URS

March 18, 2005

Mr. Charles Carmel
Altantic Richfield Company
P.O. Box 977
Alamo, CA 94507

04936
06.a2

Re: Quarterly Groundwater Monitoring Report
First Quarter 2005, for ARCO Service Station No. 4936
Located at 1010 Fourth Street, Santa Rosa, California

Dear Mr. Carmel:

URS Corporation Americas (URS) is submitting the attached report on the behalf of Atlantic Richfield Company (ARCO – a BP affiliated company), which presents the results of the first quarter 2005 groundwater monitoring and sampling event at ARCO Service Station No. 4936, located at 1010 Fourth Street in Santa Rosa, California.

If you have any questions regarding this report, please call Mr. Scott Dressler at (530) 893-9675.

Sincerely,

URS Corporation Americas

REGISTERED GEOLOGIST
DARREN SCOTT DRESSLER
No. 7091
3/22/05
STATE OF CALIFORNIA

Amanda Atkinson
Staff Geologist

Scott Dressler, P.G.
Project Manager

Attachment: Quarterly Groundwater Monitoring Report, First Quarter 2005

cc: Mr. Jim Tischler, North Coast Regional Water Quality Control Board,
5550 Skylane Blvd., Suite A, Santa Rosa, CA 95403
Project File

URS Corporation
1550 Humboldt Road, Suite 2
Chico, CA 95928
Tel: 530.893.9675
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QUARTERLY GROUNDWATER MONITORING REPORT

FIRST QUARTER 2005

ARCO Service Station No. 4936
1010 Fourth Street
Santa Rosa, California

Prepared for:

Atlantic Richfield Company

Prepared by:

URS

1550 Humboldt Road
Suite 2
Chico, California 95928

March 2005

Date: March 23, 2005
Quarter: 1st Quarter 2005

ARCO QUARTERLY GROUNDWATER MONITORING REPORT

Former Facility No.:	4936
Address	1010 Fourth Street, Santa Rosa, California
Atlantic Richfield Co. Environmental Engineer:	Chuck Carmel
Consulting Co./Contact Person:	URS Corporation /Scott Dressler
Consultant Project No.:	38466499.0A143
Primary Agency:	North Coast Regional Water Quality Control Board

WORK PERFORMED THIS QUARTER (First 2005):

1. Performed groundwater monitoring event.
2. Prepared and submitted groundwater monitoring report.
3. Obtained approval for deep monitoring well installation per January 31, 2005 letter from RWQCB-NCR.

WORK PROPOSED FOR NEXT QUARTER (Second 2005):

1. Perform groundwater monitoring event.
2. Prepare and submit groundwater monitoring report.
3. Begin installation of four deep monitoring wells.

QUARTERLY RESULTS SUMMARY (First 2005)

Current Phase of Project:	GW monitoring/sampling
Frequency of Groundwater Sampling:	MW-3A, MW-4, MW-5A, MW-6 and MW-7 quarterly; MW-8, MW-9 MW-10 semi-annually (Q1, Q3); MW-2 annually (Q4)
Frequency of Groundwater Monitoring:	Quarterly
Is Free Product (FP) Present On-Site:	No
Bulk Soil Removed to Date:	600 Cubic Yards
Current Remediation Techniques:	Natural Attenuation
Approximate Depth to Groundwater:	13.92 to 15.03 feet below ground surface
Groundwater Gradient (direction):	South at approximately 0.009 feet/foot

ANALYTICAL DATA REVIEW:

Based on the review of the electronic and hardcopy data (chain-of-custody records, blanks, dilutions, holding times, LCS/LCSD results, MS/MSD results, and surrogate recoveries), the data are acceptable as reported by the laboratory with the following limitations:

- The reported results for xylenes in samples MW-8 may be biased high as demonstrated by a high surrogate recovery due to matrix interference.

DISCUSSION:

Gasoline Range Organics (GRO), ethylbenzene, total xylenes and methyl tert-butyl ether (MtBE) were reported in monitoring wells this quarter. GRO was detected at a historically high concentration of 330 ug/L in MW-5A. All other constituent concentrations were generally consistent with historic data. Groundwater elevations across the site generally increased relative to the previous monitoring event. The groundwater flow direction was south at an approximate gradient of 0.009 feet per foot.

This report is based on data, site conditions, and other information that are generally applicable as of the date of the report, and the conclusions and recommendations herein are therefore applicable only to that time frame.

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Table 2 Fuel Oxygenates Analytical Data
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Appendix B Laboratory Analytical Reports, Chain-of-Custody Documentation, and Field Data Sheets
Appendix C Geotracker Upload Confirmation
Appendix D RWQCB-NCR Correspondence

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Table 1

Groundwater Elevation and Analytical Data

ARCO Service Station No. 4936
1010 Fourth Street, Santa Rosa, CA

Well Number	Date Sampled	P/ NP	TOC Elevation (feet msl)	Depth to Water (feet bgs)	Water Level Elevation (feet msl)	TPHg (µg/L)	TPHd (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L)	DO (mg/L)	Comments
MW-1	6/12/1996	--	175.04	16.26	158.78	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	9/1/1996	--	175.04	19.14	155.90	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	11/27/1996	--	175.04	19.08	155.96	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	--	
	4/2/1997	--	175.04	16.88	158.16	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	6/19/1997	--	175.04	18.37	156.67	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	9/3/1997	--	175.04	19.43	155.61	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	12/8/1997	--	175.04	16.76	158.28	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	2/24/1998	--	175.04	11.00	164.04	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	5/29/1998	--	175.04	15.73	159.31	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	8/25/1998	NP	175.04	18.21	156.83	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	12/1/1998	--	175.04	18.86	156.18	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	[5]
	2/5/1999	--	175.04	16.50	158.54	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	5/6/1999	--	175.04	15.82	159.22	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	9/17/1999	--	175.04	19.19	155.85	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	12/2/1999	NP	175.04	18.62	156.42	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<1	ND<3	--	
	3/21/2000	--	175.04	14.72	160.32	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	4/27/2000	--	175.04	15.95	159.09	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	8/21/2000	--	175.04	19.36	155.68	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	11/22/2000	NP	175.04	19.41	155.63	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	--	
	3/21/2001	--	175.04	16.29	158.75	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	6/28/2001	--	175.04	19.34	155.70	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	9/18/2001	--	175.04	20.22	154.82	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	12/28/2001	--	175.04	15.00	160.04	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	--	
	3/27/2002	--	175.04	15.91	159.13	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	6/19/2002	--	175.04	18.66	156.38	NS	--	NS	NS	NS	NS	NS	--	Not sampled, [7]
	9/13/2002	--	175.04	20.10	154.94	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	12/11/2002	P	175.04	19.73	155.31	ND<50.0	--	ND<0.500	ND<0.500	ND<0.500	ND<1.00	ND<5.00	--	
	03/25/2003	P	175.04	15.83	159.21	--	--	--	--	--	--	--	--	Not Sampled
	05/01/2003	--	175.04	15.68	159.36	--	--	--	--	--	--	--	--	Not Sampled
	07/15/2003	--	175.04	18.54	156.50	--	--	--	--	--	--	--	--	Not Sampled
	10/06/2003	--	--	--	--	--	--	--	--	--	--	--	--	Well Abandoned
MW-2	3/15/1996	--	173.8	13.03	160.77	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	6/12/1996	--	173.8	14.99	158.81	NS	--	NS	NS	NS	NS	NS	--	Not sampled

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Well Number	Date Sampled	P/ NP	TOC Elevation (feet msl)	Depth to Water (feet bgs)	Water Level Elevation (feet msl)	TPHg (µg/L)	TPHd (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L)	DO (mg/L)	Comments
MW-2	9/1/1996	--	173.8	17.87	155.93	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	11/27/1996	--	173.8	17.81	155.99	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	56	--	
	4/2/1997	--	173.8	15.70	158.10	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	6/19/1997	--	173.8	17.13	156.67	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	9/3/1997	--	173.8	--	--	NS	--	NS	NS	NS	NS	NS	--	Not sampled, Dry
	12/8/1997	--	173.8	15.53	158.27	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	[5]
	2/24/1998	--	173.8	10.88	162.92	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	5/29/1998	--	173.8	14.47	159.33	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	8/25/1998	NP	173.8	17.15	156.65	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	12/1/1998	--	173.8	17.61	156.19	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	2/5/1999	--	173.8	15.25	158.55	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	5/6/1999	--	173.8	14.53	159.27	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	9/17/1999	--	173.8	17.96	155.84	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	12/2/1999	NP	173.8	17.38	156.42	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<1	ND<3	--	
	3/21/2000	--	173.8	13.55	160.25	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	4/27/2000	--	173.8	15.07	158.73	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	8/21/2000	--	173.8	--	--	NS	--	NS	NS	NS	NS	NS	--	Not sampled, Dry
	11/22/2000	NP	173.8	18.22	155.58	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	--	
	3/21/2001	--	173.8	15.44	158.36	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	6/28/2001	--	173.8	18.11	155.69	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	9/18/2001	--	173.8	19.06	154.74	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	12/28/2001	P	173.8	13.80	160.00	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	--	
	3/27/2002	--	173.8	14.65	159.15	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	6/19/2002	--	173.8	17.42	156.38	NS	--	NS	NS	NS	NS	NS	--	Not sampled, [7]
	9/13/2002	--	173.8	18.87	154.93	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	12/11/2002	P	173.8	18.50	155.30	ND<50.0	--	ND<0.500	ND<0.500	ND<0.500	ND<1.00	ND<5.00	--	
	03/25/2003	P	173.80	14.64	159.16	--	--	--	--	--	--	--	--	Not Sampled
	05/01/2003	--	173.80	14.44	159.36	--	--	--	--	--	--	--	--	Not Sampled
	07/15/2003	--	173.80	17.28	156.52	--	--	--	--	--	--	--	--	Not Sampled
	12/24/2003	--	173.80	--	--	--	--	--	--	--	--	--	--	Well Inaccessible
	03/09/2004	--	176.12	13.18	162.94	--	--	--	--	--	--	--	--	Not Sampled
	04/13/2004	--	176.12	15.75	160.37	--	--	--	--	--	--	--	--	Not Sampled
	07/12/2004	--	176.12	17.71	158.41	--	--	--	--	--	--	--	--	Not Sampled

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Well Number	Date Sampled	P/ NP	TOC Elevation (feet msl)	Depth to Water (feet bgs)	Water Level Elevation (feet msl)	TPHg (µg/L)	TPHd (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L)	DO (mg/L)	Comments
MW-2	11/29/2004	P	176.12	17.57	158.55	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	3.7	
	01/26/2005	**--**	**176.12**	**14.17**	**161.95**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**Not Sampled**
MW-3	3/15/1996	--	174.79	14.07	160.72	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	6/12/1996	--	174.79	16.10	158.69	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	9/1/1996	--	174.79	18.98	155.81	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	11/27/1996	--	174.79	18.92	155.87	2,400	--	61	170	70	380	ND<2.5	--	
	4/2/1997	--	174.79	16.70	158.09	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	6/19/1997	--	174.79	18.18	156.61	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	9/3/1997	NP	174.79	19.23	155.56	1,100	--	ND<10	ND<10	120	45	1,200(1,200)	--	[4]
	12/8/1997	NP	174.79	16.59	158.20	ND<50	--	ND<0.5	ND<0.5	3.5	1.7	42	--	
	2/24/1998	NP	174.79	11.17	163.62	9,000	--	ND<5	23	370	860	490	--	
	5/29/1998	--	174.79	15.60	159.19	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	8/25/1998	NP	174.79	18.21	156.58	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	11/20/1998	NP	174.79	18.62	156.17	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	2/5/1999	NP	174.79	16.33	158.46	ND<50	--	ND<0.5	ND<0.5	ND<0.5	0.8	5	--	
	5/6/1999	NP	174.79	15.67	159.12	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	4	--	
	9/17/1999	NP	174.79	18.98	155.81	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	12/2/1999	NP	174.79	18.30	156.49	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<1	ND<3	--	
	3/21/2000	NP	174.79	14.66	160.13	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<1	22	--	
	4/27/2000	NP	174.79	15.84	158.95	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<1	5	--	
	8/21/2000	NP	174.79	19.24	155.55	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<1	5	--	
	11/22/2000	NP	174.79	19.27	155.52	1,150	--	ND<0.5	10.5	15.6	0.97	3.44	--	
	3/21/2001	P	174.79	15.17	159.62	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	5.13	--	
	6/28/2001	NP	174.79	19.20	155.59	55	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	[1]
	6/28/2001	P	174.79	19.20	155.59	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	
	9/18/2001	P	174.79	20.13	154.66	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	--	
	12/28/2001	P	174.79	14.95	159.84	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	29	--	
	3/27/2002	P	174.79	15.80	158.99	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	2.1	--	
	6/19/2002	--	174.79	18.50	156.29	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	--	[7]
	9/13/2002	P	174.79	19.94	154.85	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	--	
	12/11/2002	P	174.79	19.57	155.22	ND<50.0	--	ND<0.500	ND<0.500	ND<0.500	ND<1.00	ND<5.00	--	
	03/25/2003	P	174.79	15.62	159.17	<50	--	<0.50	<0.50	<0.50	<0.50	5.8	--	
	05/01/2003	P	174.79	15.47	159.32	<50	--	<0.50	<0.50	<0.50	<0.50	1.9	2.5	

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1010 Fourth Street, Santa Rosa, CA

Well Number	Date Sampled	P/ NP	TOC Elevation (feet msl)	Depth to Water (feet bgs)	Water Level Elevation (feet msl)	TPHg (µg/L)	TPHd (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L)	DO (mg/L)	Comments
MW-3	07/15/2003	P	174.79	18.29	156.50	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	5.0	
	10/06/2003	--	--	--	--	--	--	--	--	--	--	--	--	Well Abandoned
MW-3A	03/09/2004	P	177.09	14.31	162.78	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	5.0	
	04/13/2004	P	177.09	15.76	161.33	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	--	
	07/12/2004	P	177.09	18.79	158.30	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	3.7	
	11/29/2004	P	177.09	18.62	158.47	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	4.9	
	01/26/2005	**P**	**177.09**	**15.03**	**162.06**	**<50**	**--**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**8.1**	
MW-4	3/15/1996	--	173.6	12.76	160.84	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NA	--	
	6/12/1996	--	173.6	14.86	158.74	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	--	
	9/1/1996	--	173.6	17.17	156.43	250	--	43	ND<0.5	23	11	1,200	--	
	11/27/1996	--	173.6	17.11	156.49	660	--	2.4	4.6	38	130	290	--	
	4/2/1997	NP	173.6	14.90	158.70	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	--	
	6/19/1997	NP	173.6	16.97	156.63	ND<50	--	ND<1	ND<0.5	1.5	5.6	18	--	
	9/3/1997	NP	173.6	18.05	155.55	200	--	4.1	0.9	19	29	36	--	
	12/8/1997	NP	173.6	15.36	158.24	52	--	1.4	ND<0.5	0.6	3.9	16	--	
	2/24/1998	NP	173.6	10.88	162.72	ND<50	--	ND<0.5	1.2	ND<0.5	2	1.2	--	
	5/29/1998	NP	173.6	14.32	159.28	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	8/25/1998	NP	173.6	17.00	156.60	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	11/20/1998	NP	173.6	17.42	156.18	ND<50	--	ND<0.5	ND<0.5	ND<0.5	0.5	12	--	
	2/5/1999	NP	173.6	15.10	158.50	ND<50	--	0.9	0.6	2	2.1	ND<3	--	
	5/6/1999	NP	173.6	14.41	159.19	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	9/17/1999	NP	173.6	17.78	155.82	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	12/2/1999	NP	173.6	17.18	156.42	89	--	ND<0.5	1.9	2.5	1.6	ND<3	--	
	3/21/2000	NP	173.6	13.41	160.19	ND<50	--	ND<0.5	0.8	ND<0.5	ND<1	ND<3	--	
	4/27/2000	NP	173.6	14.57	159.03	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<1	ND<3	--	
	8/21/2000	NP	173.6	18.01	155.59	ND<50	--	ND<0.5	ND<0.5	2.5	ND<1	8	--	
	11/22/2000	NP	173.6	18.09	155.51	707	--	3.12	15.1	53.6	71.2	17.1	--	
	3/21/2001	P	173.6	14.90	158.70	104	--	0.935	ND<0.5	7.55	11.2	ND<2.50	--	
	6/28/2001	NP	173.6	17.98	155.62	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	
	6/28/2001	P	173.6	17.98	155.62	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	
	9/18/2001	P	173.6	18.88	154.72	130	--	13	11	3.7	18	ND<5.0	--	
	12/28/2001	P	173.6	13.70	159.90	66	--	0.91	2.2	0.66	2.2	21	--	

Table 1

Groundwater Elevation and Analytical Data

ARCO Service Station No. 4936
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Well Number	Date Sampled	P/ NP	TOC Elevation (feet msl)	Depth to Water (feet bgs)	Water Level Elevation (feet msl)	TPHg (µg/L)	TPHd (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L)	DO (mg/L)	Comments
MW-4	3/27/2002	P	173.6	14.61	158.99	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	1.8	--	
	6/19/2002	--	173.6	17.30	156.30	250	--	1.8	0.62	34	13	3.8	--	[7]
	9/13/2002	P	173.6	18.72	154.88	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	--	
	12/11/2002	P	173.6	18.37	155.23	160	--	1.32	ND<0.500	9.93	8.6	ND<5.00	--	
	03/25/2003	P	173.60	14.52	159.08	<50	--	<0.50	<0.50	<0.50	<0.50	3.0	--	
	05/01/2003	P	173.60	14.33	159.27	<50	--	<0.50	<0.50	<0.50	<0.50	1.5	1.5	
	07/15/2003	P	173.60	16.85	156.75	110 R	--	<2.5	<2.5	13	<2.5	150	2.3	
	12/24/2003	--	173.60	--	--	--	--	--	--	--	--	--	--	Well Inaccessible
	03/09/2004	P	176.40	13.55	162.85	<50	--	<0.50	<0.50	<0.50	<0.50	0.58	4.3	
	04/13/2004	P	176.40	15.11	161.29	<50	--	<0.50	<0.50	<0.50	<0.50	1.0	--	
	07/12/2004	P	176.40	18.00	158.40	<50	--	<0.50	<0.50	<0.50	<0.50	2.3	3.6	
	11/29/2004	P	176.40	17.95	158.45	<50	--	<0.50	<0.50	<0.50	<0.50	0.93	2.0	
	01/26/2005	**P**	**176.40**	**14.44**	**161.96**	**<50**	**--**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**1.58**	
MW-5	3/15/1996	--	174.17	13.55	160.62	630	--	16	0.95	6.1	3.6	NA	--	
	6/12/1996	--	174.17	15.58	158.59	590	--	22	1.1	8.7	4.6	ND<2.5	--	
	9/1/1996	--	174.17	17.83	156.34	2,800	--	130	15	27	27	300	--	
	11/27/1996	--	174.17	17.78	156.39	3,900	--	59	35	20	20	86	--	
	4/2/1997	NP	174.17	15.64	158.53	140	--	3.5	0.52	ND<0.5	ND<0.5	7.3	--	
	6/19/1997	NP	174.17	17.65	156.52	230	--	4.2	0.7	0.7	ND<0.5	ND<10	--	
	9/3/1997	NP	174.17	18.71	155.46	1,700	--	140	ND<10	ND<10	ND<10	420	--	
	12/8/1997	NP	174.17	16.03	158.14	<200	--	9	ND<2	ND<2	8	140	--	
	2/24/1998	NP	174.17	10.74	163.43	400	--	8	3.1	5.9	9.1	14	--	
	5/29/1998	NP	174.17	15.08	159.09	130	--	1.6	ND<0.5	ND<0.5	1.9	ND<0.5	--	
	8/25/1998	NP	174.17	17.65	156.52	110	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	11/20/1998	NP	174.17	18.08	156.09	3,000	--	74	5	8	7	36	--	
	2/5/1999	NP	174.17	15.81	158.36	170	--	2.9	0.9	ND<0.5	0.5	ND<3	--	
	5/6/1999	NP	174.17	15.18	158.99	<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	9/17/1999	NP	174.17	18.42	155.75	1,800	--	52	2.6	2.6	3.2	13	--	
	12/2/1999	NP	174.17	17.82	156.35	2,300	--	55	5.2	3.2	8.8	11	--	
	3/21/2000	NP	174.17	14.20	159.97	420	--	7	2.9	1.8	5.5	7	--	
	4/27/2000	NP	174.17	15.33	158.84	1,000	--	10	2.9	1.1	8.2	7	--	
	8/21/2000	NP	174.17	18.68	155.49	370	--	15	1.5	1.1	2	7	--	
	11/22/2000	NP	174.17	18.55	155.62	3,840	--	27.8	24.4	14.7	14.4	33.6	--	

Table 1

Groundwater Elevation and Analytical Data

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Well Number	Date Sampled	P/ NP	TOC Elevation (feet msl)	Depth to Water (feet bgs)	Water Level Elevation (feet msl)	TPHg (µg/L)	TPHd (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L)	DO (mg/L)	Comments
MW-5	3/21/2001	P	174.17	15.68	158.49	5,550	--	19.4	37.6	53	29.5	197 (ND<10)	--	[4]
	6/28/2001	NP	174.17	18.68	155.49	5,900	--	59	8.4	22	17	ND<50	--	
	6/28/2001	P	174.17	18.68	155.49	NS	--	NS	NS	NS	NS	NS	--	Sheen, Not sampled
	9/18/2001	P	174.17	18.79	155.38	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	12/28/2001	P	174.17	NM	--	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	3/27/2002	P	174.17	15.31	158.86	2,700	--	15	7	14	11	0.82	--	
	6/19/2002	--	174.17	17.97	156.20	490	--	3.3	1.1	6.7	1	ND<5.0	--	[7]
	9/13/2002	P	174.17	19.34	154.38	720	--	1.6	2.5	6.1	3.7	27	--	
	12/11/2002	P	174.17	19.03	155.14	2,160	--	7.72	2.01	7.52	18.0	6.36(ND<1.00)	--	[4], [6]
	03/25/2003	P	174.17	14.53	159.64	4,200	--	3.2	<2.5	7.4	5.5	3.2	--	
	05/01/2003	P	174.17	15.08	159.09	950	--	4.7	1.4	2.8	4.5	0.78	2.1	
	07/15/2003	P	174.17	17.74	156.43	1,700 R	--	<1.0	<1.0	<1.0	<1.0	<1.0	2.4	
	10/06/2003	--	--	--	--	--	--	--	--	--	--	--	--	Well Abandoned
MW-5A	03/09/2004	P	176.59	13.97	162.62	120	--	<0.50	<0.50	1.7	<0.50	1.5	2.5	
	04/13/2004	P	176.59	15.40	161.19	<50	--	<0.50	<0.50	<0.50	<0.50	0.80	--	
	07/12/2004	P	176.59	18.34	158.25	<50	--	<0.50	<0.50	<0.50	<0.50	3.0	4.5	
	11/29/2004	P	176.59	18.19	158.40	<50	--	<0.50	<0.50	<0.50	<0.50	3.8	3.9	
	01/26/2005	**P**	**176.59**	**14.68**	**161.91**	**330**	**--**	**<0.50**	**<0.50**	**1.1**	**<0.50**	**2.0**	**7.3**	
MW-6	3/15/1996	--	174.34	13.63	160.71	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NA	--	
	6/12/1996	--	174.34	15.69	158.65	ND<50	--	0.75	ND<0.5	0.68	ND<0.5	ND<2.5	--	
	9/1/1996	--	174.34	17.99	156.35	130	--	4.7	0.82	4.4	2	36	--	
	11/27/1996	--	174.34	17.93	156.41	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	--	
	4/2/1997	NP	174.34	15.74	158.60	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	--	
	6/19/1997	NP	174.34	17.79	156.55	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	9/3/1997	NP	174.34	18.84	155.50	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	12/8/1997	NP	174.34	16.18	158.16	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	2/24/1998	NP	174.34	10.79	163.55	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	
	5/29/1998	NP	174.34	15.18	159.16	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	8/25/1998	NP	174.34	17.80	156.54	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	11/20/1998	NP	174.34	18.24	156.10	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	2/5/1999	NP	174.34	15.91	158.43	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	5/6/1999	NP	174.34	15.27	159.07	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	

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Well Number	Date Sampled	P/ NP	TOC Elevation (feet msl)	Depth to Water (feet bgs)	Water Level Elevation (feet msl)	TPHg (µg/L)	TPHd (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L)	DO (mg/L)	Comments
MW-6	9/17/1999	NP	174.34	18.58	155.76	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	12/2/1999	NP	174.34	18.00	156.34	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<1	ND<3	--	
	3/21/2000	NP	174.34	14.28	160.06	ND<50	--	ND<0.5	0.6	ND<0.5	ND<1	ND<3	--	
	4/27/2000	NP	174.34	15.42	158.92	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<1	ND<3	--	
	8/21/2000	NP	174.34	18.81	155.53	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<1	ND<3	--	
	11/22/2000	NP	174.34	18.90	155.44	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	--	
	3/21/2001	P	174.34	15.78	158.56	1,490	--	15.1	20.6	52.1	10.8	119	--	
	6/28/2001	NP	174.34	18.80	155.54	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	
	6/28/2001	P	174.34	18.80	155.54	3,300	--	ND<5.0	7.7	5.2	8.8	ND<50	--	
	9/18/2001	P	174.34	19.70	154.64	1,000	--	14	7.9	8	16	ND<10	--	[2]
	12/28/2001	P	174.34	14.52	159.82	180	--	1.8	ND<0.50	3.5	0.66	ND<5.0	--	[3]
	3/27/2002	P	174.34	15.39	158.95	180	--	1.1	ND<0.50	2	0.74	ND<0.50	--	
	6/19/2002	--	174.34	18.10	156.24	640	--	4.6	ND<1.0	3.3	2.3	16	--	[7]
	9/13/2002	P	174.34	19.53	154.81	310	--	2.8	0.83	NDND<0.5	0.99	4	--	
	12/11/2002	P	174.34	19.28	155.06	618	--	1.85	0.615	5.9	4.56	ND<5.00	--	
	03/25/2003	P	174.34	15.39	158.95	830	--	0.58	<0.50	0.50	0.55	0.87	--	
	05/01/2003	P	174.34	15.16	159.18	220	--	1.2	0.60	3.7	1.2	0.67	2.8	
	07/15/2003	P	174.34	17.96	156.38	130	--	<0.50	<0.50	1.0	<0.50	<0.50	2.3	
	12/24/2003	P	174.34	16.67	157.67	350	--	<2.5	<2.5	5.9	6.7	<2.5	2.1	
	03/09/2004	P	176.22	13.48	162.74	150	--	<0.50	<0.50	2.0	0.53	<0.50	2.3	
	04/13/2004	P	176.22	15.02	161.20	97	--	<0.50	<0.50	0.85	<0.50	<0.50	--	
	07/12/2004	P	176.22	17.90	158.32	290	--	1.2	0.53	1.1	1.8	<0.50	1.8	
	11/29/2004	P	176.22	17.79	158.43	1,000	--	19	3.9	30	22	<0.50	1.4	
	01/26/2005	**P**	**176.22**	**14.26**	**161.96**	**130**	**--**	**<0.50**	**<0.50**	**1.3**	**1.1**	**<0.50**	**1.66**	
MW-7	3/15/1996	--	173.48	12.74	160.74	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	6/12/1996	--	173.48	14.80	158.68	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	9/1/1996	--	173.48	17.68	155.80	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	11/27/1996	--	173.48	17.08	156.40	2,200	--	30	110	64	460	2,600	--	
	4/2/1997	--	173.48	14.83	158.65	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	6/19/1997	--	173.48	16.95	156.53	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	9/3/1997	NP	173.48	17.95	155.53	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	16	--	
	12/8/1997	NP	173.48	15.34	158.14	320	--	ND<0.5	ND<0.5	3.8	37	90	--	
	2/24/1998	NP	173.48	10.34	163.14	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	39	--	

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Well Number	Date Sampled	P/ NP	TOC Elevation (feet msl)	Depth to Water (feet bgs)	Water Level Elevation (feet msl)	TPHg (µg/L)	TPHd (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L)	DO (mg/L)	Comments
MW-7	5/29/1998	NP	173.48	14.43	159.05	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	8/25/1998	NP	173.48	16.98	156.50	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	11/20/1998	NP	173.48	17.32	156.16	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	2/5/1999	NP	173.48	15.11	158.37	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	5/6/1999	NP	173.48	14.50	158.98	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	9/17/1999	NP	173.48	17.67	155.81	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	12/2/1999	NP	173.48	17.07	156.41	74	--	ND<0.5	ND<0.5	ND<0.5	ND<1	ND<3	--	
	3/21/2000	NP	173.48	13.61	159.87	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<1	3	--	
	4/27/2000	NP	173.48	14.69	158.79	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<1	ND<3	--	
	8/21/2000	NP	173.48	18.02	155.46	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<1	ND<3	--	
	11/22/2000	NP	173.48	18.07	155.41	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	--	
	3/21/2001	P	173.48	15.02	158.46	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	--	
	6/28/2001	NP	173.48	18.02	155.46	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	--	
	6/28/2001	P	173.48	18.02	155.46	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5	--	
	9/18/2001	P	173.48	18.91	154.57	100	--	20	9.5	2.8	14	ND<5.0	--	
	12/28/2001	P	173.48	13.79	159.69	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	5.8	--	
	3/27/2002	P	173.48	14.66	158.82	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	
	6/19/2002	--	173.48	17.28	156.20	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	--	[7]
	9/13/2002	P	173.48	18.70	154.78	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	--	
	12/11/2002	P	173.48	18.36	155.12	ND<50	--	2.08	ND<0.50	ND<0.50	ND<1.0	ND<5.0	--	
	03/25/2003	P	173.48	14.60	158.88	<50	--	<0.50	<0.50	<0.50	<0.50	0.61	--	
	05/01/2003	P	173.48	14.45	159.03	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	2.7	
	07/15/2003	P	173.48	17.10	156.38	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	3.1	
	12/24/2003	--	173.48	--	--	--	--	--	--	--	--	--	--	Well Inaccessible
	03/09/2004	P	175.94	13.38	162.56	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	3.2	
	04/13/2004	P	175.94	14.88	161.06	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	--	
	07/12/2004	P	175.94	17.62	158.32	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	3.1	
	11/29/2004	P	175.94	17.25	158.69	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	2.9	
	01/26/2005	**P**	**175.94**	**14.11**	**161.83**	**<50**	**--**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**6.3**	
MW-8	3/15/1996	--	172.36	13.31	159.05	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NA	--	
	6/12/1996	--	172.36	15.36	157.00	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	9/1/1996	--	172.36	16.61	155.75	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	--	
	11/27/1996	--	172.36	16.57	155.79	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	--	

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Well Number	Date Sampled	P/ NP	TOC Elevation (feet msl)	Depth to Water (feet bgs)	Water Level Elevation (feet msl)	TPHg (µg/L)	TPHd (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L)	DO (mg/L)	Comments
MW-8	4/2/1997	NP	172.36	14.40	157.96	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	--	
	6/19/1997	--	172.36	16.43	155.93	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	9/3/1997	NP	172.36	17.47	154.89	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	12/8/1997	--	172.36	14.64	157.72	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	2/24/1998	NP	172.36	9.82	162.54	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	
	5/29/1998	--	172.36	13.84	158.52	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	8/25/1998	NP	172.36	16.42	155.94	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	11/20/1998	--	172.36	16.85	155.51	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	2/5/1999	NP	172.36	14.64	157.72	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	5/6/1999	--	172.36	14.08	158.28	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	9/17/1999	NP	172.36	17.20	155.16	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	12/2/1999	NP	172.36	16.56	155.80	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	3/21/2000	NP	172.36	13.03	159.33	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<1	ND<3	--	
	4/27/2000	--	172.36	14.28	158.08	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	8/21/2000	NP	172.36	17.48	154.88	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<1	ND<3	--	
	11/22/2000	--	172.36	17.47	154.89	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	3/21/2001	P	172.36	14.58	157.78	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	--	
	6/28/2001	--	172.36	17.50	154.86	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	9/18/2001	P	172.36	18.33	154.03	400	--	66	46	14	61	ND<10	--	
	12/28/2001	--	172.36	13.28	159.08	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	3/27/2002	P	172.36	14.17	158.19	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.50	--	
	6/19/2002	--	172.36	16.70	155.66	NS	--	NS	NS	NS	NS	NS	--	Not sampled, [7]
	9/13/2002	P	172.36	18.40	153.96	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	--	
	12/11/2002	--	172.36	17.82	154.54	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	03/25/2003	--	172.36	14.11	158.25	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	--	
	05/01/2003	--	172.36	13.87	158.49	--	--	--	--	--	--	--	--	Not Sampled
	07/15/2003	P	172.36	16.65	155.71	<50	--	1.7	0.57	0.98	3.5	1.0	4.8	
	12/24/2003	--	172.36	14.90	157.46	--	--	--	--	--	--	--	--	Not Sampled
	03/09/2004	P	175.49	13.24	162.25	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	4.2	
	04/13/2004	--	175.49	15.72	159.77	--	--	--	--	--	--	--	--	Not Sampled
	07/12/2004	P	175.49	17.50	157.99	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	3.4	
	11/29/2004	--	175.49	17.33	158.16	--	--	--	--	--	--	--	--	Not Sampled
	01/26/2005	**P**	**175.49**	**13.92**	**161.57**	**<50**	**--**	**<0.50**	**<0.50**	**<0.50**	**0.52 J**	**<0.50**	**7.8**	

Table 1

Groundwater Elevation and Analytical Data

ARCO Service Station No. 4936
1010 Fourth Street, Santa Rosa, CA

Well Number	Date Sampled	P/ NP	TOC Elevation (feet msl)	Depth to Water (feet bgs)	Water Level Elevation (feet msl)	TPHg (µg/L)	TPHd (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L)	DO (mg/L)	Comments
MW-9A	3/15/1996	--	172.71	12.23	160.48	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NA	--	
	6/12/1996	--	172.71	14.02	158.69	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	9/1/1996	--	172.71	16.80	155.91	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	--	
	11/27/1996	--	172.71	16.19	156.52	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	--	
	4/2/1997	NP	172.71	13.98	158.73	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	--	
	6/19/1997	--	172.71	NM	NM	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	9/3/1997	NP	172.71	16.99	155.72	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	12/8/1997	--	172.71	14.42	158.29	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	2/24/1998	NP	172.71	9.54	163.17	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	
	5/29/1998	--	172.71	13.62	159.09	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	8/25/1998	NP	172.71	16.02	156.69	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	11/20/1998	--	172.71	16.32	156.39	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	2/5/1999	NP	172.71	14.25	158.46	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	5/6/1999	--	172.71	13.76	158.95	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	9/17/1999	NP	172.71	16.63	156.08	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	12/2/1999	NP	172.71	16.01	156.70	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	3/21/2000	NP	172.71	13.07	159.64	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<1	17	--	
	4/27/2000	--	172.71	14.14	158.57	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	8/21/2000	NP	172.71	17.27	155.44	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<1	ND<3	--	
	11/22/2000	--	172.71	17.30	155.41	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	3/21/2001	P	172.71	14.44	158.27	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	--	
	6/28/2001	--	172.71	17.27	155.44	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	9/18/2001	P	172.71	18.06	154.65	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	--	
	12/28/2001	--	172.71	13.30	159.41	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	3/27/2002	P	172.71	14.07	158.64	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	
	6/19/2002	--	172.71	16.50	156.21	NS	--	NS	NS	NS	NS	NS	--	Not sampled, [7]
	9/13/2002	P	172.71	17.90	154.81	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	--	
	12/11/2002	--	172.71	17.65	155.06	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	03/25/2003	--	172.71	14.03	158.68	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	--	
	05/01/2003	--	172.71	13.79	158.92	--	--	--	--	--	--	--	--	Not Sampled
	07/15/2003	P	172.71	16.48	156.23	<50	--	2.1	0.85	1.2	3.3	<0.50	3.2	
	12/24/2003	--	172.71	14.86	157.85	--	--	--	--	--	--	--	--	Not Sampled
	03/09/2004	P	175.16	13.07	162.09	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	4.3	

Table 1

Groundwater Elevation and Analytical Data

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Well Number	Date Sampled	P/ NP	TOC Elevation (feet msl)	Depth to Water (feet bgs)	Water Level Elevation (feet msl)	TPHg (µg/L)	TPHd (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L)	DO (mg/L)	Comments
MW-9A	04/13/2004	--	175.16	15.66	159.50	--	--	--	--	--	--	--	--	Not Sampled
	07/12/2004	P	175.16	17.32	157.84	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	4.1	
	11/29/2004	--	175.16	17.24	157.92	--	--	--	--	--	--	--	--	Not Sampled
	01/26/2005	**P**	**175.16**	**14.48**	**160.68**	**<50**	**--**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**8.2**	
MW-10	3/15/1996	--	173.42	12.71	160.71	1,500	--	ND<5.0	ND<5.0	28	5.1	NA	--	
	6/12/1996	--	173.42	14.50	158.92	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	9/1/1996	--	173.42	16.91	156.51	3,000	--	12	ND<5.0	9.3	ND<5.0	ND<25	--	
	11/27/1996	--	173.42	16.59	156.83	2,000	--	9.7	3.3	6.7	3.8	10	--	
	4/2/1997	NP	173.42	14.33	159.09	2,000	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	--	
	6/19/1997	NP	173.42	16.46	156.96	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	9/3/1997	NP	173.42	17.60	155.82	3,500	--	ND<5	ND<5	ND<5	ND<5	ND<30	--	
	12/8/1997	NP	173.42	14.86	158.56	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	2/24/1998	NP	173.42	10.16	163.26	810	--	ND<1	2	7	5	ND<0.5	--	
	5/29/1998	--	173.42	13.80	159.62	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	8/25/1998	--	173.42	16.46	156.96	2,100	--	ND<5	ND<5	ND<5	ND<5	71	--	
	11/20/1998	--	173.42	17.00	156.42	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	2/5/1999	--	173.42	14.30	159.12	130	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<3	--	
	5/6/1999	--	173.42	14.06	159.36	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	9/17/1999	NP	173.42	17.50	155.92	2,200	--	ND<0.5	0.9	1.1	1.2	ND<3	--	
	12/2/1999	--	173.42	16.72	156.70	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	3/21/2000	NP	173.42	13.20	160.22	1,100	--	ND<0.5	2.2	1	1.7	ND<3	--	
	4/27/2000	--	173.42	14.14	159.28	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	8/21/2000	--	173.42	17.33	156.09	1,600	--	ND<0.5	ND<0.5	2.3	1.6	ND<3	--	
	11/22/2000	--	173.42	17.30	156.12	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	3/21/2001	P	173.42	14.36	159.06	1,310	--	ND<1.25	ND<1.25	2.22	1.6	ND<6.25	--	
	6/28/2001	--	173.42	16.95	156.47	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	9/18/2001	P	173.42	18.23	155.19	2,100	--	82	63	22	95	ND<25	--	
	12/28/2001	--	173.42	13.37	160.05	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	3/27/2002	P	173.42	14.05	159.37	1,500	--	ND<0.50	0.82	1.5	ND<0.50	ND<1.2	--	
	6/19/2002	--	173.42	16.13	157.29	NS	--	NS	NS	NS	NS	NS	--	Not sampled, [7]
	9/13/2002	P	173.42	17.60	155.82	450	--	1.2	NDND<1	NDND<1	1.6	18	--	
	12/11/2002	--	173.42	17.25	156.17	NS	--	NS	NS	NS	NS	NS	--	Not sampled
	03/25/2003	--	173.42	0.00	173.42	620	--	<0.50	<0.50	<0.50	0.54	<0.50	--	

Table 1

Groundwater Elevation and Analytical Data

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Well Number	Date Sampled	P/ NP	TOC Elevation (feet msl)	Depth to Water (feet bgs)	Water Level Elevation (feet msl)	TPHg (µg/L)	TPHd (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L)	DO (mg/L)	Comments
MW-10	05/01/2003	--	173.42	14.01	159.41	--	--	--	--	--	--	--	--	Not Sampled
	07/15/2003	P	173.42	16.04	157.38	360	--	<1.0	<1.0	1.3	3.5	<1.0	2.6	
	12/24/2003	--	173.42	14.81	158.61	--	--	--	--	--	--	--	--	Not Sampled
	03/09/2004	P	176.18	13.21	162.97	280	--	<0.50	<0.50	<0.50	<0.50	<0.50	3.3	
	04/13/2004	--	176.18	15.73	160.45	--	--	--	--	--	--	--	--	Not Sampled
	07/12/2004	P	176.18	17.41	158.77	760 J	--	<0.50	<0.50	<0.50	<0.50	<0.50	2.4	
	11/29/2004	--	176.18	17.30	158.88	--	--	--	--	--	--	--	--	Not Sampled
	01/26/2005	**P**	**176.18**	**14.06**	**162.12**	**720**	**--**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**6.5**	

Table 1

Groundwater Elevation and Analytical Data

ARCO Service Station No. 4936
1010 Fourth Street, Santa Rosa, CA

TPH = Total petroleum hydrocarbons
MtBE = Methyl Tertiary Butyl Ether
mg/L = Micrograms per liter
NP = No Purge
P = Purge
MSL = Mean Sea Level
TOC = Top of Casing
NA = Not analyzed
NM = Not monitored
NS = Not sampled
ND = Not Detected
-- = not measured or analyzed
[1] = Chromatogram Pattern; Unidentified Hydrocarbons C6-C12
[2] = The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
[3] = Chromatogram Pattern: Weathered Gasoline C6 - C12
[4] = Confirmed by using EPA Method 8260
[5] = Depth to water measured 11/20/98
[6] = The analyte concentration maybe artificially elevated due to coeluting componds or components
[7] = Analyzed by gasoline range organics (GRO) begining second quarter 2002.
Source : The data within this table collected prior to June 2002 was provided to URS by BP Group Environmental Management Company and their previous consultants. URS has not verified the accuracy of this information.

Table 2

Fuel Oxygenates Analytical Data
ARCO Service Station No. 4936

1010 Fourth Street, Santa Rosa, CA

Well Number	Date Sampled	Ethanol (µg/L)	TBA (µg/L)	MtBE (µg/L)	DIPE (µg/L)	EtBE (µg/L)	TAME (µg/L)	Comments
MW-1	03/25/2003	--	--	--	--	--	--	Not Sampled
	05/01/2003	--	--	--	--	--	--	Not Sampled
	07/15/2003	--	--	--	--	--	--	Not Sampled
	10/06/2003	--	--	--	--	--	--	Well Abandoned
MW-2	03/25/2003	--	--	--	--	--	--	Not Sampled
	05/01/2003	--	--	--	--	--	--	Not Sampled
	07/15/2003	--	--	--	--	--	--	Not Sampled
	12/24/2003	--	--	--	--	--	--	Well Inaccessible
	03/09/2004	--	--	--	--	--	--	Not Sampled
	04/13/2004	--	--	--	--	--	--	Not Sampled
	07/12/2004	--	--	--	--	--	--	Not Sampled
	11/29/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	
	01/26/2005	**--**	**--**	**--**	**--**	**--**	**--**	
MW-3	03/25/2003	130	<20	5.8	<0.50	<0.50	<0.50	
	05/01/2003	<100	<20	1.9	<0.50	<0.50	<0.50	
	07/15/2003	<100	<20	<0.50	<1.0	<1.0	<1.0	
	10/06/2003	--	--	--	--	--	--	Well Abandoned
MW-3A	03/09/2004	<100	<20	<0.50	<1.0	<1.0	<1.0	
	04/13/2004	<100	<20	<0.50	<1.0	<1.0	<1.0	
	07/12/2004	<100	<20	<0.50	<1.0	<1.0	<1.0	
	11/29/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	
	01/26/2005	**<100**	**<20**	**<0.50**	**<1.0**	**<1.0**	**<1.0**	
MW-4	03/25/2003	<100	<20	3.0	<0.50	<0.50	<0.50	
	05/01/2003	<100	<20	1.5	<0.50	<0.50	<0.50	
	07/15/2003	<500	<100	150	<5.0	<5.0	<5.0	
	12/24/2003	--	--	--	--	--	--	Well Inaccessible
	03/09/2004	<100	<20	0.58	<1.0	<1.0	<1.0	
	04/13/2004	<100	<20	1.0	<1.0	<1.0	<1.0	
	07/12/2004	<100	<20	2.3	<1.0	<1.0	<1.0	
	11/29/2004	<100	<20	0.93	<0.50	<0.50	<0.50	
	01/26/2005	**<100**	**<20**	**<0.50**	**<1.0**	**<1.0**	**<1.0**	
MW-5	03/25/2003	<500	<100	3.2	<2.5	<2.5	<2.5	
	05/01/2003	<100	<20	0.78	<0.50	<0.50	<0.50	
	07/15/2003	<200	<40	<1.0	<2.0	<2.0	<2.0	
	10/06/2003	--	--	--	--	--	--	Well Abandoned
MW-5A	03/09/2004	<100	<20	1.5	<1.0	<1.0	<1.0	
	04/13/2004	<100	<20	0.80	<1.0	<1.0	<1.0	
	07/12/2004	<100	<20	3.0	<1.0	<1.0	<1.0	
	11/29/2004	<100	<20	3.8	<0.50	<0.50	<0.50	
	01/26/2005	**<100**	**<20**	**2.0**	**<1.0**	**<1.0**	**<1.0**	
MW-6	03/25/2003	<100	<20	0.87	<0.50	<0.50	<0.50	
	05/01/2003	<100	<20	0.67	<0.50	<0.50	<0.50	
	07/15/2003	<100	<20	<0.50	<1.0	<1.0	<1.0	
	12/24/2003	<500	<100	<2.5	<5.0	<5.0	<5.0	
	03/09/2004	<100	<20	<0.50	<1.0	<1.0	<1.0	
	04/13/2004	<100	<20	<0.50	<1.0	<1.0	<1.0	

Table 2

Fuel Oxygenates Analytical Data
ARCO Service Station No. 4936

1010 Fourth Street, Santa Rosa, CA

Well Number	Date Sampled	Ethanol (µg/L)	TBA (µg/L)	MtBE (µg/L)	DIPE (µg/L)	EtBE (µg/L)	TAME (µg/L)	Comments
MW-6	07/12/2004	<100	<20	<0.50	<1.0	<1.0	<1.0	
	11/29/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	
	01/26/2005	**<100**	**<20**	**<0.50**	**<1.0**	**<1.0**	**<1.0**	
MW-7	03/25/2003	<100	<20	0.61	<0.50	<0.50	<0.50	
	05/01/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	
	07/15/2003	<100	<20	<0.50	<1.0	<1.0	<1.0	
	12/24/2003	--	--	--	--	--	--	Well Inaccessible
	03/09/2004	<100	<20	<0.50	<1.0	<1.0	<1.0	
	04/13/2004	<100	<20	<0.50	<1.0	<1.0	<1.0	
	07/12/2004	<100	<20	<0.50	<1.0	<1.0	<1.0	
	11/29/2004	<100	<20	<0.50	<0.50	<0.50	<0.50	
	01/26/2005	**<100**	**<20**	**<0.50**	**<1.0**	**<1.0**	**<1.0**	
MW-8	03/25/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	
	05/01/2003	--	--	--	--	--	--	Not Sampled
	07/15/2003	<100	<20	1.0	<1.0	<1.0	<1.0	
	12/24/2003	--	--	--	--	--	--	Not Sampled
	03/09/2004	<100	<20	<0.50	<1.0	<1.0	<1.0	
	04/13/2004	--	--	--	--	--	--	Not Sampled
	07/12/2004	<100	<20	<0.50	<1.0	<1.0	<1.0	
	11/29/2004	--	--	--	--	--	--	
	01/26/2005	**<100**	**<20**	**<0.50**	**<1.0**	**<1.0**	**<1.0**	
MW-9A	03/25/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	
	05/01/2003	--	--	--	--	--	--	Not Sampled
	07/15/2003	<100	<20	<0.50	<1.0	<1.0	<1.0	
	12/24/2003	--	--	--	--	--	--	Not Sampled
	03/09/2004	<100	<20	<0.50	<1.0	<1.0	<1.0	
	04/13/2004	--	--	--	--	--	--	Not Sampled
	07/12/2004	<100	<20	<0.50	<1.0	<1.0	<1.0	
	11/29/2004	--	--	--	--	--	--	
	01/26/2005	**<100**	**<20**	**<0.50**	**<1.0**	**<1.0**	**<1.0**	
MW-10	03/25/2003	<100	<20	<0.50	<0.50	<0.50	<0.50	
	05/01/2003	--	--	--	--	--	--	Not Sampled
	07/15/2003	<200	<40	<1.0	<2.0	<2.0	<2.0	
	12/24/2003	--	--	--	--	--	--	Not Sampled
	03/09/2004	<100	<20	<0.50	<1.0	<1.0	<1.0	
	04/13/2004	--	--	--	--	--	--	Not Sampled
	07/12/2004	<100	<20	<0.50	<1.0	<1.0	<1.0	
	11/29/2004	--	--	--	--	--	--	
	01/26/2005	**<100**	**<20**	**<0.50**	**<1.0**	**<1.0**	**<1.0**	

Table 2

Fuel Oxygenates Analytical Data
ARCO Service Station No. 4936
1010 Fourth Street, Santa Rosa, CA

Notes:
μg/L= micrograms per liter
-- = not measured or analyzed
< = analyte not detected at or above the reporting limit
TBA= tert-butly alcohol
MTBE= Methyl tert-butyl ether
DIPE= Di-isopropyl ether
ETBE = Ethyl tert butyl ether
TAME= tert-amyl methyl ether

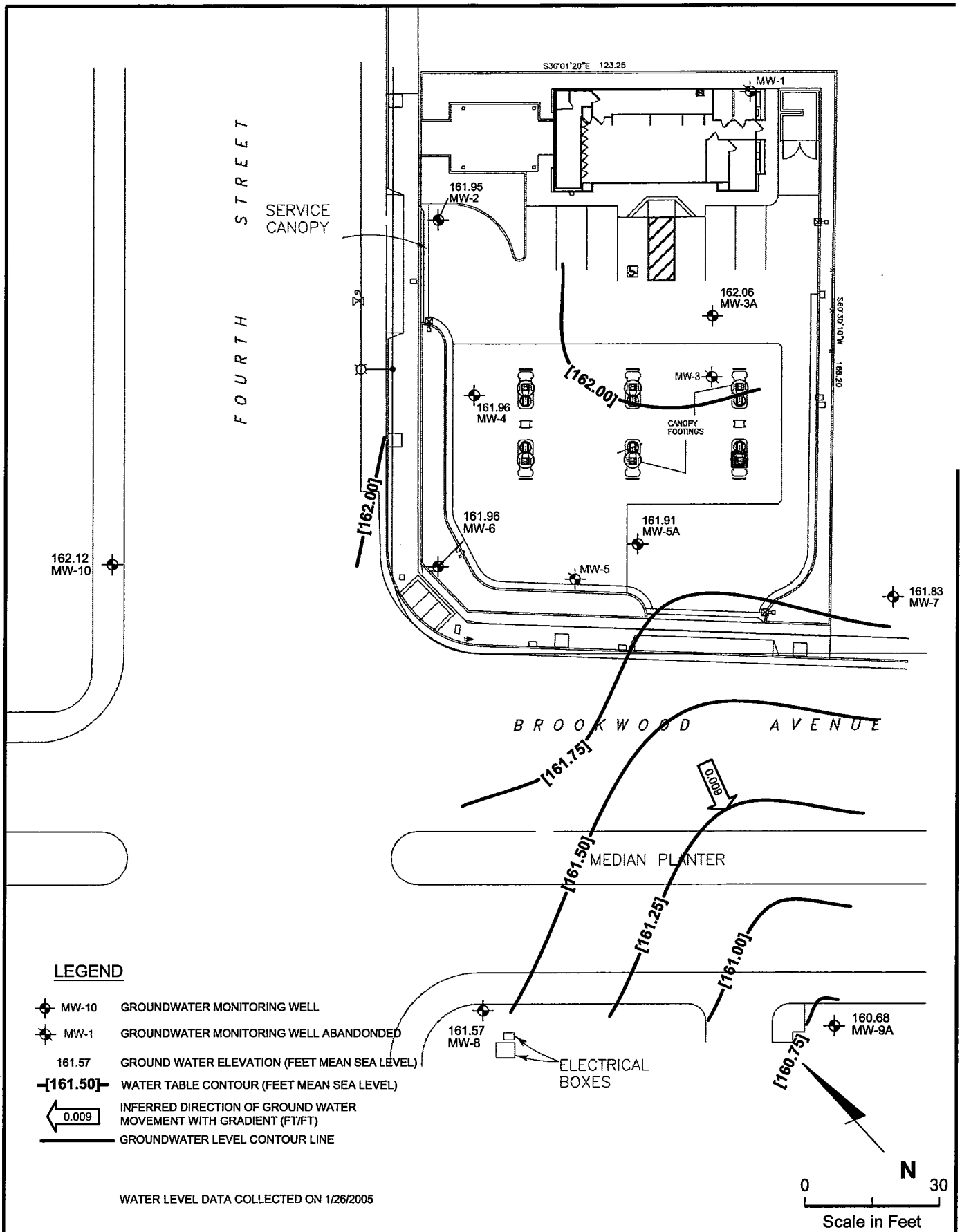
Table 3

Groundwater Gradient Data

ARCO Service Station No. 4936
1010 Fourth Street, Santa Rosa, CA

Date Sampled	Approximate Flow Direction	Approximate Hydraulic Gradient
3/21/2000	S to SW	0.005
4/24/2000	S to SW	0.005
8/21/2000	SW	0.002
11/22/2000	SW	0.0019
3/21/2001	SW	0.003
6/28/2001	SW	0.003
9/18/2001	SW	0.001
12/28/2001	SW	0.001
3/27/2002	SW	0.003
6/19/2002	SW	0.009
9/12/2002	S	0.012
12/11/2002	S to SW	0.002
3/25/2003	S to SW	0.007
5/1/2003	SW to SE	0.006
7/15/2003	Variable to SW	0.007
12/24/2003	Variable to SW	0.006 to 0.014
3/9/2004	S to SW	0.005
4/13/2004	Variable	0.015 to 0.019
7/12/2004	Variable	0.004 to 0.006
11/29/2004	South	0.004
1/26/2005	**South**	**0.009**

Figures



LEGEND

MW-10	GROUNDWATER MONITORING WELL
MW-1	GROUNDWATER MONITORING WELL ABANDONDED
161.57	GROUND WATER ELEVATION (FEET MEAN SEA LEVEL)
[161.50]	WATER TABLE CONTOUR (FEET MEAN SEA LEVEL)
0.009	INFERRED DIRECTION OF GROUND WATER MOVEMENT WITH GRADIENT (FT/FT)
	GROUNDWATER LEVEL CONTOUR LINE

WATER LEVEL DATA COLLECTED ON 1/26/2005

URS
1550 Humboldt Road, Ste. 2
Chico, CA 95928
TEL: (530) 893-9675
FAX: (530) 893-9682

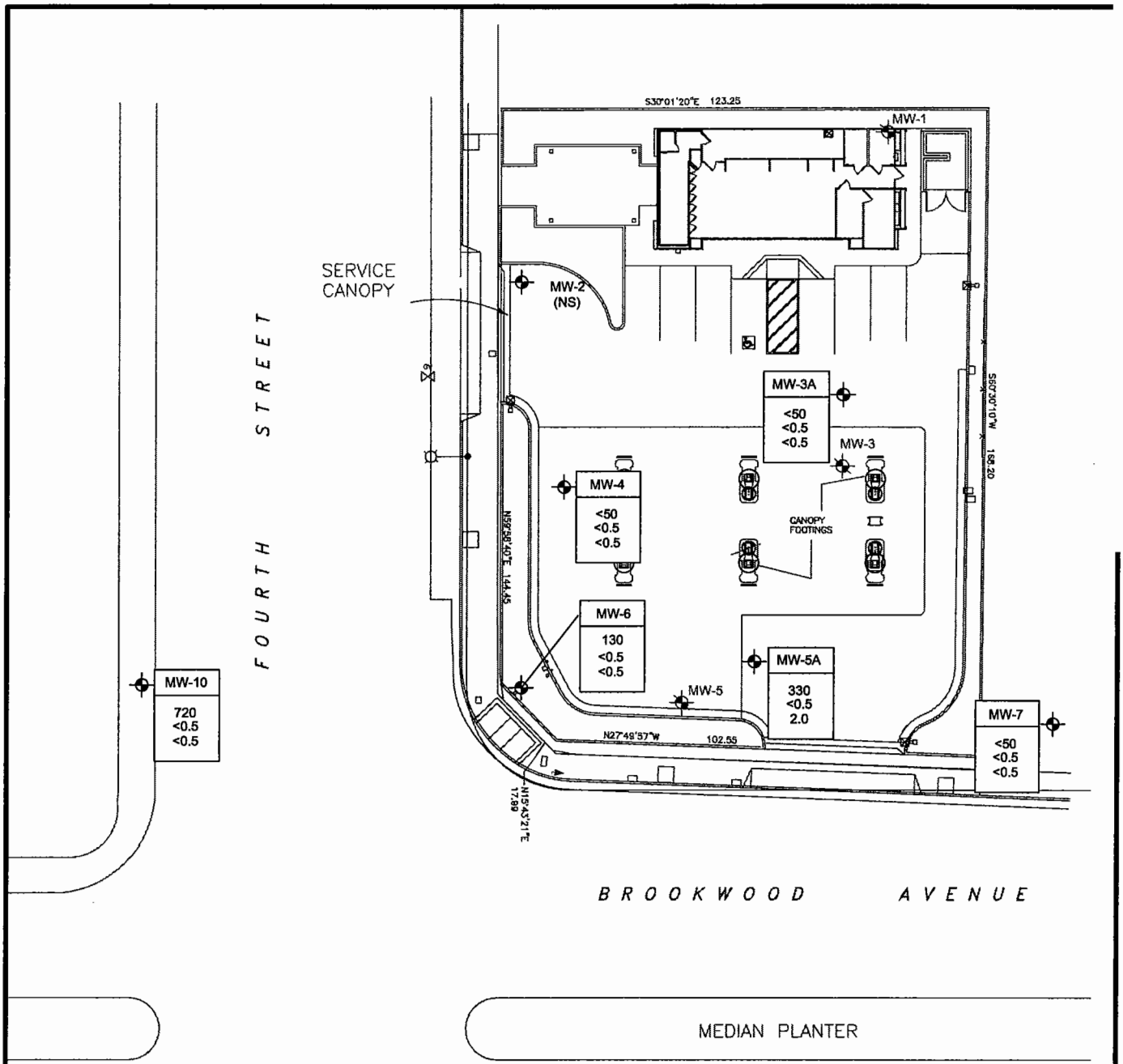
GROUNDWATER ELEVATION CONTOURS

ARCO Service Station No. 4936
1010 Fourth Street
Santa Rosa, California

ARCO Quarterly Groundwater
Monitoring Report - 1st Quarter 2005

FIGURE
1

PLOT BY: RTAYLOR - Mar 15, 2005 - 8:35:33am
IMAGES:
XREFS:
DRAWING: 4936-020105_1Q05-F1-gwcont.dwg
DRAWING: U:\Projects\BP - Arco\Project Sites\04936\1stQ_05\



LEGEND

MW-6 MONITORING WELL LOCATION

MW-1 GROUNDWATER MONITORING WELL ABANDONDED

MW-3A
<50
<0.5
<0.5

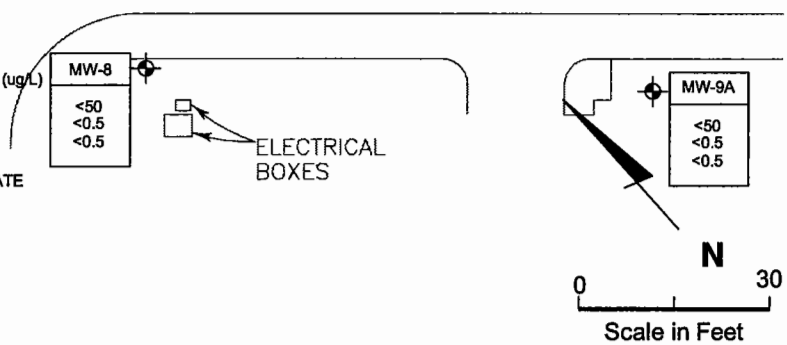
GRO CONCENTRATION IN MICROGRAMS PER LITER (ug/L)
BENZENE CONCENTRATION IN ug/L
MtBE CONCENTRATION IN ug/L

J THE ANALYTE WAS POSITIVELY IDENTIFIED ; THE ASSOCIATED NUMERICAL VALUE IS THE APPROXIMATE CONCENTRATION OF THE ANALYTE IN THE SAMPLE.

NS NOT SAMPLED

GRO = GASOLINE RANGE ORGANICS
MtBE = METHYL TERT-BUTYL ETHER

SAMPLES COLLECTED ON 1/26/2005



URS
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GROUNDWATER ANALYTICAL SUMMARY

ARCO Service Station 4936
1010 Fourth Street
Santa Rosa, California

ARCO Quarterly Groundwater Monitoring Report - 1st Quarter 2005

FIGURE 2

PLOT BY: RTAYLOR - Mar 03, 2005 - 7:01:31am
IMAGES:
XREFS:
DRAWING: 4936-020105_1Q05-F2-SUM.dwg
DRAWING: U:\Projects\BP - Arco\Project Sites\04936\1stQ_05\

APPENDIX A

Field and Laboratory Procedures

APPENDIX A
FIELD AND LABORATORY PROCEDURES

Sampling Procedures

Sampling equipment is thoroughly cleaned prior to each sample. The sampling procedure for each well includes measuring the water level and checking for the presence of separate-phase hydrocarbons (SPH), using either an electronic indicator and a clear Teflon® bailer or an oil-water interface probe. Wells not containing SPH that do not have submerged screens are then sampled without purging. Wells that have submerged screens are purged of approximately three casing volumes of water (or to dryness) using a centrifugal pump, gas displacement pump, or bailer. The equipment and purging method used for the current sampling event are noted on the attached field data sheets. During purging, temperature, pH, and electrical conductivity are monitored in order to document that these parameters are stable prior to collecting samples. After purging, water levels are allowed to partially recover. Groundwater samples (both purge and no-purge) are collected using a Teflon® bailer, placed into appropriate EPA-approved containers, labeled, logged onto chain-of-custody documents, and transported on ice to a California state-certified laboratory.

Decontamination Procedures

Prior to sampling each well, reels and pumps are decontaminated with a steam cleaner. Sensitive equipment such as the water level sounder are sprayed with a non-phosphate soap and deionized water solution and rinsed with deionized water. All water used for equipment decontamination is collected and contained in a truck-mounted water tank.

Laboratory Procedures

The groundwater samples were analyzed for the presence of benzene, toluene, ethylbenzene, total xylenes (BTEX) and fuel oxygenates (including MtBE) using EPA Method 8260B. The presence of GRO was analyzed using EPA Method 8015B. The methods of analysis for the groundwater samples are documented in the laboratory analytical report. The laboratory analytical report, chain-of-custody documentation, and field data sheets are presented as Appendix B.

Purge and Rinsate Water Disposal

Water generated during well sampling and equipment cleaning is pumped into a truck-mounted water tank. The water is transported to Blain Tech Services holding facility in Roseville, California, for temporary storage. Dillard Environmental Services then transports the water to the Altamont Landfill and Resource Recovery Facility in Altamont, California for disposal.

APPENDIX B

Laboratory Analytical Reports, Chain-of-Custody Documentation, and Field Data Sheets

Sequoia
Analytical

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12 February, 2005

Scott Dressler
URS Corp - Chico
1550 Humboldt Rd, Suite 2
Chico, CA 95928

RE: Arco Site 4936, Santa Rosa, CA
Work Order: P501474

Enclosed are the results of analyses for samples received by the laboratory on 01/28/05 16:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Stacy P. Hoch
Dept Manager - Client Services

CA ELAP Certificate #2374

Sequoia Analytical

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URS Corp - Chico	Project:Arco Site 4936, Santa Rosa, CA	P501474
1550 Humboldt Rd, Suite 2	Project Number:Intrim-50457	**Reported:**
Chico CA, 95928	Project Manager:Scott Dressler	02/12/05 14:13

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-3A	P501474-01	Water	01/26/05 14:25	01/28/05 16:15
MW-4	P501474-02	Water	01/26/05 14:05	01/28/05 16:15
MW-5A	P501474-03	Water	01/26/05 16:50	01/28/05 16:15
MW-6	P501474-04	Water	01/26/05 13:45	01/28/05 16:15
MW-7	P501474-05	Water	01/26/05 13:40	01/28/05 16:15
MW-8	P501474-06	Water	01/26/05 15:05	01/28/05 16:15
MW-9A	P501474-07	Water	01/26/05 15:35	01/28/05 16:15
MW-10	P501474-08	Water	01/26/05 16:10	01/28/05 16:15
Trip Blank 01262005	P501474-09	Water	01/26/05 00:00	01/28/05 16:15

The carbon range for the TPH-GRO has been changed from C6-C10 to C4-C12. EPA 8015B has been modified to better meet the requirements of California regulatory agencies.

These samples were received with intact custody seals.

MS/MSD is reported for all batches in which the laboratory received sufficient sample volume to perform the MS/MSD analysis. In the case where there was insufficient sample volume received for all samples associated in the batch, LCS/LCSD is analyzed in place of the MS/MSD.

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

Sequoia Analytical

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URS Corp - Chico	Project:Arco Site 4936, Santa Rosa, CA	P501474
1550 Humboldt Rd, Suite 2	Project Number:Intrim-50457	**Reported:**
Chico CA, 95928	Project Manager:Scott Dressler	02/12/05 14:13

Purgeable Hydrocarbons by EPA 8015B

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3A (P501474-01) Water Sampled: 01/26/05 14:25 Received: 01/28/05 16:15									
Gasoline Range Organics (C4-C12)	ND	50	ug/l	1	5020038	02/02/05	02/03/05	EPA 8015B-VOA	
Surrogate: 4-Bromofluorobenzene		*90 %*	*80-110*		"	"	"	"	
MW-4 (P501474-02) Water Sampled: 01/26/05 14:05 Received: 01/28/05 16:15									
Gasoline Range Organics (C4-C12)	ND	50	ug/l	1	5020038	02/02/05	02/03/05	EPA 8015B-VOA	
Surrogate: 4-Bromofluorobenzene		*89 %*	*80-110*		"	"	"	"	
MW-5A (P501474-03) Water Sampled: 01/26/05 16:50 Received: 01/28/05 16:15									
Gasoline Range Organics (C4-C12)	**330**	50	ug/l	1	5020038	02/02/05	02/03/05	EPA 8015B-VOA	
Surrogate: 4-Bromofluorobenzene		*96 %*	*80-110*		"	"	"	"	
MW-6 (P501474-04) Water Sampled: 01/26/05 13:45 Received: 01/28/05 16:15									
Gasoline Range Organics (C4-C12)	**130**	50	ug/l	1	5020038	02/02/05	02/03/05	EPA 8015B-VOA	
Surrogate: 4-Bromofluorobenzene		*93 %*	*80-110*		"	"	"	"	
MW-7 (P501474-05) Water Sampled: 01/26/05 13:40 Received: 01/28/05 16:15									
Gasoline Range Organics (C4-C12)	ND	50	ug/l	1	5020038	02/02/05	02/03/05	EPA 8015B-VOA	
Surrogate: 4-Bromofluorobenzene		*87 %*	*80-110*		"	"	"	"	
MW-8 (P501474-06) Water Sampled: 01/26/05 15:05 Received: 01/28/05 16:15									
Gasoline Range Organics (C4-C12)	ND	50	ug/l	1	5020038	02/02/05	02/03/05	EPA 8015B-VOA	
Surrogate: 4-Bromofluorobenzene		*87 %*	*80-110*		"	"	"	"	
MW-9A (P501474-07) Water Sampled: 01/26/05 15:35 Received: 01/28/05 16:15									
Gasoline Range Organics (C4-C12)	ND	50	ug/l	1	5020038	02/02/05	02/03/05	EPA 8015B-VOA	
Surrogate: 4-Bromofluorobenzene		*88 %*	*80-110*		"	"	"	"	

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

Sequoia Analytical

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URS Corp - Chico	Project:Arco Site 4936, Santa Rosa, CA	P501474
1550 Humboldt Rd, Suite 2	Project Number:Intrim-50457	**Reported:**
Chico CA, 95928	Project Manager:Scott Dressler	02/12/05 14:13

Purgeable Hydrocarbons by EPA 8015B

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-10 (P501474-08) Water Sampled: 01/26/05 16:10 Received: 01/28/05 16:15									
Gasoline Range Organics (C4-C12)	**720**	50	ug/l	1	5020038	02/02/05	02/03/05	EPA 8015B-VOA	
Surrogate: 4-Bromofluorobenzene		*95 %*	*80-110*		"	"	"	"	

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URS Corp - Chico	Project:Arco Site 4936, Santa Rosa, CA	P501474
1550 Humboldt Rd, Suite 2	Project Number:Intrim-50457	**Reported:**
Chico CA, 95928	Project Manager:Scott Dressler	02/12/05 14:13

Volatile Organic Compounds by EPA Method 8260B

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3A (P501474-01) Water Sampled: 01/26/05 14:25 Received: 01/28/05 16:15									
Tert-amyl methyl ether	ND	1.0	ug/l	1	5020096	02/07/05	02/08/05	EPA 8260B	
Benzene	ND	0.50	"	"	"	"	"	"	
Tert-butyl alcohol	ND	20	"	"	"	"	"	"	
Di-isopropyl ether	ND	1.0	"	"	"	"	"	"	
Ethanol	ND	100	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	1.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*118 %*	*84-122*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*138 %*	*74-135*		"	"	"	"	*LH*
Surrogate: Toluene-d8		*107 %*	*84-119*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*108 %*	*86-119*		"	"	"	"	
MW-4 (P501474-02) Water Sampled: 01/26/05 14:05 Received: 01/28/05 16:15									
Tert-amyl methyl ether	ND	1.0	ug/l	1	5020096	02/07/05	02/08/05	EPA 8260B	
Benzene	ND	0.50	"	"	"	"	"	"	
Tert-butyl alcohol	ND	20	"	"	"	"	"	"	
Di-isopropyl ether	ND	1.0	"	"	"	"	"	"	
Ethanol	ND	100	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	1.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*120 %*	*84-122*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*135 %*	*74-135*		"	"	"	"	
Surrogate: Toluene-d8		*108 %*	*84-119*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*104 %*	*86-119*		"	"	"	"	

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URS Corp - Chico	Project:Arco Site 4936, Santa Rosa, CA	P501474
1550 Humboldt Rd, Suite 2	Project Number:Intrim-50457	**Reported:**
Chico CA, 95928	Project Manager:Scott Dressler	02/12/05 14:13

Volatile Organic Compounds by EPA Method 8260B

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-5A (P501474-03) Water Sampled: 01/26/05 16:50 Received: 01/28/05 16:15									
Tert-amyl methyl ether	ND	1.0	ug/l	1	5020121	02/09/05	02/09/05	EPA 8260B	
Benzene	ND	0.50	"	"	"	"	"	"	
Tert-butyl alcohol	ND	20	"	"	"	"	"	"	
Di-isopropyl ether	ND	1.0	"	"	"	"	"	"	
Ethanol	ND	100	"	"	"	"	"	"	
Ethylbenzene	**1.1**	0.50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	1.0	"	"	"	"	"	"	
Methyl tert-butyl ether	**2.0**	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*105 %*	*84-122*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*103 %*	*74-135*		"	"	"	"	
Surrogate: Toluene-d8		*102 %*	*84-119*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*	*86-119*		"	"	"	"	
MW-6 (P501474-04) Water Sampled: 01/26/05 13:45 Received: 01/28/05 16:15									
Tert-amyl methyl ether	ND	1.0	ug/l	1	5020096	02/07/05	02/08/05	EPA 8260B	
Benzene	ND	0.50	"	"	"	"	"	"	
Tert-butyl alcohol	ND	20	"	"	"	"	"	"	
Di-isopropyl ether	ND	1.0	"	"	"	"	"	"	
Ethanol	ND	100	"	"	"	"	"	"	
Ethylbenzene	**1.3**	0.50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	1.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	**1.1**	0.50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*115 %*	*84-122*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*131 %*	*74-135*		"	"	"	"	
Surrogate: Toluene-d8		*112 %*	*84-119*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*114 %*	*86-119*		"	"	"	"	

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

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URS Corp - Chico	Project:Arco Site 4936, Santa Rosa, CA	P501474
1550 Humboldt Rd, Suite 2	Project Number:Intrim-50457	**Reported:**
Chico CA, 95928	Project Manager:Scott Dressler	02/12/05 14:13

Volatile Organic Compounds by EPA Method 8260B

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-7 (P501474-05) Water Sampled: 01/26/05 13:40 Received: 01/28/05 16:15									
Tert-amyl methyl ether	ND	1.0	ug/l	1	5020096	02/07/05	02/08/05	EPA 8260B	
Benzene	ND	0.50	"	"	"	"	"	"	
Tert-butyl alcohol	ND	20	"	"	"	"	"	"	
Di-isopropyl ether	ND	1.0	"	"	"	"	"	"	
Ethanol	ND	100	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	1.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*114 %*	*84-122*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*130 %*	*74-135*		"	"	"	"	
Surrogate: Toluene-d8		*106 %*	*84-119*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*106 %*	*86-119*		"	"	"	"	
MW-8 (P501474-06) Water Sampled: 01/26/05 15:05 Received: 01/28/05 16:15									
Tert-amyl methyl ether	ND	1.0	ug/l	1	5020096	02/07/05	02/08/05	EPA 8260B	
Benzene	ND	0.50	"	"	"	"	"	"	
Tert-butyl alcohol	ND	20	"	"	"	"	"	"	
Di-isopropyl ether	ND	1.0	"	"	"	"	"	"	
Ethanol	ND	100	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	1.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	**0.52**	0.50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*117 %*	*84-122*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*136 %*	*74-135*		"	"	"	"	*LH*
Surrogate: Toluene-d8		*109 %*	*84-119*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*112 %*	*86-119*		"	"	"	"	

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URS Corp - Chico	Project:Arco Site 4936, Santa Rosa, CA	P501474
1550 Humboldt Rd, Suite 2	Project Number:Intrim-50457	**Reported:**
Chico CA, 95928	Project Manager:Scott Dressler	02/12/05 14:13

Volatile Organic Compounds by EPA Method 8260B

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-9A (P501474-07) Water Sampled: 01/26/05 15:35 Received: 01/28/05 16:15									
Tert-amyl methyl ether	ND	1.0	ug/l	1	5020096	02/07/05	02/08/05	EPA 8260B	
Benzene	ND	0.50	"	"	"	"	"	"	
Tert-butyl alcohol	ND	20	"	"	"	"	"	"	
Di-isopropyl ether	ND	1.0	"	"	"	"	"	"	
Ethanol	ND	100	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	1.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*117 %*	*84-122*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*131 %*	*74-135*		"	"	"	"	
Surrogate: Toluene-d8		*108 %*	*84-119*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*106 %*	*86-119*		"	"	"	"	
MW-10 (P501474-08) Water Sampled: 01/26/05 16:10 Received: 01/28/05 16:15									
Tert-amyl methyl ether	ND	1.0	ug/l	1	5020106	02/08/05	02/08/05	EPA 8260B	
Benzene	ND	0.50	"	"	"	"	"	"	
Tert-butyl alcohol	ND	20	"	"	"	"	"	"	
Di-isopropyl ether	ND	1.0	"	"	"	"	"	"	
Ethanol	ND	100	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	1.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*118 %*	*84-122*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*121 %*	*74-135*		"	"	"	"	
Surrogate: Toluene-d8		*113 %*	*84-119*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*120 %*	*86-119*		"	"	"	"	*LH*

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URS Corp - Chico	Project:Arco Site 4936, Santa Rosa, CA	P501474
1550 Humboldt Rd, Suite 2	Project Number:Intrim-50457	**Reported:**
Chico CA, 95928	Project Manager:Scott Dressler	02/12/05 14:13

Purgeable Hydrocarbons by EPA 8015B - Quality Control

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5020038 - EPA 5030B, waters / EPA 8015B-VOA										
Blank (5020038-BLK1)				Prepared: 02/02/05		Analyzed: 02/03/05				
Gasoline Range Organics (C4-C12)	ND	50	ug/l							
Surrogate: 4-Bromofluorobenzene	*268*		"	*300*		*89*	*80-110*			
Laboratory Control Sample (5020038-BS1)				Prepared: 02/02/05		Analyzed: 02/03/05				
Gasoline Range Organics (C4-C12)	2370	50	ug/l	2750		86	67-101			
Surrogate: 4-Bromofluorobenzene	*302*		"	*300*		*101*	*80-110*			
Matrix Spike (5020038-MS1)	**Source: P501411-03**			Prepared: 02/02/05		Analyzed: 02/03/05				
Gasoline Range Organics (C4-C12)	2260	50	ug/l	2750	ND	82	67-101			
Surrogate: 4-Bromofluorobenzene	*294*		"	*300*		*98*	*80-110*			
Matrix Spike Dup (5020038-MSD1)	**Source: P501411-03**			Prepared: 02/02/05		Analyzed: 02/03/05				
Gasoline Range Organics (C4-C12)	2200	50	ug/l	2750	ND	80	67-101	3	20	
Surrogate: 4-Bromofluorobenzene	*301*		"	*300*		*100*	*80-110*			

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URS Corp - Chico	Project:Arco Site 4936, Santa Rosa, CA	P501474
1550 Humboldt Rd, Suite 2	Project Number:Intrim-50457	**Reported:**
Chico CA, 95928	Project Manager:Scott Dressler	02/12/05 14:13

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5020096 - EPA 5030B waters / EPA 8260B										
Blank (5020096-BLK1)				Prepared: 02/07/05 Analyzed: 02/08/05						
Tert-amyl methyl ether	ND	1.0	ug/l							
Benzene	ND	0.50	"							
Tert-butyl alcohol	ND	20	"							
Di-isopropyl ether	ND	1.0	"							
Ethanol	ND	100	"							
Ethylbenzene	ND	0.50	"							
Ethyl tert-butyl ether	ND	1.0	"							
Methyl tert-butyl ether	ND	0.50	"							
Toluene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Surrogate: Dibromofluoromethane	*11.3*		"	*10.0*		*113*	*84-122*			
Surrogate: 1,2-Dichloroethane-d4	*12.6*		"	*10.0*		*126*	*74-135*			
Surrogate: Toluene-d8	*10.7*		"	*10.0*		*107*	*84-119*			
Surrogate: 4-Bromofluorobenzene	*10.8*		"	*10.0*		*108*	*86-119*			
Laboratory Control Sample (5020096-BS1)				Prepared: 02/07/05 Analyzed: 02/08/05						
Tert-amyl methyl ether	4.22	1.0	ug/l	5.00		84	78-117			
Benzene	4.79	0.50	"	5.00		96	81-118			
Tert-butyl alcohol	113	20	"	100		113	60-147			
Di-isopropyl ether	4.33	1.0	"	5.00		87	70-125			
Ethanol	100	100	"	100		100	55-200			
Ethylbenzene	5.19	0.50	"	5.00		104	89-122			
Ethyl tert-butyl ether	4.11	1.0	"	5.00		82	71-120			
Methyl tert-butyl ether	4.28	0.50	"	5.00		86	70-122			
Toluene	4.85	0.50	"	5.00		97	84-119			
Xylenes (total)	15.3	0.50	"	15.0		102	86-132			
Surrogate: Dibromofluoromethane	*11.0*		"	*10.0*		*110*	*84-122*			
Surrogate: 1,2-Dichloroethane-d4	*11.8*		"	*10.0*		*118*	*74-135*			
Surrogate: Toluene-d8	*10.7*		"	*10.0*		*107*	*84-119*			
Surrogate: 4-Bromofluorobenzene	*11.0*		"	*10.0*		*110*	*86-119*			

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URS Corp - Chico	Project:Arco Site 4936, Santa Rosa, CA	P501474
1550 Humboldt Rd, Suite 2	Project Number:Intrim-50457	**Reported:**
Chico CA, 95928	Project Manager:Scott Dressler	02/12/05 14:13

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5020096 - EPA 5030B waters / EPA 8260B										
Matrix Spike (5020096-MS1)	**Source: P501465-01**			Prepared: 02/07/05	Analyzed: 02/08/05					
Tert-amyl methyl ether	40.7	10	ug/l	50.0	ND	81	78-117			
Benzene	37.9	5.0	"	50.0	ND	76	81-118			LN
Tert-butyl alcohol	1020	200	"	1000	ND	102	60-147			
Di-isopropyl ether	38.7	10	"	50.0	ND	77	70-125			
Ethanol	511	1000	"	1000	ND	51	55-200			LN
Ethylbenzene	37.9	5.0	"	50.0	ND	76	89-122			LN
Ethyl tert-butyl ether	39.4	10	"	50.0	ND	79	71-120			
Methyl tert-butyl ether	44.6	5.0	"	50.0	ND	89	70-122			
Toluene	37.8	5.0	"	50.0	ND	76	84-119			LN
Xylenes (total)	111	5.0	"	150	ND	74	86-132			LN
Surrogate: Dibromofluoromethane	*11.8*		*"*	*10.0*		*118*	*84-122*			
Surrogate: 1,2-Dichloroethane-d4	*13.8*		*"*	*10.0*		*138*	*74-135*			*LH*
Surrogate: Toluene-d8	*10.8*		*"*	*10.0*		*108*	*84-119*			
Surrogate: 4-Bromofluorobenzene	*11.0*		*"*	*10.0*		*110*	*86-119*			
Matrix Spike Dup (5020096-MSD1)	**Source: P501465-01**			Prepared: 02/07/05	Analyzed: 02/08/05					
Tert-amyl methyl ether	41.7	10	ug/l	50.0	ND	83	78-117	2	20	
Benzene	39.4	5.0	"	50.0	ND	79	81-118	4	20	LN
Tert-butyl alcohol	1070	200	"	1000	ND	107	60-147	5	20	
Di-isopropyl ether	40.9	10	"	50.0	ND	82	70-125	6	20	
Ethanol	860	1000	"	1000	ND	86	55-200	51	20	BA
Ethylbenzene	40.9	5.0	"	50.0	ND	82	89-122	8	20	LN
Ethyl tert-butyl ether	41.1	10	"	50.0	ND	82	71-120	4	20	
Methyl tert-butyl ether	46.0	5.0	"	50.0	ND	92	70-122	3	20	
Toluene	39.7	5.0	"	50.0	ND	79	84-119	5	20	LN
Xylenes (total)	121	5.0	"	150	ND	81	86-132	9	20	LN
Surrogate: Dibromofluoromethane	*12.1*		*"*	*10.0*		*121*	*84-122*			
Surrogate: 1,2-Dichloroethane-d4	*13.7*		*"*	*10.0*		*137*	*74-135*			*LH*
Surrogate: Toluene-d8	*10.8*		*"*	*10.0*		*108*	*84-119*			
Surrogate: 4-Bromofluorobenzene	*11.6*		*"*	*10.0*		*116*	*86-119*			

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URS Corp - Chico	Project:Arco Site 4936, Santa Rosa, CA	P501474
1550 Humboldt Rd, Suite 2	Project Number:Intrim-50457	**Reported:**
Chico CA, 95928	Project Manager:Scott Dressler	02/12/05 14:13

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5020106 - EPA 5030B waters / EPA 8260B										
Blank (5020106-BLK1)				Prepared & Analyzed: 02/08/05						
Tert-amyl methyl ether	ND	1.0	ug/l							
Benzene	ND	0.50	"							
Tert-butyl alcohol	ND	20	"							
Di-isopropyl ether	ND	1.0	"							
Ethanol	ND	100	"							
Ethylbenzene	ND	0.50	"							
Ethyl tert-butyl ether	ND	1.0	"							
Methyl tert-butyl ether	ND	0.50	"							
Toluene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Surrogate: Dibromofluoromethane	*5.51*		"	*5.00*		*110*	*84-122*			
Surrogate: 1,2-Dichloroethane-d4	*5.67*		"	*5.00*		*113*	*74-135*			
Surrogate: Toluene-d8	*5.43*		"	*5.00*		*109*	*84-119*			
Surrogate: 4-Bromofluorobenzene	*5.71*		"	*5.00*		*114*	*86-119*			
Laboratory Control Sample (5020106-BS1)				Prepared & Analyzed: 02/08/05						
Tert-amyl methyl ether	5.31	1.0	ug/l	5.00		106	78-117			
Benzene	5.38	0.50	"	5.00		108	81-118			
Tert-butyl alcohol	109	20	"	100		109	60-147			
Di-isopropyl ether	5.64	1.0	"	5.00		113	70-125			
Ethanol	90.9	100	"	100		91	55-200			
Ethylbenzene	5.20	0.50	"	5.00		104	89-122			
Ethyl tert-butyl ether	5.39	1.0	"	5.00		108	71-120			
Methyl tert-butyl ether	5.62	0.50	"	5.00		112	70-122			
Toluene	5.32	0.50	"	5.00		106	84-119			
Xylenes (total)	16.7	0.50	"	15.0		111	86-132			
Surrogate: Dibromofluoromethane	*5.56*		"	*5.00*		*111*	*84-122*			
Surrogate: 1,2-Dichloroethane-d4	*5.59*		"	*5.00*		*112*	*74-135*			
Surrogate: Toluene-d8	*5.37*		"	*5.00*		*107*	*84-119*			
Surrogate: 4-Bromofluorobenzene	*5.46*		"	*5.00*		*109*	*86-119*			

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URS Corp - Chico	Project:Arco Site 4936, Santa Rosa, CA	P501474
1550 Humboldt Rd, Suite 2	Project Number:Intrim-50457	**Reported:**
Chico CA, 95928	Project Manager:Scott Dressler	02/12/05 14:13

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5020106 - EPA 5030B waters / EPA 8260B										
Matrix Spike (5020106-MS1)	**Source: P501474-08**			Prepared & Analyzed: 02/08/05						
Tert-amyl methyl ether	5.41	1.0	ug/l	5.00	ND	108	78-117			
Benzene	5.39	0.50	"	5.00	0.077	106	81-118			
Tert-butyl alcohol	123	20	"	100	ND	123	60-147			
Di-isopropyl ether	5.48	1.0	"	5.00	ND	110	70-125			
Ethanol	109	100	"	100	ND	109	55-200			
Ethylbenzene	5.39	0.50	"	5.00	0.20	104	89-122			
Ethyl tert-butyl ether	5.36	1.0	"	5.00	ND	107	71-120			
Methyl tert-butyl ether	5.55	0.50	"	5.00	ND	111	70-122			
Toluene	5.25	0.50	"	5.00	0.11	103	84-119			
Xylenes (total)	16.6	0.50	"	15.0	ND	111	86-132			
Surrogate: Dibromofluoromethane	*5.61*		"	*5.00*		*112*	*84-122*			
Surrogate: 1,2-Dichloroethane-d4	*5.60*		"	*5.00*		*112*	*74-135*			
Surrogate: Toluene-d8	*5.53*		"	*5.00*		*111*	*84-119*			
Surrogate: 4-Bromofluorobenzene	*5.55*		"	*5.00*		*111*	*86-119*			
Matrix Spike Dup (5020106-MSD1)	**Source: P501474-08**			Prepared & Analyzed: 02/08/05						
Tert-amyl methyl ether	5.06	1.0	ug/l	5.00	ND	101	78-117	7	20	
Benzene	4.98	0.50	"	5.00	0.077	98	81-118	8	20	
Tert-butyl alcohol	116	20	"	100	ND	116	60-147	6	20	
Di-isopropyl ether	5.12	1.0	"	5.00	ND	102	70-125	7	20	
Ethanol	114	100	"	100	ND	114	55-200	4	20	
Ethylbenzene	5.06	0.50	"	5.00	0.20	97	89-122	6	20	
Ethyl tert-butyl ether	5.03	1.0	"	5.00	ND	101	71-120	6	20	
Methyl tert-butyl ether	5.21	0.50	"	5.00	ND	104	70-122	6	20	
Toluene	4.95	0.50	"	5.00	0.11	97	84-119	6	20	
Xylenes (total)	15.9	0.50	"	15.0	ND	106	86-132	4	20	
Surrogate: Dibromofluoromethane	*5.25*		"	*5.00*		*105*	*84-122*			
Surrogate: 1,2-Dichloroethane-d4	*5.29*		"	*5.00*		*106*	*74-135*			
Surrogate: Toluene-d8	*5.18*		"	*5.00*		*104*	*84-119*			
Surrogate: 4-Bromofluorobenzene	*5.46*		"	*5.00*		*109*	*86-119*			

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URS Corp - Chico	Project:Arco Site 4936, Santa Rosa, CA	P501474
1550 Humboldt Rd, Suite 2	Project Number:Intrim-50457	**Reported:**
Chico CA, 95928	Project Manager:Scott Dressler	02/12/05 14:13

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5020121 - EPA 5030B waters / EPA 8260B										
Blank (5020121-BLK1)				Prepared & Analyzed: 02/09/05						
Tert-amyl methyl ether	ND	1.0	ug/l							
Benzene	ND	0.50	"							
Tert-butyl alcohol	ND	20	"							
Di-isopropyl ether	ND	1.0	"							
Ethanol	ND	100	"							
Ethylbenzene	ND	0.50	"							
Ethyl tert-butyl ether	ND	1.0	"							
Methyl tert-butyl ether	ND	0.50	"							
Toluene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Surrogate: Dibromofluoromethane	*5.14*		"	*5.00*		*103*	*84-122*			
Surrogate: 1,2-Dichloroethane-d4	*5.20*		"	*5.00*		*104*	*74-135*			
Surrogate: Toluene-d8	*5.07*		"	*5.00*		*101*	*84-119*			
Surrogate: 4-Bromofluorobenzene	*5.39*		"	*5.00*		*108*	*86-119*			
Laboratory Control Sample (5020121-BS1)				Prepared & Analyzed: 02/09/05						
Tert-amyl methyl ether	5.26	1.0	ug/l	5.00		105	78-117			
Benzene	4.90	0.50	"	5.00		98	81-118			
Tert-butyl alcohol	93.1	20	"	100		93	60-147			
Di-isopropyl ether	5.03	1.0	"	5.00		101	70-125			
Ethanol	88.7	100	"	100		89	55-200			
Ethylbenzene	5.06	0.50	"	5.00		101	89-122			
Ethyl tert-butyl ether	5.01	1.0	"	5.00		100	71-120			
Methyl tert-butyl ether	5.13	0.50	"	5.00		103	70-122			
Toluene	5.10	0.50	"	5.00		102	84-119			
Xylenes (total)	15.3	0.50	"	15.0		102	86-132			
Surrogate: Dibromofluoromethane	*5.13*		"	*5.00*		*103*	*84-122*			
Surrogate: 1,2-Dichloroethane-d4	*5.21*		"	*5.00*		*104*	*74-135*			
Surrogate: Toluene-d8	*5.09*		"	*5.00*		*102*	*84-119*			
Surrogate: 4-Bromofluorobenzene	*5.20*		"	*5.00*		*104*	*86-119*			

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Sequoia Analytical

1455 McDowell Blvd, North Ste D
Petaluma, CA 94954
(707) 792-1865
FAX (707) 792-0342
www.sequoialabs.com

URS Corp - Chico	Project:Arco Site 4936, Santa Rosa, CA	P501474
1550 Humboldt Rd, Suite 2	Project Number:Intrim-50457	**Reported:**
Chico CA, 95928	Project Manager:Scott Dressler	02/12/05 14:13

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5020121 - EPA 5030B waters / EPA 8260B										
Matrix Spike (5020121-MS1)	**Source: P501474-03**			Prepared & Analyzed: 02/09/05						
Tert-amyl methyl ether	5.39	1.0	ug/l	5.00	ND	108	78-117			
Benzene	4.77	0.50	"	5.00	0.12	93	81-118			
Tert-butyl alcohol	101	20	"	100	ND	101	60-147			
Di-isopropyl ether	5.03	1.0	"	5.00	ND	101	70-125			
Ethanol	93.3	100	"	100	ND	93	55-200			
Ethylbenzene	5.89	0.50	"	5.00	1.1	96	89-122			
Ethyl tert-butyl ether	5.12	1.0	"	5.00	ND	102	71-120			
Methyl tert-butyl ether	7.57	0.50	"	5.00	2.0	111	70-122			
Toluene	4.96	0.50	"	5.00	0.22	95	84-119			
Xylenes (total)	14.9	0.50	"	15.0	0.42	97	86-132			
Surrogate: Dibromofluoromethane	*5.32*		*"*	*5.00*		*106*	*84-122*			
Surrogate: 1,2-Dichloroethane-d4	*5.35*		*"*	*5.00*		*107*	*74-135*			
Surrogate: Toluene-d8	*5.21*		*"*	*5.00*		*104*	*84-119*			
Surrogate: 4-Bromofluorobenzene	*5.11*		*"*	*5.00*		*102*	*86-119*			
Matrix Spike Dup (5020121-MSD1)	**Source: P501474-03**			Prepared & Analyzed: 02/09/05						
Tert-amyl methyl ether	5.38	1.0	ug/l	5.00	ND	108	78-117	0.2	20	
Benzene	4.79	0.50	"	5.00	0.12	93	81-118	0.4	20	
Tert-butyl alcohol	98.4	20	"	100	ND	98	60-147	3	20	
Di-isopropyl ether	5.06	1.0	"	5.00	ND	101	70-125	0.6	20	
Ethanol	88.5	100	"	100	ND	88	55-200	5	20	
Ethylbenzene	6.00	0.50	"	5.00	1.1	98	89-122	2	20	
Ethyl tert-butyl ether	5.13	1.0	"	5.00	ND	103	71-120	0.2	20	
Methyl tert-butyl ether	7.53	0.50	"	5.00	2.0	111	70-122	0.5	20	
Toluene	5.05	0.50	"	5.00	0.22	97	84-119	2	20	
Xylenes (total)	15.0	0.50	"	15.0	0.42	97	86-132	0.7	20	
Surrogate: Dibromofluoromethane	*5.03*		*"*	*5.00*		*101*	*84-122*			
Surrogate: 1,2-Dichloroethane-d4	*4.97*		*"*	*5.00*		*99*	*74-135*			
Surrogate: Toluene-d8	*4.95*		*"*	*5.00*		*99*	*84-119*			
Surrogate: 4-Bromofluorobenzene	*4.93*		*"*	*5.00*		*99*	*86-119*			

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URS Corp - Chico	Project:Arco Site 4936, Santa Rosa, CA	P501474
1550 Humboldt Rd, Suite 2	Project Number:Intrim-50457	**Reported:**
Chico CA, 95928	Project Manager:Scott Dressler	02/12/05 14:13

Notes and Definitions

LN	MS and/or MSD below acceptance limits. See Blank Spike(LCS).
LH	Surrogate recovery above the acceptance limits.
BA	Relative percent difference out of control
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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

RS01474

bp

Chain of Custody Record

Project Name ARCO 4936 **GW Monitoring**

BP BU/GEM CO Portfolio: Atlantic Richfield Co.

BP Laboratory Contract Number: 461000

Requested Due Date (mm/dd/yy) Standard

On-site Time: 1300	Temp:
Off-site Time: 1700	Temp:
Sky Conditions:	
Meteorological Events:	
Wind Speed:	Direction:

Send To:	BP/GEM Facility No.: ARCO 4936	Consultant/Contractor: URS
Lab Name: Sequoia Petaluma	BP/GEM Facility Address: 1010 FOURTH ST, SANTA ROSA, CA	Address: 1550 Humbolt Rd., Ste 2
Lab Address: 1455 N. McDowell Blvd. Suite D	Site ID No. ARCO 4936	Chico, CA 95928
Petaluma, CA 94954	Site Lat/Long:	e-mail EDD: denise_yee@urscorp.com
	California Global ID #: T0609700609	Consultant/Contractor Project No.:
Lab PM: Mike Giles	BP/GEM PM Contact: Chuck Carmel	Consultant Tele/Fax: 916-679-2000 / 916-679-2900
Tele/Fax: 707-792-1865 / 707-792-0342	Address: PO Box 1452	Consultant/Contractor PM: SCOTT DRESSLER
Report Type & QC Level: Level 1 Report & EDF	Alamo, CA 94507-1023	Invoice to: Consultant/Contractor or BP/GEM (Circle one)
BP/GEM Account No.:	Tele/Fax: 925-946-1085/925-946-1084	BP/GEM Work Release No: INTRIM -50457

Lab Bottle Order No:

Item No.	Sample Description	Time	Date	Matrix: Soil/Solid	Matrix: Water/Liquid	Matrix: Air	Laboratory No.	No. of containers	Preservatives: Unpreserved	Preservatives: H_2SO_4	Preservatives: HNO_3	Preservatives: HCl			Requested Analysis: GRO / BTEX (8260)	Requested Analysis: DRO (8015)	Requested Analysis: Ethanol (8260)	Requested Analysis: MTBE, TAME, ETBE DIPE, TBA (8260)	Requested Analysis: 1,2-DCA (8260)	Requested Analysis: EDB (8260)				Sample Point Lat/Long and Comments
1	MW-3A	1425	1-26		✓		RS01474-1	6				✓			✓		✓	✓						
2	MW-4	1405			✓		2					✓			✓		✓	✓						
3	MW-5A	1650			✓		3					✓			✓		✓	✓					COOLER CUSTODY SEALS INTACT	☐
4	MW-6	1345			✓		4					✓			✓		✓	✓					NOT INTACT	☐
5	MW-7	1340			✓		5					✓			✓		✓	✓						3.1
6	MW-8	1505			✓		6					✓			✓		✓	✓					COOLER TEMPERATURE	°C
7	MW-9A	1535			✓		7					✓			✓		✓	✓						
8	MW-10	1610			✓		8	1				✓			✓		✓	✓						
9	Trip Blank 0126205				✓		9	2				✓											on hold	
10																								

	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Name: B. Summerich / Kalen						
Sampler's Company: Blaine Tech	[signature]	1-28-05	1615	[signature]	1-28-05	1615
Shipment Date:	[signature]	1-28-05	1620	[signature]	1/31/05	930
Shipment Method:						
Shipment Tracking No:						

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

RUN 8260 ANALYTES IN ONE BATCH ANALYSIS

Custody Seals In Place Yes X No ___ Temperature Blank Yes X No ___ Cooler Temperature on Receipt ___ °F/C Trip Blank Yes X No ___

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

WELL GAUGING DATA

Project # 050126-BS2 Date ~~01-25-05~~ 1-26-05 Client S Arco

Site 1010 Fourth St. Santa Rosa

Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	
mw-2	4					14.17	27.12	TOC	1 G
mw-3A	2					15.03	30.05		5 s
mw-4	4	GAUGED W/ TUBING IN WELL				14.44	27.25		6 s
mw-5A	2					14.68	28.18		9 s
mw-6	4					14.26	25.57		4 s
mw-7	4					14.11	26.04		3 s
mw-8	4					13.92	26.78		7 s
mw-9A	4					14.48	20.72		2 s
mw-10	4	GAUGED W/ TUBING IN WELL				14.06	24.89		8 s

5

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 050126-BS2	Station # 4936
Sampler: R. Summersett	Date: 01-26-05
Well I.D.: MW-3A	Well Diameter: (2) 3 ~~(4)~~ 6 8 ____
Total Well Depth: 30.05	Depth to Water: 15.03
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65 ✓
(2")	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Purge Method: 15.02
- Bailer
- Disposable Bailer
- Positive Air Displacement
- Electric Submersible ✓
- Extraction Pump
- Other: _____

Sampling Method:
- Bailer
- Disposable Bailer ✓
- Extraction Port
- Other: _____

Top of Screen: PURGE

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

~~9.8~~ 2.4 (1 Case Volume (Gals.)) x 3 (Specified Volumes) = 7.2 ~~29.4~~ (Calculated Volume) Gals.

Time	Temp (°F)	pH	Conductivity (mS or (µS))	Gals. Removed	Observations
1410	65.5	6.8	457	2.5	muddy
1416	66.1	6.7	455	5.0	muddy
1420	65.6	7.1	457	7.0	muddy

Did well dewater? Yes (No)	Gallons actually evacuated: 7.0
Sampling Time: 1425	Sampling Date: 01-26-05
Sample I.D.: MW-3A	Laboratory: Pace (Sequoia) Other_____
Analyzed for: (GRO) (BTEX) MTBE DRO (Oxy's) 1,2-DCA EDB (Ethanol)	Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	~~4~~ 8.1 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

6

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 050126-BS2	Station # 4936
Sampler: KALEN	Date: 01-26-05
Well I.D.: MW-4	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth: 27.25	Depth to Water: 14.44
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

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

Purge Method: Bailer / Disposable Bailer / Positive Air Displacement / Electric Submersible ✓ / Extraction Pump / Other: _____

12.81

Sampling Method: Bailer / Disposable Bailer ✓ / Extraction Port / Other: _____

Top of Screen: PURGE

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

8.3 (1 Case Volume (Gals.)) x 3 (Specified Volumes) = 24.9 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Conductivity (mS or (µS))	Gals. Removed	Observations
1350	64.7	6.9	524	8.5	ODOR
1400	65.3	6.6	520	17.0	1
1402	65.0	6.6	516	25.0	1

Did well dewater? Yes (No)	Gallons actually evacuated: 25.0
Sampling Time: 1405	Sampling Date: 01-26-05
Sample I.D.: MW-4	Laboratory: Pace (Sequoia) Other _____
Analyzed for: (GRO) BTEX MTBE DRO (Oxy's) 1,2-DCA EDB (Ethanol)	Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	1.58 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

9

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 050126-BS2	Station # 4936
Sampler: B. Summerscett	Date: 01-26-05
Well I.D.: MW-5A	Well Diameter: (2) 3 ~~4~~ 6 8 ___
Total Well Depth: 28.18	Depth to Water: 14.68
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
(2")	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Purge Method: Bailer / Disposable Bailer ✓ / Positive Air Displacement / Electric Submersible ✓ / Extraction Pump / Other: _____

13.50

Sampling Method: Bailer / Disposable Bailer ✓ / Extraction Port / Other: _____

Top of Screen: PVC

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

1 Case Volume (Gals.)	X	Specified Volumes	=	Calculated Volume
2.16 ~~8.8~~	X	3	=	6.48 ~~26.4~~ Gals.

Time	Temp (°F)	pH	Conductivity (mS or (µS))	Gals. Removed	Observations
16:37	63.6	7.0	533	2.5	muddy
16:40	64.6	6.6	527	5	muddy
16:45	64.9	6.6	524	7	muddy

Did well dewater? Yes (No) Gallons actually evacuated: 7

Sampling Time: 1650 Sampling Date: 01-26-05

Sample I.D.: MW-5A Laboratory: Pace (Sequoia) Other _____

Analyzed for: (GRO) BTEX MTBE DRO (Oxys) 1,2-DCA EDB (Ethanol) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	7.3 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

4

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 050126-BS2	Station # 4936
Sampler: KALEN	Date: 01-26-05
Well I.D.: MW-6	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth: 25.57	Depth to Water: 14.26
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65 ✓
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Purge Method: Bailer / Disposable Bailer / Positive Air Displacement / Electric Submersible ✓ / Extraction Pump / Other: _____

11.31

Sampling Method: Bailer / Disposable Bailer ✓ / Extraction Port / Other: _____

Top of Screen: PURGE

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

7.4' (1 Case Volume (Gals.)) X 3 (Specified Volumes) = 22.2 Gals. (Calculated Volume)

Time	Temp (°F)	pH	Conductivity (mS or (µS))	Gals. Removed	Observations
1339	64.1	6.5	541	7.5	ODOR
1341	64.5	6.6	542	15.0	↓
1343	65.1	6.7	543	22.5	↓

Did well dewater? Yes (No) Gallons actually evacuated: 22.5

Sampling Time: 1345 Sampling Date: 01-26-05

Sample I.D.: MW-6 Laboratory: Pace (Sequoia) Other_____

Analyzed for: GRO (BTEX) MTBE DRO (Oxy's) 1,2-DCA EDB (Ethanol) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	✱ 1.66 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

3

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 050126-BS2	Station # 4936
Sampler: B. Summersett	Date: 01-26-05
Well I.D.: MW-7	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth: 26.04	Depth to Water: 14.11
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

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

Purge Method: 11.93
- Bailer
- Disposable Bailer
- Positive Air Displacement
- Electric Submersible ✓
- Extraction Pump
- Other: _____

Sampling Method:
- Bailer
- Disposable Bailer ✓
- Extraction Port
- Other: _____

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

7.6	x	3	=	22.8 Gals.
1 Case Volume (Gals.)		Specified Volumes		Calculated Volume

Time	Temp (°F)	pH	Conductivity (mS or (µS))	Gals. Removed	Observations
1334	63.6	6.5	406	8	Clear
1336	64.9	6.5	452	16	Clear
1337	65.6	6.5	464	23	Clear

Did well dewater? Yes (No)	Gallons actually evacuated: 23.0
Sampling Time: 13.40	Sampling Date: 01-26-05
Sample I.D.: MW-7	Laboratory: Pace (Sequoia) Other_____
Analyzed for: (GRO) (BTEX) MTBE DRO (Oxy's) 1,2-DCA EDB (Ethanol)	Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	<6.3 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

7

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 050128-BS2	Station # 4936
Sampler: B. Summersett	Date: 01-26-05
Well I.D.: MW-8	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth: 26.78	Depth to Water: 13.92
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

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

Purge Method: Bailer / Disposable Bailer / Positive Air Displacement / Electric Submersible ✓ / Extraction Pump / Other: _____

12.86

Sampling Method: Bailer / Disposable Bailer ✓ / Extraction Port / Other: _____

Top of Screen: PURGE

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

8.4 (1 Case Volume (Gals.)) x 3 (Specified Volumes) = 25.2 Gals. (Calculated Volume)

Time	Temp (°F)	pH	Conductivity (mS or µS)	Gals. Removed	Observations
1458	65.8	6.5	220	8	clear
1500	65.1	6.5	271	16	clear
15:02	65.6	6.6	302	25	Clear

Did well dewater? Yes (No)	Gallons actually evacuated: 25
Sampling Time: 15:05	Sampling Date: 01-26-05
Sample I.D.: MW-8	Laboratory: Pace (Sequoia) Other_____
Analyzed for: (GRO) BTEX MTBE DRO (Oxy's) 1,2-DCA EDB (Ethanol)	Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	* 7.8 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

2

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 050125-BS2	Station # 4936
Sampler: B. Summerset	Date: 01-26-05
Well I.D.: MW-9A	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth: 20.72	Depth to Water: 14.48
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

6.24

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

Purge Method: Bailer / Disposable Bailer / Positive Air Displacement / Electric Submersible ✓ / Extraction Pump / Other: _____

Sampling Method: Bailer / Disposable Bailer ✓ / Extraction Port / Other: _____

Top of Screen: PURGE

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

4.1 (1 Case Volume (Gals.)) x 3 (Specified Volumes) = 12.2 (Calculated Volume) Gals.

Time	Temp (°F)	pH	Conductivity (mS or µS)	Gals. Removed	Observations
1529	63.3	6.8	453	4	clear
1530	64.9	6.7	503	8	Clear
1531	65.2	6.9	505	12	Clear

Did well dewater? Yes (No)	Gallons actually evacuated: 12
Sampling Time: 1535	Sampling Date: 01-26-05
Sample I.D.: MW-9A	Laboratory: Pace (Sequoia) Other_____
Analyzed for: (GRO) BTEX MTBE DRO (Oxy's) 1,2-DCA EDB (Ethanol)	Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	☒ 8.2 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

8

ARCO / BP WELL MONITORING DATA SHEET

BTS #: 050126-BS2	Station # 4936
Sampler: B. Summersett	Date: 01-26-05
Well I.D.: MW-10	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth: 24.89	Depth to Water: 14.06
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH

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

Purge Method: Bailer / Disposable Bailer / Positive Air Displacement / Electric Submersible ✓ / Extraction Pump / Other: _____

1083

Sampling Method: Bailer / Disposable Bailer ✓ / Extraction Port / Other: _____

Top of Screen: PURGE

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

7.0 (1 Case Volume (Gals.)) x 3 (Specified Volumes) = 21.0 Gals. (Calculated Volume)

Time	Temp (°F)	pH	Conductivity (mS or (µS))	Gals. Removed	Observations
16:04	64.1	7.0	448	7	Clear
16:05	66.7	6.5	491	14	Clear
16:06	66.2	6.5	565	21	Clear

Did well dewater? Yes (No) Gallons actually evacuated: 21

Sampling Time: 16:10 Sampling Date: 01-26-05

Sample I.D.: MW-10 Laboratory: Pace (Sequoia) Other _____

Analyzed for: (GRO) BTEX MTBE DRO (Oxy's) 1,2-DCA EDB (Ethanol) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	* 6.5 mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELLHEAD INSPECTION CHECKLIST

Client Q Acco Date 01-25-05

Site Address 1010 Fourth St. Santa Rosa

Job Number 050126-BSL Technician B. Summerett

Well ID	Well Inspected - No Corrective Action Required	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)	Repair Order Submitted
MW-2	X							
MW-3A	✓							
MW-4	X							
MW-5A	✓							
MW-6					✓			
MW-7	✓							
MW-8	✓							
MW-9A	✓							
MW-10	X							

NOTES:

BP GEM OIL COMPANY TYPE A BILL OF LADING

SOURCE RECORD BILL OF LADING FOR NON-HAZARDOUS PURGEWATER RECOVERED FROM GROUNDWATER WELLS AT BP GEM OIL COMPANY FACILITIES IN THE STATE OF CALIFORNIA. THE NON-HAZARDOUS PURGE- WATER WHICH HAS BEEN RECOVERED FROM GROUND- WATER WELLS IS COLLECTED BY THE CONTRACTOR, MADE UP INTO LOADS OF APPROPRIATE SIZE AND HAULED BY DILLARD ENVIRONMENTAL TO THE ALTAMONT LANDFILL AND RESOURCE RECOVERY FACILITY IN LIVERMORE, CALIFORNIA.

The contractor performing this work is BLAINE TECH SERVICES, INC. (BTS), 1680 Rogers Avenue, San Jose, CA 95112 (phone [408] 573-0555). Blaine Tech Services, Inc. is authorized by BP GEM OIL COMPANY to recover, collect, apportion into loads the Non-Hazardous Well Purgewater that is drawn from wells at the BP GEM Oil Company facility indicated below and deliver that purgewater to BTS. Transport routing of the Non-Hazardous Well Purgewater may be direct from one BP GEM facility to the designated destination point; from one BP GEM facility to the designated destination point via another BP GEM facility; from a BP GEM facility to the designated destination point via the contractor's facility, or any combination thereof. The Non-Hazardous Well Purgewater is and remains the property of BP GEM Oil Company.

This Source Record BILL OF LADING was initiated to cover the recovery of Non-Hazardous Well Purgewater from wells at the BP GEM Oil Company facility described below:

4936

Station #

1010 Fourth St. Santa Rosa

Station Address

Total Gallons Collected From Groundwater Monitoring Wells:

141

added equip. rinse water 10

any other adjustments

TOTAL GALS. RECOVERED 151

loaded onto BTS vehicle # 50

BTS event # 050126-BSL

time 17:11

date 01/26/05

signature

* *

REC'D AT BTS Sac

time 18:50

date 01/27/05

unloaded by

signature

Chain of Custody Record

Project Name ARCO 4936 **GW Monitoring**
BP BU/GEM CO Portfolio: Atlantic Richfield Co.
BP Laboratory Contract Number: 461000
Requested Due Date (mm/dd/yy) Standard

On-site Time: 1300	Temp:
Off-site Time: 1700	Temp:
Sky Conditions:	
Meteorological Events:	
Wind Speed:	Direction:

Send To:	BP/GEM Facility No.: ARCO 4936	Consultant/Contractor: URS
Lab Name: Sequoia Petaluma	BP/GEM Facility Address: 1010 FOURTH ST, SANTA ROSA, CA	Address: 1550 Humbolt Rd., Ste 2
Lab Address: 1455 N. McDowell Blvd. Suite D	Site ID No. ARCO 4936	Chico, CA 95928
Petaluma, CA 94954	Site Lat/Long:	e-mail EDD: denise_yee@urscorp.com
	California Global ID #: T0609700609	Consultant/Contractor Project No.:
Lab PM: Mike Giles	BP/GEM PM Contact: Chuck Carmel	Consultant Tele/Fax: 916-679-2000 / 916-679-2900
Tele/Fax: 707-792-1865 / 707-792-0342	Address: PO Box 1452	Consultant/Contractor PM: SCOTT DRESSLER
Report Type & QC Level: Level I Report & EDF	Alamo, CA 94507-1023	Invoice to: Consultant/Contractor or BP/GEM (Circle one)
BP/GEM Account No.:	Tele/Fax: 925-946-1085/925-946-1084	BP/GEM Work Release No: INTRIM -50457

Lab Bottle Order No:

Item No.	Sample Description	Time	Date	Matrix: Soil/Solid	Matrix: Water/Liquid	Matrix: Air	Laboratory No.	No. of containers	Preservatives: Unpreserved	Preservatives: H_2SO_4	Preservatives: HNO_3	Preservatives: HCl			Requested Analysis: GRO / BTEX (8260)	Requested Analysis: DRO (8015)	Requested Analysis: Ethanol (8260)	Requested Analysis: MTBE, TAME, ETBE DIPE, TBA (8260)	Requested Analysis: 1,2-DCA (8260)	Requested Analysis: EDB (8260)					Sample Point Lat/Long and Comments
1	MW-3A	1425	1-26		✓			6				✓			✓		✓	✓							
2	MW-4	1405			✓							✓			✓		✓	✓							
3	MW-5A	1650			✓							✓			✓		✓	✓							
4	MW-6	1345			✓							✓			✓		✓	✓							
5	MW-7	1340			✓							✓			✓		✓	✓							
6	MW-8	1505			✓							✓			✓		✓	✓							
7	MW-9A	1535			✓							✓			✓		✓	✓							
8	MW-10	1610			✓							✓			✓		✓	✓							
9	Trip Blank 012605																								on hold
10																									

	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Name: B. Summerscott / Kalen						
Sampler's Company: Blaine Tech	Ben Summerscott					
Shipment Date:						
Shipment Method:						
Shipment Tracking No:						

S· Instructions: Address Invoice to BP/GEM but send to URS for approval
RUN 8260 ANALYTES IN ONE BATCH ANALYSIS
· In Place Yes X No ___ Temperature Blank Yes X No ___ Cooler Temperature on Receipt ___ °F/C Trip Blank Yes X No ___

APPENDIX C

GeoTracker Upload Confirmation

Electronic Submittal Information

Main Menu | View/Add Facilities | Upload EDD | Check EDD

Your EDF file has been succcessfully uploaded!

Confirmation Number: **6339222431**

Date/Time of Submittal: **3/15/2005 10:46:08 AM**

Facility Global ID: **T0609700609**

Facility Name: **ARCO #4936**

Submittal Title: **Groundwater Monitoring Report 1st Quarter 2005**

Submittal Type: **GW Monitoring Report**

Click here to view the detections report for this upload.

ARCO #4936
1010 FOURTH STREET
SANTA ROSA, CA 95404

Regional Board (lead agency) - Case #: 1TSR098
NORTH COAST RWQCB (REGION 1) - (JAT)
Local Agency
SANTA ROSA, CITY OF

CONF #	TITLE	QUARTER
6339222431	Groundwater Monitoring Report 1st Quarter 2005	Q1 2005

SUBMITTED BY	SUBMIT DATE	STATUS
Denise Yee	3/15/2005	PENDING REVIEW

SAMPLE DETECTIONS REPORT

# FIELD POINTS SAMPLED	8
# FIELD POINTS WITH DETECTIONS	4
# FIELD POINTS WITH WATER SAMPLE DETECTIONS ABOVE MCL	3
SAMPLE MATRIX TYPES	WATER

METHOD QA/QC REPORT

METHODS USED	8260FAB,SW8015B
TESTED FOR REQUIRED ANALYTES?	N

MISSING PARAMETERS NOT TESTED:

- 8260FAB REQUIRES DCA12 TO BE TESTED
- 8260FAB REQUIRES EDB TO BE TESTED
- SW8015B REQUIRES DCA12 TO BE TESTED
- SW8015B REQUIRES EDB TO BE TESTED

LAB NOTE DATA QUALIFIERS	Y

QA/QC FOR 8021/8260 SERIES SAMPLES

TECHNICAL HOLDING TIME VIOLATIONS	0
METHOD HOLDING TIME VIOLATIONS	0
LAB BLANK DETECTIONS ABOVE REPORTING DETECTION LIMIT	0
LAB BLANK DETECTIONS	0

DO ALL BATCHES WITH THE 8021/8260 SERIES INCLUDE THE FOLLOWING?

LAB BLANK DETECTIONS	0
DO ALL BATCHES WITH THE 8021/8260 SERIES INCLUDE THE FOLLOWING?	
- LAB METHOD BLANK	Y
- MATRIX SPIKE	Y
- MATRIX SPIKE DUPLICATE	Y
- BLANK SPIKE	Y
- SURROGATE SPIKE	Y

WATER SAMPLES FOR 8021/8260 SERIES

MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135%	Y
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30%	Y
SURROGATE SPIKES % RECOVERY BETWEEN 85-115%	N
BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130%	Y

SOIL SAMPLES FOR 8021/8260 SERIES

MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135%	n/a
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30%	n/a
SURROGATE SPIKES % RECOVERY BETWEEN 70-125%	n/a
BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130%	n/a

FIELD QC SAMPLES

SAMPLE	COLLECTED	DETECTIONS > REPDL
QCTB SAMPLES	N	0
QCEB SAMPLES	N	0
QCAB SAMPLES	N	0

Electronic Submittal Information

Main Menu | View/Add Facilities | Upload EDD | Check EDD

UPLOADING A GEO_WELL FILE

Processing is complete. No errors were found!
Your file has been successfully submitted!

Submittal Title:	Arco 4936 Geo Well 1st Quarter 2005
Submittal Date/Time:	3/15/2005 10:57:39 AM
Confirmation Number:	8864471256

Back to Main Menu

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