81	0.00	29.52	<50	<0.50	<0.50	<0.50	<0.50	11	--	NA
	11/27/02	NP		10.09	0.00	30.24	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	6.5	--	1.8
	06/03/03	NP		8.62	0.00	31.71	ND<250	ND<2.5	ND<2.5	ND<2.5	ND<2.5	120	--	1.1
	11/13/03	NP	42.48	9.98	0.00	32.50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	20	--	1.3
	05/12/04	P		9.48	0.00	33.00	ND<250	ND<2.5	ND<2.5	ND<2.5	ND<2.5	79	--	2.9

**Table 4**  
**Groundwater Elevation and Analytical Data**

ARCO Service Station #2035  
1001 San Pablo Avenue, Albany, California

Well Number	Date Gauged	TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation [1] (ft-MSL)	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8240/8260 (µg/L)	Dissolved Oxygen (mg/L)	
MW-5	03/24/95	--	41.84	6.23	0.00	35.61	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
	05/24/95	--		9.61	0.00	32.23	Not sampled: well sampled annually, during the first quarter						--	--
	08/22/95	--		11.12	0.00	30.72	Not sampled: well sampled annually, during the first quarter						--	--
	11/09/95	--		12.52	0.00	29.32	Not sampled: well sampled annually, during the first quarter						--	--
	02/27/96	--		9.52	0.00	32.32	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
	04/22/96	--		9.44	0.00	32.40	Not sampled: well sampled annually, during the first quarter						--	--
	08/15/96	--		10.83	0.00	31.01	Not sampled: well sampled annually, during the first quarter						--	--
	12/10/96	--		9.20	0.00	32.64	Not sampled: well sampled annually, during the first quarter						--	--
	03/27/97	--		10.10	0.00	31.74	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
	05/22/97	--		10.28	0.00	31.56	Not sampled: well sampled annually, during the first quarter						--	--
	09/04/97	--		10.73	0.00	31.11	Not sampled: well sampled annually, during the first quarter						--	--
	11/03/97	--		11.23	0.00	30.61	Not sampled: well sampled annually, during the first quarter						--	--
	02/20/98	--		6.67	0.00	35.17	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
	05/18/98	--		9.61	0.00	32.23	Not sampled: well sampled annually, during the first quarter						--	--
	08/20/98	--		10.58	0.00	31.26	Not sampled: well sampled annually, during the first quarter						--	--
	10/20/98	--		10.66	0.00	31.18	Not sampled: well sampled annually, during the first quarter						--	--
	02/16/99	--		8.35	0.00	33.49	Not sampled						--	--
	05/24/99	--		9.95	0.00	31.89	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
	08/24/99	NP		10.51	0.00	31.33	<50	<0.5	<0.5	<0.5	<0.5	<3	--	0.79
	11/16/99	--		10.37	0.00	31.47	Not sampled: well sampled annually, during the second quarter						--	--
	02/01/00	NP		9.35	0.00	32.49	<50	<0.5	<0.5	<0.5	<1	<3	--	1.0
	06/21/00	NP		10.03	0.00	31.81	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	--	3.1
	11/06/00	--		9.89	0.00	31.95	Not sampled: well sampled annually, during the second quarter						--	--
	05/04/01	NP		9.42	0.00	32.42	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	--	--
	10/03/01	--		10.55	0.00	31.29	Not sampled: well sampled annually, during the second quarter						--	--
	04/11/02	NP		10.63	0.00	31.21	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	--	NA
	11/27/02	NP		10.65	0.00	31.19	NS	NS	NS	NS	NS	NS	--	NA
	06/03/03	NP		8.92	0.00	32.92	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	1.8
	11/13/03	NP	44.03	10.58	0.00	33.45	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	0.79	--	1.4
	05/12/04	P		9.95	0.00	34.08	Not sampled: well sampled annually, during the first quarter						--	--



**Table 4  
Groundwater Elevation and Analytical Data**

ARCO Service Station #2035  
1001 San Pablo Avenue, Albany, California

Well Number	Date Gauged	TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation [1] (ft-MSL)	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8240/8260 (µg/L)	Dissolved Oxygen (mg/L)	
MW-6	03/24/95	--	40.13	9.03	0.00	31.10	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
	05/24/95	--		12.45	0.00	27.68	Not sampled: well sampled annually, during the first quarter						--	
	08/22/95	--		13.32	0.00	26.81	Not sampled: well sampled annually, during the first quarter						--	
	11/09/95	--		14.13	0.00	26.00	Not sampled: well sampled annually, during the first quarter						--	
	02/27/96	--		11.86	0.00	28.27	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
	04/22/96	--		12.35	0.00	27.78	Not sampled: well sampled annually, during the first quarter						--	
	08/15/96	--		13.18	0.00	26.95	Not sampled: well sampled annually, during the first quarter						--	
	12/10/96	--		11.94	0.00	28.19	Not sampled: well sampled annually, during the first quarter						--	
	03/27/97	--		13.10	0.00	27.03	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
	05/22/97	--		13.00	0.00	27.13	Not sampled: well sampled annually, during the first quarter						--	
	09/04/97	--		13.30	0.00	26.83	Not sampled: well sampled annually, during the first quarter						--	
	11/03/97	--		13.42	0.00	26.71	<50	<0.5	<0.5	<0.5	<0.5	19	--	--
	02/20/98	--		10.57	0.00	29.56	<100	<1	<1	<1	<1	95	--	--
	05/18/98	--		12.64	0.00	27.49	<100	<1	<1	<1	<1	180	--	--
	08/20/98	--		13.13	0.00	27.00	<100	<1	<1	<1	<1	180	--	--
	10/20/98	--		13.48	0.00	26.65	<100	<1	<1	<1	<1	180	--	--
	02/16/99	--		11.92	0.00	28.21	<200	<2	<2	<2	<2	200	--	--
	05/24/99	--		12.80	0.00	27.33	<50	<0.5	<0.5	<0.5	<0.5	120	--	--
	08/24/99	NP		13.03	0.00	27.10	<50	<0.5	<0.5	<0.5	<0.5	44	--	0.46
	11/16/99	NP		12.70	0.00	27.43	<50	<0.5	<0.5	<0.5	<1	17	17	0.0
	02/01/00	NP		8.61	0.00	31.52	<50	<0.5	<0.5	<0.5	<1	6	--	1.0
	06/21/00	NP		12.88	0.00	27.25	<50.0	<0.500	<0.500	<0.500	<0.500	2.57	--	2.8
	11/06/00	NP		12.74	0.00	27.39	<50.0	<0.500	<0.500	<0.500	<0.500	3.77	--	1.51
DUP	11/06/00	--	--	--	--	--	<50.0	<0.500	<0.500	<0.500	<0.500	4.03	--	--
	05/04/01	NP		11.29	0.00	28.84	<50.0	<0.500	<0.500	<0.500	<0.500	10.5	12.3	--
	10/03/01	NP		11.35	0.00	28.78	<50	<0.50	<0.50	<0.50	<0.50	5.8	4.8	0.61
	04/11/02	NP		11.42	0.00	28.71	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <5.0	--	0.59
	11/27/02	NP		13.11	0.00	27.02	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	--	1.3
	06/03/03	NP		12.48	0.00	27.65	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	--	1.1
	11/13/03	NP	42.26	13.11	0.00	29.15	ND <50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	--	1.2
	05/12/04	P		12.68	0.00	29.58	Not sampled: well sampled annually, during the first quarter						--	

**Table 4**  
**Groundwater Elevation and Analytical Data**

ARCO Service Station #2035  
1001 San Pablo Avenue, Albany, California

Well Number	Date Gauged	TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation [I] (ft-MSL)	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8240/8260 (µg/L)	Dissolved Oxygen (mg/L)	
RW-1	03/24/95	--	40.33	9.32	0.01	31.01	11,000	560	660	150	1,700	--	--	--
	05/24/95	--		9.75	0.03	30.58	Not sampled: well contained floating product						--	
	08/22/95	--		10.86	0.02	29.47	Not sampled: well contained floating product						--	
	11/09/95	--		20.61	0.00	19.72	1,600	79	46	13	240	--	--	--
	02/27/96	--		16.56	0.00	23.77	210	44	7.5	2.5	24	29	--	--
	04/22/96	--		9.65	0.00	30.68	36,000	7,400	3,700	580	3,400	<300	--	--
	08/15/96	--		10.60	0.00	29.73	1,800	31	38	15	150	<30	--	--
	12/10/96	--		8.72	0.00	31.61	25,000	1,900	1,000	330	3,200	<100	--	--
	03/27/97	--		10.33	0.00	30.00	7,200	1,900	59	95	240	480	--	--
	05/22/97	--		10.10	0.00	30.23	3,000	630	84	45	340	<60	--	--
	09/04/97	--		10.42	0.00	29.91	7,100	120	55	14	160	<60	--	--
	11/03/97	--		9.10	0.00	31.23	<200	14	19	3	19	140	--	--
	02/20/98	--		7.49	0.00	32.84	3,800	1,000	85	64	220	950	--	--
	05/18/98	--		8.90	0.00	31.43	<200	45	<2	2	4	220	--	--
	08/20/98	--		11.06	0.00	29.27	480	200	<2	<2	30	180	--	--
	10/20/98	--		11.12	0.00	29.21	110	36	2.9	<0.5	4.1	5	--	--
	02/16/99	--		7.70	0.00	32.63	250	61	2	2	19	94	--	--
	05/24/99	--		11.12	0.00	29.21	4,500	2,000	7	<2	180	35	--	--
	08/24/99	NP		10.15	0.00	30.18	2,600	1,100	6.3	2.3	17	39	--	0.52
	11/16/99	P		9.95	0.00	30.38	1,200	2,600	16	86	41	140	--	1.4
	02/01/00	NP		11.88	0.00	28.45	11,000	980	230	200	1,400	38	--	1.0
	06/21/00	NP		9.83	0.00	30.50	899	278	<2.50	8.70	8.46	61.1	--	1.3
	11/06/00	P		8.45	0.00	31.88	156,000	3,260	28,800	4,570	25,700	26,200	--	0.63
	05/04/01	P		8.57	0.00	31.76	244,000	8,420	56,000	5,660	36,200	23,400	11,000	--
	10/03/01	P		9.13	0.00	31.20	120,000	2,500	33,000	3,800	21,000	3,300	--	0.38
	04/11/02	P		9.20	0.00	31.13	15,000	750	2,000	380	2,000	1,500	--	0.35
DUP 1	04/11/02	--	--	--	--	--	24,000	840	2,300	500	2,800	970	--	--
	11/27/02	P		10.31	0.00	30.02	ND<2,500	720	ND<25	ND<25	ND<25	ND<25	--	1.8
	06/03/03	P		9.54	0.00	30.79	470	78	0.97	4.3	9.0	48	--	1.4
	11/13/03	P	42.35	10.35	0.00	32.00	130	29	ND<0.50	ND<0.50	ND<0.50	44	--	1.3
	05/12/04	P		9.80	0.00	32.55	ND<250	66	ND<2.5	ND<2.5	ND<2.5	ND<2.5	--	1.9

**Table 4  
Groundwater Elevation and Analytical Data**

ARCO Service Station #2035  
1001 San Pablo Avenue, Albany, California

Well Number	Date Gauged	TOC Elevation (ft-MSL)	Depth to Water (feet)	FP Thickness (feet)	Groundwater Elevation [1] (ft-MSL)	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE 8021B* (µg/L)	MTBE 8240/8260 (µg/L)	Dissolved Oxygen (mg/L)	
S-5	05/31/01	--	--	--	--	310,000	3,000	11,000	4,000	34,000	<2,500	--	--	
	10/03/01	NP	10.00	--	--	70,000	1,800	7,800	1,400	20,000	<120	--	0.25	
	04/11/02	NP	10.17	--	--	30,000	390	1,400	410	7,400	ND <500	--	0.37	
	11/27/02	P	9.77	--	--	55,000	1,300	450	1,400	13,000	ND <50	--	4.3	
	06/03/03	P	9.03	--	--	44,000	680	260	1,100	9,900	ND <25	--	1.9	
	11/13/03	P	41.83	9.12	32.71	31,000	520	120	690	5,900	ND <50	--	1.4	
	05/12/04	P		9.95	0.00	31.88	28,000	760	79	910	5000	ND <50	--	1.9

TOC: top of casing

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

TPH: total petroleum hydrocarbons as gasoline, California DHS LUFT Method

BTEX: benzene, toluene, ethylbenzene, total xylenes by EPA method 8021B. (EPA method 8020 prior to 11/16/99).

MTBE: Methyl tert-butyl ether

µg/L: micrograms per liter

mg/L: milligrams per liter

--: not analyzed or not applicable

<: denotes concentration not present at or above laboratory detection limit stated to the right.

[1]: Computed by adding correction factor to groundwater elevation. Correction factor = free product thickness times 0.73 (approximate specific gravity of gasoline).

\*: EPA method 8020 prior to 11/16/99

\*\*:  
For previous historical groundwater elevation and analytical data please refer to Fourth Quarter 1995 Groundwater Monitoring Program Results and Remediation System Performance Evaluation Report, ARCO Service Station 2035, Albany, California, (EMCON, March 25, 1996).

DUP: duplicate sample

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